wwPDB EM Validation Summary Report (i)

Feb 11, 2026 – 01:28 AM JST

PDB ID	:	9VJS / pdb_00009vjs
EMDB ID	:	EMD-65121
Title	:	Cryo-EM structure of Euglenophyte photosystem I
Authors	:	Zhao, L.S.; Qin, B.Y.; Li, K.; Liu, L.N.; Zhang, Y.Z.
Deposited on	:	2025-06-21
Resolution	:	2.72 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 (i) 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 (i)) were used in the production of this report:

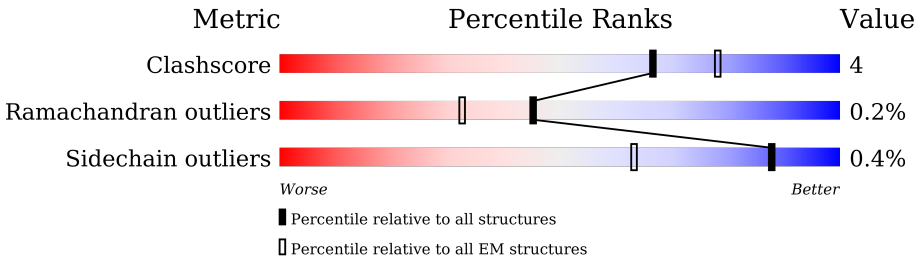
EMDB validation analysis	:	0.0.1.dev131
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.48

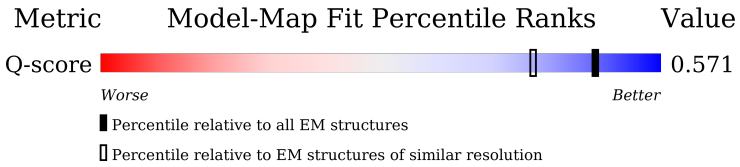
1 Overall quality at a glance

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

The reported resolution of this entry is 2.72 Å.

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





Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	10355 (2.22 - 3.22)

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 <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	751	95%
2	B	733	94% 5%
3	C	81	89% 10%
4	D	203	89% 8%

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Mol	Chain	Length	Quality of chain
5	E	99	61% 36%
6	F	172	94%
7	J	37	100%
8	M	31	87% 13%
9	a	209	85% 9% 5%
10	b	225	90% 7%
11	c	230	90% 7%
12	d	184	88% 6% 7%
13	e	177	90% 6%
14	f	185	86% 6% 7%
15	g	191	91% 5%
15	j	191	84% 10% 6%
16	h	188	88% 7% 5%
16	o	188	39% 83% 11% 6%
17	i	185	88% 5% 7%
18	k	174	89% 7%
18	l	174	13% 90% 6%
18	m	174	6% 84% 12%
18	n	174	33% 79% 10% 10%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	A	801	X	-	-	-
19	CLA	A	802	X	-	-	-
19	CLA	A	803	X	-	-	-
19	CLA	A	804	X	-	-	-
19	CLA	A	805	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	A	806	X	-	-	-
19	CLA	A	807	X	-	-	-
19	CLA	A	808	X	-	-	-
19	CLA	A	809	X	-	-	-
19	CLA	A	810	X	-	-	-
19	CLA	A	811	X	-	-	-
19	CLA	A	812	X	-	-	-
19	CLA	A	813	X	-	-	-
19	CLA	A	814	X	-	-	-
19	CLA	A	815	X	-	-	-
19	CLA	A	816	X	-	-	-
19	CLA	A	817	X	-	-	-
19	CLA	A	818	X	-	-	-
19	CLA	A	819	X	-	-	-
19	CLA	A	820	X	-	-	-
19	CLA	A	821	X	-	-	-
19	CLA	A	822	X	-	-	-
19	CLA	A	823	X	-	-	-
19	CLA	A	824	X	-	-	-
19	CLA	A	825	X	-	-	-
19	CLA	A	826	X	-	-	-
19	CLA	A	827	X	-	-	-
19	CLA	A	828	X	-	-	-
19	CLA	A	829	X	-	-	-
19	CLA	A	839	X	-	-	-
19	CLA	A	840	X	-	-	-
19	CLA	A	841	X	-	-	-
19	CLA	A	842	X	-	-	-
19	CLA	A	843	X	-	-	-
19	CLA	A	844	X	-	-	-
19	CLA	A	845	X	-	-	-
19	CLA	A	846	X	-	-	-
19	CLA	A	847	X	-	-	-
19	CLA	A	848	X	-	-	-
19	CLA	A	849	X	-	-	-
19	CLA	A	850	X	-	-	-
19	CLA	A	852	X	-	-	-
19	CLA	A	853	X	-	-	-
19	CLA	B	801	X	-	-	-
19	CLA	B	803	X	-	-	-
19	CLA	B	804	X	-	-	-
19	CLA	B	805	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	B	806	X	-	-	-
19	CLA	B	807	X	-	-	-
19	CLA	B	808	X	-	-	-
19	CLA	B	809	X	-	-	-
19	CLA	B	810	X	-	-	-
19	CLA	B	811	X	-	-	-
19	CLA	B	812	X	-	-	-
19	CLA	B	813	X	-	-	-
19	CLA	B	814	X	-	-	-
19	CLA	B	815	X	-	-	-
19	CLA	B	816	X	-	-	-
19	CLA	B	817	X	-	-	-
19	CLA	B	818	X	-	-	-
19	CLA	B	819	X	-	-	-
19	CLA	B	820	X	-	-	-
19	CLA	B	821	X	-	-	-
19	CLA	B	822	X	-	-	-
19	CLA	B	823	X	-	-	-
19	CLA	B	830	X	-	-	-
19	CLA	B	832	X	-	-	-
19	CLA	B	833	X	-	-	-
19	CLA	B	835	X	-	-	-
19	CLA	B	836	X	-	-	-
19	CLA	B	837	X	-	-	-
19	CLA	B	838	X	-	-	-
19	CLA	B	839	X	-	-	-
19	CLA	B	840	X	-	-	-
19	CLA	B	841	X	-	-	-
19	CLA	B	842	X	-	-	-
19	CLA	B	843	X	-	-	-
19	CLA	B	844	X	-	-	-
19	CLA	B	845	X	-	-	-
19	CLA	B	846	X	-	-	-
19	CLA	B	847	X	-	-	-
19	CLA	B	848	X	-	-	-
19	CLA	B	849	X	-	-	-
19	CLA	D	301	X	-	-	-
19	CLA	F	201	X	-	-	-
19	CLA	F	202	X	-	-	-
19	CLA	F	203	X	-	-	-
19	CLA	F	204	X	-	-	-
19	CLA	J	803	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	a	302	X	-	-	-
19	CLA	a	303	X	-	-	-
19	CLA	a	304	X	-	-	-
19	CLA	a	305	X	-	-	-
19	CLA	a	306	X	-	-	-
19	CLA	a	307	X	-	-	-
19	CLA	a	308	X	-	-	-
19	CLA	a	309	X	-	-	-
19	CLA	a	310	X	-	-	-
19	CLA	a	314	X	-	-	-
19	CLA	b	302	X	-	-	-
19	CLA	b	303	X	-	-	-
19	CLA	b	304	X	-	-	-
19	CLA	b	305	X	-	-	-
19	CLA	b	306	X	-	-	-
19	CLA	b	307	X	-	-	-
19	CLA	b	308	X	-	-	-
19	CLA	b	309	X	-	-	-
19	CLA	b	313	X	-	-	-
19	CLA	b	315	X	-	-	-
19	CLA	c	302	X	-	-	-
19	CLA	c	303	X	-	-	-
19	CLA	c	304	X	-	-	-
19	CLA	c	306	X	-	-	-
19	CLA	c	307	X	-	-	-
19	CLA	c	308	X	-	-	-
19	CLA	c	309	X	-	-	-
19	CLA	c	310	X	-	-	-
19	CLA	c	311	X	-	-	-
19	CLA	c	314	X	-	-	-
19	CLA	c	315	X	-	-	-
19	CLA	c	316	X	-	-	-
19	CLA	d	201	X	-	-	-
19	CLA	d	203	X	-	-	-
19	CLA	d	204	X	-	-	-
19	CLA	d	206	X	-	-	-
19	CLA	d	207	X	-	-	-
19	CLA	d	208	X	-	-	-
19	CLA	d	209	X	-	-	-
19	CLA	d	210	X	-	-	-
19	CLA	d	211	X	-	-	-
19	CLA	d	212	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	e	302	X	-	-	-
19	CLA	e	303	X	-	-	-
19	CLA	e	305	X	-	-	-
19	CLA	e	306	X	-	-	-
19	CLA	e	307	X	-	-	-
19	CLA	e	308	X	-	-	-
19	CLA	e	309	X	-	-	-
19	CLA	e	310	X	-	-	-
19	CLA	e	311	X	-	-	-
19	CLA	f	302	X	-	-	-
19	CLA	f	303	X	-	-	-
19	CLA	f	305	X	-	-	-
19	CLA	f	306	X	-	-	-
19	CLA	f	307	X	-	-	-
19	CLA	f	308	X	-	-	-
19	CLA	f	309	X	-	-	-
19	CLA	f	310	X	-	-	-
19	CLA	f	311	X	-	-	-
19	CLA	f	312	X	-	-	-
19	CLA	f	314	X	-	-	-
19	CLA	g	301	X	-	-	-
19	CLA	g	302	X	-	-	-
19	CLA	g	304	X	-	-	-
19	CLA	g	305	X	-	-	-
19	CLA	g	307	X	-	-	-
19	CLA	g	308	X	-	-	-
19	CLA	g	309	X	-	-	-
19	CLA	g	311	X	-	-	-
19	CLA	h	201	X	-	-	-
19	CLA	h	203	X	-	-	-
19	CLA	h	204	X	-	-	-
19	CLA	h	205	X	-	-	-
19	CLA	h	206	X	-	-	-
19	CLA	h	207	X	-	-	-
19	CLA	h	208	X	-	-	-
19	CLA	h	209	X	-	-	-
19	CLA	h	210	X	-	-	-
19	CLA	h	211	X	-	-	-
19	CLA	h	212	X	-	-	-
19	CLA	h	213	X	-	-	-
19	CLA	i	302	X	-	-	-
19	CLA	i	303	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	i	305	X	-	-	-
19	CLA	i	306	X	-	-	-
19	CLA	i	307	X	-	-	-
19	CLA	i	308	X	-	-	-
19	CLA	i	309	X	-	-	-
19	CLA	i	310	X	-	-	-
19	CLA	i	311	X	-	-	-
19	CLA	i	312	X	-	-	-
19	CLA	i	313	X	-	-	-
19	CLA	j	301	X	-	-	-
19	CLA	j	302	X	-	-	-
19	CLA	j	303	X	-	-	-
19	CLA	j	304	X	-	-	-
19	CLA	j	305	X	-	-	-
19	CLA	j	306	X	-	-	-
19	CLA	j	307	X	-	-	-
19	CLA	j	308	X	-	-	-
19	CLA	j	309	X	-	-	-
19	CLA	j	310	X	-	-	-
19	CLA	j	311	X	-	-	-
19	CLA	j	312	X	-	-	-
19	CLA	j	313	X	-	-	-
19	CLA	k	302	X	-	-	-
19	CLA	k	303	X	-	-	-
19	CLA	k	304	X	-	-	-
19	CLA	k	305	X	-	-	-
19	CLA	k	306	X	-	-	-
19	CLA	k	307	X	-	-	-
19	CLA	k	308	X	-	-	-
19	CLA	k	309	X	-	-	-
19	CLA	k	310	X	-	-	-
19	CLA	k	311	X	-	-	-
19	CLA	l	201	X	-	-	-
19	CLA	l	202	X	-	-	-
19	CLA	l	203	X	-	-	-
19	CLA	l	204	X	-	-	-
19	CLA	l	205	X	-	-	-
19	CLA	l	206	X	-	-	-
19	CLA	l	207	X	-	-	-
19	CLA	l	208	X	-	-	-
19	CLA	l	209	X	-	-	-
19	CLA	m	302	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
19	CLA	m	303	X	-	-	-
19	CLA	m	304	X	-	-	-
19	CLA	m	305	X	-	-	-
19	CLA	m	306	X	-	-	-
19	CLA	m	307	X	-	-	-
19	CLA	m	308	X	-	-	-
19	CLA	m	309	X	-	-	-
19	CLA	m	310	X	-	-	-
19	CLA	m	311	X	-	-	-
19	CLA	n	201	X	-	-	-
19	CLA	n	202	X	-	-	-
19	CLA	n	203	X	-	-	-
19	CLA	n	204	X	-	-	-
19	CLA	n	205	X	-	-	-
19	CLA	n	206	X	-	-	-
19	CLA	n	207	X	-	-	-
19	CLA	n	208	X	-	-	-
19	CLA	n	209	X	-	-	-
19	CLA	o	302	X	-	-	-
19	CLA	o	303	X	-	-	-
19	CLA	o	304	X	-	-	-
19	CLA	o	305	X	-	-	-
19	CLA	o	306	X	-	-	-
19	CLA	o	307	X	-	-	-
19	CLA	o	308	X	-	-	-
19	CLA	o	309	X	-	-	-
19	CLA	o	310	X	-	-	-
19	CLA	o	311	X	-	-	-
19	CLA	o	312	X	-	-	-
28	CHL	a	311	X	-	-	-
28	CHL	a	312	X	-	-	-
28	CHL	a	313	X	-	-	-
28	CHL	a	315	X	-	-	-
28	CHL	b	301	X	-	-	-
28	CHL	b	310	X	-	-	-
28	CHL	b	311	X	-	-	-
28	CHL	b	312	X	-	-	-
28	CHL	b	314	X	-	-	-
28	CHL	c	305	X	-	-	-
28	CHL	c	312	X	-	-	-
28	CHL	c	313	X	-	-	-
28	CHL	d	202	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
28	CHL	d	205	X	-	-	-
28	CHL	e	301	X	-	-	-
28	CHL	e	304	X	-	-	-
28	CHL	f	301	X	-	-	-
28	CHL	f	304	X	-	-	-
28	CHL	g	303	X	-	-	-
28	CHL	g	306	X	-	-	-
28	CHL	g	310	X	-	-	-
28	CHL	h	202	X	-	-	-
28	CHL	i	301	X	-	-	-
28	CHL	i	304	X	-	-	-
28	CHL	k	301	X	-	-	-
28	CHL	m	301	X	-	-	-
28	CHL	o	301	X	-	-	-

2 Entry composition

There are 29 unique types of molecules in this entry. The entry contains 54391 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	740	5871	3854	992	1004	21	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	682	SER	THR	conflict	UNP P19430

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	730	5856	3853	983	1005	15	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	80	595	363	104	117	11	0	0

- Molecule 4 is a protein called PsaD.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	187	1462	935	248	277	2	0	0

- Molecule 5 is a protein called PsaE.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
5	E	63	510	324	86	100	0	0

- Molecule 6 is a protein called PsaF.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	166	Total	C	N	O	S	0	0
			1267	813	213	239	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
7	J	37	Total	C	N	O	S	0	0
			304	209	43	51	1		

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

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

- Molecule 9 is a protein called LHC-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	a	199	Total	C	N	O	S	0	0
			1514	977	258	273	6		

- Molecule 10 is a protein called Light harvesting chlorophyll a /b binding protein of PSII.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	b	219	Total	C	N	O	S	0	0
			1665	1086	274	301	4		

- Molecule 11 is a protein called LHC-3.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	c	222	Total	C	N	O	S	0	0
			1683	1090	283	305	5		

- Molecule 12 is a protein called Chloroplast light-harvesting complex I protein.

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

- Molecule 13 is a protein called Chloroplast light-harvesting complex I protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	e	166	Total	C	N	O	S	0	0
			1274	819	220	228	7		

- Molecule 14 is a protein called Chloroplast light-harvesting complex I protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	f	172	Total	C	N	O	S	0	0
			1338	860	232	241	5		

- Molecule 15 is a protein called Chloroplast light-harvesting complex I protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	g	182	Total	C	N	O	S	0	0
			1441	939	245	251	6		
15	j	180	Total	C	N	O	S	0	0
			1420	924	242	248	6		

- Molecule 16 is a protein called LHC-10, 15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	h	178	Total	C	N	O	S	0	0
			1361	870	243	244	4		
16	o	177	Total	C	N	O	S	0	0
			1356	867	242	243	4		

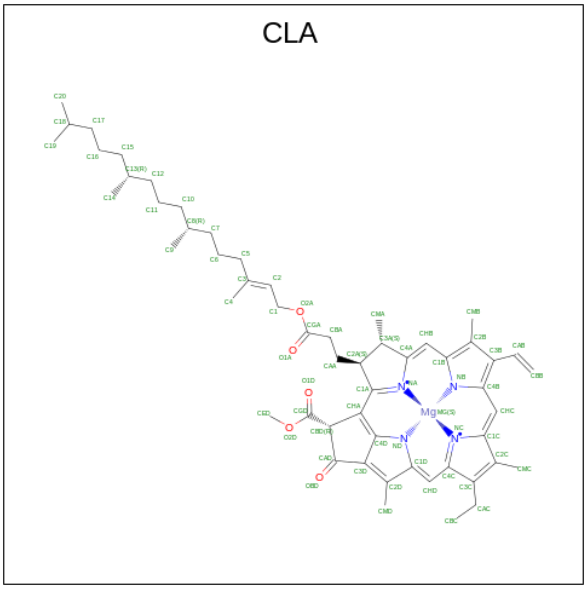
- Molecule 17 is a protein called LHC-11.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	i	172	Total	C	N	O	S	0	0
			1342	861	231	245	5		

- Molecule 18 is a protein called Chloroplast light-harvesting complex I protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	k	168	Total	C	N	O	S	0	0
			1260	813	215	228	4		
18	l	167	Total	C	N	O	S	0	0
			1253	808	214	227	4		
18	m	168	Total	C	N	O	S	0	0
			1260	813	215	228	4		
18	n	156	Total	C	N	O	S	0	0
			1170	754	199	213	4		

- Molecule 19 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
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			61	51	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			56	46	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
19	A	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			51	41	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			59	49	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			64	54	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			64	55	1	4	4	
19	A	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			63	53	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			51	41	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			48	38	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	A	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			64	54	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			54	44	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			58	48	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			64	54	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
19	B	1	Total	C	Mg	N	O	0
			54	45	1	4	4	
19	B	1	Total	C	Mg	N	O	0
			59	49	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			49	39	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			62	52	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			61	51	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			58	48	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			64	54	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			47	37	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
19	B	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	B	1	Total	C	Mg	N	O	0
			61	51	1	4	5	
19	D	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
19	F	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	F	1	Total	C	Mg	N	O	0
			57	47	1	4	5	
19	F	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	F	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	J	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	a	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	a	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	a	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	a	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	a	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
19	a	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	a	1	Total	C	Mg	N	O	0
			60	50	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
19	a	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	a	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	a	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	b	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	b	1	Total	C	Mg	N	O	0
			51	41	1	4	5	
19	b	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	b	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	b	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	b	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	b	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	b	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	b	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	b	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	c	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	c	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	c	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
19	c	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	c	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	c	1	Total	C	Mg	N	O	0
			57	47	1	4	5	
19	c	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	c	1	Total	C	Mg	N	O	0
			50	40	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
19	c	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	c	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	c	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	c	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
19	d	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	d	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	d	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
19	d	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	d	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	d	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	d	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	d	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	d	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	d	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	e	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	e	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	e	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	e	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	e	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	e	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	e	1	Total	C	Mg	N	O	0
			47	37	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
19	e	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	e	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	f	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	f	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	f	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	f	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	f	1	Total	C	Mg	N	O	0
			54	44	1	4	5	
19	f	1	Total	C	Mg	N	O	0
			51	41	1	4	5	
19	f	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	f	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	f	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
19	f	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	f	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	g	1	Total	C	Mg	N	O	0
			48	38	1	4	5	
19	g	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	g	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	g	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	g	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	g	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	g	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	g	1	Total	C	Mg	N	O	0
			47	37	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
19	h	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	h	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	h	1	Total	C	Mg	N	O	0
			48	38	1	4	5	
19	h	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	h	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	h	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	h	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	h	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	h	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	h	1	Total	C	Mg	N	O	0
			51	41	1	4	5	
19	h	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	h	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	i	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	i	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	i	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	i	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	i	1	Total	C	Mg	N	O	0
			54	44	1	4	5	
19	i	1	Total	C	Mg	N	O	0
			51	41	1	4	5	
19	i	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	i	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	i	1	Total	C	Mg	N	O	0
			52	42	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
19	i	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	i	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
19	j	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	j	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	j	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
19	j	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	j	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	j	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	j	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	j	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	j	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	j	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	j	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	j	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	j	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	k	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	k	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	k	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	k	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	k	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	k	1	Total	C	Mg	N	O	0
			60	50	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
19	k	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	k	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	k	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	k	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	l	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	l	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	l	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	l	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	l	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	l	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	l	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	l	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	l	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	m	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	m	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	m	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	m	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	m	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	m	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	m	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
19	m	1	Total	C	Mg	N	O	0
			47	37	1	4	5	

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Mol	Chain	Residues	Atoms					AltConf
19	m	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	m	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	n	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	n	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	n	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	n	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
19	n	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	n	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	n	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	n	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	n	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	o	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
19	o	1	Total	C	Mg	N	O	0
			48	38	1	4	5	
19	o	1	Total	C	Mg	N	O	0
			54	44	1	4	5	
19	o	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	o	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	o	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
19	o	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
19	o	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	o	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
19	o	1	Total	C	Mg	N	O	0
			50	40	1	4	5	

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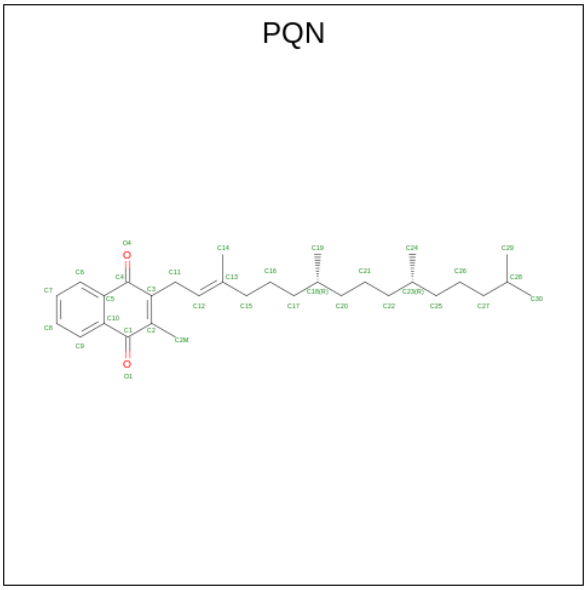
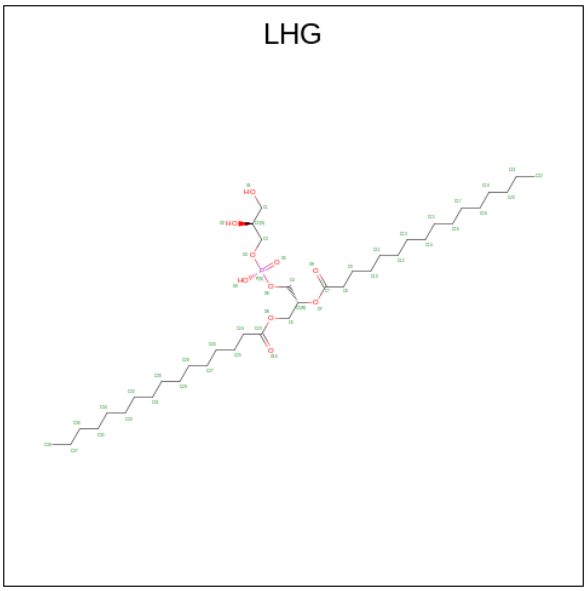
Mol	Chain	Residues	Atoms					AltConf
19	o	1	Total	C	Mg	N	O	0
			47	37	1	4	5	

- Molecule 20 is PHYLLOQUINONE (CCD ID: PQN) (formula: $C_{31}H_{46}O_2$).



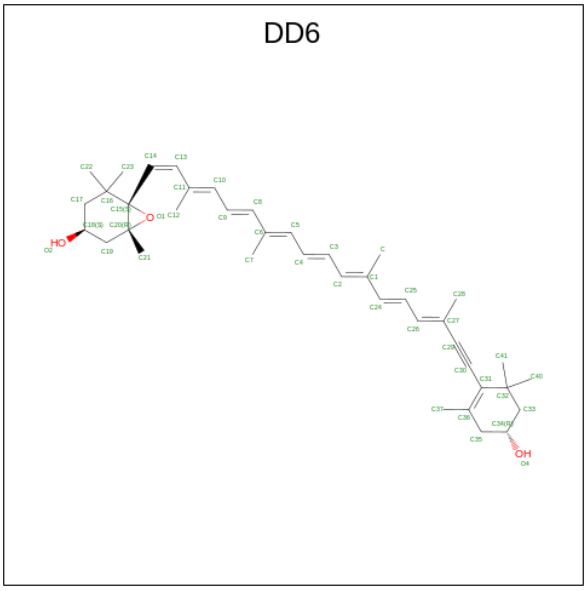
Mol	Chain	Residues	Atoms			AltConf
20	A	1	Total	C	O	0
			33	31	2	
20	B	1	Total	C	O	0
			33	31	2	

- Molecule 21 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (CCD ID: LHG) (formula: $C_{38}H_{75}O_{10}P$).



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

- Molecule 22 is (3S,3'R,5R,6S,7cis)-7',8'-didehydro-5,6-dihydro-5,6-epoxy-beta,beta-carotene-3,3'-diol (CCD ID: DD6) (formula: $C_{40}H_{54}O_3$) (labeled as "Ligand of Interest" by depositor).



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

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Mol	Chain	Residues	Atoms	AltConf
22	F	1	Total C O 43 40 3	0
22	J	1	Total C O 43 40 3	0
22	J	1	Total C O 43 40 3	0
22	a	1	Total C O 43 40 3	0
22	a	1	Total C O 43 40 3	0
22	b	1	Total C O 43 40 3	0
22	b	1	Total C O 43 40 3	0
22	b	1	Total C O 43 40 3	0
22	c	1	Total C O 43 40 3	0
22	c	1	Total C O 43 40 3	0
22	c	1	Total C O 43 40 3	0
22	d	1	Total C O 43 40 3	0
22	d	1	Total C O 43 40 3	0
22	e	1	Total C O 43 40 3	0
22	e	1	Total C O 43 40 3	0
22	f	1	Total C O 43 40 3	0
22	f	1	Total C O 43 40 3	0
22	g	1	Total C O 43 40 3	0
22	g	1	Total C O 43 40 3	0
22	h	1	Total C O 43 40 3	0
22	h	1	Total C O 43 40 3	0

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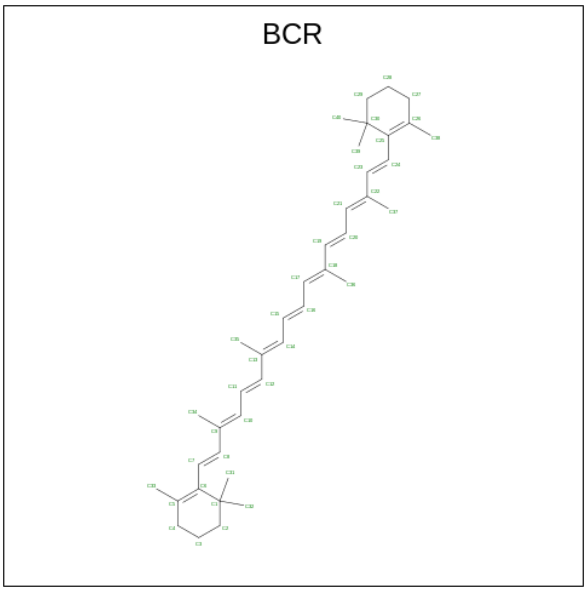
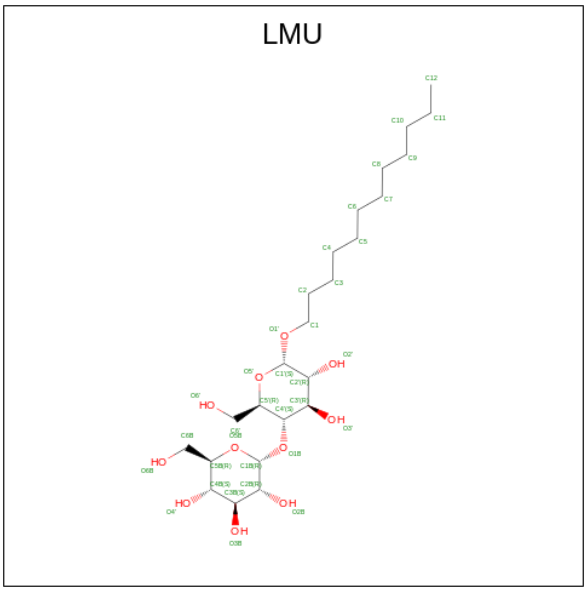
Mol	Chain	Residues	Atoms			AltConf
22	i	1	Total	C	O	0
			43	40	3	
22	i	1	Total	C	O	0
			43	40	3	
22	j	1	Total	C	O	0
			43	40	3	
22	j	1	Total	C	O	0
			43	40	3	
22	k	1	Total	C	O	0
			43	40	3	
22	k	1	Total	C	O	0
			43	40	3	
22	l	1	Total	C	O	0
			43	40	3	
22	l	1	Total	C	O	0
			43	40	3	
22	m	1	Total	C	O	0
			43	40	3	
22	m	1	Total	C	O	0
			43	40	3	
22	n	1	Total	C	O	0
			43	40	3	
22	n	1	Total	C	O	0
			43	40	3	
22	o	1	Total	C	O	0
			43	40	3	
22	o	1	Total	C	O	0
			43	40	3	

- Molecule 23 is BETA-CAROTENE (CCD ID: BCR) (formula: $C_{40}H_{56}$) (labeled as "Ligand of Interest" by depositor).



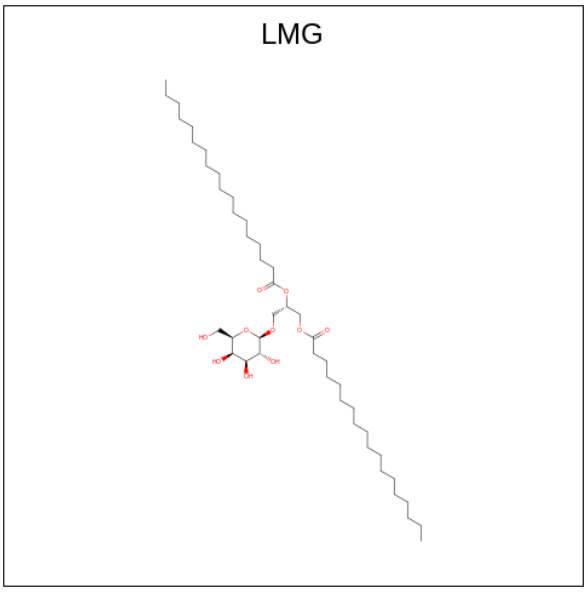
Mol	Chain	Residues	Atoms	AltConf
23	A	1	Total C 40 40	0
23	A	1	Total C 39 39	0
23	A	1	Total C 40 40	0
23	A	1	Total C 40 40	0
23	B	1	Total C 40 40	0
23	B	1	Total C 40 40	0
23	B	1	Total C 40 40	0
23	B	1	Total C 40 40	0
23	B	1	Total C 40 40	0
23	B	1	Total C 40 40	0
23	B	1	Total C 40 40	0
23	J	1	Total C 40 40	0
23	M	1	Total C 40 40	0

- Molecule 24 is DODECYL-ALPHA-D-MALTOSIDE (CCD ID: LMU) (formula: $C_{24}H_{46}O_{11}$).



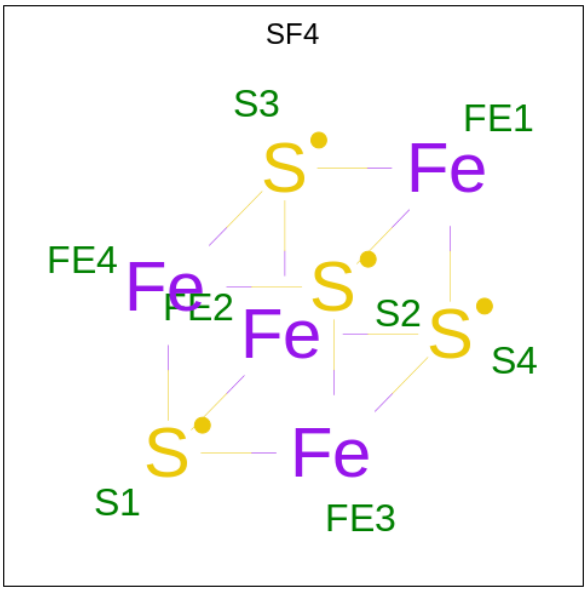
Mol	Chain	Residues	Atoms			AltConf
24	A	1	Total	C	O	0
			34	24	10	
24	a	1	Total	C	O	0
			34	24	10	
24	c	1	Total	C	O	0
			34	24	10	

- Molecule 25 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (CCD ID: LMG) (formula: $C_{45}H_{86}O_{10}$).



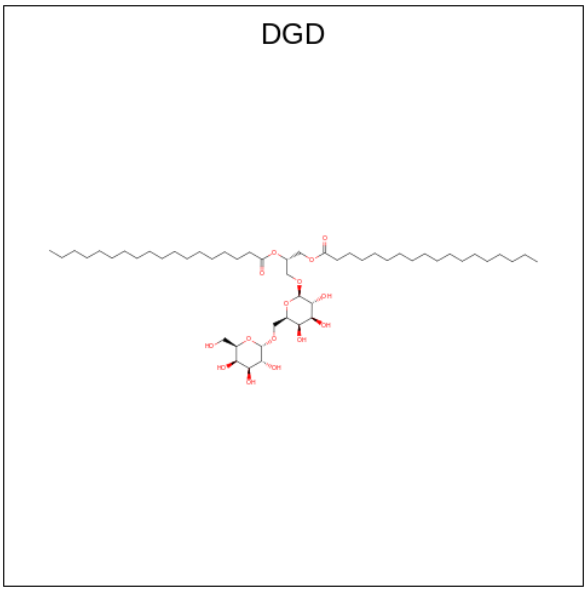
Mol	Chain	Residues	Atoms	AltConf
25	A	1	Total C O 34 24 10	0
25	a	1	Total C O 40 30 10	0
25	a	1	Total C O 27 17 10	0
25	a	1	Total C O 40 30 10	0
25	b	1	Total C O 42 32 10	0
25	c	1	Total C O 38 28 10	0
25	d	1	Total C O 31 21 10	0
25	e	1	Total C O 44 34 10	0
25	f	1	Total C O 26 16 10	0
25	g	1	Total C O 37 27 10	0
25	g	1	Total C O 33 23 10	0
25	g	1	Total C O 44 34 10	0
25	h	1	Total C O 35 25 10	0
25	i	1	Total C O 41 31 10	0
25	j	1	Total C O 37 27 10	0
25	k	1	Total C O 37 27 10	0

- Molecule 26 is IRON/SULFUR CLUSTER (CCD ID: SF4) (formula: Fe_4S_4).



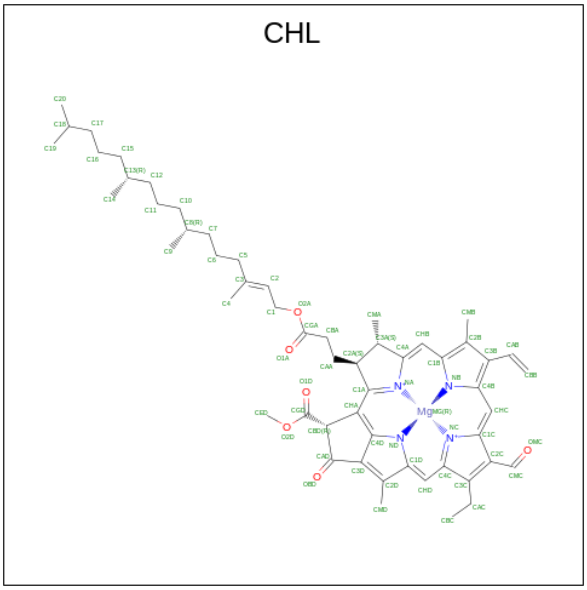
Mol	Chain	Residues	Atoms	AltConf
26	B	1	Total Fe S 8 4 4	0
26	C	1	Total Fe S 8 4 4	0
26	C	1	Total Fe S 8 4 4	0

- Molecule 27 is DIGALACTOSYL DIACYL GLYCEROL (DGDG) (CCD ID: DGD) (formula: $C_{51}H_{96}O_{15}$).



Mol	Chain	Residues	Atoms			AltConf
27	B	1	Total	C	O	0
			62	47	15	

- Molecule 28 is CHLOROPHYLL B (CCD ID: CHL) (formula: $C_{55}H_{70}MgN_4O_6$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
28	a	1	Total	C	Mg	N	O	0
			48	37	1	4	6	
28	a	1	Total	C	Mg	N	O	0
			48	37	1	4	6	
28	a	1	Total	C	Mg	N	O	0
			48	37	1	4	6	
28	a	1	Total	C	Mg	N	O	0
			48	37	1	4	6	
28	b	1	Total	C	Mg	N	O	0
			56	45	1	4	6	
28	b	1	Total	C	Mg	N	O	0
			48	37	1	4	6	
28	b	1	Total	C	Mg	N	O	0
			48	37	1	4	6	
28	b	1	Total	C	Mg	N	O	0
			53	42	1	4	6	
28	b	1	Total	C	Mg	N	O	0
			52	41	1	4	6	
28	c	1	Total	C	Mg	N	O	0
			61	50	1	4	6	

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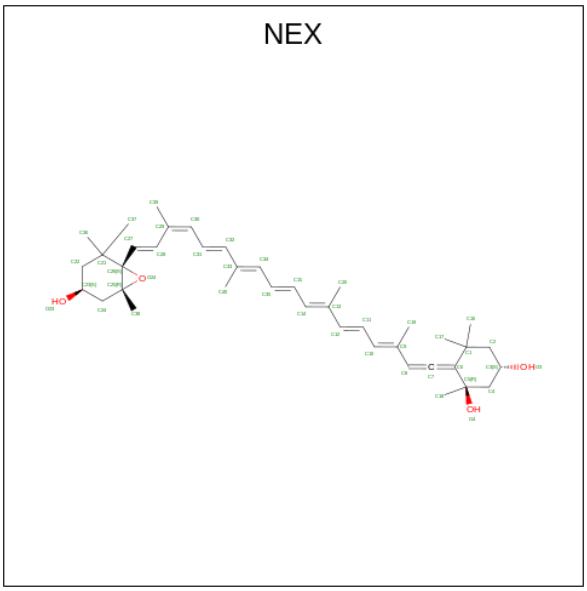
Mol	Chain	Residues	Atoms					AltConf
28	c	1	Total	C	Mg	N	O	0
			56	45	1	4	6	
28	c	1	Total	C	Mg	N	O	0
			56	45	1	4	6	
28	d	1	Total	C	Mg	N	O	0
			48	37	1	4	6	
28	d	1	Total	C	Mg	N	O	0
			56	45	1	4	6	
28	e	1	Total	C	Mg	N	O	0
			51	40	1	4	6	
28	e	1	Total	C	Mg	N	O	0
			61	50	1	4	6	
28	f	1	Total	C	Mg	N	O	0
			48	37	1	4	6	
28	f	1	Total	C	Mg	N	O	0
			56	45	1	4	6	
28	g	1	Total	C	Mg	N	O	0
			56	45	1	4	6	
28	g	1	Total	C	Mg	N	O	0
			56	45	1	4	6	
28	g	1	Total	C	Mg	N	O	0
			51	40	1	4	6	
28	h	1	Total	C	Mg	N	O	0
			48	37	1	4	6	
28	i	1	Total	C	Mg	N	O	0
			48	37	1	4	6	
28	i	1	Total	C	Mg	N	O	0
			56	45	1	4	6	
28	k	1	Total	C	Mg	N	O	0
			48	37	1	4	6	
28	m	1	Total	C	Mg	N	O	0
			48	37	1	4	6	
28	o	1	Total	C	Mg	N	O	0
			48	37	1	4	6	

- Molecule 29 is (1R,3R)-6-{(3E,5E,7E,9E,11E,13E,15E,17E)-18-[(1S,4R,6R)-4-HYDROXY-2,2,6-TRIMETHYL-7-OXABICYCLO[4.1.0]HEPT-1-YL]-3,7,12,16-TETRAMETHYLOCTADECA-1,3,5,7,9,11,13,15,17-NONAENYLIDENE}-1,5,5-TRIMETHYLCYCLOHEXANE-1,3-DIOL (CCD ID: NEX) (formula: $C_{40}H_{56}O_4$) (labeled as "Ligand of Interest" by depositor).



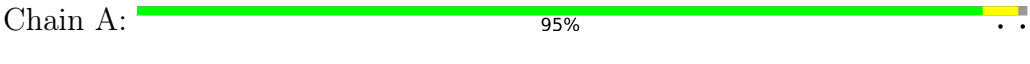
Mol	Chain	Residues	Atoms			AltConf
29	a	1	Total	C	O	0
			44	40	4	

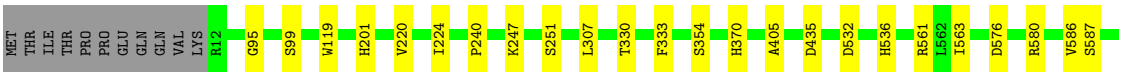
3 Residue-property plots (i)

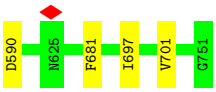
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: Photosystem I P700 chlorophyll a apoprotein A1

Chain A:

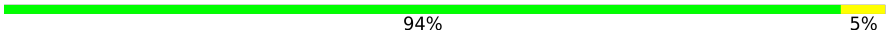


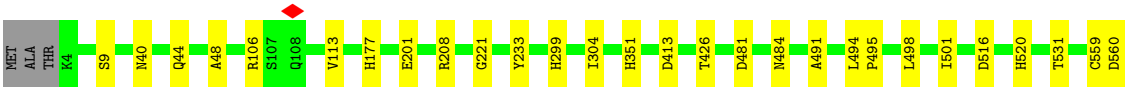




• Molecule 2: Photosystem I P700 chlorophyll a apoprotein A2

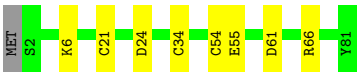
Chain B:





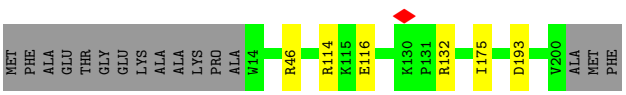
• Molecule 3: Photosystem I iron-sulfur center

Chain C:



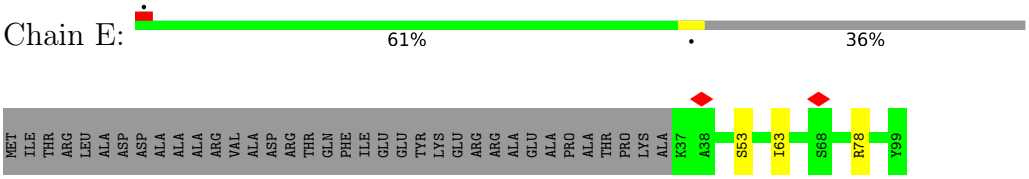
• Molecule 4: PsaD

Chain D:



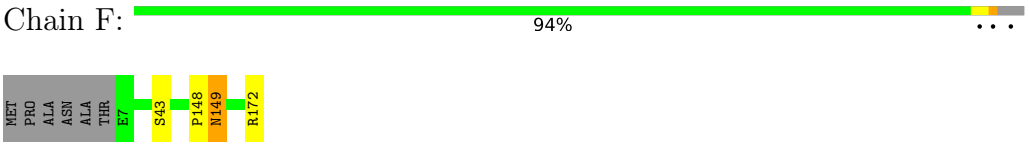
• Molecule 5: PsaE

Chain E:



• Molecule 6: PsaF

Chain F:



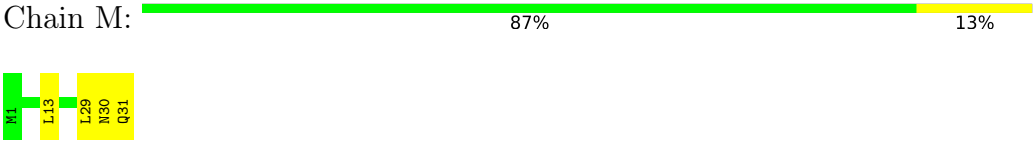
• Molecule 7: Photosystem I reaction center subunit IX

Chain J:

There are no outlier residues recorded for this chain.

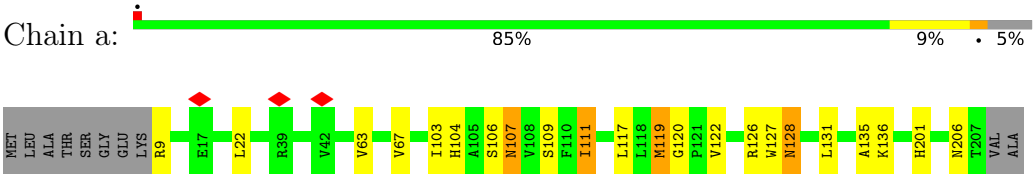
• Molecule 8: Photosystem I reaction center subunit XII

Chain M:



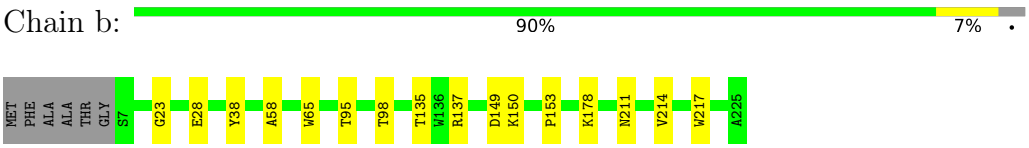
• Molecule 9: LHC-1

Chain a:



• Molecule 10: Light harvesting chlorophyll a /b binding protein of PSII

Chain b:

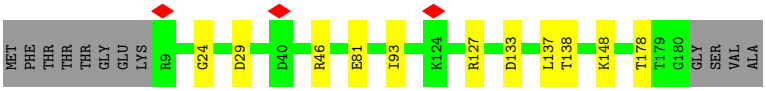


• Molecule 11: LHC-3

Chain c:

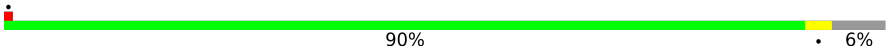
• Molecule 12: Chloroplast light-harvesting complex I protein

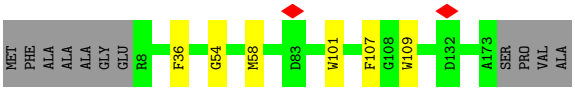
Chain d:



• Molecule 13: Chloroplast light-harvesting complex I protein

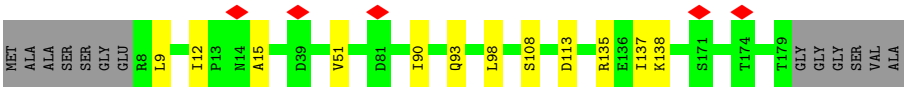
Chain e:





• Molecule 14: Chloroplast light-harvesting complex I protein

Chain f:

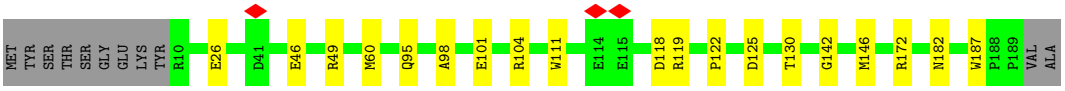


• Molecule 15: Chloroplast light-harvesting complex I protein

Chain g:

• Molecule 15: Chloroplast light-harvesting complex I protein

Chain j:

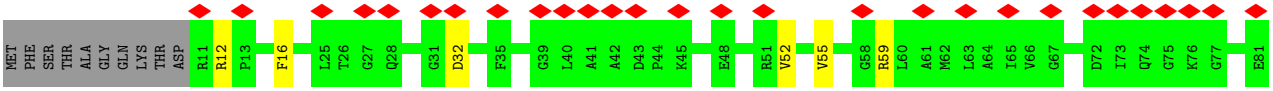


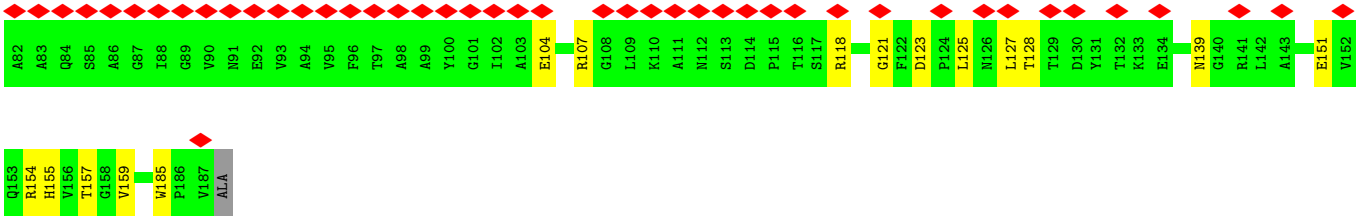
• Molecule 16: LHC-10, 15

Chain h:

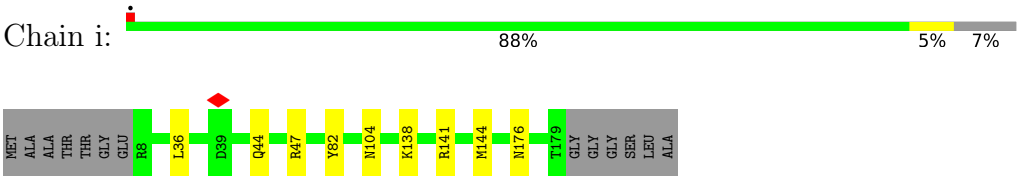
• Molecule 16: LHC-10, 15

Chain o:

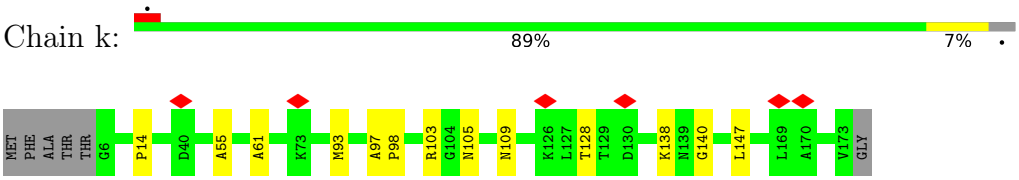




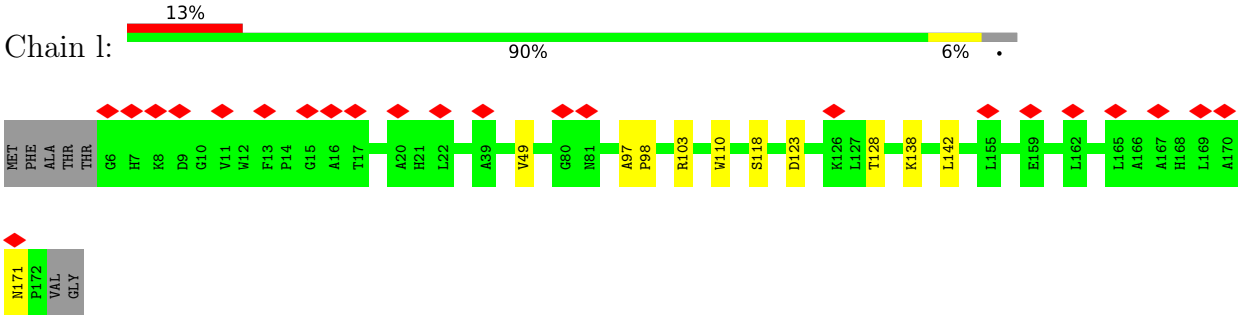
• Molecule 17: LHC-11



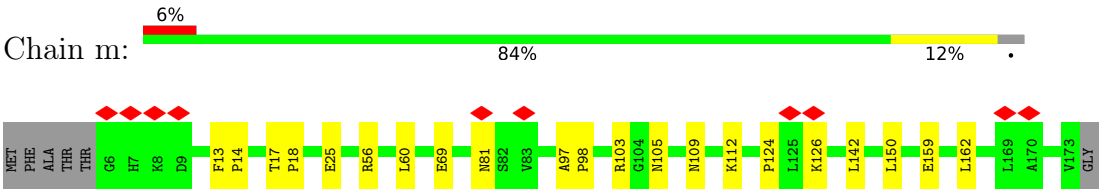
• Molecule 18: Chloroplast light-harvesting complex I protein



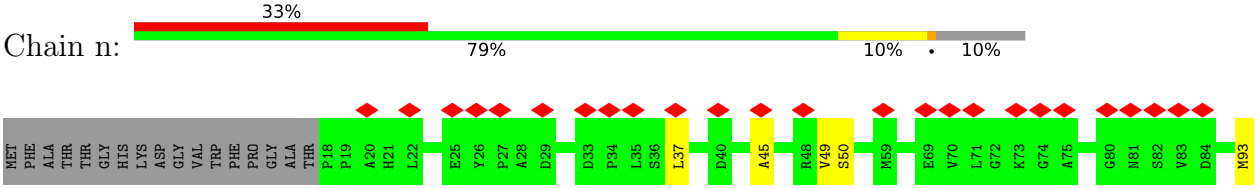
• Molecule 18: Chloroplast light-harvesting complex I protein

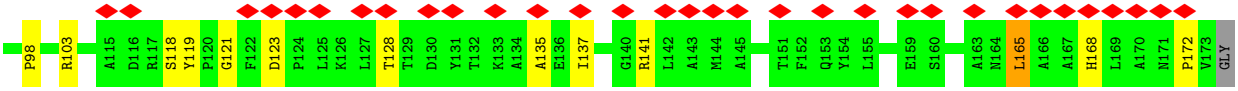


• Molecule 18: Chloroplast light-harvesting complex I protein



• Molecule 18: Chloroplast light-harvesting complex I protein




P98
R103
A115
D116
R117
S118
Y119
P120
G121
F122
D123
P124
L125
K126
L127
T128
T129
D130
Y131
T132
K133
A134
A135
E136
I137
G140
R141
L142
A143
M144
A145
T151
F152
Q153
Y154
L155
E159
S160
A163
N164
L165
A166
A167
H168
L169
A170
N171
P172
V173
GLY

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	78124	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TECNAI F30	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.443	Depositor
Minimum map value	-0.463	Depositor
Average map value	0.016	Depositor
Map value standard deviation	0.038	Depositor
Recommended contour level	0.22	Depositor
Map size (Å)	417.2, 417.2, 417.2	wwPDB
Map dimensions	500, 500, 500	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.8344, 0.8344, 0.8344	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.16	0/6071	0.33	0/8276
2	B	0.17	0/6066	0.36	0/8272
3	C	0.48	0/605	0.47	0/819
4	D	0.18	0/1498	0.38	0/2030
5	E	0.18	0/522	0.38	0/707
6	F	0.24	0/1293	0.39	0/1751
7	J	0.18	0/313	0.34	0/429
8	M	0.32	0/246	0.42	0/332
9	a	0.45	0/1562	0.55	1/2135 (0.0%)
10	b	0.28	1/1715 (0.1%)	0.38	0/2338
11	c	0.20	0/1725	0.33	0/2341
12	d	0.17	0/1370	0.37	0/1865
13	e	0.19	0/1311	0.40	0/1772
14	f	0.21	0/1377	0.42	0/1871
15	g	0.17	0/1490	0.36	0/2033
15	j	0.20	0/1468	0.39	0/2004
16	h	0.17	0/1399	0.35	0/1907
16	o	0.23	0/1394	0.47	0/1900
17	i	0.19	0/1380	0.41	0/1876
18	k	0.21	0/1297	0.41	0/1768
18	l	0.22	0/1290	0.41	0/1758
18	m	0.26	0/1297	0.44	0/1768
18	n	0.21	0/1202	0.46	0/1637
All	All	0.22	1/37891 (0.0%)	0.39	1/51589 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	B	0	1
16	h	0	1
All	All	0	2

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	b	135	THR	CA-C	-5.67	1.45	1.52

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	a	126	ARG	N-CA-C	-5.73	105.12	111.36

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	667	TRP	Peptide
16	h	185	TRP	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5871	0	5731	19	0
2	B	5856	0	5659	30	0
3	C	595	0	579	5	0
4	D	1462	0	1450	5	0
5	E	510	0	489	3	0
6	F	1267	0	1299	3	0
7	J	304	0	317	0	0
8	M	242	0	258	6	0
9	a	1514	0	1466	13	0
10	b	1665	0	1645	13	0
11	c	1683	0	1680	9	0
12	d	1327	0	1271	10	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
13	e	1274	0	1233	4	0
14	f	1338	0	1313	10	0
15	g	1441	0	1393	7	0
15	j	1420	0	1371	14	0
16	h	1361	0	1339	9	0
16	o	1356	0	1334	17	0
17	i	1342	0	1316	6	0
18	k	1260	0	1234	9	0
18	l	1253	0	1225	10	0
18	m	1260	0	1234	13	0
18	n	1170	0	1155	16	0
19	A	2506	0	2465	17	0
19	B	2277	0	2172	19	0
19	D	52	0	43	1	0
19	F	229	0	219	2	0
19	J	47	0	35	1	0
19	a	529	0	454	7	0
19	b	528	0	452	10	0
19	c	634	0	547	1	0
19	d	523	0	446	7	0
19	e	480	0	415	4	0
19	f	565	0	468	4	0
19	g	419	0	355	2	0
19	h	634	0	545	4	0
19	i	559	0	458	2	0
19	j	687	0	589	22	0
19	k	529	0	456	4	0
19	l	458	0	379	11	0
19	m	507	0	416	4	0
19	n	458	0	379	24	0
19	o	555	0	451	18	0
20	A	33	0	46	0	0
20	B	33	0	46	0	0
21	A	49	0	74	0	0
22	A	86	0	0	0	0
22	F	43	0	0	0	0
22	J	86	0	0	1	0
22	a	86	0	0	5	0
22	b	129	0	0	2	0
22	c	129	0	0	2	0
22	d	86	0	0	0	0
22	e	86	0	0	10	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
22	f	86	0	0	2	0
22	g	86	0	0	5	0
22	h	86	0	0	0	0
22	i	86	0	0	1	0
22	j	86	0	0	11	0
22	k	86	0	0	0	0
22	l	86	0	0	5	0
22	m	86	0	0	1	0
22	n	86	0	0	10	0
22	o	86	0	0	6	0
23	A	159	0	221	3	0
23	B	280	0	392	6	0
23	J	40	0	56	6	0
23	M	40	0	56	7	0
24	A	34	0	44	1	0
24	a	34	0	44	0	0
24	c	34	0	44	3	0
25	A	34	0	38	0	0
25	a	107	0	124	6	0
25	b	42	0	54	2	0
25	c	38	0	46	6	0
25	d	31	0	32	1	0
25	e	44	0	61	0	0
25	f	26	0	22	1	0
25	g	114	0	141	1	0
25	h	35	0	40	2	0
25	i	41	0	52	7	0
25	j	37	0	44	0	0
25	k	37	0	44	2	0
26	B	8	0	0	0	0
26	C	16	0	0	0	0
27	B	62	0	85	2	0
28	a	192	0	132	11	0
28	b	257	0	193	10	0
28	c	173	0	151	12	0
28	d	104	0	80	5	0
28	e	112	0	94	12	0
28	f	104	0	80	5	0
28	g	163	0	131	8	0
28	h	48	0	33	2	0
28	i	104	0	80	2	0
28	k	48	0	33	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
28	m	48	0	33	2	0
28	o	48	0	33	2	0
29	a	44	0	56	0	0
All	All	54391	0	50670	391	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 4.

The worst 5 of 391 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)
19:j:306:CLA:HBB1	22:j:316:DD6:C1	1.69	1.22
28:e:304:CHL:H93	22:e:313:DD6:C10	1.72	1.19
19:n:206:CLA:HMB1	22:n:210:DD6:C23	1.95	0.95
19:n:206:CLA:CMB	22:n:210:DD6:C23	2.45	0.94
19:l:201:CLA:CBB	22:l:210:DD6:C10	2.49	0.89

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	738/751 (98%)	718 (97%)	20 (3%)	0	100	100
2	B	728/733 (99%)	709 (97%)	19 (3%)	0	100	100
3	C	78/81 (96%)	74 (95%)	4 (5%)	0	100	100
4	D	185/203 (91%)	175 (95%)	9 (5%)	1 (0%)	25	47
5	E	61/99 (62%)	56 (92%)	5 (8%)	0	100	100
6	F	164/172 (95%)	158 (96%)	5 (3%)	1 (1%)	22	43
7	J	35/37 (95%)	34 (97%)	1 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
8	M	29/31 (94%)	29 (100%)	0	0	100 100
9	a	197/209 (94%)	189 (96%)	5 (2%)	3 (2%)	8 21
10	b	217/225 (96%)	211 (97%)	6 (3%)	0	100 100
11	c	220/230 (96%)	213 (97%)	5 (2%)	2 (1%)	14 34
12	d	170/184 (92%)	160 (94%)	10 (6%)	0	100 100
13	e	164/177 (93%)	155 (94%)	9 (6%)	0	100 100
14	f	170/185 (92%)	166 (98%)	4 (2%)	0	100 100
15	g	180/191 (94%)	179 (99%)	1 (1%)	0	100 100
15	j	178/191 (93%)	168 (94%)	9 (5%)	1 (1%)	22 43
16	h	176/188 (94%)	171 (97%)	5 (3%)	0	100 100
16	o	175/188 (93%)	168 (96%)	7 (4%)	0	100 100
17	i	170/185 (92%)	164 (96%)	6 (4%)	0	100 100
18	k	166/174 (95%)	158 (95%)	8 (5%)	0	100 100
18	l	165/174 (95%)	158 (96%)	7 (4%)	0	100 100
18	m	166/174 (95%)	158 (95%)	7 (4%)	1 (1%)	22 43
18	n	154/174 (88%)	145 (94%)	9 (6%)	0	100 100
All	All	4686/4956 (95%)	4516 (96%)	161 (3%)	9 (0%)	45 67

5 of 9 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
9	a	136	LYS
9	a	107	ASN
11	c	30	GLU
18	m	25	GLU
6	F	43	SER

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	620/632 (98%)	620 (100%)	0	100	100
2	B	607/609 (100%)	606 (100%)	1 (0%)	92	98
3	C	69/70 (99%)	68 (99%)	1 (1%)	62	83
4	D	154/164 (94%)	154 (100%)	0	100	100
5	E	54/81 (67%)	54 (100%)	0	100	100
6	F	132/136 (97%)	131 (99%)	1 (1%)	79	91
7	J	34/34 (100%)	34 (100%)	0	100	100
8	M	26/26 (100%)	25 (96%)	1 (4%)	28	55
9	a	152/159 (96%)	146 (96%)	6 (4%)	27	54
10	b	167/170 (98%)	166 (99%)	1 (1%)	84	93
11	c	172/178 (97%)	172 (100%)	0	100	100
12	d	133/142 (94%)	133 (100%)	0	100	100
13	e	125/131 (95%)	124 (99%)	1 (1%)	79	91
14	f	141/147 (96%)	141 (100%)	0	100	100
15	g	144/151 (95%)	144 (100%)	0	100	100
15	j	142/151 (94%)	141 (99%)	1 (1%)	81	92
16	h	137/145 (94%)	136 (99%)	1 (1%)	81	92
16	o	137/145 (94%)	137 (100%)	0	100	100
17	i	142/148 (96%)	141 (99%)	1 (1%)	81	92
18	k	122/126 (97%)	122 (100%)	0	100	100
18	l	121/126 (96%)	121 (100%)	0	100	100
18	m	122/126 (97%)	122 (100%)	0	100	100
18	n	114/126 (90%)	113 (99%)	1 (1%)	75	89
All	All	3767/3923 (96%)	3751 (100%)	16 (0%)	88	96

5 of 16 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
15	j	111	TRP
17	i	176	ASN
9	a	128	ASN
16	h	127	LEU
9	a	119	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 26

such sidechains are listed below:

Mol	Chain	Res	Type
15	g	170	HIS
17	i	153	GLN
18	n	105	ASN
17	i	129	ASN
15	j	82	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

348 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	$\#\|Z\| > 2$
28	CHL	f	304	14	56,64,74	1.49	10 (17%)	61,102,114	2.26	14 (22%)
19	CLA	B	813	-	54,62,73	2.45	8 (14%)	62,99,113	1.50	4 (6%)
22	DD6	c	317	-	39,45,45	0.14	0	52,67,67	0.83	2 (3%)
28	CHL	e	301	13	51,59,74	1.61	10 (19%)	55,96,114	2.18	10 (18%)
19	CLA	i	307	17	54,62,73	2.47	8 (14%)	62,99,113	1.54	6 (9%)
19	CLA	h	213	-	47,55,73	2.61	8 (17%)	54,91,113	1.72	6 (11%)
19	CLA	B	842	-	47,55,73	2.63	8 (17%)	54,91,113	1.64	8 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
19	CLA	A	827	1	51,59,73	2.52	8 (15%)	59,96,113	1.60	5 (8%)
19	CLA	b	302	25	55,63,73	2.48	8 (14%)	64,101,113	1.50	5 (7%)
19	CLA	e	306	13	55,63,73	2.43	8 (14%)	64,101,113	1.50	6 (9%)
22	DD6	l	210	-	39,45,45	0.23	0	52,67,67	0.76	1 (1%)
28	CHL	k	301	18	48,56,74	1.59	10 (20%)	51,92,114	2.09	12 (23%)
19	CLA	A	817	-	65,73,73	2.24	8 (12%)	76,113,113	1.58	9 (11%)
19	CLA	l	204	18	56,64,73	2.42	8 (14%)	65,102,113	1.46	6 (9%)
19	CLA	g	302	-	55,63,73	2.44	8 (14%)	64,101,113	1.46	5 (7%)
25	LMG	e	312	-	44,44,55	0.84	1 (2%)	52,52,63	1.14	3 (5%)
19	CLA	j	304	15	60,68,73	2.18	8 (13%)	70,107,113	1.46	9 (12%)
19	CLA	k	305	18	60,68,73	2.30	8 (13%)	70,107,113	1.39	6 (8%)
28	CHL	c	313	-	56,64,74	1.51	9 (16%)	61,102,114	1.99	13 (21%)
19	CLA	j	302	-	55,63,73	2.46	8 (14%)	64,101,113	1.50	6 (9%)
19	CLA	l	205	-	60,68,73	2.34	8 (13%)	70,107,113	1.47	5 (7%)
28	CHL	g	306	15	56,64,74	1.53	9 (16%)	61,102,114	2.16	15 (24%)
19	CLA	g	305	15	47,55,73	2.54	8 (17%)	54,91,113	1.70	9 (16%)
19	CLA	B	808	-	65,73,73	2.17	8 (12%)	76,113,113	1.44	6 (7%)
25	LMG	a	316	-	27,27,55	0.96	1 (3%)	35,35,63	1.22	6 (17%)
19	CLA	i	308	17	51,59,73	2.53	8 (15%)	59,96,113	1.53	5 (8%)
19	CLA	j	309	-	56,64,73	2.40	8 (14%)	65,102,113	1.42	5 (7%)
28	CHL	i	301	17	48,56,74	1.58	8 (16%)	51,92,114	2.01	12 (23%)
19	CLA	A	813	-	60,68,73	2.34	8 (13%)	70,107,113	1.50	6 (8%)
25	LMG	b	316	19	42,42,55	0.86	0	50,50,63	1.24	5 (10%)
19	CLA	h	201	-	56,64,73	2.39	8 (14%)	65,102,113	1.50	5 (7%)
19	CLA	h	203	-	55,63,73	2.45	8 (14%)	64,101,113	1.48	4 (6%)
22	DD6	b	319	-	39,45,45	0.17	0	52,67,67	0.68	2 (3%)
19	CLA	f	311	-	52,60,73	2.52	8 (15%)	60,97,113	1.76	7 (11%)
25	LMG	f	313	-	26,26,55	0.96	0	34,34,63	1.22	3 (8%)
28	CHL	b	314	-	52,60,74	1.54	9 (17%)	56,97,114	2.15	14 (25%)
19	CLA	i	313	17	52,60,73	2.50	8 (15%)	60,97,113	1.76	7 (11%)
29	NEX	a	317	-	38,46,46	0.37	1 (2%)	50,70,70	1.16	2 (4%)
19	CLA	A	825	-	50,58,73	2.52	8 (16%)	58,95,113	1.70	6 (10%)
19	CLA	A	805	19,1	52,60,73	2.50	8 (15%)	60,97,113	1.65	7 (11%)
22	DD6	d	214	-	39,45,45	0.18	0	52,67,67	0.84	2 (3%)
25	LMG	g	312	-	37,37,55	0.92	1 (2%)	45,45,63	1.27	5 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
19	CLA	d	211	-	60,68,73	2.31	8 (13%)	70,107,113	1.39	7 (10%)
19	CLA	l	207	-	47,55,73	2.64	8 (17%)	54,91,113	1.66	5 (9%)
22	DD6	h	215	-	39,45,45	0.23	0	52,67,67	0.70	1 (1%)
19	CLA	o	309	-	47,55,73	2.53	8 (17%)	54,91,113	1.65	8 (14%)
19	CLA	B	804	-	65,73,73	2.21	8 (12%)	76,113,113	1.34	7 (9%)
19	CLA	c	315	11	47,55,73	2.66	8 (17%)	54,91,113	1.58	6 (11%)
28	CHL	f	301	14	48,56,74	1.60	10 (20%)	51,92,114	2.05	12 (23%)
19	CLA	k	304	-	60,68,73	2.34	8 (13%)	70,107,113	1.50	7 (10%)
23	BCR	B	825	-	41,41,41	0.20	0	56,56,56	0.37	0
19	CLA	d	208	-	60,68,73	2.21	8 (13%)	70,107,113	1.51	8 (11%)
28	CHL	h	202	16	48,56,74	1.57	10 (20%)	51,92,114	2.20	11 (21%)
28	CHL	b	311	-	48,56,74	1.61	10 (20%)	51,92,114	2.22	13 (25%)
19	CLA	A	815	-	51,59,73	2.53	8 (15%)	59,96,113	1.53	5 (8%)
19	CLA	g	304	15	50,58,73	2.40	8 (16%)	58,95,113	1.51	9 (15%)
19	CLA	f	302	-	55,63,73	2.46	8 (14%)	64,101,113	1.48	4 (6%)
19	CLA	A	850	1	65,73,73	2.26	8 (12%)	76,113,113	1.38	5 (6%)
19	CLA	a	303	-	55,63,73	2.43	8 (14%)	64,101,113	1.59	8 (12%)
28	CHL	a	312	-	48,56,74	1.60	9 (18%)	51,92,114	2.12	13 (25%)
19	CLA	j	308	15	60,68,73	2.33	8 (13%)	70,107,113	1.45	6 (8%)
19	CLA	B	821	-	56,64,73	2.42	8 (14%)	65,102,113	1.48	4 (6%)
19	CLA	e	305	13	50,58,73	2.63	8 (16%)	58,95,113	1.60	6 (10%)
19	CLA	f	309	-	60,68,73	2.36	8 (13%)	70,107,113	1.54	6 (8%)
19	CLA	c	306	11	56,64,73	2.44	7 (12%)	65,102,113	1.55	5 (7%)
19	CLA	o	310	-	47,55,73	2.66	8 (17%)	54,91,113	1.65	7 (12%)
22	DD6	J	801	-	39,45,45	0.29	0	52,67,67	0.99	1 (1%)
19	CLA	d	207	-	47,55,73	2.63	8 (17%)	54,91,113	1.67	5 (9%)
19	CLA	A	826	1	50,58,73	2.54	8 (16%)	58,95,113	1.50	6 (10%)
19	CLA	i	303	-	47,55,73	2.65	8 (17%)	54,91,113	1.59	6 (11%)
28	CHL	d	202	12	48,56,74	1.64	8 (16%)	51,92,114	2.03	11 (21%)
19	CLA	h	211	-	51,59,73	2.50	8 (15%)	59,96,113	1.55	7 (11%)
19	CLA	i	312	17	47,55,73	2.65	8 (17%)	54,91,113	1.64	5 (9%)
23	BCR	B	826	-	41,41,41	0.22	0	56,56,56	0.47	0
19	CLA	A	843	-	65,73,73	2.30	8 (12%)	76,113,113	1.63	8 (10%)
22	DD6	h	214	-	39,45,45	0.16	0	52,67,67	0.92	2 (3%)
19	CLA	a	314	-	47,55,73	2.56	8 (17%)	54,91,113	1.79	8 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
19	CLA	A	841	1	65,73,73	2.23	8 (12%)	76,113,113	1.37	4 (5%)
25	LMG	g	316	-	44,44,55	0.76	0	52,52,63	1.29	6 (11%)
28	CHL	d	205	12	56,64,74	1.50	9 (16%)	61,102,114	2.09	14 (22%)
25	LMG	c	320	-	38,38,55	0.88	0	46,46,63	1.24	2 (4%)
19	CLA	m	305	18	60,68,73	2.25	8 (13%)	70,107,113	1.49	7 (10%)
19	CLA	i	306	17	47,55,73	2.65	8 (17%)	54,91,113	1.64	5 (9%)
19	CLA	A	816	-	59,67,73	2.31	8 (13%)	68,105,113	1.46	8 (11%)
21	LHG	A	831	-	48,48,48	0.63	0	51,54,54	1.19	5 (9%)
19	CLA	f	305	-	50,58,73	2.56	8 (16%)	58,95,113	1.71	7 (12%)
20	PQN	A	830	-	34,34,34	0.39	0	42,45,45	0.71	1 (2%)
25	LMG	d	213	-	31,31,55	1.16	1 (3%)	39,39,63	1.28	5 (12%)
19	CLA	A	822	-	65,73,73	2.15	8 (12%)	76,113,113	1.32	8 (10%)
19	CLA	m	304	-	47,55,73	2.67	8 (17%)	54,91,113	2.12	12 (22%)
19	CLA	A	806	1	65,73,73	2.24	8 (12%)	76,113,113	1.52	6 (7%)
19	CLA	d	209	12	56,64,73	2.40	8 (14%)	65,102,113	1.45	5 (7%)
19	CLA	B	838	-	50,58,73	2.57	8 (16%)	58,95,113	1.71	7 (12%)
19	CLA	d	201	-	47,55,73	2.60	8 (17%)	54,91,113	1.61	5 (9%)
23	BCR	B	850	-	41,41,41	0.32	0	56,56,56	0.62	1 (1%)
19	CLA	h	207	-	47,55,73	2.63	8 (17%)	54,91,113	1.56	5 (9%)
22	DD6	b	318	-	39,45,45	0.20	0	52,67,67	0.77	1 (1%)
22	DD6	n	211	-	39,45,45	0.13	0	52,67,67	0.66	1 (1%)
19	CLA	n	208	-	47,55,73	2.50	8 (17%)	54,91,113	1.65	9 (16%)
19	CLA	n	204	-	56,64,73	2.46	8 (14%)	65,102,113	1.60	6 (9%)
19	CLA	h	208	-	60,68,73	2.35	8 (13%)	70,107,113	1.50	5 (7%)
19	CLA	j	307	15	60,68,73	2.32	8 (13%)	70,107,113	1.56	6 (8%)
28	CHL	b	301	10	56,64,74	1.56	10 (17%)	61,102,114	1.92	16 (26%)
28	CHL	a	313	-	48,56,74	1.62	9 (18%)	51,92,114	2.10	13 (25%)
19	CLA	a	304	-	47,55,73	2.66	8 (17%)	54,91,113	1.60	5 (9%)
19	CLA	F	202	-	57,65,73	2.38	8 (14%)	66,103,113	1.39	5 (7%)
19	CLA	A	807	1	65,73,73	2.22	8 (12%)	76,113,113	1.38	5 (6%)
19	CLA	B	847	-	65,73,73	2.28	8 (12%)	76,113,113	1.55	6 (7%)
19	CLA	B	845	2	47,55,73	2.61	8 (17%)	54,91,113	1.64	6 (11%)
19	CLA	n	202	18	47,55,73	2.68	8 (17%)	54,91,113	2.01	13 (24%)
19	CLA	b	309	-	50,58,73	2.52	8 (16%)	58,95,113	1.52	4 (6%)
19	CLA	B	823	-	47,55,73	2.64	8 (17%)	54,91,113	1.69	6 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
19	CLA	A	818	-	64,72,73	2.25	8 (12%)	74,111,113	1.43	5 (6%)
19	CLA	b	313	-	47,55,73	2.64	8 (17%)	54,91,113	1.72	10 (18%)
19	CLA	k	310	-	55,63,73	2.42	8 (14%)	64,101,113	1.47	5 (7%)
22	DD6	o	314	-	39,45,45	0.15	0	52,67,67	0.90	3 (5%)
19	CLA	B	820	2	61,69,73	2.28	8 (13%)	71,108,113	1.47	5 (7%)
19	CLA	n	206	18	47,55,73	2.50	8 (17%)	54,91,113	1.55	6 (11%)
28	CHL	a	311	-	48,56,74	1.61	10 (20%)	51,92,114	1.88	11 (21%)
19	CLA	a	307	9	55,63,73	2.45	8 (14%)	64,101,113	1.57	6 (9%)
19	CLA	B	848	-	47,55,73	2.59	8 (17%)	54,91,113	1.69	7 (12%)
19	CLA	g	309	-	56,64,73	2.38	8 (14%)	65,102,113	1.46	4 (6%)
19	CLA	n	205	18	60,68,73	2.37	8 (13%)	70,107,113	1.53	6 (8%)
19	CLA	j	313	15	56,64,73	2.43	8 (14%)	65,102,113	1.54	6 (9%)
22	DD6	i	315	-	39,45,45	0.17	0	52,67,67	0.95	3 (5%)
19	CLA	k	311	-	47,55,73	2.67	8 (17%)	54,91,113	1.67	6 (11%)
19	CLA	B	836	-	64,72,73	2.20	8 (12%)	74,111,113	1.30	7 (9%)
19	CLA	d	204	-	52,60,73	2.53	8 (15%)	60,97,113	1.61	6 (10%)
19	CLA	F	203	-	65,73,73	2.22	8 (12%)	76,113,113	1.42	6 (7%)
19	CLA	o	303	16	48,56,73	2.58	8 (16%)	55,92,113	1.73	7 (12%)
19	CLA	g	311	-	47,55,73	2.68	8 (17%)	54,91,113	1.75	6 (11%)
19	CLA	l	203	18	60,68,73	2.32	8 (13%)	70,107,113	1.54	7 (10%)
22	DD6	o	313	-	39,45,45	0.20	0	52,67,67	0.77	2 (3%)
19	CLA	k	302	25	56,64,73	2.25	8 (14%)	65,102,113	1.53	8 (12%)
23	BCR	J	804	-	41,41,41	0.17	0	56,56,56	0.36	0
23	BCR	A	836	-	41,41,41	0.15	0	56,56,56	0.47	0
19	CLA	B	809	2	54,62,73	2.41	8 (14%)	62,99,113	1.46	5 (8%)
19	CLA	b	307	10	60,68,73	2.33	8 (13%)	70,107,113	1.46	6 (8%)
22	DD6	l	211	-	39,45,45	0.17	0	52,67,67	0.79	1 (1%)
19	CLA	B	843	-	47,55,73	2.61	8 (17%)	54,91,113	1.66	5 (9%)
22	DD6	A	832	-	39,45,45	0.23	0	52,67,67	1.02	3 (5%)
19	CLA	A	847	1	47,55,73	2.61	8 (17%)	54,91,113	1.68	6 (11%)
22	DD6	n	210	-	39,45,45	0.18	0	52,67,67	1.41	4 (7%)
19	CLA	j	311	-	50,58,73	2.50	8 (16%)	58,95,113	1.56	12 (20%)
25	LMG	g	313	-	33,33,55	0.98	1 (3%)	41,41,63	1.21	6 (14%)
19	CLA	B	812	2	64,72,73	2.26	8 (12%)	74,111,113	1.38	5 (6%)
19	CLA	B	815	-	60,68,73	2.29	8 (13%)	70,107,113	1.51	8 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
22	DD6	m	312	-	39,45,45	0.20	0	52,67,67	0.95	3 (5%)
19	CLA	A	845	1	47,55,73	2.64	8 (17%)	54,91,113	1.62	5 (9%)
28	CHL	c	312	-	56,64,74	1.54	10 (17%)	61,102,114	1.96	14 (22%)
19	CLA	d	206	-	47,55,73	2.57	8 (17%)	54,91,113	1.57	6 (11%)
19	CLA	b	308	10	56,64,73	2.42	8 (14%)	65,102,113	1.46	5 (7%)
19	CLA	l	202	-	47,55,73	2.68	8 (17%)	54,91,113	1.81	7 (12%)
23	BCR	A	837	-	41,41,41	0.22	0	56,56,56	0.51	0
19	CLA	o	307	-	60,68,73	2.39	8 (13%)	70,107,113	1.76	11 (15%)
19	CLA	A	848	1	50,58,73	2.51	8 (16%)	58,95,113	1.56	6 (10%)
23	BCR	B	828	-	41,41,41	0.16	0	56,56,56	0.46	0
19	CLA	f	314	14	55,63,73	2.45	8 (14%)	64,101,113	1.70	7 (10%)
19	CLA	A	849	1	47,55,73	2.65	8 (17%)	54,91,113	1.61	5 (9%)
19	CLA	m	309	-	47,55,73	2.45	8 (17%)	54,91,113	1.69	7 (12%)
19	CLA	A	801	-	65,73,73	2.14	7 (10%)	76,113,113	1.28	7 (9%)
25	LMG	a	301	-	40,40,55	0.88	3 (7%)	48,48,63	1.27	6 (12%)
19	CLA	B	830	2	58,66,73	2.40	8 (13%)	67,104,113	1.45	7 (10%)
28	CHL	o	301	16	48,56,74	1.65	9 (18%)	51,92,114	2.21	11 (21%)
19	CLA	J	803	-	47,55,73	2.62	8 (17%)	54,91,113	1.56	4 (7%)
19	CLA	a	310	-	50,58,73	2.51	8 (16%)	58,95,113	1.54	6 (10%)
28	CHL	e	304	13	61,69,74	1.48	11 (18%)	67,108,114	1.97	13 (19%)
19	CLA	A	842	1	65,73,73	2.03	8 (12%)	76,113,113	1.40	9 (11%)
25	LMG	A	851	-	34,34,55	0.83	1 (2%)	42,42,63	1.28	6 (14%)
19	CLA	A	803	-	65,73,73	2.24	9 (13%)	76,113,113	1.44	7 (9%)
19	CLA	c	311	-	47,55,73	2.64	8 (17%)	54,91,113	1.57	5 (9%)
19	CLA	a	305	9	60,68,73	2.32	9 (15%)	70,107,113	1.42	7 (10%)
19	CLA	B	819	-	65,73,73	2.24	8 (12%)	76,113,113	1.36	4 (5%)
19	CLA	k	307	18	60,68,73	2.33	8 (13%)	70,107,113	1.48	5 (7%)
19	CLA	g	301	15	48,56,73	2.34	8 (16%)	55,92,113	1.58	8 (14%)
19	CLA	l	209	-	47,55,73	2.65	8 (17%)	54,91,113	1.81	9 (16%)
19	CLA	e	308	13	56,64,73	2.47	8 (14%)	65,102,113	1.76	10 (15%)
19	CLA	m	310	-	55,63,73	2.45	8 (14%)	64,101,113	1.45	6 (9%)
19	CLA	c	302	11	47,55,73	2.61	8 (17%)	54,91,113	1.66	9 (16%)
19	CLA	F	201	-	60,68,73	2.27	8 (13%)	70,107,113	1.41	6 (8%)
19	CLA	e	311	13	55,63,73	2.44	8 (14%)	64,101,113	1.48	5 (7%)
28	CHL	i	304	17	56,64,74	1.57	10 (17%)	61,102,114	2.13	12 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
19	CLA	B	841	-	47,55,73	2.55	8 (17%)	54,91,113	1.62	7 (12%)
22	DD6	d	215	-	39,45,45	0.25	0	52,67,67	0.85	2 (3%)
19	CLA	l	206	-	47,55,73	2.60	8 (17%)	54,91,113	1.71	8 (14%)
19	CLA	A	808	1	50,58,73	2.56	8 (16%)	58,95,113	1.55	5 (8%)
19	CLA	A	852	-	55,63,73	2.42	8 (14%)	64,101,113	1.45	5 (7%)
19	CLA	A	846	1	47,55,73	2.54	8 (17%)	54,91,113	1.62	6 (11%)
22	DD6	g	314	-	39,45,45	0.18	0	52,67,67	0.96	1 (1%)
19	CLA	k	309	-	47,55,73	2.69	8 (17%)	54,91,113	1.77	7 (12%)
19	CLA	d	203	-	47,55,73	2.68	8 (17%)	54,91,113	1.70	7 (12%)
22	DD6	b	317	-	39,45,45	0.21	0	52,67,67	1.22	3 (5%)
19	CLA	b	303	-	51,59,73	2.52	8 (15%)	59,96,113	1.53	6 (10%)
19	CLA	A	844	-	65,73,73	2.23	8 (12%)	76,113,113	1.40	7 (9%)
19	CLA	f	307	14	54,62,73	2.49	9 (16%)	62,99,113	1.63	7 (11%)
19	CLA	j	305	15	50,58,73	2.31	8 (16%)	58,95,113	1.58	8 (13%)
19	CLA	B	814	-	59,67,73	2.34	8 (13%)	68,105,113	1.53	6 (8%)
19	CLA	j	303	15	52,60,73	2.46	8 (15%)	60,97,113	1.51	7 (11%)
25	LMG	h	216	-	35,35,55	0.97	0	43,43,63	1.26	3 (6%)
19	CLA	A	819	-	64,72,73	2.22	8 (12%)	74,111,113	1.37	8 (10%)
19	CLA	B	844	2	47,55,73	2.63	8 (17%)	54,91,113	1.69	7 (12%)
25	LMG	i	316	-	41,41,55	0.91	2 (4%)	49,49,63	1.20	3 (6%)
19	CLA	e	302	-	55,63,73	2.44	8 (14%)	64,101,113	1.47	5 (7%)
19	CLA	b	315	-	47,55,73	2.54	8 (17%)	54,91,113	1.86	9 (16%)
19	CLA	A	839	-	48,56,73	2.55	8 (16%)	55,92,113	1.56	6 (10%)
23	BCR	B	827	-	41,41,41	0.17	0	56,56,56	0.44	0
19	CLA	A	821	1	63,71,73	2.27	8 (12%)	73,110,113	1.38	6 (8%)
19	CLA	m	308	18	50,58,73	2.58	8 (16%)	58,95,113	1.53	6 (10%)
22	DD6	k	313	-	39,45,45	0.18	0	52,67,67	0.88	2 (3%)
19	CLA	A	804	1	65,73,73	2.26	8 (12%)	76,113,113	1.39	6 (7%)
26	SF4	C	801	-	0,12,12	-	-	-		
19	CLA	e	307	13	60,68,73	2.34	8 (13%)	70,107,113	1.54	6 (8%)
23	BCR	B	834	-	41,41,41	0.18	0	56,56,56	0.37	0
28	CHL	c	305	11	61,69,74	1.49	10 (16%)	67,108,114	2.09	13 (19%)
19	CLA	h	205	16	60,68,73	2.29	8 (13%)	70,107,113	1.47	8 (11%)
19	CLA	B	846	2	47,55,73	2.42	8 (17%)	54,91,113	1.42	7 (12%)
19	CLA	o	306	-	47,55,73	2.67	8 (17%)	54,91,113	1.65	5 (9%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
19	CLA	g	307	15	60,68,73	2.34	8 (13%)	70,107,113	1.38	5 (7%)
19	CLA	B	803	-	65,73,73	2.14	8 (12%)	76,113,113	1.29	6 (7%)
19	CLA	b	306	10	60,68,73	2.25	8 (13%)	70,107,113	1.50	8 (11%)
22	DD6	j	316	-	39,45,45	0.19	0	52,67,67	0.99	3 (5%)
28	CHL	g	310	-	51,59,74	1.63	10 (19%)	55,96,114	1.89	15 (27%)
19	CLA	c	309	11	56,64,73	2.42	8 (14%)	65,102,113	1.44	4 (6%)
19	CLA	A	829	-	65,73,73	2.24	8 (12%)	76,113,113	1.37	5 (6%)
19	CLA	d	212	-	47,55,73	2.59	8 (17%)	54,91,113	1.52	5 (9%)
19	CLA	A	814	-	47,55,73	2.60	8 (17%)	54,91,113	1.58	6 (11%)
24	LMU	A	838	-	35,35,36	0.38	0	43,45,47	0.85	0
19	CLA	o	312	16	47,55,73	2.69	8 (17%)	54,91,113	1.69	5 (9%)
24	LMU	c	301	-	34,35,36	0.43	0	42,45,47	0.85	1 (2%)
19	CLA	e	309	-	47,55,73	2.67	8 (17%)	54,91,113	1.66	5 (9%)
22	DD6	m	313	-	39,45,45	0.15	0	52,67,67	0.76	3 (5%)
27	DGD	B	829	-	63,63,67	0.92	1 (1%)	77,77,81	1.29	5 (6%)
19	CLA	i	305	-	47,55,73	2.66	8 (17%)	54,91,113	1.67	6 (11%)
19	CLA	B	807	2	65,73,73	2.19	8 (12%)	76,113,113	1.41	6 (7%)
19	CLA	j	306	15	47,55,73	2.61	8 (17%)	54,91,113	1.72	8 (14%)
19	CLA	f	303	14	47,55,73	2.64	8 (17%)	54,91,113	1.59	6 (11%)
19	CLA	B	818	-	65,73,73	2.19	8 (12%)	76,113,113	1.42	8 (10%)
19	CLA	h	206	16	47,55,73	2.62	8 (17%)	54,91,113	1.64	5 (9%)
19	CLA	j	310	-	47,55,73	2.47	8 (17%)	54,91,113	1.56	7 (12%)
19	CLA	B	837	-	50,58,73	2.42	8 (16%)	58,95,113	1.61	8 (13%)
19	CLA	B	811	2	58,66,73	2.34	8 (13%)	67,104,113	1.48	6 (8%)
22	DD6	j	315	-	39,45,45	0.20	0	52,67,67	0.90	2 (3%)
22	DD6	k	314	-	39,45,45	0.19	0	52,67,67	1.42	3 (5%)
19	CLA	d	210	-	60,68,73	2.35	8 (13%)	70,107,113	1.47	5 (7%)
24	LMU	a	319	-	35,35,36	0.42	0	43,45,47	0.72	1 (2%)
19	CLA	i	302	-	55,63,73	2.46	8 (14%)	64,101,113	1.50	5 (7%)
19	CLA	j	312	-	47,55,73	2.65	8 (17%)	54,91,113	1.79	7 (12%)
19	CLA	c	303	-	55,63,73	2.44	8 (14%)	64,101,113	1.50	5 (7%)
19	CLA	A	828	-	65,73,73	2.24	8 (12%)	76,113,113	1.37	7 (9%)
19	CLA	m	303	-	47,55,73	2.68	8 (17%)	54,91,113	1.71	4 (7%)
19	CLA	o	308	-	53,61,73	2.51	8 (15%)	61,98,113	1.54	6 (9%)
26	SF4	C	802	-	0,12,12	-	-	-		

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
22	DD6	J	802	-	39,45,45	0.22	0	52,67,67	0.96	4 (7%)
22	DD6	e	313	-	39,45,45	0.20	0	52,67,67	0.97	3 (5%)
19	CLA	A	820	-	55,63,73	2.43	8 (14%)	64,101,113	1.58	5 (7%)
19	CLA	B	835	-	56,64,73	2.41	8 (14%)	65,102,113	1.58	7 (10%)
19	CLA	c	314	-	47,55,73	2.65	8 (17%)	54,91,113	1.69	5 (9%)
22	DD6	c	318	-	39,45,45	0.19	0	52,67,67	0.73	3 (5%)
19	CLA	A	802	-	65,73,73	2.10	9 (13%)	76,113,113	1.34	7 (9%)
19	CLA	B	822	-	65,73,73	2.23	8 (12%)	76,113,113	1.42	5 (6%)
19	CLA	i	309	-	60,68,73	2.32	8 (13%)	70,107,113	1.35	6 (8%)
19	CLA	B	839	2	65,73,73	2.22	8 (12%)	76,113,113	1.34	6 (7%)
19	CLA	a	308	9	60,68,73	2.34	8 (13%)	70,107,113	1.56	6 (8%)
19	CLA	B	840	2	47,55,73	2.67	8 (17%)	54,91,113	1.82	7 (12%)
28	CHL	b	310	-	48,56,74	1.64	9 (18%)	51,92,114	2.16	9 (17%)
19	CLA	h	212	-	56,64,73	2.40	8 (14%)	65,102,113	1.46	7 (10%)
19	CLA	h	210	-	47,55,73	2.66	8 (17%)	54,91,113	1.61	5 (9%)
19	CLA	a	306	9	52,60,73	2.41	8 (15%)	60,97,113	1.61	8 (13%)
22	DD6	a	320	-	39,45,45	0.21	0	52,67,67	0.95	2 (3%)
19	CLA	B	805	2	65,73,73	2.24	8 (12%)	76,113,113	1.45	7 (9%)
19	CLA	m	307	18	60,68,73	2.31	8 (13%)	70,107,113	1.47	5 (7%)
19	CLA	A	811	19	61,69,73	2.27	8 (13%)	71,108,113	1.44	5 (7%)
19	CLA	c	316	11	65,73,73	2.22	8 (12%)	76,113,113	1.32	6 (7%)
19	CLA	n	201	-	47,55,73	2.62	8 (17%)	54,91,113	1.52	6 (11%)
19	CLA	f	310	-	47,55,73	2.63	8 (17%)	54,91,113	1.61	6 (11%)
28	CHL	m	301	18	48,56,74	1.61	10 (20%)	51,92,114	1.85	10 (19%)
19	CLA	m	311	-	47,55,73	2.66	8 (17%)	54,91,113	1.67	5 (9%)
19	CLA	i	310	17	47,55,73	2.39	8 (17%)	54,91,113	1.59	8 (14%)
19	CLA	e	303	-	47,55,73	2.65	8 (17%)	54,91,113	1.58	7 (12%)
22	DD6	f	315	-	39,45,45	0.18	0	52,67,67	0.91	3 (5%)
22	DD6	f	316	-	39,45,45	0.16	0	52,67,67	0.59	1 (1%)
19	CLA	A	853	-	47,55,73	2.67	8 (17%)	54,91,113	1.66	7 (12%)
25	LMG	j	314	-	37,37,55	0.99	1 (2%)	45,45,63	1.49	5 (11%)
19	CLA	B	832	2	50,58,73	2.40	8 (16%)	58,95,113	1.69	8 (13%)
19	CLA	m	302	-	47,55,73	2.40	8 (17%)	54,91,113	1.71	8 (14%)
19	CLA	f	312	-	47,55,73	2.66	8 (17%)	54,91,113	1.62	4 (7%)
22	DD6	e	314	-	39,45,45	0.16	0	52,67,67	0.53	1 (1%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
19	CLA	k	306	18	47,55,73	2.61	8 (17%)	54,91,113	1.65	7 (12%)
19	CLA	i	311	-	52,60,73	2.52	8 (15%)	60,97,113	1.75	8 (13%)
19	CLA	c	310	-	50,58,73	2.54	8 (16%)	58,95,113	1.50	4 (6%)
19	CLA	k	308	18	50,58,73	2.57	8 (16%)	58,95,113	1.58	5 (8%)
19	CLA	o	311	-	50,58,73	2.53	7 (14%)	58,95,113	1.47	7 (12%)
19	CLA	B	816	-	49,57,73	2.55	8 (16%)	55,93,113	1.66	5 (9%)
19	CLA	b	304	-	55,63,73	2.29	8 (14%)	64,101,113	1.52	8 (12%)
19	CLA	A	840	1	65,73,73	2.22	8 (12%)	76,113,113	1.38	5 (6%)
23	BCR	M	801	-	41,41,41	0.13	0	56,56,56	0.35	0
19	CLA	B	810	-	52,61,73	2.54	9 (17%)	64,99,113	1.57	6 (9%)
19	CLA	l	208	-	47,55,73	2.66	8 (17%)	54,91,113	1.62	5 (9%)
19	CLA	A	824	-	65,73,73	2.20	8 (12%)	76,113,113	1.30	5 (6%)
19	CLA	o	302	-	55,63,73	2.45	8 (14%)	64,101,113	1.76	9 (14%)
19	CLA	b	305	10	47,55,73	2.46	8 (17%)	54,91,113	1.56	8 (14%)
19	CLA	a	309	-	56,64,73	2.44	8 (14%)	65,102,113	1.45	5 (7%)
23	BCR	B	831	-	41,41,41	0.23	0	56,56,56	0.33	0
19	CLA	B	833	2	56,64,73	2.42	8 (14%)	65,102,113	1.51	5 (7%)
28	CHL	g	303	15	56,64,74	1.50	10 (17%)	61,102,114	2.19	14 (22%)
19	CLA	B	806	-	65,73,73	2.20	8 (12%)	76,113,113	1.34	6 (7%)
19	CLA	A	809	-	65,73,73	2.21	8 (12%)	76,113,113	1.33	5 (6%)
23	BCR	A	835	-	40,40,41	0.21	0	54,54,56	0.53	1 (1%)
26	SF4	B	802	-	0,12,12	-	-	-		
19	CLA	A	812	1	56,64,73	2.38	8 (14%)	65,102,113	1.44	5 (7%)
19	CLA	c	304	11	52,60,73	2.47	8 (15%)	60,97,113	1.49	6 (10%)
19	CLA	n	203	18	60,68,73	2.31	8 (13%)	70,107,113	1.63	7 (10%)
22	DD6	g	315	-	39,45,45	0.18	0	52,67,67	0.89	2 (3%)
19	CLA	a	302	9	47,55,73	2.54	8 (17%)	54,91,113	1.74	8 (14%)
19	CLA	c	307	-	55,63,73	2.45	8 (14%)	64,101,113	1.45	6 (9%)
22	DD6	A	833	-	39,45,45	0.18	0	52,67,67	0.89	3 (5%)
19	CLA	o	305	-	47,55,73	2.65	8 (17%)	54,91,113	1.66	9 (16%)
19	CLA	g	308	-	56,64,73	2.44	8 (14%)	65,102,113	1.52	5 (7%)
19	CLA	A	823	-	65,73,73	2.13	8 (12%)	76,113,113	1.35	7 (9%)
25	LMG	k	312	19	37,37,55	0.92	0	45,45,63	1.12	4 (8%)
28	CHL	b	312	-	53,61,74	1.61	11 (20%)	57,98,114	2.14	13 (22%)
19	CLA	e	310	-	55,63,73	2.31	8 (14%)	64,101,113	1.60	8 (12%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
19	CLA	n	207	-	47,55,73	2.65	8 (17%)	54,91,113	1.69	5 (9%)
22	DD6	a	321	-	39,45,45	0.22	0	52,67,67	0.83	3 (5%)
20	PQN	B	824	-	34,34,34	0.39	0	42,45,45	0.67	1 (2%)
19	CLA	F	204	-	47,55,73	2.62	8 (17%)	54,91,113	1.56	6 (11%)
19	CLA	c	308	-	57,65,73	2.39	8 (14%)	66,103,113	1.53	5 (7%)
19	CLA	h	204	16	48,56,73	2.63	8 (16%)	55,92,113	1.61	5 (9%)
22	DD6	c	319	-	39,45,45	0.20	0	52,67,67	0.86	2 (3%)
19	CLA	f	306	14	47,55,73	2.62	8 (17%)	54,91,113	1.58	5 (9%)
19	CLA	k	303	-	47,55,73	2.67	8 (17%)	54,91,113	1.61	6 (11%)
19	CLA	B	817	-	62,70,73	2.26	8 (12%)	72,109,113	1.46	8 (11%)
19	CLA	l	201	-	47,55,73	2.52	8 (17%)	54,91,113	1.52	9 (16%)
19	CLA	m	306	18	47,55,73	2.66	8 (17%)	54,91,113	1.72	5 (9%)
19	CLA	f	308	14	51,59,73	2.53	8 (15%)	59,96,113	1.52	4 (6%)
28	CHL	a	315	9	48,56,74	1.59	10 (20%)	51,92,114	1.97	9 (17%)
19	CLA	j	301	-	47,55,73	2.62	8 (17%)	54,91,113	1.74	6 (11%)
23	BCR	A	834	-	41,41,41	0.13	0	56,56,56	0.37	0
22	DD6	i	314	-	39,45,45	0.19	0	52,67,67	0.74	1 (1%)
25	LMG	a	318	-	40,40,55	0.82	1 (2%)	48,48,63	1.29	6 (12%)
19	CLA	B	849	-	61,69,73	2.27	8 (13%)	71,108,113	1.52	8 (11%)
19	CLA	D	301	15	52,60,73	2.51	8 (15%)	60,97,113	1.51	6 (10%)
22	DD6	F	205	-	39,45,45	0.19	0	52,67,67	1.00	5 (9%)
19	CLA	o	304	16	54,62,73	2.35	8 (14%)	62,99,113	1.66	9 (14%)
19	CLA	n	209	-	47,55,73	2.62	8 (17%)	54,91,113	1.61	9 (16%)
19	CLA	h	209	16	60,68,73	2.36	8 (13%)	70,107,113	1.42	5 (7%)
19	CLA	B	801	-	64,72,73	2.12	8 (12%)	74,111,113	1.42	6 (8%)
19	CLA	A	810	1	50,58,73	2.49	8 (16%)	58,95,113	1.53	6 (10%)

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
28	CHL	f	304	14	3/3/18/26	9/27/125/137	-
19	CLA	B	813	-	1/1/12/20	3/23/101/115	-
28	CHL	e	301	13	3/3/17/26	9/21/119/137	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	DD6	c	317	-	-	1/26/80/80	0/3/3/3
19	CLA	i	307	17	1/1/12/20	3/24/102/115	-
19	CLA	h	213	-	1/1/11/20	2/16/94/115	-
19	CLA	B	842	-	1/1/11/20	3/16/94/115	-
19	CLA	A	827	1	1/1/12/20	4/21/99/115	-
19	CLA	b	302	25	1/1/13/20	5/25/103/115	-
19	CLA	e	306	13	1/1/13/20	4/25/103/115	-
22	DD6	l	210	-	-	1/26/80/80	0/3/3/3
28	CHL	k	301	18	2/2/16/26	13/18/116/137	-
19	CLA	A	817	-	1/1/15/20	7/37/115/115	-
19	CLA	l	204	18	1/1/13/20	6/27/105/115	-
19	CLA	g	302	-	1/1/13/20	3/25/103/115	-
25	LMG	e	312	-	-	18/39/59/70	0/1/1/1
19	CLA	j	304	15	1/1/14/20	12/31/109/115	-
19	CLA	k	305	18	1/1/14/20	4/31/109/115	-
28	CHL	c	313	-	3/3/18/26	9/27/125/137	-
19	CLA	j	302	-	1/1/13/20	5/25/103/115	-
19	CLA	l	205	-	1/1/14/20	1/31/109/115	-
28	CHL	g	306	15	3/3/18/26	9/27/125/137	-
19	CLA	g	305	15	1/1/11/20	7/16/94/115	-
19	CLA	B	808	-	1/1/15/20	6/37/115/115	-
25	LMG	a	316	-	-	9/21/41/70	0/1/1/1
19	CLA	i	308	17	1/1/12/20	6/21/99/115	-
19	CLA	j	309	-	1/1/13/20	4/27/105/115	-
28	CHL	i	301	17	3/3/16/26	9/18/116/137	-
19	CLA	A	813	-	1/1/14/20	5/31/109/115	-
25	LMG	b	316	19	-	13/37/57/70	0/1/1/1
19	CLA	h	201	-	1/1/13/20	4/27/105/115	-
19	CLA	h	203	-	1/1/13/20	0/25/103/115	-
22	DD6	b	319	-	-	0/26/80/80	0/3/3/3
19	CLA	f	311	-	1/1/12/20	5/22/100/115	-
25	LMG	f	313	-	-	10/20/40/70	0/1/1/1
28	CHL	b	314	-	3/3/17/26	11/23/121/137	-
19	CLA	i	313	17	1/1/12/20	6/22/100/115	-
29	NEX	a	317	-	-	6/27/83/83	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	A	825	-	1/1/12/20	1/19/97/115	-
19	CLA	A	805	19,1	1/1/12/20	3/22/100/115	-
22	DD6	d	214	-	-	0/26/80/80	0/3/3/3
25	LMG	g	312	-	-	13/32/52/70	0/1/1/1
19	CLA	d	211	-	1/1/14/20	5/31/109/115	-
19	CLA	l	207	-	1/1/11/20	1/16/94/115	-
22	DD6	h	215	-	-	1/26/80/80	0/3/3/3
19	CLA	o	309	-	1/1/11/20	5/16/94/115	-
19	CLA	B	804	-	1/1/15/20	8/37/115/115	-
19	CLA	c	315	11	1/1/11/20	4/16/94/115	-
28	CHL	f	301	14	2/2/16/26	10/18/116/137	-
19	CLA	k	304	-	1/1/14/20	8/31/109/115	-
23	BCR	B	825	-	-	0/29/63/63	0/2/2/2
19	CLA	d	208	-	1/1/14/20	9/31/109/115	-
28	CHL	h	202	16	2/2/16/26	9/18/116/137	-
28	CHL	b	311	-	3/3/16/26	8/18/116/137	-
19	CLA	A	815	-	1/1/12/20	2/21/99/115	-
19	CLA	g	304	15	1/1/12/20	6/19/97/115	-
19	CLA	f	302	-	1/1/13/20	2/25/103/115	-
19	CLA	A	850	1	1/1/15/20	7/37/115/115	-
19	CLA	a	303	-	1/1/13/20	10/25/103/115	-
28	CHL	a	312	-	3/3/16/26	6/18/116/137	-
19	CLA	j	308	15	1/1/14/20	7/31/109/115	-
19	CLA	B	821	-	1/1/13/20	5/27/105/115	-
19	CLA	e	305	13	1/1/12/20	1/19/97/115	-
19	CLA	f	309	-	1/1/14/20	6/31/109/115	-
19	CLA	c	306	11	1/1/13/20	8/27/105/115	-
19	CLA	o	310	-	1/1/11/20	2/16/94/115	-
22	DD6	J	801	-	-	2/26/80/80	0/3/3/3
19	CLA	d	207	-	1/1/11/20	1/16/94/115	-
19	CLA	A	826	1	1/1/12/20	3/19/97/115	-
19	CLA	i	303	-	1/1/11/20	3/16/94/115	-
28	CHL	d	202	12	3/3/16/26	13/18/116/137	-
19	CLA	h	211	-	1/1/12/20	4/21/99/115	-
19	CLA	i	312	17	1/1/11/20	1/16/94/115	-
23	BCR	B	826	-	-	8/29/63/63	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	A	843	-	1/1/15/20	11/37/115/115	-
22	DD6	h	214	-	-	0/26/80/80	0/3/3/3
19	CLA	a	314	-	1/1/11/20	6/16/94/115	-
19	CLA	A	841	1	1/1/15/20	9/37/115/115	-
25	LMG	g	316	-	-	30/39/59/70	0/1/1/1
28	CHL	d	205	12	3/3/18/26	16/27/125/137	-
25	LMG	c	320	-	-	19/33/53/70	0/1/1/1
19	CLA	m	305	18	1/1/14/20	5/31/109/115	-
19	CLA	i	306	17	1/1/11/20	3/16/94/115	-
19	CLA	A	816	-	1/1/13/20	5/30/108/115	-
21	LHG	A	831	-	-	19/53/53/53	-
19	CLA	f	305	-	1/1/12/20	2/19/97/115	-
20	PQN	A	830	-	-	13/23/43/43	0/2/2/2
25	LMG	d	213	-	-	9/26/46/70	0/1/1/1
19	CLA	A	822	-	1/1/15/20	12/37/115/115	-
19	CLA	m	304	-	1/1/11/20	3/16/94/115	-
19	CLA	A	806	1	1/1/15/20	16/37/115/115	-
19	CLA	d	209	12	1/1/13/20	4/27/105/115	-
19	CLA	B	838	-	1/1/12/20	3/19/97/115	-
19	CLA	d	201	-	1/1/11/20	0/16/94/115	-
23	BCR	B	850	-	-	5/29/63/63	0/2/2/2
19	CLA	h	207	-	1/1/11/20	3/16/94/115	-
22	DD6	b	318	-	-	0/26/80/80	0/3/3/3
22	DD6	n	211	-	-	0/26/80/80	0/3/3/3
19	CLA	n	208	-	1/1/11/20	11/16/94/115	-
19	CLA	n	204	-	1/1/13/20	5/27/105/115	-
19	CLA	h	208	-	1/1/14/20	2/31/109/115	-
19	CLA	j	307	15	1/1/14/20	7/31/109/115	-
28	CHL	b	301	10	2/2/18/26	17/27/125/137	-
28	CHL	a	313	-	3/3/16/26	7/18/116/137	-
19	CLA	a	304	-	1/1/11/20	5/16/94/115	-
19	CLA	F	202	-	1/1/13/20	6/28/106/115	-
19	CLA	A	807	1	1/1/15/20	10/37/115/115	-
19	CLA	B	847	-	1/1/15/20	7/37/115/115	-
19	CLA	B	845	2	1/1/11/20	2/16/94/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	n	202	18	1/1/11/20	5/16/94/115	-
19	CLA	b	309	-	1/1/12/20	0/19/97/115	-
19	CLA	B	823	-	1/1/11/20	3/16/94/115	-
19	CLA	A	818	-	1/1/14/20	2/36/114/115	-
19	CLA	b	313	-	1/1/11/20	6/16/94/115	-
19	CLA	k	310	-	1/1/13/20	6/25/103/115	-
22	DD6	o	314	-	-	1/26/80/80	0/3/3/3
19	CLA	B	820	2	1/1/14/20	6/33/111/115	-
19	CLA	n	206	18	1/1/11/20	6/16/94/115	-
28	CHL	a	311	-	3/3/16/26	5/18/116/137	-
19	CLA	a	307	9	1/1/13/20	4/25/103/115	-
19	CLA	B	848	-	1/1/11/20	6/16/94/115	-
19	CLA	g	309	-	1/1/13/20	3/27/105/115	-
19	CLA	n	205	18	1/1/14/20	7/31/109/115	-
19	CLA	j	313	15	1/1/13/20	2/27/105/115	-
22	DD6	i	315	-	-	1/26/80/80	0/3/3/3
19	CLA	k	311	-	1/1/11/20	2/16/94/115	-
19	CLA	B	836	-	1/1/14/20	3/36/114/115	-
19	CLA	d	204	-	1/1/12/20	3/22/100/115	-
19	CLA	F	203	-	1/1/15/20	22/37/115/115	-
19	CLA	o	303	16	1/1/11/20	9/17/95/115	-
19	CLA	g	311	-	1/1/11/20	3/16/94/115	-
19	CLA	l	203	18	1/1/14/20	9/31/109/115	-
22	DD6	o	313	-	-	0/26/80/80	0/3/3/3
19	CLA	k	302	25	1/1/13/20	10/27/105/115	-
23	BCR	J	804	-	-	0/29/63/63	0/2/2/2
23	BCR	A	836	-	-	2/29/63/63	0/2/2/2
19	CLA	B	809	2	1/1/12/20	4/24/102/115	-
19	CLA	b	307	10	1/1/14/20	2/31/109/115	-
22	DD6	l	211	-	-	0/26/80/80	0/3/3/3
19	CLA	B	843	-	1/1/11/20	1/16/94/115	-
22	DD6	A	832	-	-	2/26/80/80	0/3/3/3
19	CLA	A	847	1	1/1/11/20	5/16/94/115	-
22	DD6	n	210	-	-	2/26/80/80	0/3/3/3
19	CLA	j	311	-	1/1/12/20	3/19/97/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	LMG	g	313	-	-	11/28/48/70	0/1/1/1
19	CLA	B	812	2	1/1/14/20	5/36/114/115	-
19	CLA	B	815	-	1/1/14/20	8/31/109/115	-
22	DD6	m	312	-	-	1/26/80/80	0/3/3/3
19	CLA	A	845	1	1/1/11/20	0/16/94/115	-
28	CHL	c	312	-	3/3/18/26	19/27/125/137	-
19	CLA	d	206	-	1/1/11/20	1/16/94/115	-
19	CLA	b	308	10	1/1/13/20	2/27/105/115	-
19	CLA	l	202	-	1/1/11/20	2/16/94/115	-
23	BCR	A	837	-	-	6/29/63/63	0/2/2/2
19	CLA	o	307	-	1/1/14/20	12/31/109/115	-
19	CLA	A	848	1	1/1/12/20	6/19/97/115	-
23	BCR	B	828	-	-	0/29/63/63	0/2/2/2
19	CLA	f	314	14	1/1/13/20	7/25/103/115	-
19	CLA	A	849	1	1/1/11/20	1/16/94/115	-
19	CLA	m	309	-	1/1/11/20	8/16/94/115	-
19	CLA	A	801	-	1/1/15/20	7/37/115/115	-
25	LMG	a	301	-	-	18/35/55/70	0/1/1/1
19	CLA	B	830	2	1/1/13/20	11/29/107/115	-
28	CHL	o	301	16	3/3/16/26	7/18/116/137	-
19	CLA	J	803	-	1/1/11/20	2/16/94/115	-
19	CLA	a	310	-	1/1/12/20	0/19/97/115	-
28	CHL	e	304	13	2/2/19/26	16/33/131/137	-
19	CLA	A	842	1	1/1/15/20	18/37/115/115	-
25	LMG	A	851	-	-	13/29/49/70	0/1/1/1
19	CLA	A	803	-	1/1/15/20	5/37/115/115	-
19	CLA	c	311	-	1/1/11/20	5/16/94/115	-
19	CLA	a	305	9	1/1/14/20	7/31/109/115	-
19	CLA	B	819	-	1/1/15/20	3/37/115/115	-
19	CLA	k	307	18	1/1/14/20	1/31/109/115	-
19	CLA	g	301	15	1/1/11/20	3/17/95/115	-
19	CLA	l	209	-	1/1/11/20	2/16/94/115	-
19	CLA	e	308	13	1/1/13/20	7/27/105/115	-
19	CLA	m	310	-	1/1/13/20	8/25/103/115	-
19	CLA	c	302	11	1/1/11/20	3/16/94/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	F	201	-	1/1/14/20	6/31/109/115	-
19	CLA	e	311	13	1/1/13/20	3/25/103/115	-
28	CHL	i	304	17	3/3/18/26	9/27/125/137	-
19	CLA	B	841	-	1/1/11/20	4/16/94/115	-
22	DD6	d	215	-	-	0/26/80/80	0/3/3/3
19	CLA	l	206	-	1/1/11/20	5/16/94/115	-
19	CLA	A	808	1	1/1/12/20	1/19/97/115	-
19	CLA	A	852	-	1/1/13/20	4/25/103/115	-
19	CLA	A	846	1	1/1/11/20	3/16/94/115	-
22	DD6	g	314	-	-	1/26/80/80	0/3/3/3
19	CLA	k	309	-	1/1/11/20	1/16/94/115	-
19	CLA	d	203	-	1/1/11/20	2/16/94/115	-
22	DD6	b	317	-	-	2/26/80/80	0/3/3/3
19	CLA	b	303	-	1/1/12/20	5/21/99/115	-
19	CLA	A	844	-	1/1/15/20	5/37/115/115	-
19	CLA	f	307	14	1/1/12/20	3/24/102/115	-
19	CLA	j	305	15	1/1/12/20	10/19/97/115	-
19	CLA	B	814	-	1/1/13/20	5/30/108/115	-
19	CLA	j	303	15	1/1/12/20	1/22/100/115	-
25	LMG	h	216	-	-	10/30/50/70	0/1/1/1
19	CLA	A	819	-	1/1/14/20	5/35/113/115	-
19	CLA	B	844	2	1/1/11/20	4/16/94/115	-
25	LMG	i	316	-	-	21/36/56/70	0/1/1/1
19	CLA	e	302	-	1/1/13/20	4/25/103/115	-
19	CLA	b	315	-	1/1/11/20	8/16/94/115	-
19	CLA	A	839	-	1/1/11/20	2/17/95/115	-
23	BCR	B	827	-	-	2/29/63/63	0/2/2/2
19	CLA	A	821	1	1/1/14/20	5/35/113/115	-
19	CLA	m	308	18	1/1/12/20	5/19/97/115	-
22	DD6	k	313	-	-	1/26/80/80	0/3/3/3
19	CLA	A	804	1	1/1/15/20	8/37/115/115	-
26	SF4	C	801	-	-	-	0/6/5/5
19	CLA	e	307	13	1/1/14/20	5/31/109/115	-
23	BCR	B	834	-	-	4/29/63/63	0/2/2/2
28	CHL	c	305	11	3/3/19/26	13/33/131/137	-
19	CLA	h	205	16	1/1/14/20	0/31/109/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	B	846	2	1/1/11/20	4/16/94/115	-
19	CLA	o	306	-	1/1/11/20	7/16/94/115	-
19	CLA	g	307	15	1/1/14/20	4/31/109/115	-
19	CLA	B	803	-	1/1/15/20	9/37/115/115	-
19	CLA	b	306	10	1/1/14/20	16/31/109/115	-
22	DD6	j	316	-	-	0/26/80/80	0/3/3/3
28	CHL	g	310	-	3/3/17/26	11/21/119/137	-
19	CLA	c	309	11	1/1/13/20	5/27/105/115	-
19	CLA	A	829	-	1/1/15/20	4/37/115/115	-
19	CLA	d	212	-	1/1/11/20	0/16/94/115	-
19	CLA	A	814	-	1/1/11/20	1/16/94/115	-
24	LMU	A	838	-	-	6/21/57/61	0/2/2/2
19	CLA	o	312	16	1/1/11/20	2/16/94/115	-
24	LMU	c	301	-	-	3/21/57/61	0/2/2/2
19	CLA	e	309	-	1/1/11/20	2/16/94/115	-
22	DD6	m	313	-	-	0/26/80/80	0/3/3/3
27	DGD	B	829	-	-	25/51/91/95	0/2/2/2
19	CLA	i	305	-	1/1/11/20	2/16/94/115	-
19	CLA	B	807	2	1/1/15/20	12/37/115/115	-
19	CLA	j	306	15	1/1/11/20	5/16/94/115	-
19	CLA	f	303	14	1/1/11/20	2/16/94/115	-
19	CLA	B	818	-	1/1/15/20	8/37/115/115	-
19	CLA	h	206	16	1/1/11/20	0/16/94/115	-
19	CLA	j	310	-	1/1/11/20	6/16/94/115	-
19	CLA	B	837	-	1/1/12/20	9/19/97/115	-
19	CLA	B	811	2	1/1/13/20	11/29/107/115	-
22	DD6	j	315	-	-	0/26/80/80	0/3/3/3
22	DD6	k	314	-	-	1/26/80/80	0/3/3/3
19	CLA	d	210	-	1/1/14/20	4/31/109/115	-
24	LMU	a	319	-	-	10/21/57/61	1/2/2/2
19	CLA	i	302	-	1/1/13/20	6/25/103/115	-
19	CLA	j	312	-	1/1/11/20	2/16/94/115	-
19	CLA	c	303	-	1/1/13/20	4/25/103/115	-
19	CLA	A	828	-	1/1/15/20	7/37/115/115	-
19	CLA	m	303	-	1/1/11/20	4/16/94/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	o	308	-	1/1/12/20	2/23/101/115	-
26	SF4	C	802	-	-	-	0/6/5/5
22	DD6	J	802	-	-	3/26/80/80	0/3/3/3
22	DD6	e	313	-	-	1/26/80/80	0/3/3/3
19	CLA	A	820	-	1/1/13/20	7/25/103/115	-
19	CLA	B	835	-	1/1/13/20	8/27/105/115	-
19	CLA	c	314	-	1/1/11/20	4/16/94/115	-
22	DD6	c	318	-	-	1/26/80/80	0/3/3/3
19	CLA	A	802	-	1/1/15/20	10/37/115/115	-
19	CLA	B	822	-	1/1/15/20	8/37/115/115	-
19	CLA	i	309	-	1/1/14/20	12/31/109/115	-
19	CLA	B	839	2	1/1/15/20	10/37/115/115	-
19	CLA	a	308	9	1/1/14/20	3/31/109/115	-
19	CLA	B	840	2	1/1/11/20	5/16/94/115	-
28	CHL	b	310	-	3/3/16/26	5/18/116/137	-
19	CLA	h	212	-	1/1/13/20	5/27/105/115	-
19	CLA	h	210	-	1/1/11/20	0/16/94/115	-
19	CLA	a	306	9	1/1/12/20	9/22/100/115	-
22	DD6	a	320	-	-	0/26/80/80	0/3/3/3
19	CLA	B	805	2	1/1/15/20	11/37/115/115	-
19	CLA	m	307	18	1/1/14/20	5/31/109/115	-
19	CLA	A	811	19	1/1/14/20	5/33/111/115	-
19	CLA	c	316	11	1/1/15/20	8/37/115/115	-
19	CLA	n	201	-	1/1/11/20	4/16/94/115	-
19	CLA	f	310	-	1/1/11/20	1/16/94/115	-
28	CHL	m	301	18	3/3/16/26	11/18/116/137	-
19	CLA	m	311	-	1/1/11/20	5/16/94/115	-
19	CLA	i	310	17	1/1/11/20	10/16/94/115	-
19	CLA	e	303	-	1/1/11/20	2/16/94/115	-
22	DD6	f	315	-	-	0/26/80/80	0/3/3/3
22	DD6	f	316	-	-	1/26/80/80	0/3/3/3
19	CLA	A	853	-	1/1/11/20	8/16/94/115	-
25	LMG	j	314	-	-	12/32/52/70	0/1/1/1
19	CLA	B	832	2	1/1/12/20	5/19/97/115	-
19	CLA	m	302	-	1/1/11/20	9/16/94/115	-
19	CLA	f	312	-	1/1/11/20	4/16/94/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	DD6	e	314	-	-	0/26/80/80	0/3/3/3
19	CLA	k	306	18	1/1/11/20	2/16/94/115	-
19	CLA	i	311	-	1/1/12/20	4/22/100/115	-
19	CLA	c	310	-	1/1/12/20	3/19/97/115	-
19	CLA	k	308	18	1/1/12/20	0/19/97/115	-
19	CLA	o	311	-	1/1/12/20	6/19/97/115	-
19	CLA	B	816	-	1/1/11/20	3/18/96/115	-
19	CLA	b	304	-	1/1/13/20	6/25/103/115	-
19	CLA	A	840	1	1/1/15/20	8/37/115/115	-
23	BCR	M	801	-	-	3/29/63/63	0/2/2/2
19	CLA	B	810	-	1/1/13/20	8/23/99/115	-
19	CLA	l	208	-	1/1/11/20	5/16/94/115	-
19	CLA	A	824	-	1/1/15/20	7/37/115/115	-
19	CLA	o	302	-	1/1/13/20	15/25/103/115	-
19	CLA	b	305	10	1/1/11/20	1/16/94/115	-
19	CLA	a	309	-	1/1/13/20	1/27/105/115	-
28	CHL	g	303	15	3/3/18/26	8/27/125/137	-
19	CLA	B	833	2	1/1/13/20	6/27/105/115	-
23	BCR	B	831	-	-	6/29/63/63	0/2/2/2
19	CLA	B	806	-	1/1/15/20	10/37/115/115	-
19	CLA	A	809	-	1/1/15/20	5/37/115/115	-
23	BCR	A	835	-	-	5/27/61/63	0/2/2/2
26	SF4	B	802	-	-	-	0/6/5/5
19	CLA	A	812	1	1/1/13/20	3/27/105/115	-
19	CLA	c	304	11	1/1/12/20	4/22/100/115	-
19	CLA	n	203	18	1/1/14/20	13/31/109/115	-
22	DD6	g	315	-	-	0/26/80/80	0/3/3/3
19	CLA	a	302	9	1/1/11/20	9/16/94/115	-
19	CLA	c	307	-	1/1/13/20	8/25/103/115	-
22	DD6	A	833	-	-	1/26/80/80	0/3/3/3
19	CLA	o	305	-	1/1/11/20	5/16/94/115	-
19	CLA	g	308	-	1/1/13/20	2/27/105/115	-
19	CLA	A	823	-	1/1/15/20	4/37/115/115	-
25	LMG	k	312	19	-	10/32/52/70	0/1/1/1
28	CHL	b	312	-	3/3/17/26	12/24/122/137	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	CLA	e	310	-	1/1/13/20	9/25/103/115	-
19	CLA	n	207	-	1/1/11/20	0/16/94/115	-
22	DD6	a	321	-	-	0/26/80/80	0/3/3/3
20	PQN	B	824	-	-	5/23/43/43	0/2/2/2
19	CLA	F	204	-	1/1/11/20	0/16/94/115	-
19	CLA	c	308	-	1/1/13/20	1/28/106/115	-
19	CLA	h	204	16	1/1/11/20	3/17/95/115	-
22	DD6	c	319	-	-	0/26/80/80	0/3/3/3
19	CLA	f	306	14	1/1/11/20	4/16/94/115	-
19	CLA	k	303	-	1/1/11/20	3/16/94/115	-
19	CLA	B	817	-	1/1/14/20	10/34/112/115	-
19	CLA	l	201	-	1/1/11/20	5/16/94/115	-
19	CLA	m	306	18	1/1/11/20	1/16/94/115	-
19	CLA	f	308	14	1/1/12/20	2/21/99/115	-
28	CHL	a	315	9	2/2/16/26	11/18/116/137	-
19	CLA	j	301	-	1/1/11/20	1/16/94/115	-
23	BCR	A	834	-	-	0/29/63/63	0/2/2/2
22	DD6	i	314	-	-	0/26/80/80	0/3/3/3
25	LMG	a	318	-	-	20/35/55/70	0/1/1/1
19	CLA	B	849	-	1/1/14/20	16/33/111/115	-
19	CLA	D	301	15	1/1/12/20	4/22/100/115	-
22	DD6	F	205	-	-	2/26/80/80	0/3/3/3
19	CLA	o	304	16	1/1/12/20	14/24/102/115	-
19	CLA	n	209	-	1/1/11/20	7/16/94/115	-
19	CLA	h	209	16	1/1/14/20	8/31/109/115	-
19	CLA	B	801	-	1/1/14/20	9/36/114/115	-
19	CLA	A	810	1	1/1/12/20	3/19/97/115	-

The worst 5 of 2229 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	o	312	CLA	C1B-NB	11.20	1.45	1.35
19	e	305	CLA	C1B-NB	11.19	1.45	1.35
19	A	843	CLA	C1B-NB	11.10	1.45	1.35
19	k	309	CLA	C1B-NB	11.07	1.45	1.35
19	d	203	CLA	C1B-NB	11.06	1.45	1.35

The worst 5 of 2058 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
28	f	304	CHL	C4A-NA-C1A	12.59	112.36	106.71
28	i	304	CHL	C4A-NA-C1A	11.73	111.98	106.71
28	c	305	CHL	C4A-NA-C1A	11.73	111.98	106.71
28	g	303	CHL	C4A-NA-C1A	11.58	111.91	106.71
28	e	301	CHL	C4A-NA-C1A	11.34	111.80	106.71

5 of 319 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
19	A	801	CLA	ND
19	A	802	CLA	ND
19	A	803	CLA	ND
19	A	804	CLA	ND
19	A	805	CLA	ND

5 of 1930 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
19	A	804	CLA	CHA-CBD-CGD-O2D
19	A	804	CLA	C14-C13-C15-C16
19	A	805	CLA	C3A-C2A-CAA-CBA
19	A	806	CLA	CHA-CBD-CGD-O1D
19	A	811	CLA	C1A-C2A-CAA-CBA

All (1) ring outliers are listed below:

Mol	Chain	Res	Type	Atoms
24	a	319	LMU	C1'-C2'-C3'-C4'-C5'-O5'

152 monomers are involved in 270 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
28	f	304	CHL	3	0
19	i	307	CLA	1	0
19	b	302	CLA	1	0
22	l	210	DD6	5	0
28	k	301	CHL	3	0
19	j	304	CLA	2	0
19	k	305	CLA	1	0
28	c	313	CHL	3	0
19	j	302	CLA	1	0
28	g	306	CHL	1	0
25	a	316	LMG	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
28	i	301	CHL	1	0
25	b	316	LMG	2	0
19	h	201	CLA	2	0
19	h	203	CLA	2	0
19	f	311	CLA	1	0
25	f	313	LMG	1	0
25	g	312	LMG	1	0
19	o	309	CLA	1	0
28	f	301	CHL	2	0
19	k	304	CLA	1	0
19	d	208	CLA	3	0
28	h	202	CHL	2	0
28	b	311	CHL	1	0
19	g	304	CLA	1	0
19	f	302	CLA	1	0
28	a	312	CHL	6	0
19	j	308	CLA	1	0
19	o	310	CLA	2	0
19	d	207	CLA	1	0
28	d	202	CHL	2	0
23	B	826	BCR	3	0
19	a	314	CLA	1	0
19	A	841	CLA	1	0
28	d	205	CHL	3	0
25	c	320	LMG	6	0
19	m	305	CLA	1	0
19	A	816	CLA	1	0
25	d	213	LMG	1	0
19	A	822	CLA	1	0
19	d	209	CLA	1	0
19	B	838	CLA	2	0
23	B	850	BCR	2	0
22	b	318	DD6	2	0
19	n	204	CLA	2	0
19	j	307	CLA	1	0
28	b	301	CHL	2	0
19	B	845	CLA	1	0
19	n	202	CLA	3	0
19	b	309	CLA	1	0
19	B	823	CLA	1	0
19	n	206	CLA	13	0
28	a	311	CHL	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	B	848	CLA	1	0
19	n	205	CLA	2	0
19	j	313	CLA	1	0
19	o	303	CLA	8	0
19	l	203	CLA	1	0
22	o	313	DD6	6	0
19	k	302	CLA	2	0
23	J	804	BCR	6	0
23	A	836	BCR	1	0
19	B	843	CLA	1	0
22	n	210	DD6	10	0
19	B	812	CLA	1	0
19	A	845	CLA	1	0
28	c	312	CHL	5	0
19	l	202	CLA	1	0
23	A	837	BCR	1	0
19	o	307	CLA	1	0
19	f	314	CLA	1	0
25	a	301	LMG	3	0
28	o	301	CHL	2	0
19	J	803	CLA	1	0
28	e	304	CHL	12	0
19	A	842	CLA	2	0
19	A	803	CLA	1	0
19	g	301	CLA	1	0
19	e	308	CLA	1	0
19	F	201	CLA	1	0
28	i	304	CHL	1	0
19	B	841	CLA	1	0
19	A	808	CLA	1	0
22	g	314	DD6	4	0
19	d	203	CLA	1	0
19	j	305	CLA	3	0
19	B	814	CLA	1	0
25	h	216	LMG	2	0
19	A	819	CLA	1	0
19	B	844	CLA	1	0
25	i	316	LMG	7	0
19	b	315	CLA	1	0
19	A	804	CLA	1	0
28	c	305	CHL	4	0
19	B	803	CLA	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	b	306	CLA	4	0
22	j	316	DD6	11	0
28	g	310	CHL	6	0
19	A	829	CLA	1	0
24	A	838	LMU	1	0
24	c	301	LMU	3	0
22	m	313	DD6	1	0
27	B	829	DGD	2	0
19	B	807	CLA	1	0
19	j	306	CLA	12	0
19	f	303	CLA	1	0
19	j	310	CLA	1	0
19	B	837	CLA	2	0
19	d	210	CLA	1	0
19	c	303	CLA	1	0
19	m	303	CLA	1	0
22	J	802	DD6	1	0
22	e	313	DD6	10	0
22	c	318	DD6	2	0
19	A	802	CLA	1	0
19	i	309	CLA	1	0
19	B	840	CLA	1	0
28	b	310	CHL	3	0
19	a	306	CLA	5	0
19	m	307	CLA	1	0
19	n	201	CLA	1	0
28	m	301	CHL	2	0
22	f	315	DD6	2	0
19	A	853	CLA	3	0
19	B	832	CLA	1	0
19	m	302	CLA	1	0
23	M	801	BCR	7	0
19	o	302	CLA	3	0
19	b	305	CLA	3	0
23	B	831	BCR	1	0
19	B	833	CLA	2	0
28	g	303	CHL	1	0
19	A	809	CLA	1	0
23	A	835	BCR	1	0
19	n	203	CLA	4	0
22	g	315	DD6	1	0
19	a	302	CLA	1	0

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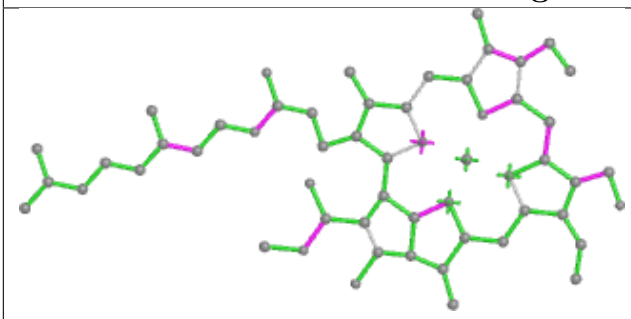
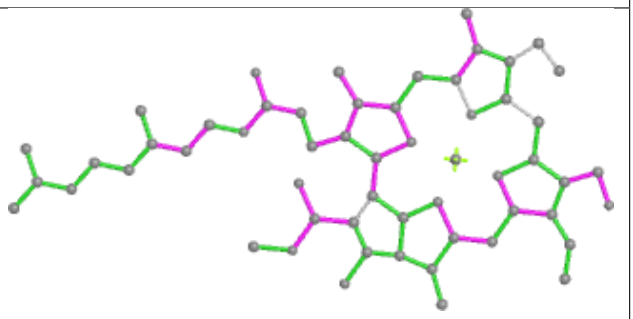
Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	k	312	LMG	2	0
28	b	312	CHL	4	0
19	e	310	CLA	3	0
22	a	321	DD6	5	0
19	F	204	CLA	1	0
19	l	201	CLA	9	0
28	a	315	CHL	4	0
22	i	314	DD6	1	0
25	a	318	LMG	2	0
19	B	849	CLA	2	0
19	D	301	CLA	1	0
19	o	304	CLA	5	0
19	n	209	CLA	1	0
19	B	801	CLA	2	0
19	A	810	CLA	3	0

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 then 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.

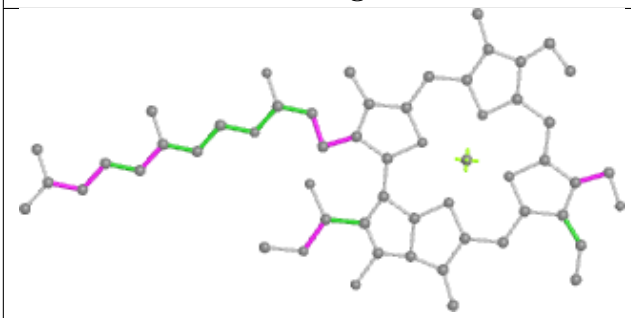
Ligand CHL f 304



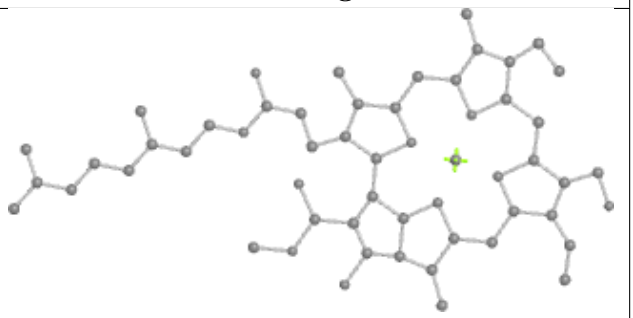
Bond lengths



Bond angles

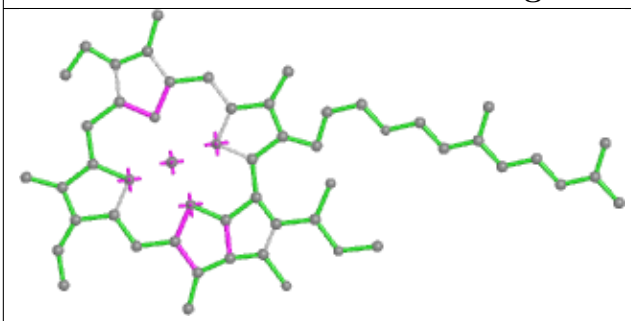


Torsions



Rings

Ligand CLA B 813



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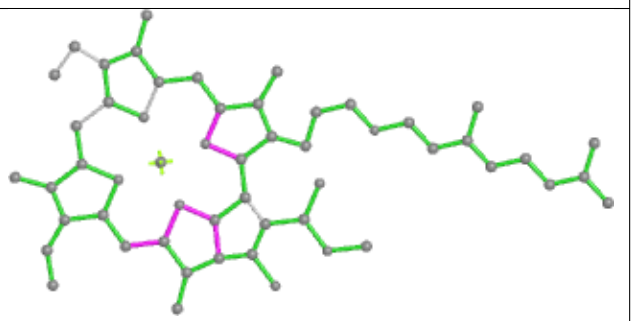

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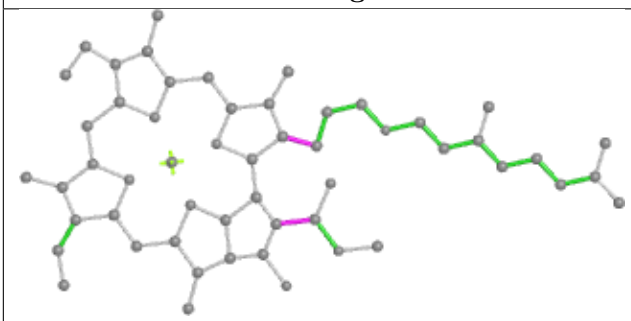

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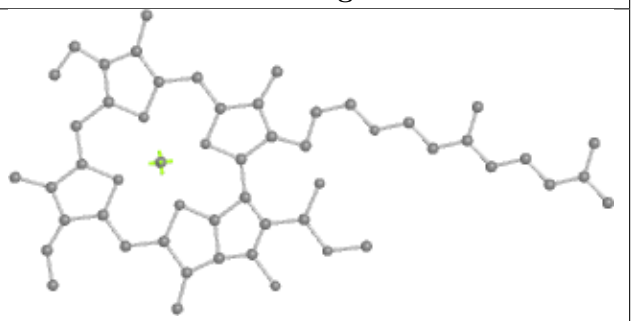
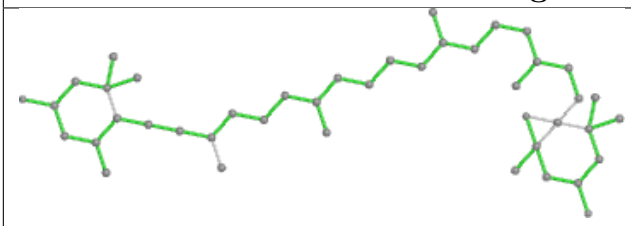


Rings

Ligand DD6 c 317



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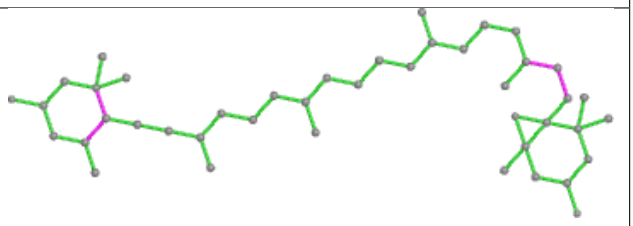
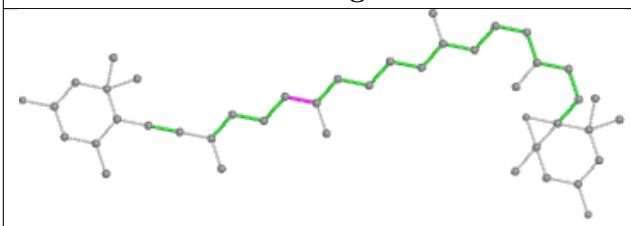


Bond angles



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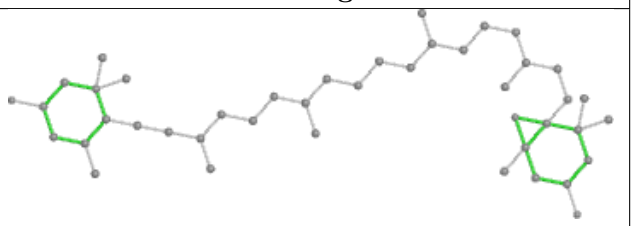
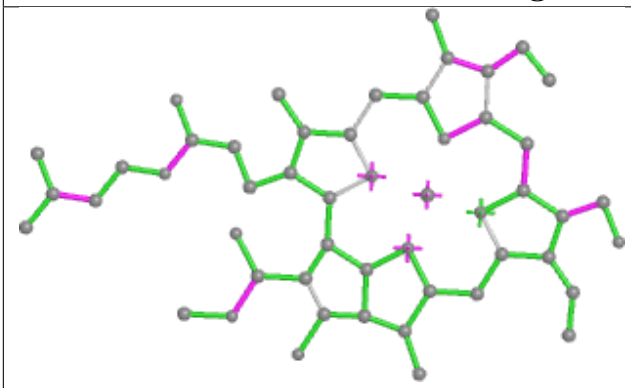


Rings

Ligand CHL e 301



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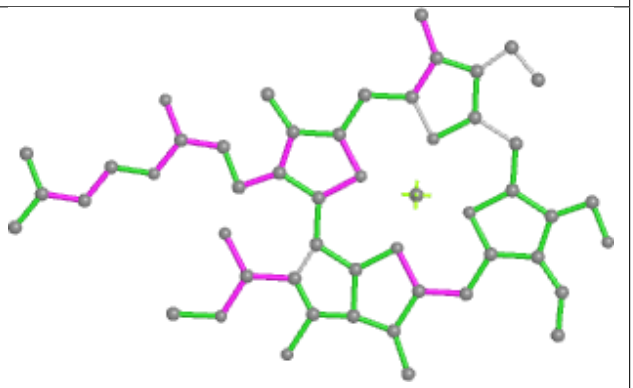

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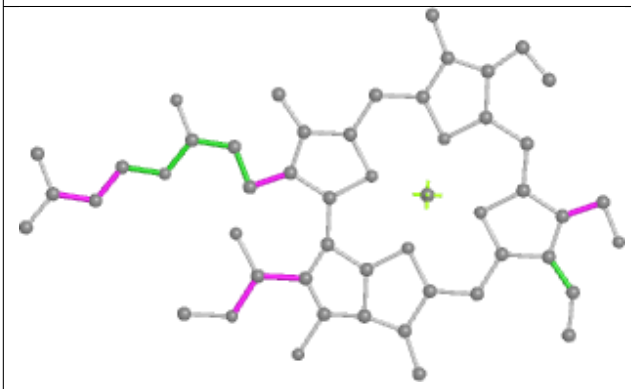
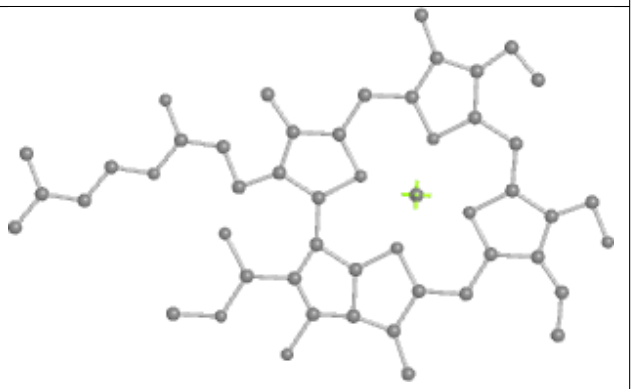
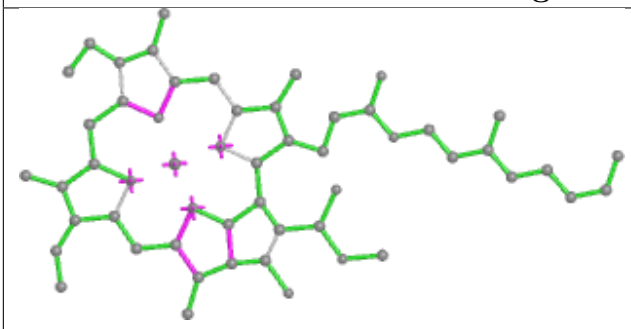


Torsions



Rings

Ligand CLA i 307



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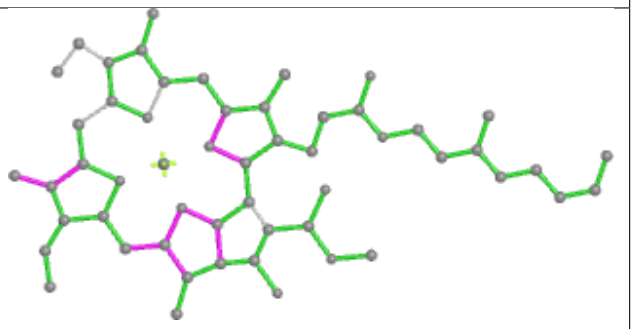

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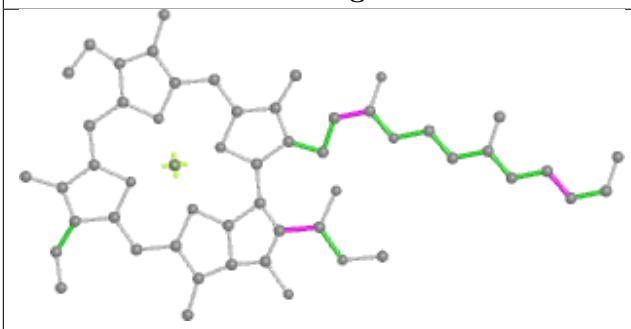

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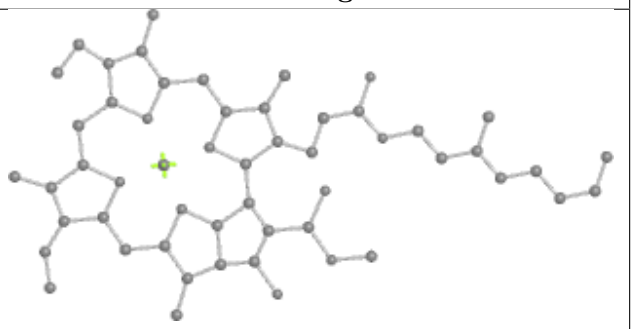
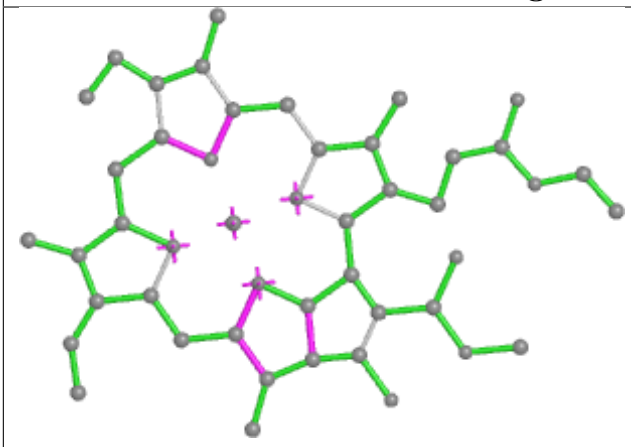


Rings

Ligand CLA h 213



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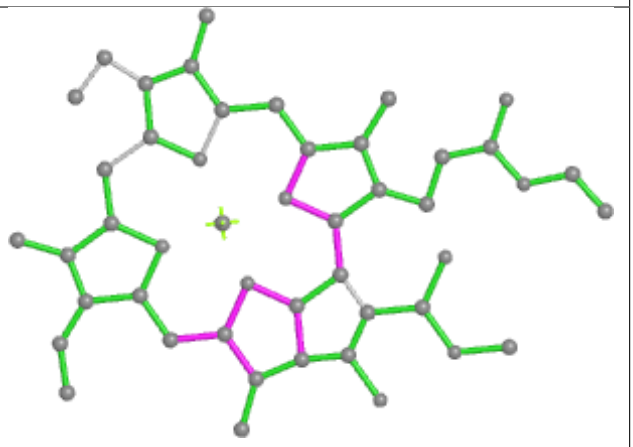

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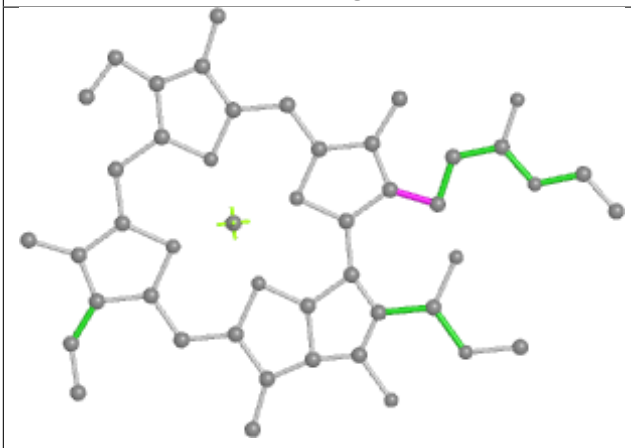

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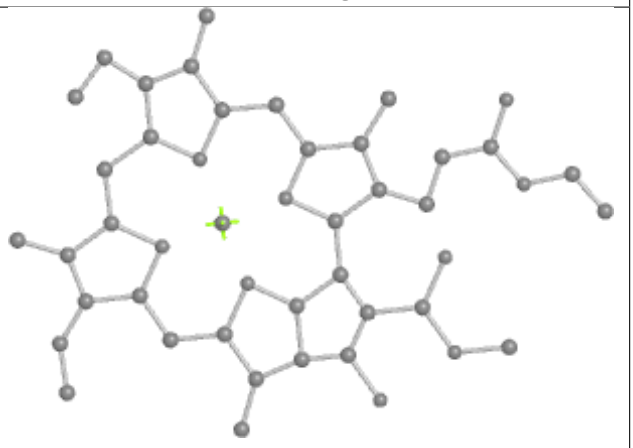
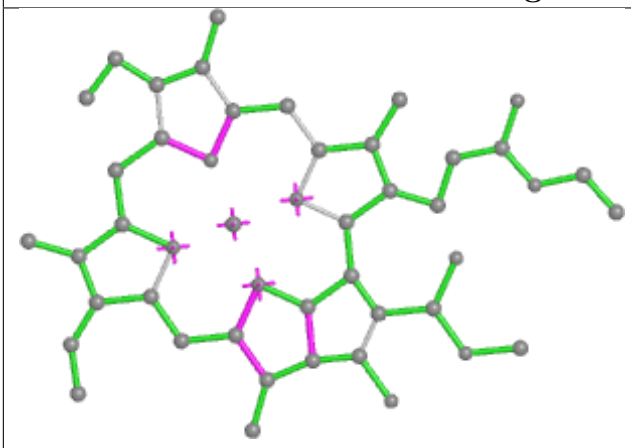


Rings

Ligand CLA B 842



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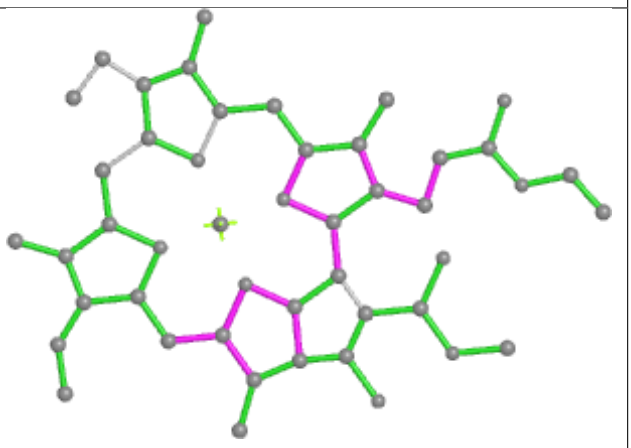

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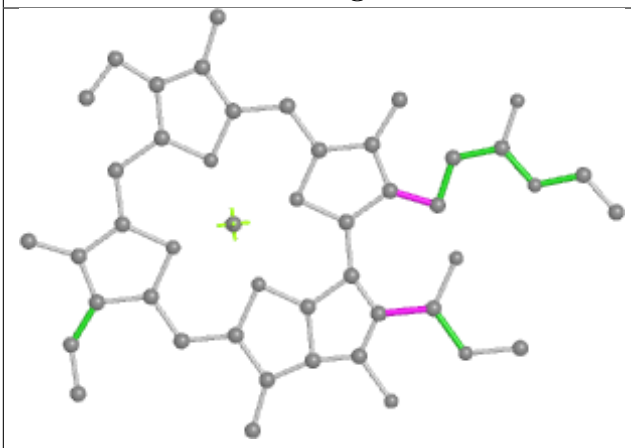

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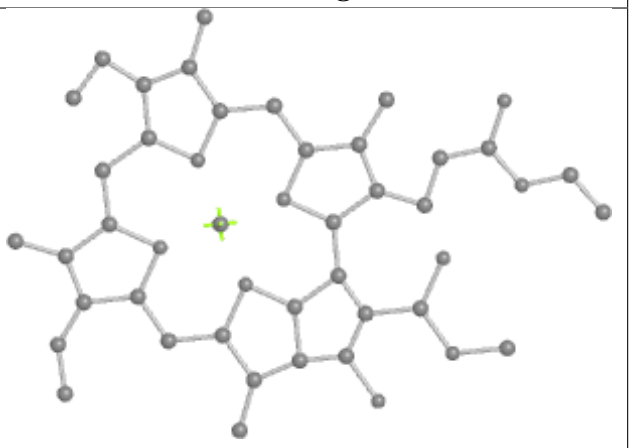
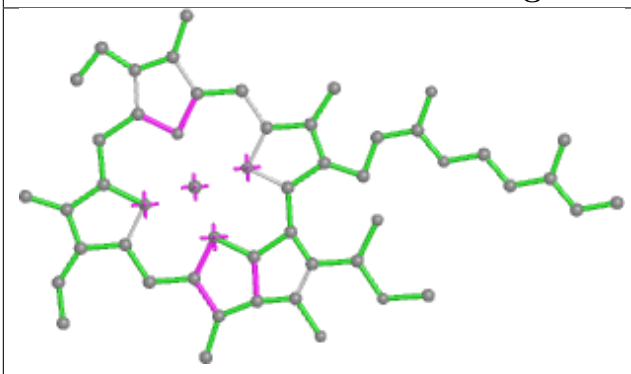


Rings

Ligand CLA A 827



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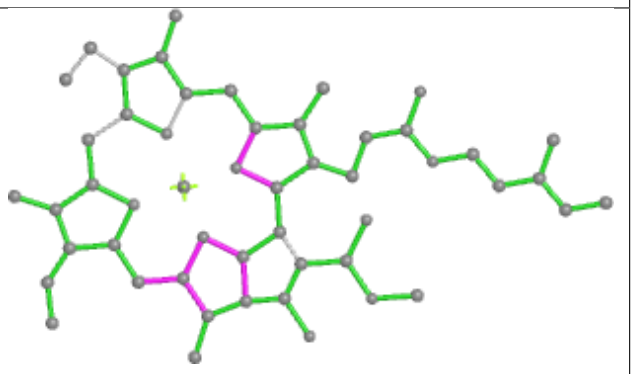
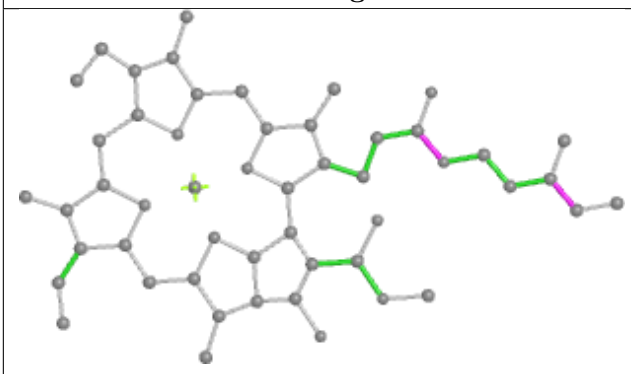
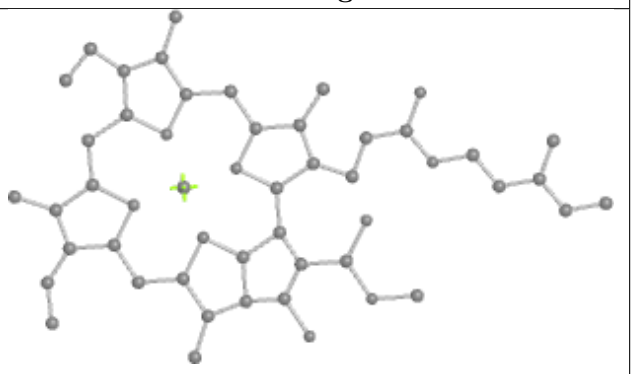


Bond angles

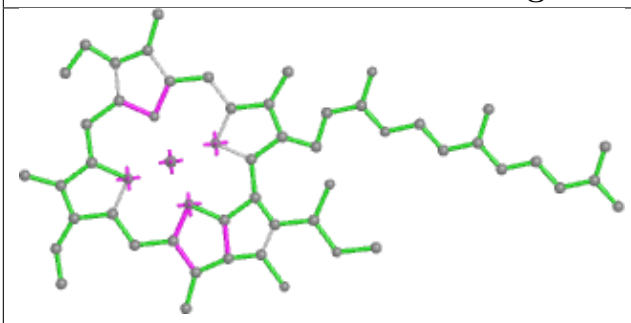


Torsions

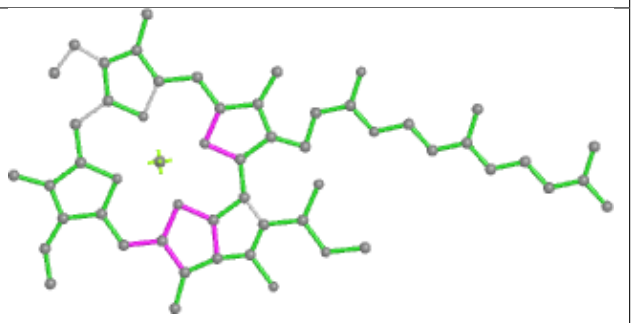


Rings

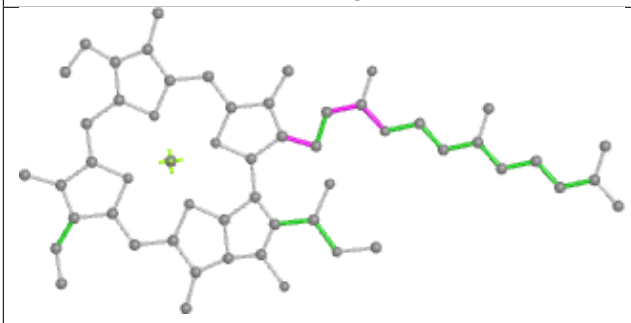
Ligand CLA b 302



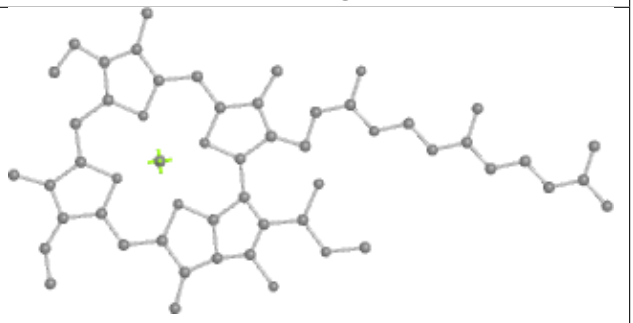
Bond lengths



Bond angles

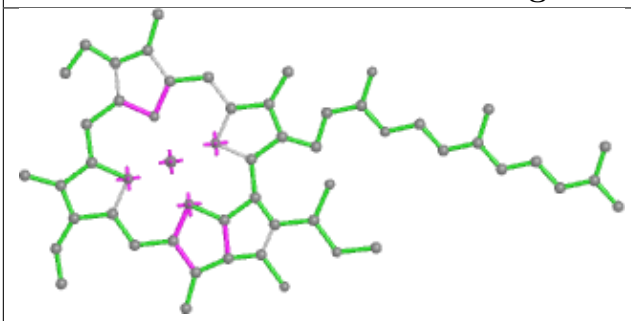


Torsions



Rings

Ligand CLA e 306



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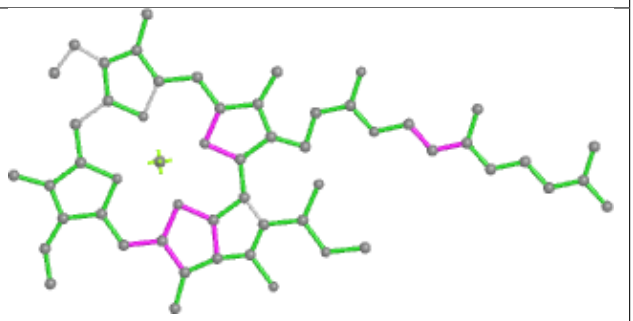
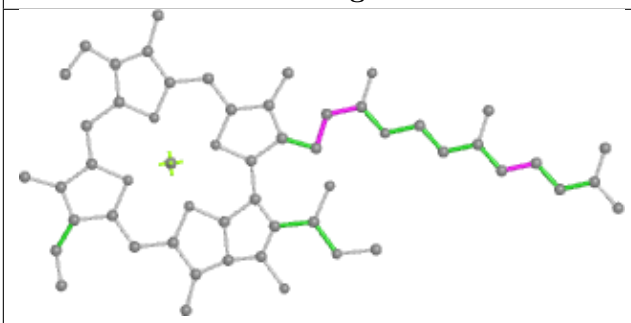


Bond angles



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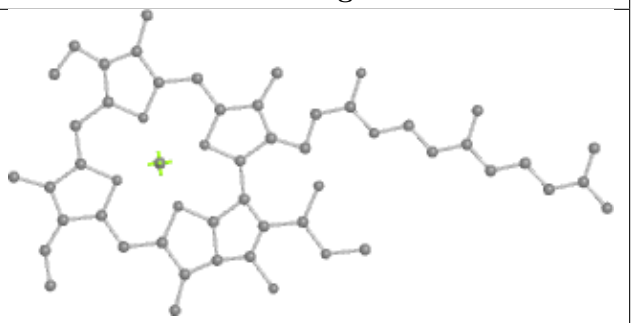
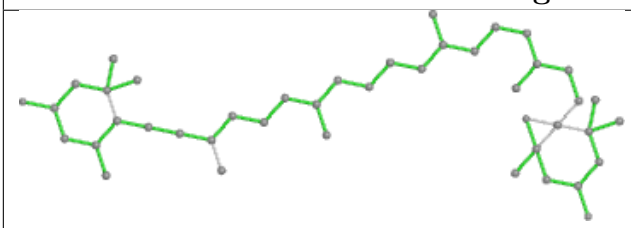


Rings

Ligand DD6 l 210



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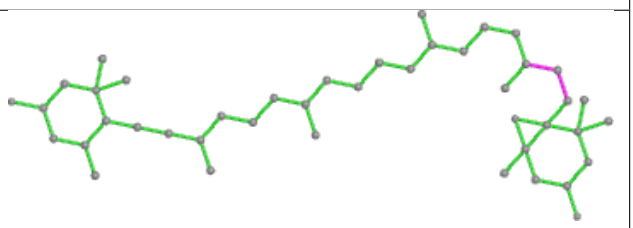
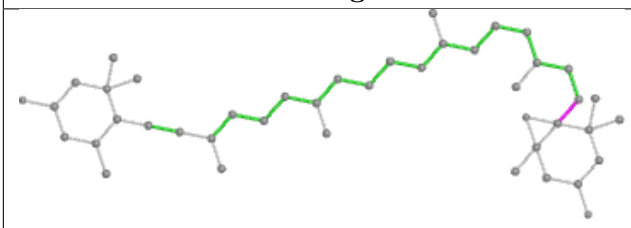


Bond angles



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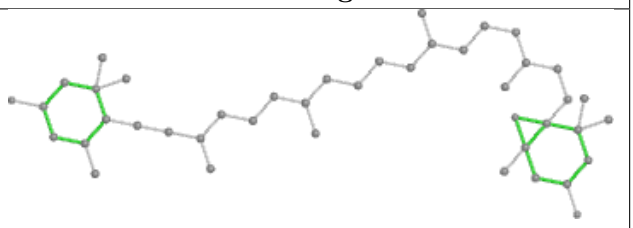
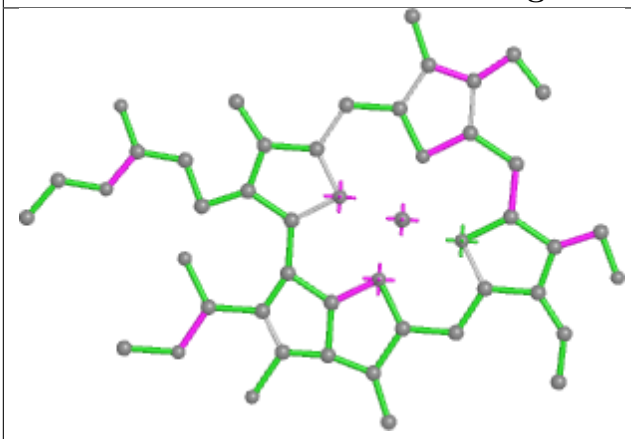


Rings

Ligand CHL k 301



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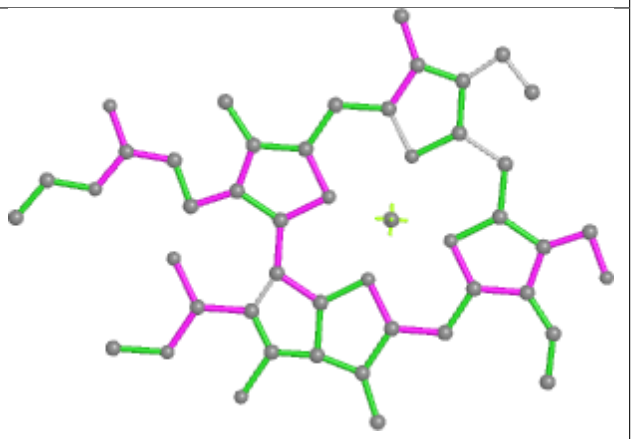
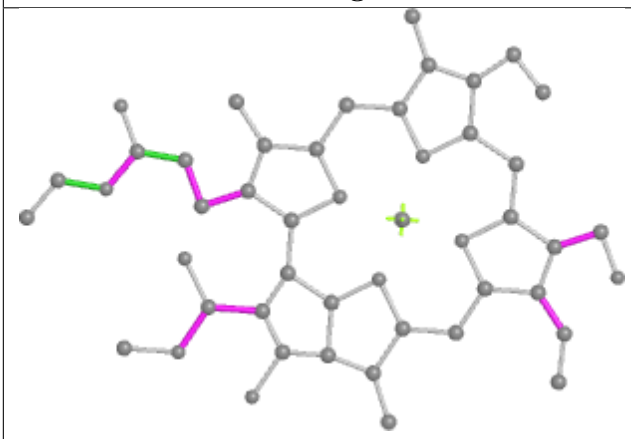


Bond angles



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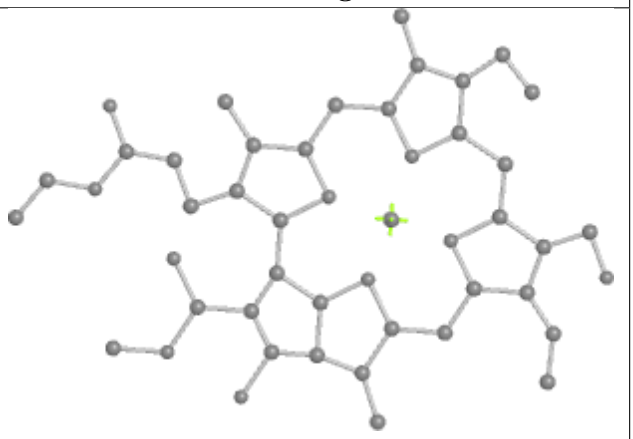
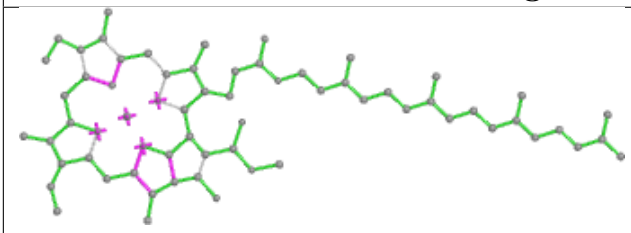


Rings

Ligand CLA A 817



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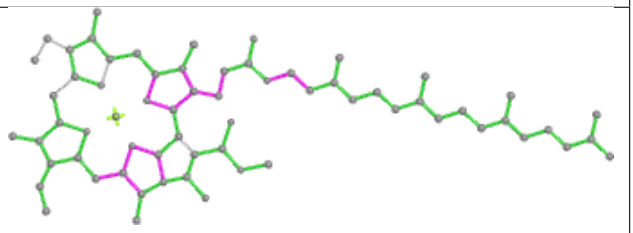
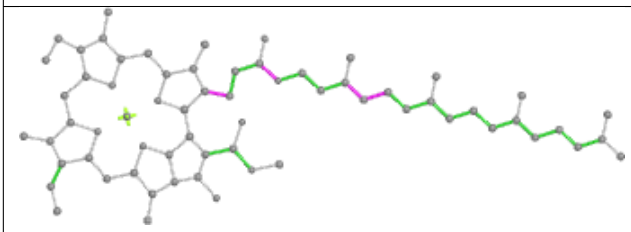


Bond angles



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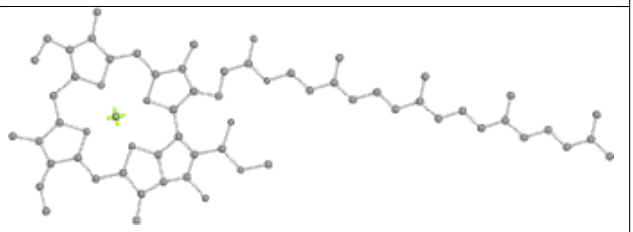
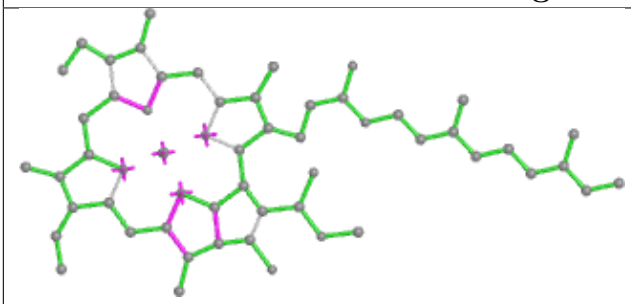


Rings

Ligand CLA l 204



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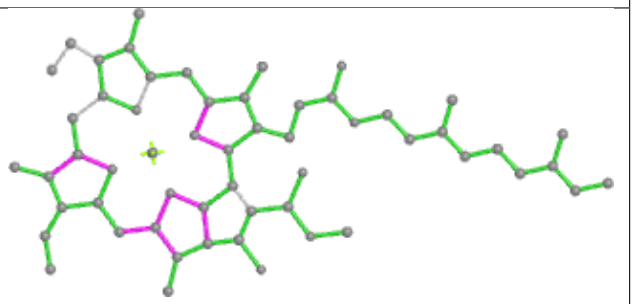
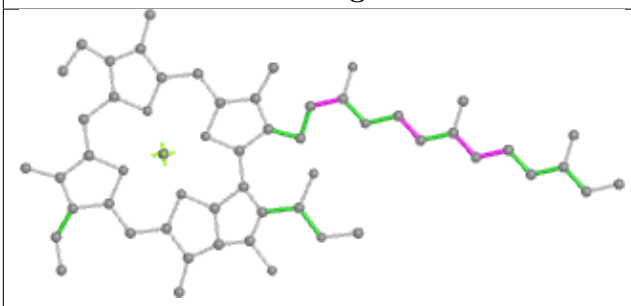


Bond angles



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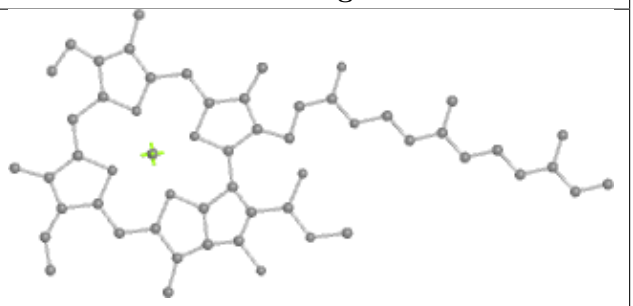
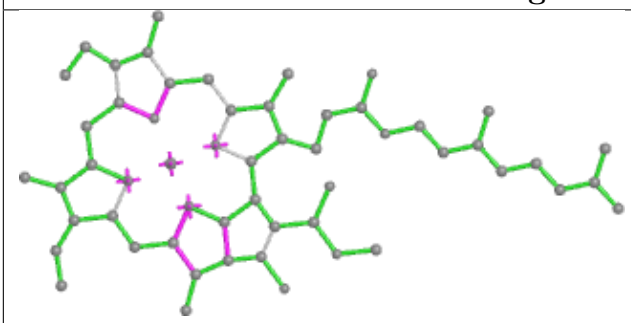


Rings

Ligand CLA g 302



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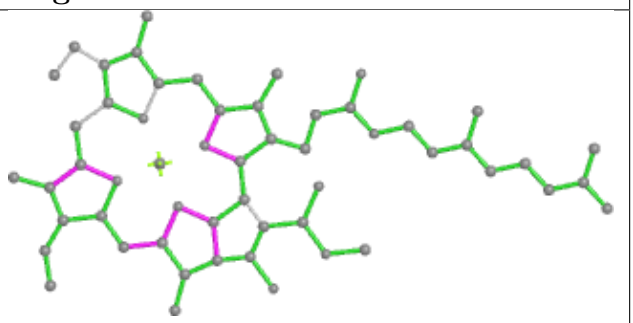
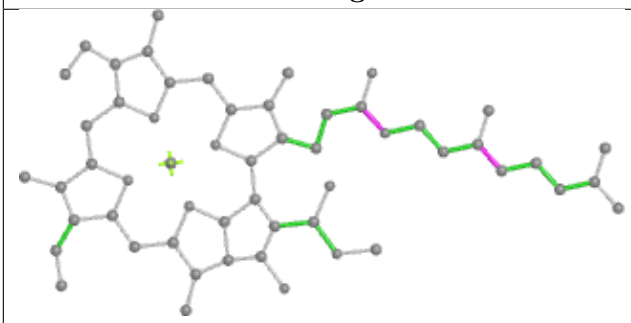


Bond angles



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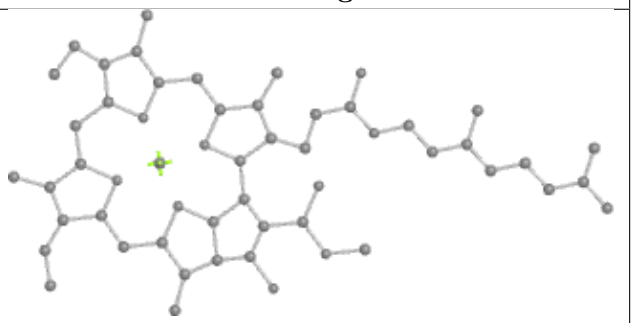
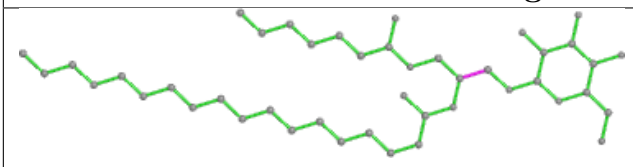


Rings

Ligand LMG e 312



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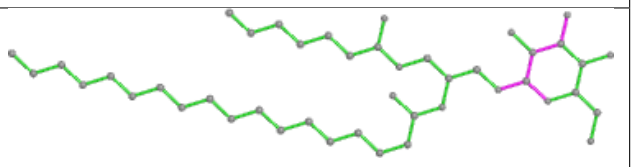
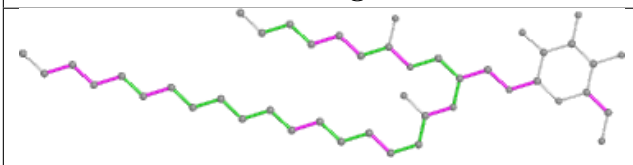


Bond angles



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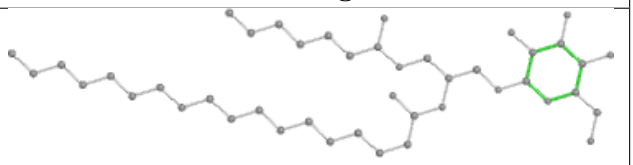
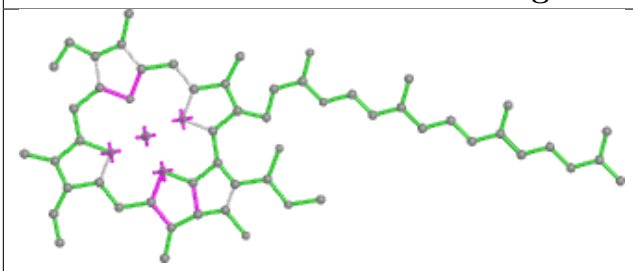


Rings

Ligand CLA j 304



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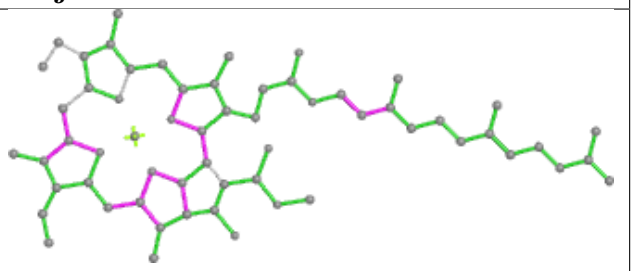
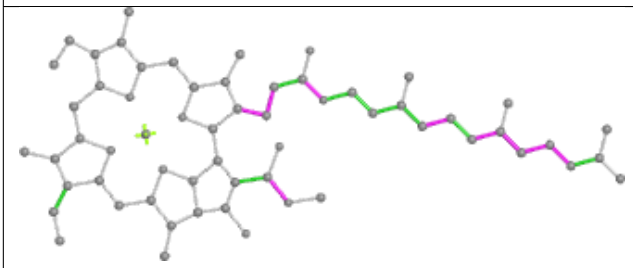


Bond angles



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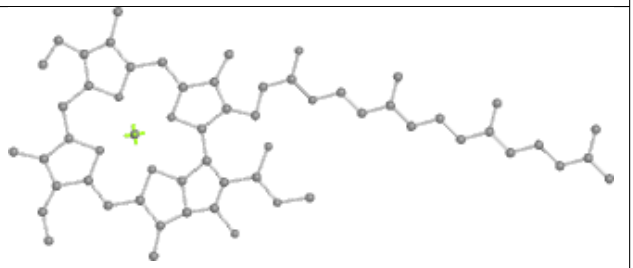
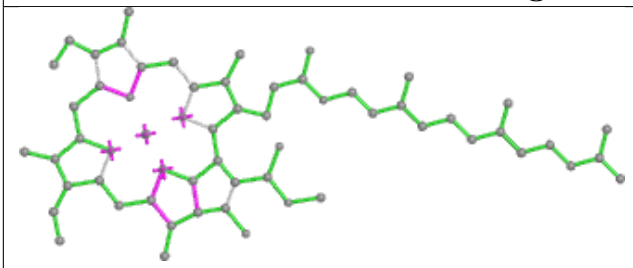


Rings

Ligand CLA k 305



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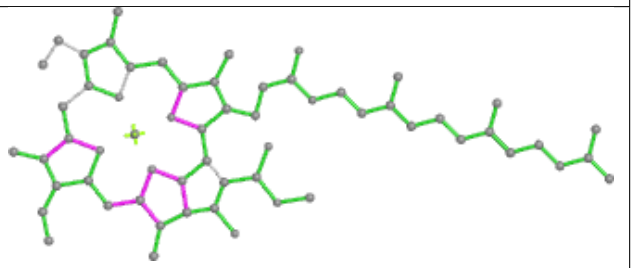
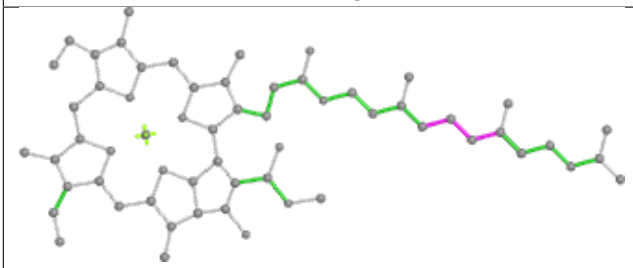


Bond angles



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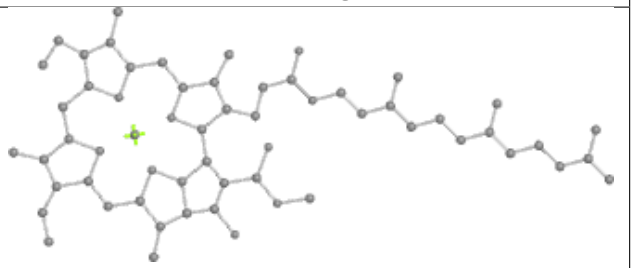
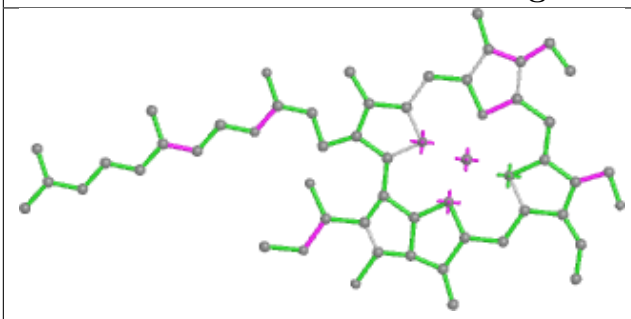


Rings

Ligand CHL c 313



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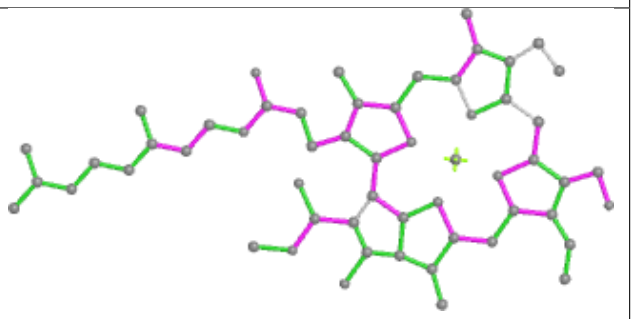
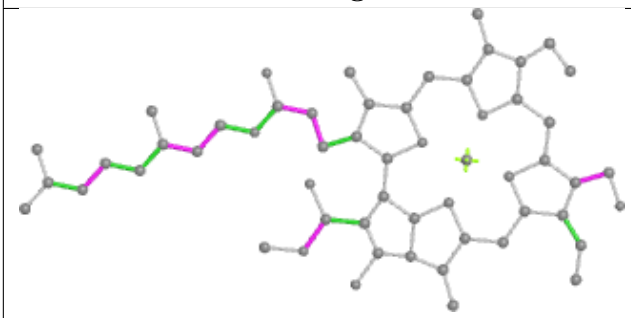


Bond angles



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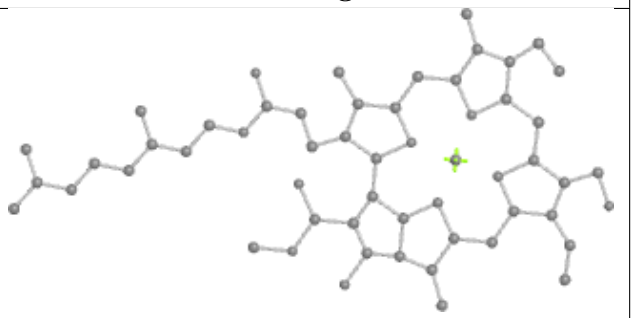
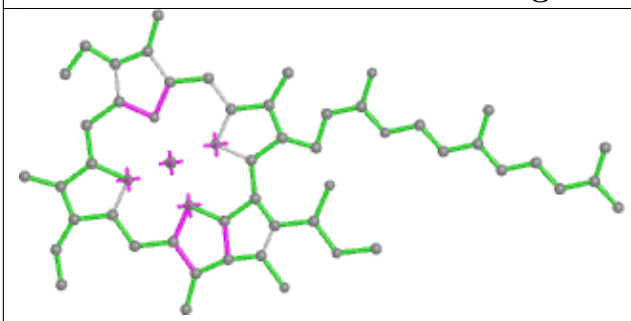


Rings

Ligand CLA j 302



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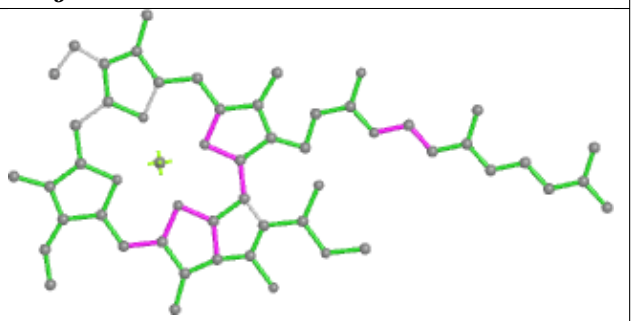
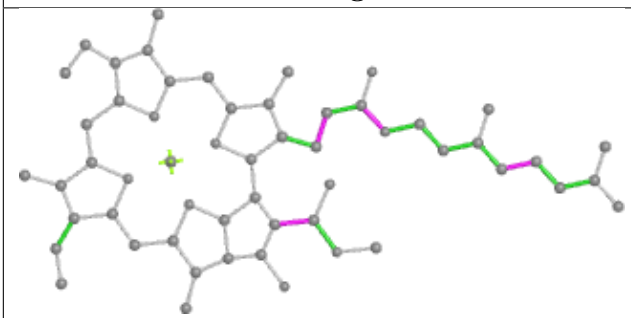


Bond angles



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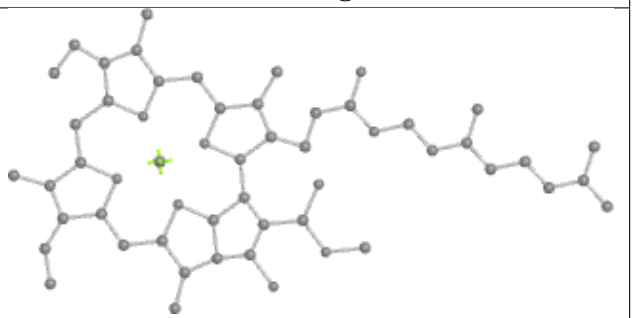
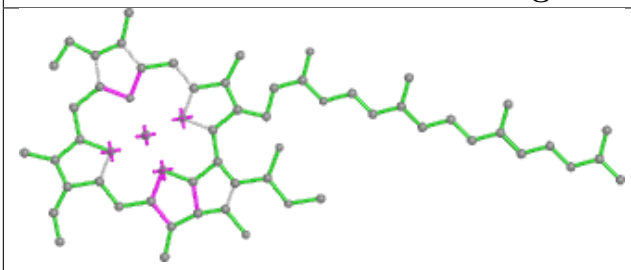


Rings

Ligand CLA l 205



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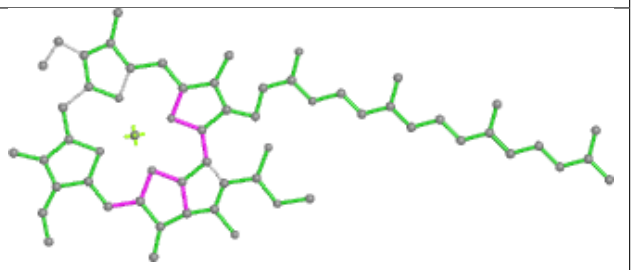
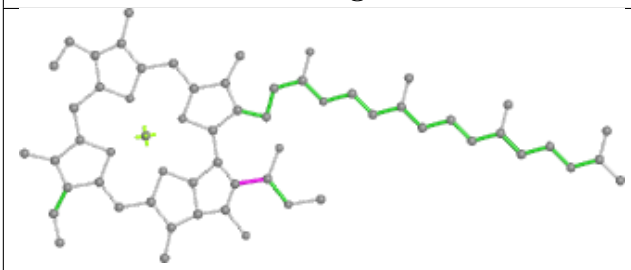


Bond angles



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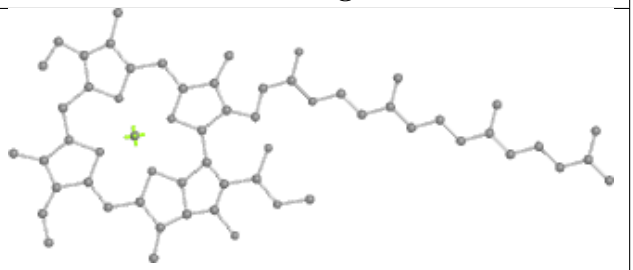
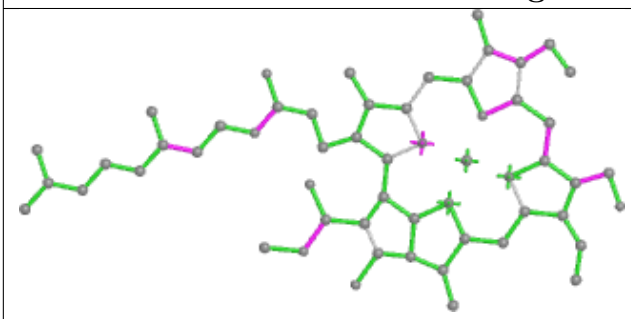


Rings

Ligand CHL g 306



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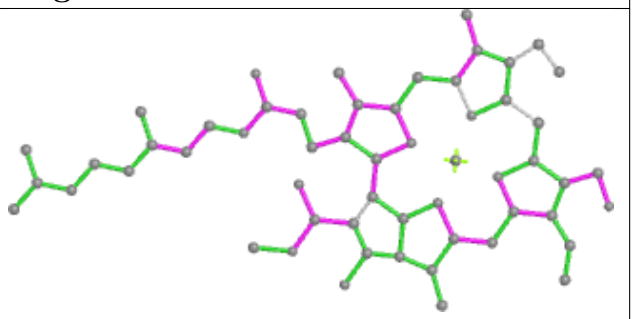
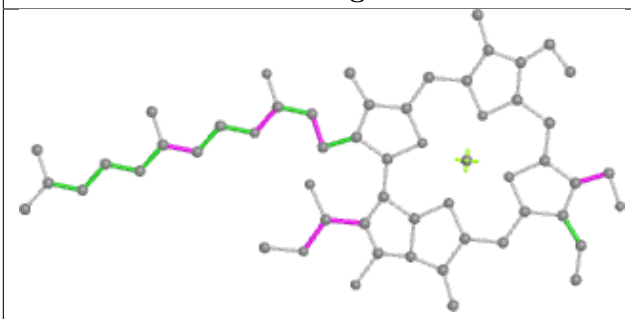


Bond angles



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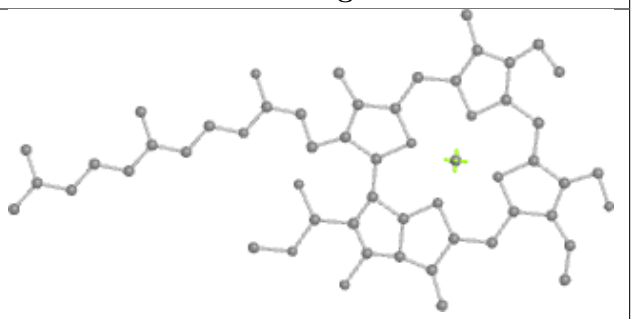
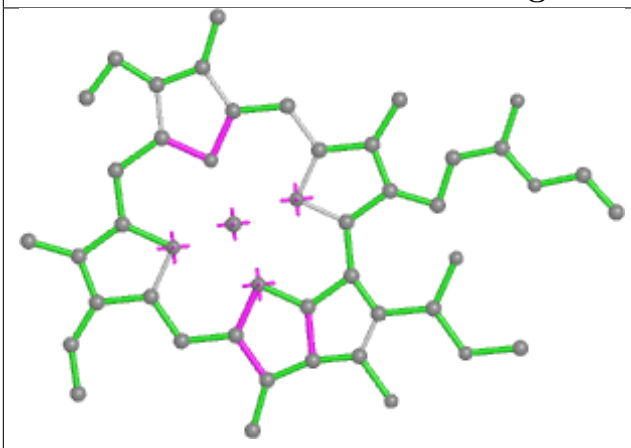
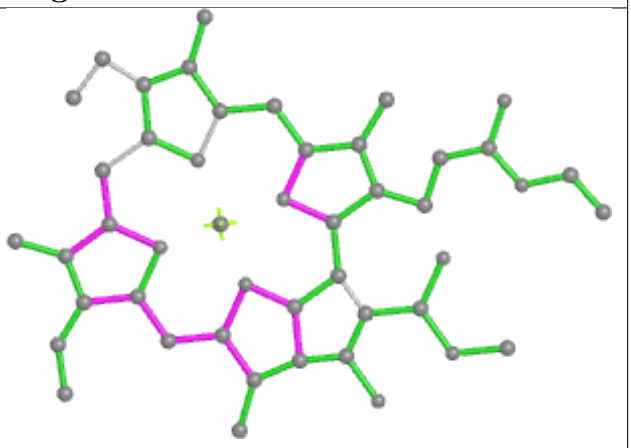


Rings

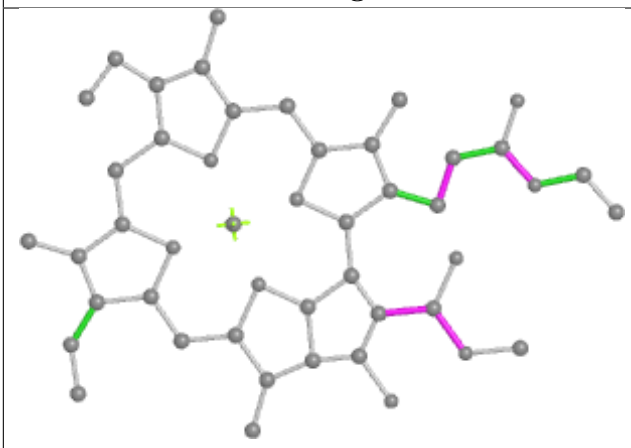
Ligand CLA g 305



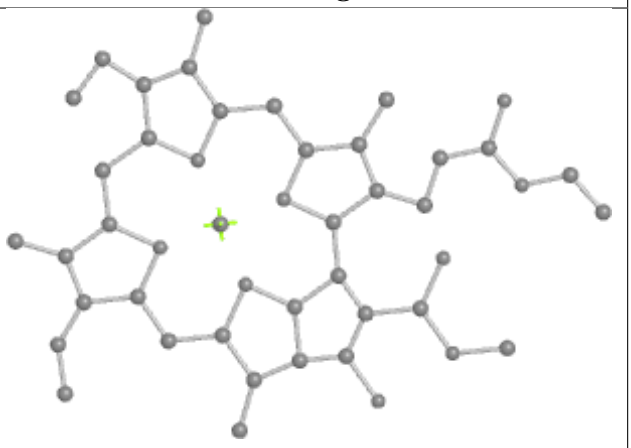
Bond lengths



Bond angles

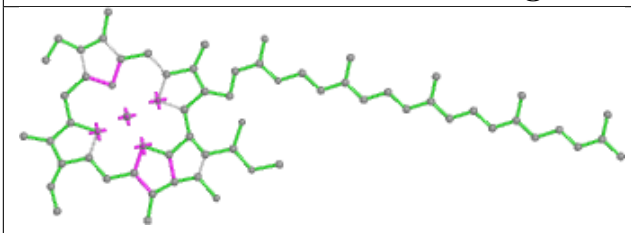


Torsions

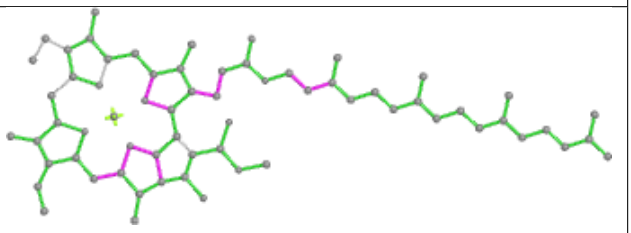


Rings

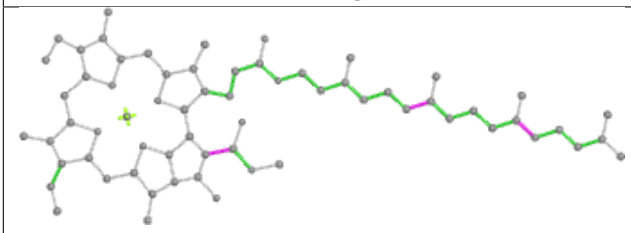
Ligand CLA B 808



Bond lengths



Bond angles



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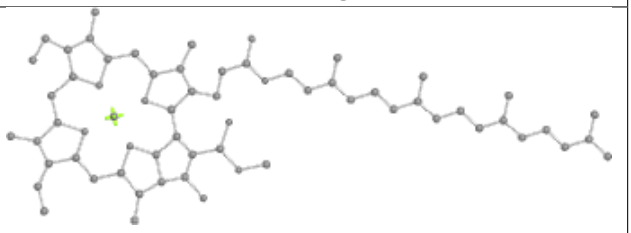
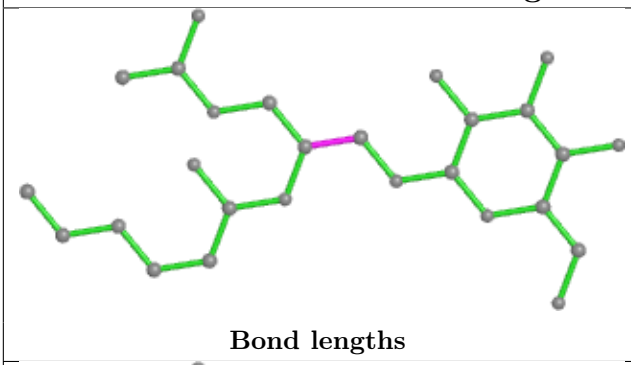


Rings

Ligand LMG a 316



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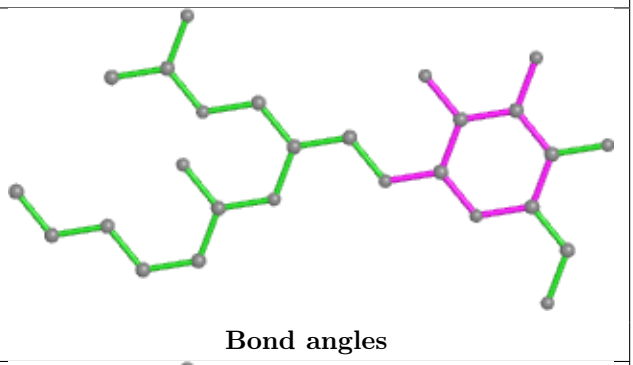
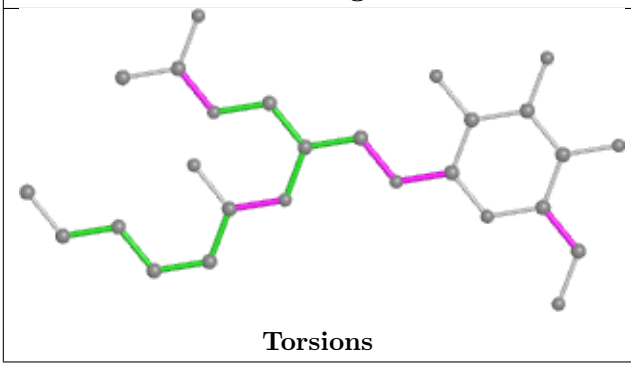
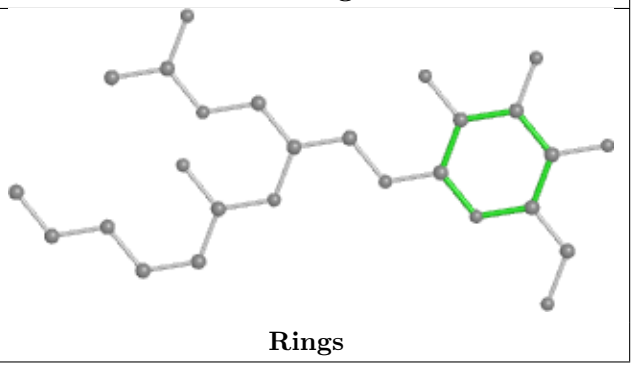


Bond angles

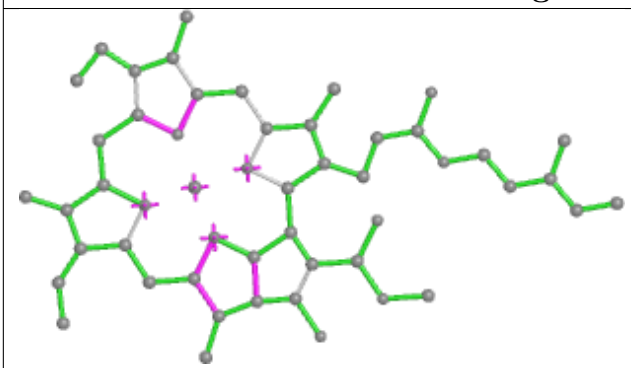


Torsions



Rings

Ligand CLA i 308



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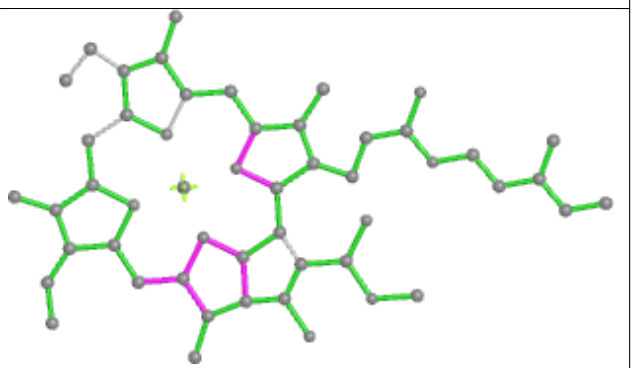

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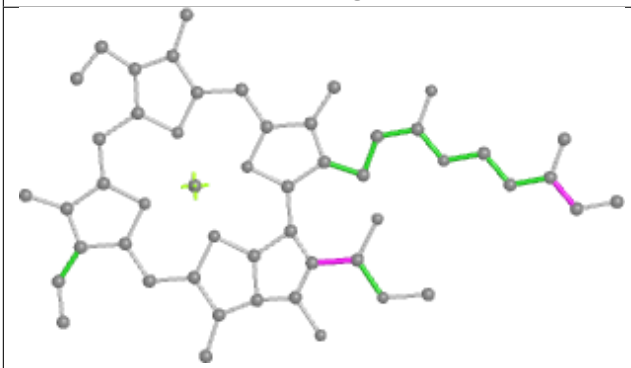

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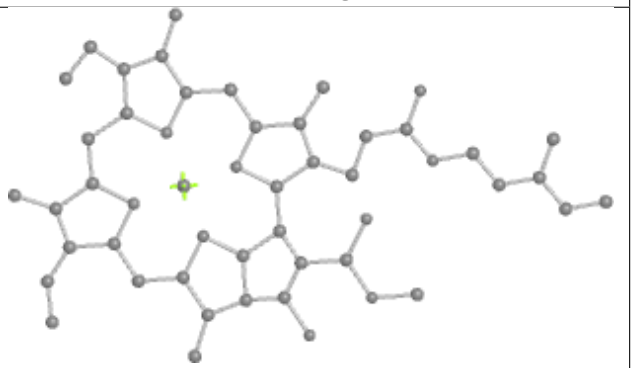
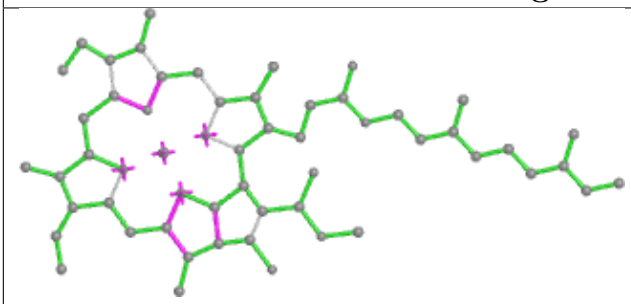


Rings

Ligand CLA j 309



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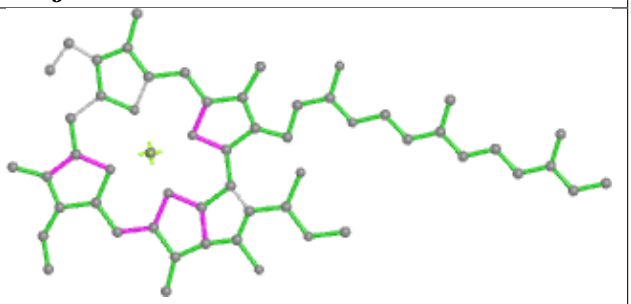
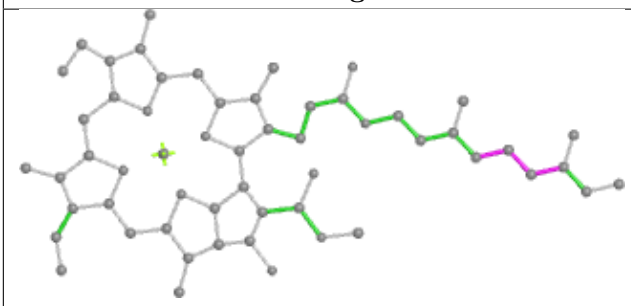


Bond angles



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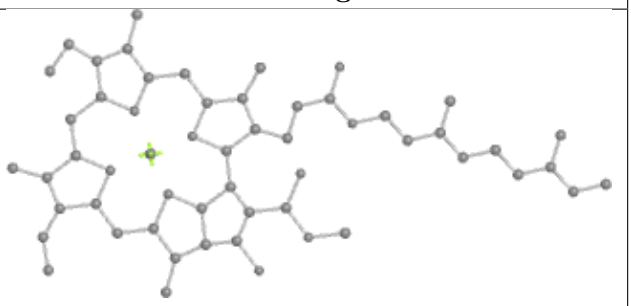
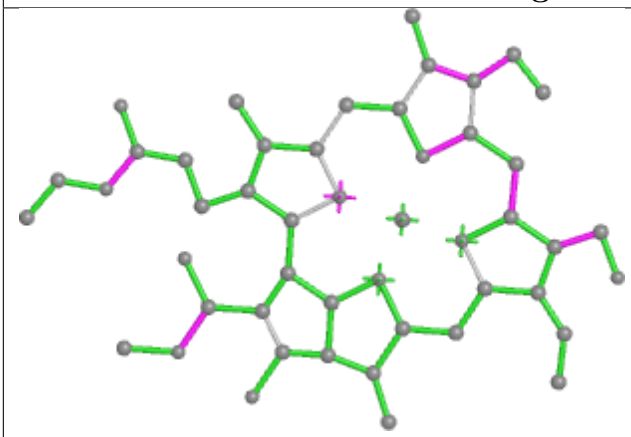
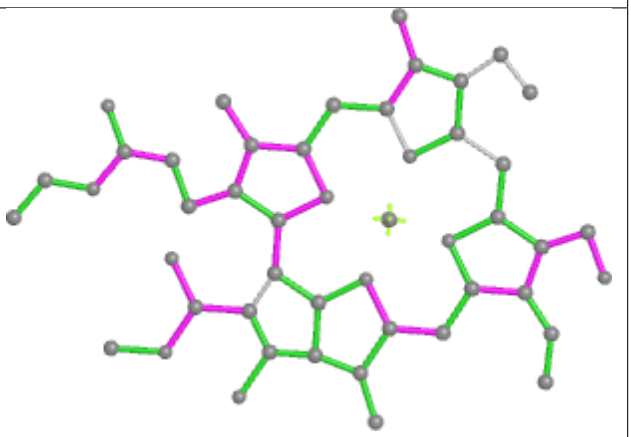


Rings

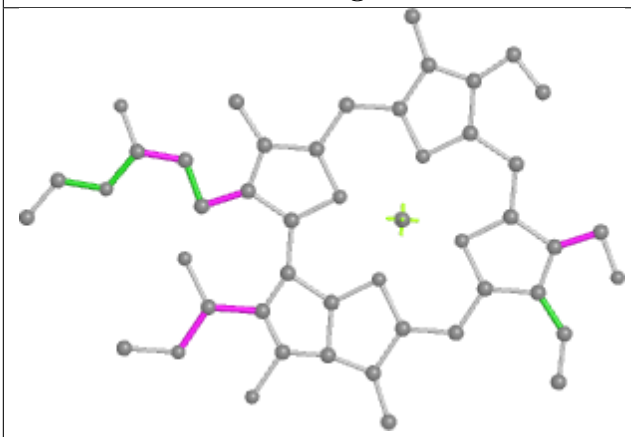
Ligand CHL i 301



Bond lengths



Bond angles



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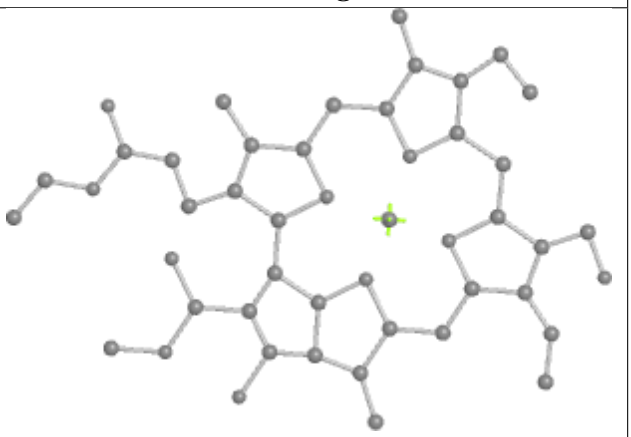
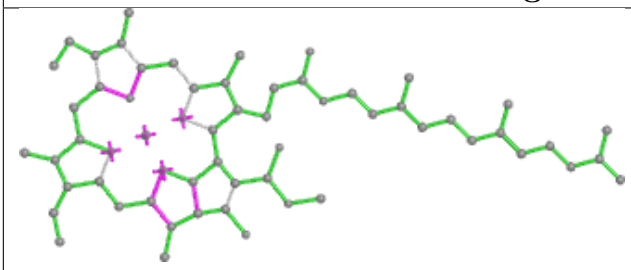
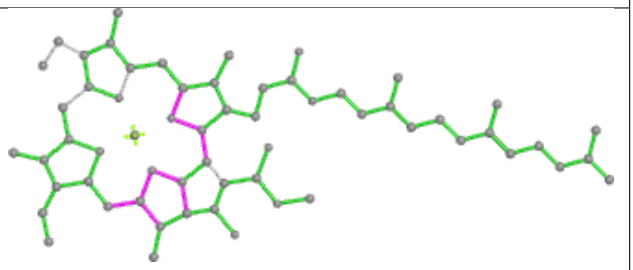
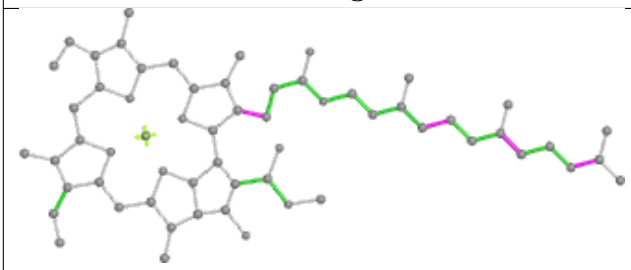
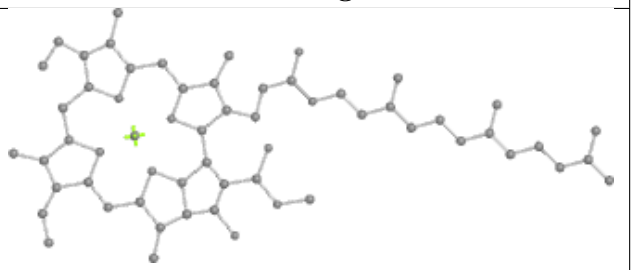
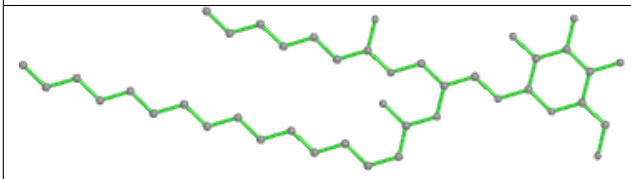
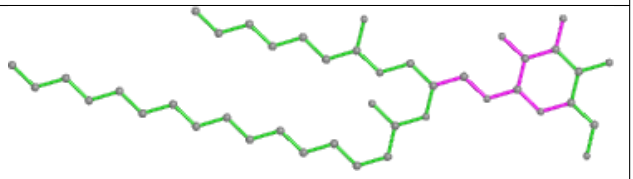
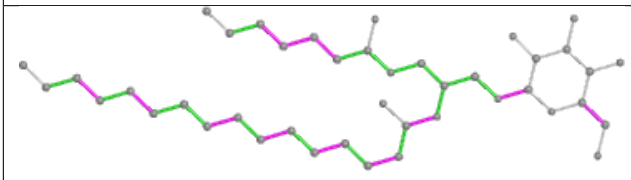
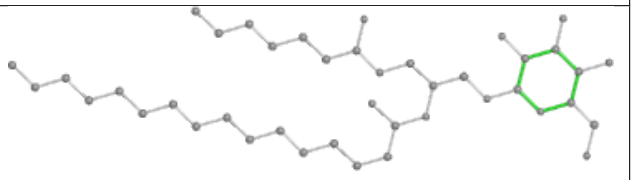
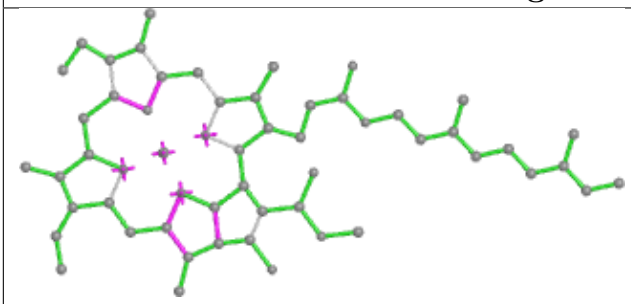


Rings

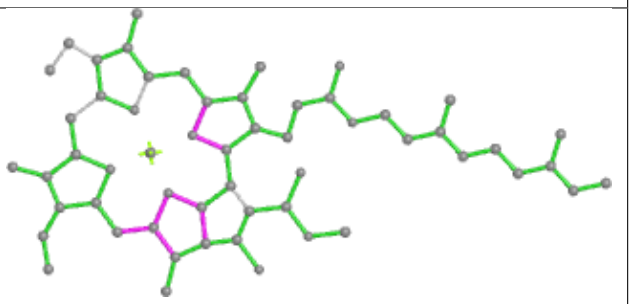
Ligand CLA A 813	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand LMG b 316	
 Bond lengths	 Bond angles
 Torsions	 Rings

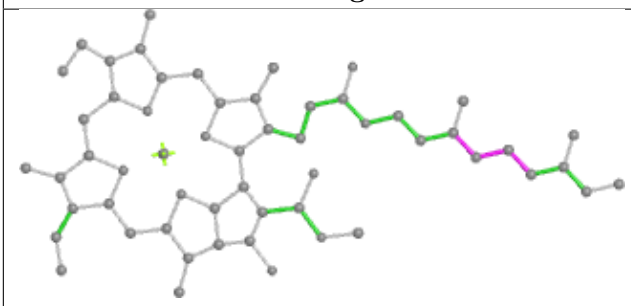
Ligand CLA h 201



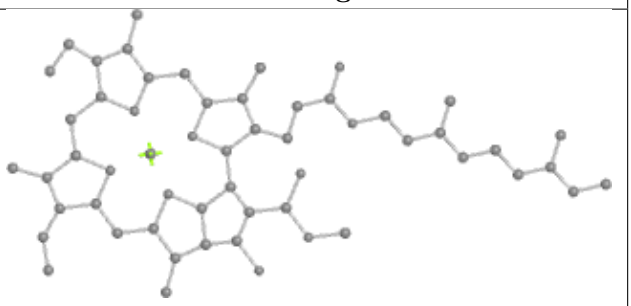
Bond lengths



Bond angles

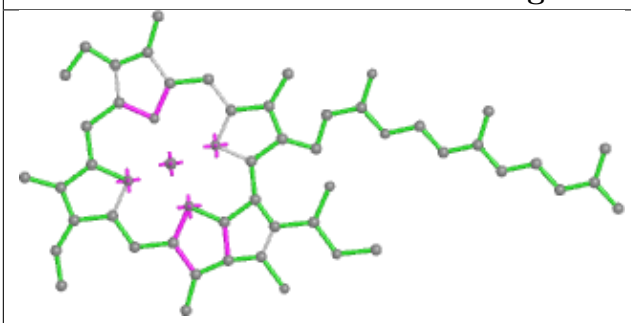


Torsions



Rings

Ligand CLA h 203



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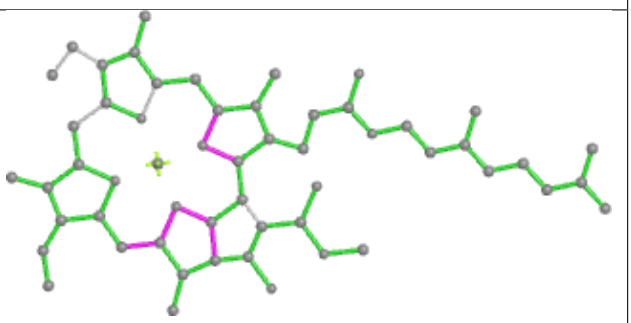

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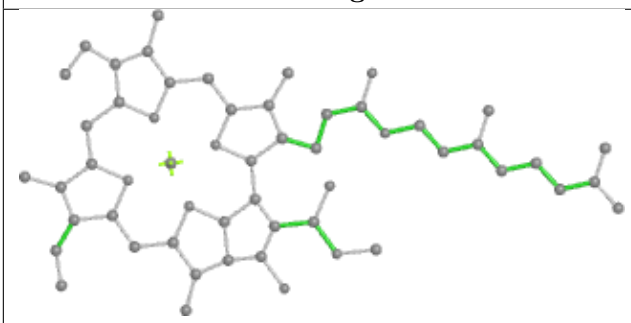

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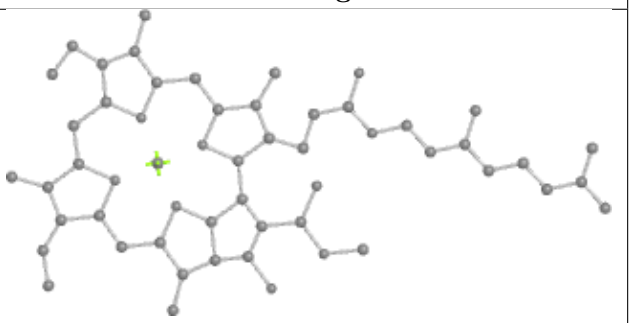
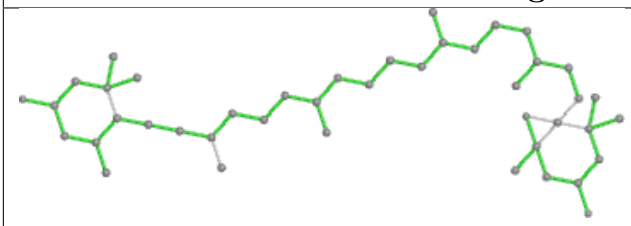


Rings

Ligand DD6 b 319



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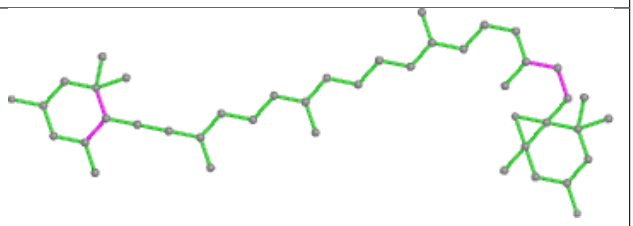
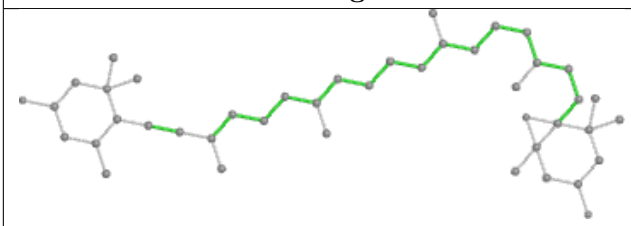
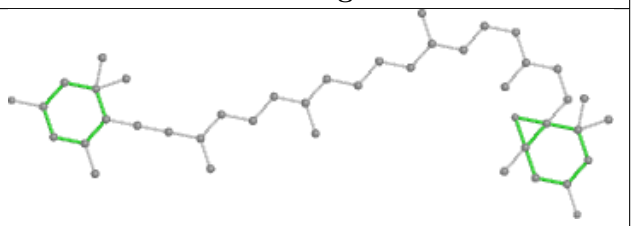


Bond angles

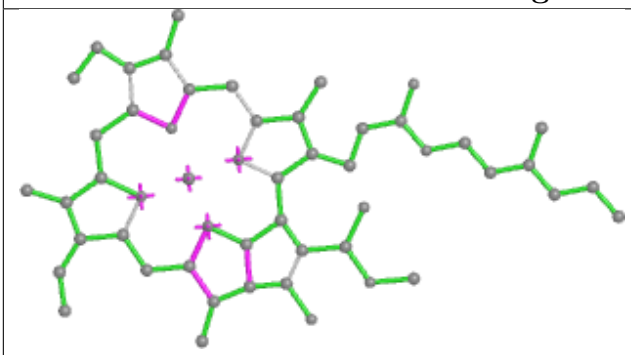


Torsions

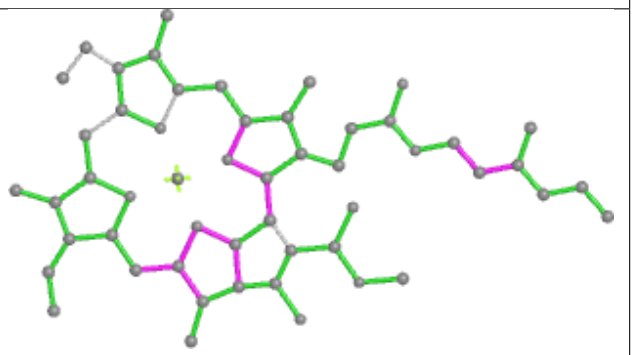


Rings

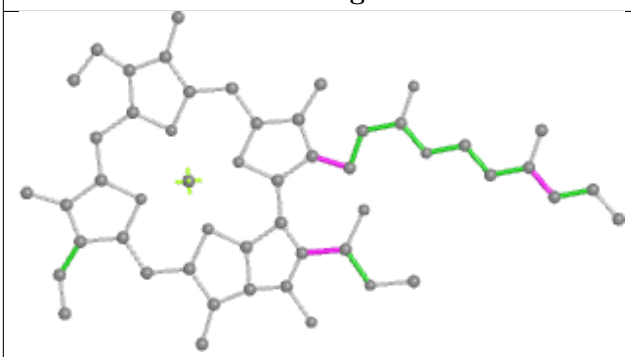
Ligand CLA f 311



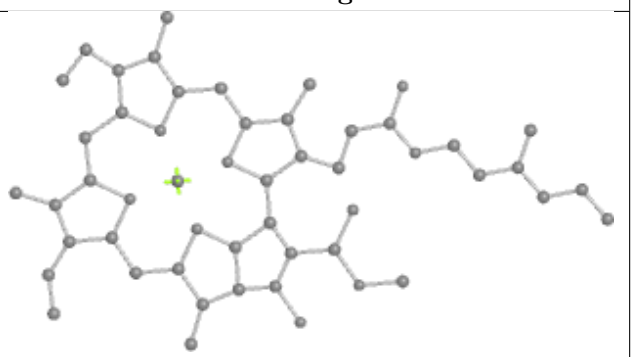
Bond lengths



Bond angles

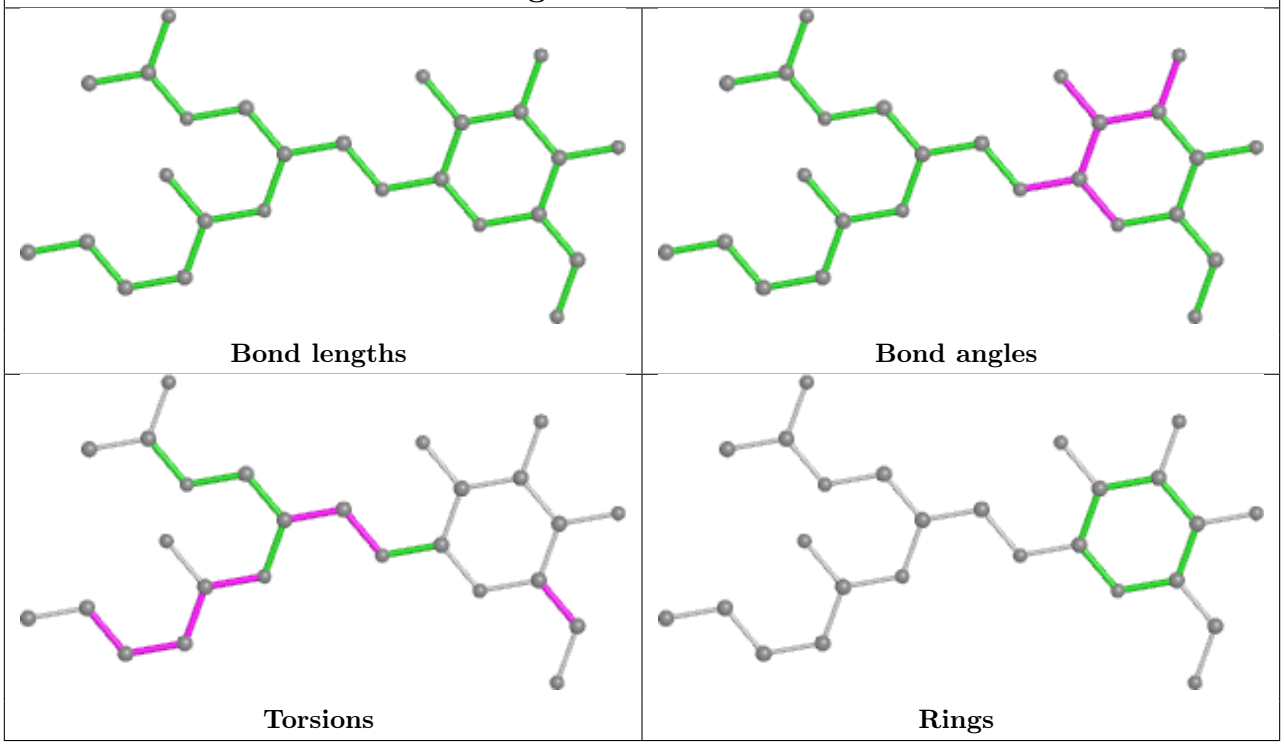


Torsions

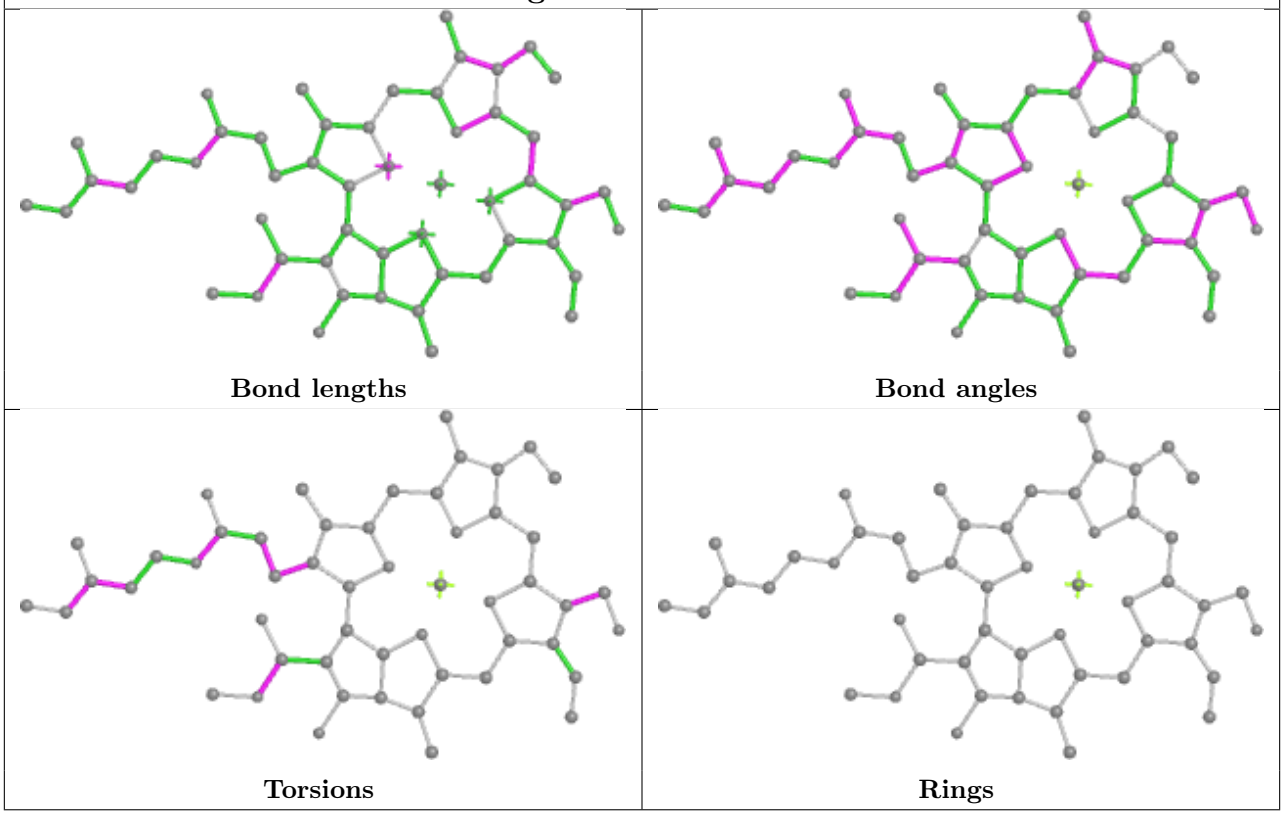


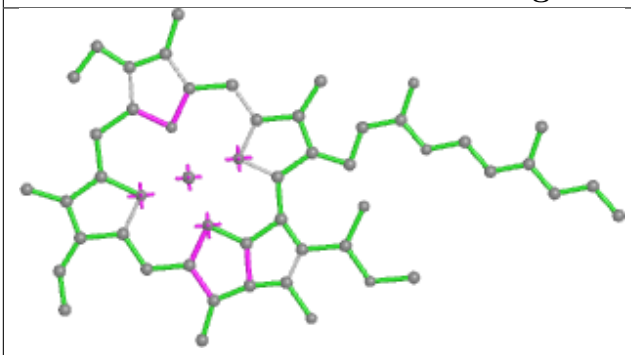
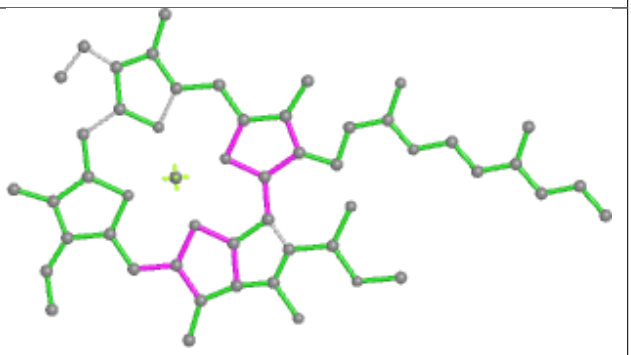
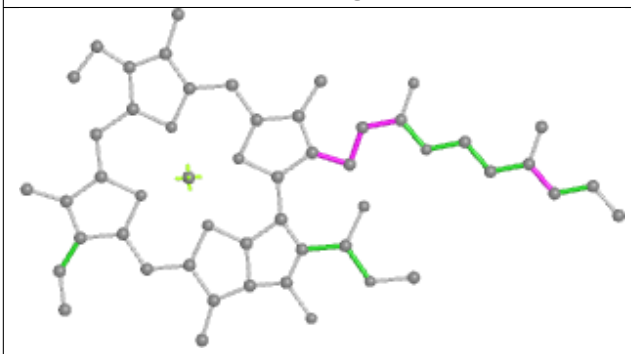
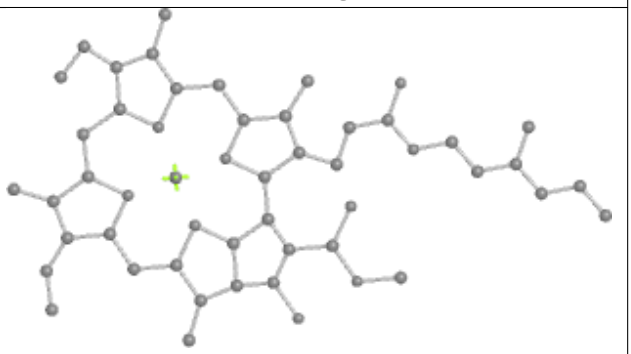
Rings

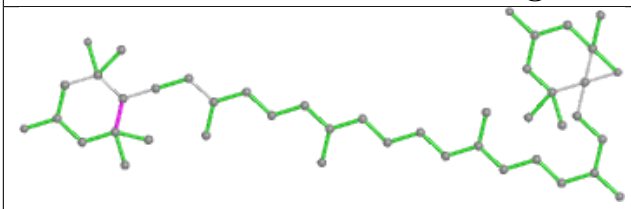
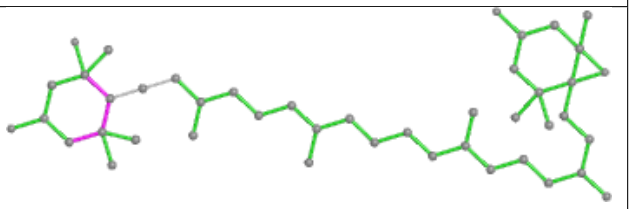
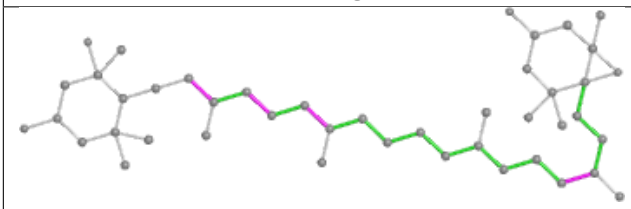
Ligand LMG f 313



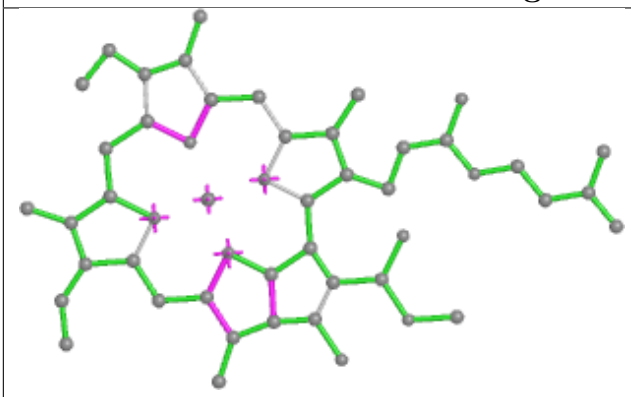
Ligand CHL b 314



Ligand CLA i 313	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand NEX a 317	
 Bond lengths	 Bond angles
 Torsions	Rings

Ligand CLA A 825



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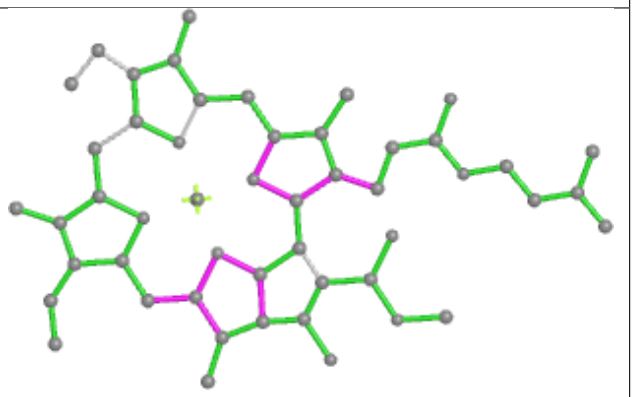

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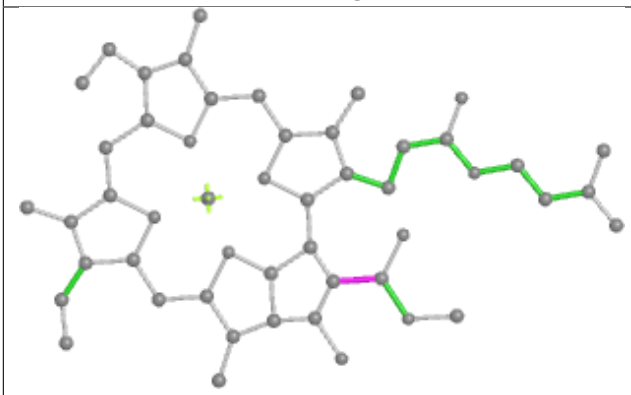

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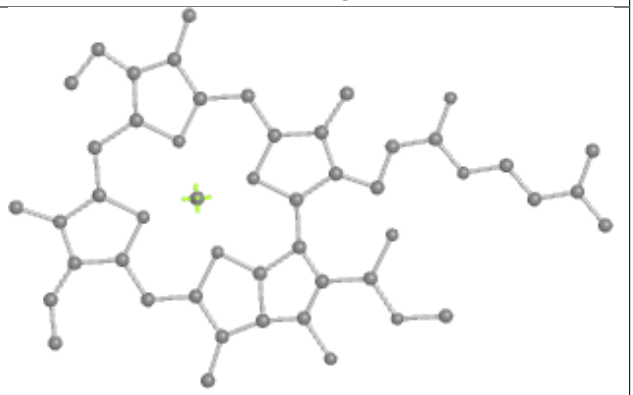

Rings

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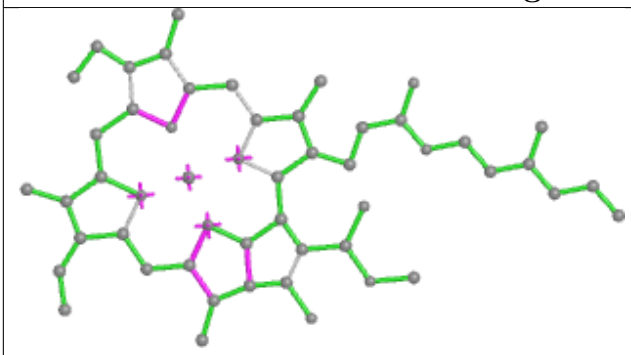

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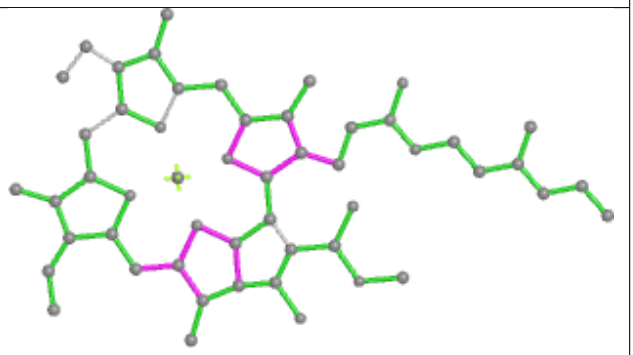

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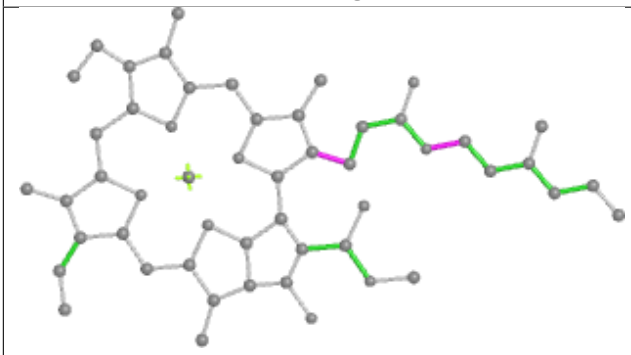

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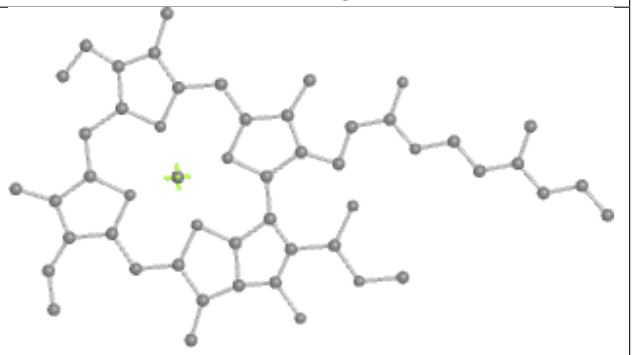
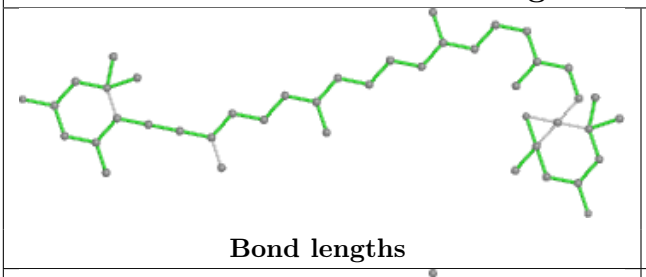


Rings

Ligand DD6 d 214



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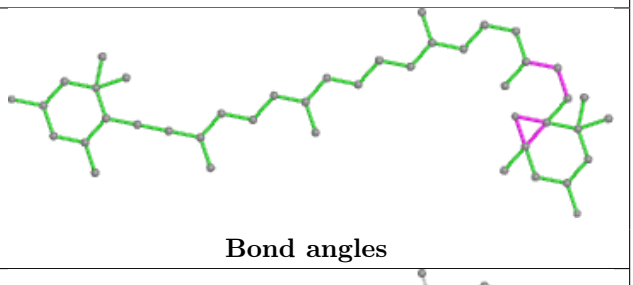

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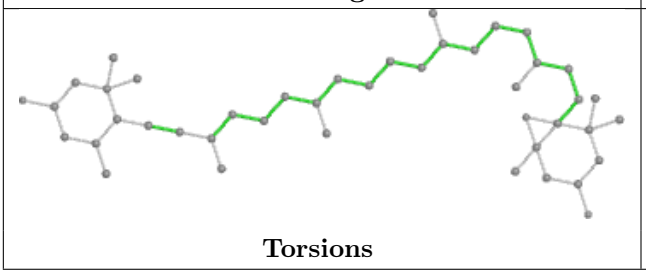

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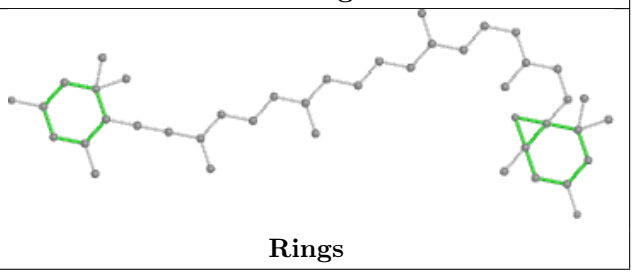
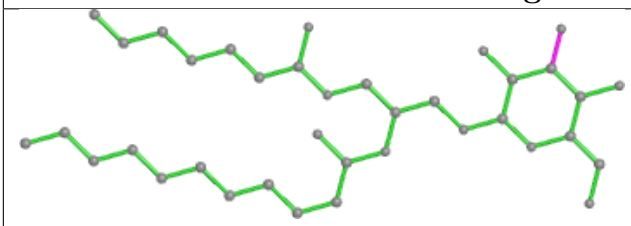


Rings

Ligand LMG g 312



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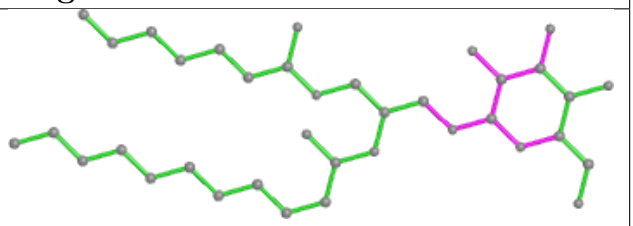

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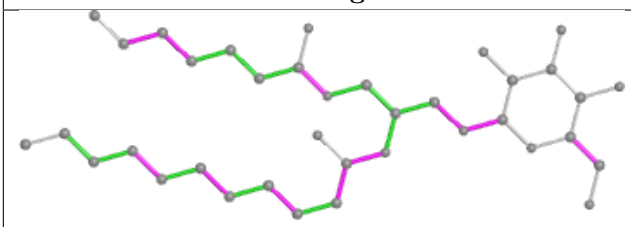

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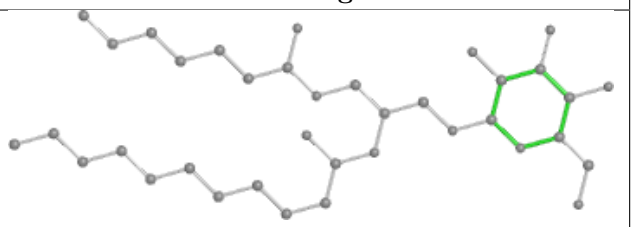
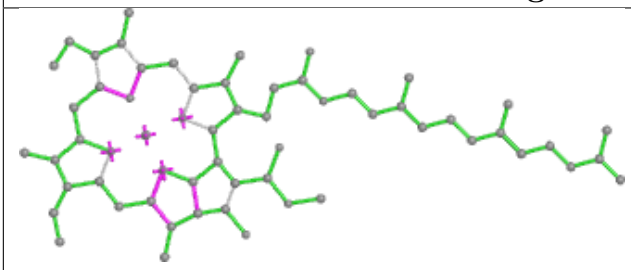
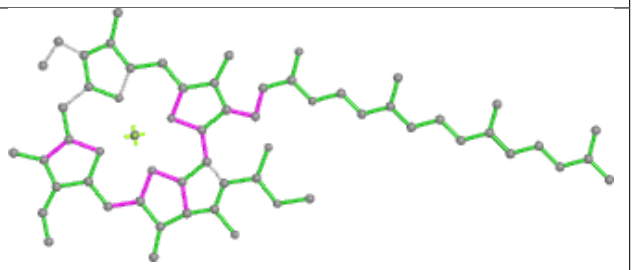
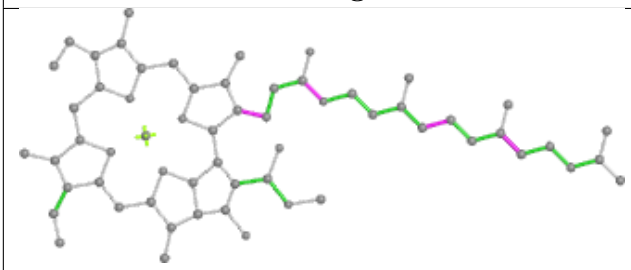
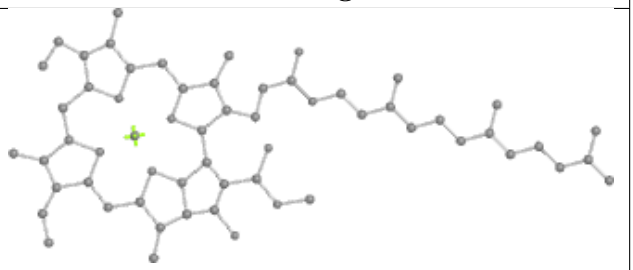


Rings

Ligand CLA d 211	
 Bond lengths	 Bond angles
 Torsions	 Rings

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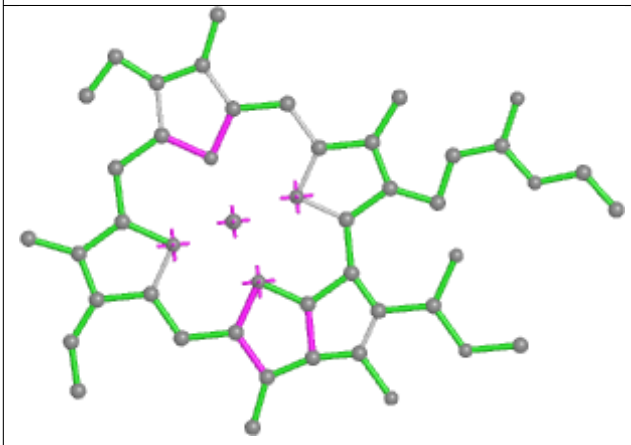
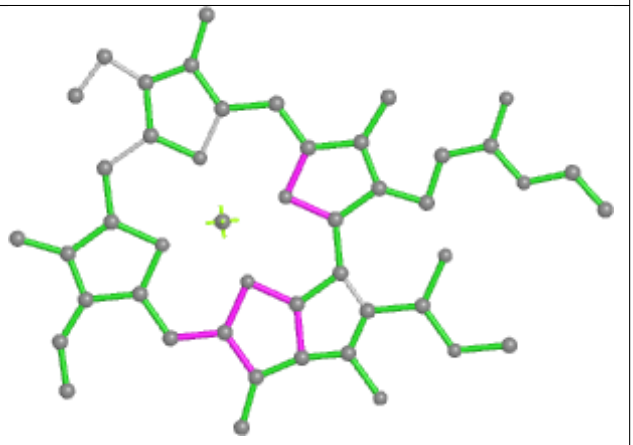
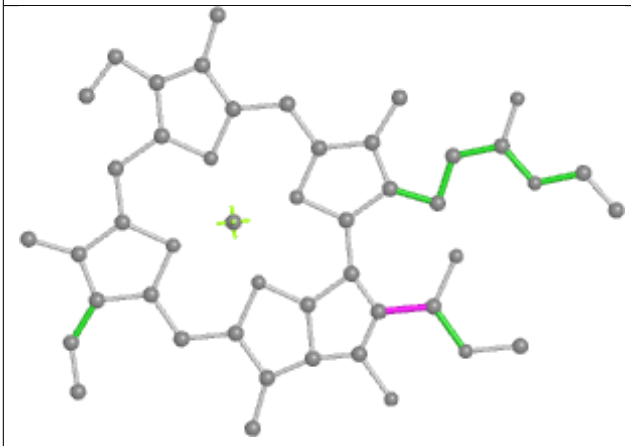
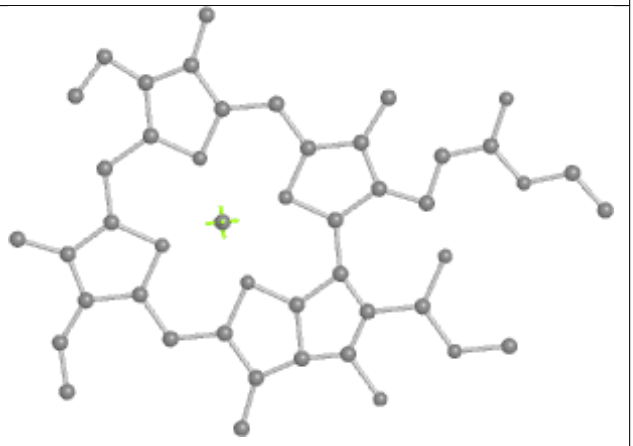
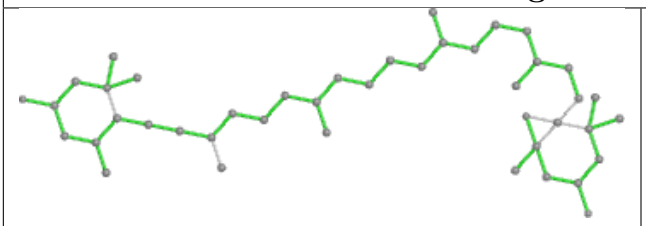
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand DD6 h 215



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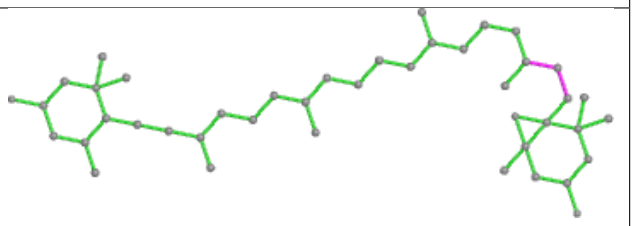

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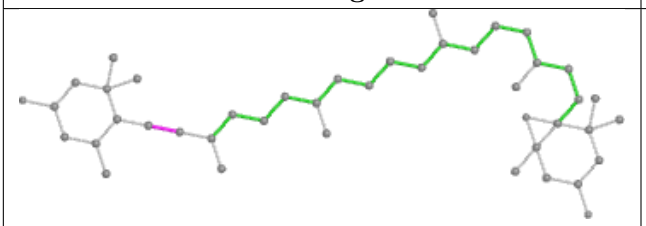

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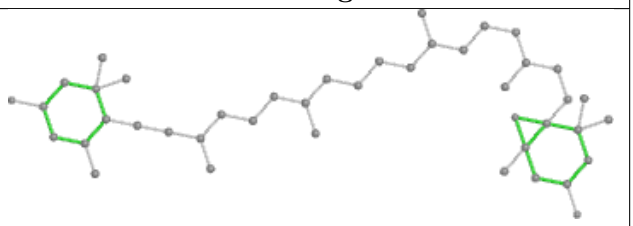
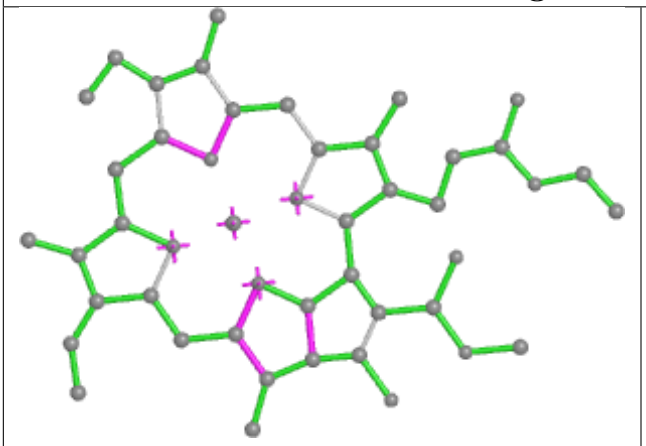


Rings

Ligand CLA o 309



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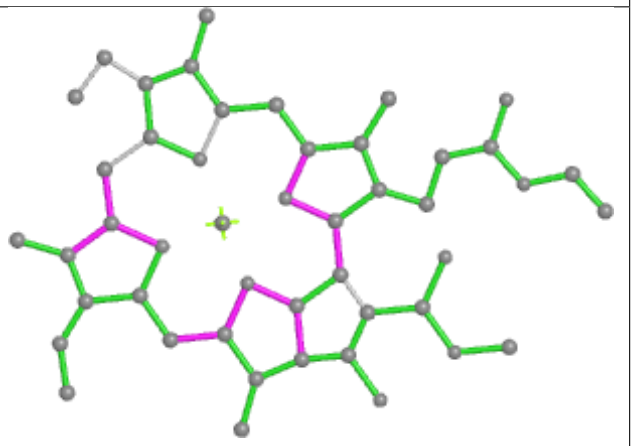

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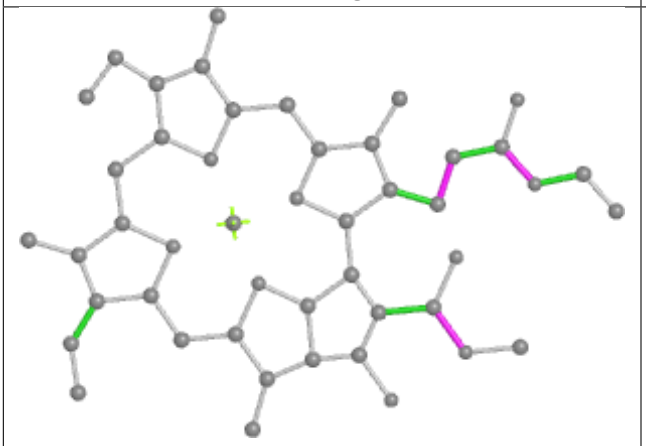

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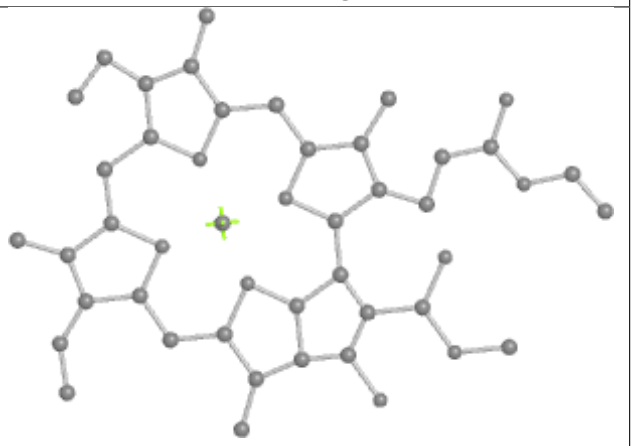

Rings

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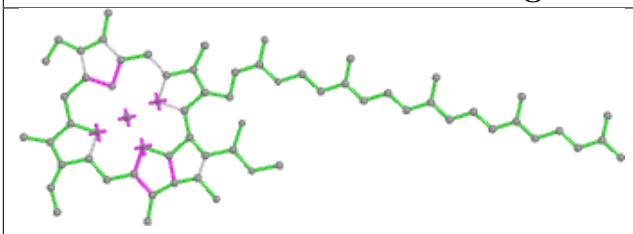

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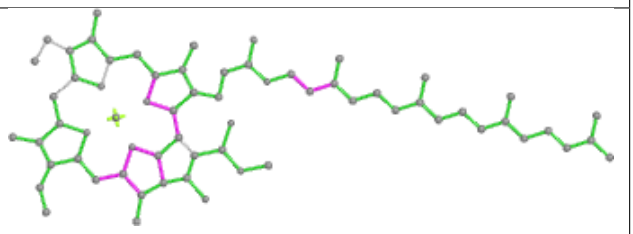

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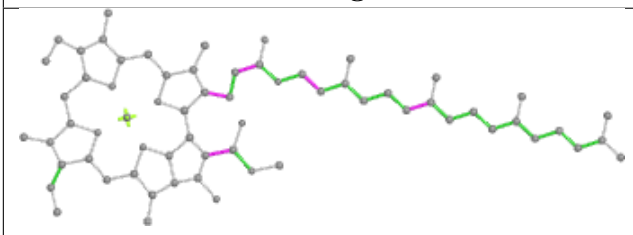

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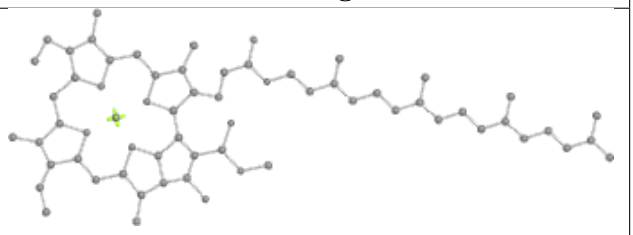
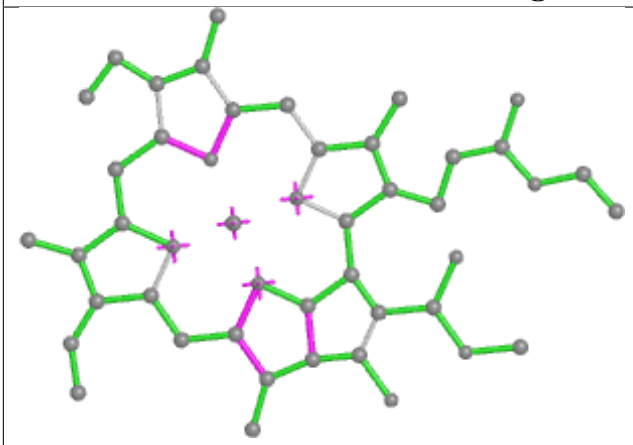


Rings

Ligand CLA c 315



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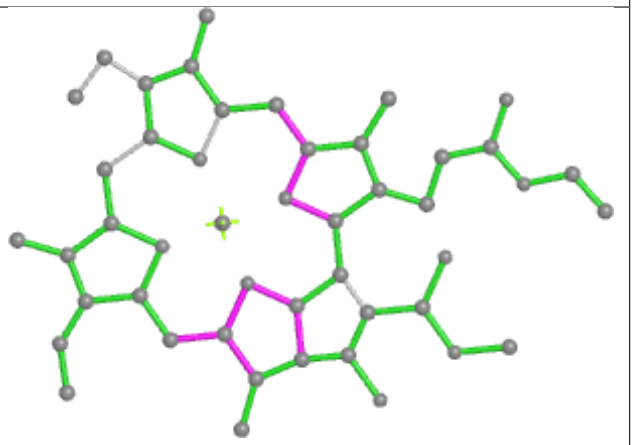
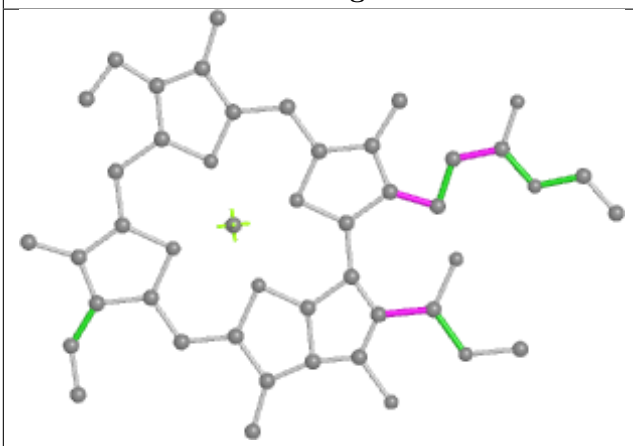


Bond angles



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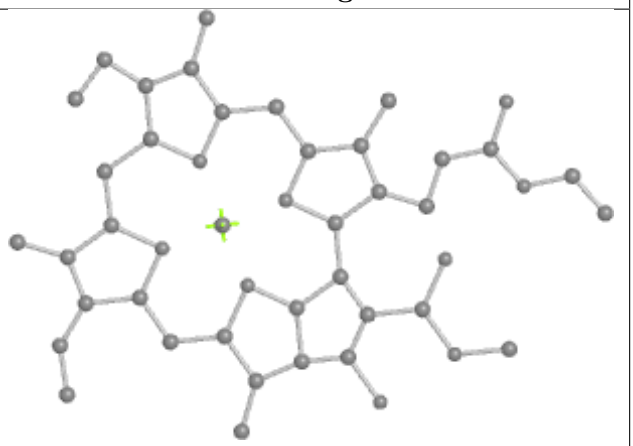

Rings

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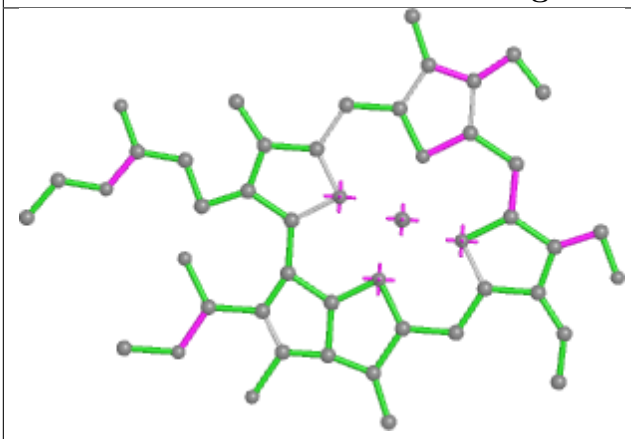

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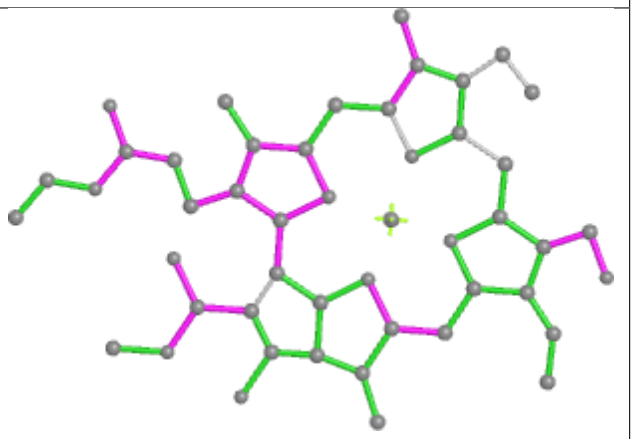

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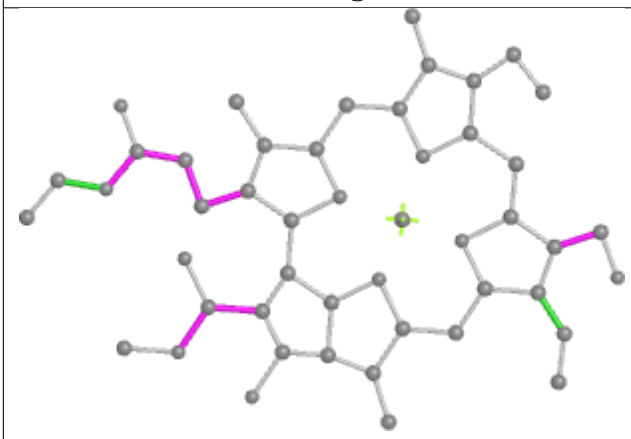

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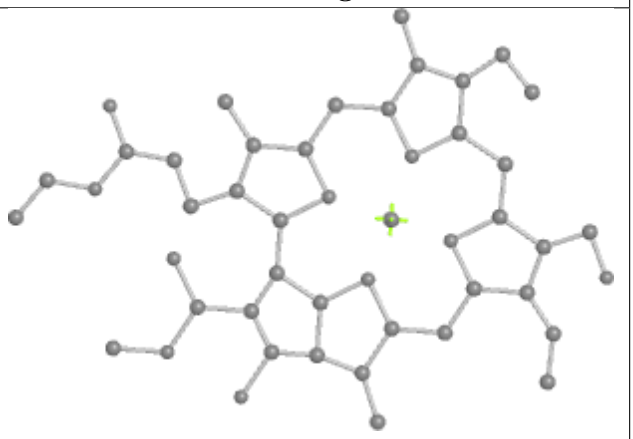
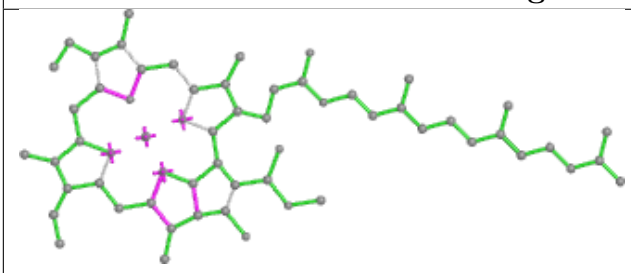


Rings

Ligand CLA k 304



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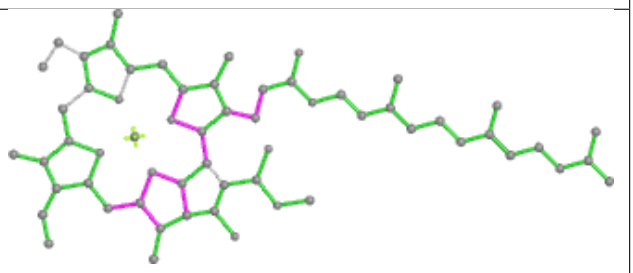
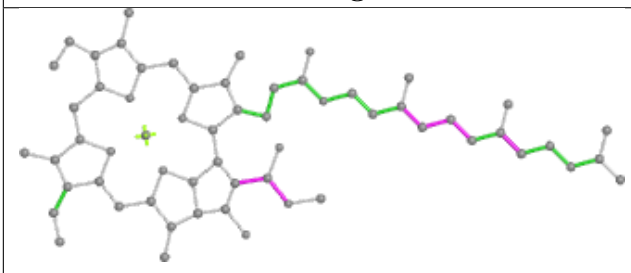


Bond angles



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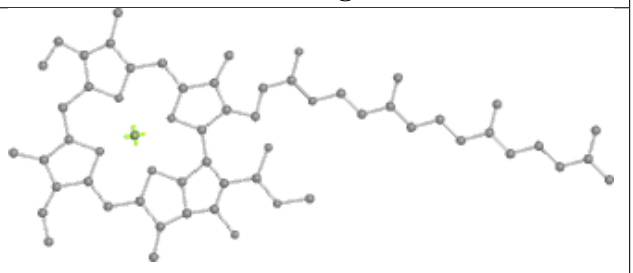
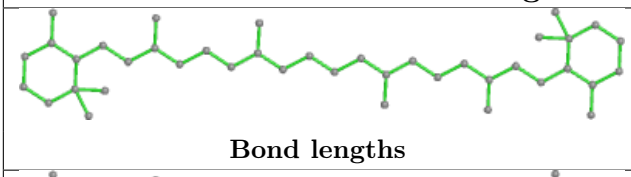
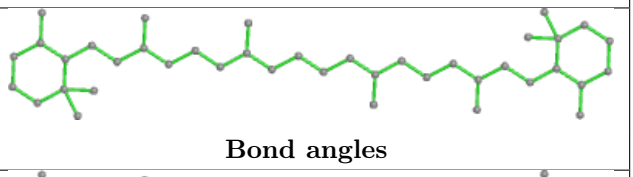


Rings

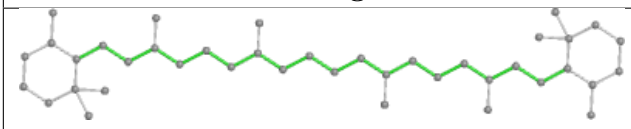
Ligand BCR B 825



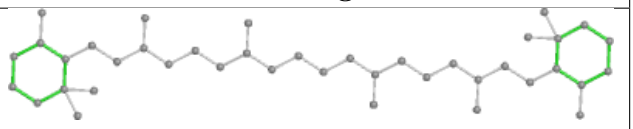
Bond lengths



Bond angles

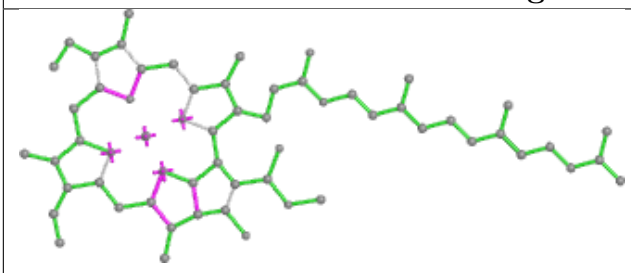


Torsions

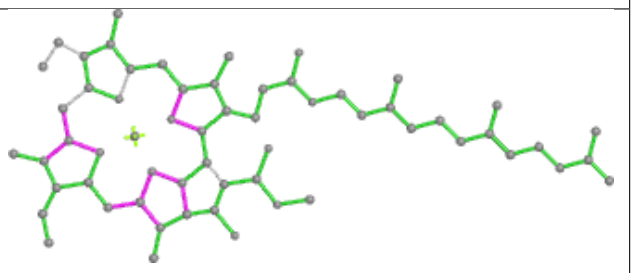


Rings

Ligand CLA d 208



Bond lengths



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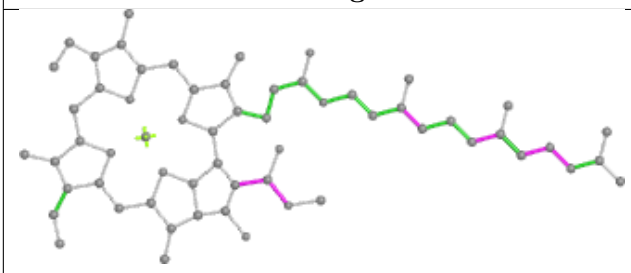

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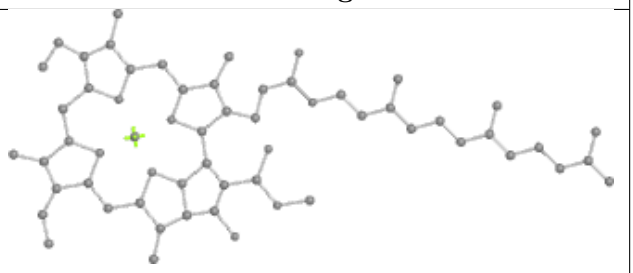
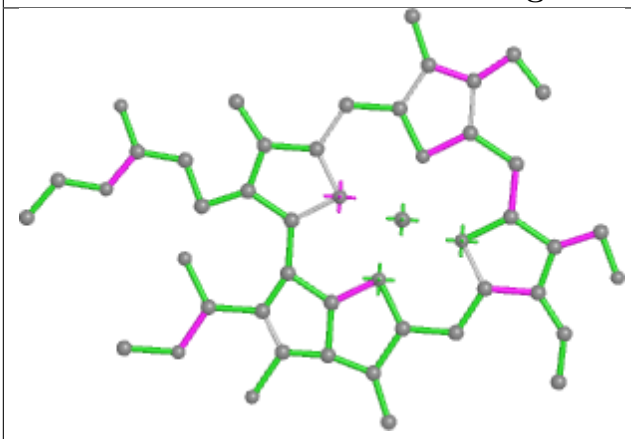


Rings

Ligand CHL h 202



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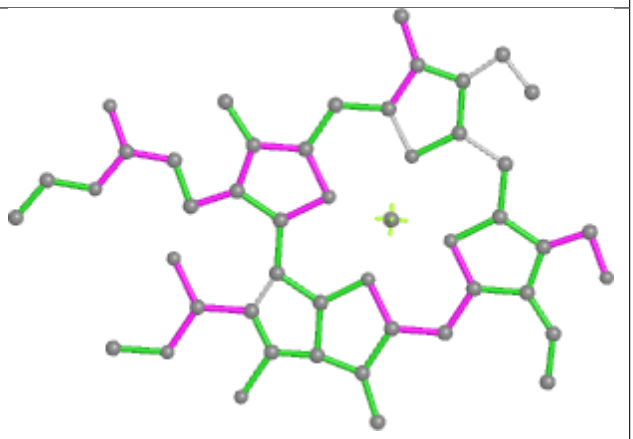

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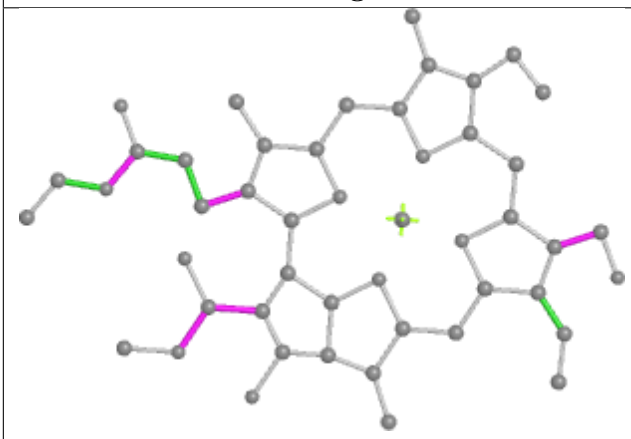

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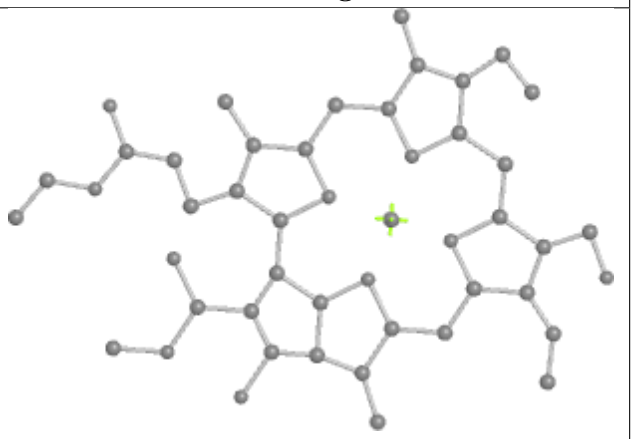
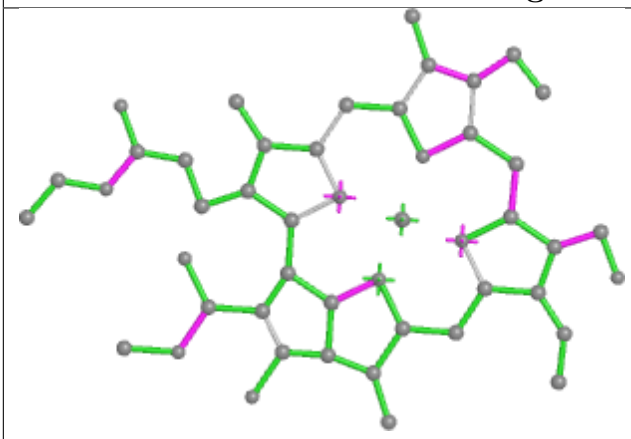


Rings

Ligand CHL b 311



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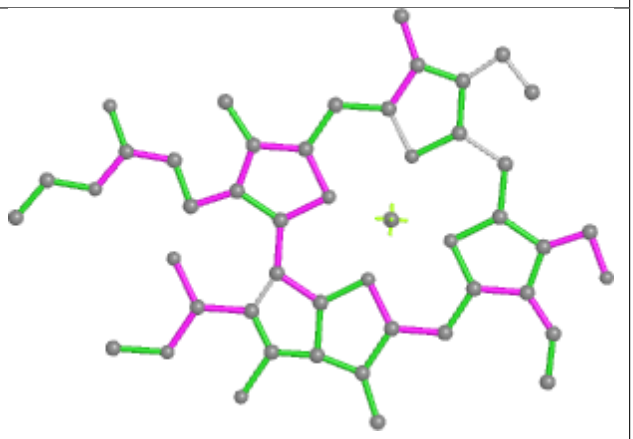

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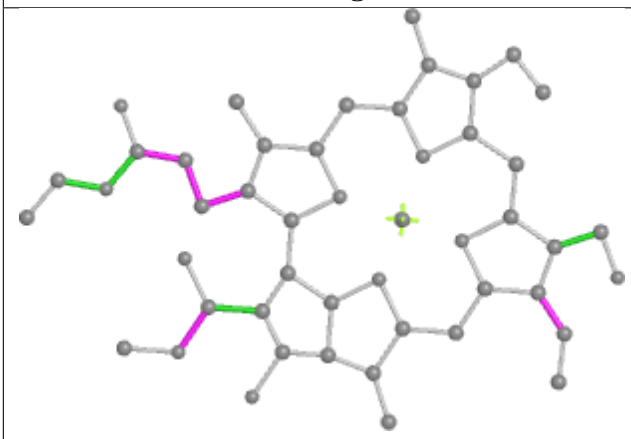

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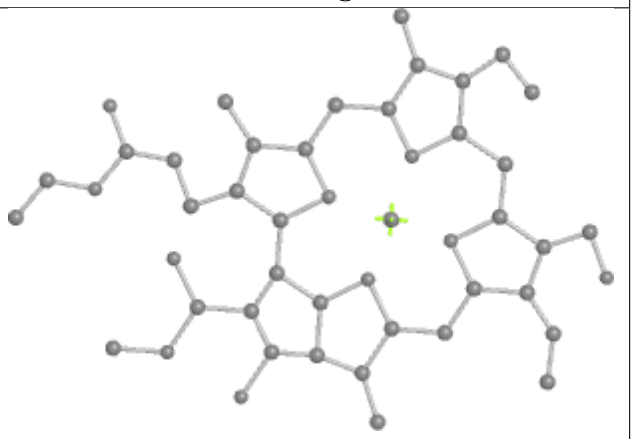
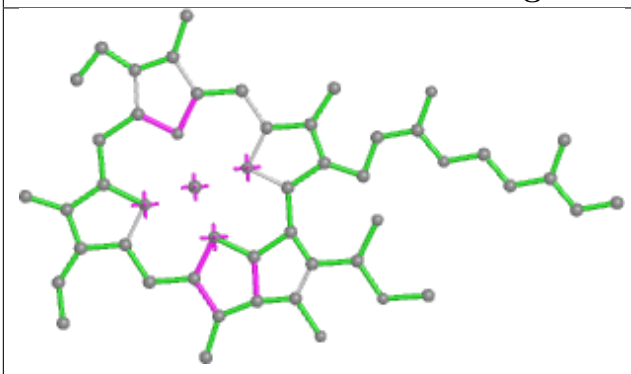


Rings

Ligand CLA A 815



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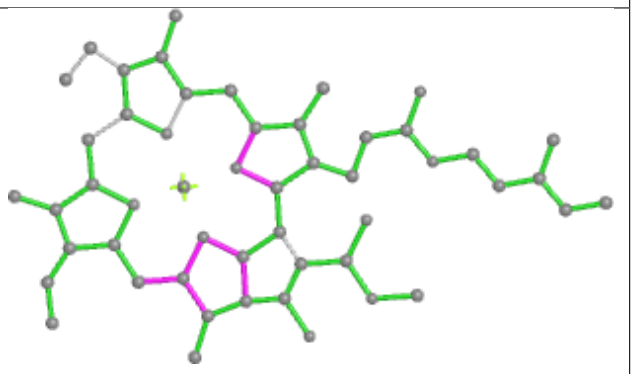

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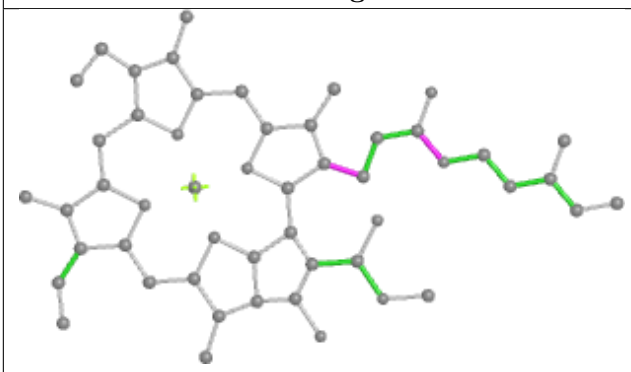

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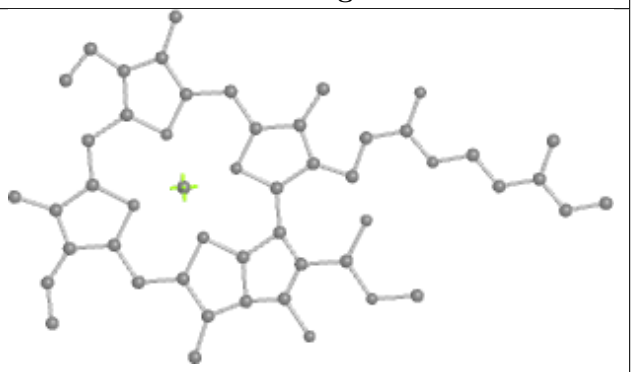
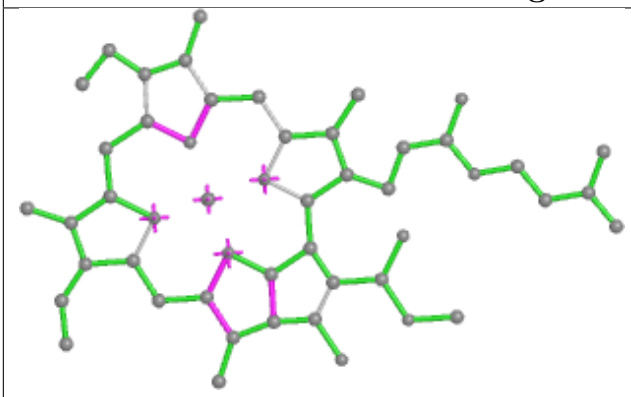


Rings

Ligand CLA g 304



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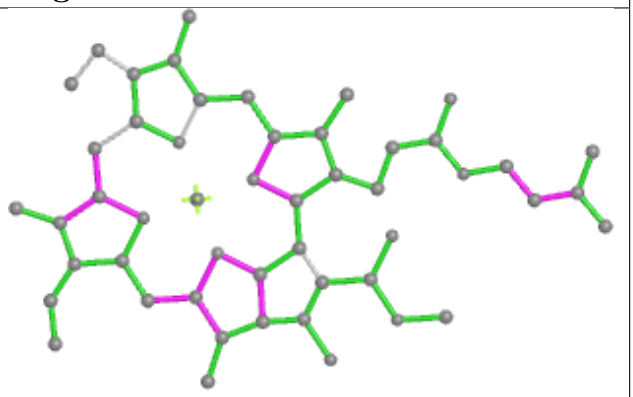

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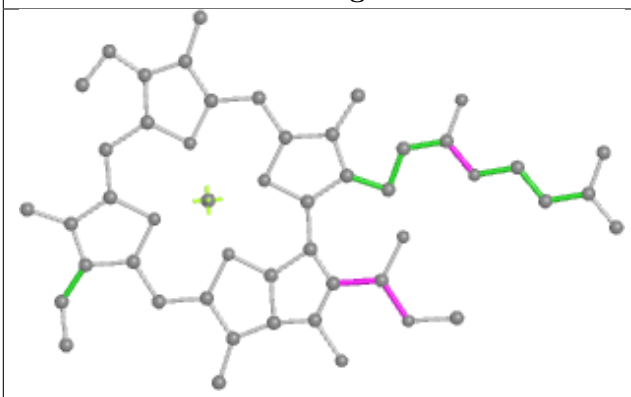

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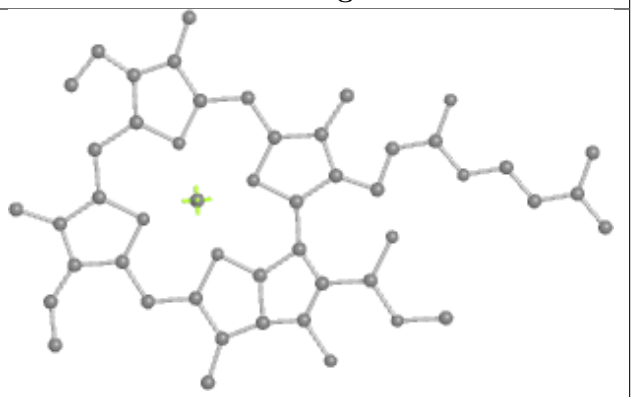
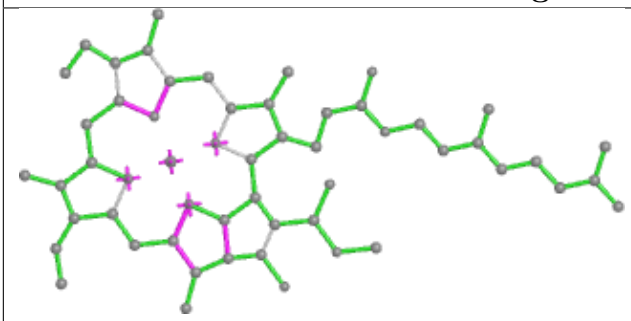


Rings

Ligand CLA f 302



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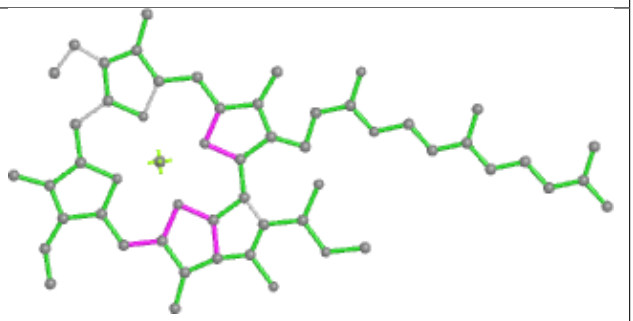

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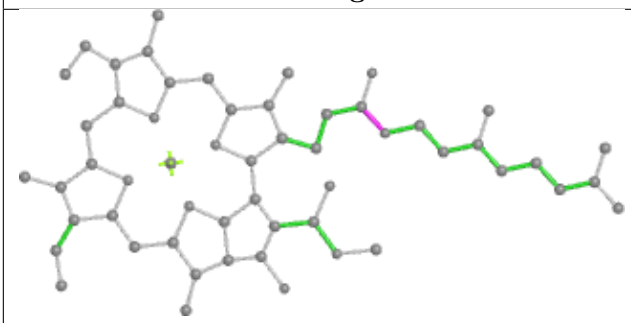

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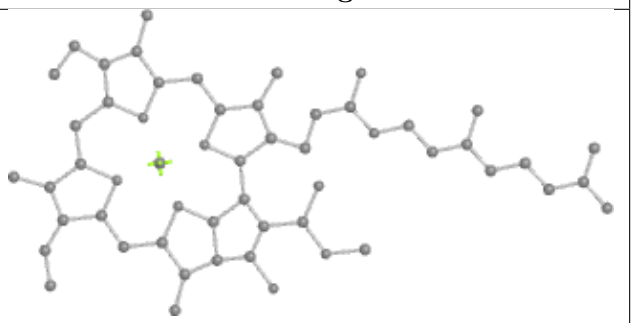
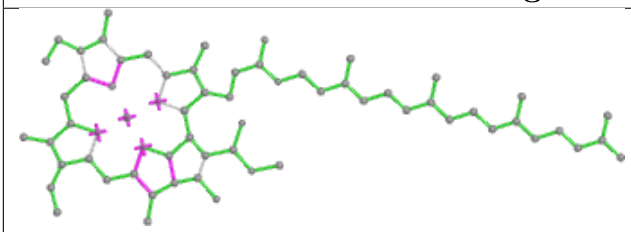


Rings

Ligand CLA A 850



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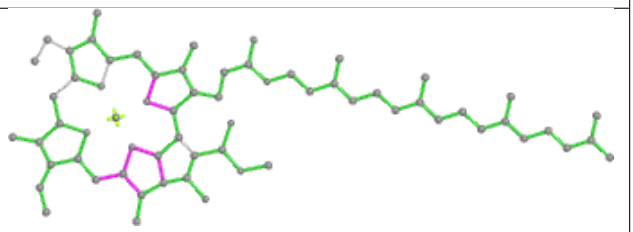

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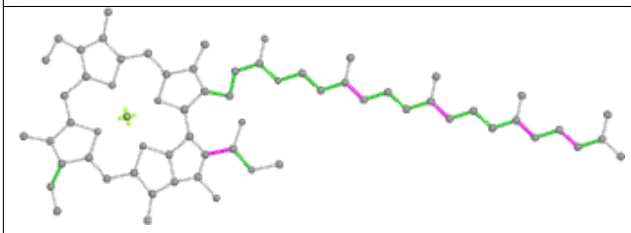

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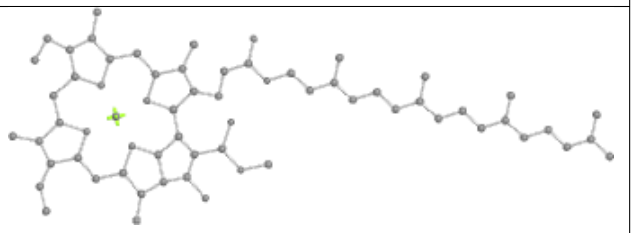
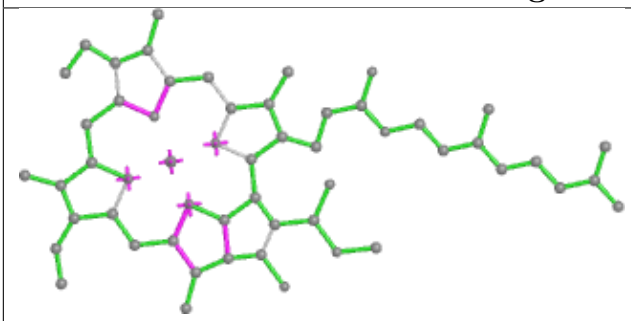


Rings

Ligand CLA a 303



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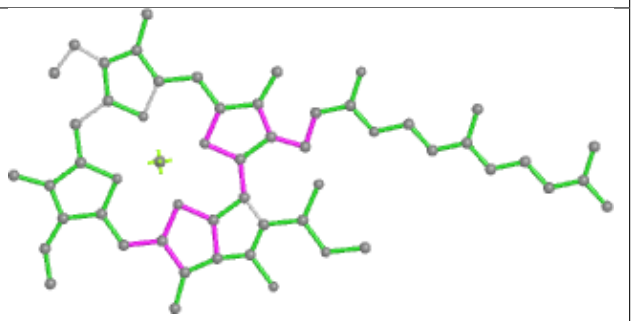
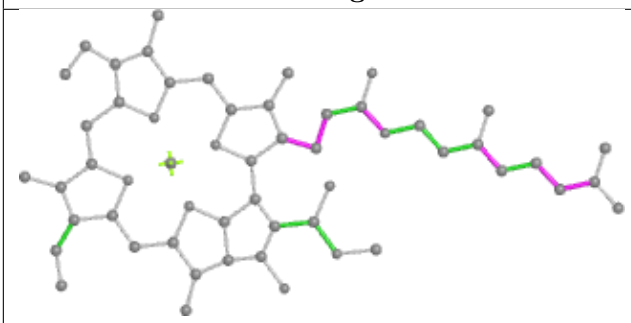


Bond angles



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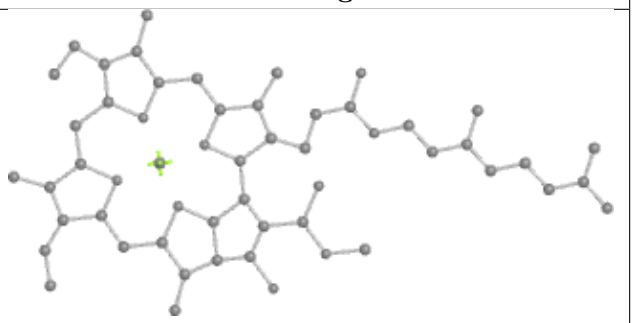
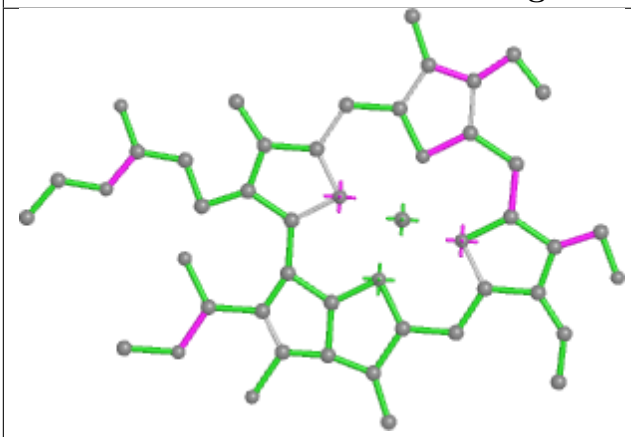


Rings

Ligand CHL a 312



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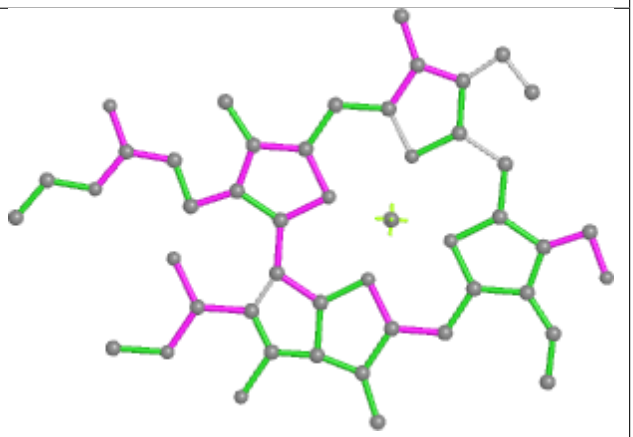

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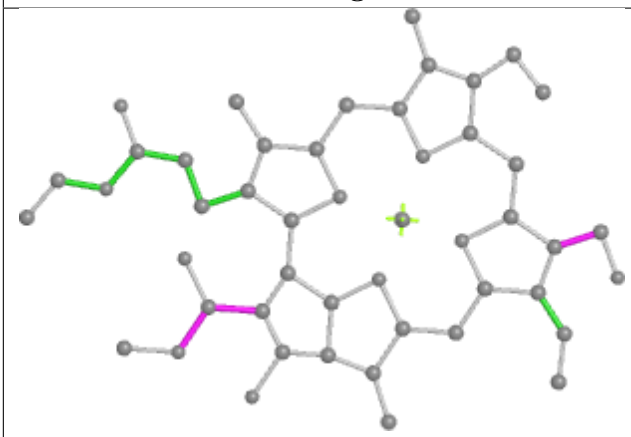

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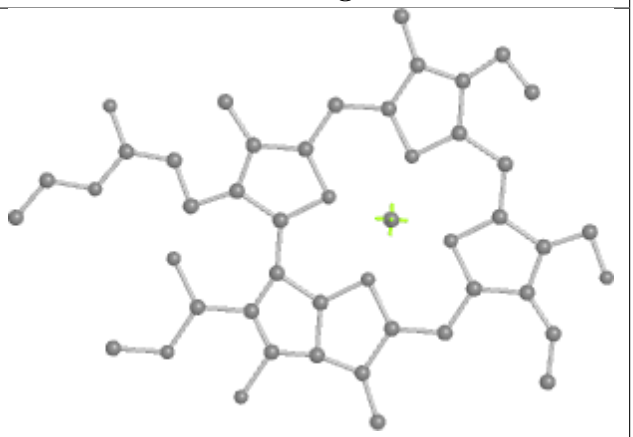
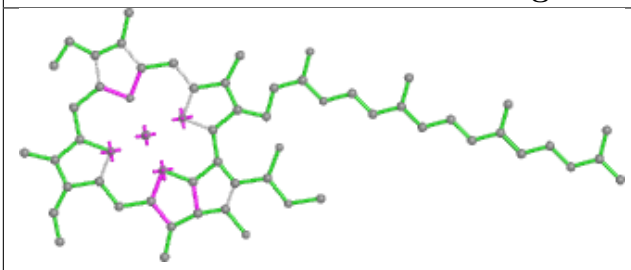
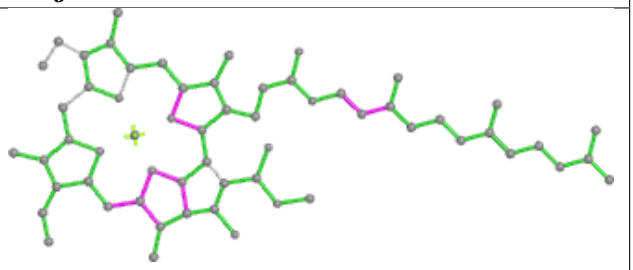
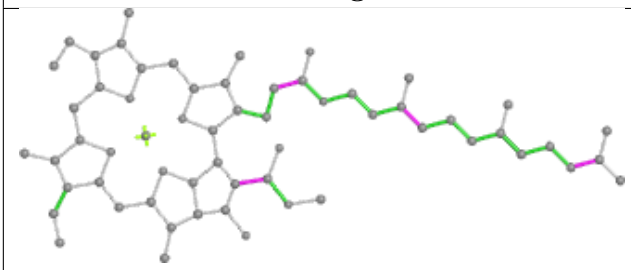
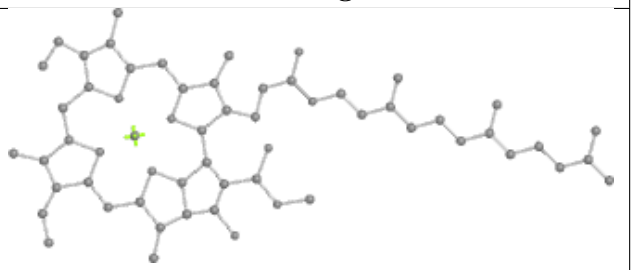
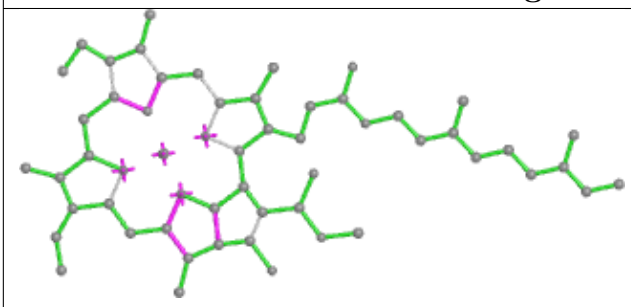
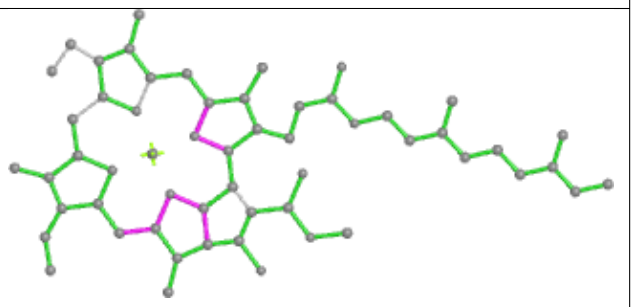
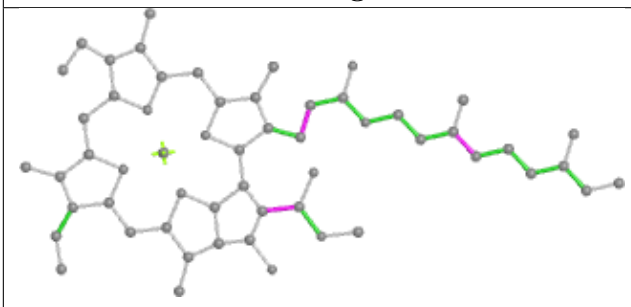
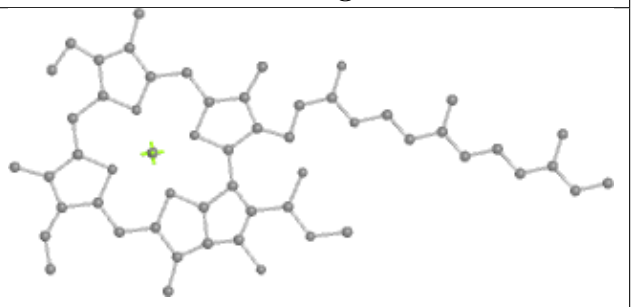
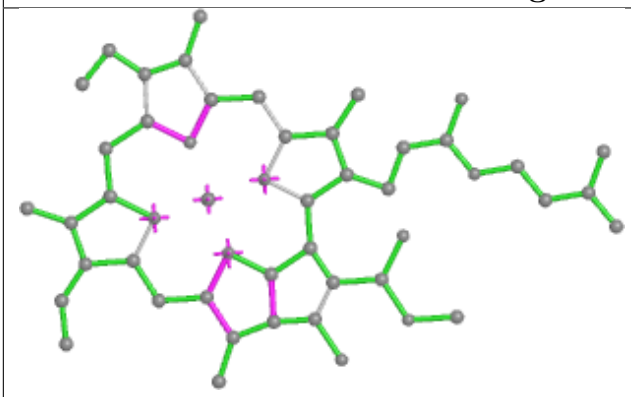
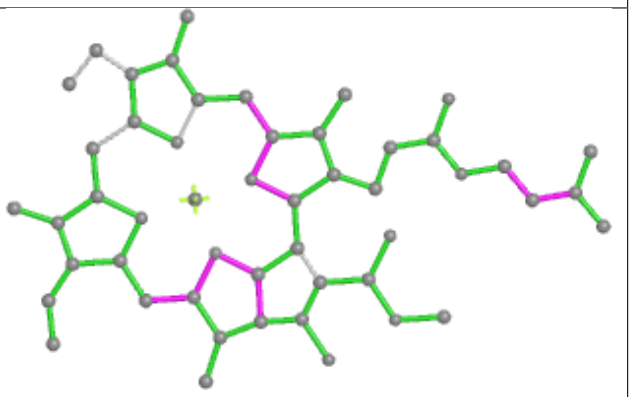
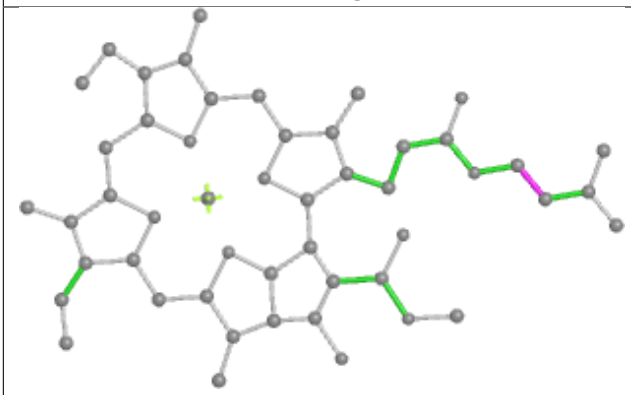
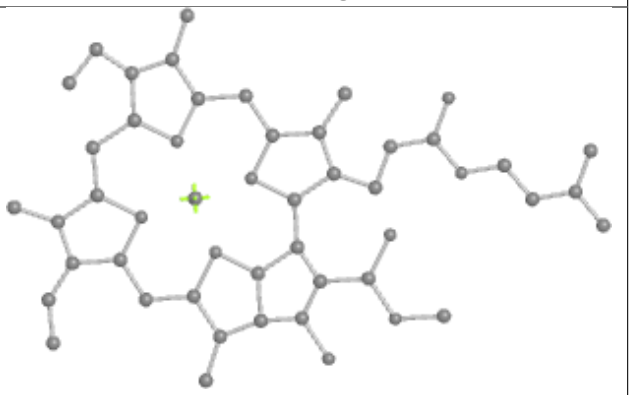
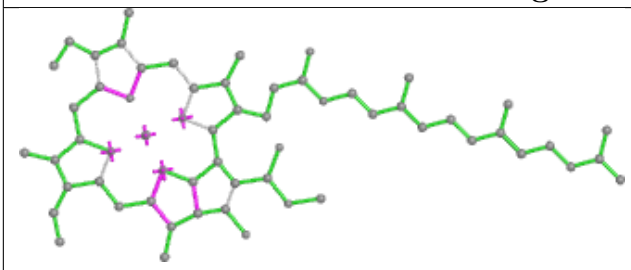
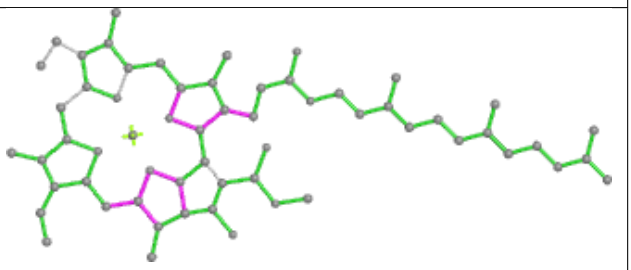
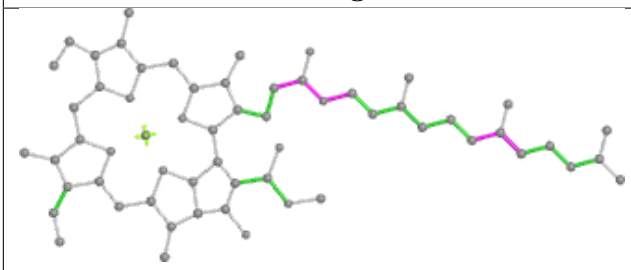
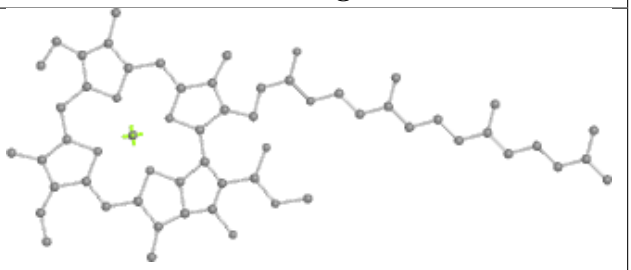


Rings

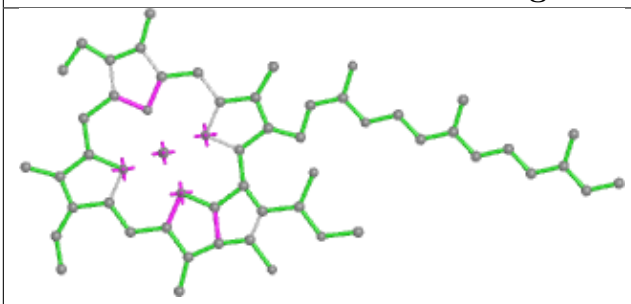
Ligand CLA j 308	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA B 821	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA e 305	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA f 309	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA c 306



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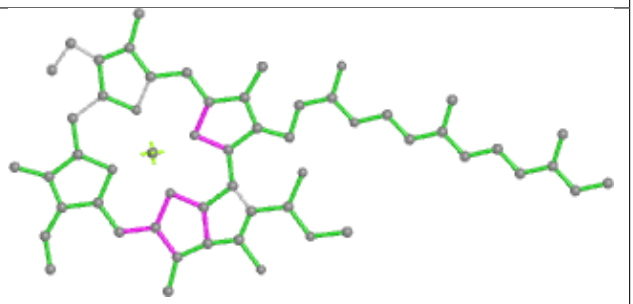

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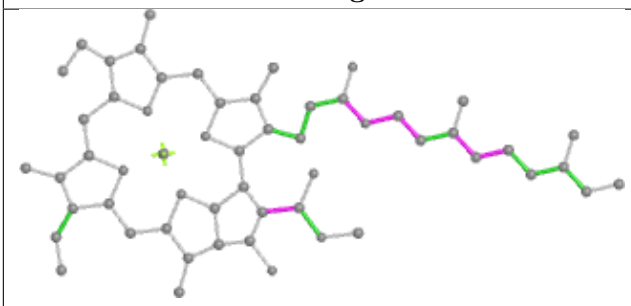

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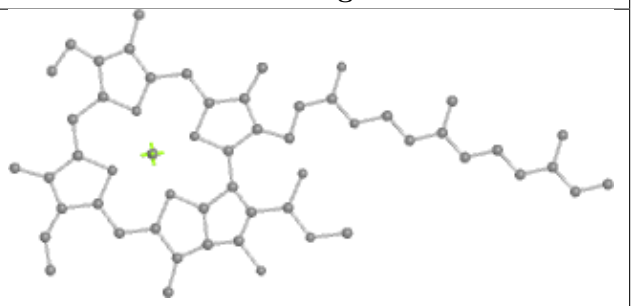
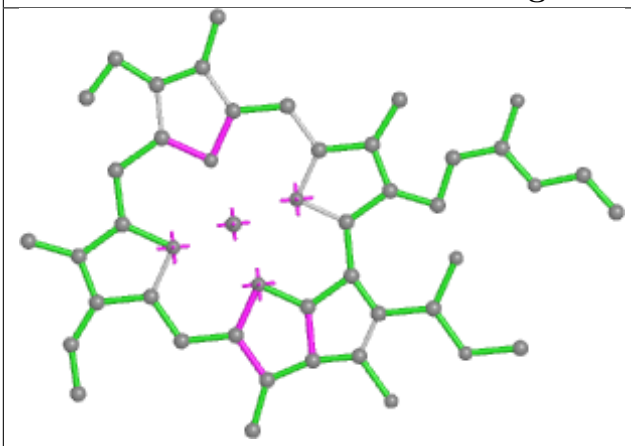


Rings

Ligand CLA o 310



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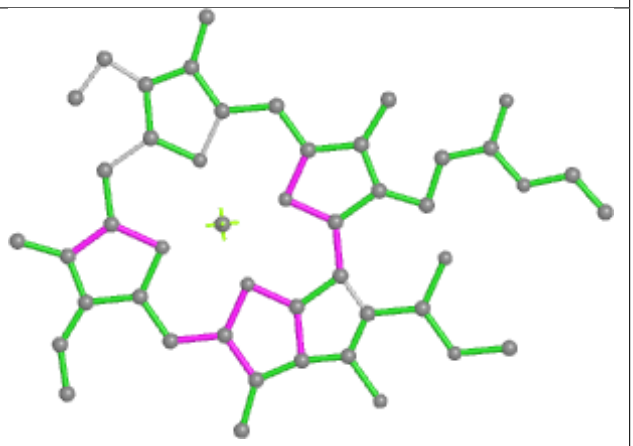

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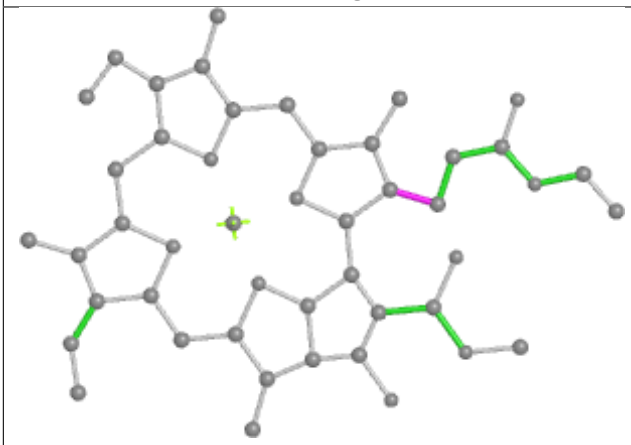

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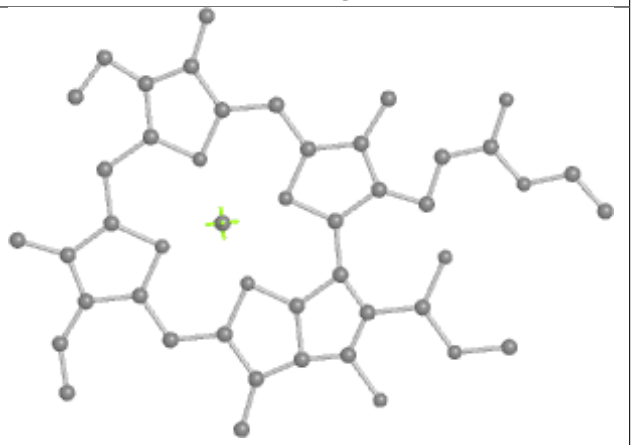
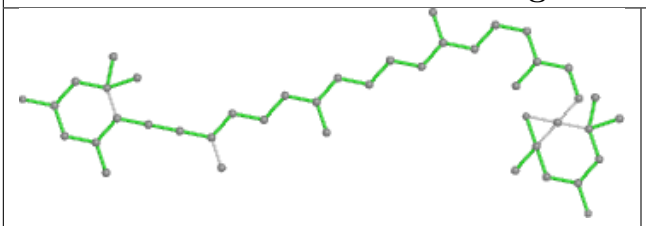


Rings

Ligand DD6 J 801



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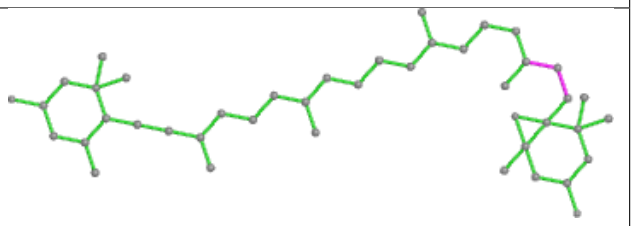

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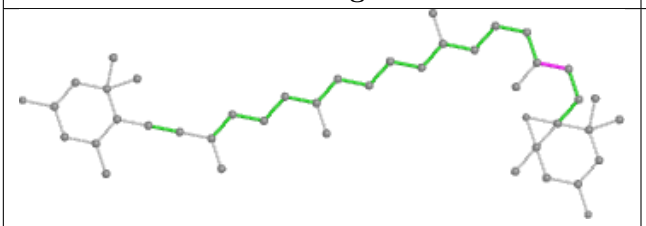

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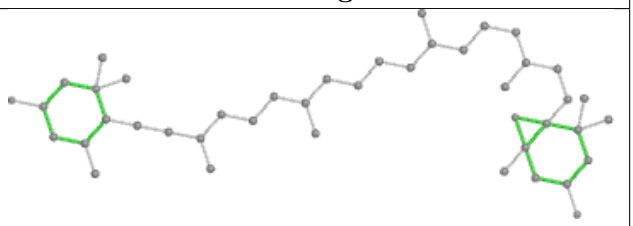
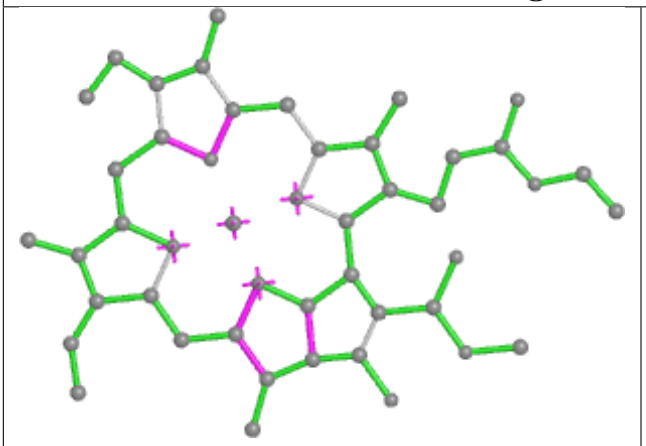


Rings

Ligand CLA d 207



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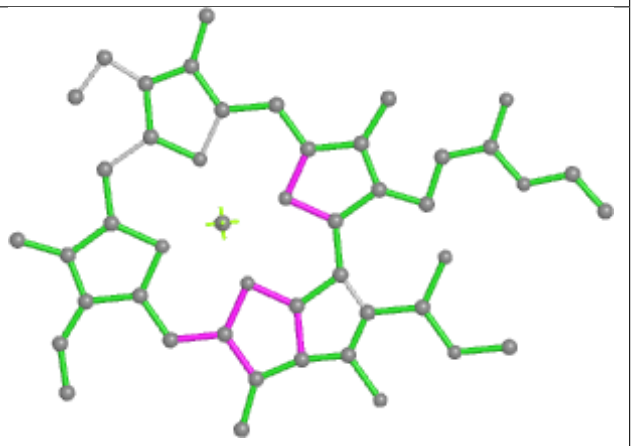

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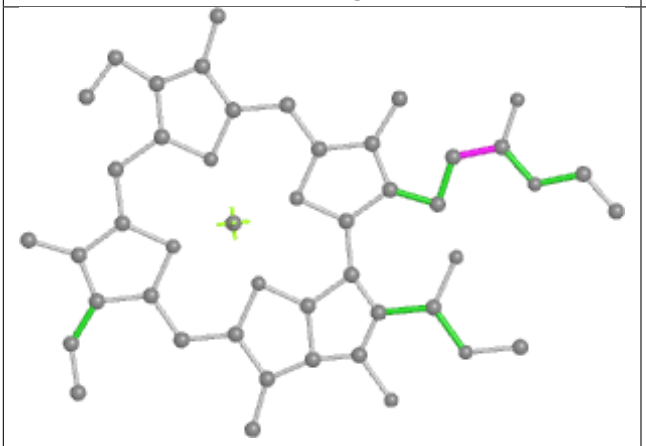

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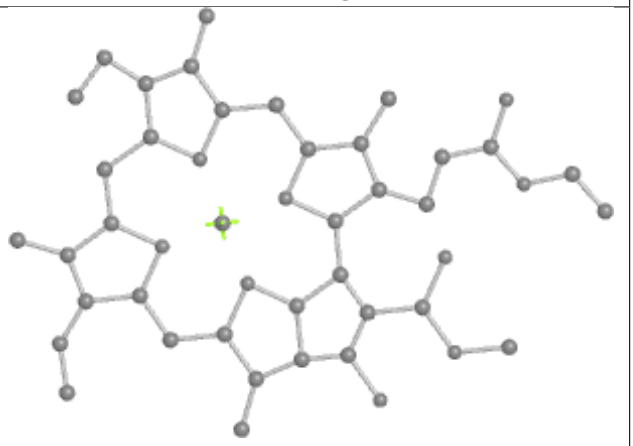
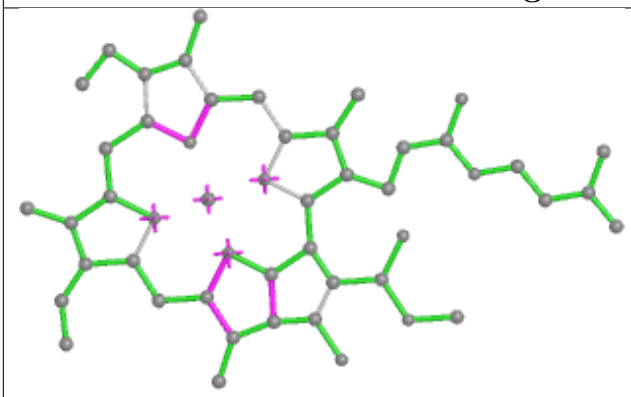


Rings

Ligand CLA A 826



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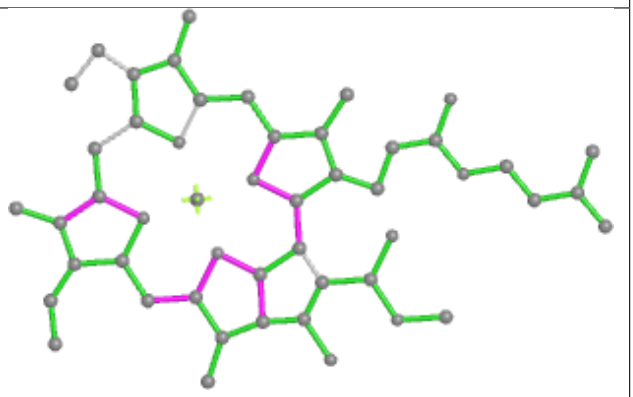

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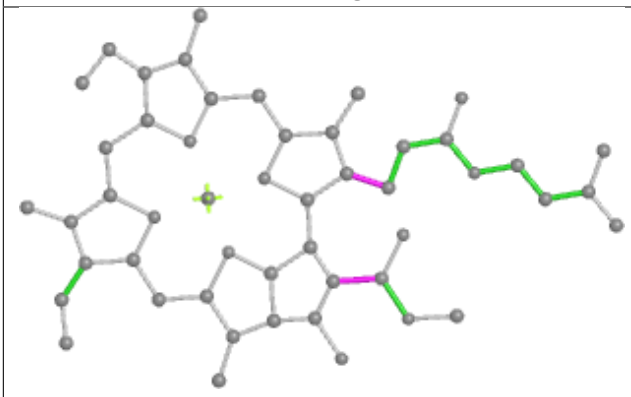

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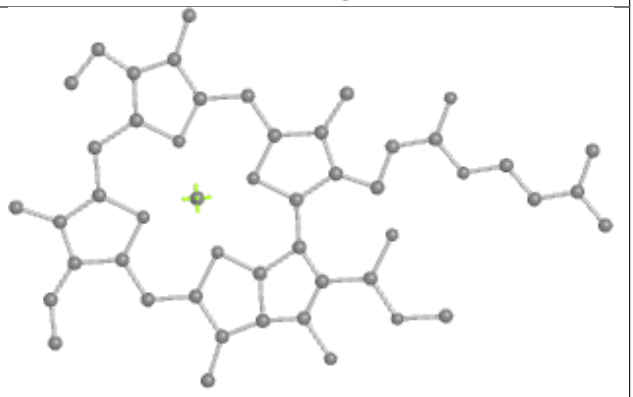
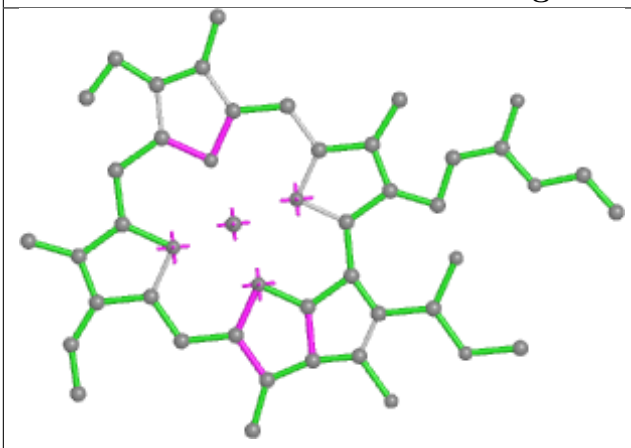


Rings

Ligand CLA i 303



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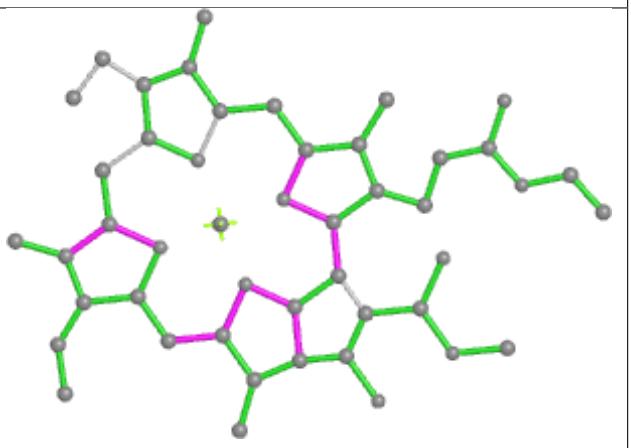

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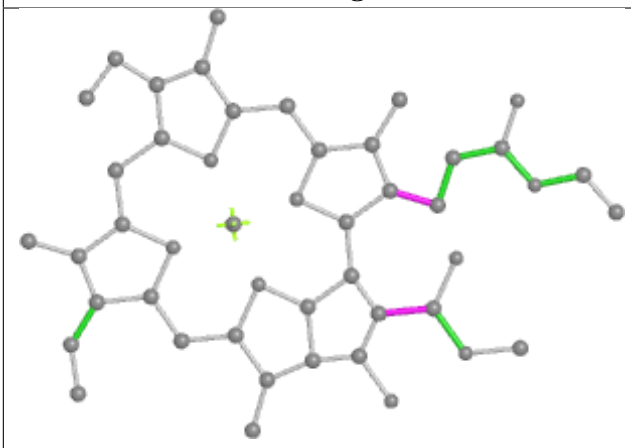

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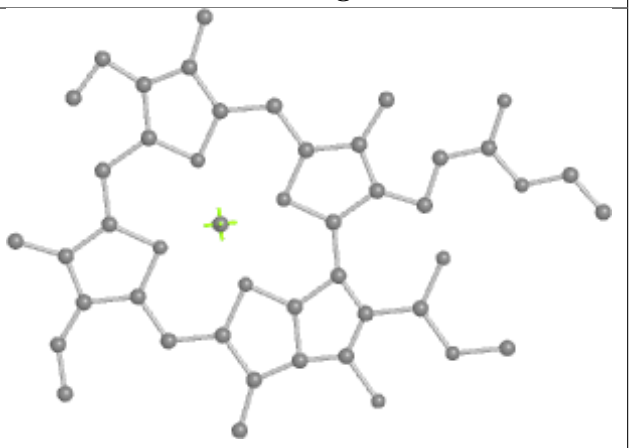
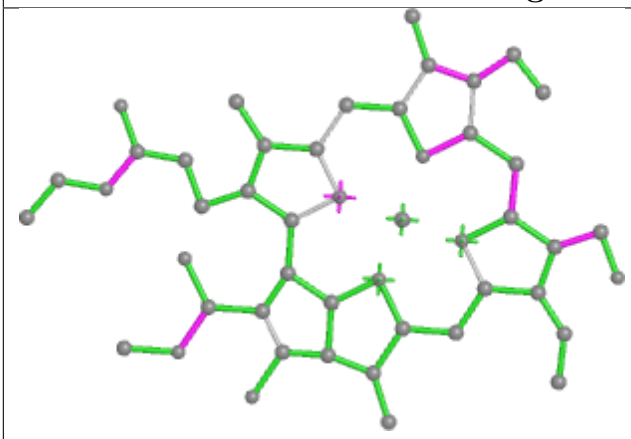


Rings

Ligand CHL d 202



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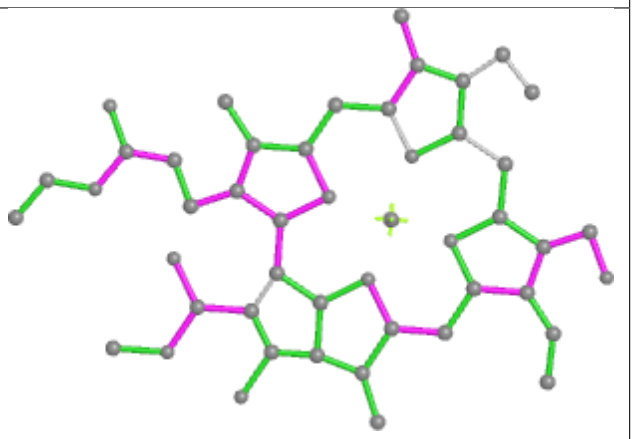
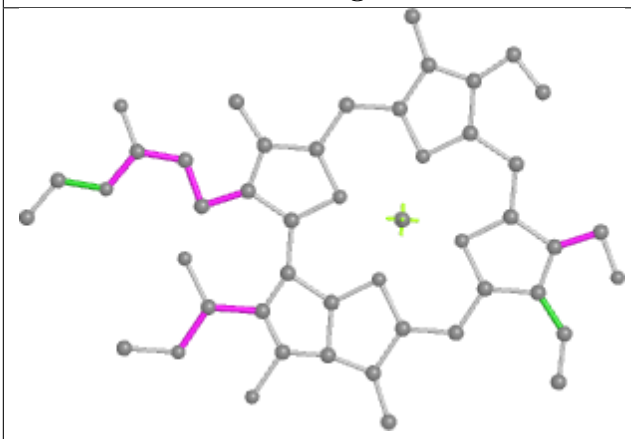


Bond angles



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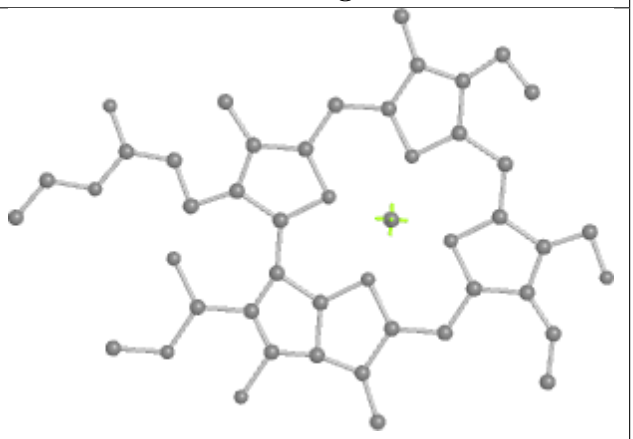
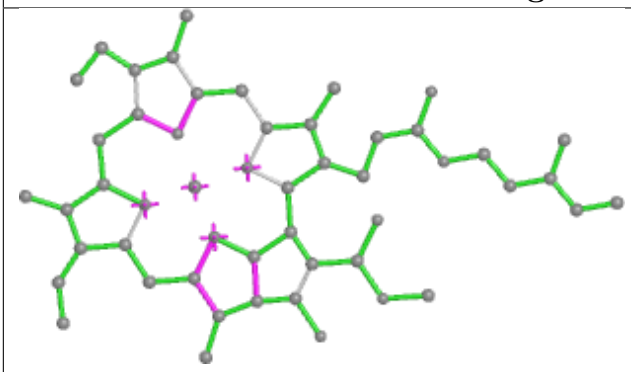


Rings

Ligand CLA h 211



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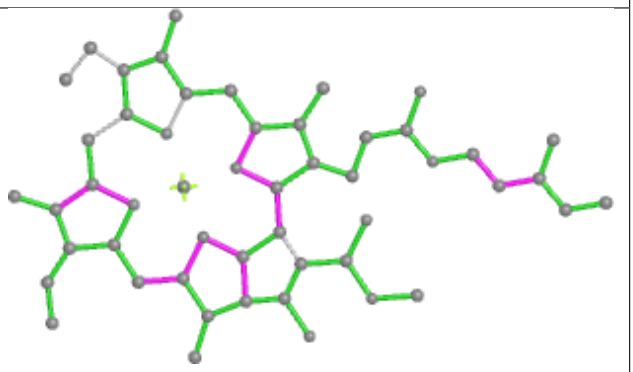

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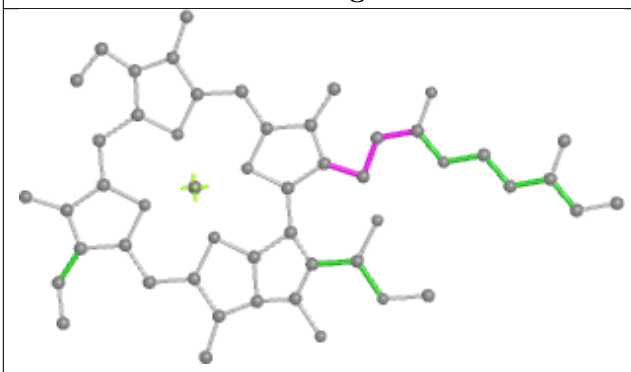

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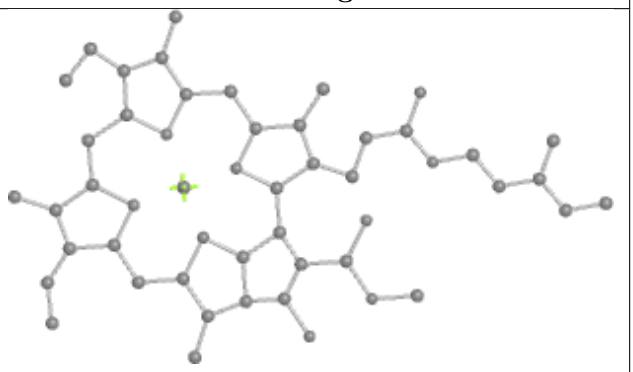
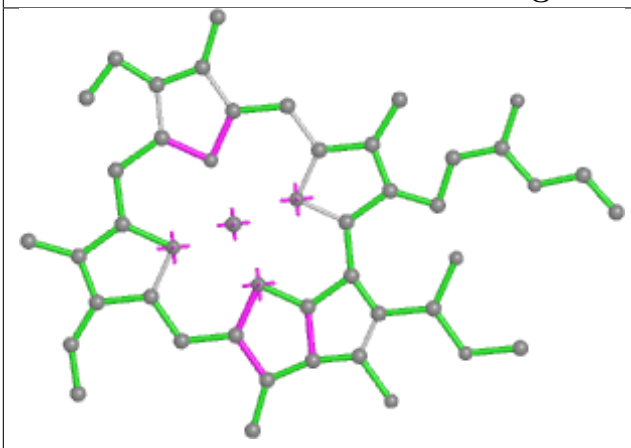


Rings

Ligand CLA i 312



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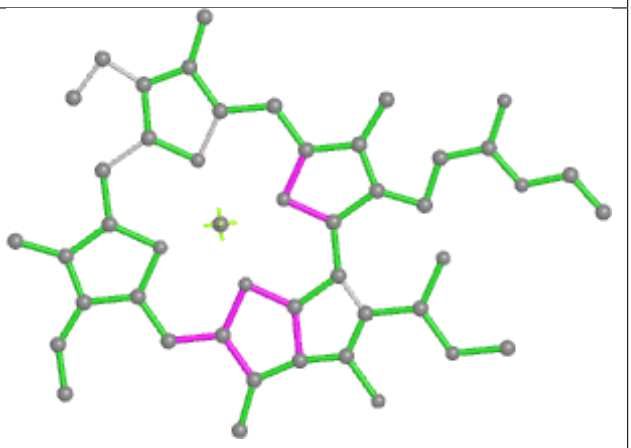
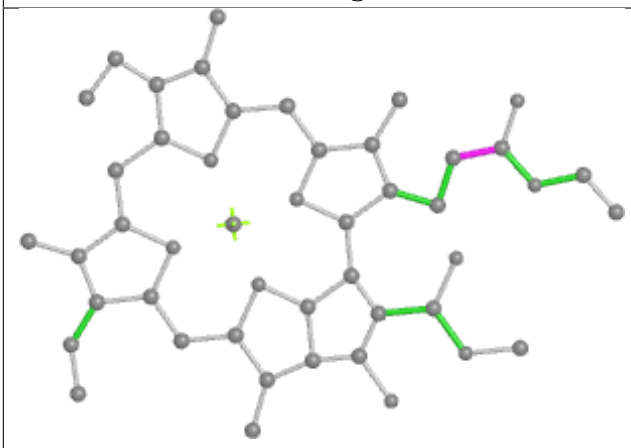


Bond angles



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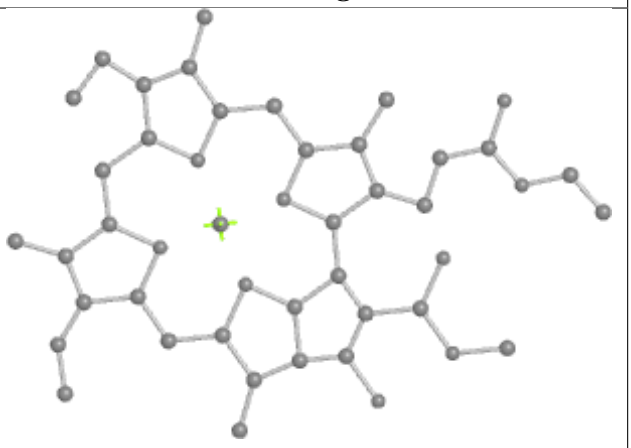
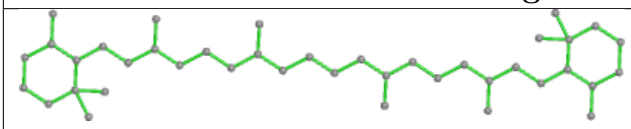


Rings

Ligand BCR B 826



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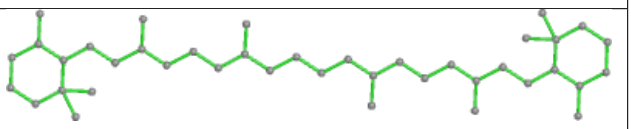

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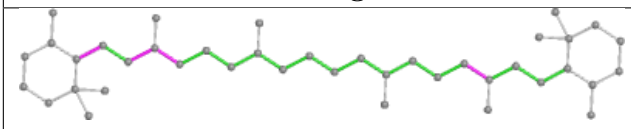

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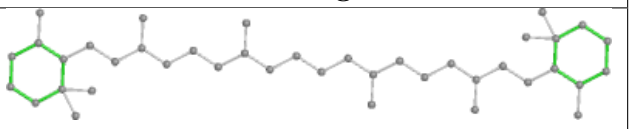
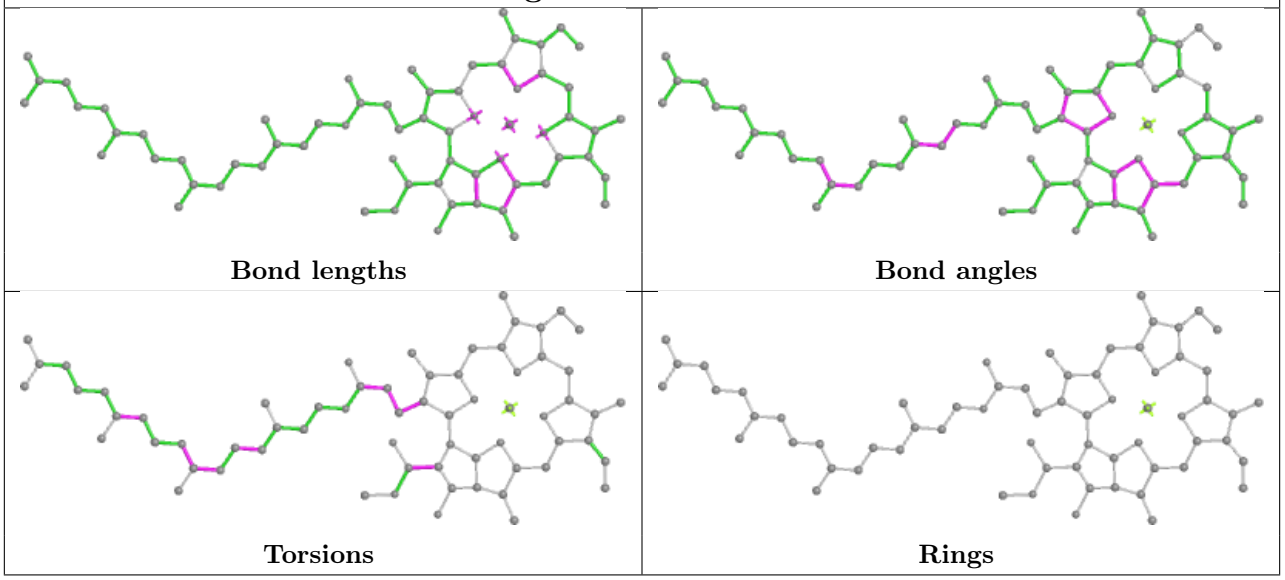
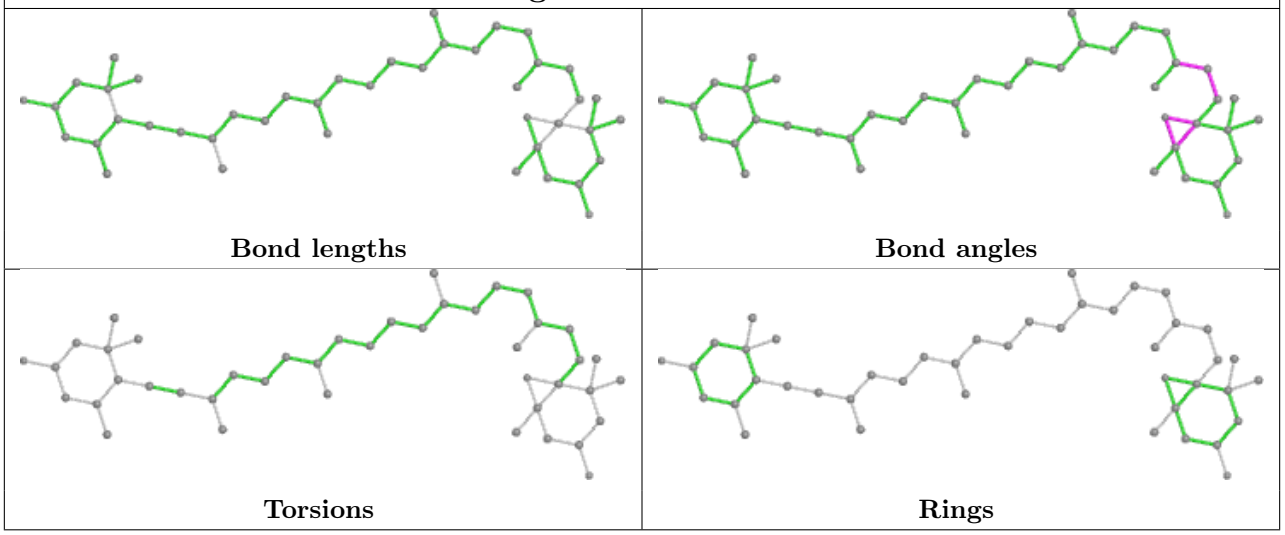


Rings

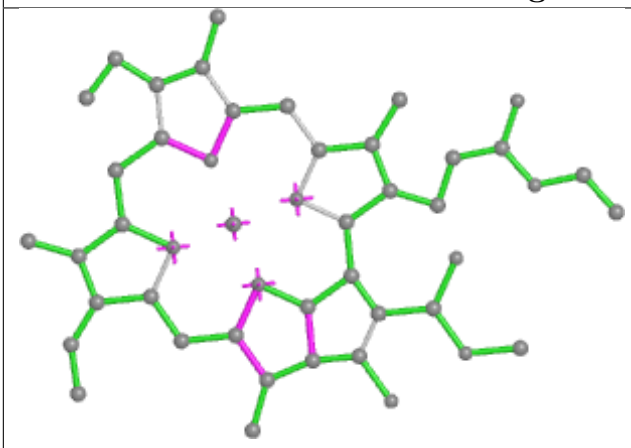
Ligand CLA A 843



Ligand DD6 h 214



Ligand CLA a 314



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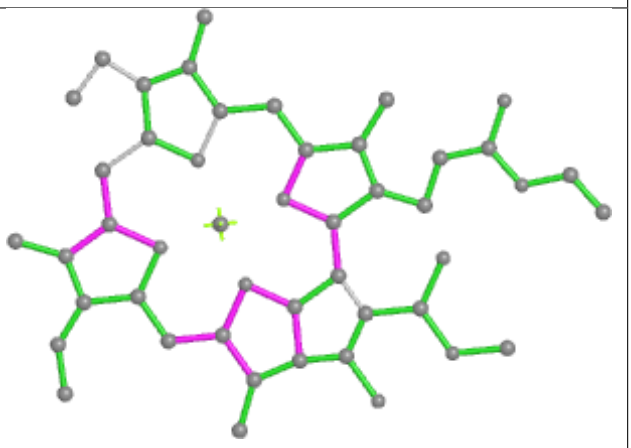
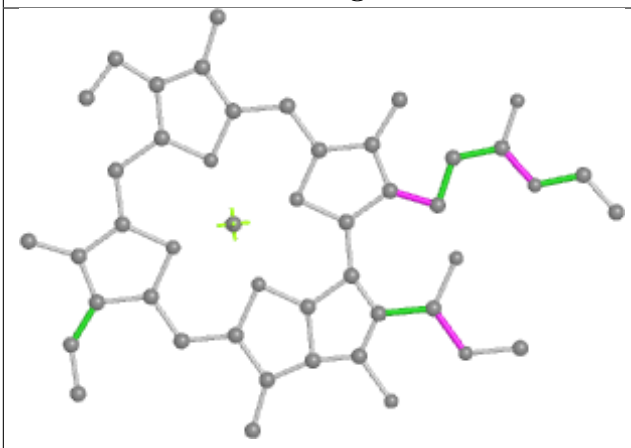


Bond angles



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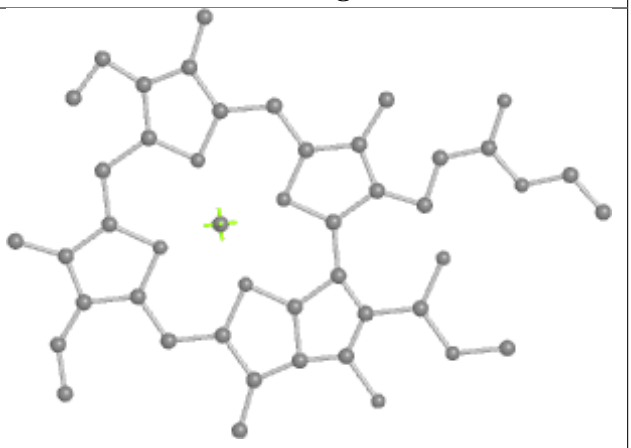
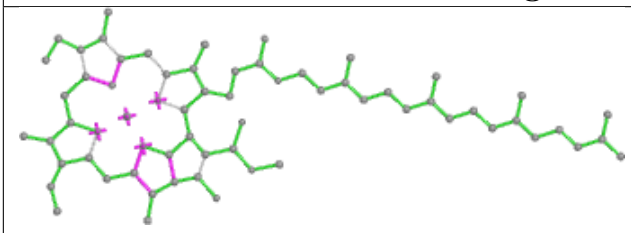


Rings

Ligand CLA A 841



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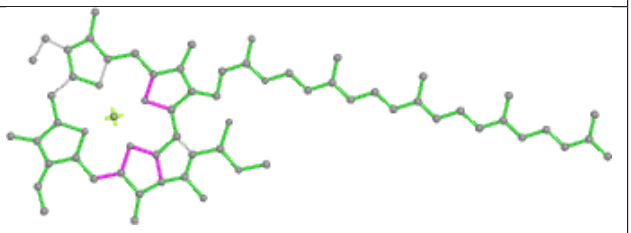
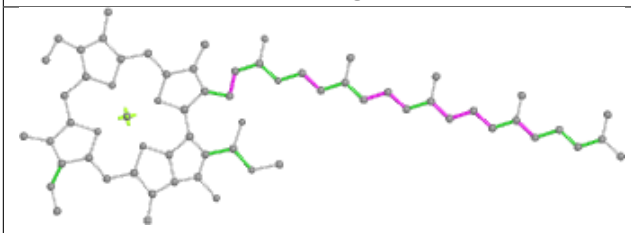


Bond angles



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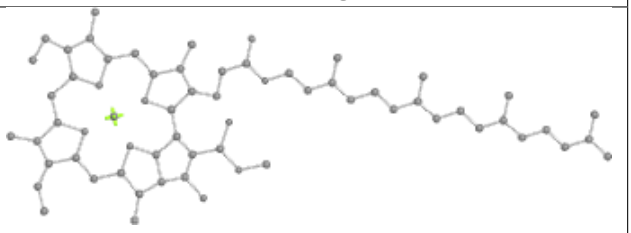
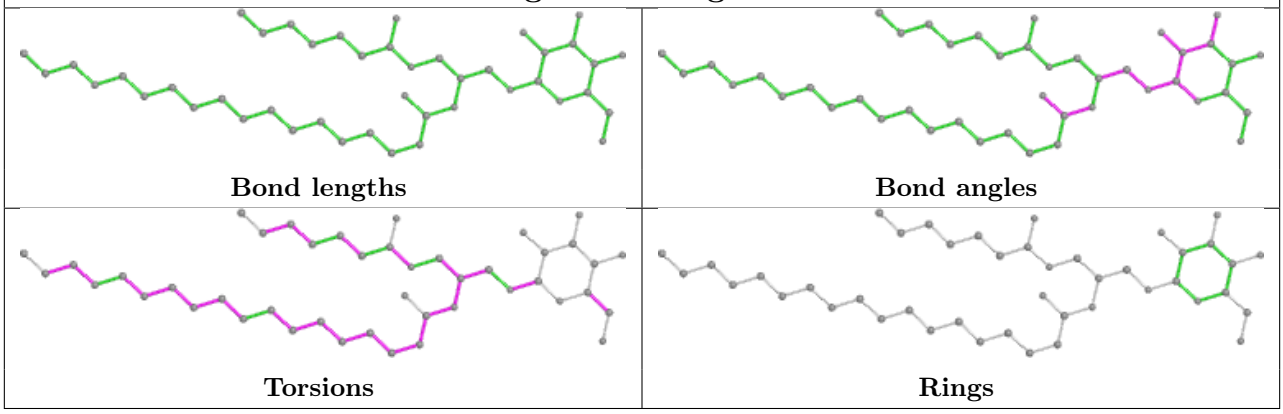
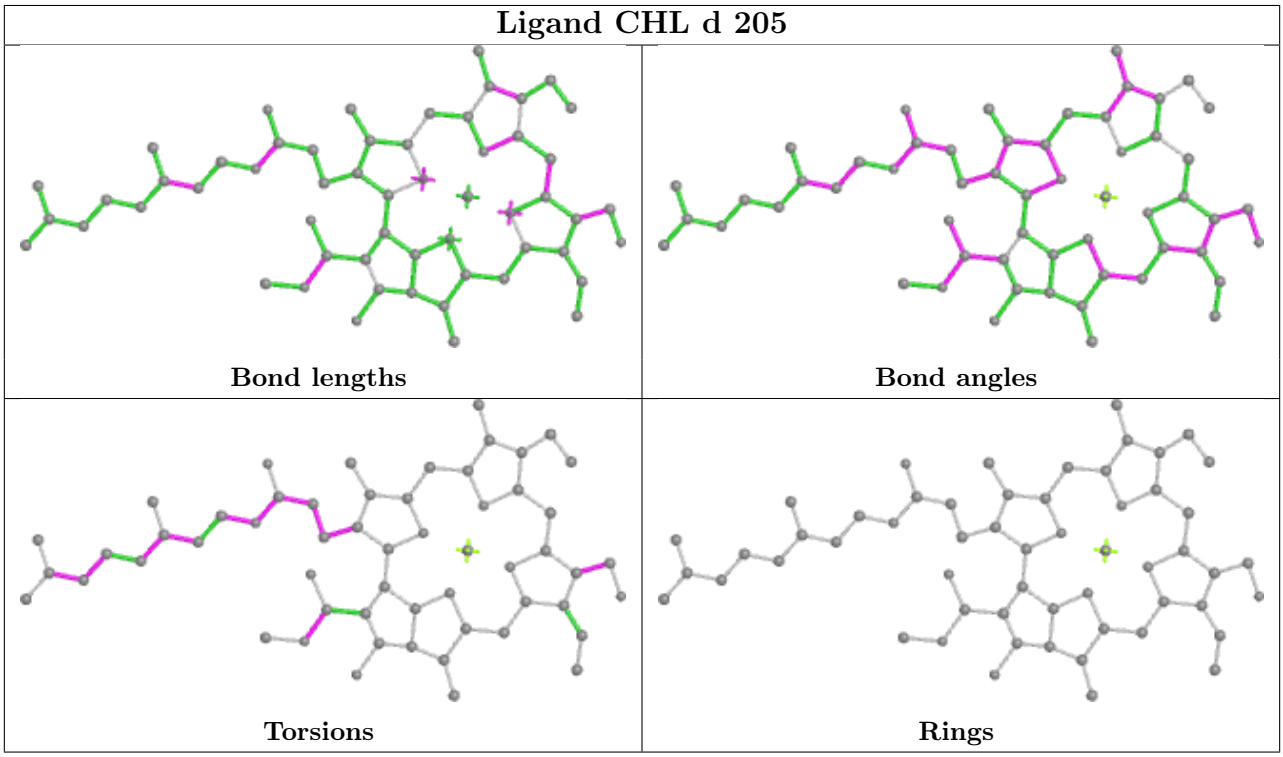


Rings

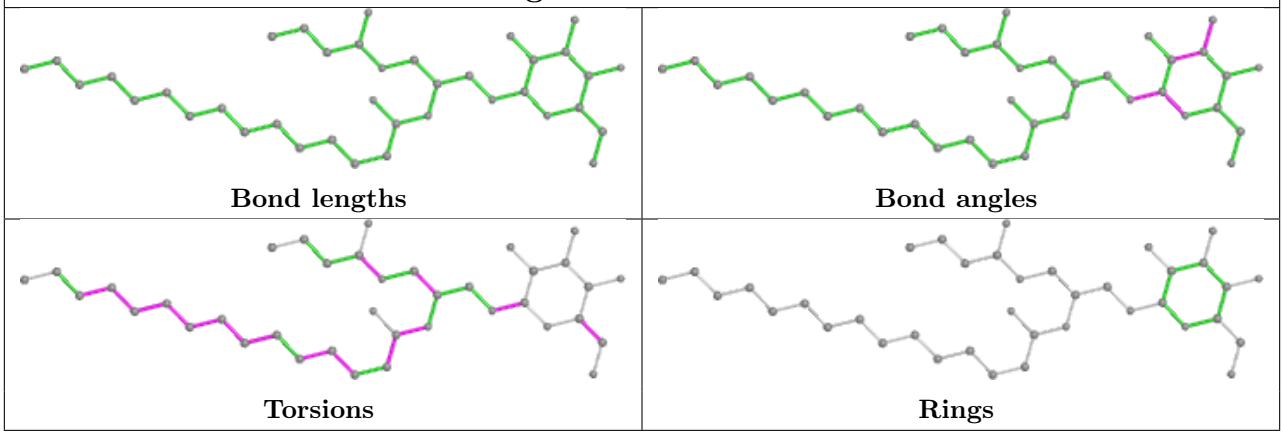
Ligand LMG g 316



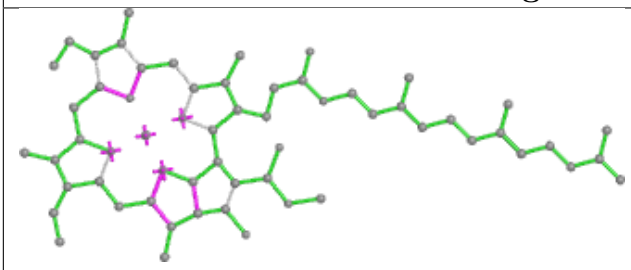
Ligand CHL d 205



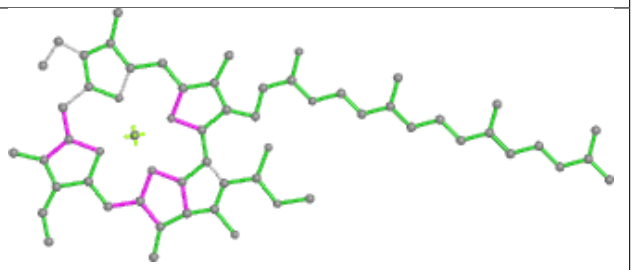
Ligand LMG c 320



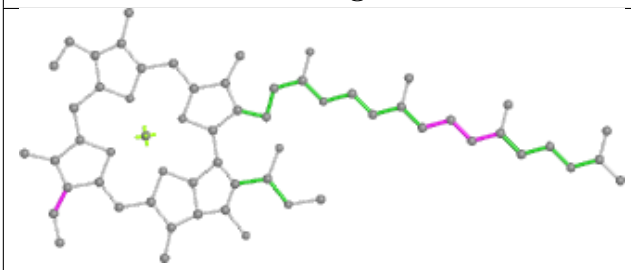
Ligand CLA m 305



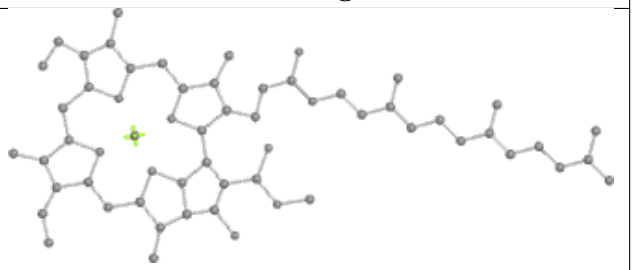
Bond lengths



Bond angles

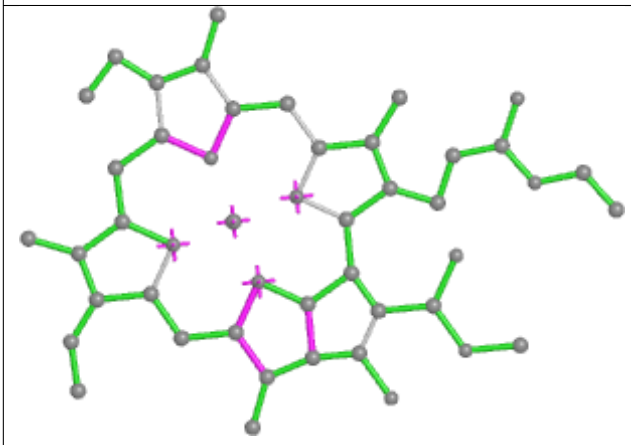


Torsions



Rings

Ligand CLA i 306



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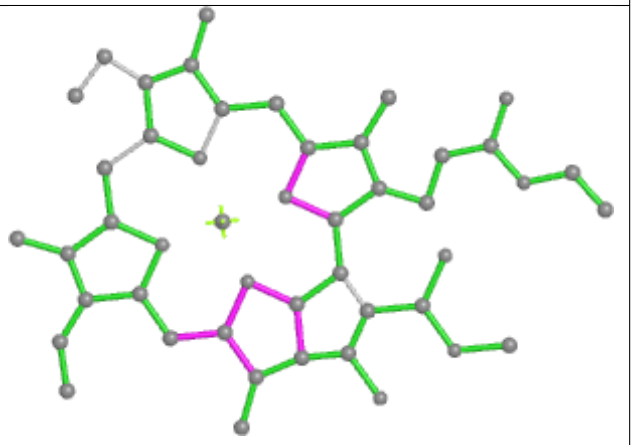
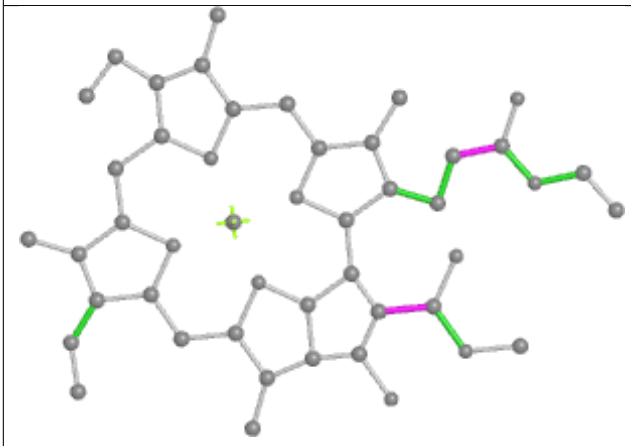
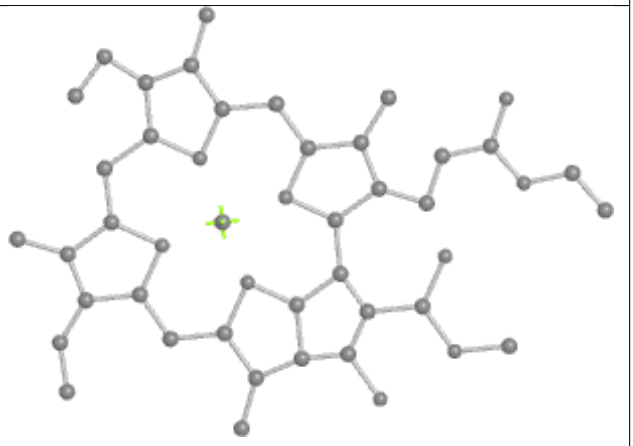


Bond angles

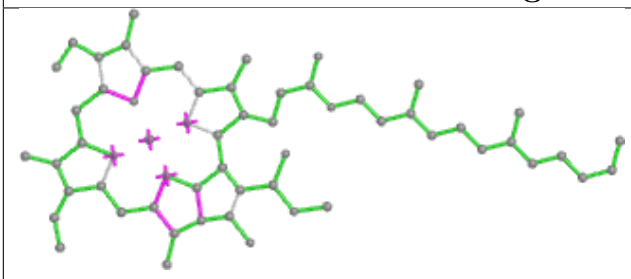


Torsions



Rings

Ligand CLA A 816



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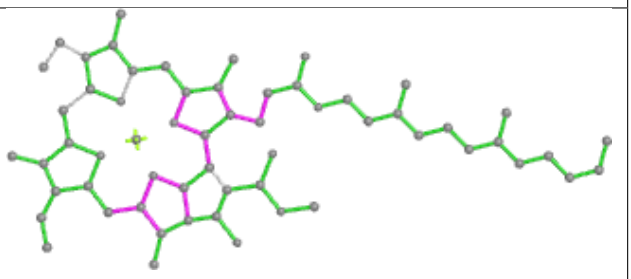
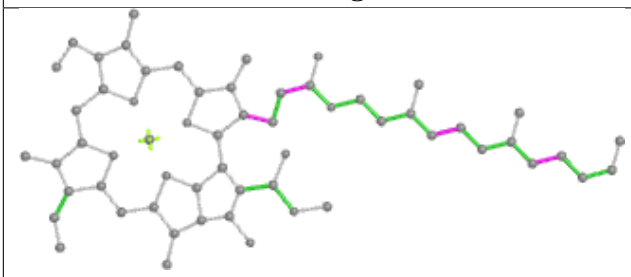


Bond angles



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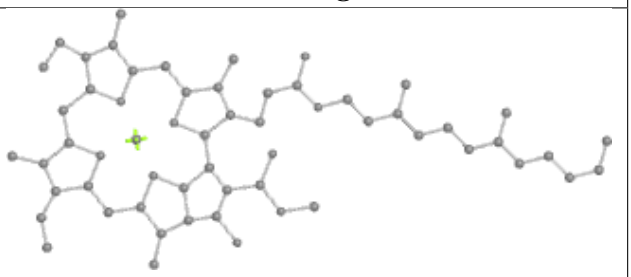
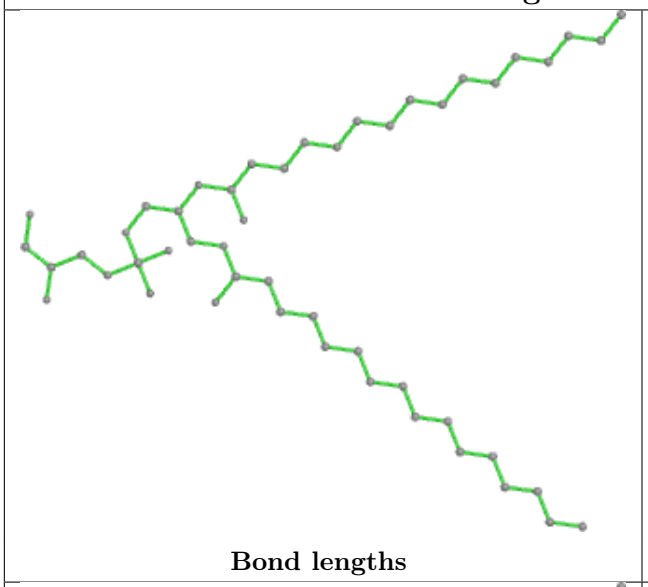


Rings

Ligand LHG A 831



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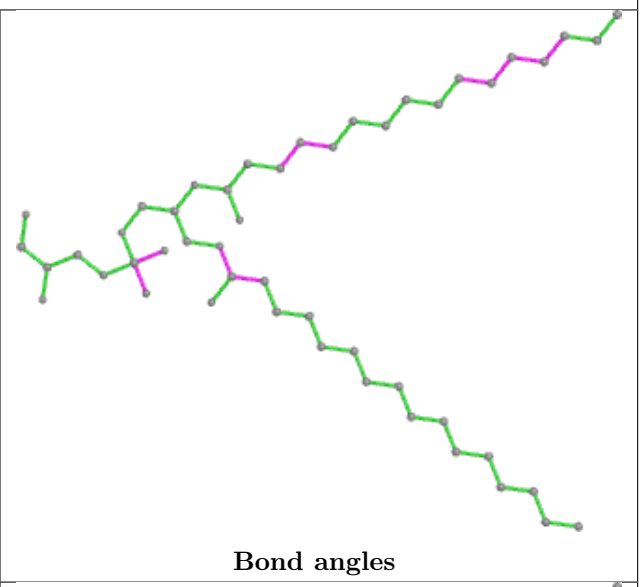
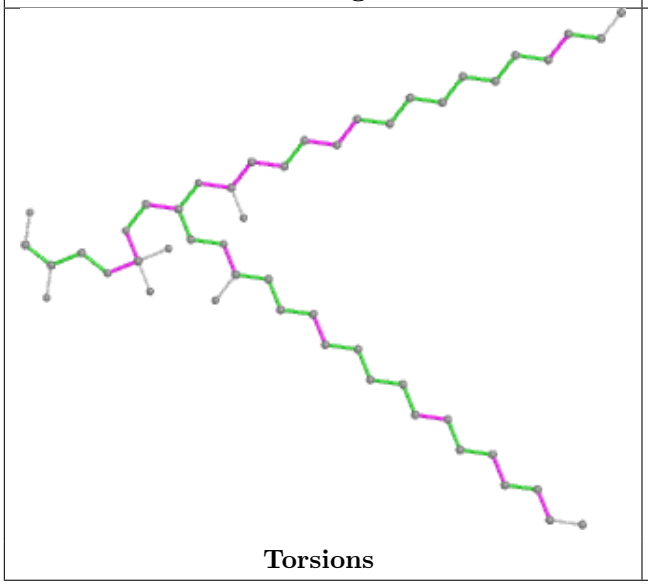
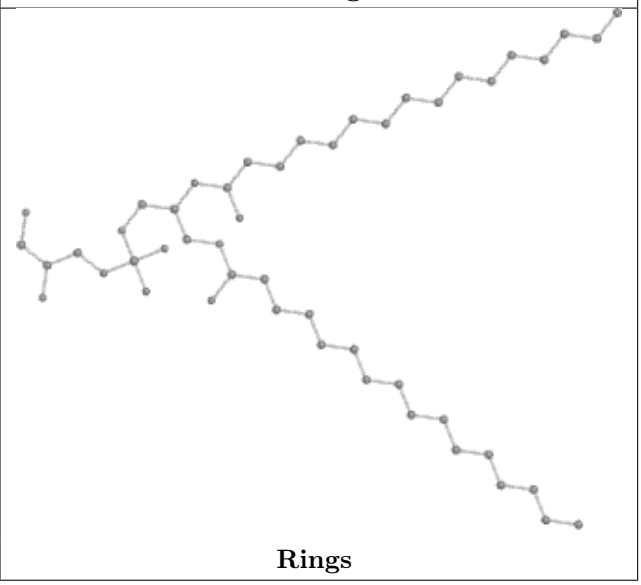


Bond angles

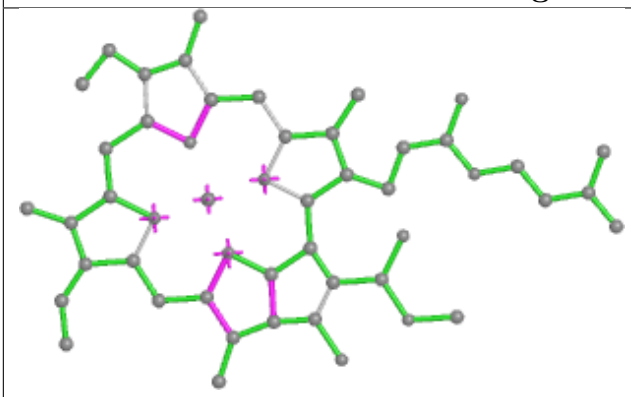


Torsions



Rings

Ligand CLA f 305



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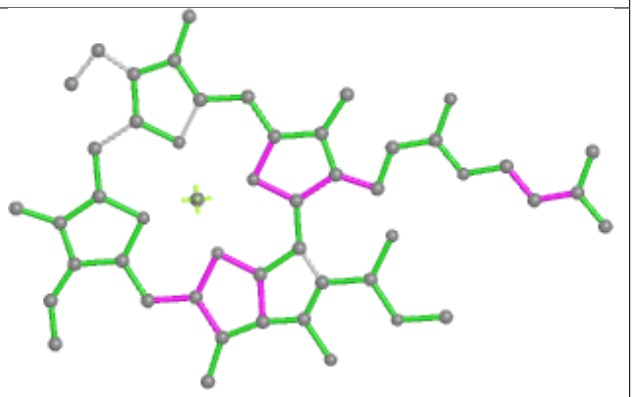
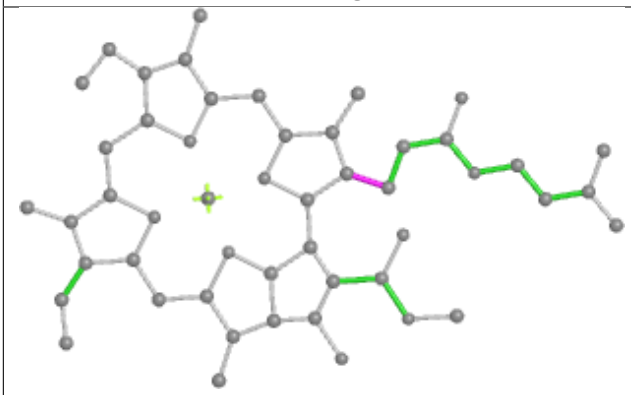
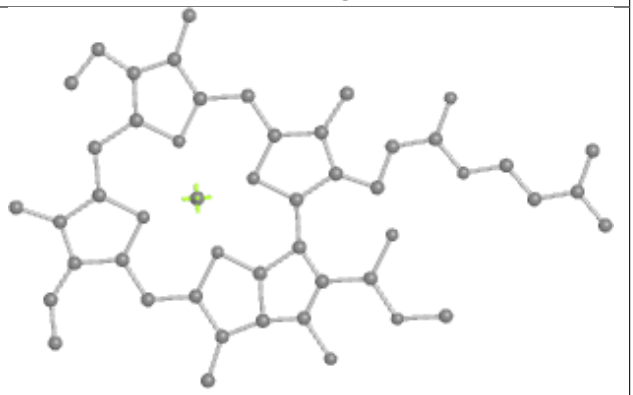


Bond angles

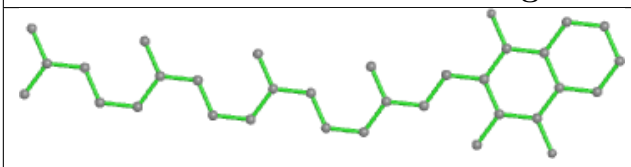


Torsions

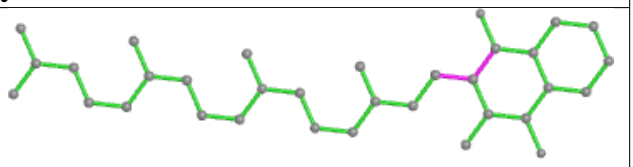


Rings

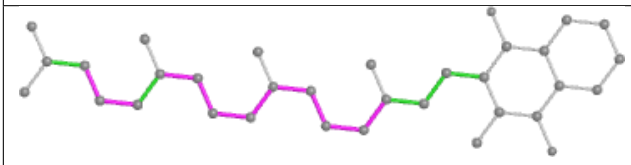
Ligand PQN A 830



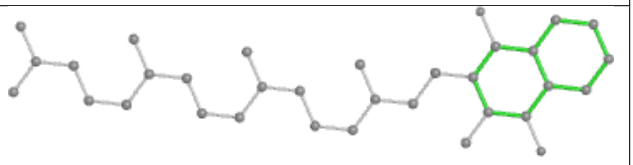
Bond lengths



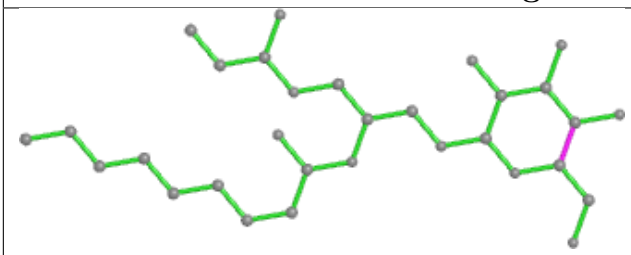
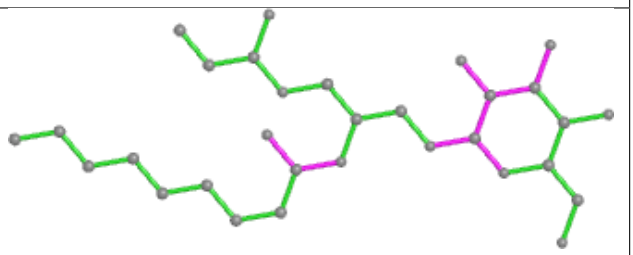
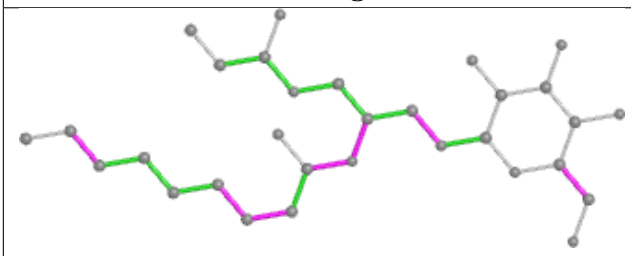
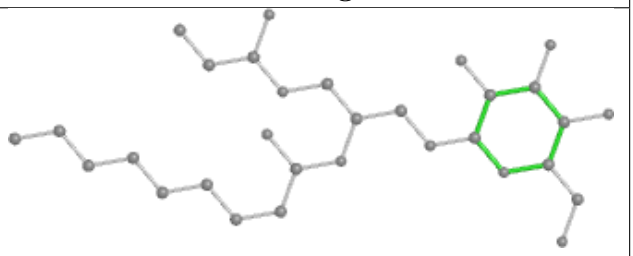
Bond angles

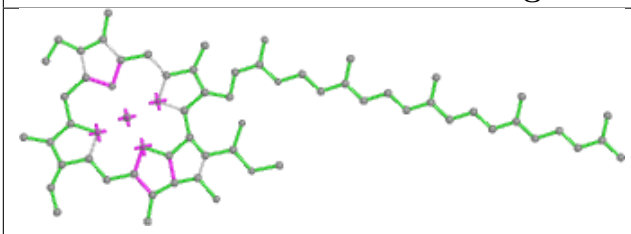
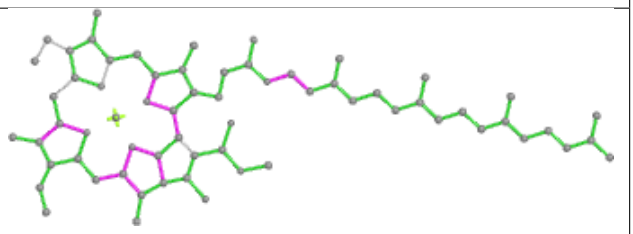
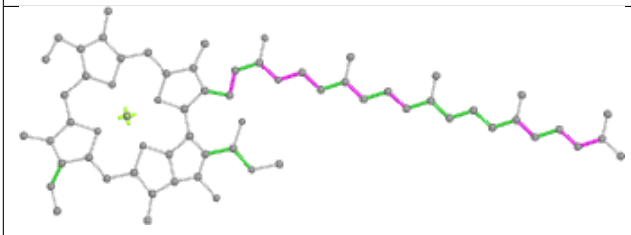
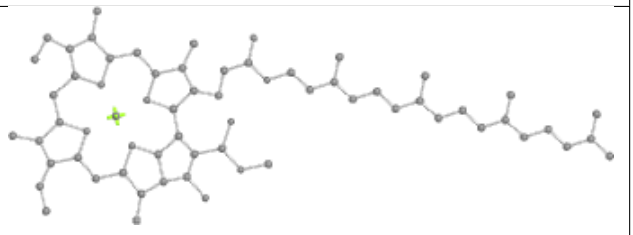


Torsions

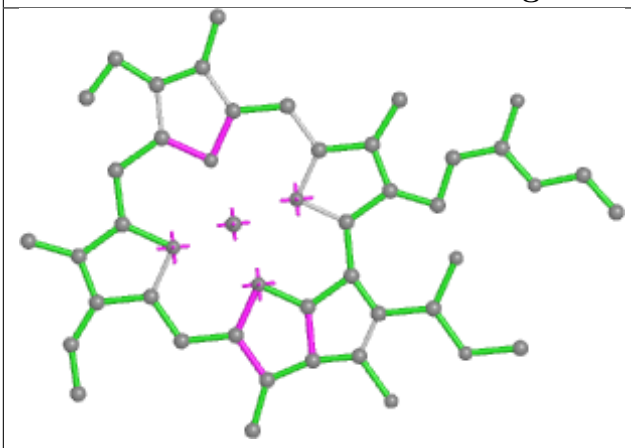


Rings

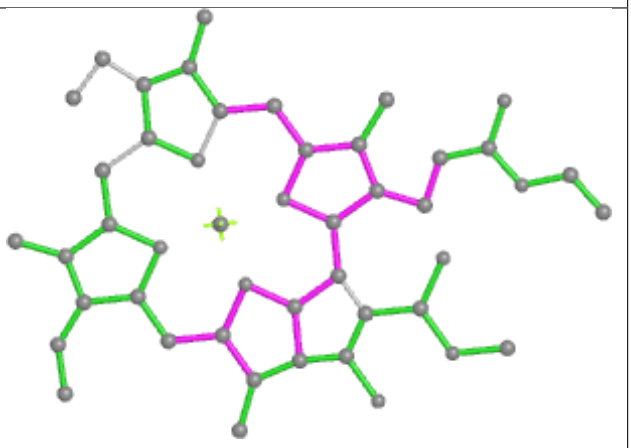
Ligand LMG d 213	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA A 822	
 Bond lengths	 Bond angles
 Torsions	 Rings

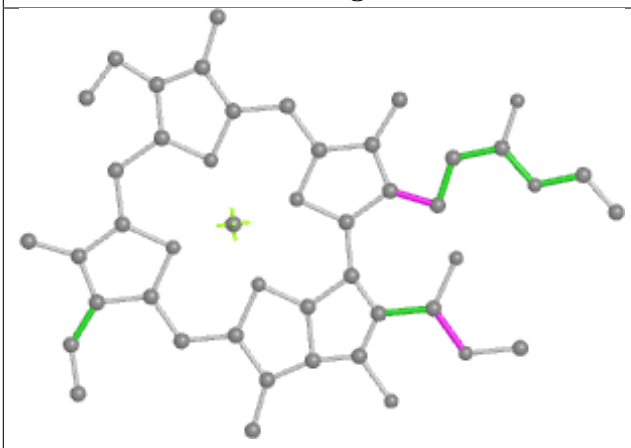
Ligand CLA m 304



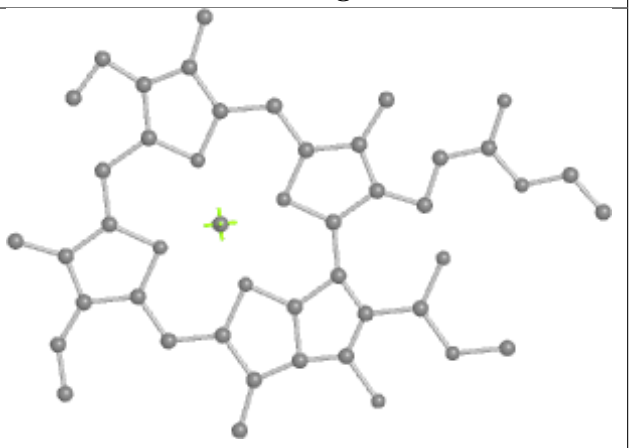
Bond lengths



Bond angles

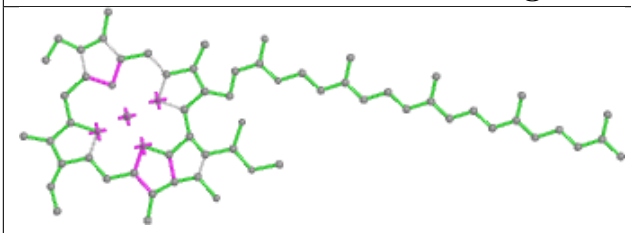


Torsions



Rings

Ligand CLA A 806



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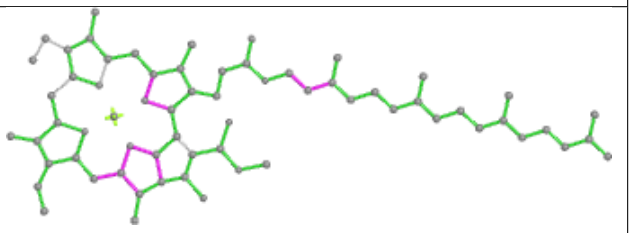
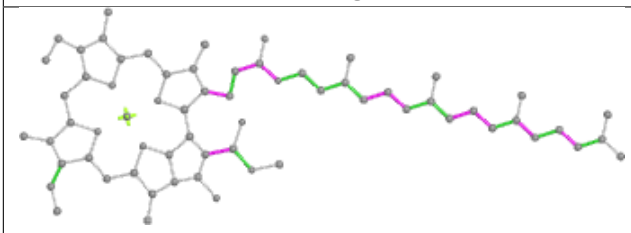


Bond angles



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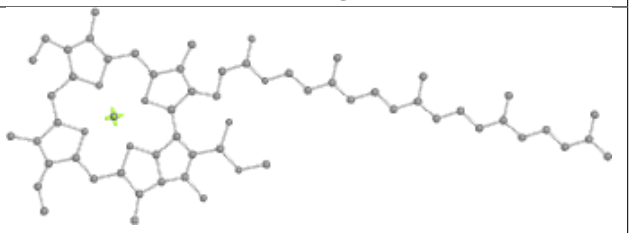
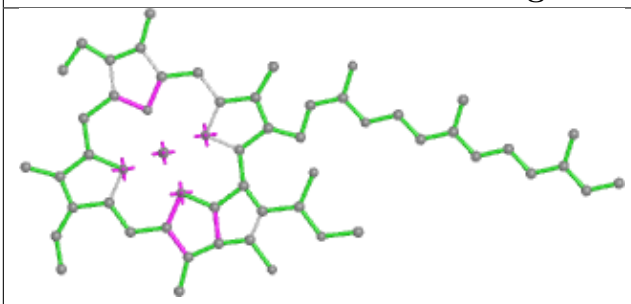
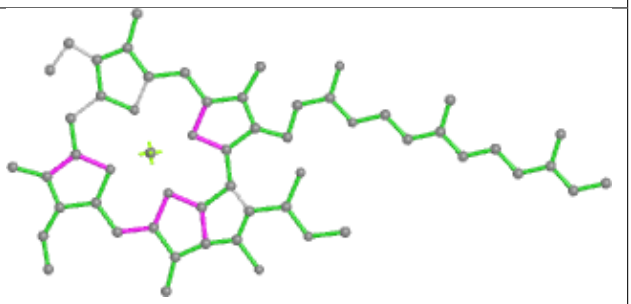


Rings

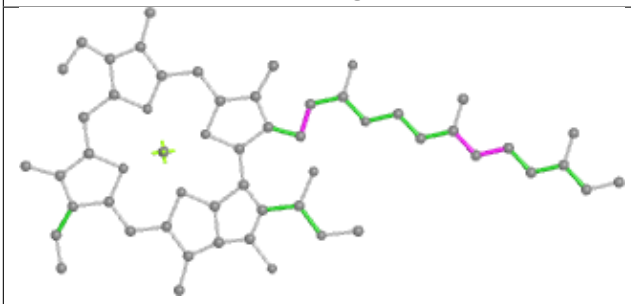
Ligand CLA d 209



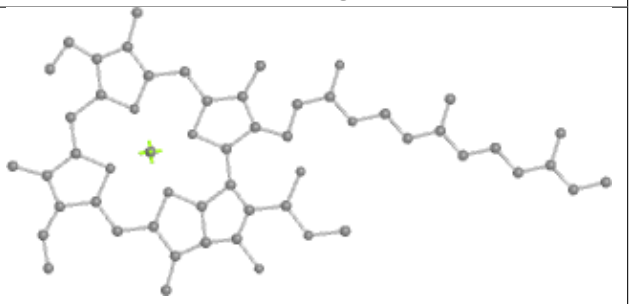
Bond lengths



Bond angles

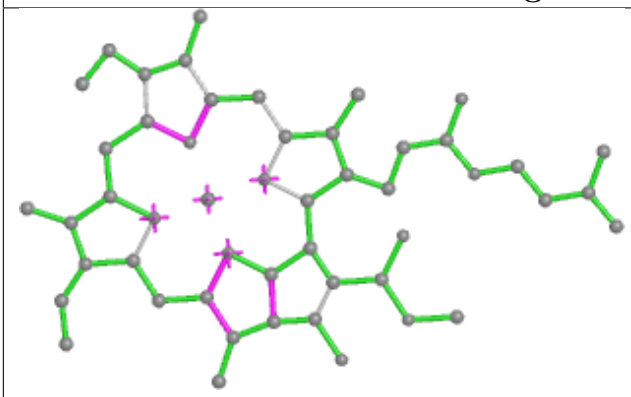


Torsions

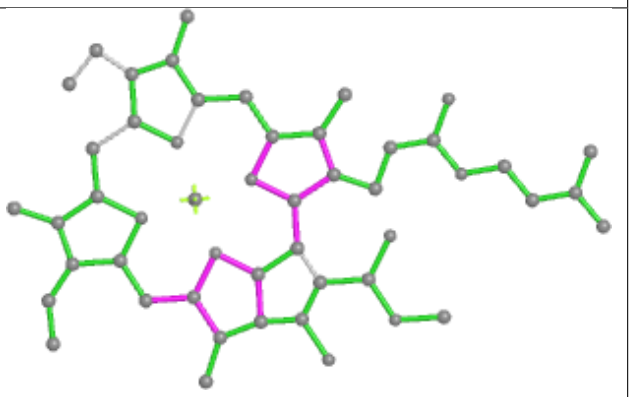


Rings

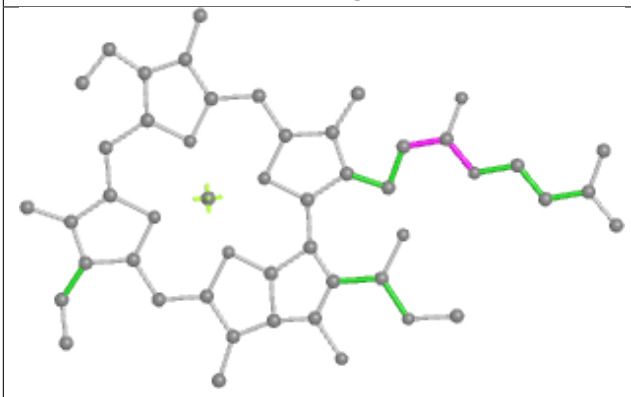
Ligand CLA B 838



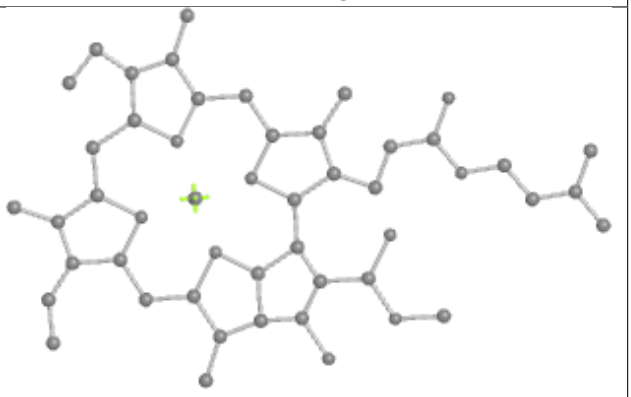
Bond lengths



Bond angles

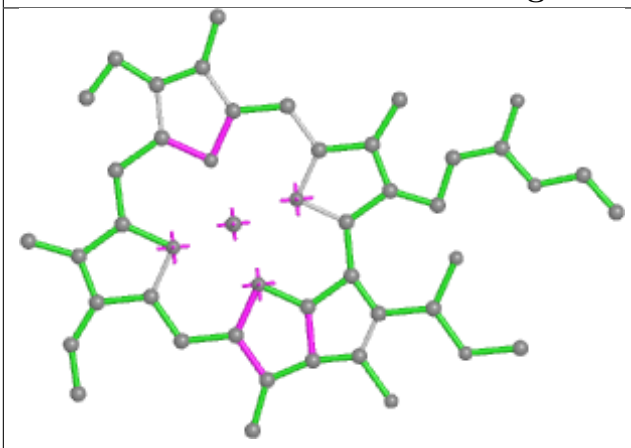


Torsions

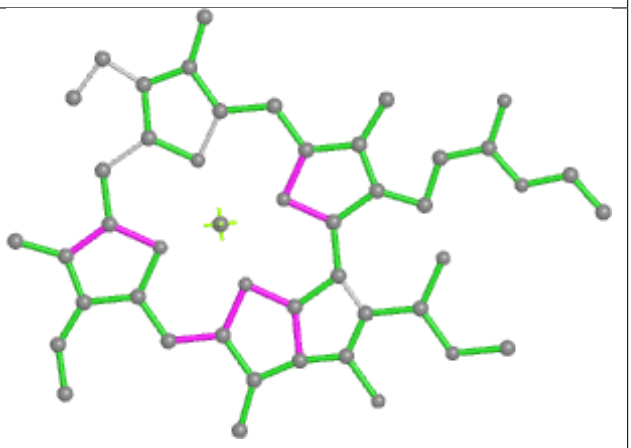


Rings

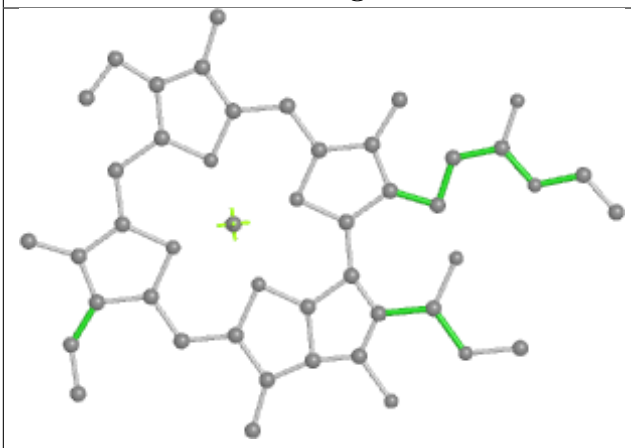
Ligand CLA d 201



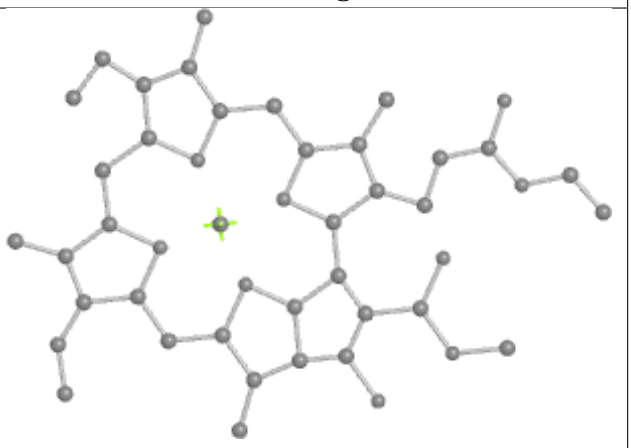
Bond lengths



Bond angles

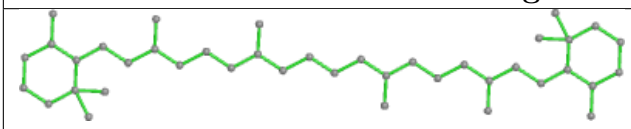


Torsions

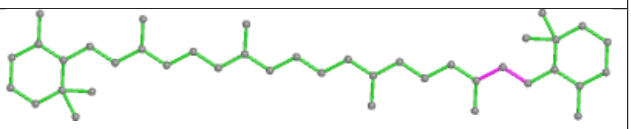


Rings

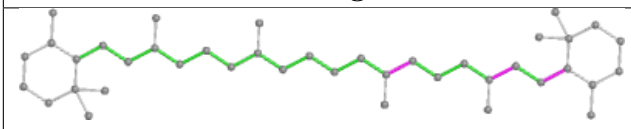
Ligand BCR B 850



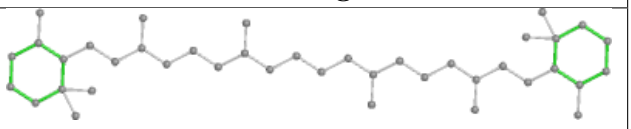
Bond lengths



Bond angles

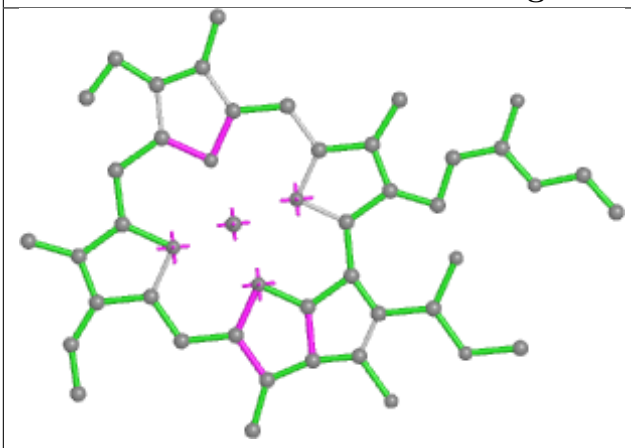


Torsions

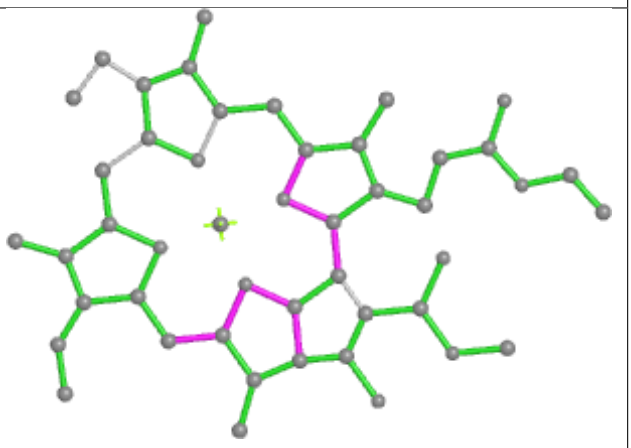


Rings

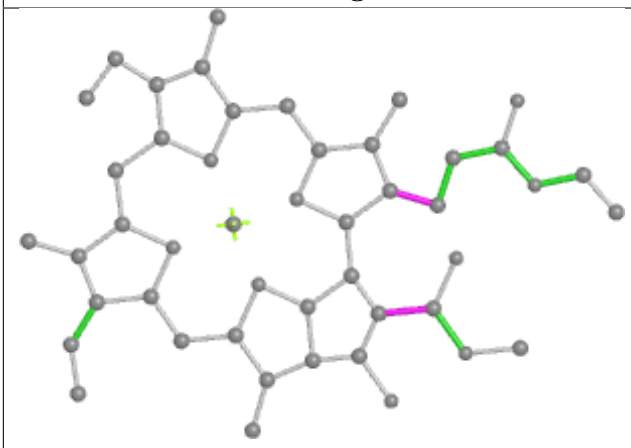
Ligand CLA h 207



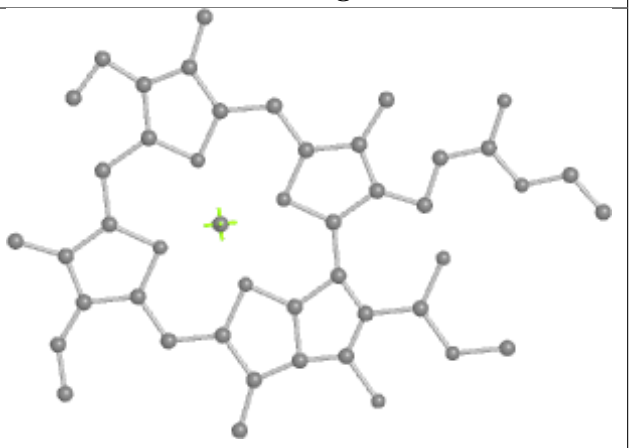
Bond lengths



Bond angles

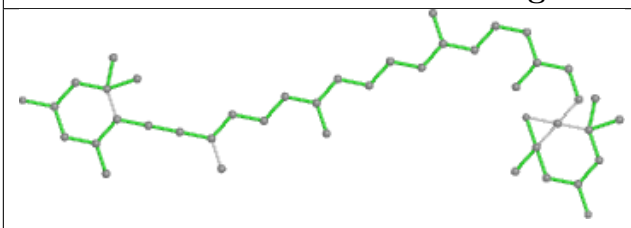


Torsions

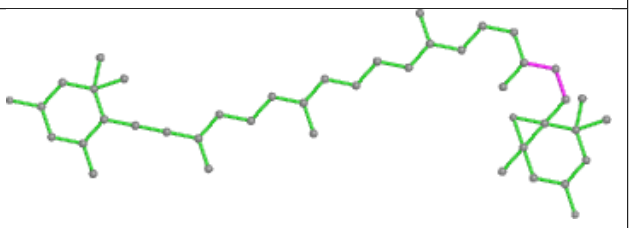


Rings

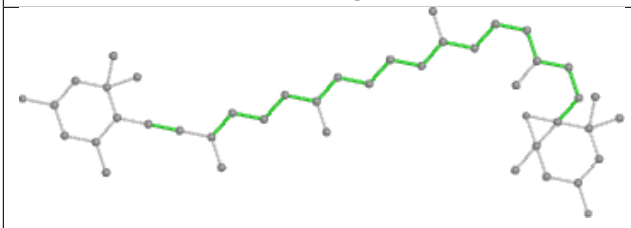
Ligand DD6 b 318



Bond lengths



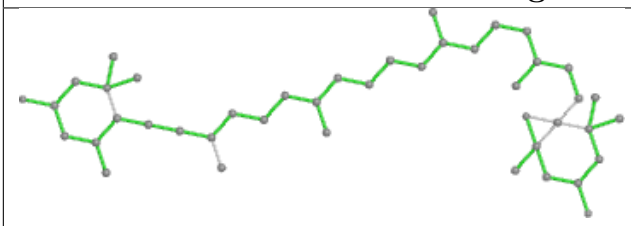
Bond angles



Torsions

Rings

Ligand DD6 n 211



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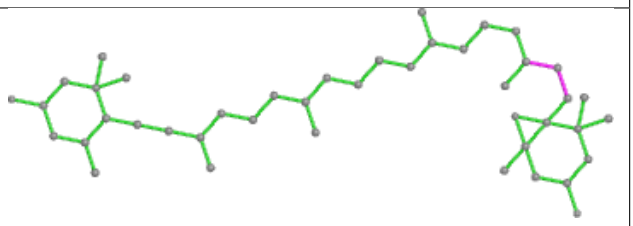
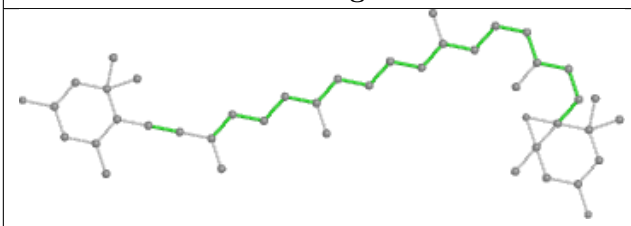
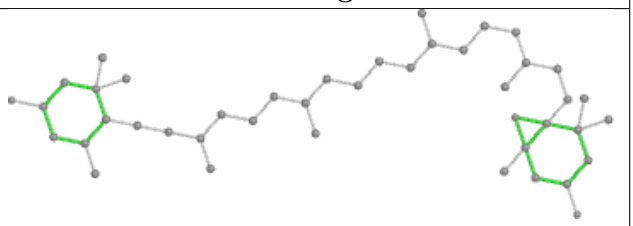


Bond angles

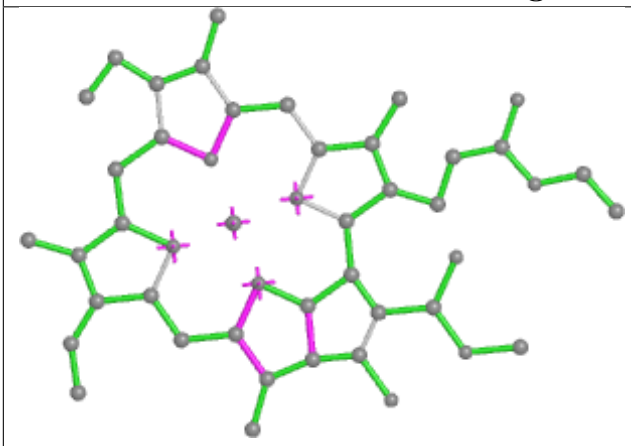


Torsions

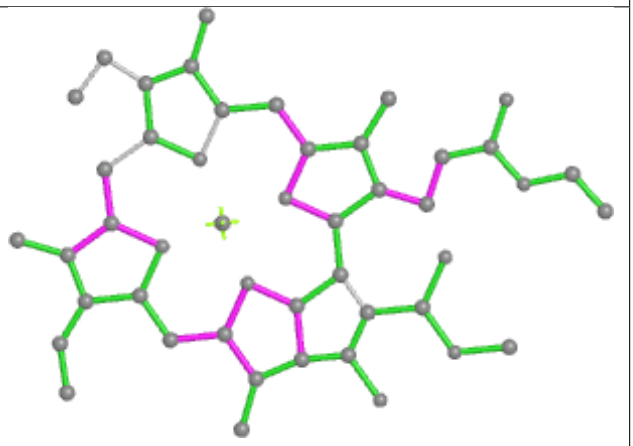


Rings

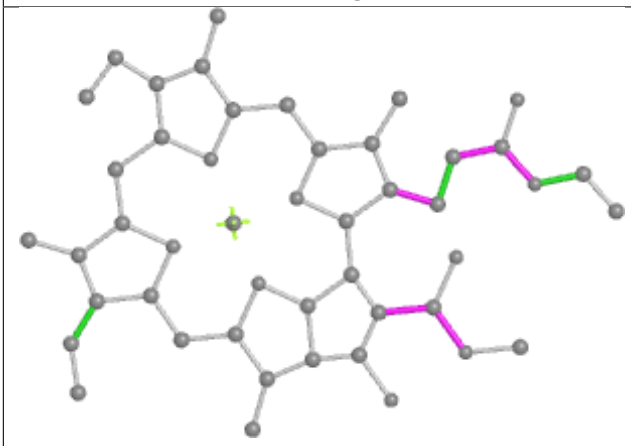
Ligand CLA n 208



Bond lengths



Bond angles



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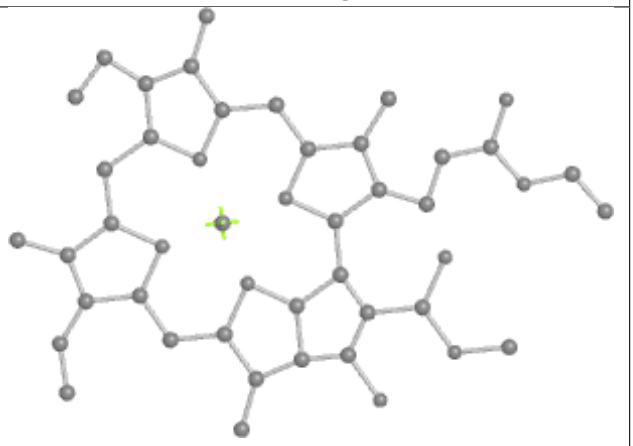
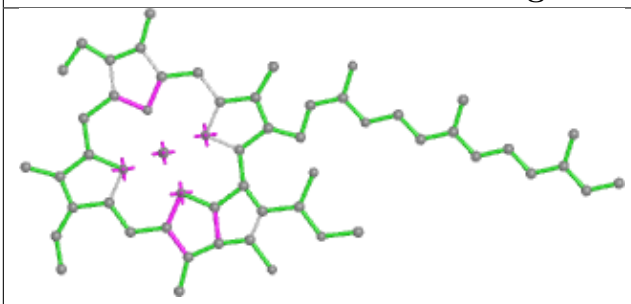
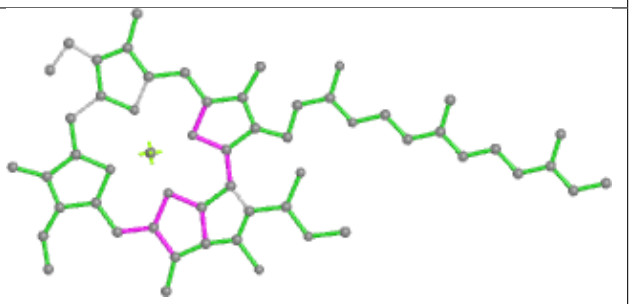


Rings

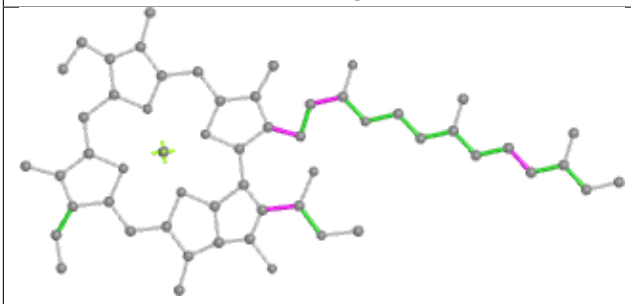
Ligand CLA n 204



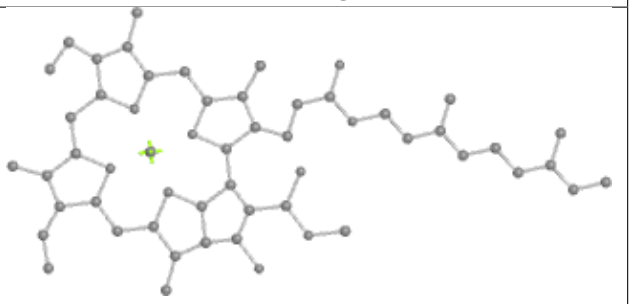
Bond lengths



Bond angles

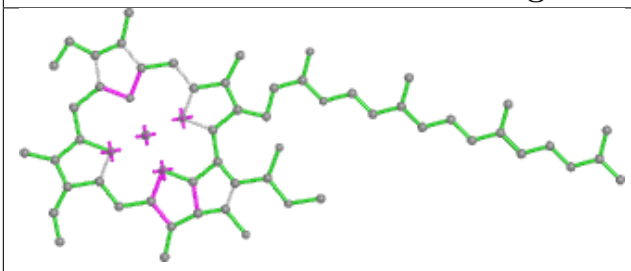


Torsions

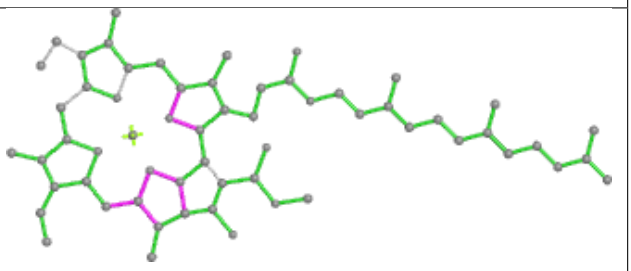


Rings

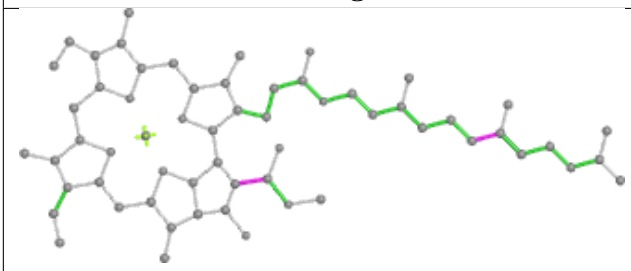
Ligand CLA h 208



Bond lengths



Bond angles



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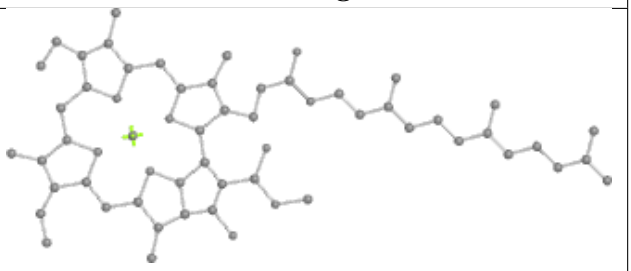
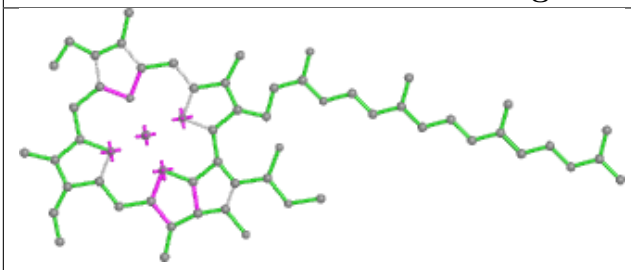


Rings

Ligand CLA j 307



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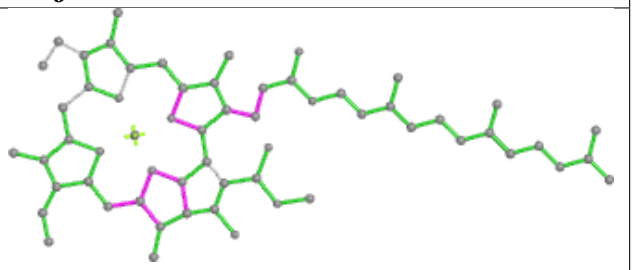
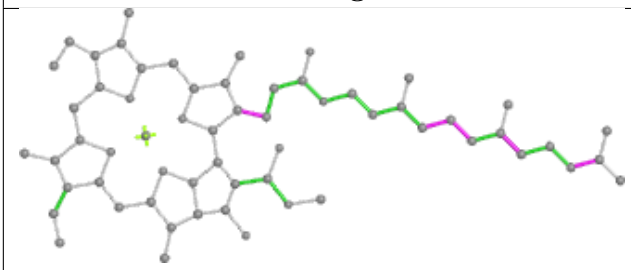


Bond angles



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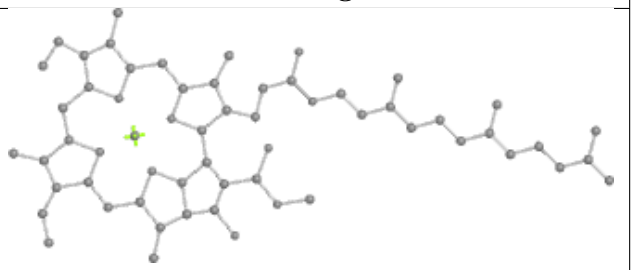
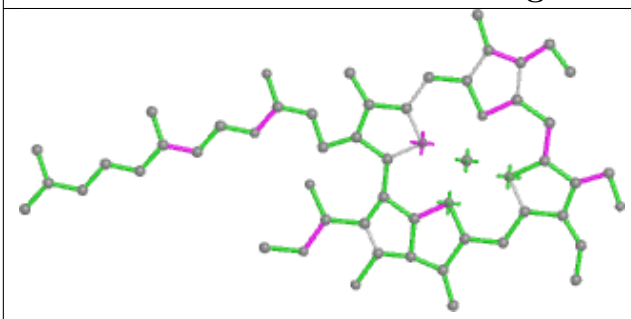


Rings

Ligand CHL b 301



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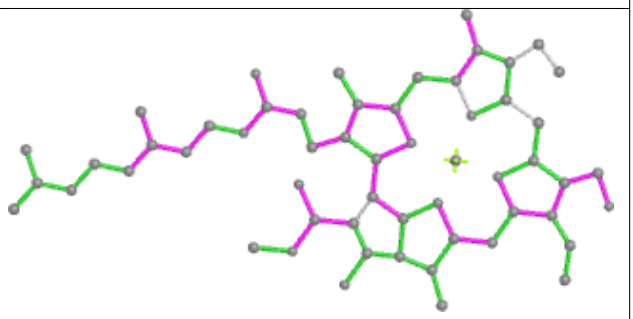
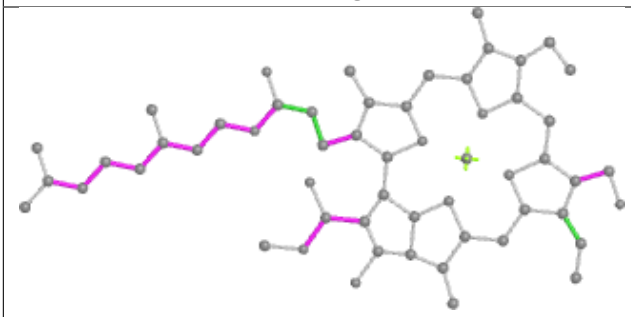
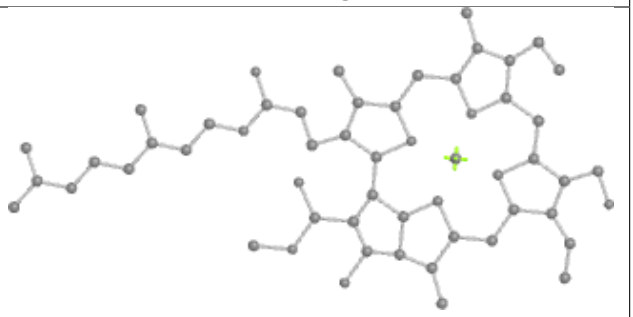


Bond angles

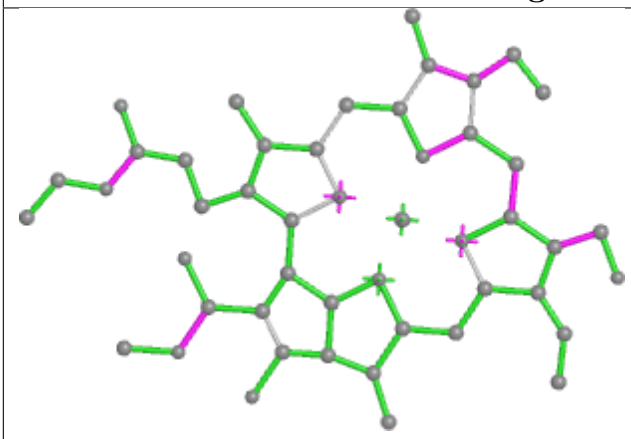


Torsions



Rings

Ligand CHL a 313



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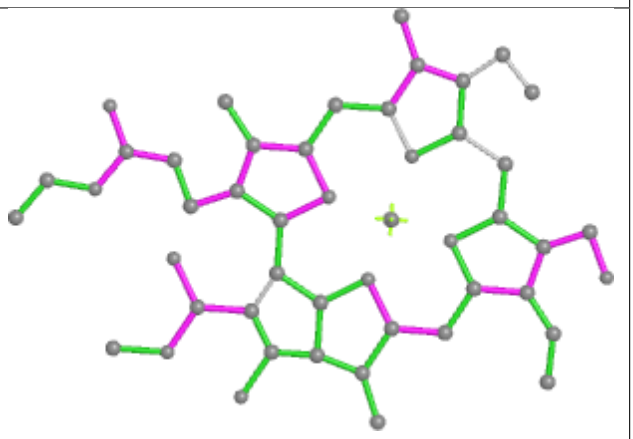
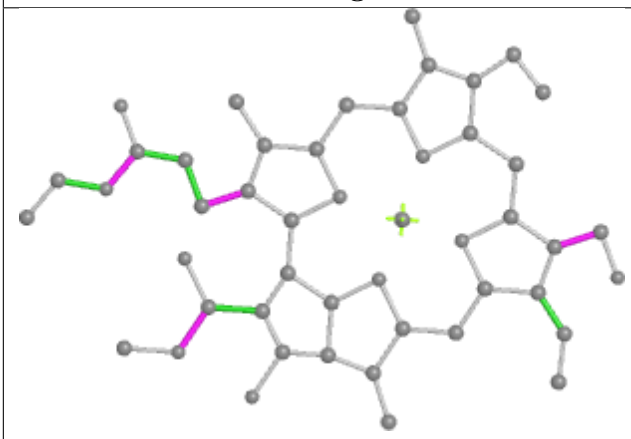
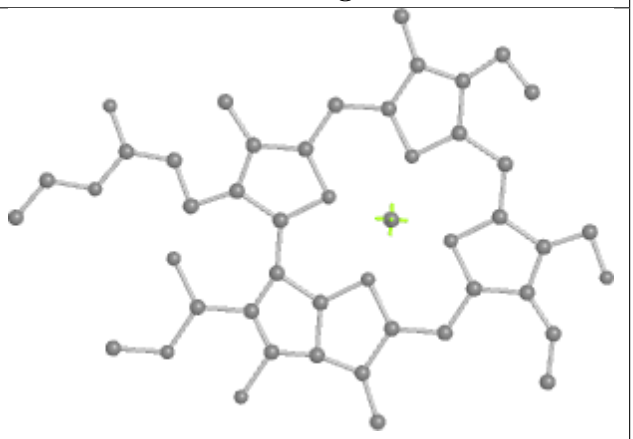


Bond angles

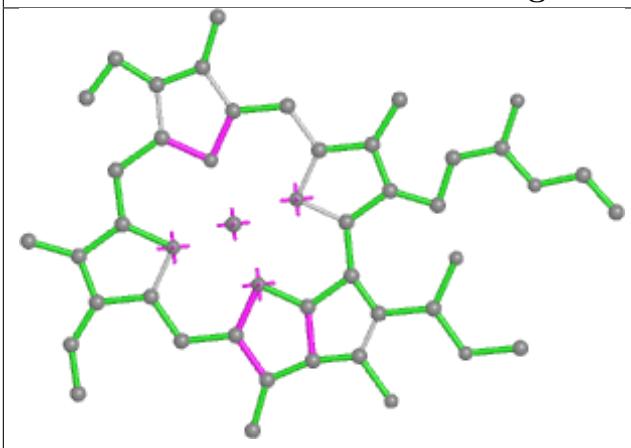


Torsions



Rings

Ligand CLA a 304



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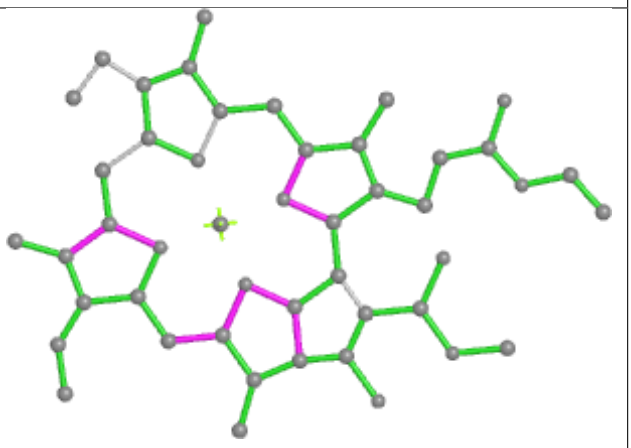
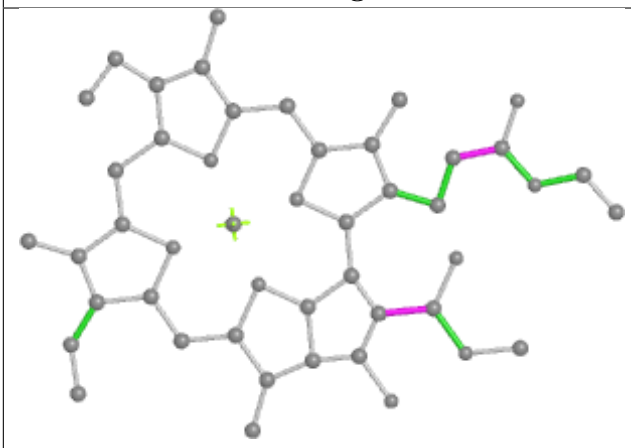
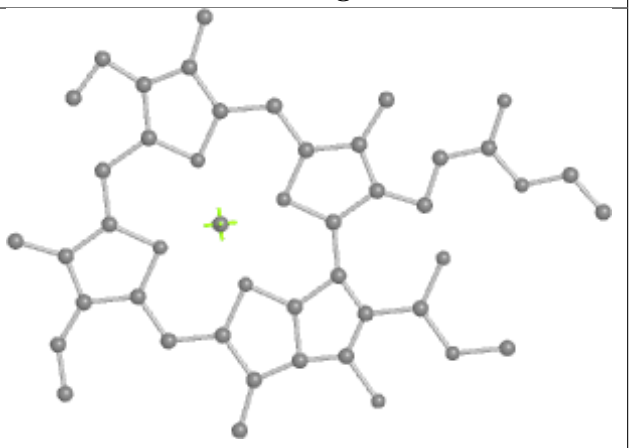


Bond angles

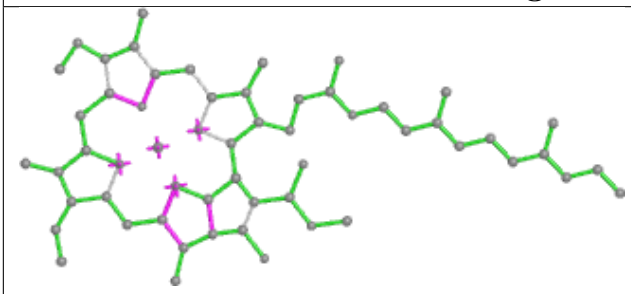


Torsions



Rings

Ligand CLA F 202



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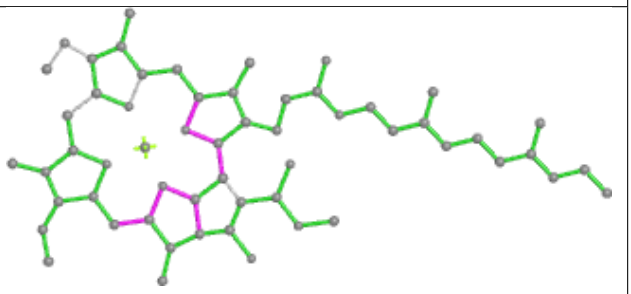
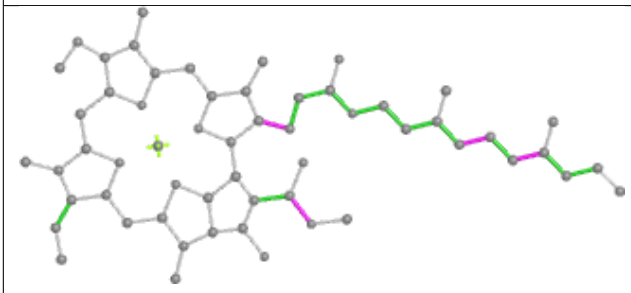
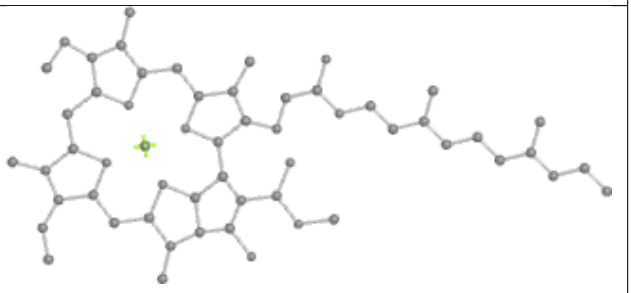


Bond angles

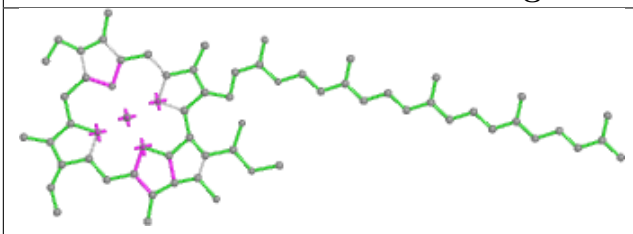


Torsions

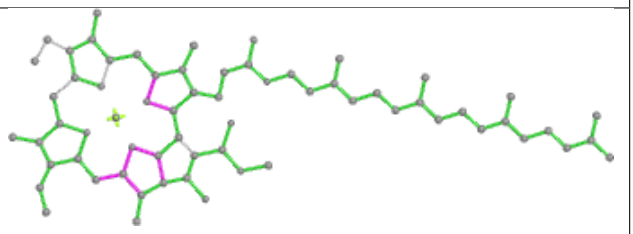


Rings

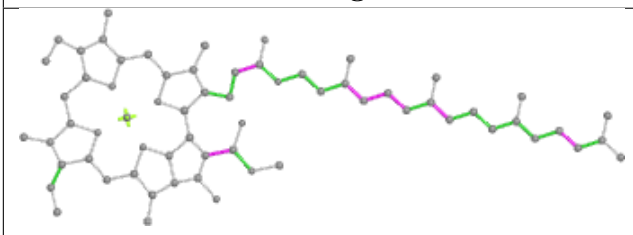
Ligand CLA A 807



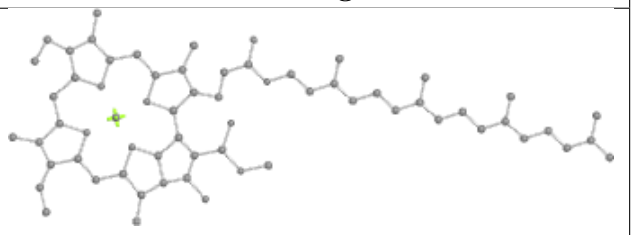
Bond lengths



Bond angles

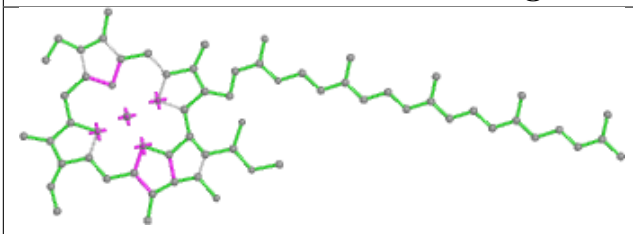


Torsions

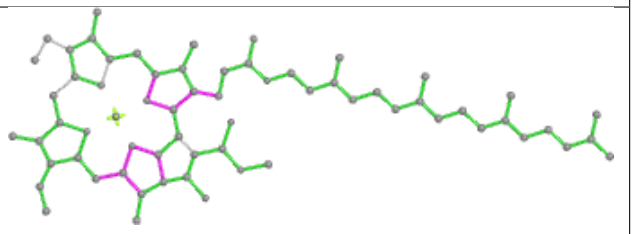


Rings

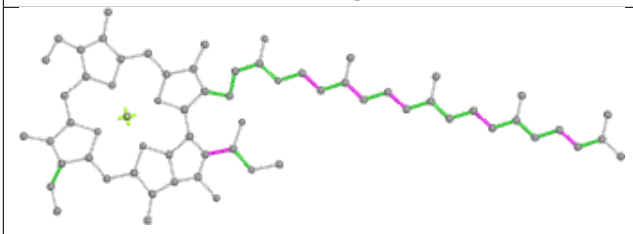
Ligand CLA B 847



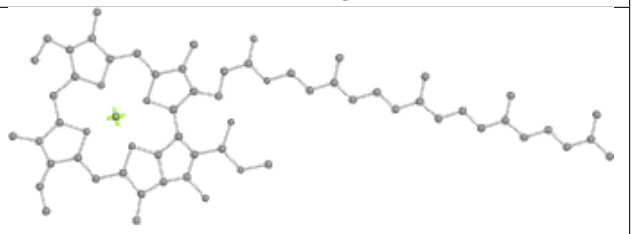
Bond lengths



Bond angles

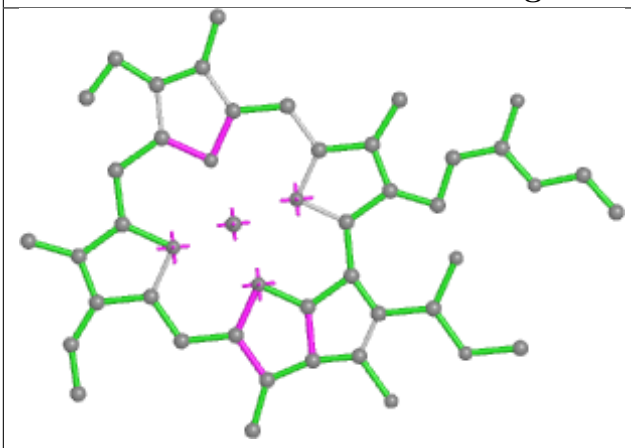


Torsions

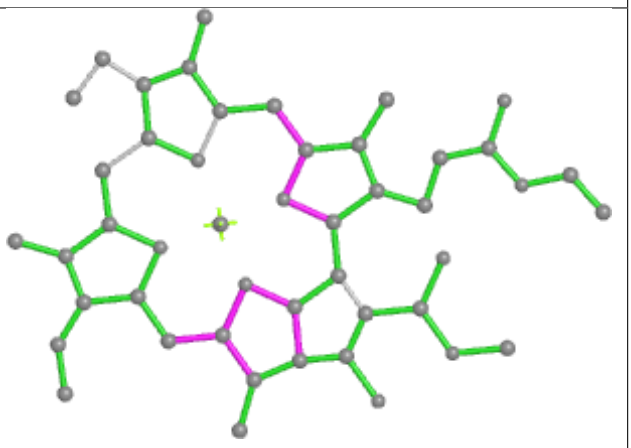


Rings

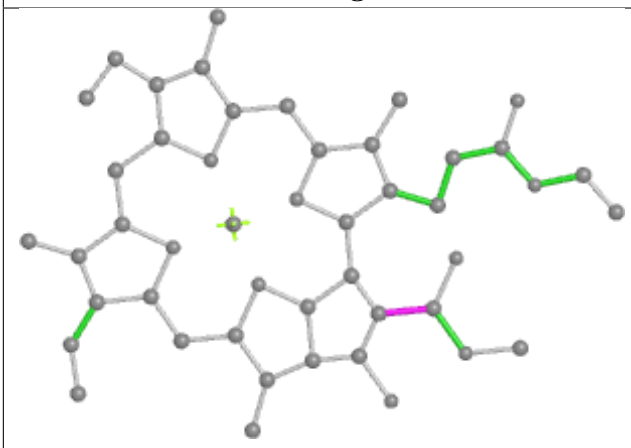
Ligand CLA B 845



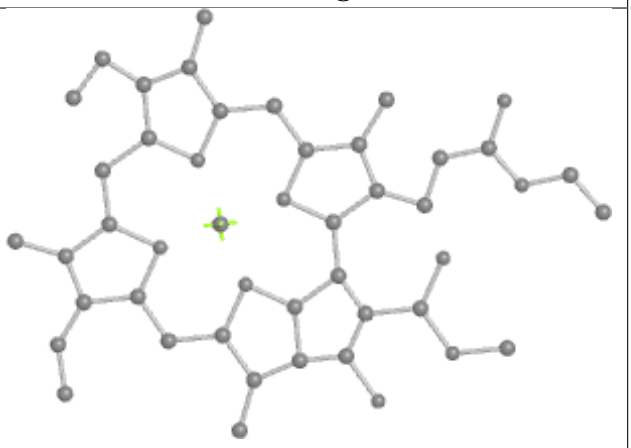
Bond lengths



Bond angles

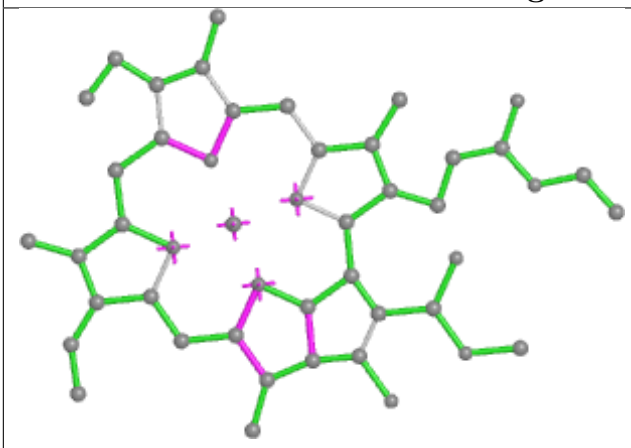


Torsions



Rings

Ligand CLA n 202



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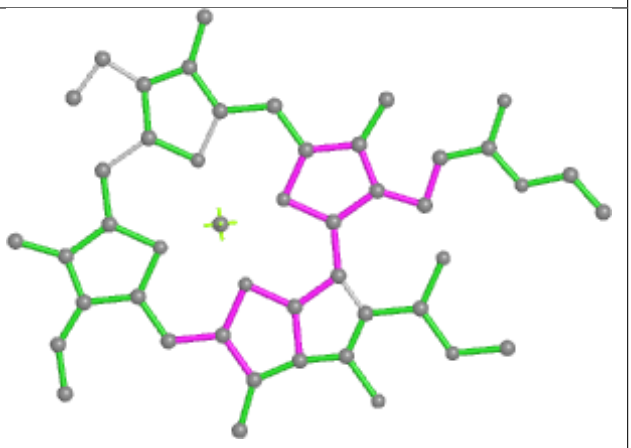

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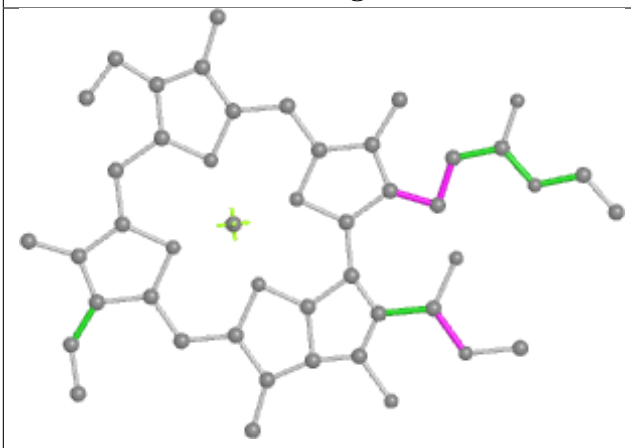

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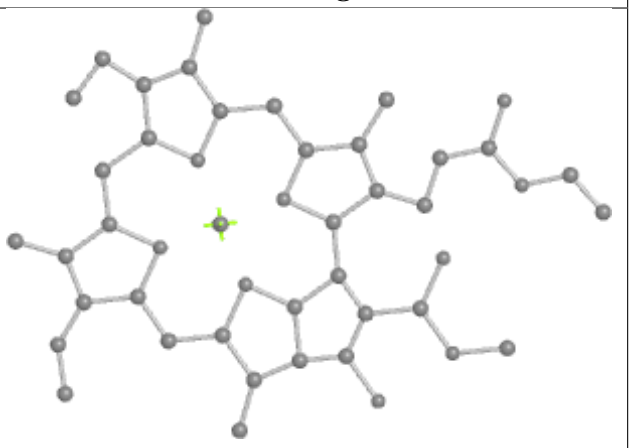
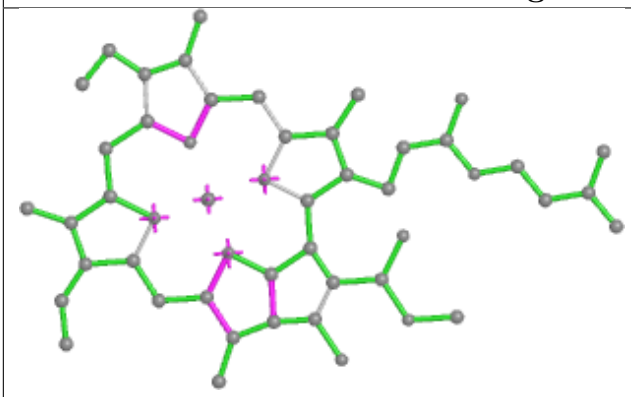


Rings

Ligand CLA b 309



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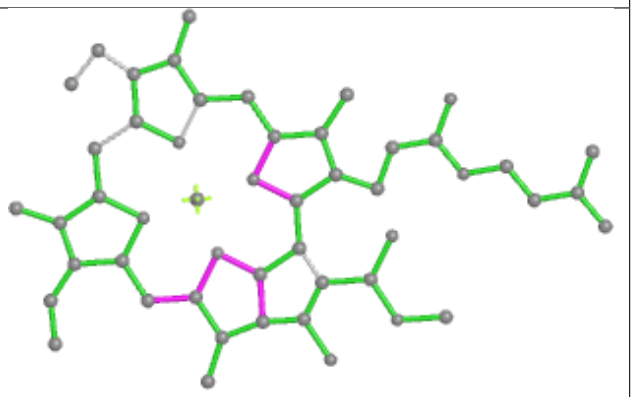
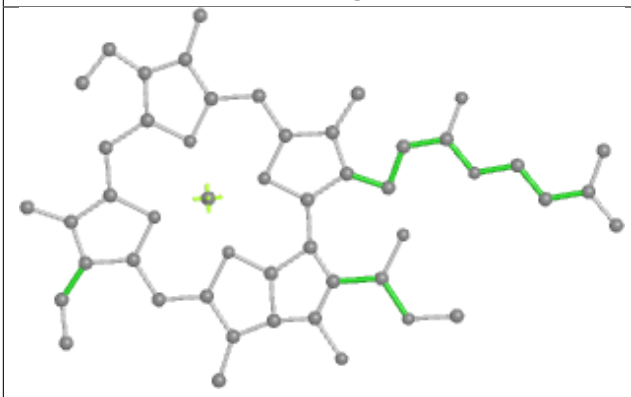


Bond angles



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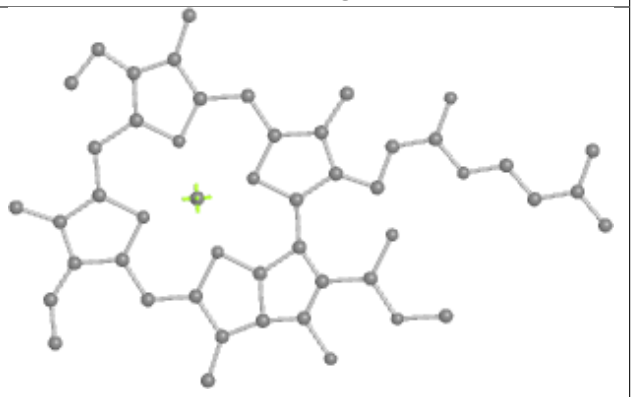
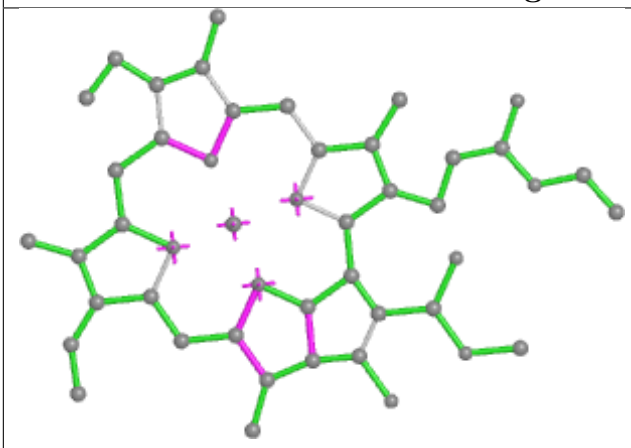


Rings

Ligand CLA B 823



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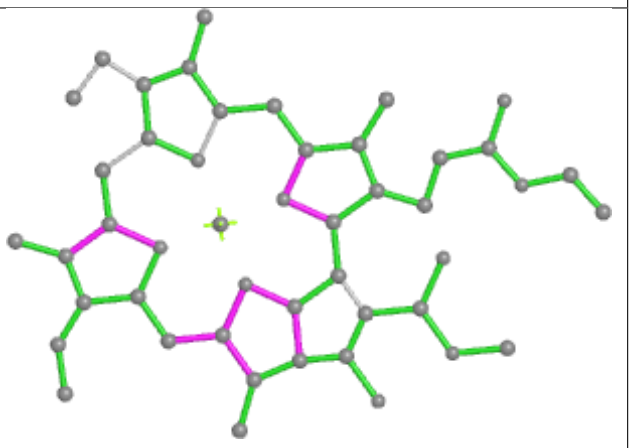
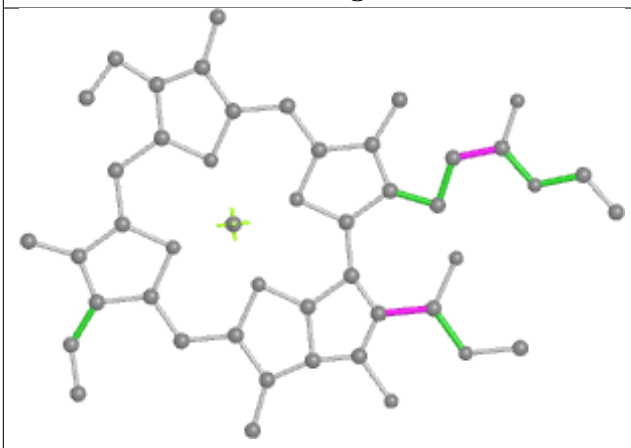


Bond angles



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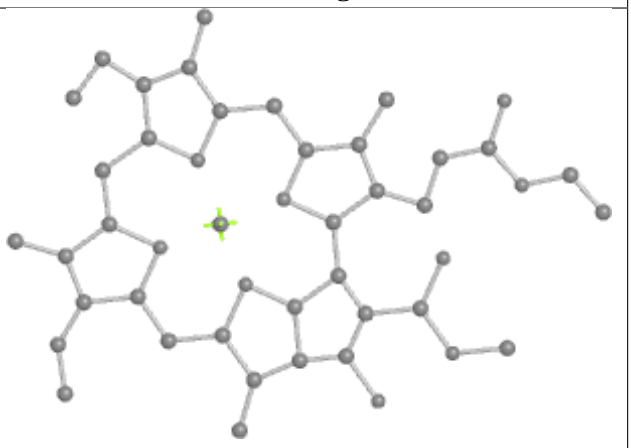
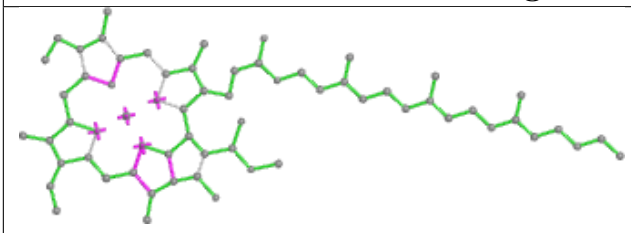


Rings

Ligand CLA A 818



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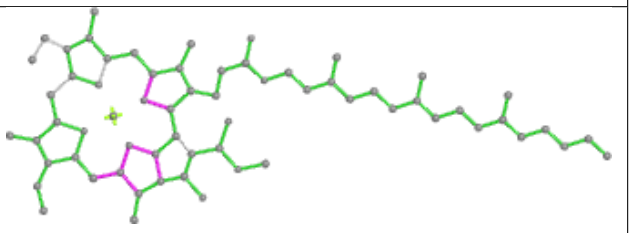
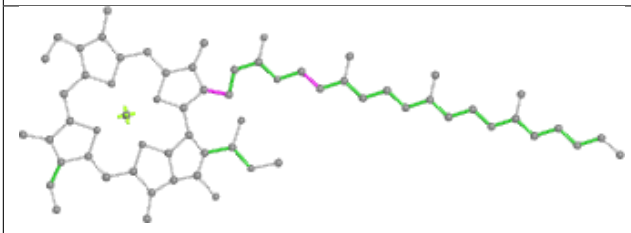


Bond angles



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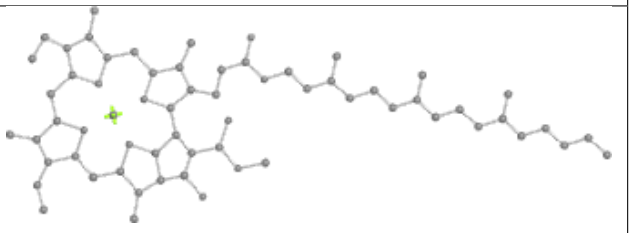
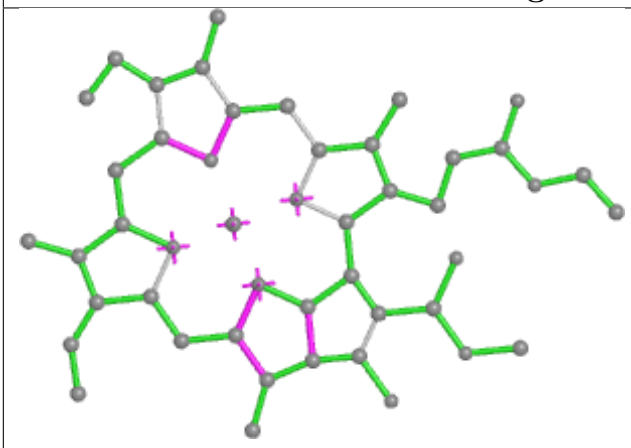


Rings

Ligand CLA b 313



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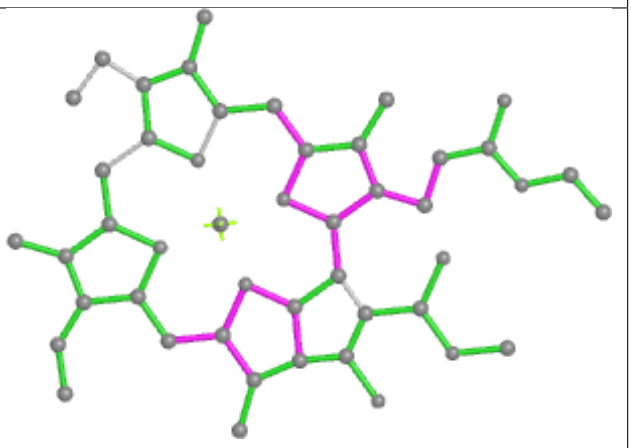
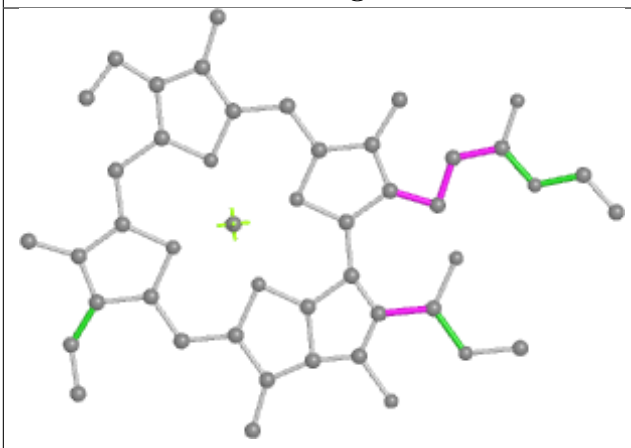


Bond angles



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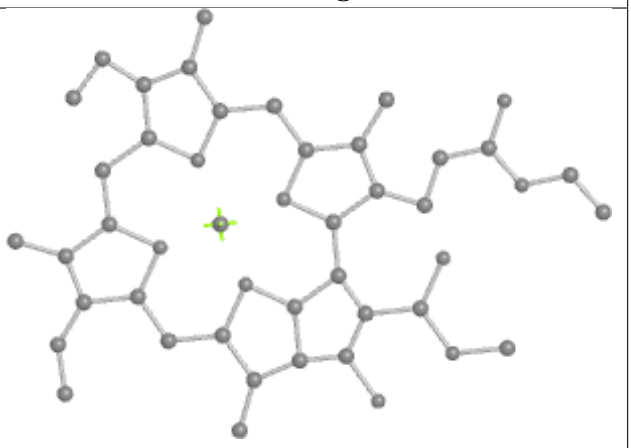
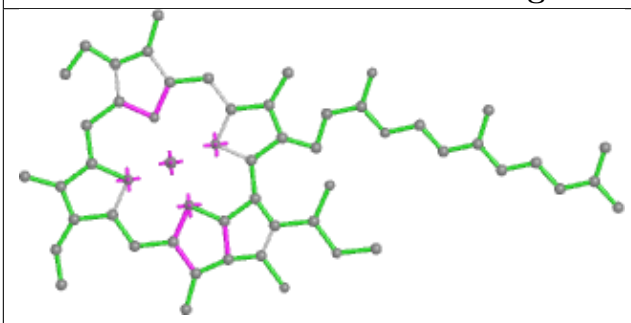


Rings

Ligand CLA k 310



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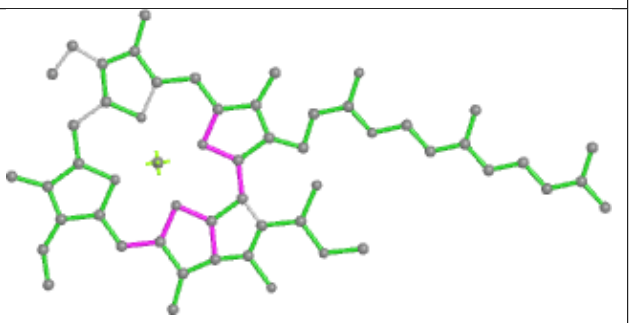

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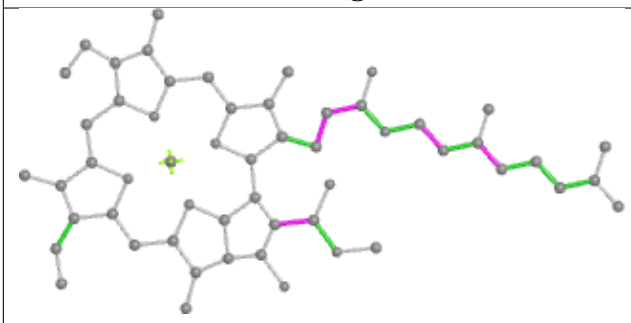

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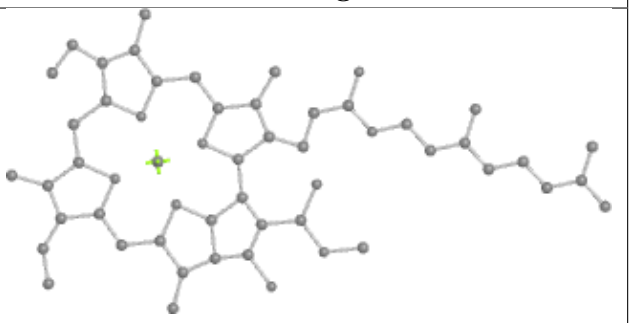
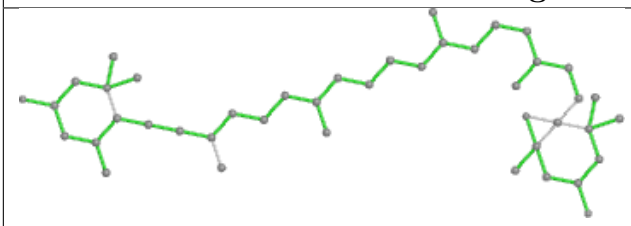


Rings

Ligand DD6 o 314



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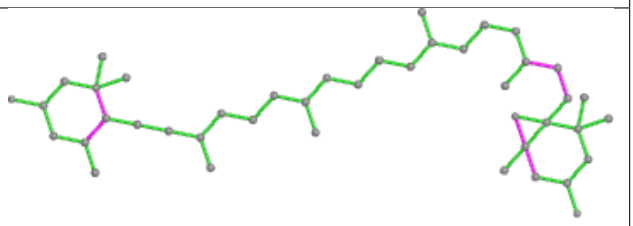

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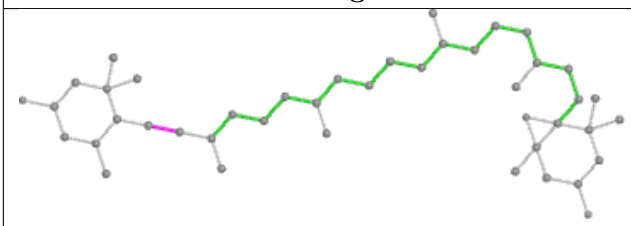

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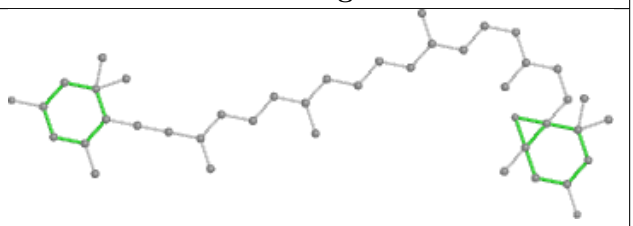
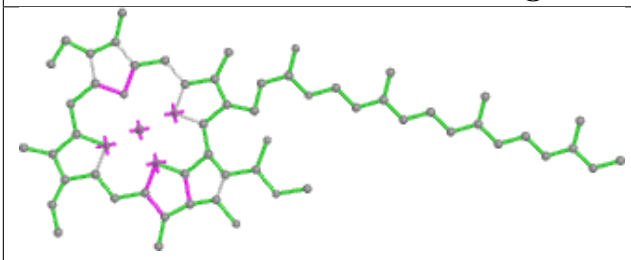


Rings

Ligand CLA B 820



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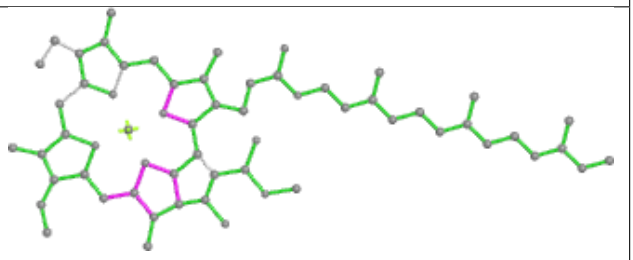
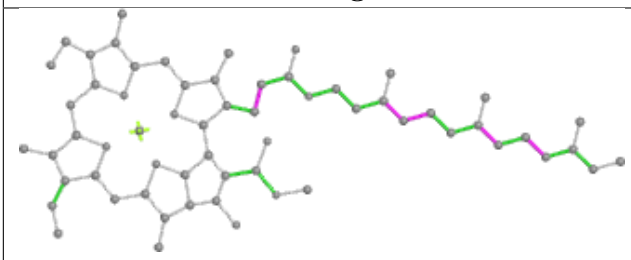
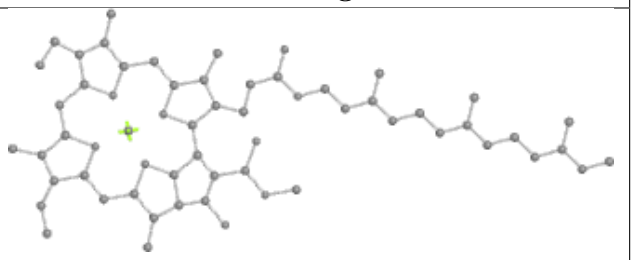


Bond angles

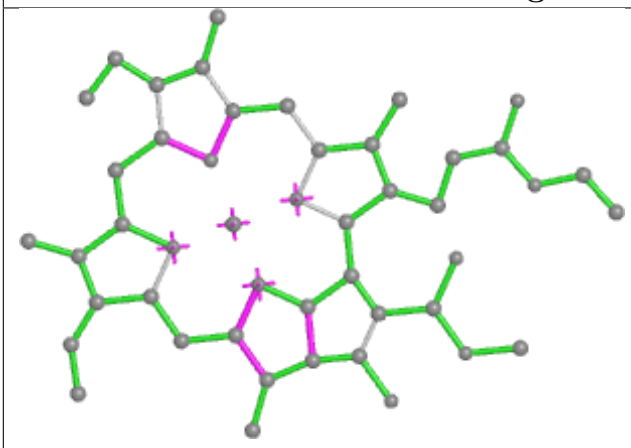


Torsions



Rings

Ligand CLA n 206



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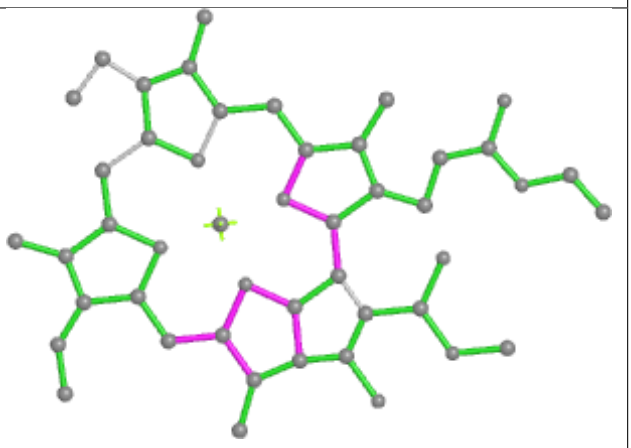
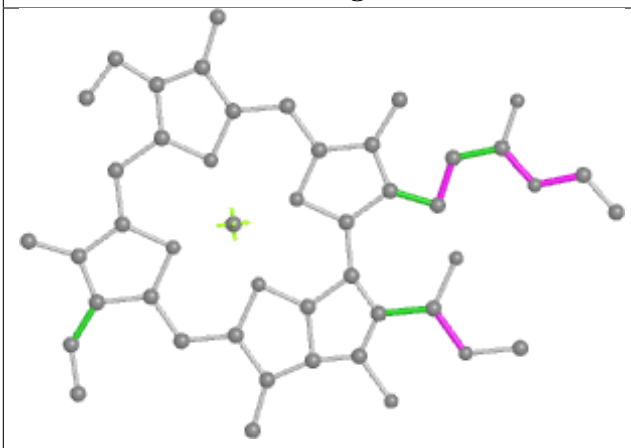


Bond angles



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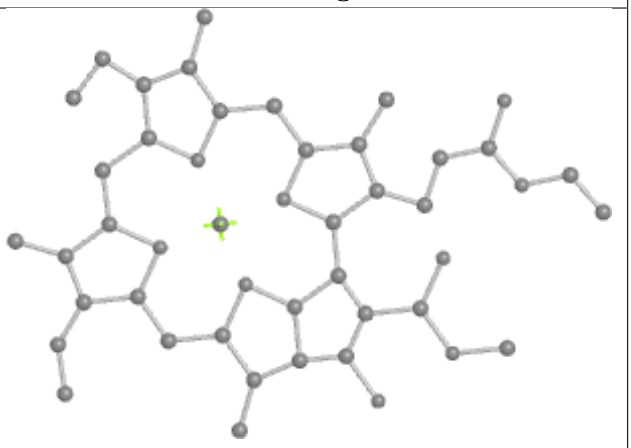
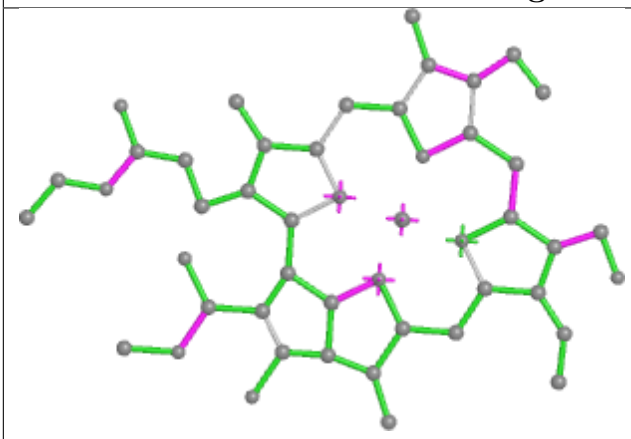


Rings

Ligand CHL a 311



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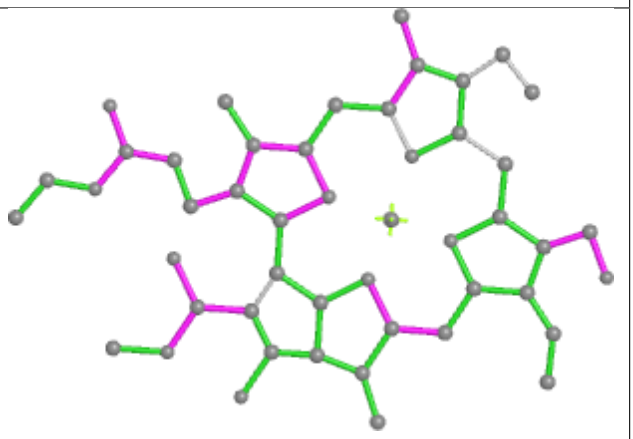
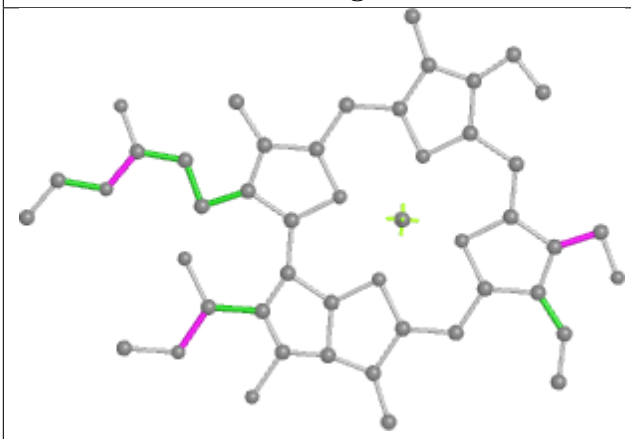


Bond angles



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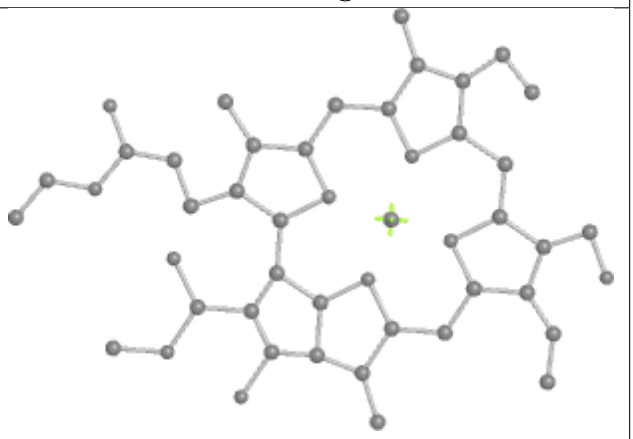
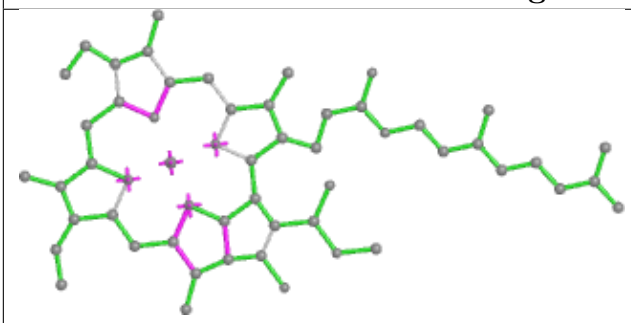


Rings

Ligand CLA a 307



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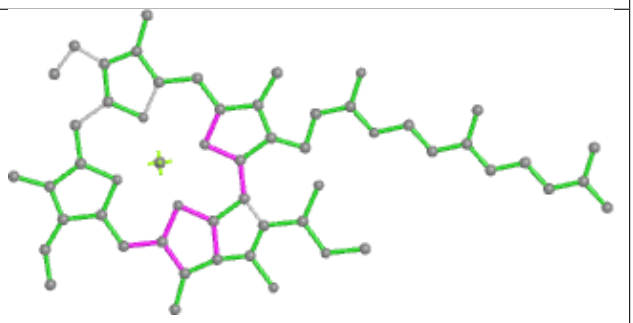
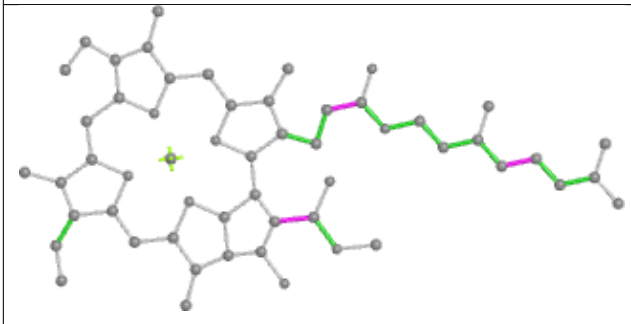


Bond angles



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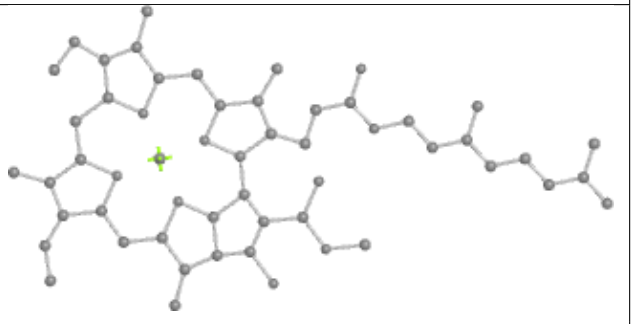
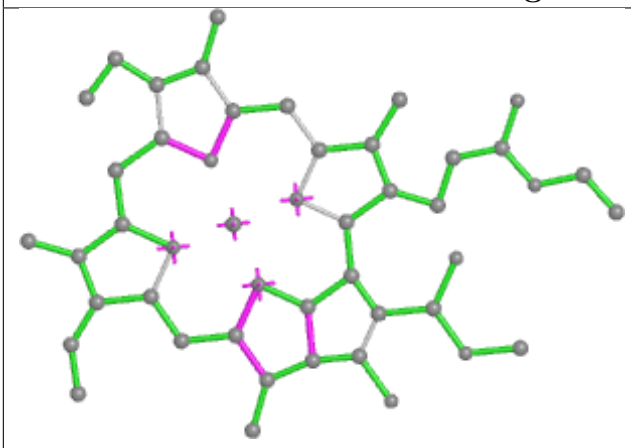


Rings

Ligand CLA B 848



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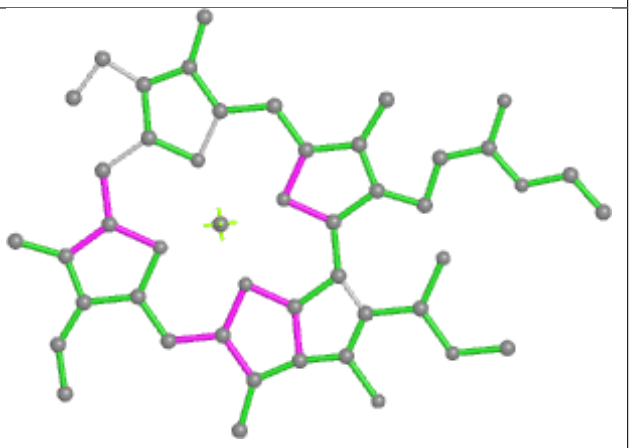
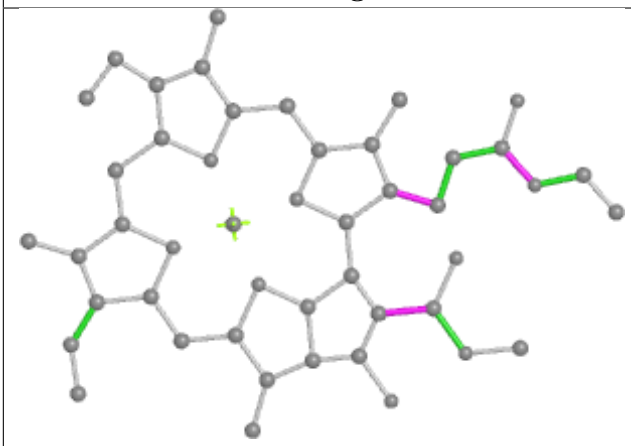


Bond angles



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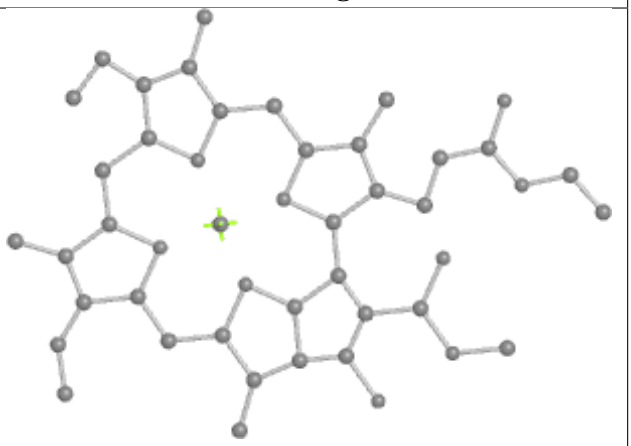
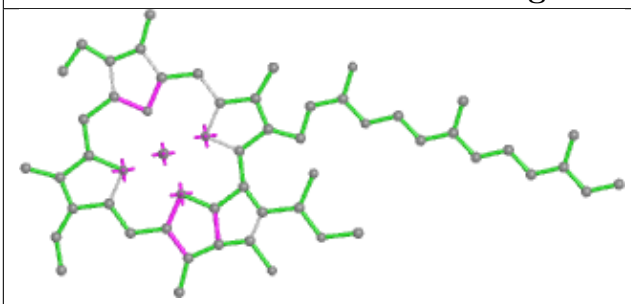


Rings

Ligand CLA g 309



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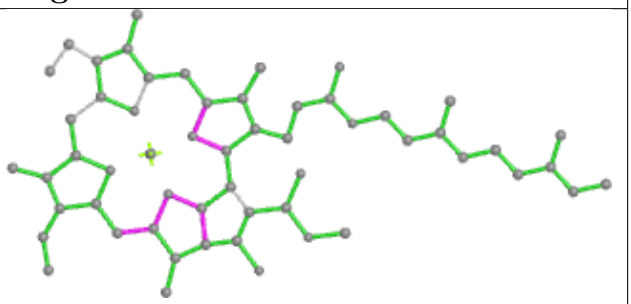
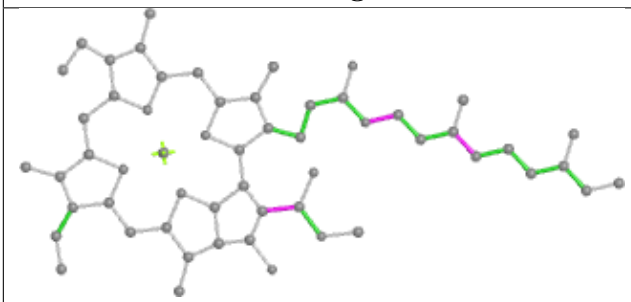
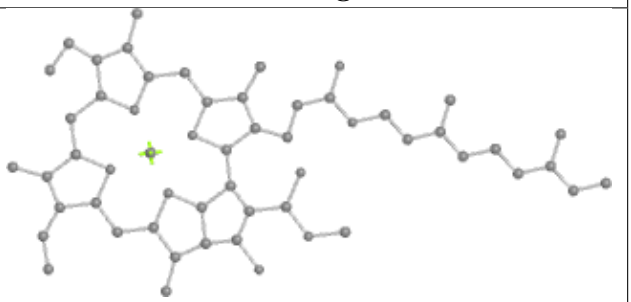


Bond angles

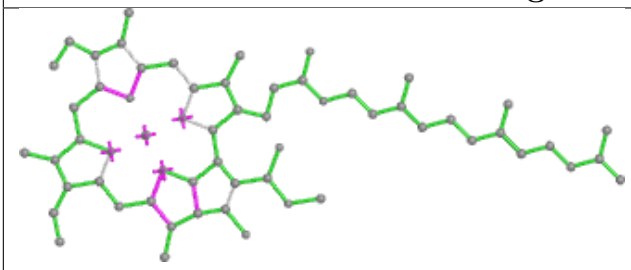


Torsions

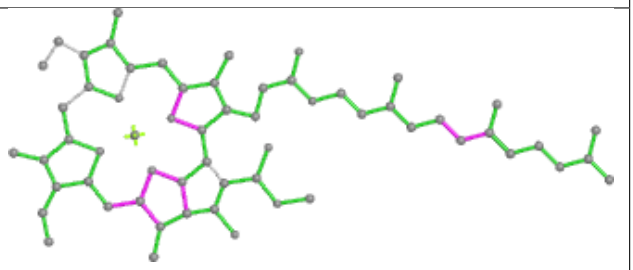


Rings

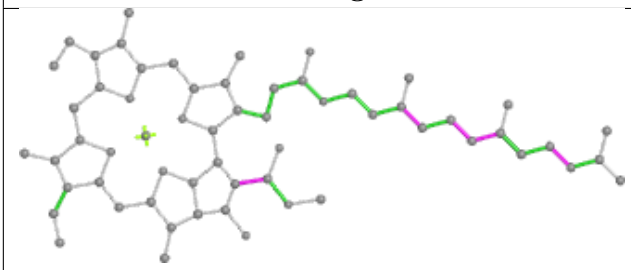
Ligand CLA n 205



Bond lengths



Bond angles



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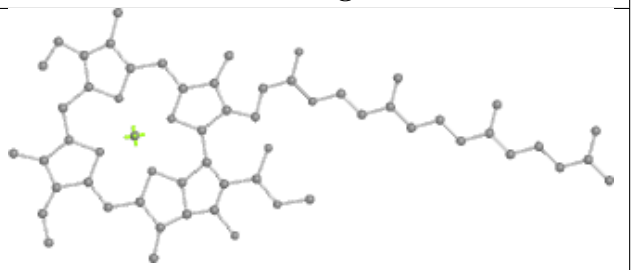
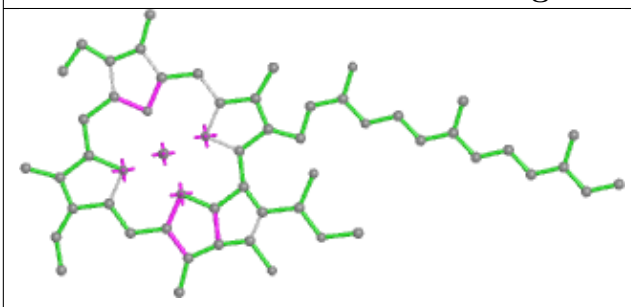


Rings

Ligand CLA j 313



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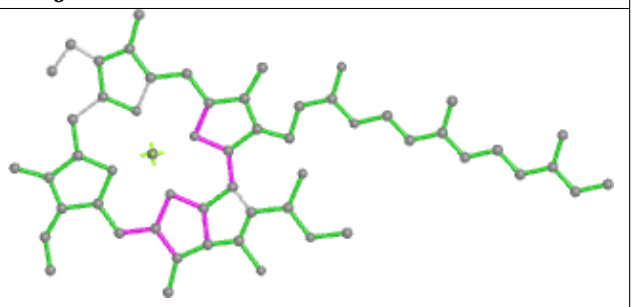
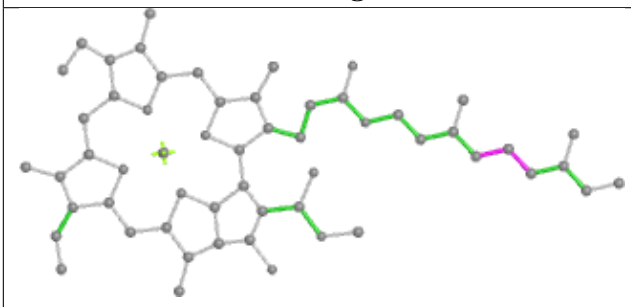


Bond angles



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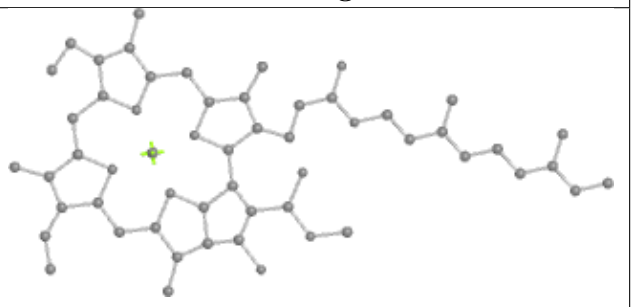
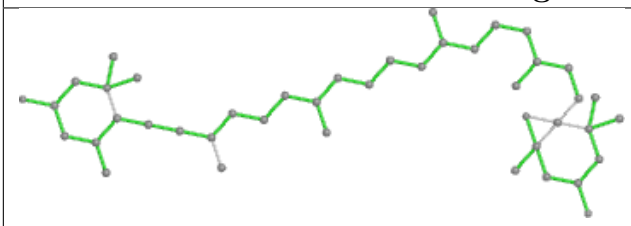


Rings

Ligand DD6 i 315



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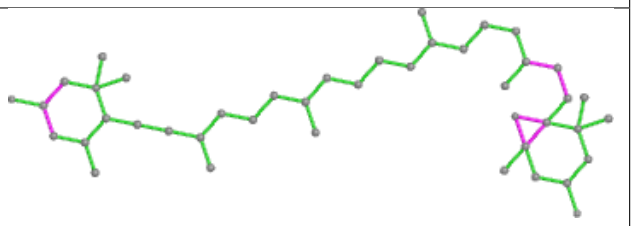
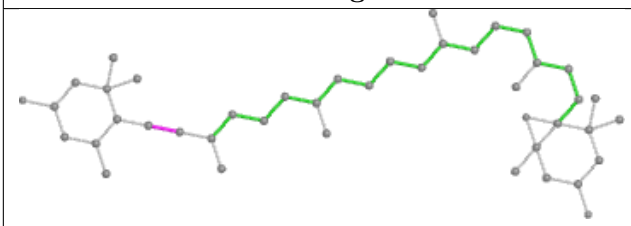


Bond angles



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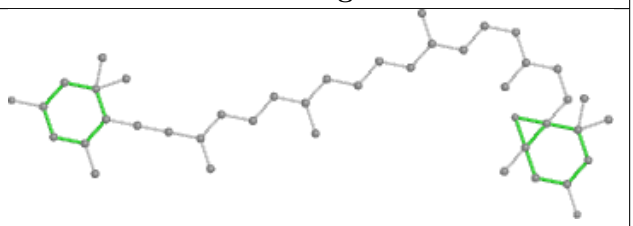
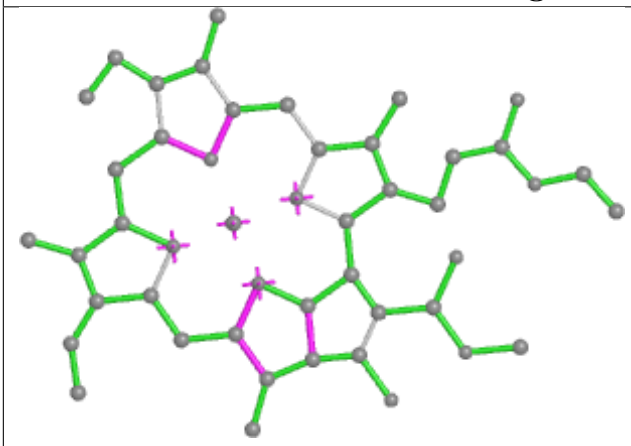


Rings

Ligand CLA k 311



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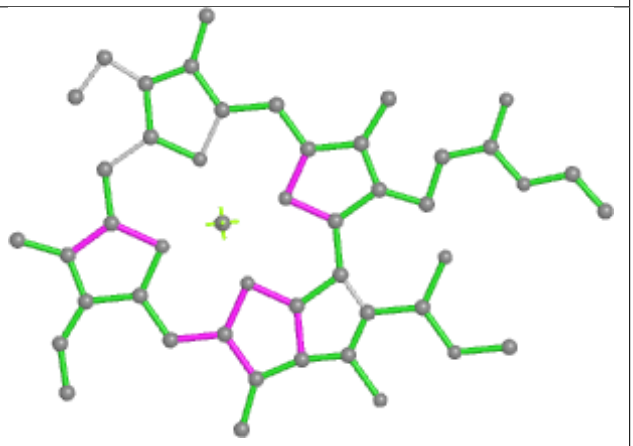

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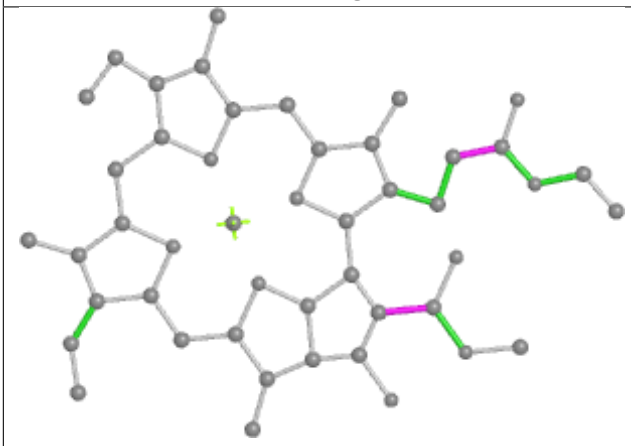

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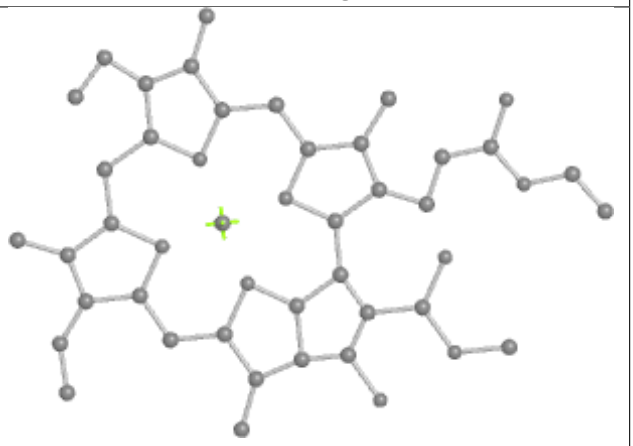
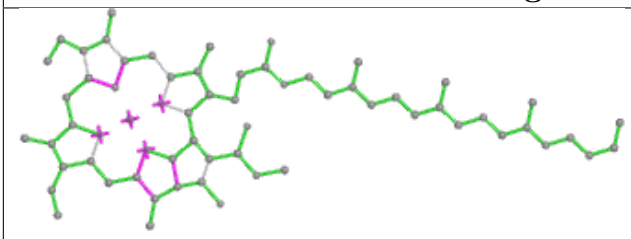


Rings

Ligand CLA B 836



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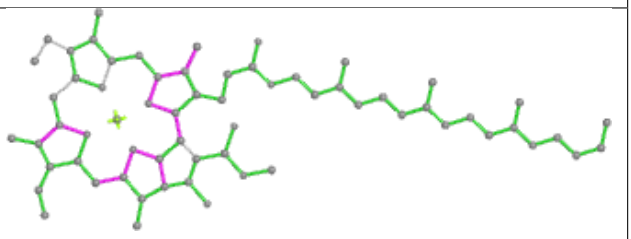

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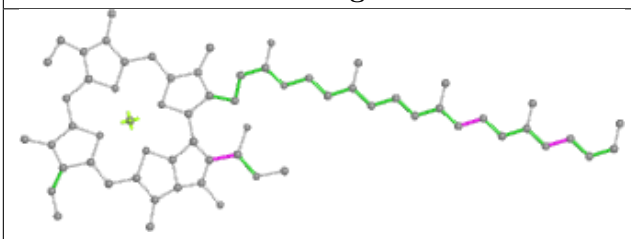

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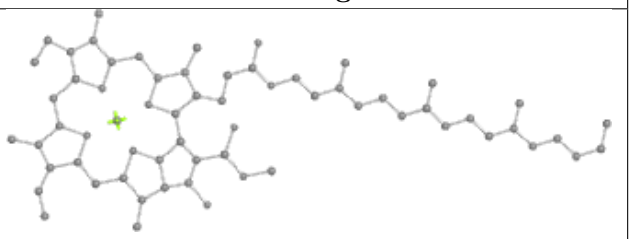
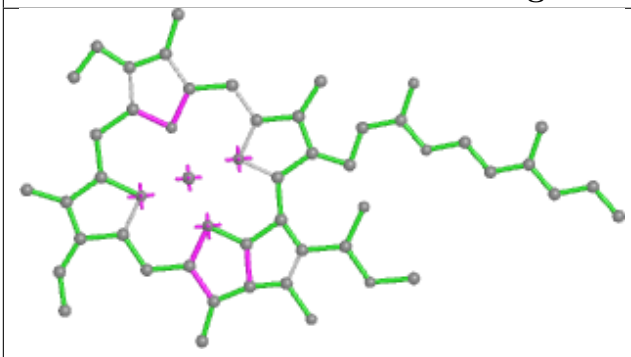


Rings

Ligand CLA d 204



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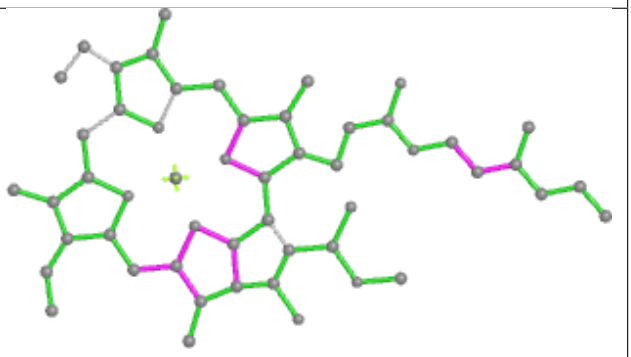

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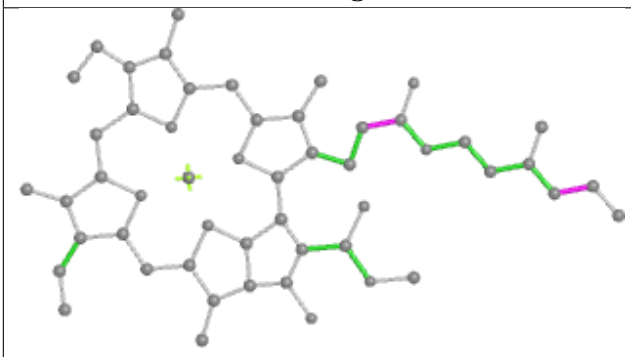

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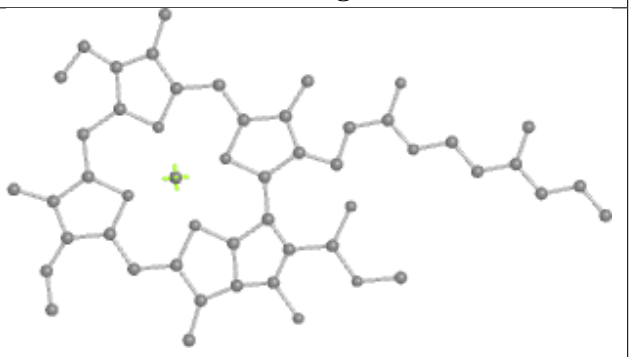
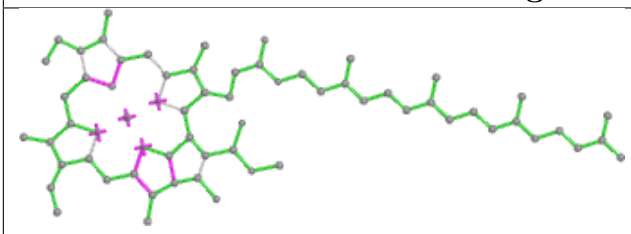


Rings

Ligand CLA F 203



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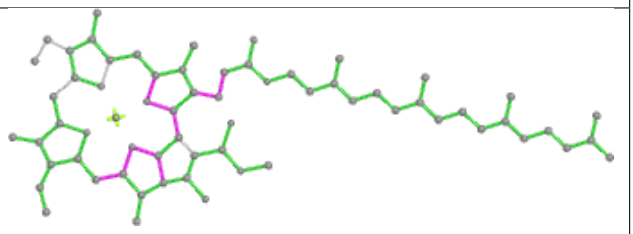

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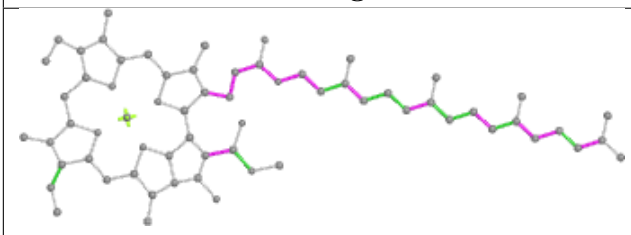

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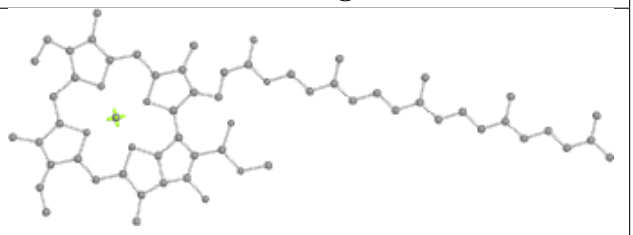
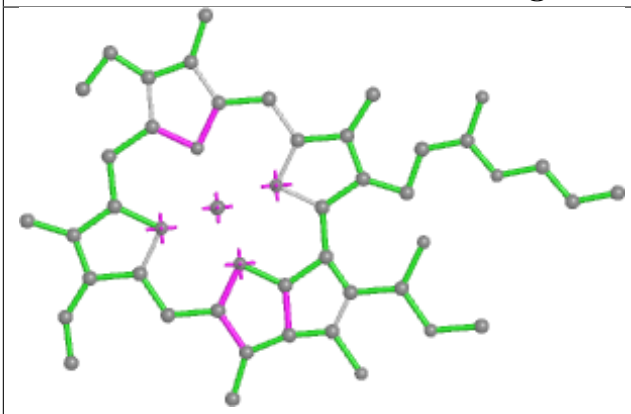


Rings

Ligand CLA o 303



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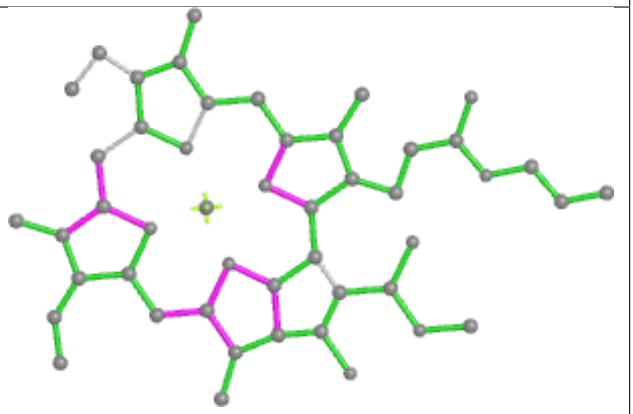
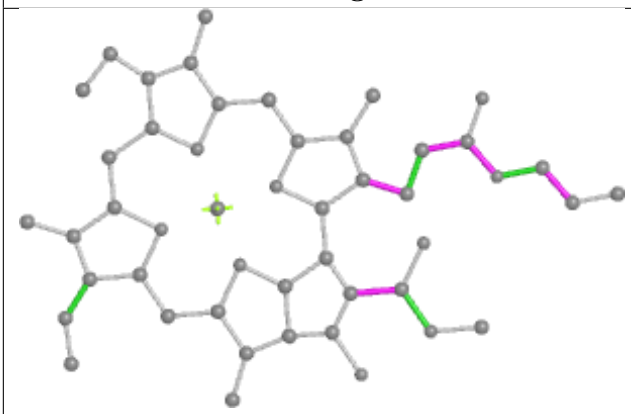


Bond angles



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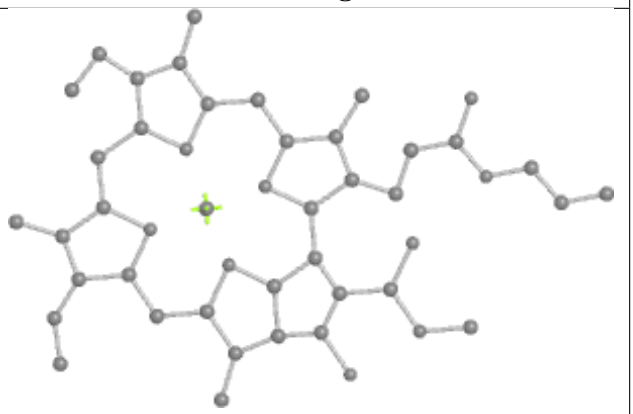
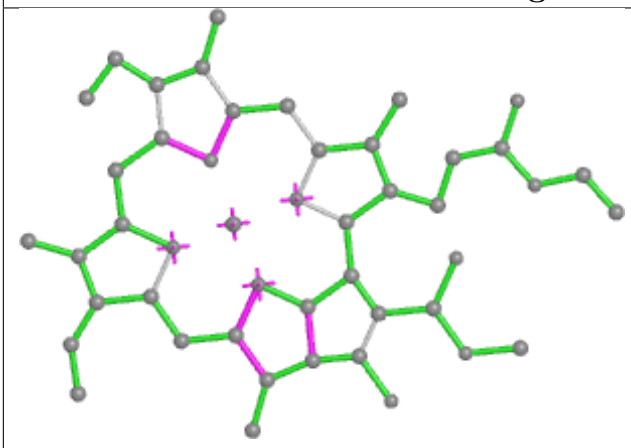


Rings

Ligand CLA g 311



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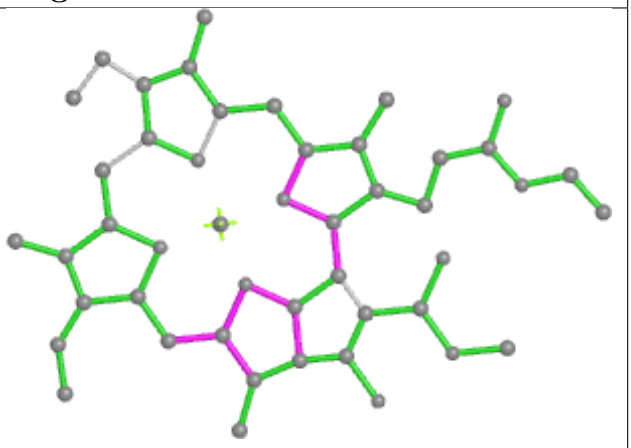
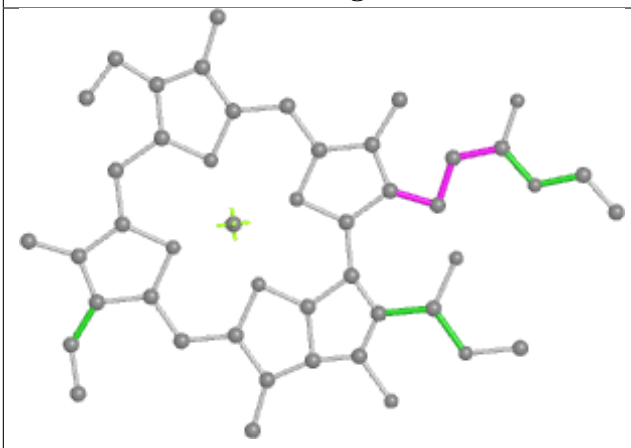


Bond angles



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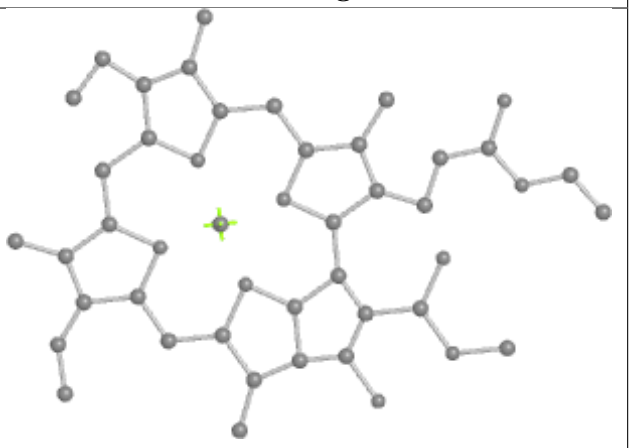
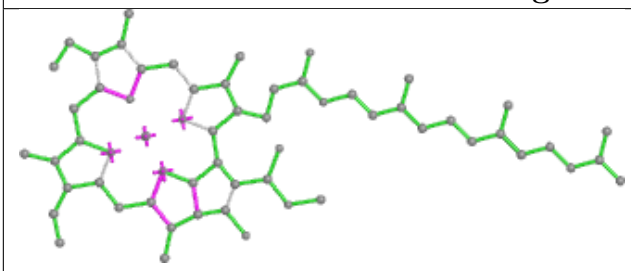


Rings

Ligand CLA l 203



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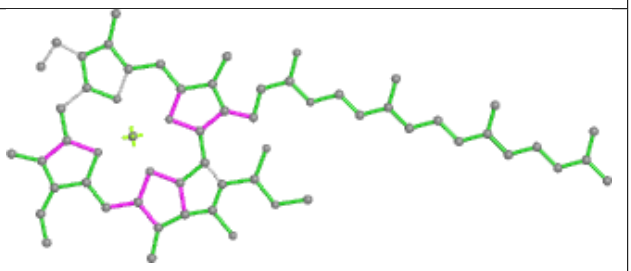

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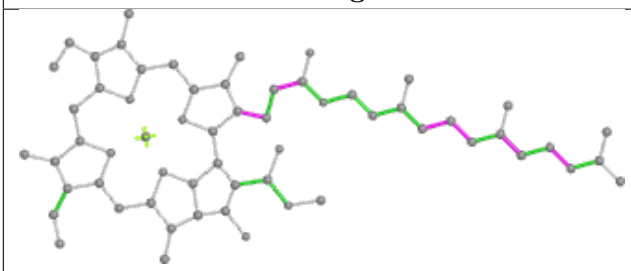

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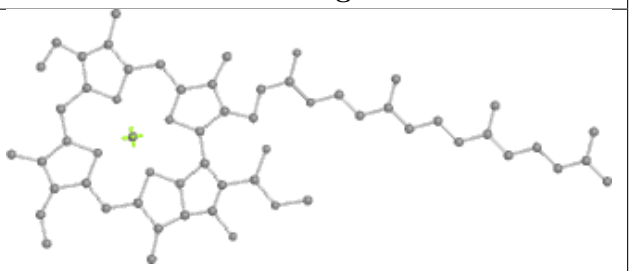
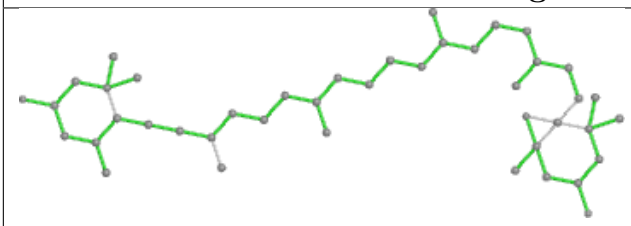


Rings

Ligand DD6 o 313



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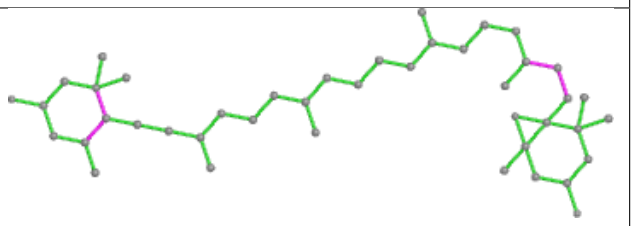
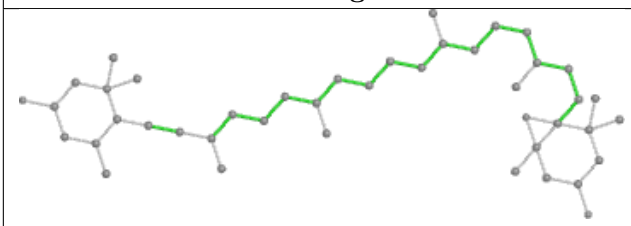


Bond angles



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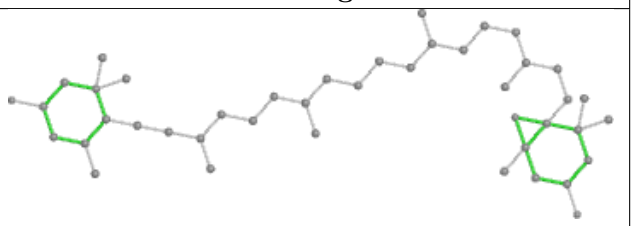
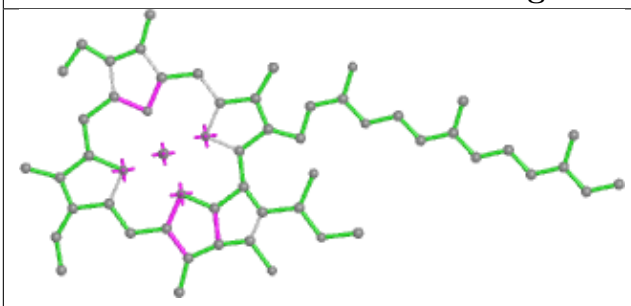


Rings

Ligand CLA k 302



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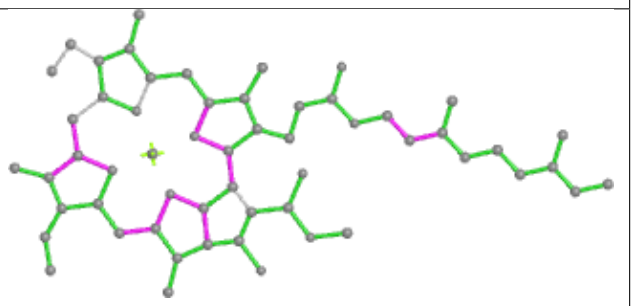
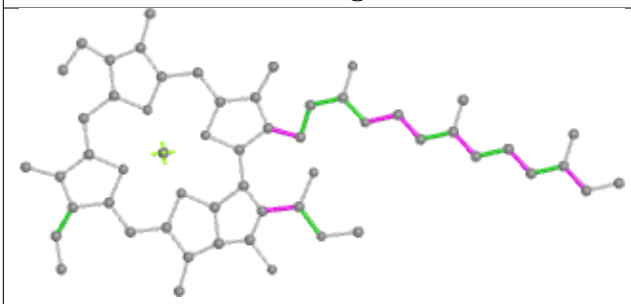


Bond angles



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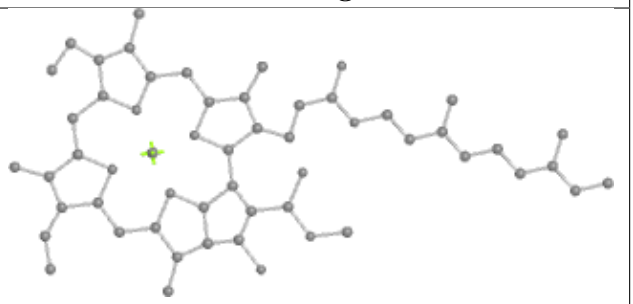
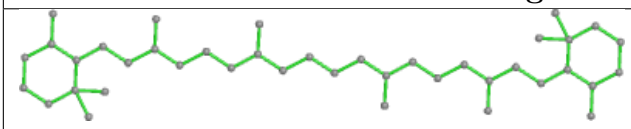
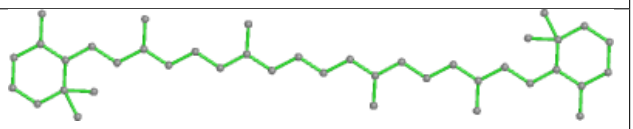


Rings

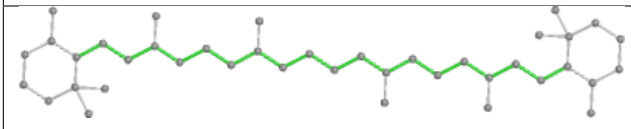
Ligand BCR J 804



Bond lengths



Bond angles



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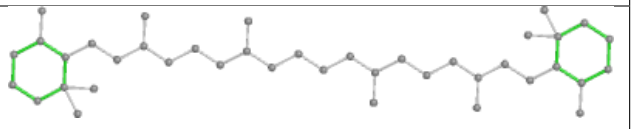
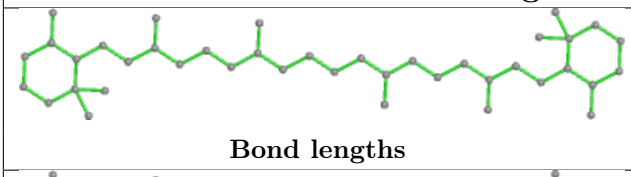
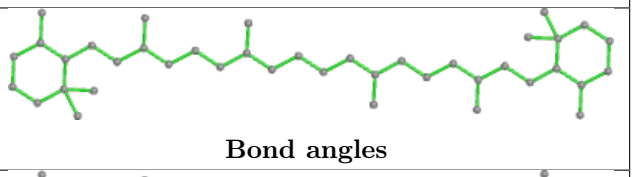


Rings

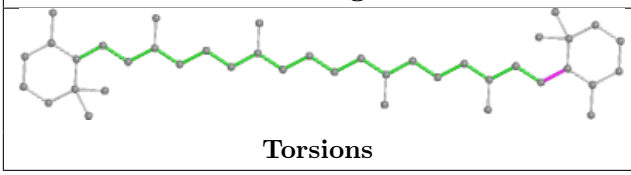
Ligand BCR A 836



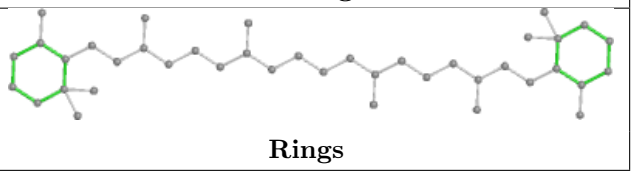
Bond lengths



Bond angles

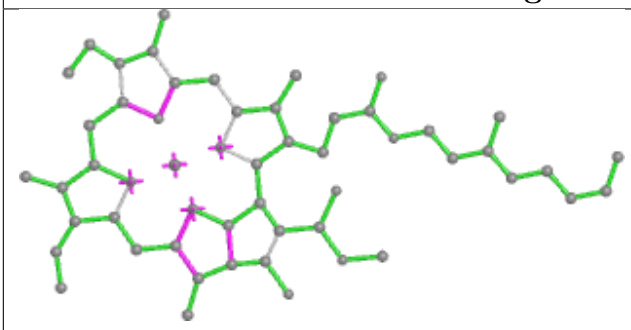


Torsions



Rings

Ligand CLA B 809



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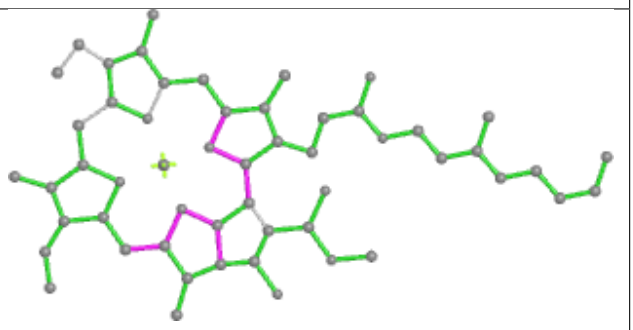
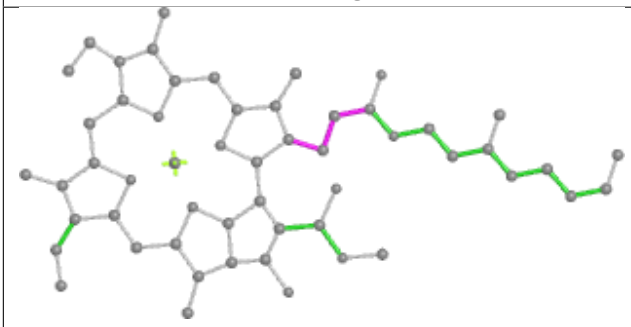
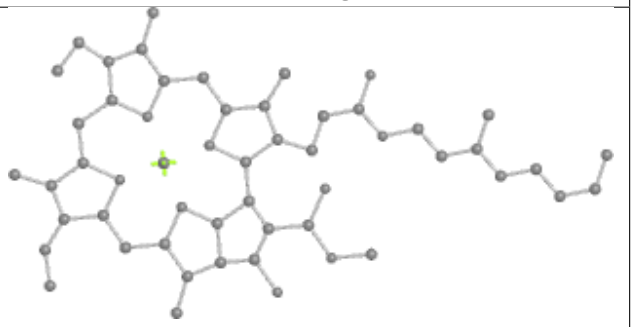


Bond angles

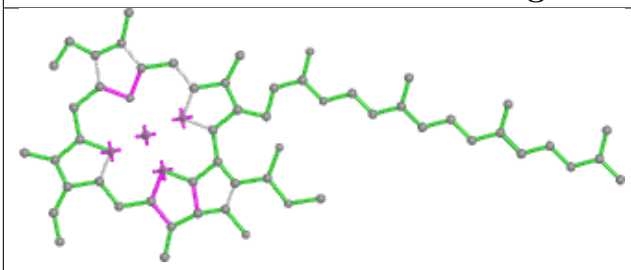


Torsions



Rings

Ligand CLA b 307



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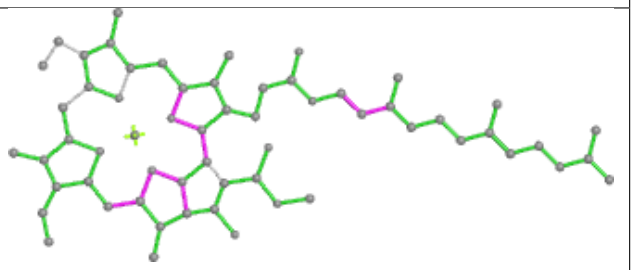
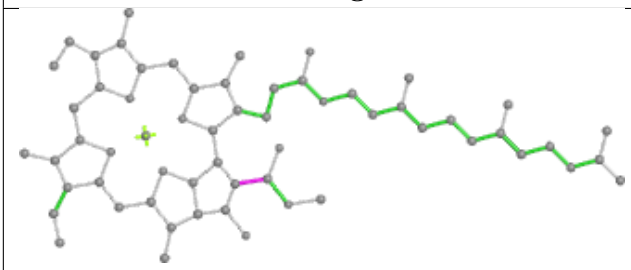
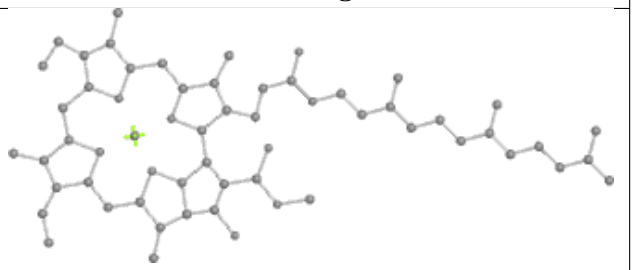


Bond angles

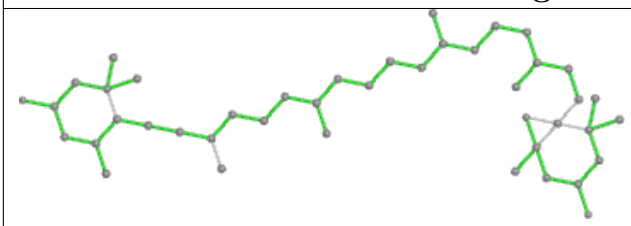


Torsions



Rings

Ligand DD6 l 211



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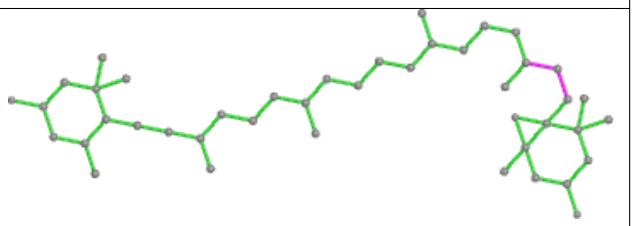
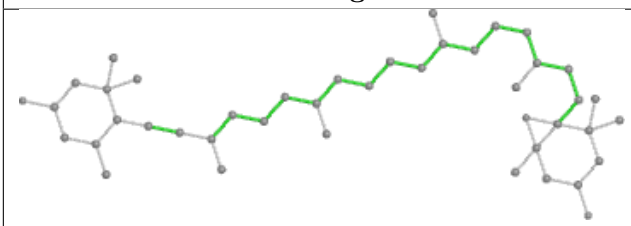


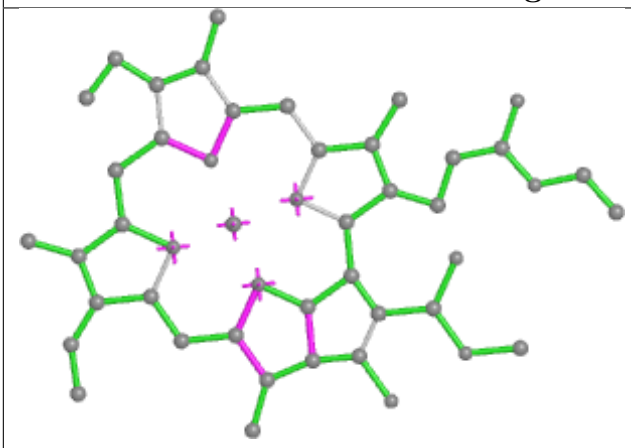
Bond angles



Torsions

Rings

Ligand CLA B 843



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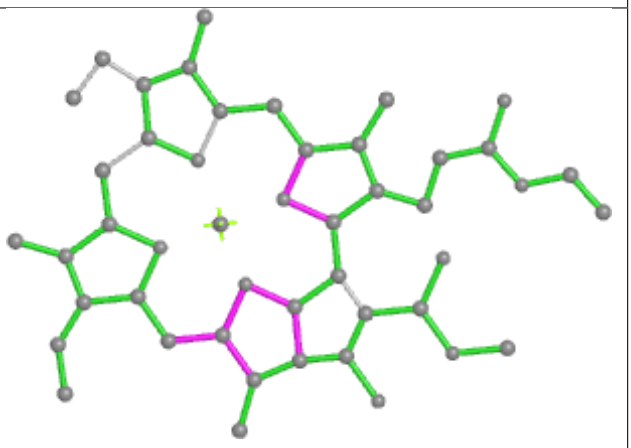
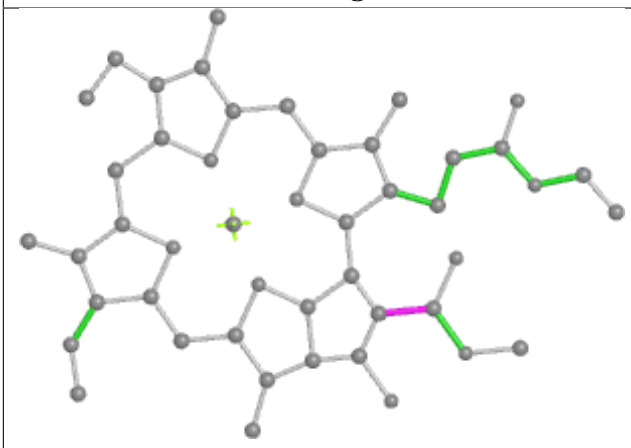
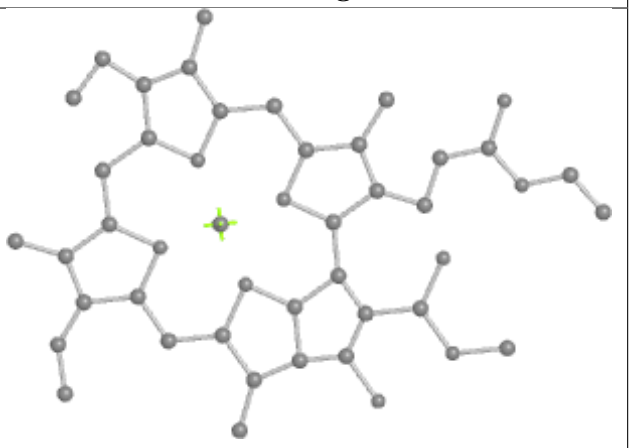


Bond angles

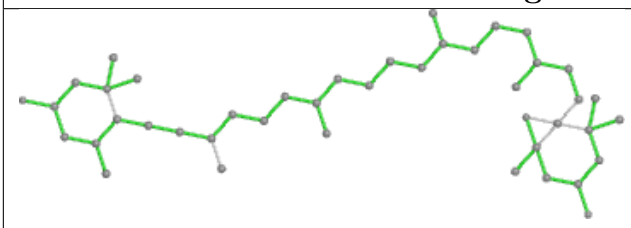


Torsions



Rings

Ligand DD6 A 832



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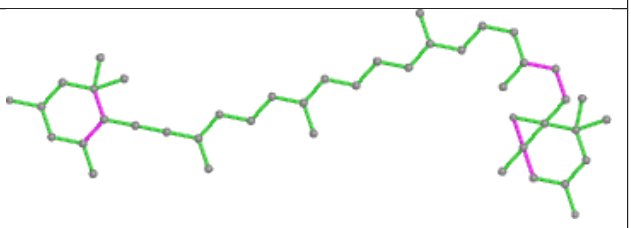
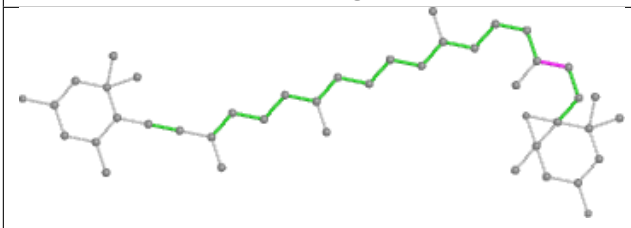


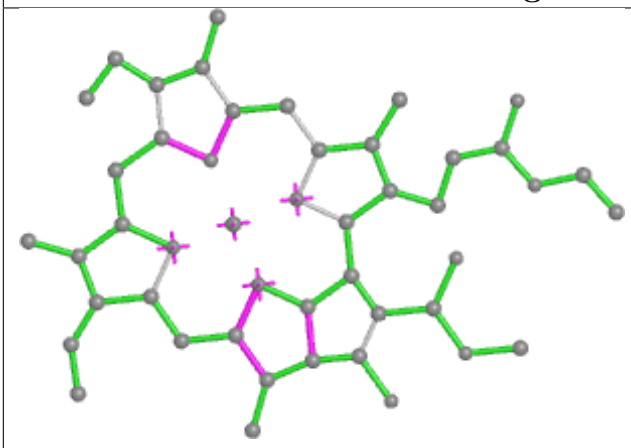
Bond angles



Torsions

Rings

Ligand CLA A 847



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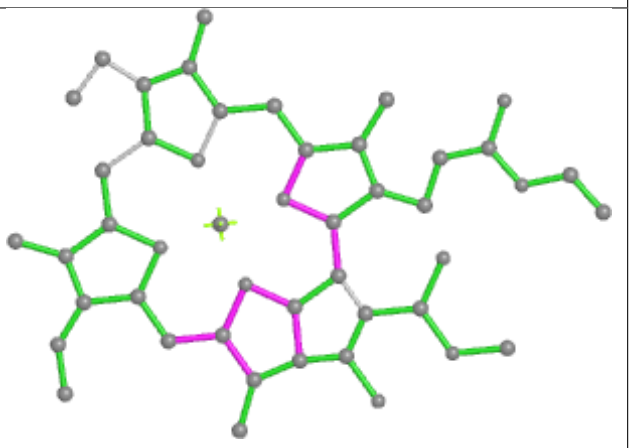
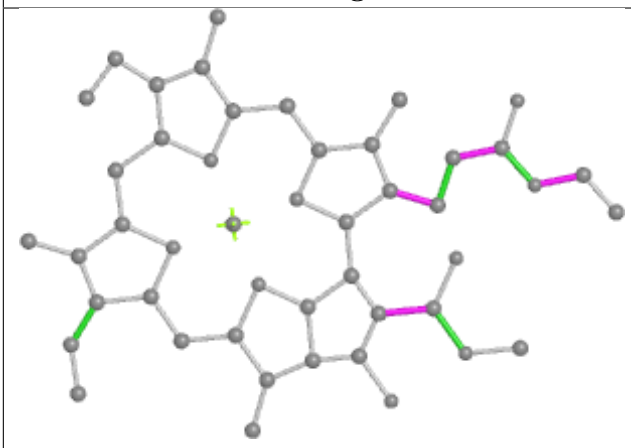
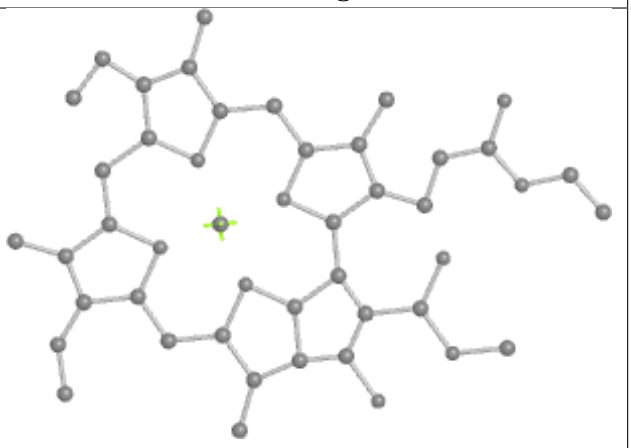


Bond angles

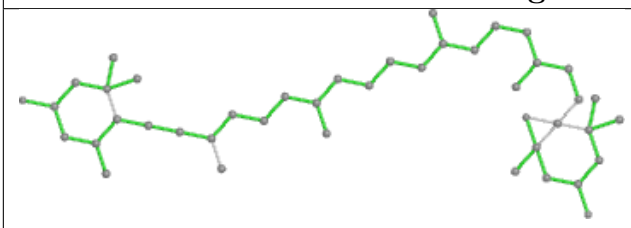


Torsions



Rings

Ligand DD6 n 210



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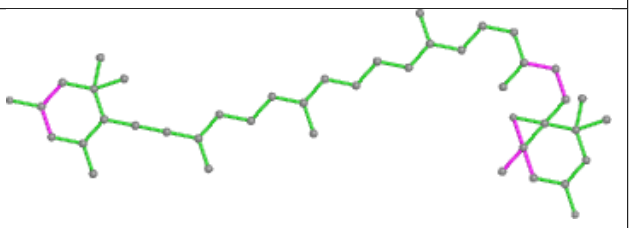
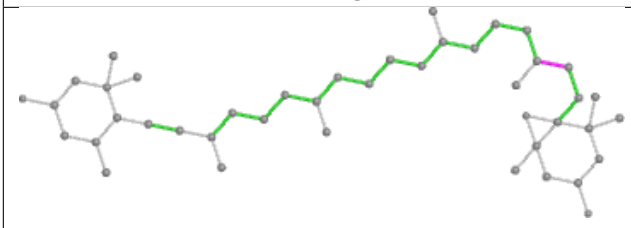


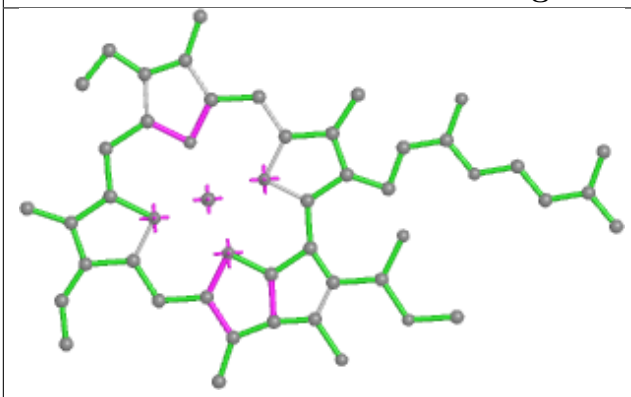
Bond angles



Torsions

Rings

Ligand CLA j 311



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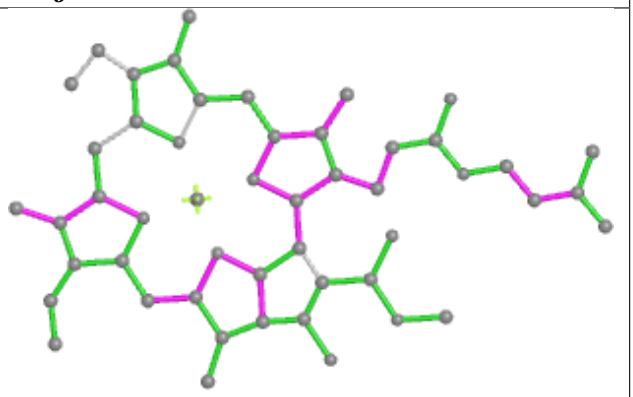
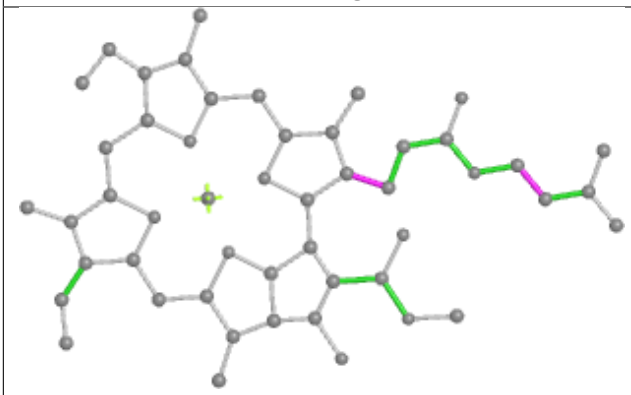
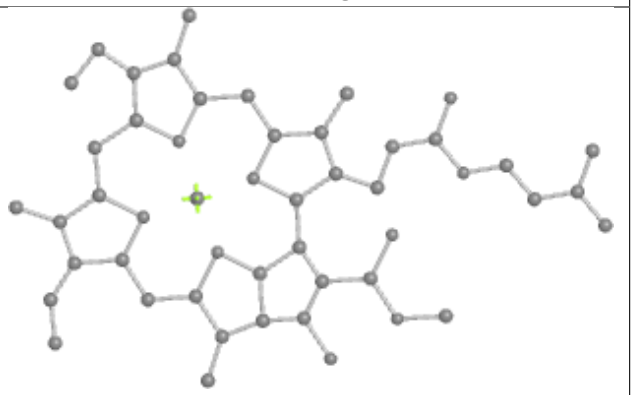


Bond angles

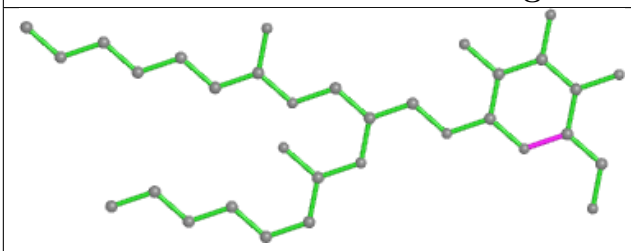


Torsions

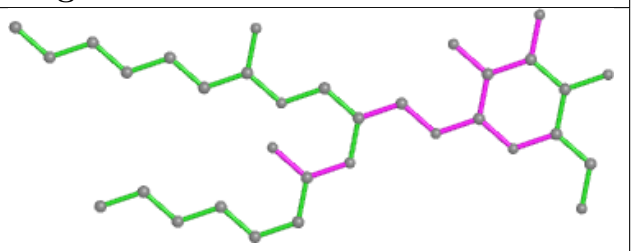


Rings

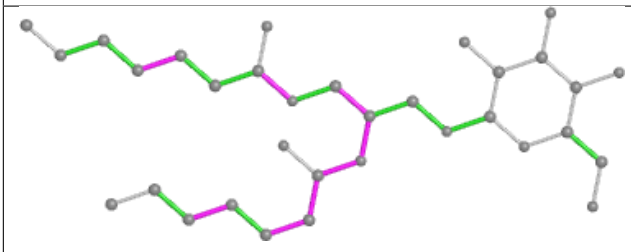
Ligand LMG g 313



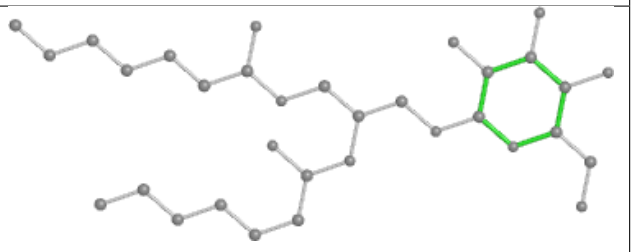
Bond lengths



Bond angles

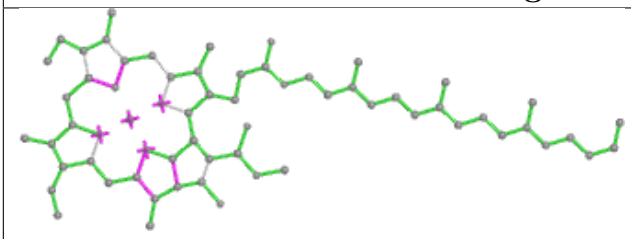


Torsions



Rings

Ligand CLA B 812



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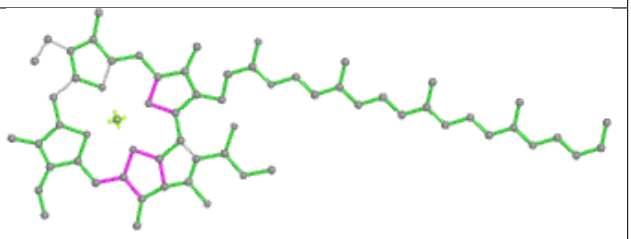
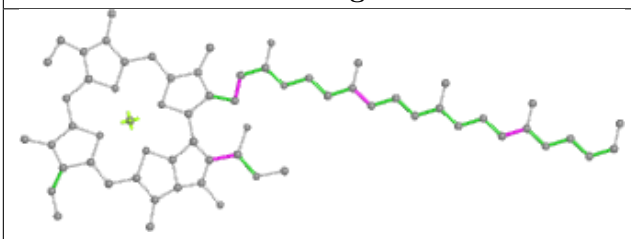


Bond angles



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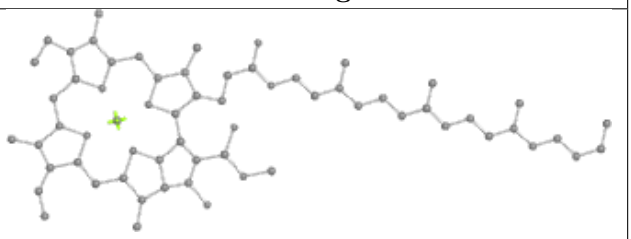
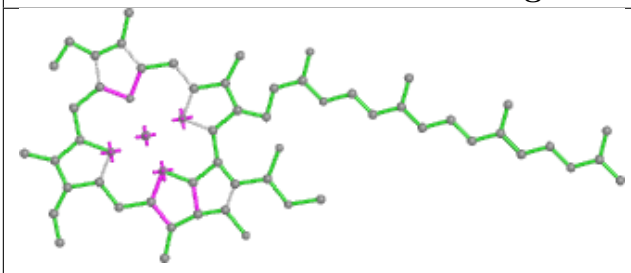


Rings

Ligand CLA B 815



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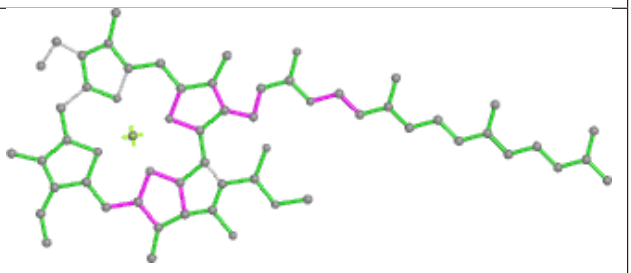
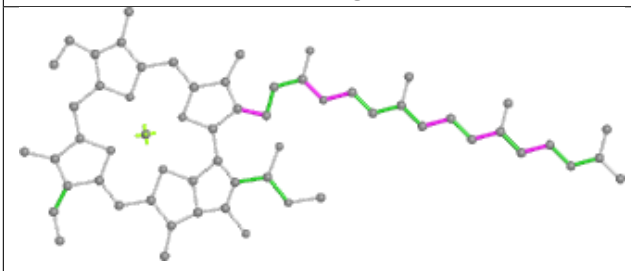
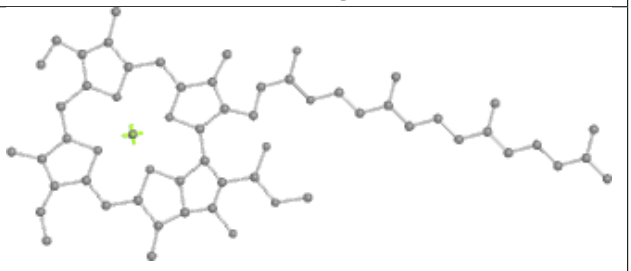


Bond angles

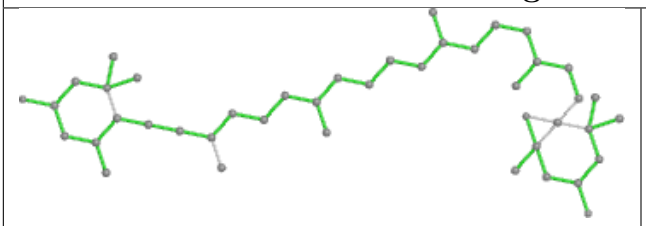


Torsions



Rings

Ligand DD6 m 312



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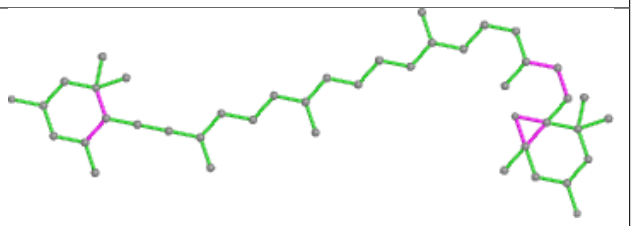
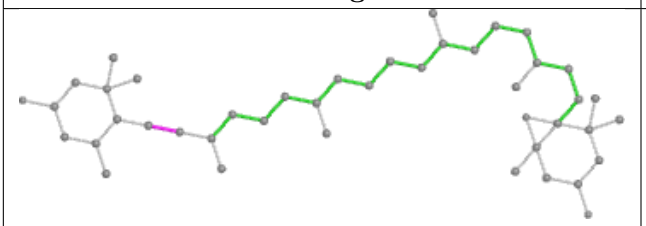
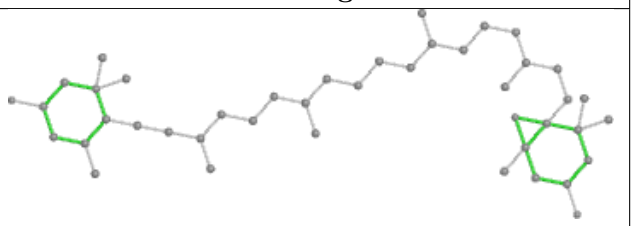


Bond angles

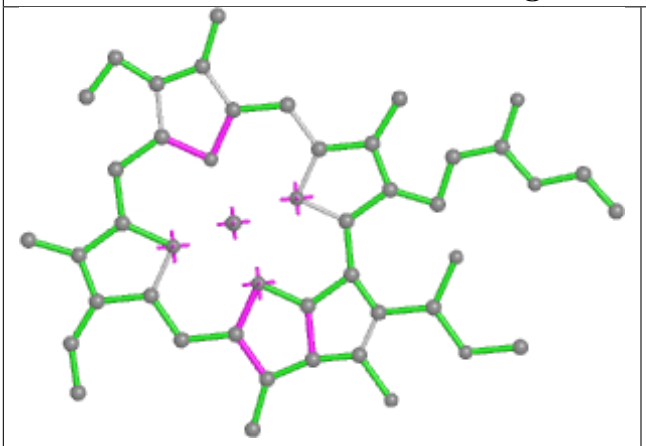


Torsions

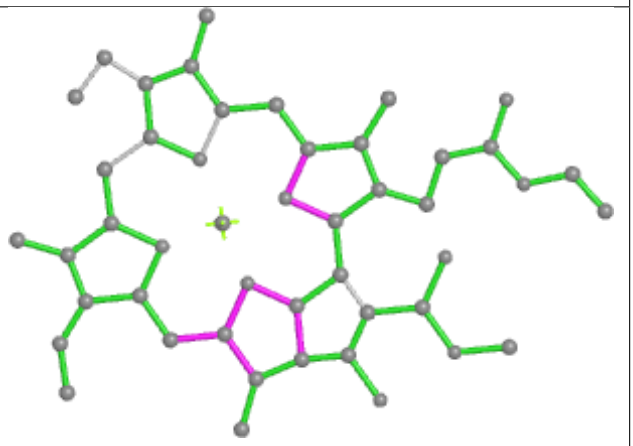


Rings

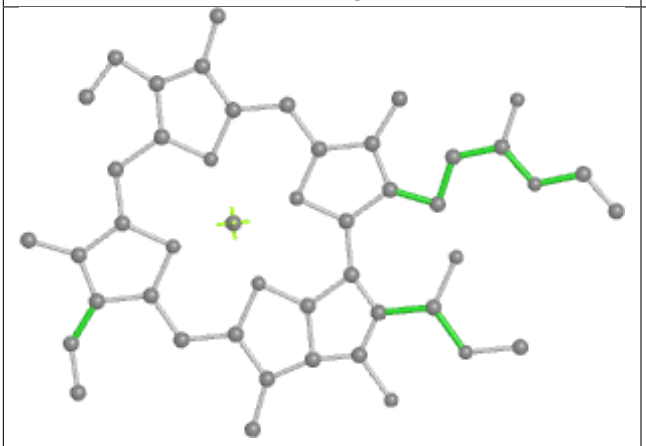
Ligand CLA A 845



Bond lengths



Bond angles



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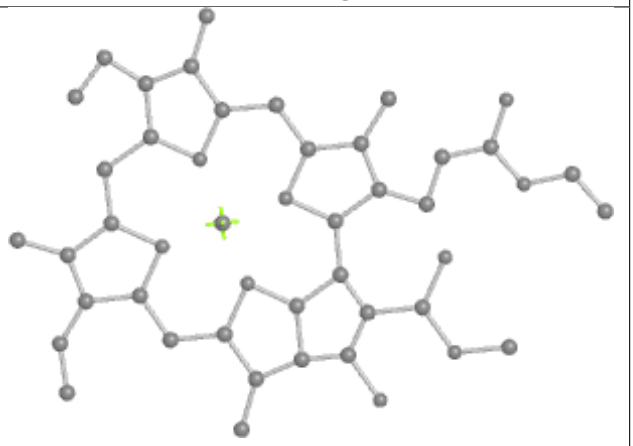
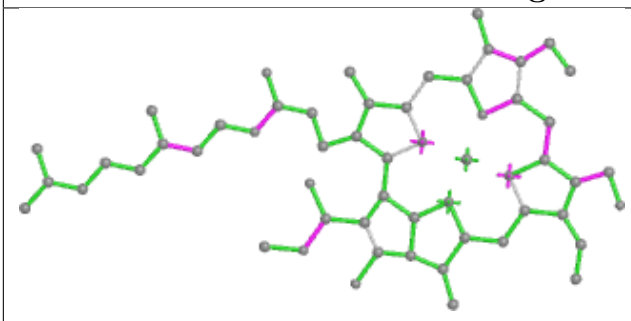
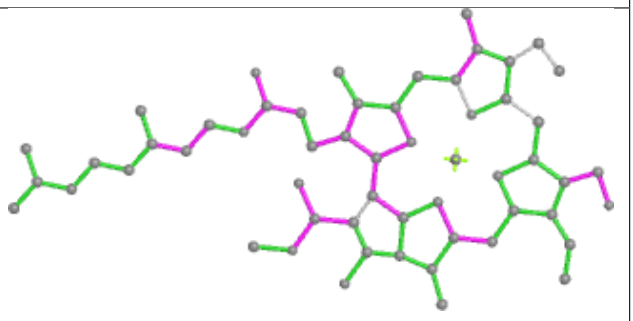


Rings

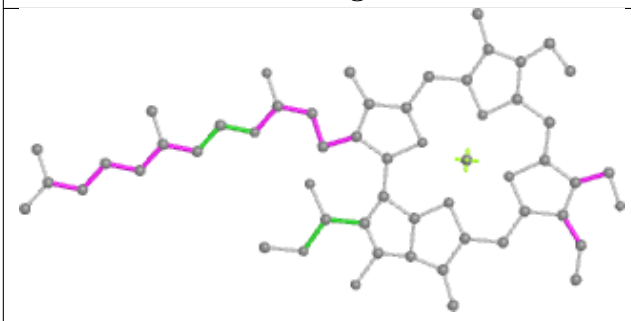
Ligand CHL c 312



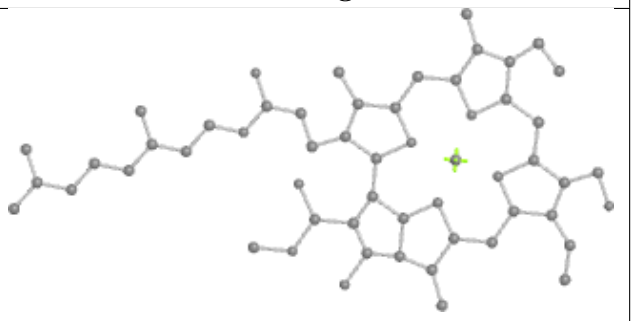
Bond lengths



Bond angles

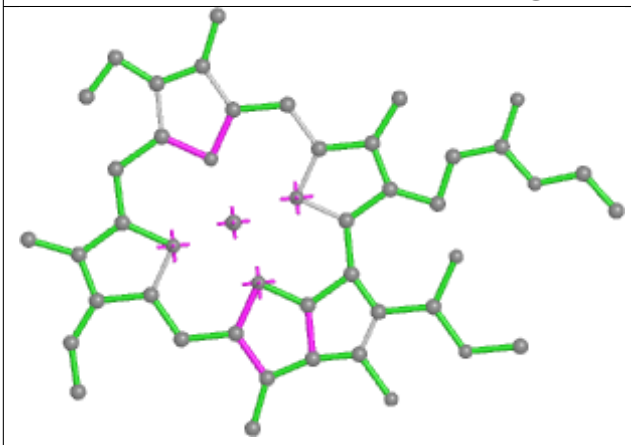


Torsions



Rings

Ligand CLA d 206



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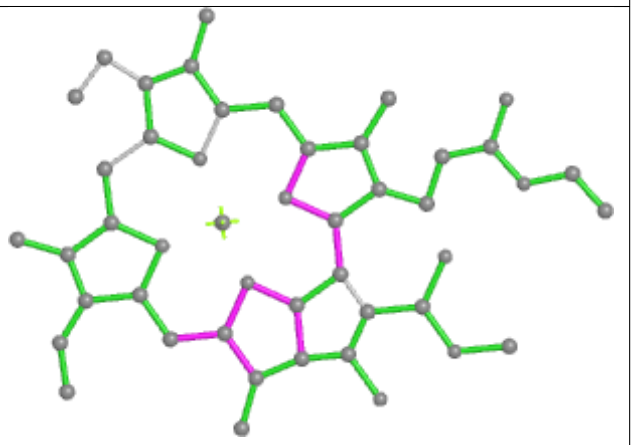

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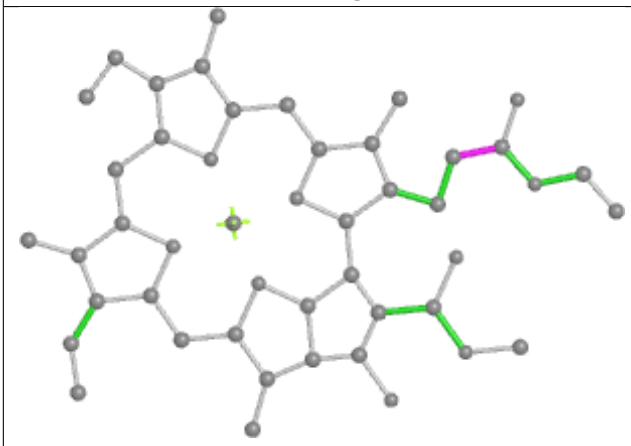

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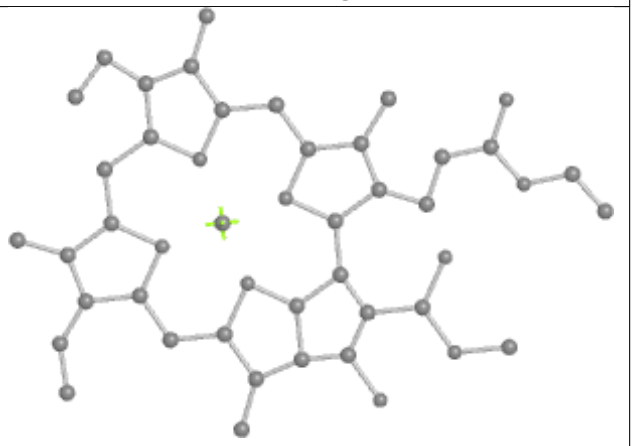
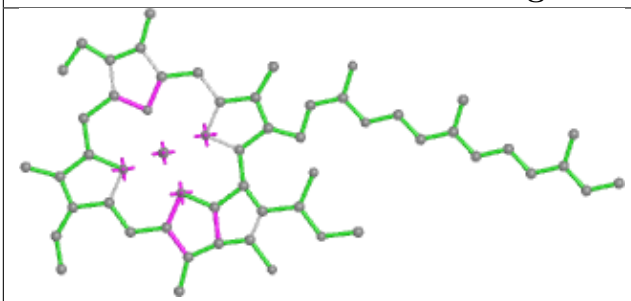


Rings

Ligand CLA b 308



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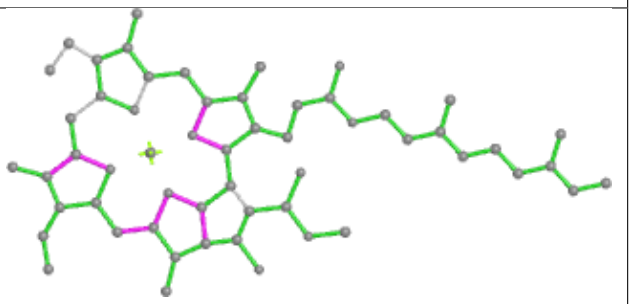
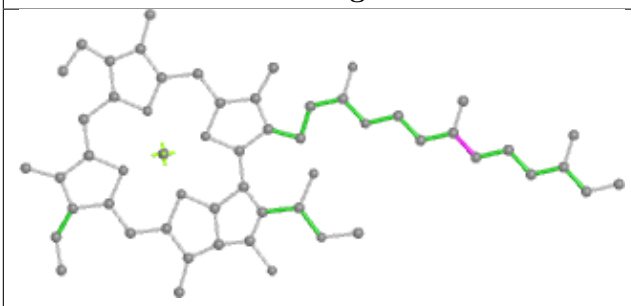


Bond angles



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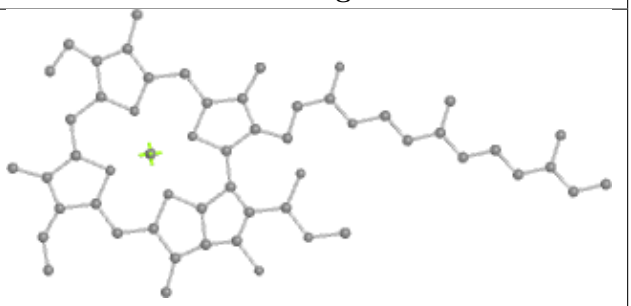
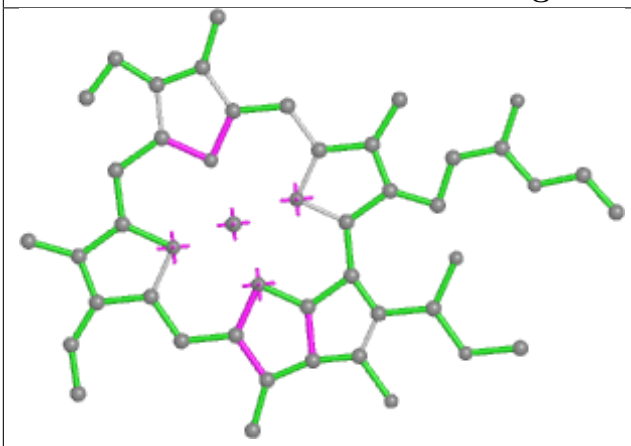


Rings

Ligand CLA l 202



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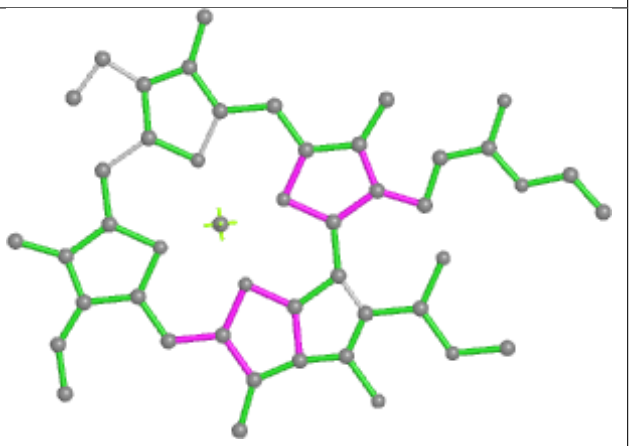
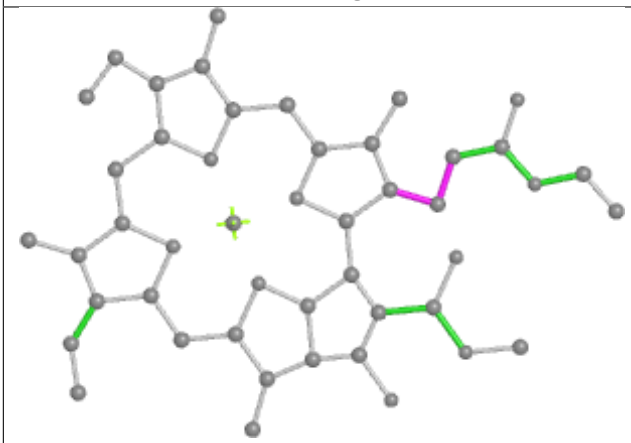


Bond angles



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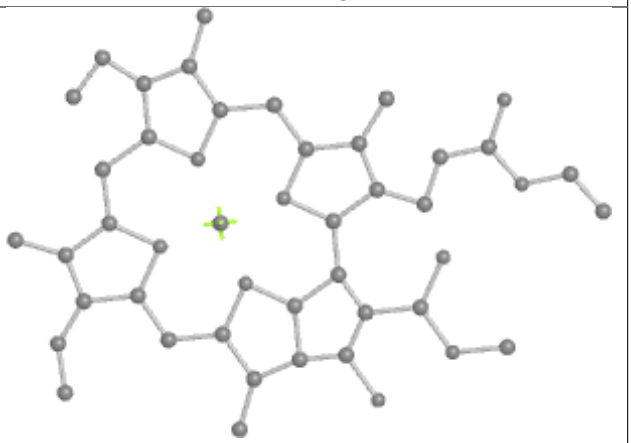
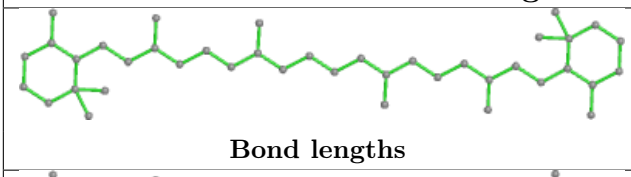


Rings

Ligand BCR A 837



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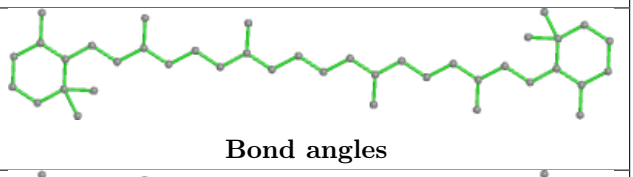
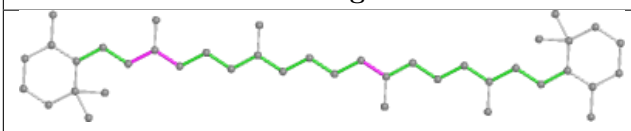


Bond angles



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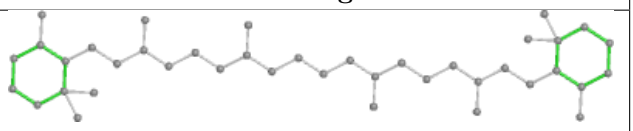
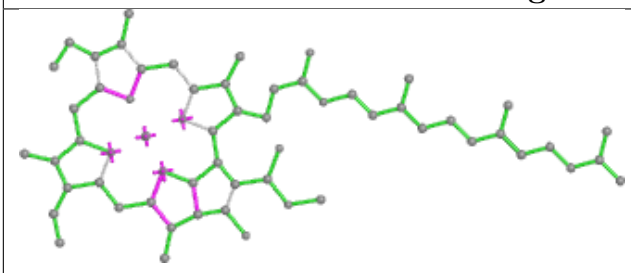


Rings

Ligand CLA o 307



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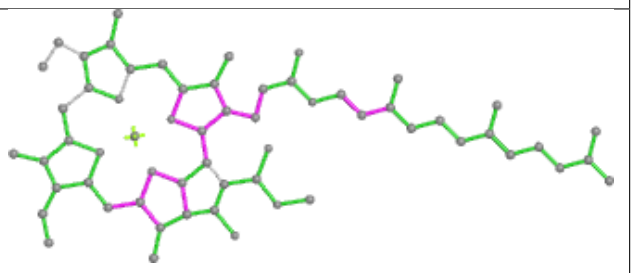
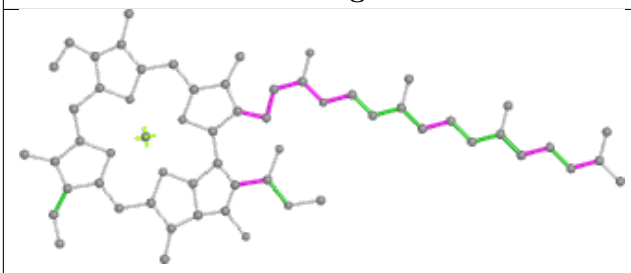


Bond angles



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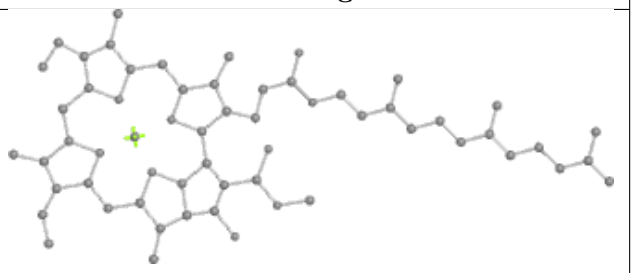
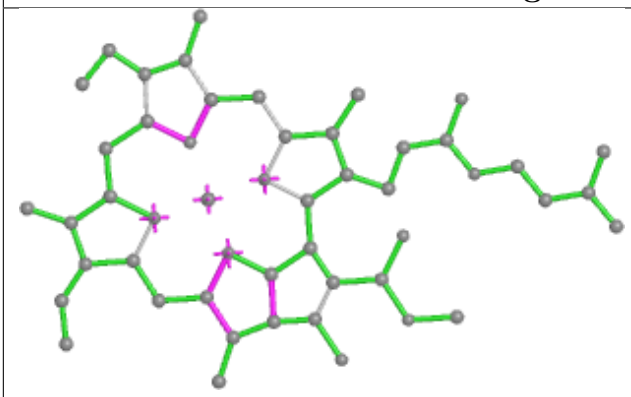


Rings

Ligand CLA A 848



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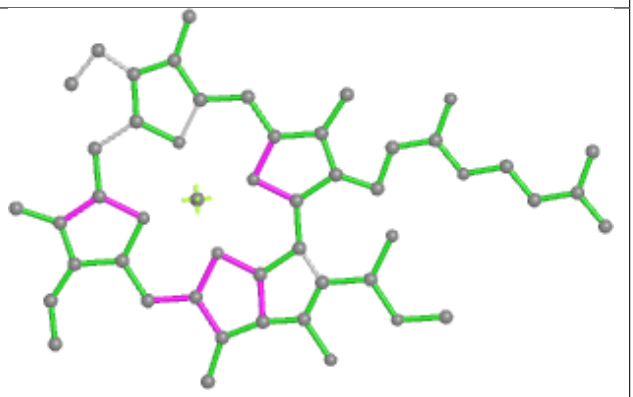
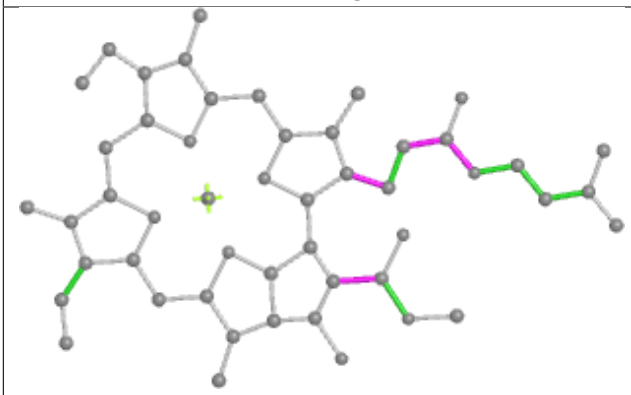


Bond angles



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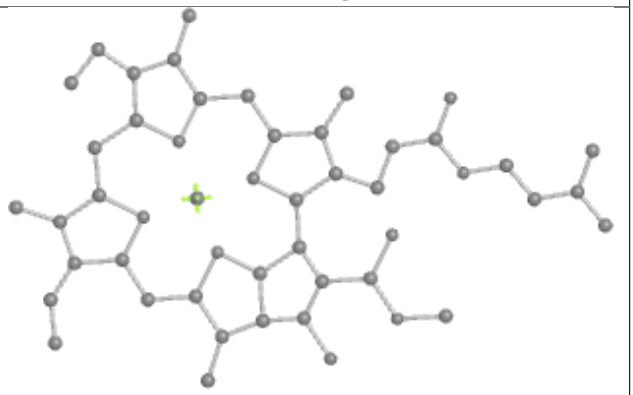
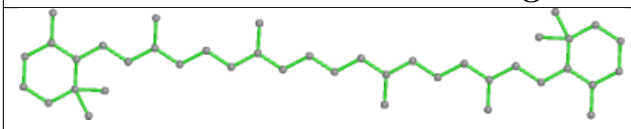


Rings

Ligand BCR B 828



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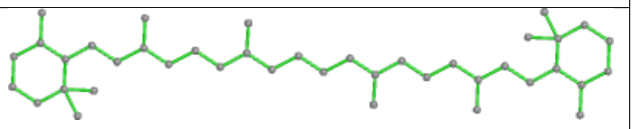

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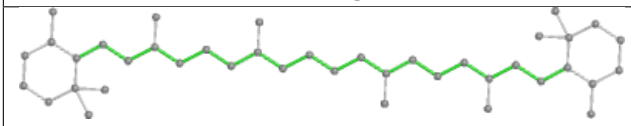

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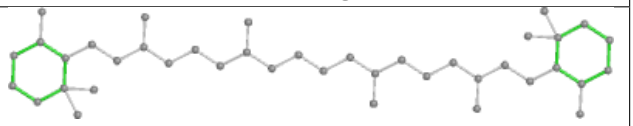
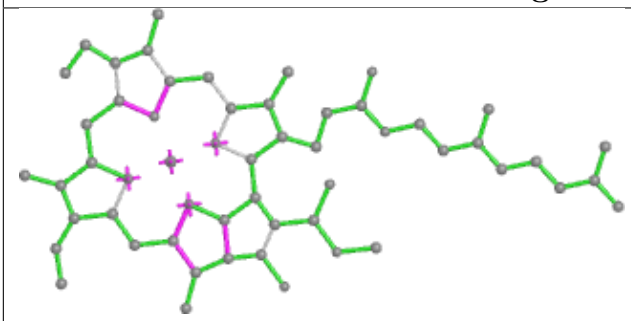


Rings

Ligand CLA f 314



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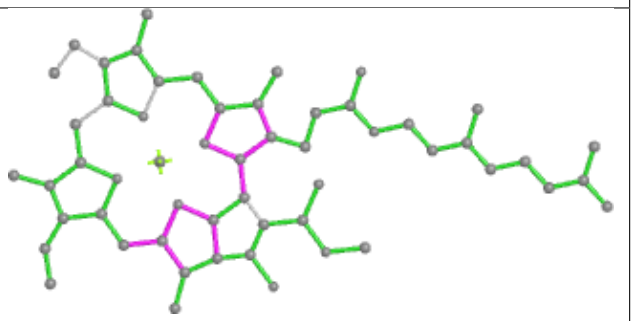
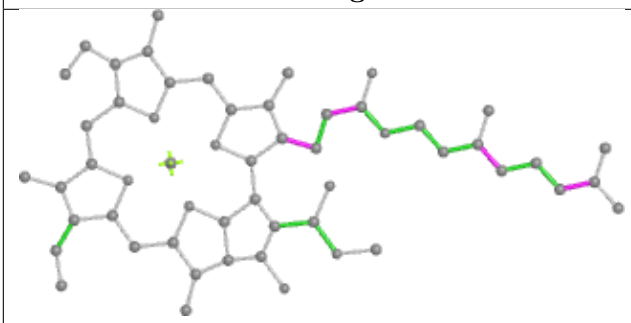


Bond angles



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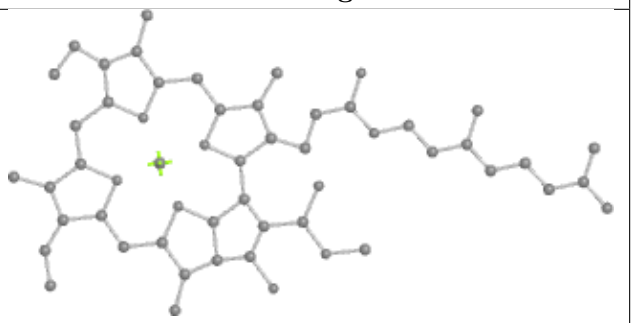
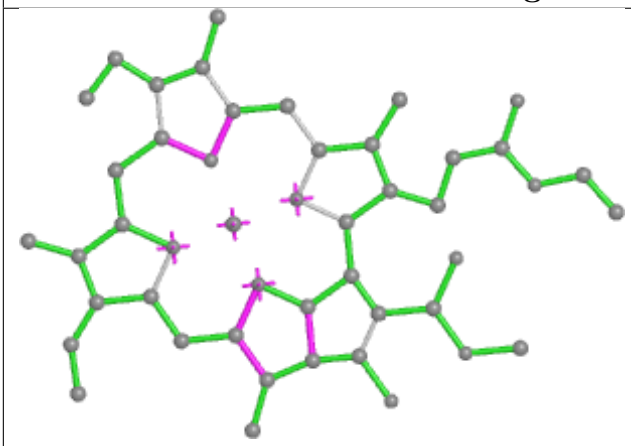


Rings

Ligand CLA A 849



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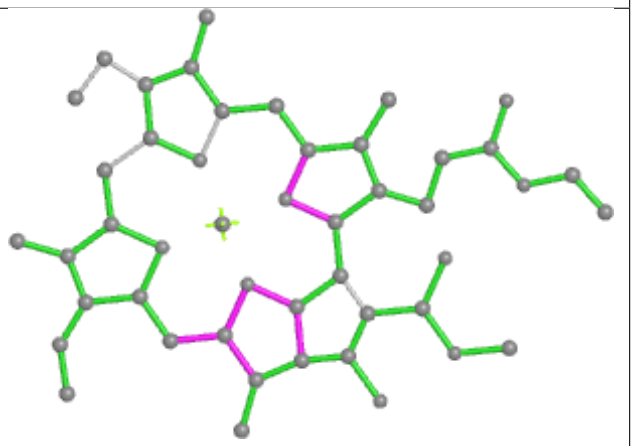

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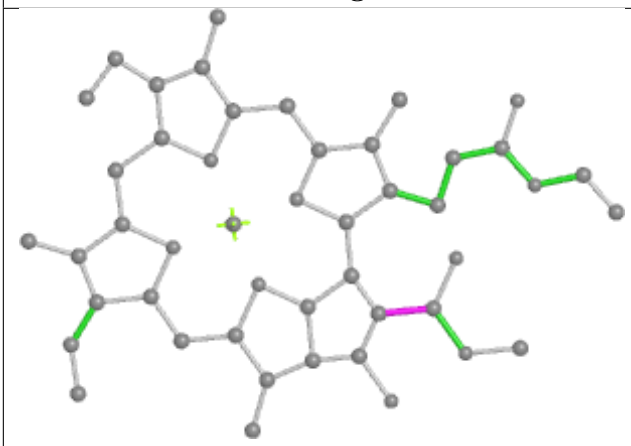

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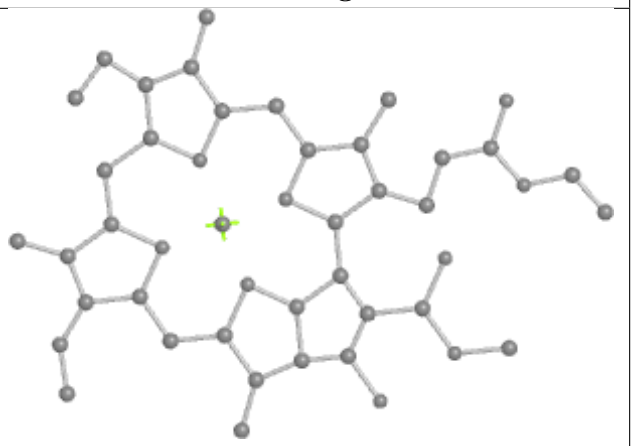
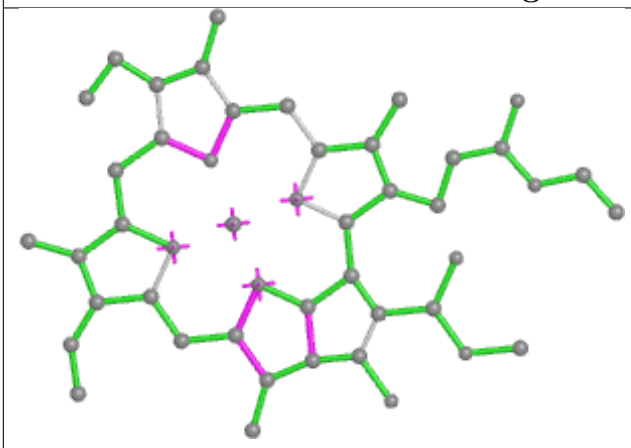


Rings

Ligand CLA m 309



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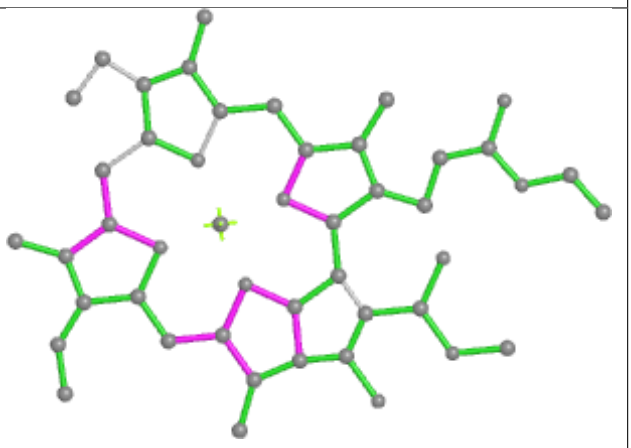
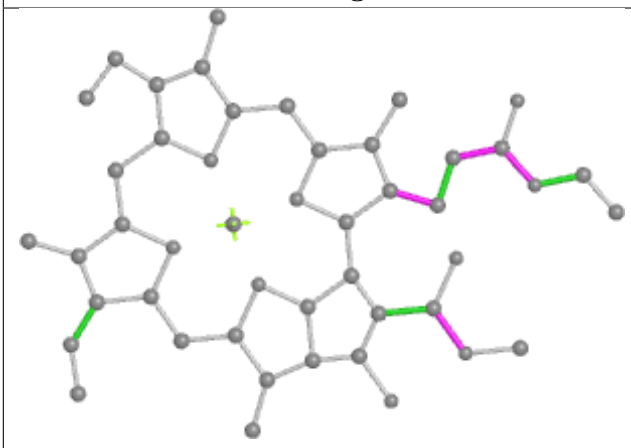


Bond angles



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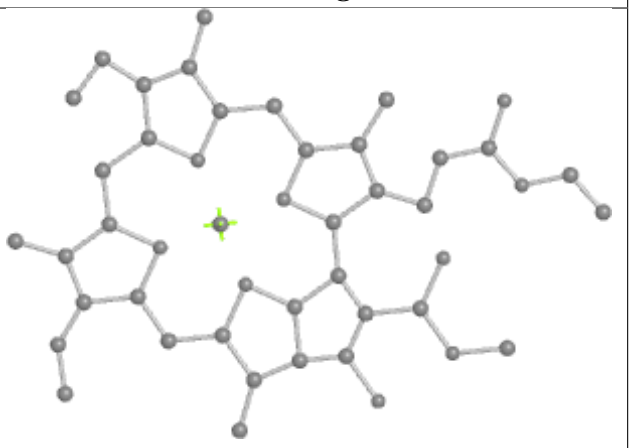
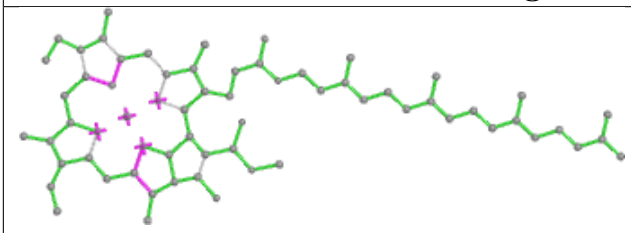


Rings

Ligand CLA A 801



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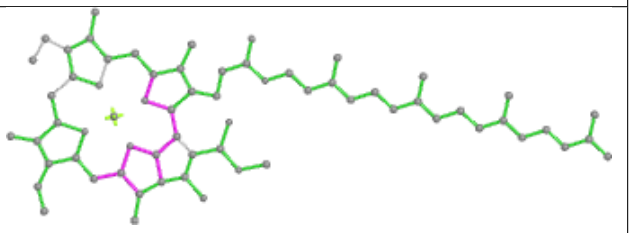
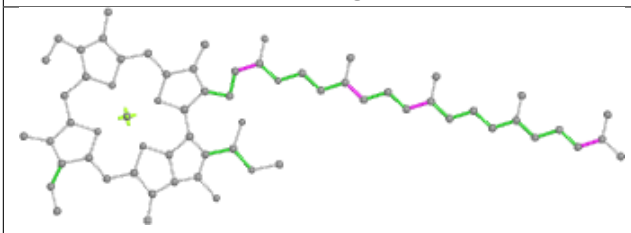


Bond angles



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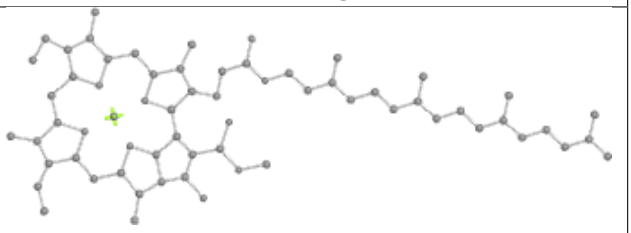
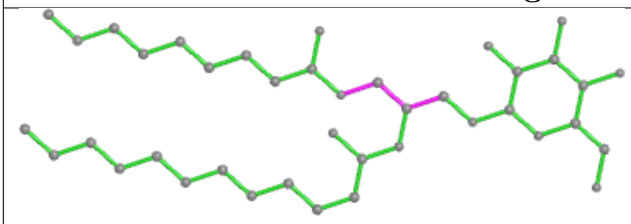


Rings

Ligand LMG a 301



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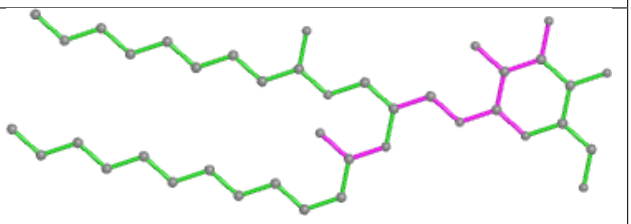
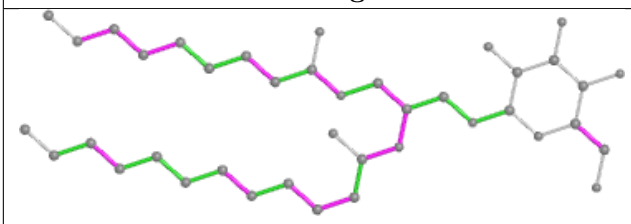


Bond angles



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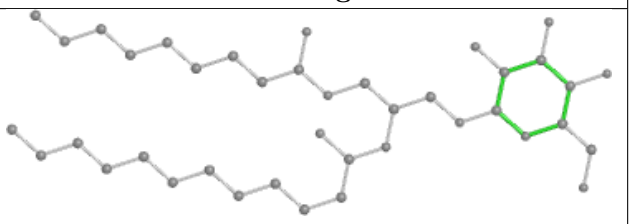
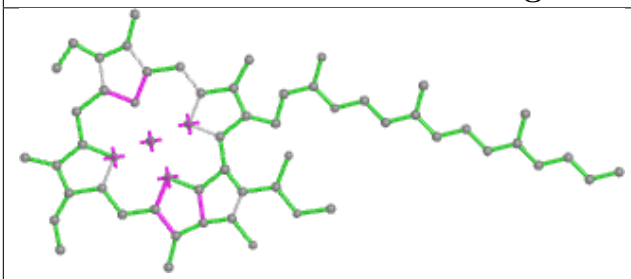


Rings

Ligand CLA B 830



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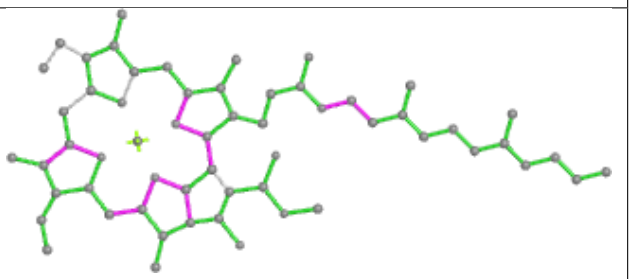
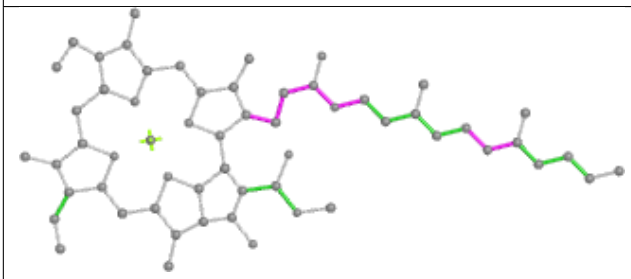
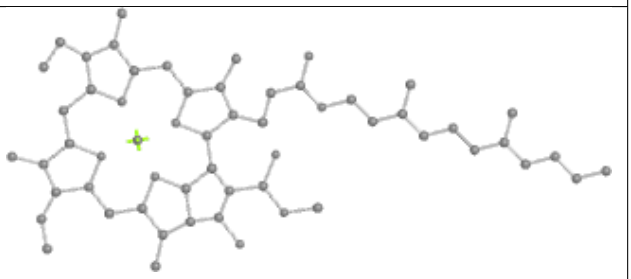


Bond angles

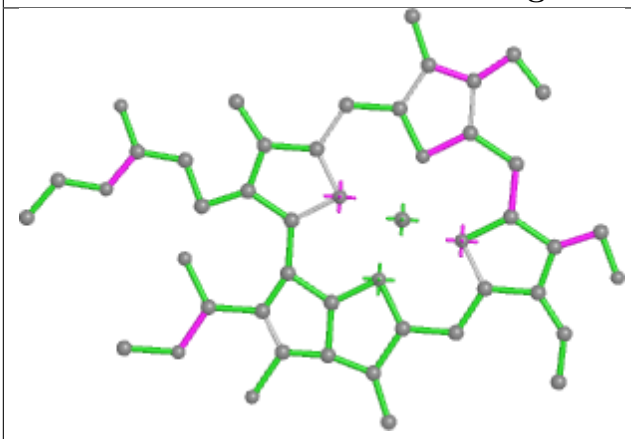


Torsions

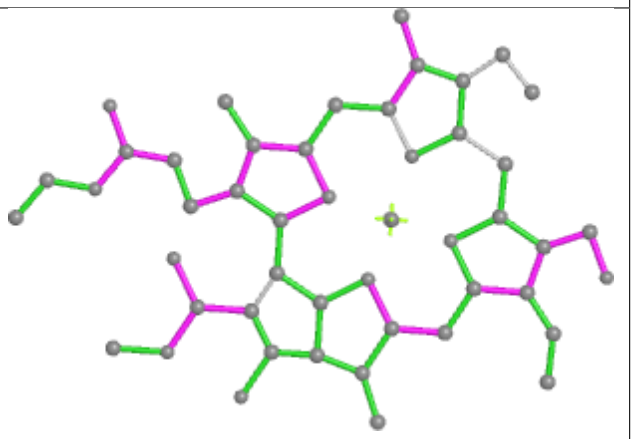


Rings

Ligand CHL o 301



Bond lengths



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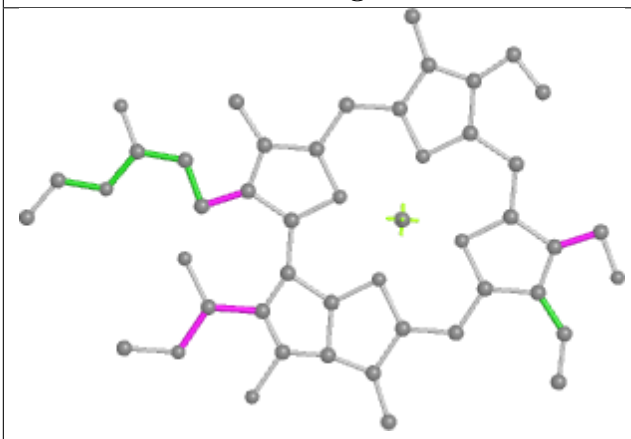

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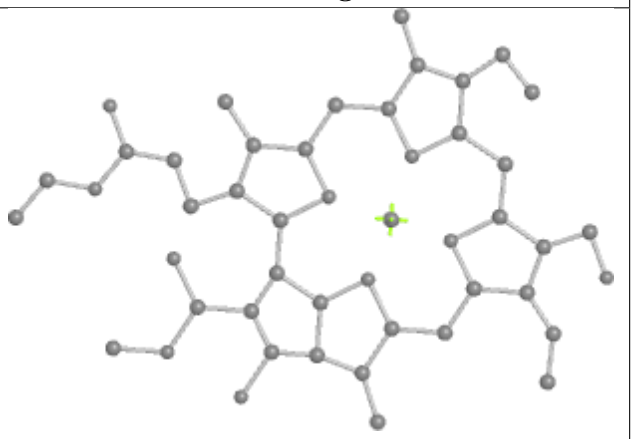
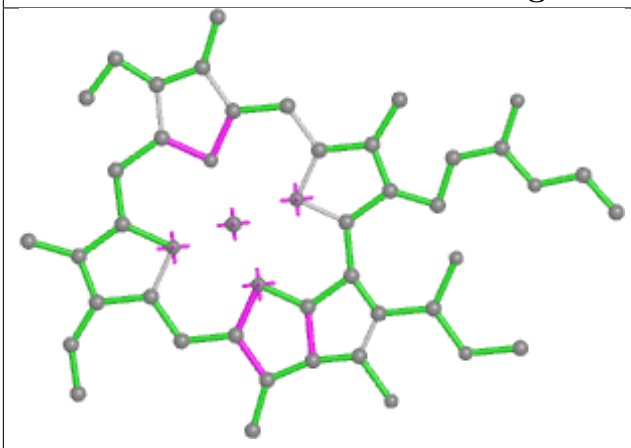


Rings

Ligand CLA J 803



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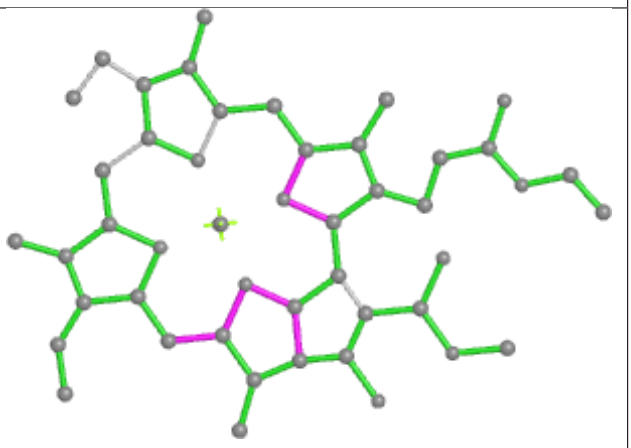

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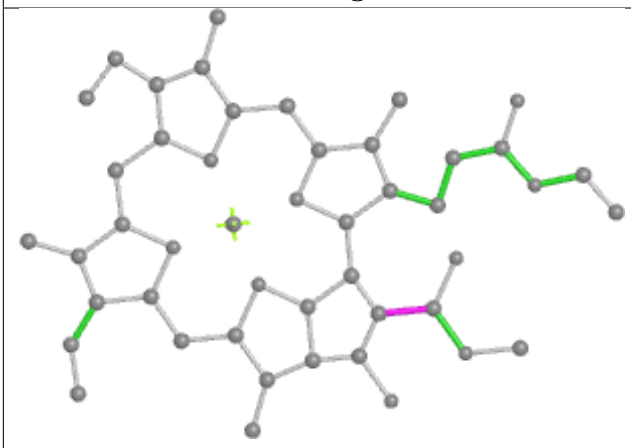

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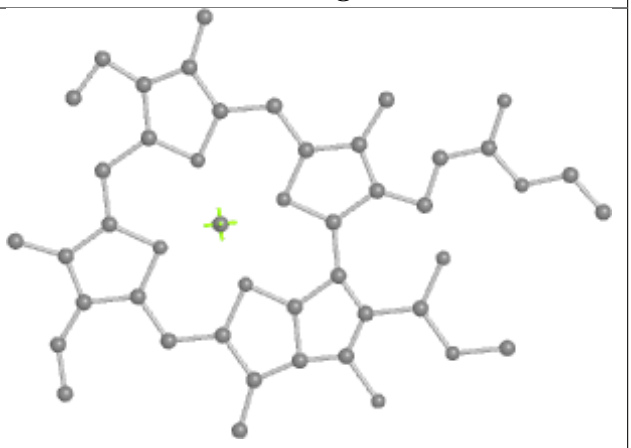
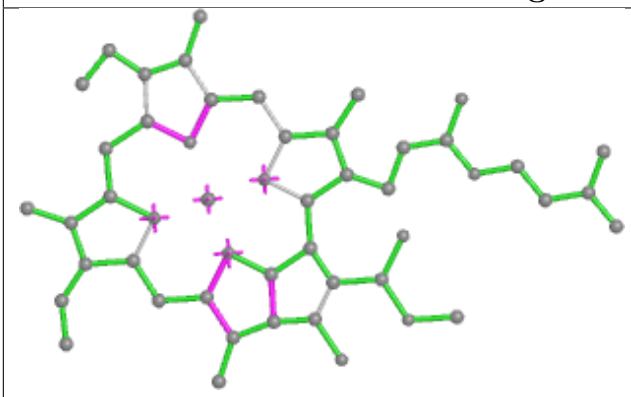


Rings

Ligand CLA a 310



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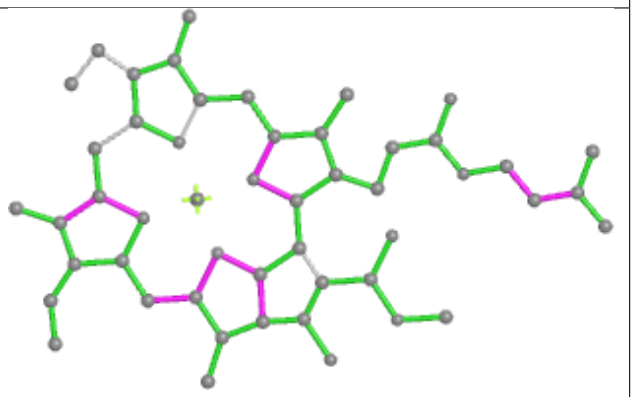

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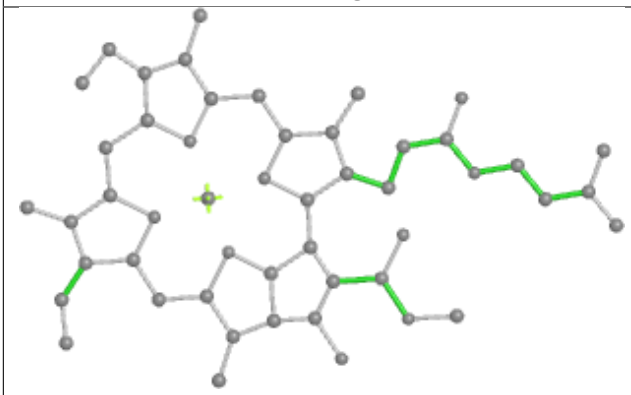

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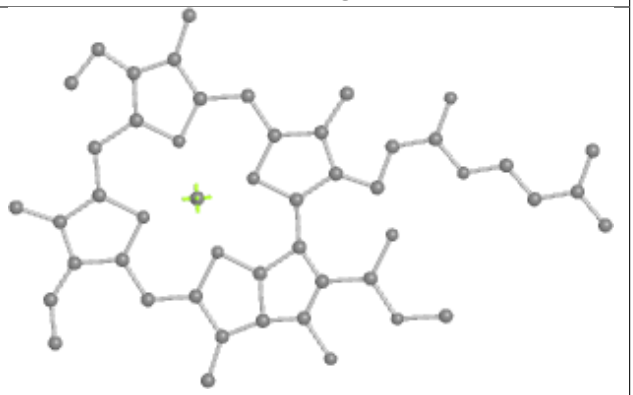
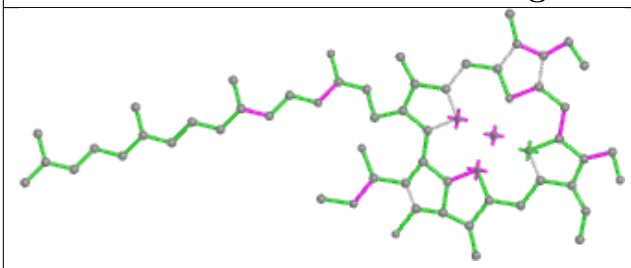


Rings

Ligand CHL e 304



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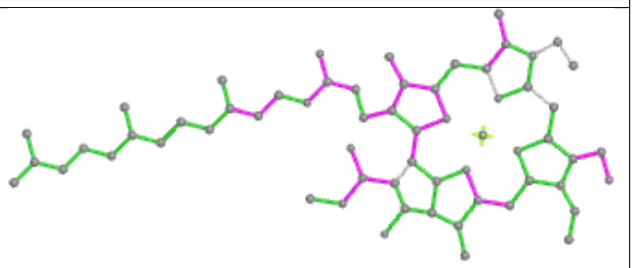

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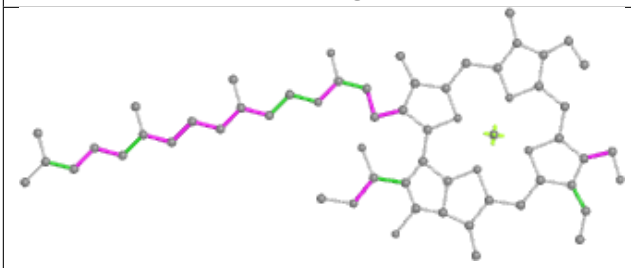

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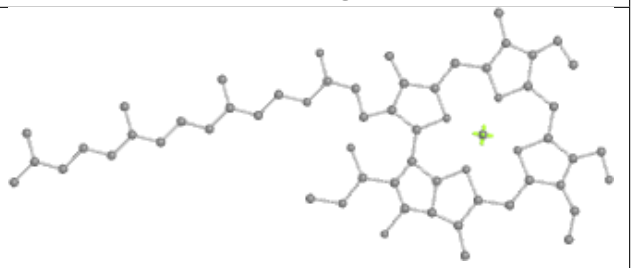
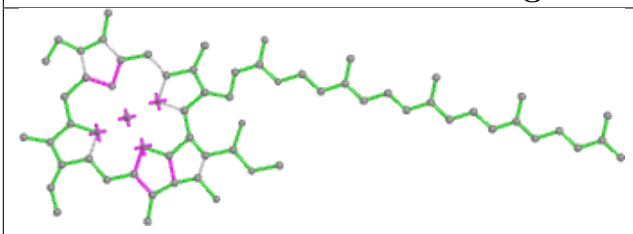


Rings

Ligand CLA A 842



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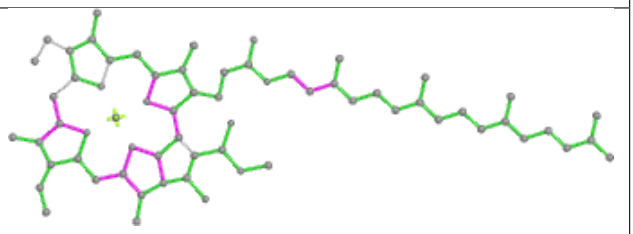

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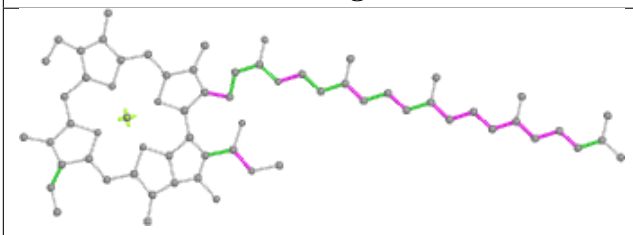

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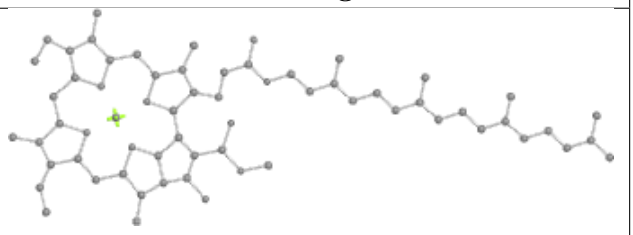
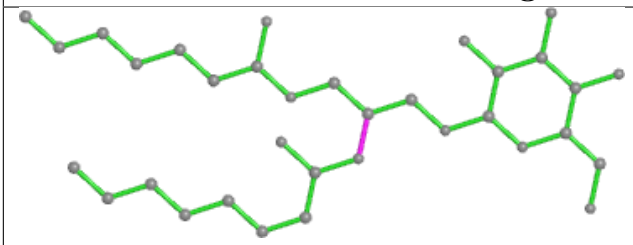


Rings

Ligand LMG A 851



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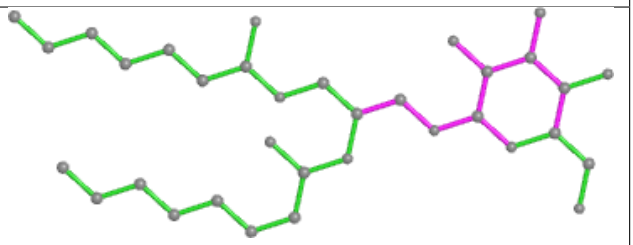

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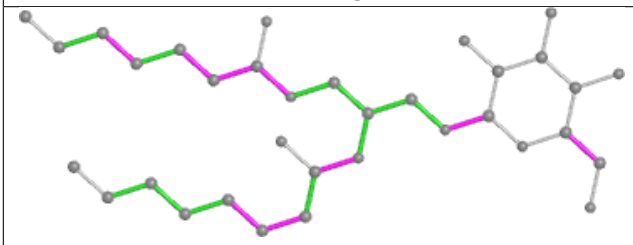

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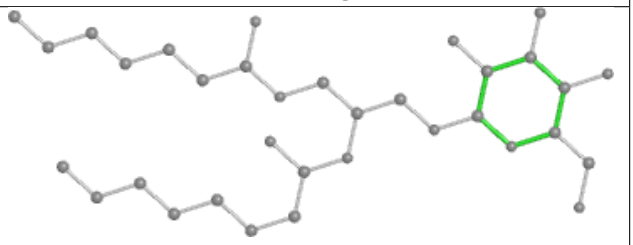
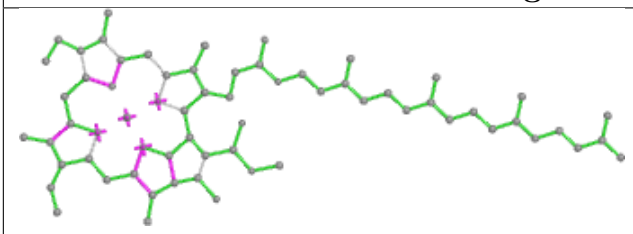


Rings

Ligand CLA A 803



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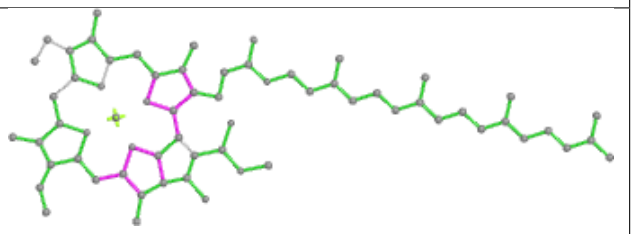

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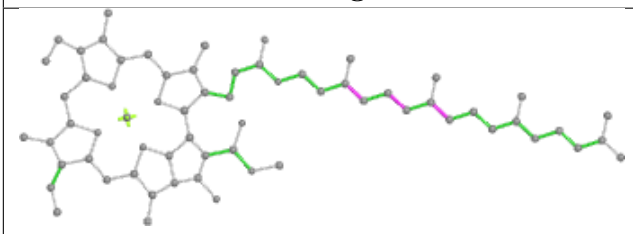

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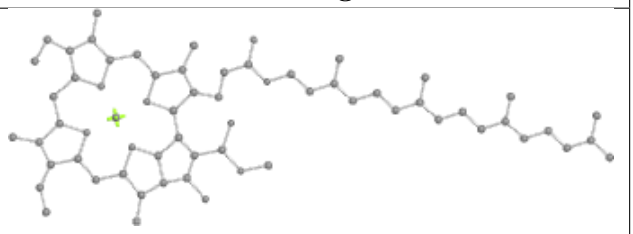
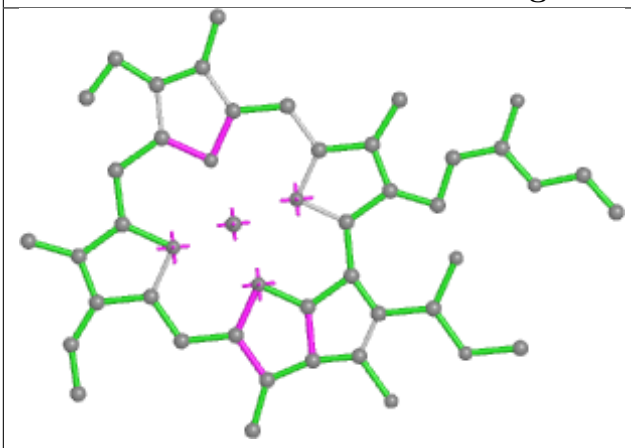


Rings

Ligand CLA c 311



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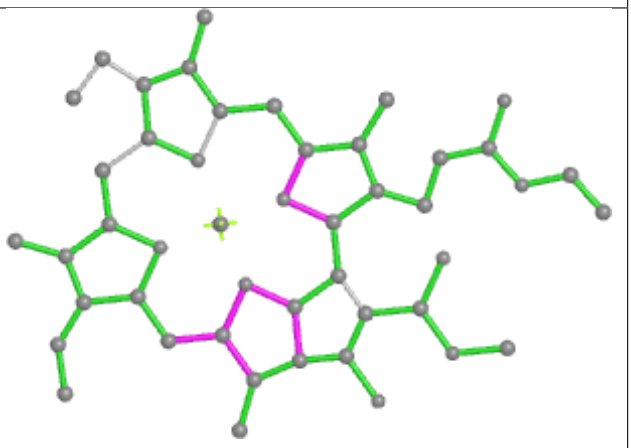

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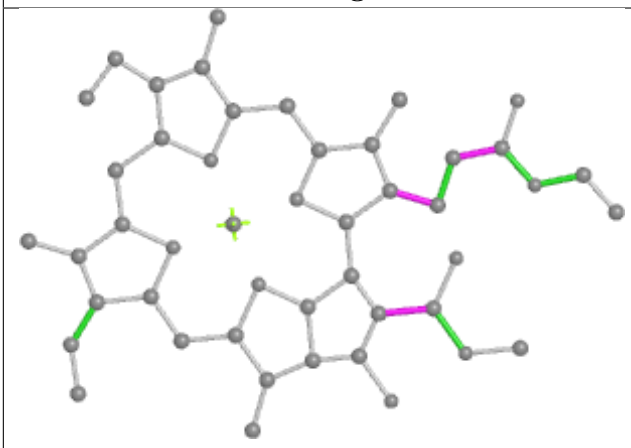

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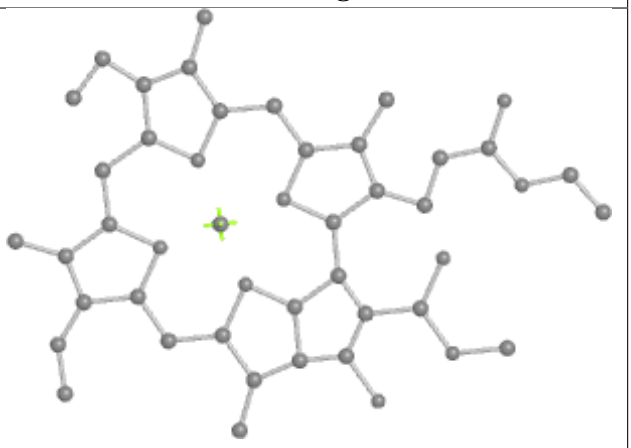
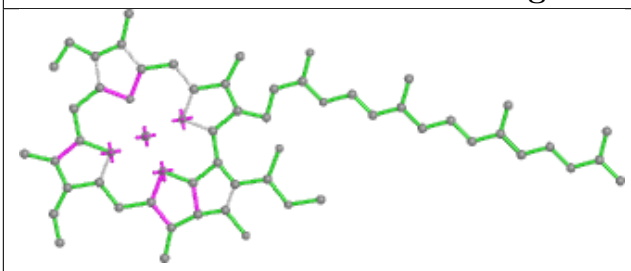


Rings

Ligand CLA a 305



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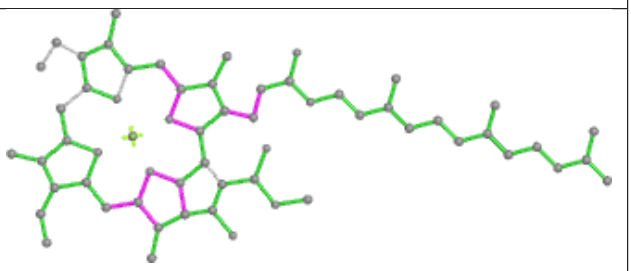

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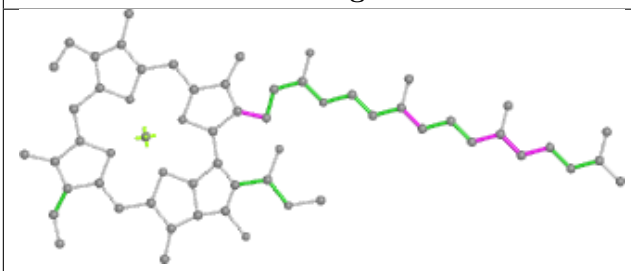

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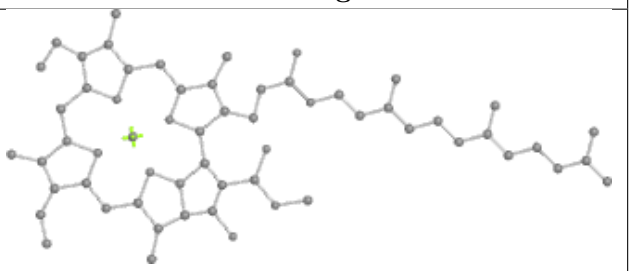
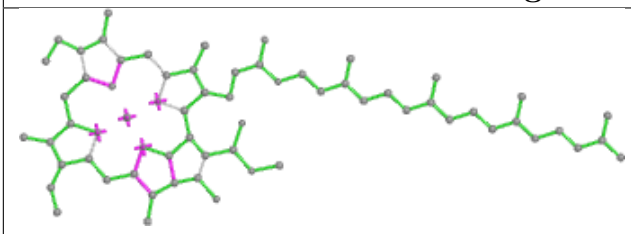
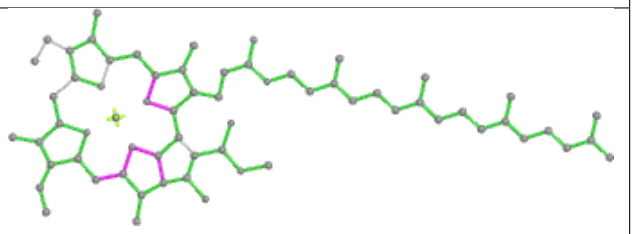
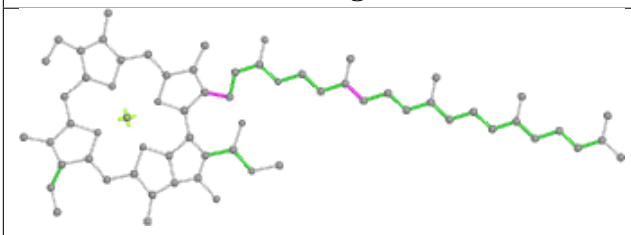
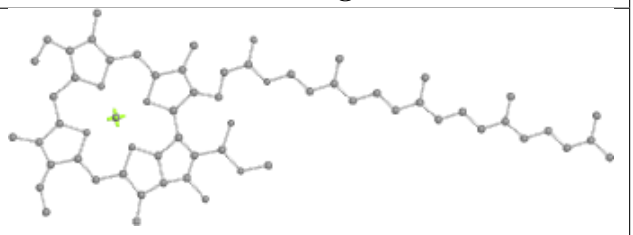


Rings

Ligand CLA B 819	
 Bond lengths	 Bond angles
 Torsions	 Rings

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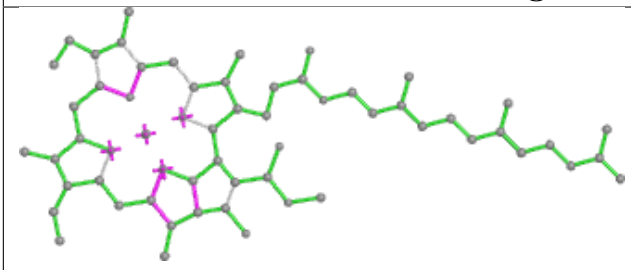
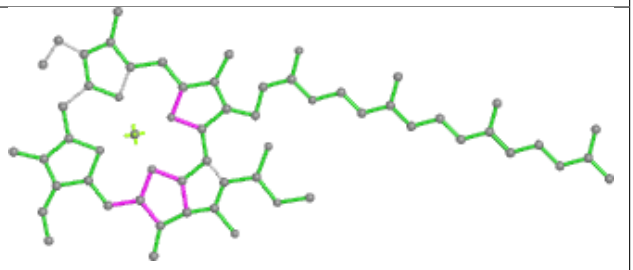
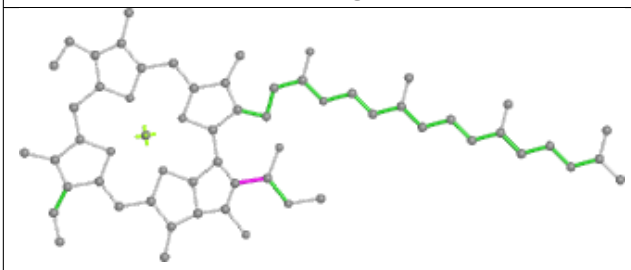
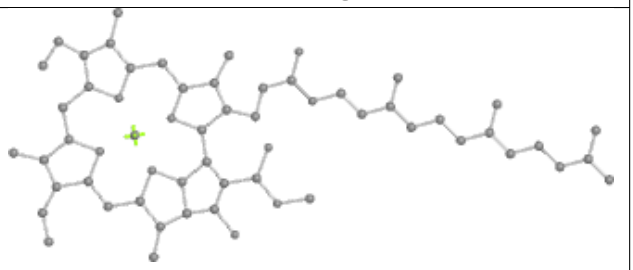
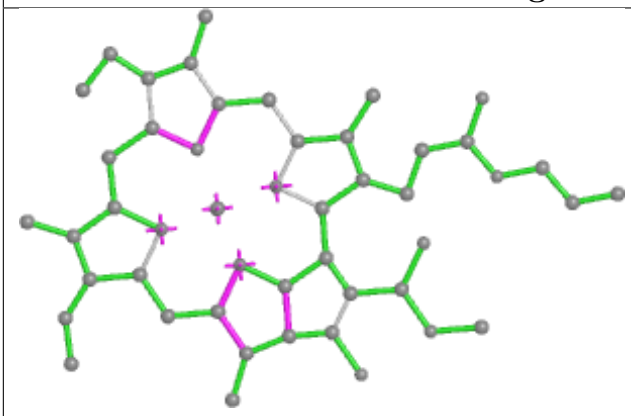
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA g 301



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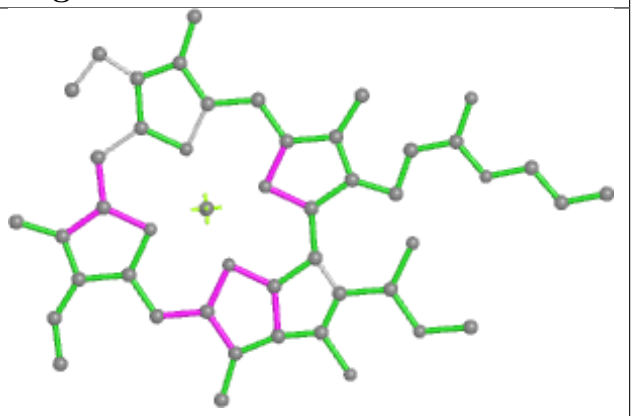
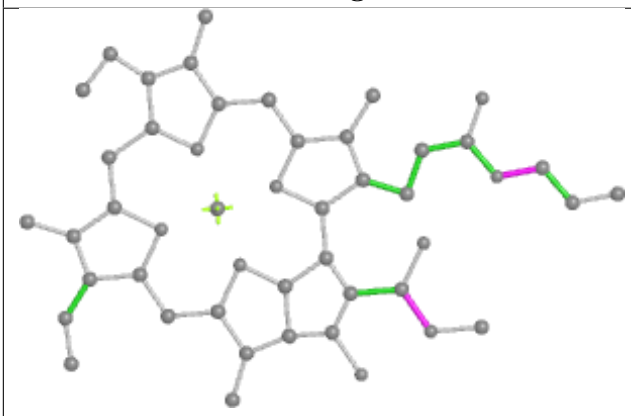


Bond angles



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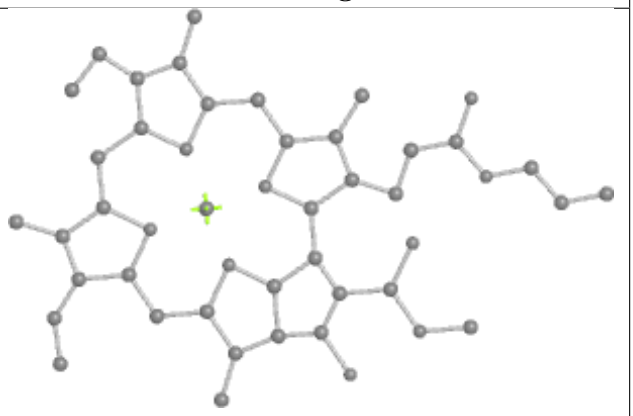
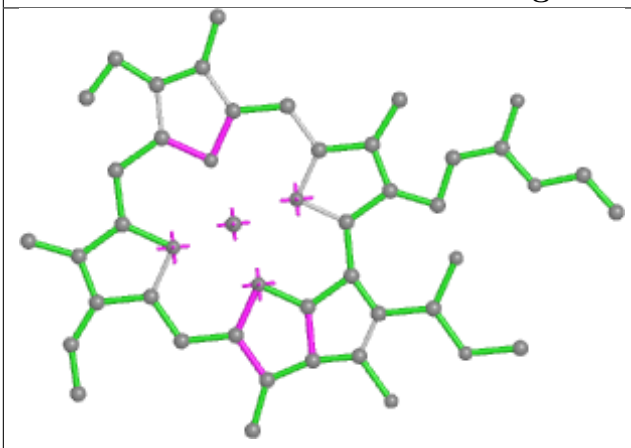


Rings

Ligand CLA l 209



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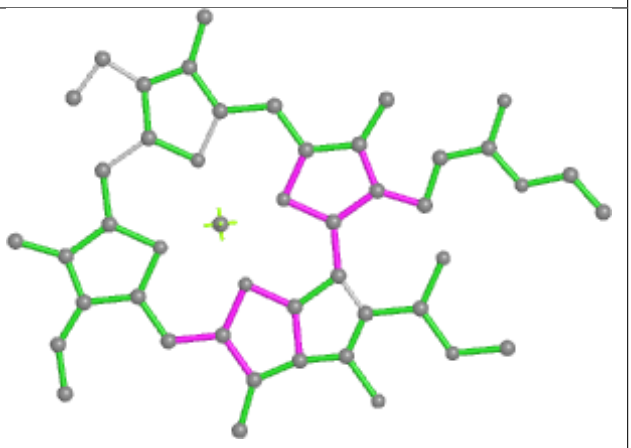
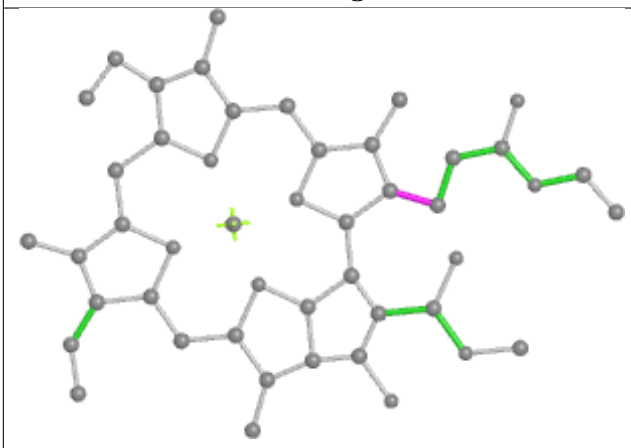


Bond angles



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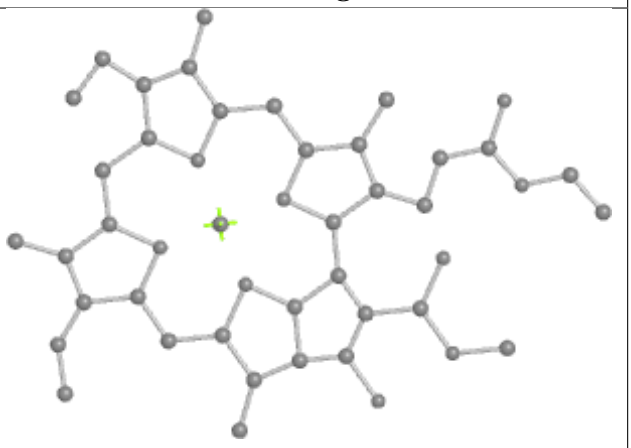
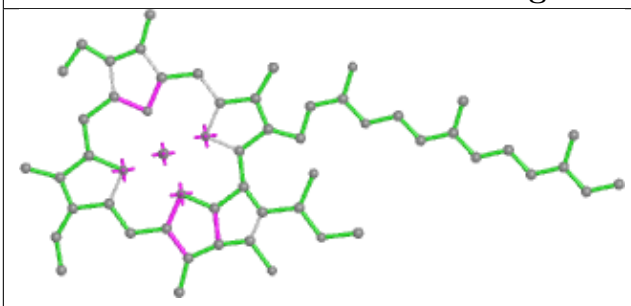
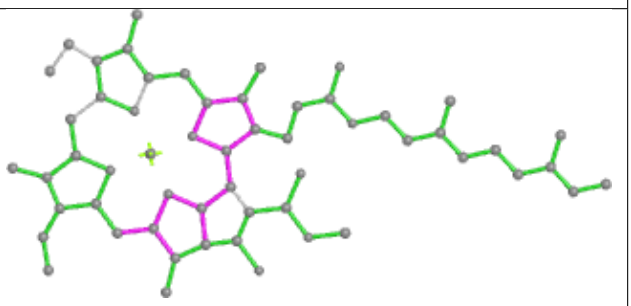


Rings

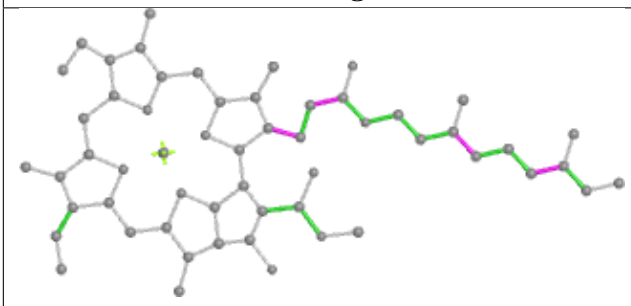
Ligand CLA e 308



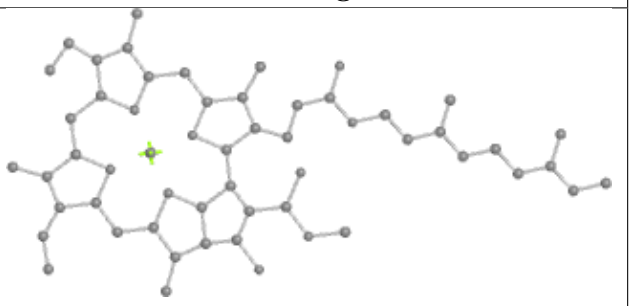
Bond lengths



Bond angles

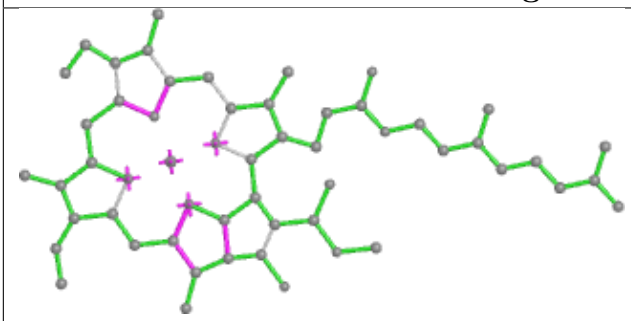


Torsions



Rings

Ligand CLA m 310



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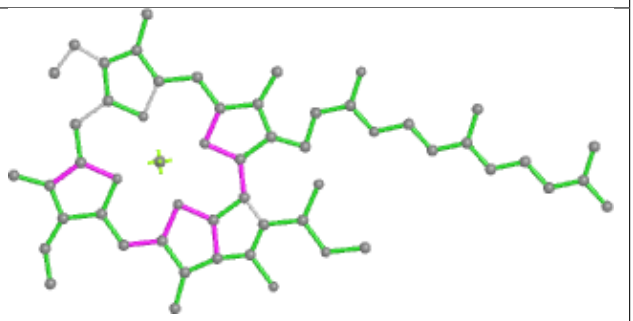

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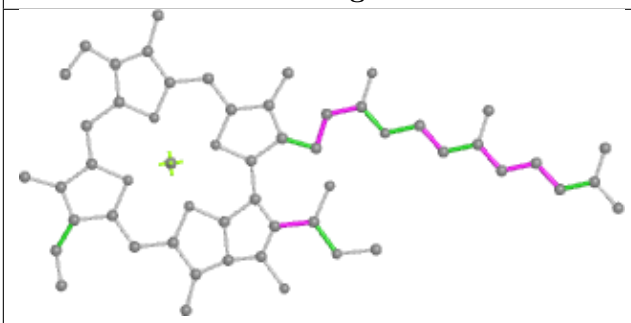

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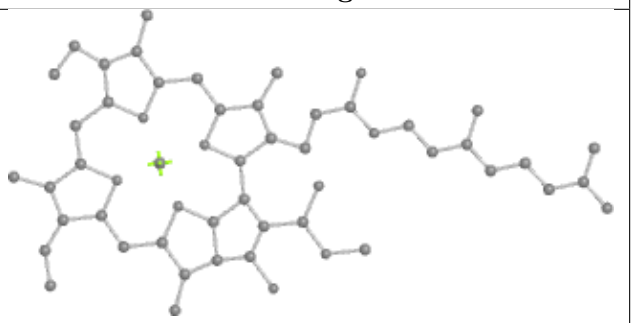
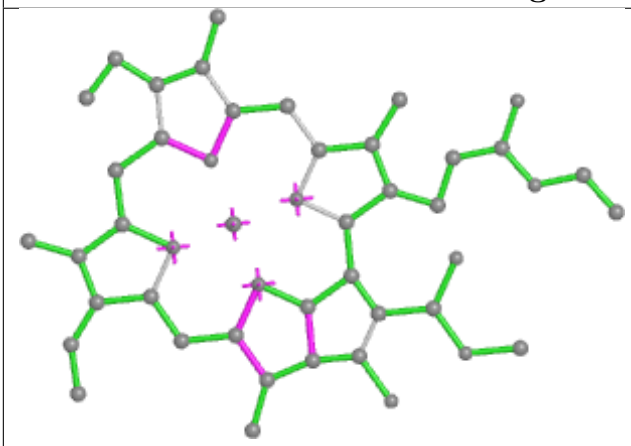


Rings

Ligand CLA c 302



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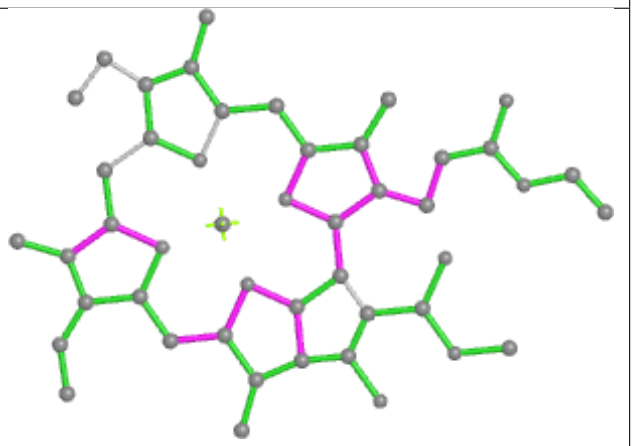
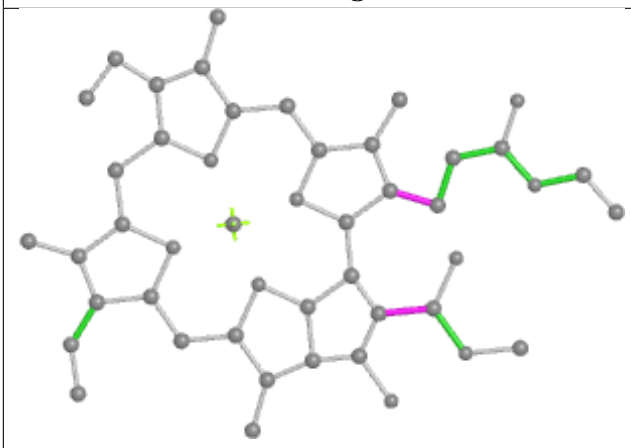
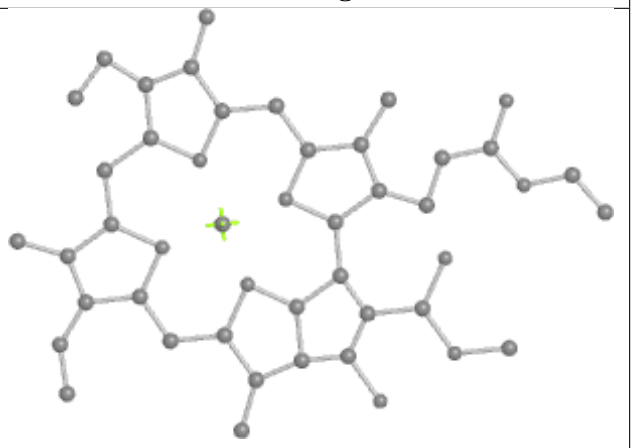


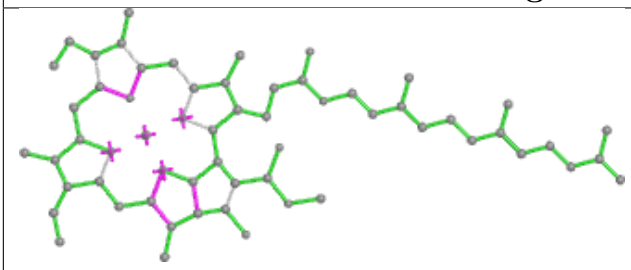
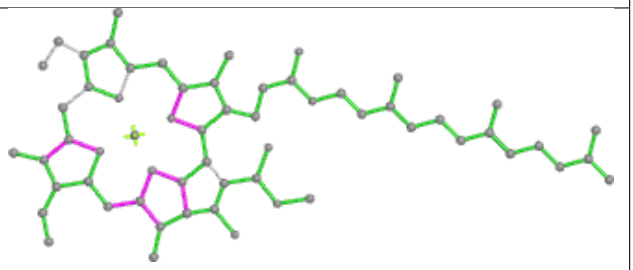
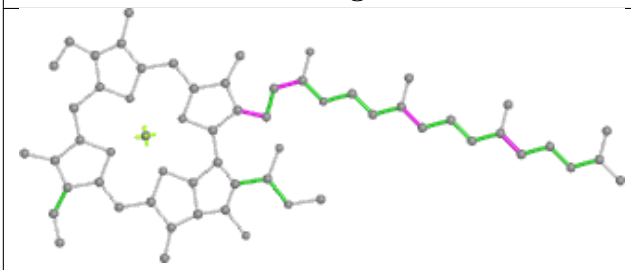
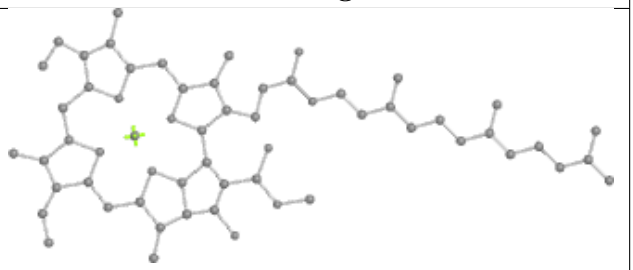
Bond angles

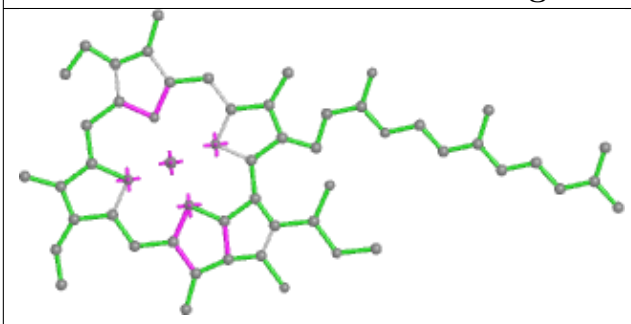
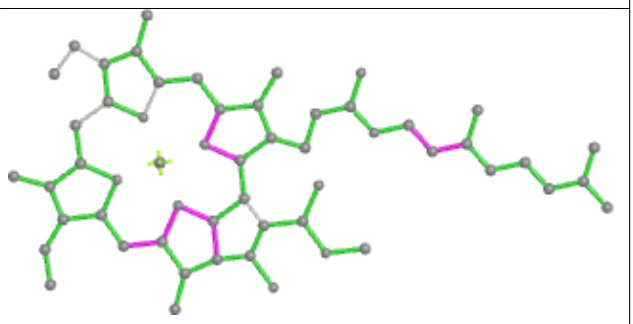
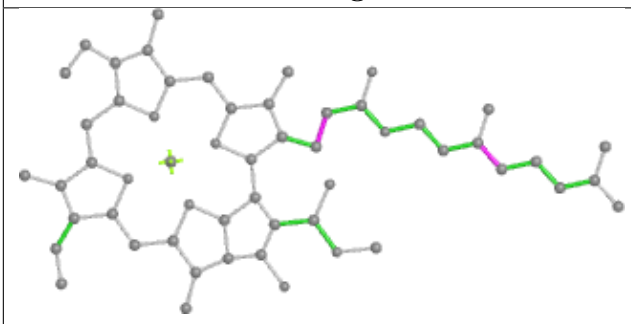
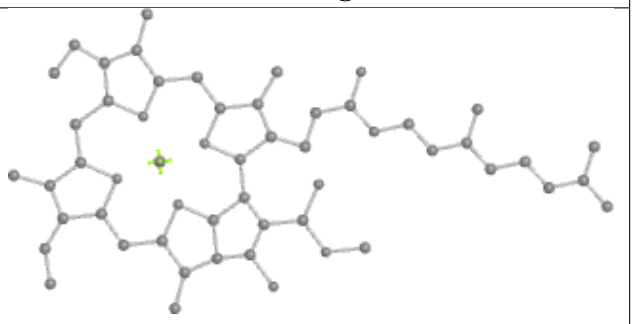


Torsions

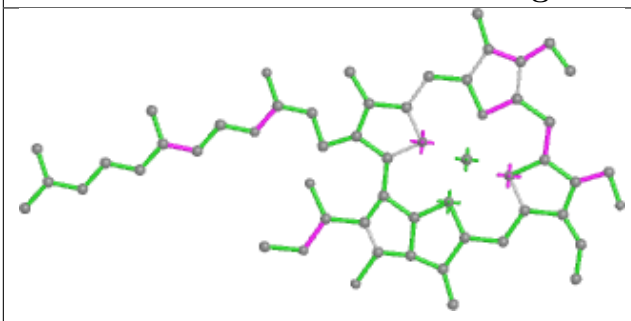


Rings

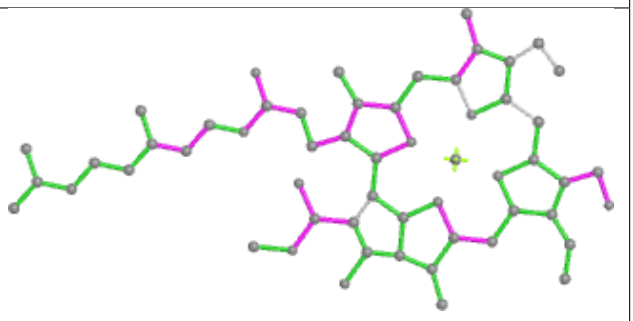
Ligand CLA F 201	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA e 311	
 Bond lengths	 Bond angles
 Torsions	 Rings

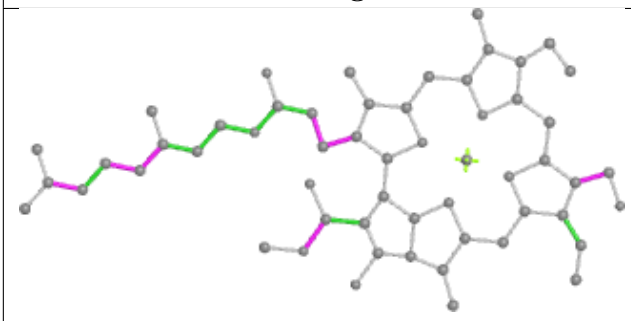
Ligand CHL i 304



Bond lengths



Bond angles



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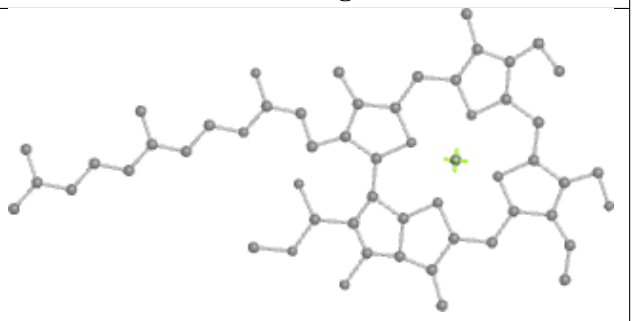
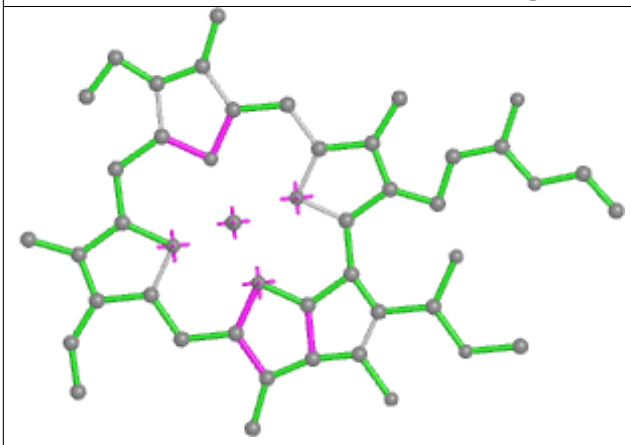


Rings

Ligand CLA B 841



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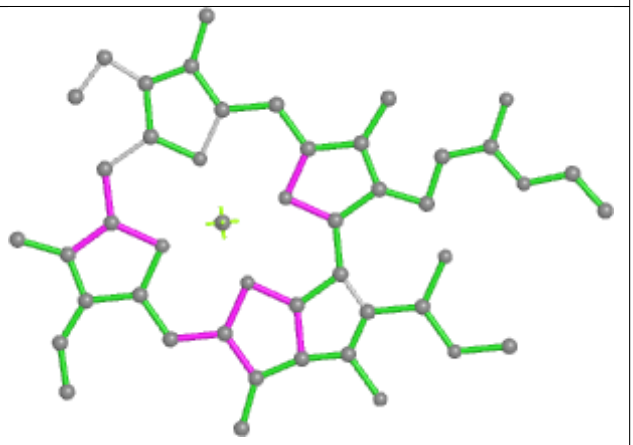
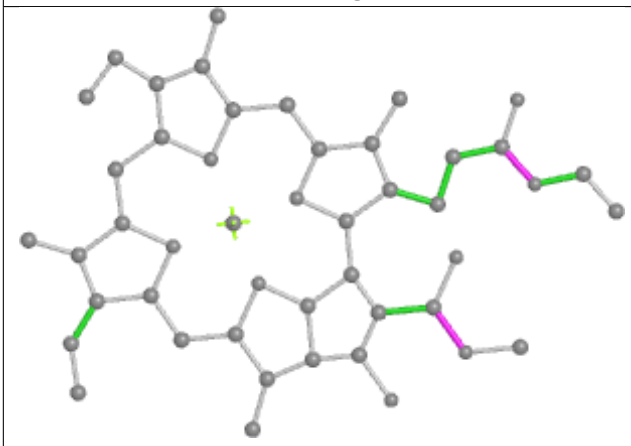


Bond angles



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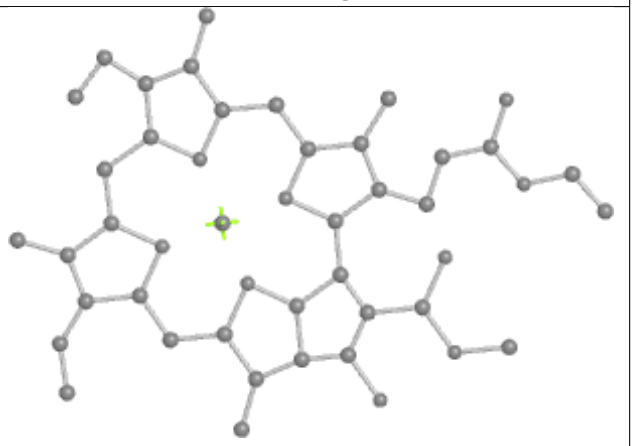
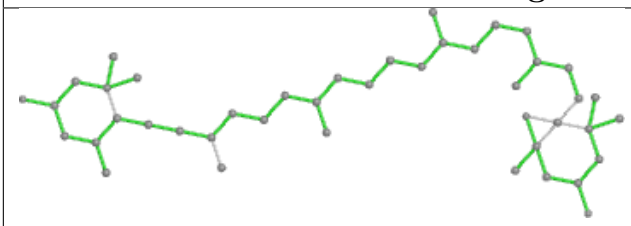


Rings

Ligand DD6 d 215



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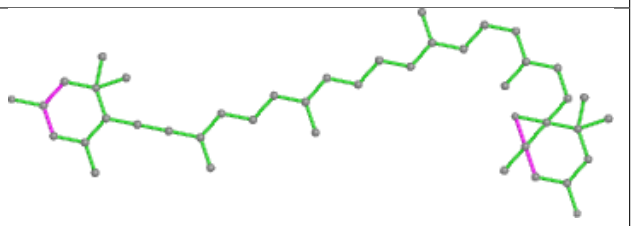
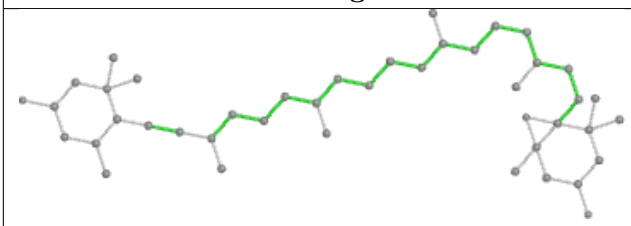


Bond angles



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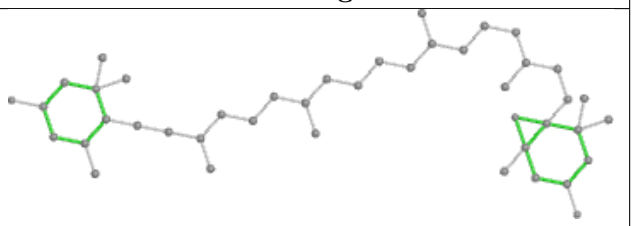
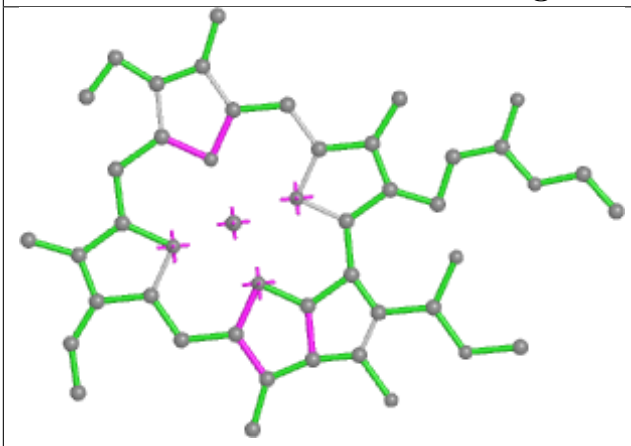


Rings

Ligand CLA l 206



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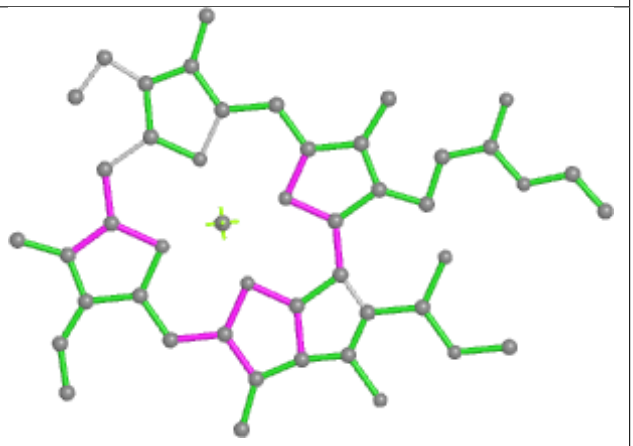
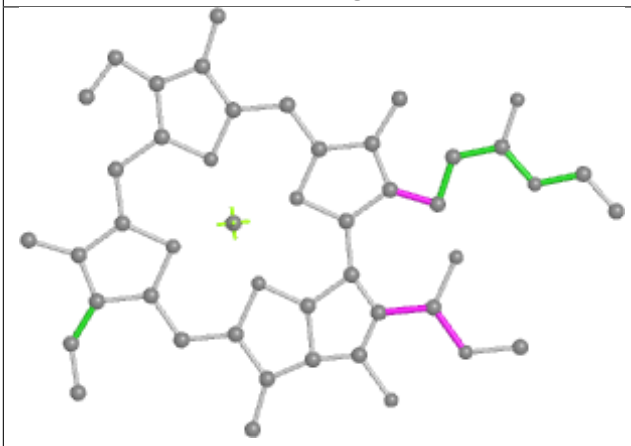
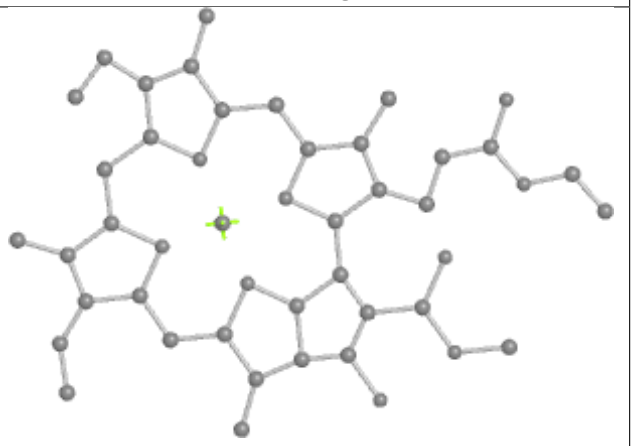


Bond angles

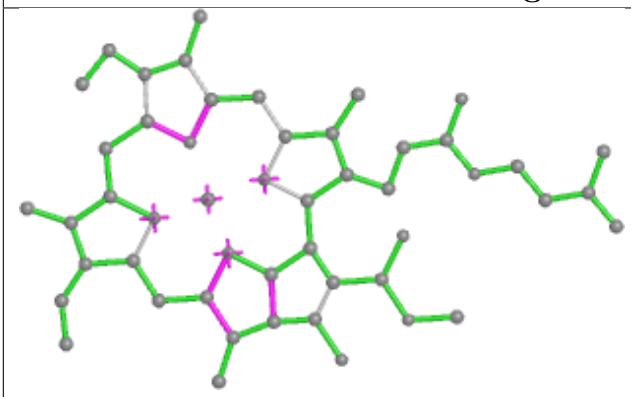


Torsions



Rings

Ligand CLA A 808



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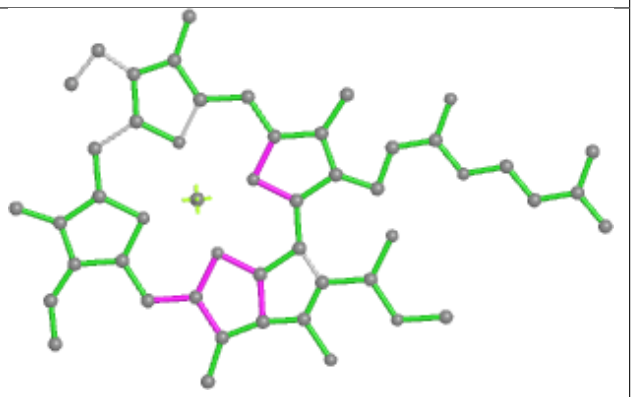
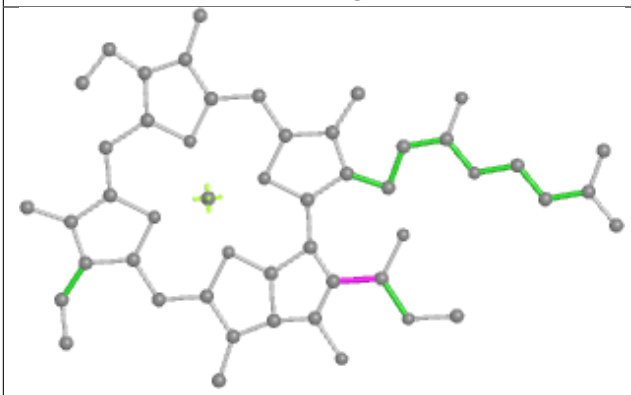


Bond angles



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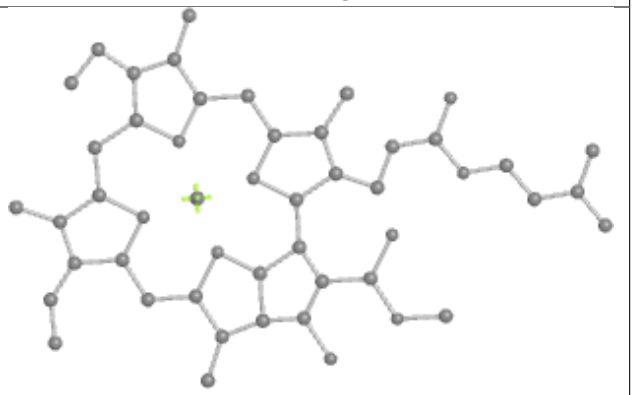
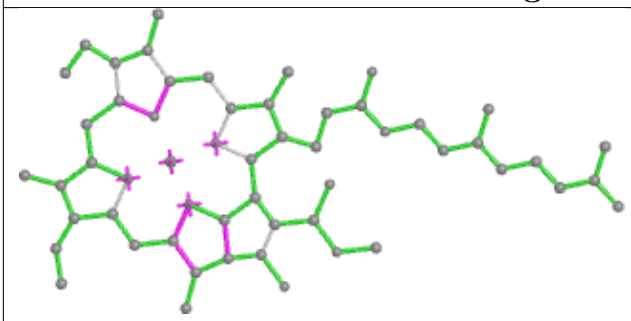


Rings

Ligand CLA A 852



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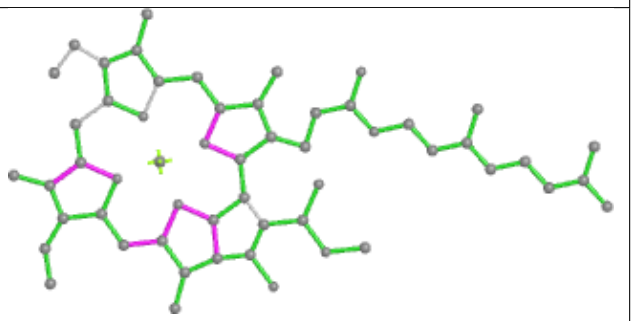
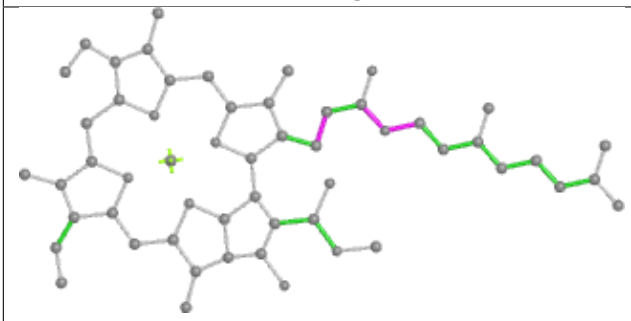


Bond angles



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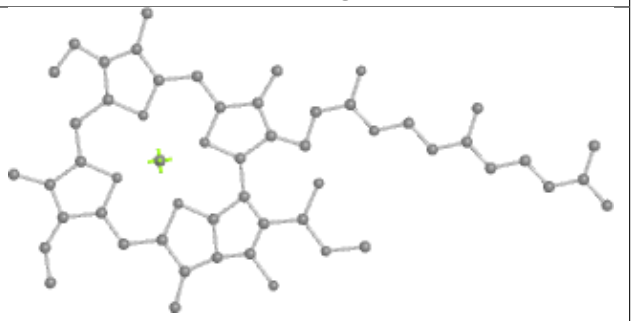

Rings

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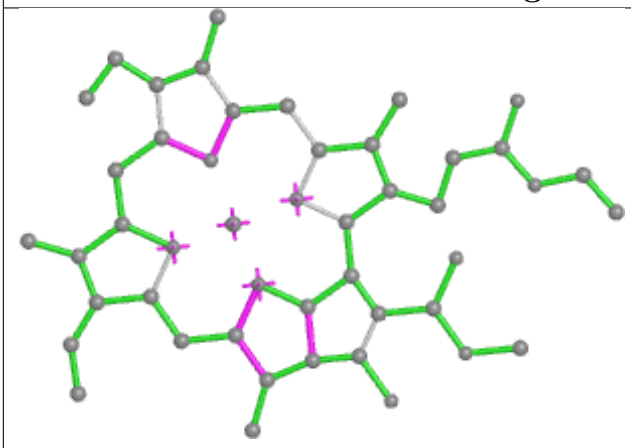

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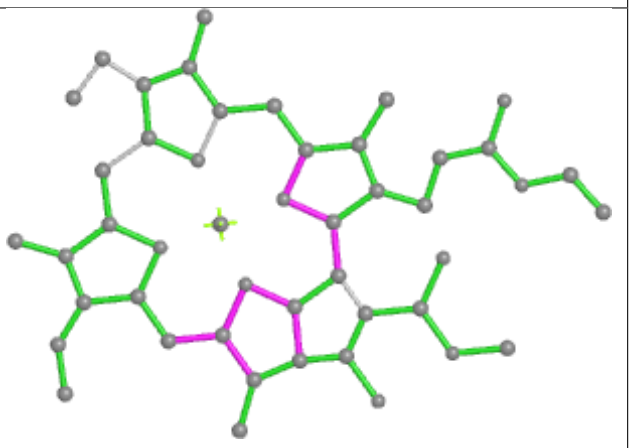
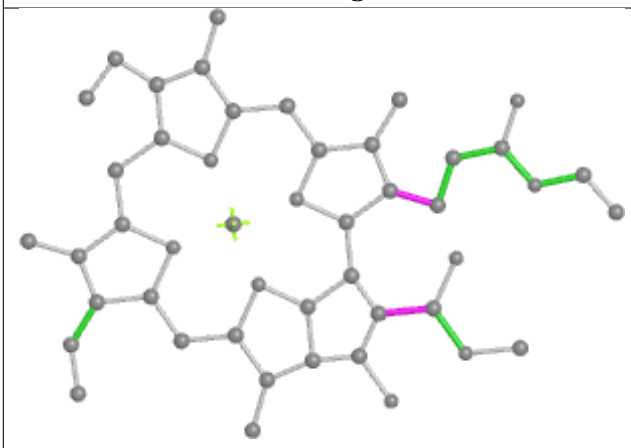


Bond angles



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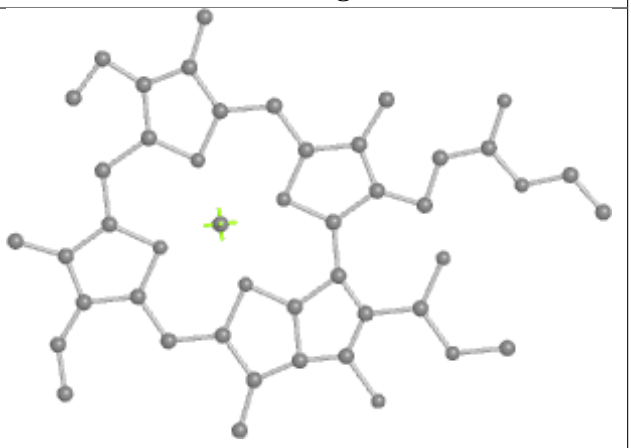
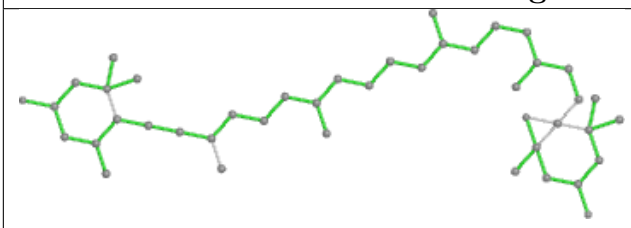


Rings

Ligand DD6 g 314



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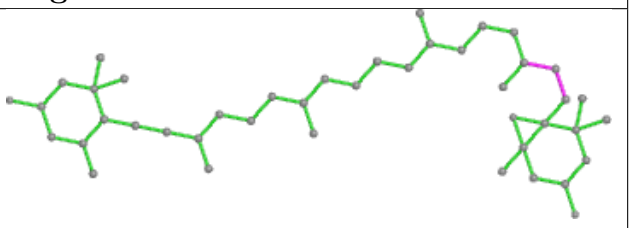
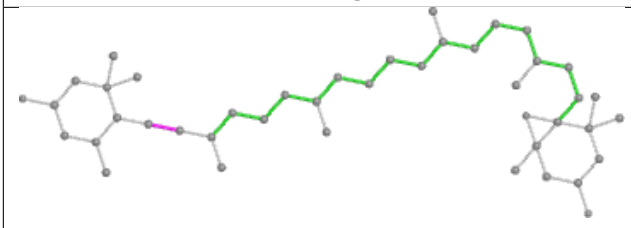


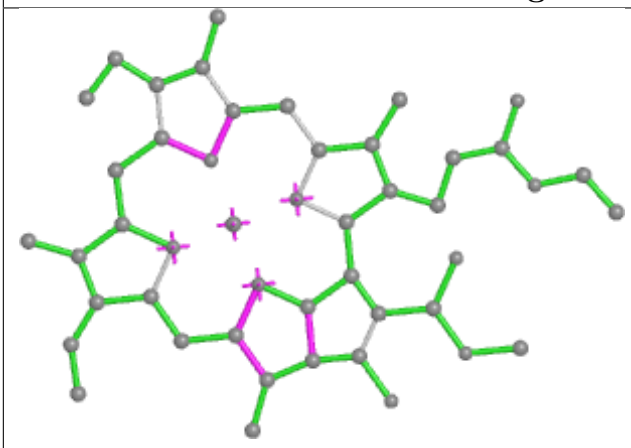
Bond angles



Torsions

Rings

Ligand CLA k 309



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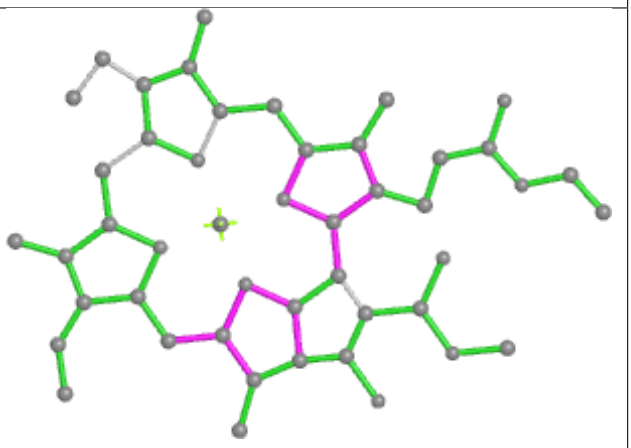
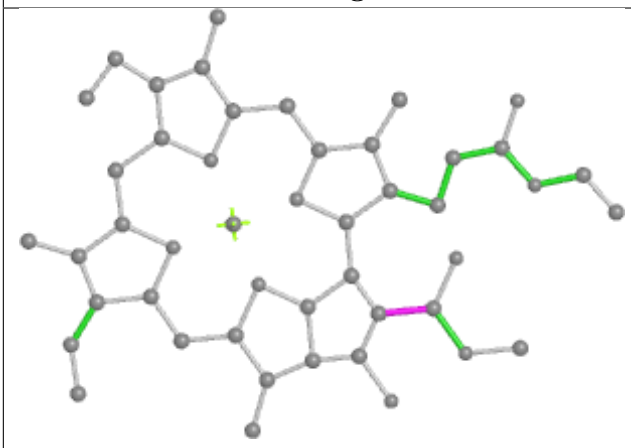
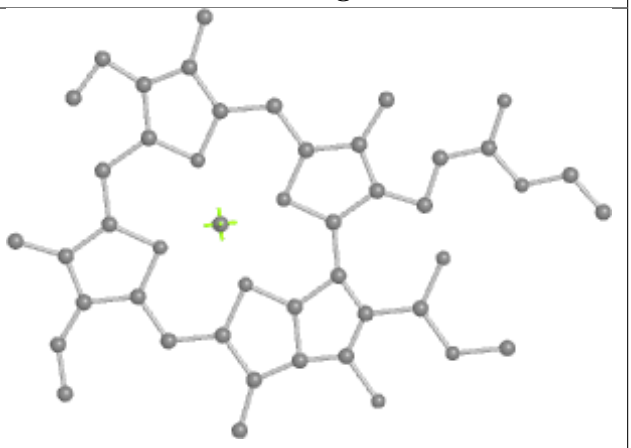


Bond angles

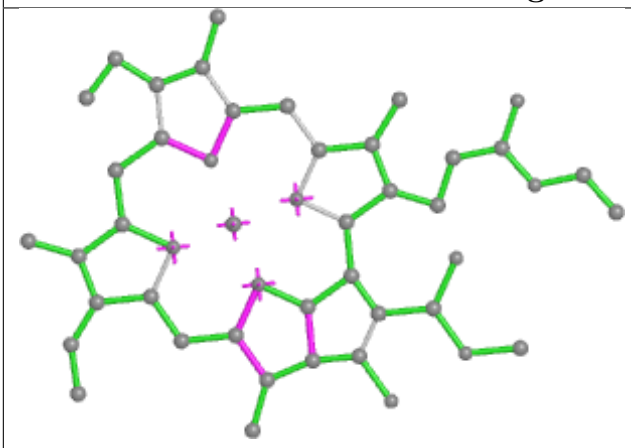


Torsions

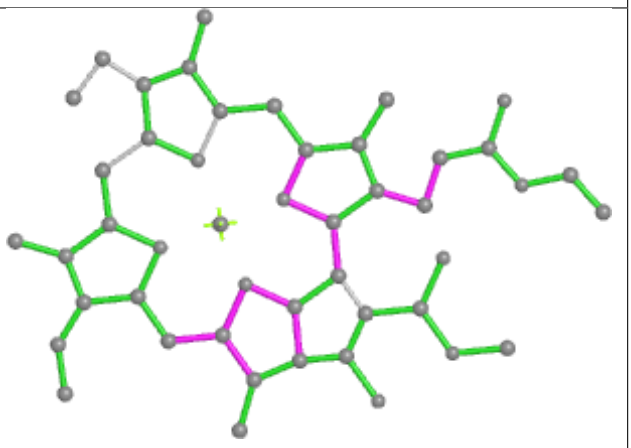


Rings

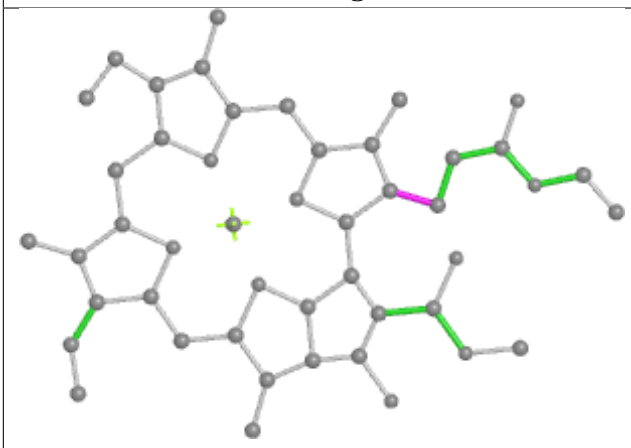
Ligand CLA d 203



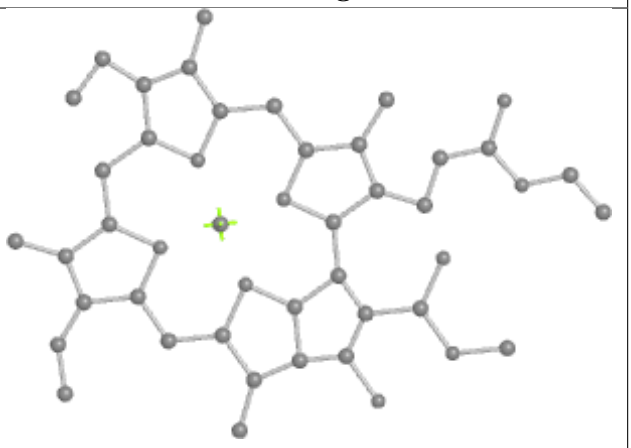
Bond lengths



Bond angles

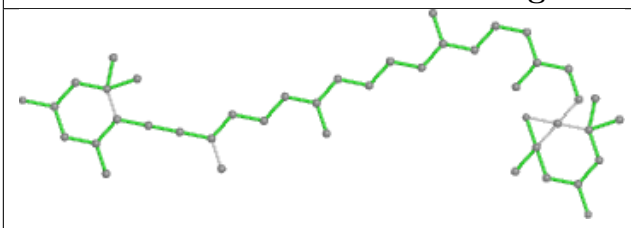


Torsions



Rings

Ligand DD6 b 317



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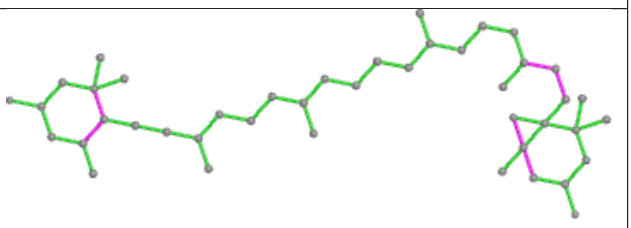
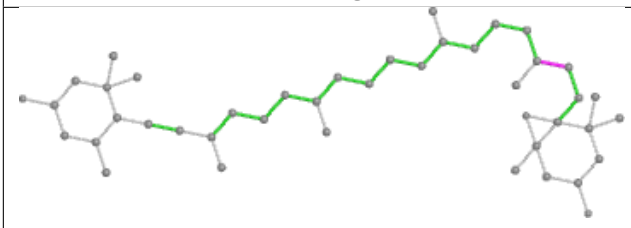


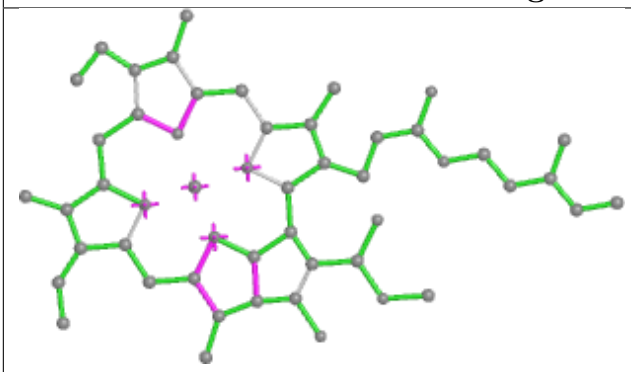
Bond angles



Torsions

Rings

Ligand CLA b 303



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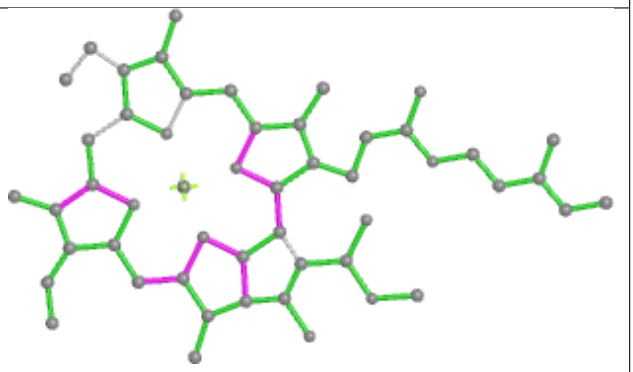

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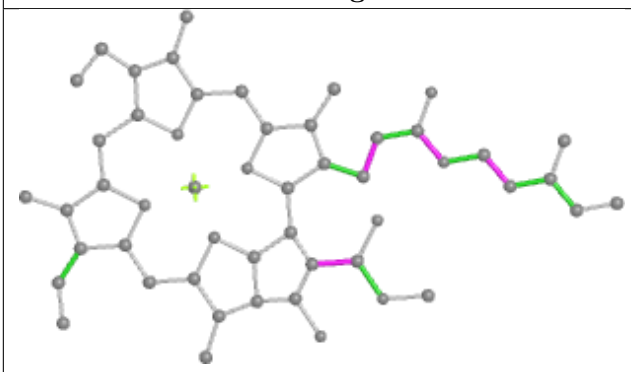

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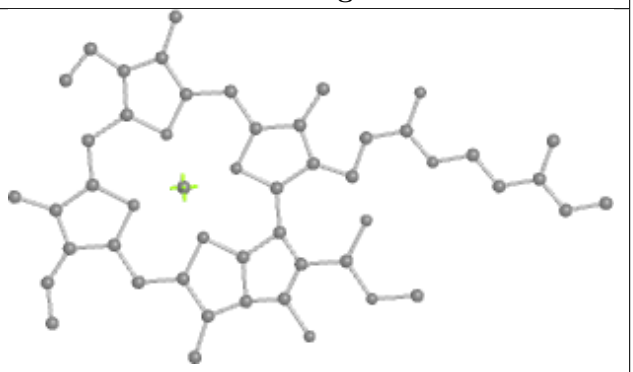
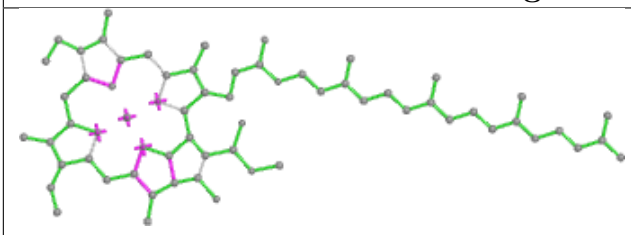


Rings

Ligand CLA A 844



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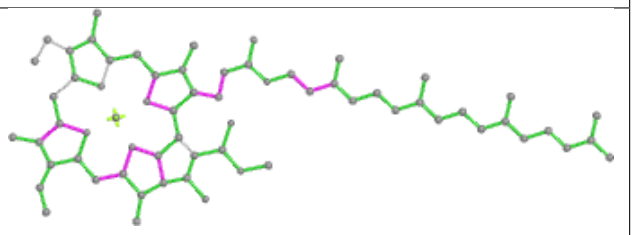
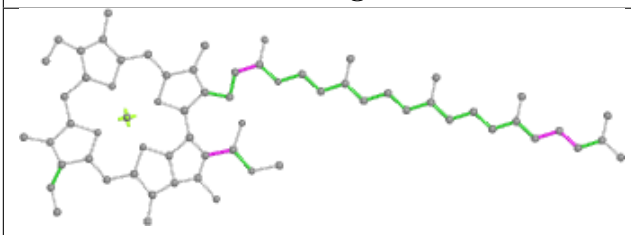


Bond angles



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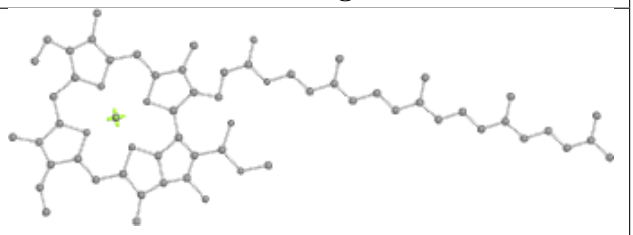
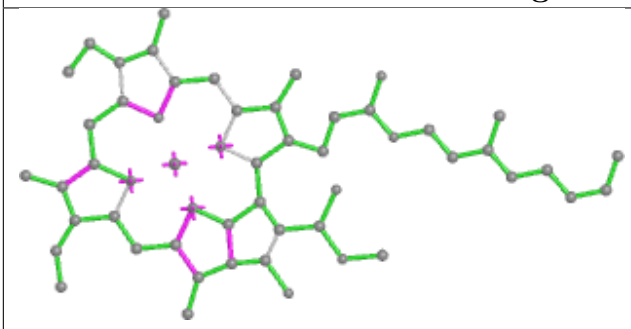


Rings

Ligand CLA f 307



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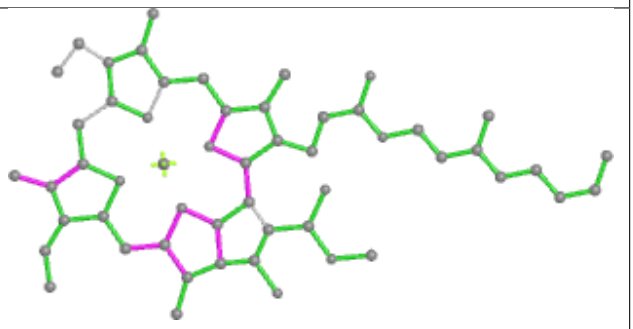
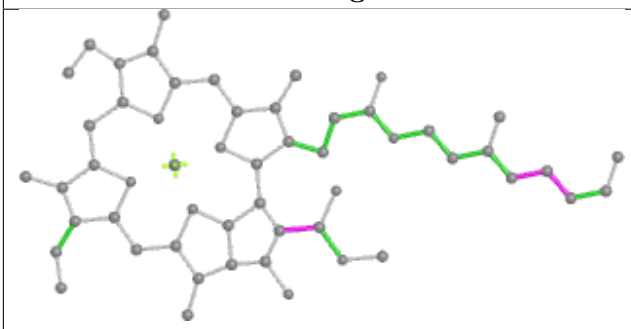


Bond angles



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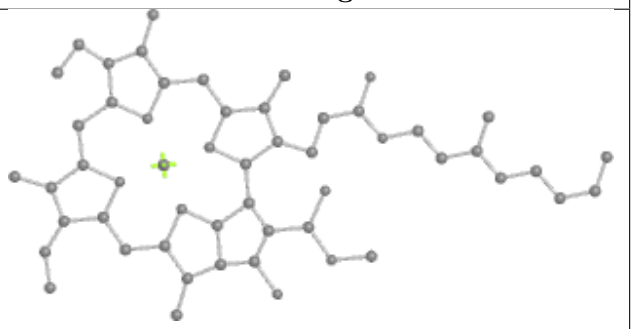
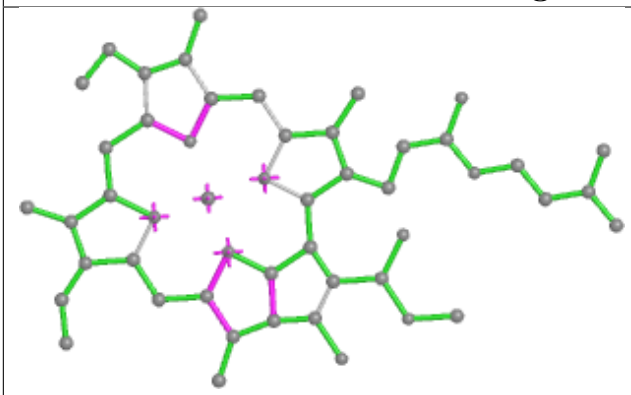


Rings

Ligand CLA j 305



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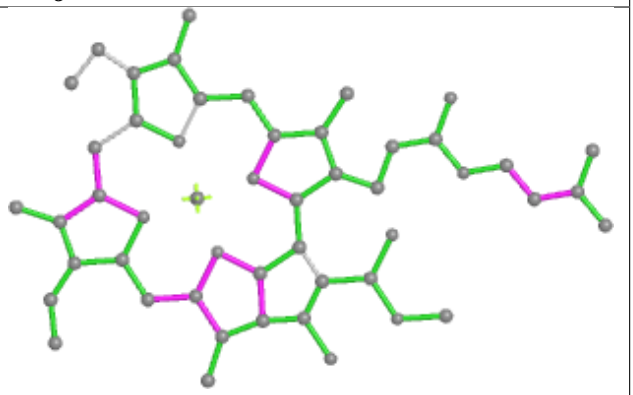
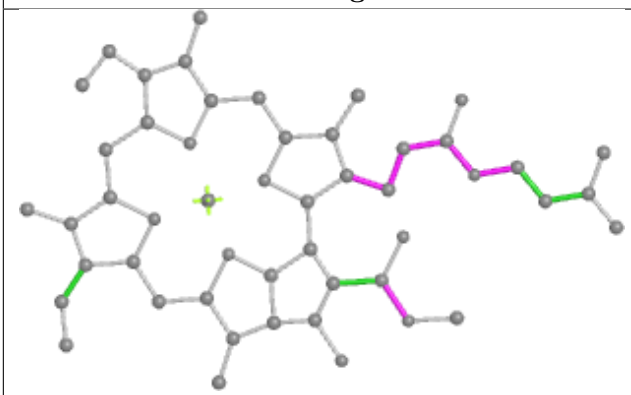


Bond angles



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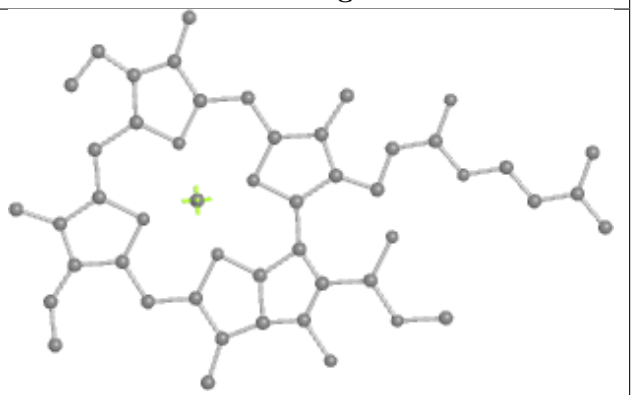
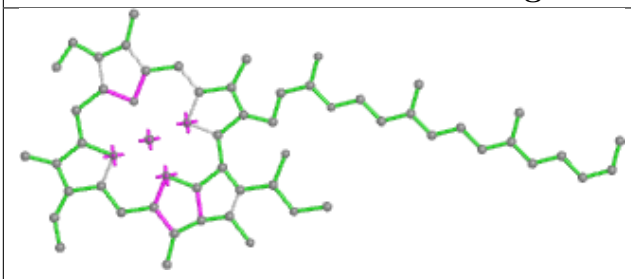
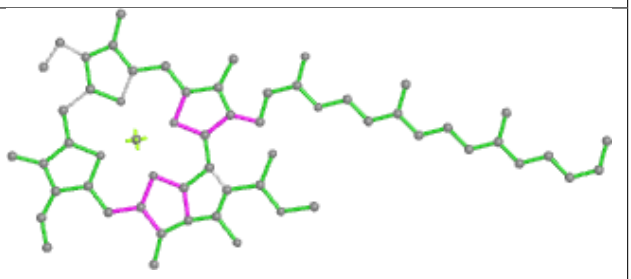


Rings

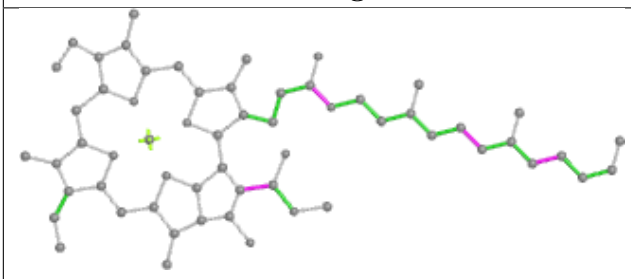
Ligand CLA B 814



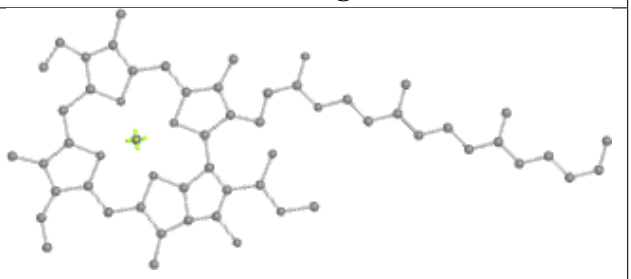
Bond lengths



Bond angles

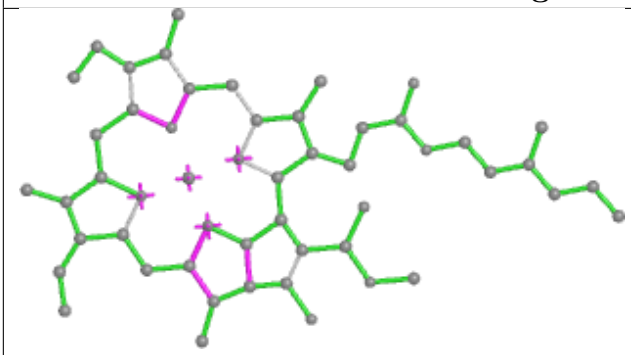


Torsions



Rings

Ligand CLA j 303



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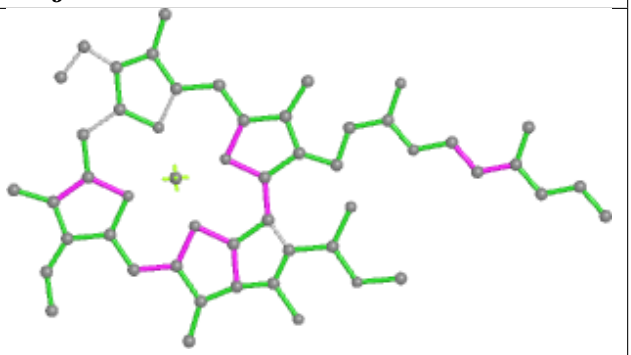
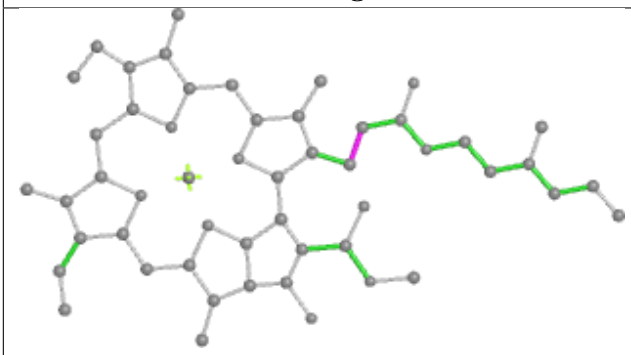
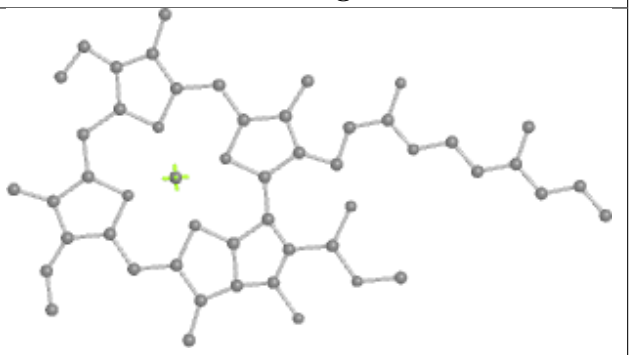


Bond angles

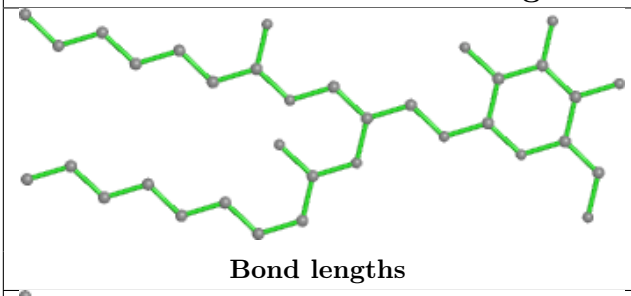


Torsions



Rings

Ligand LMG h 216



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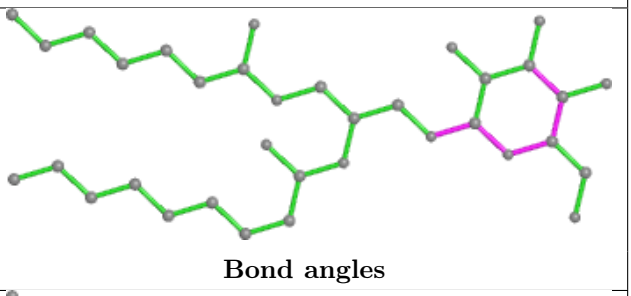
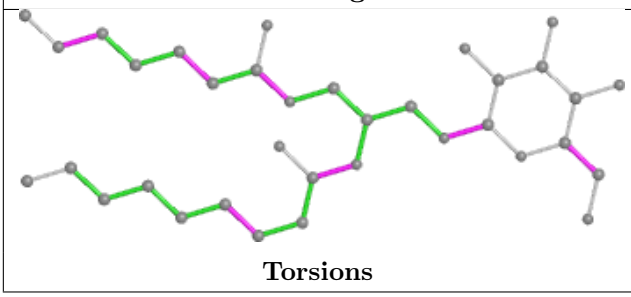
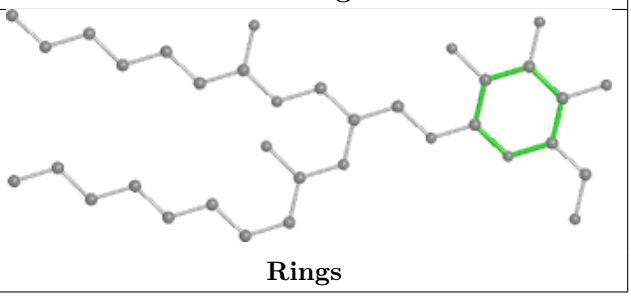


Bond angles

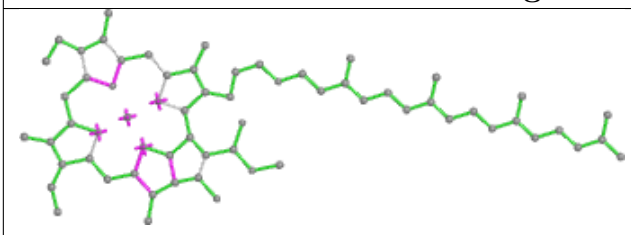


Torsions



Rings

Ligand CLA A 819



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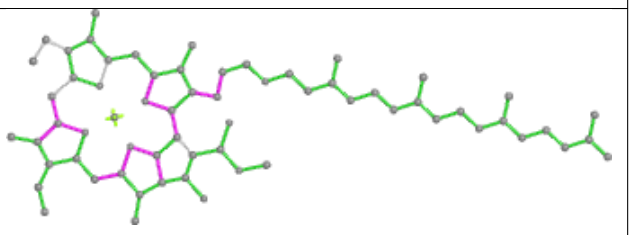

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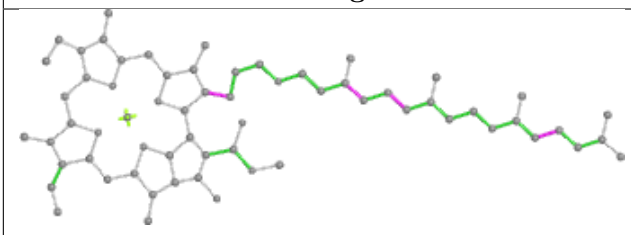

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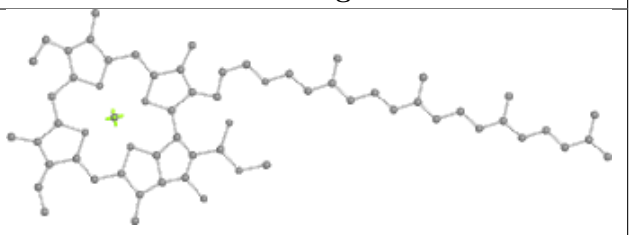
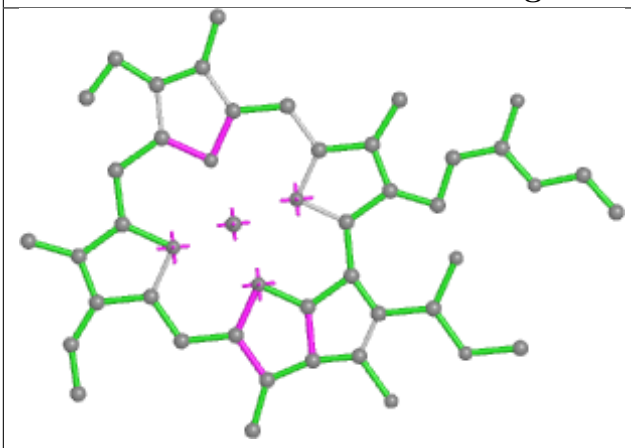


Rings

Ligand CLA B 844



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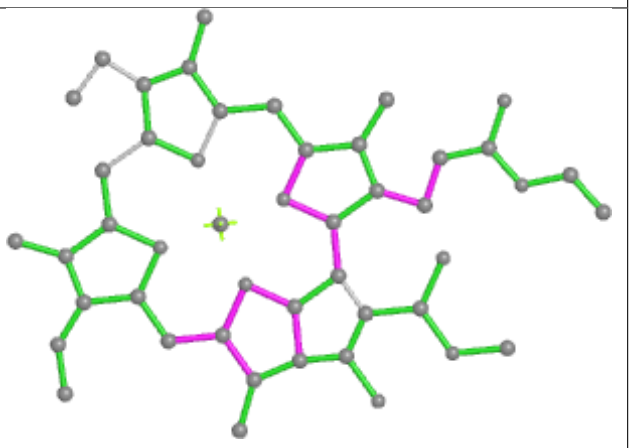
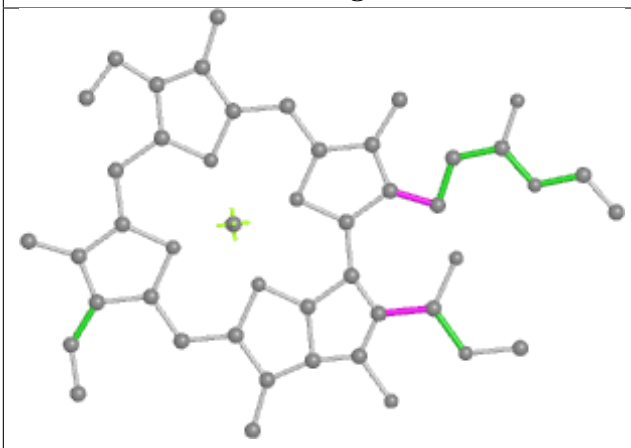


Bond angles



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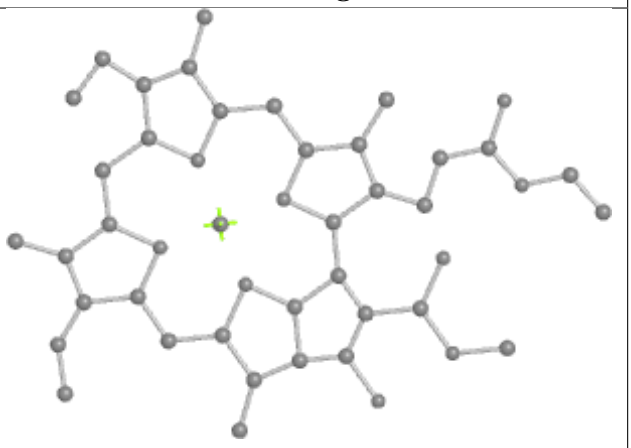
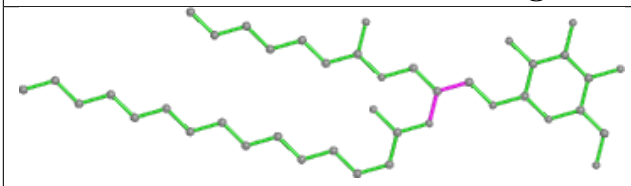


Rings

Ligand LMG i 316



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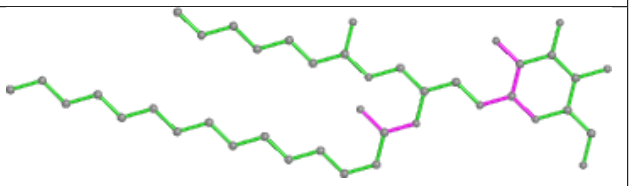
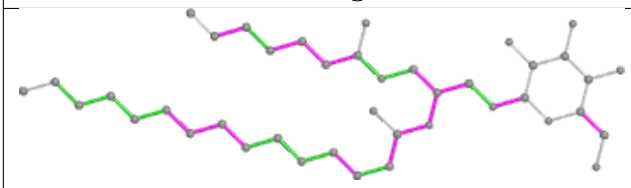
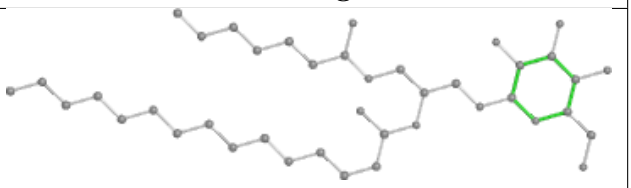


Bond angles

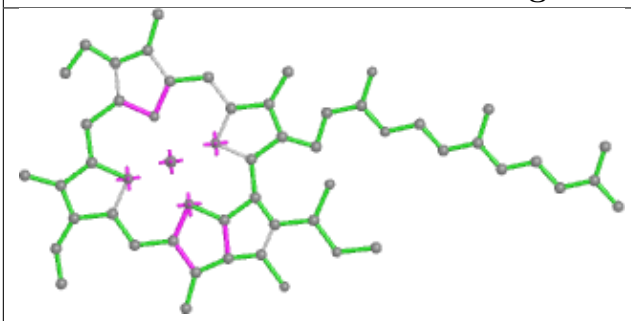


Torsions



Rings

Ligand CLA e 302



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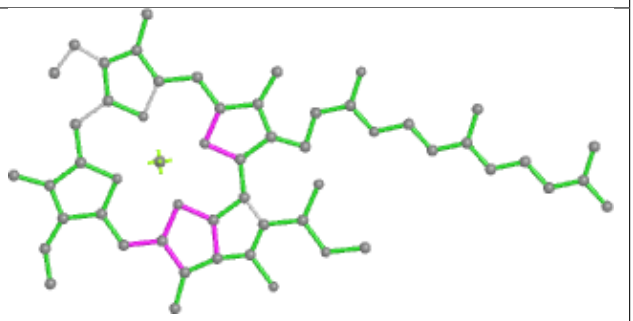
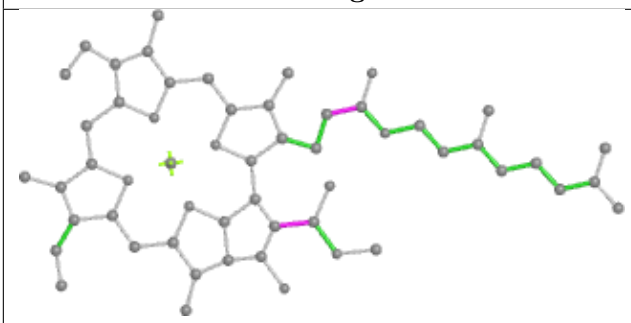
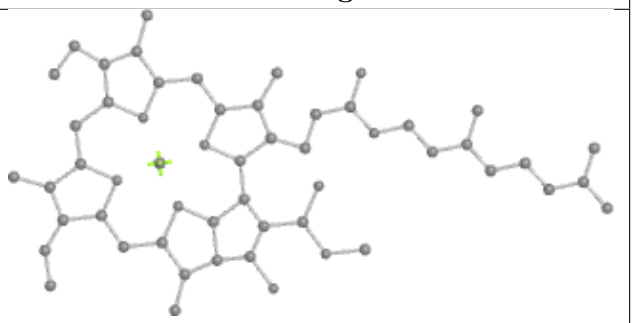


Bond angles

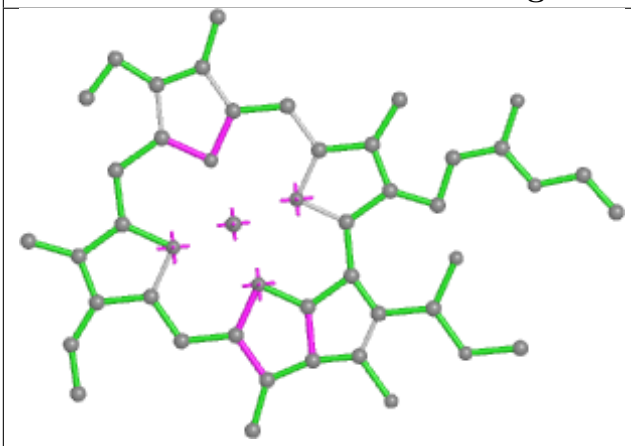


Torsions



Rings

Ligand CLA b 315



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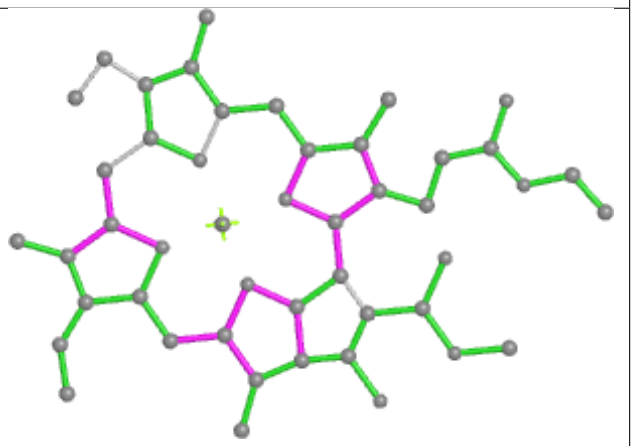
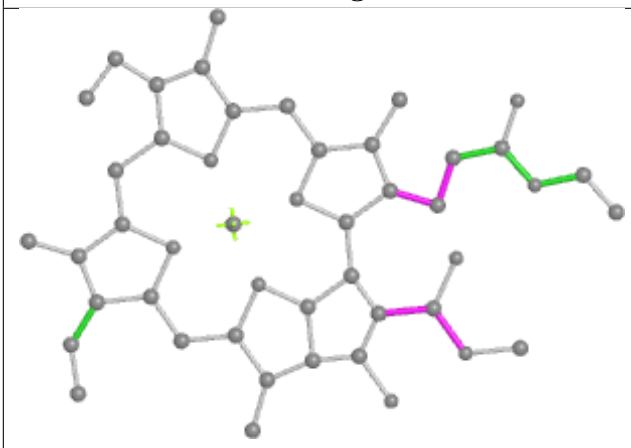
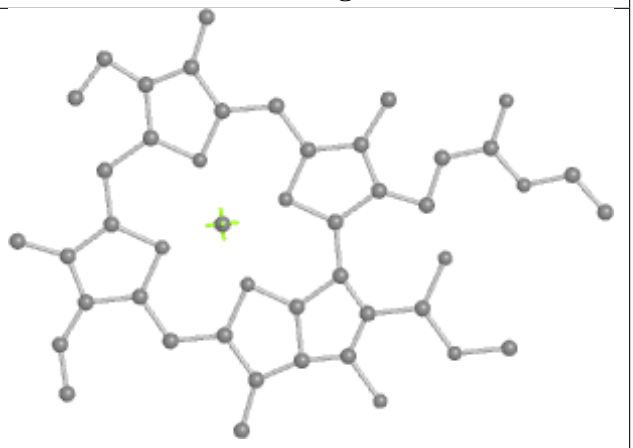


Bond angles

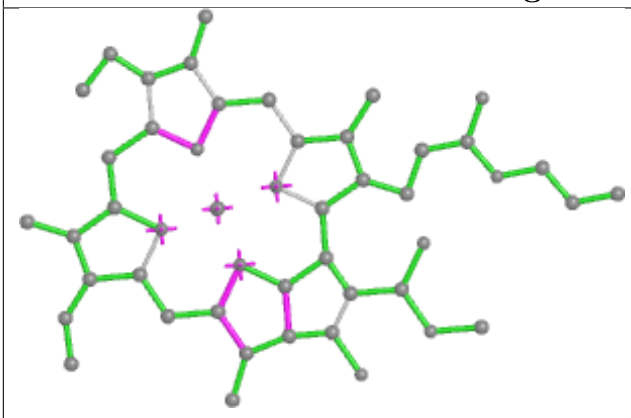


Torsions

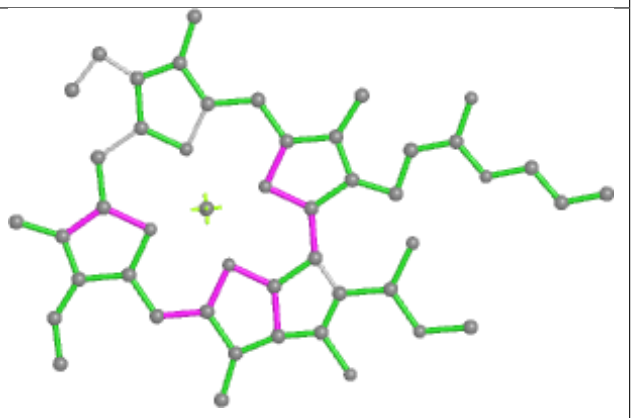


Rings

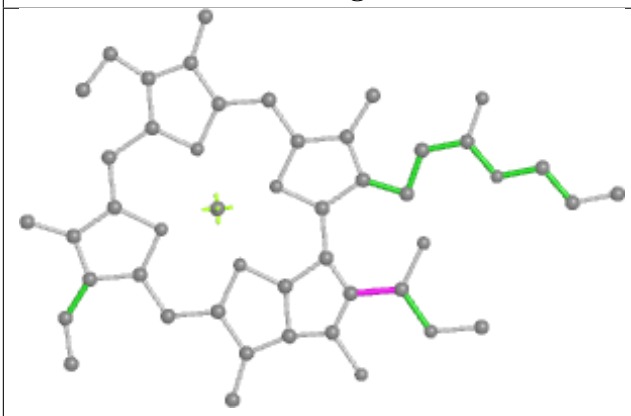
Ligand CLA A 839



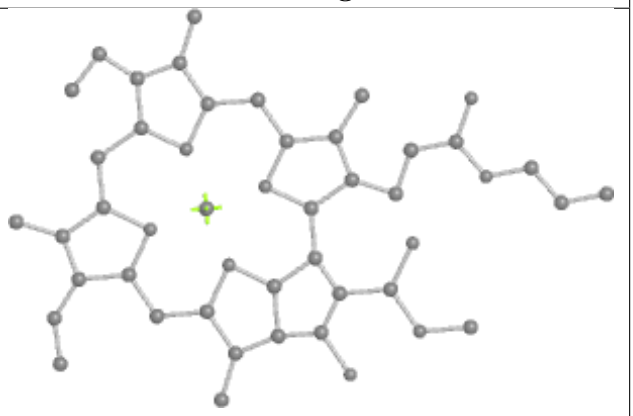
Bond lengths



Bond angles

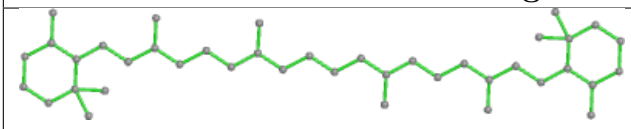


Torsions



Rings

Ligand BCR B 827



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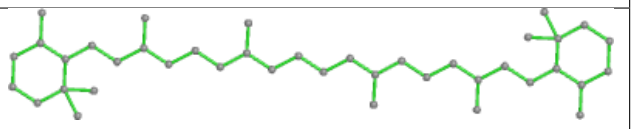
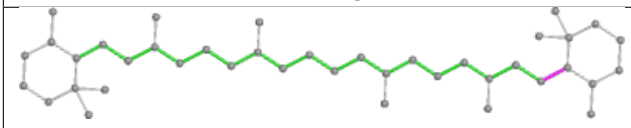


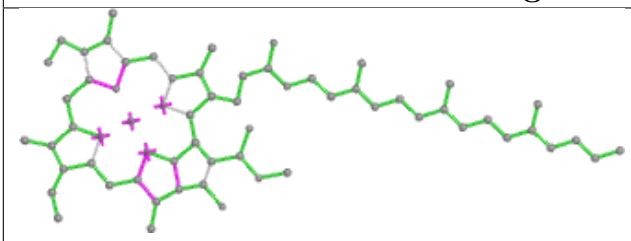
Bond angles



Torsions

Rings

Ligand CLA A 821



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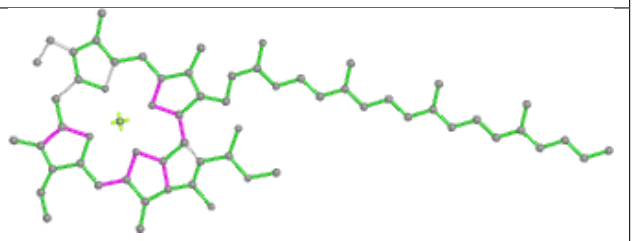

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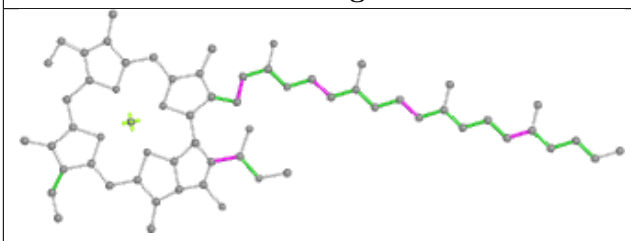

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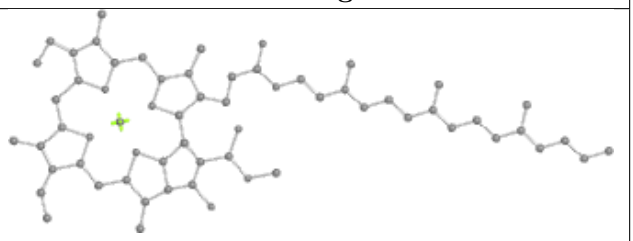
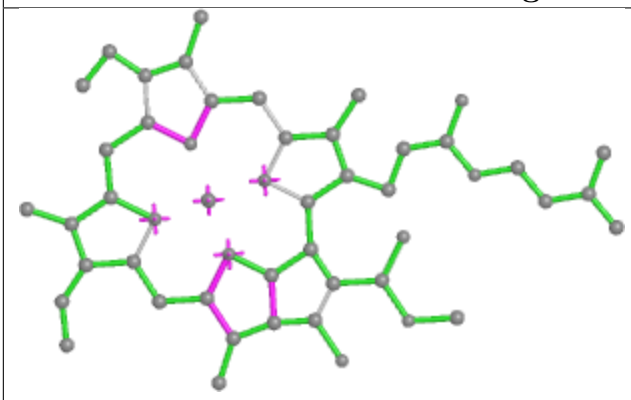


Rings

Ligand CLA m 308



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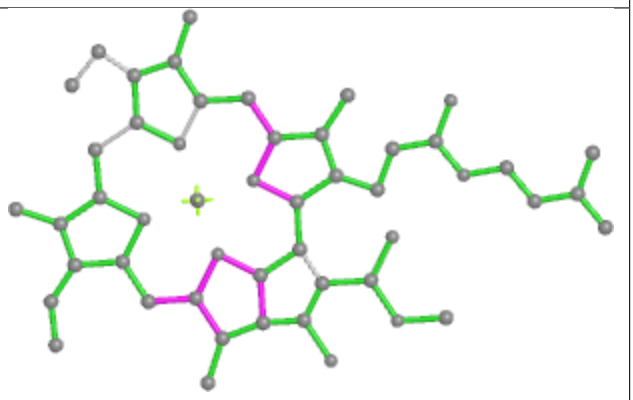
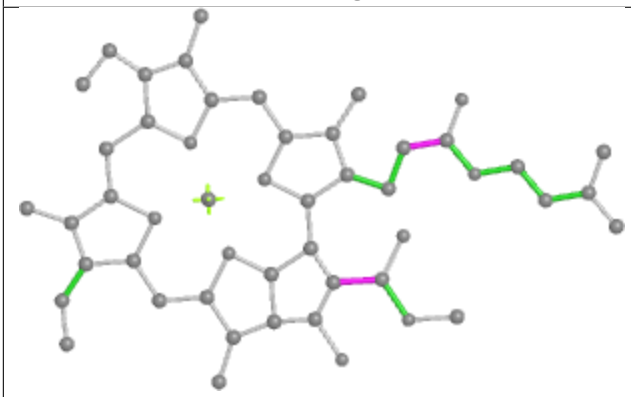


Bond angles



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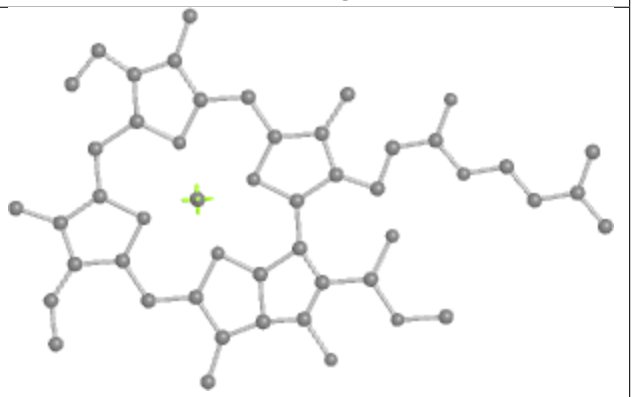
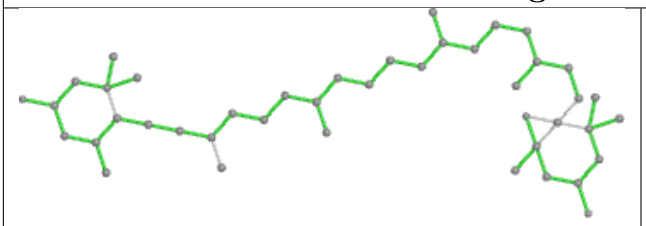


Rings

Ligand DD6 k 313



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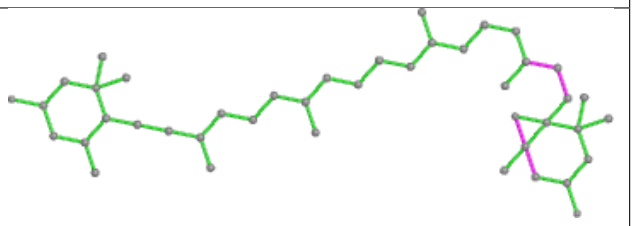

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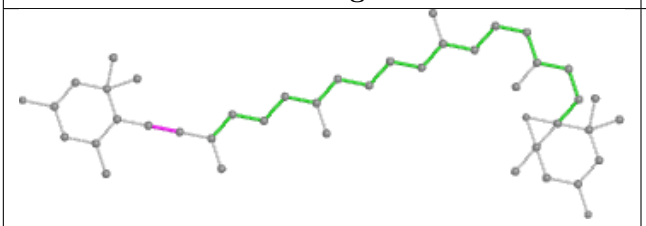

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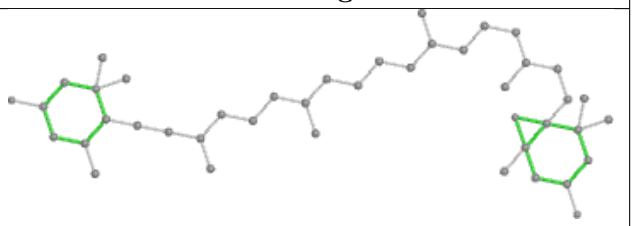
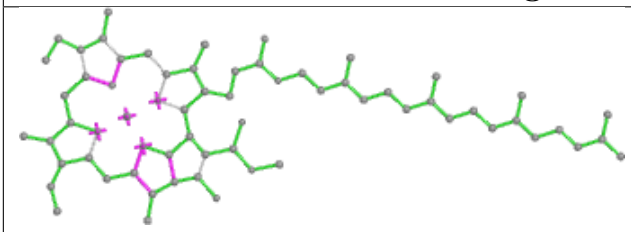


Rings

Ligand CLA A 804



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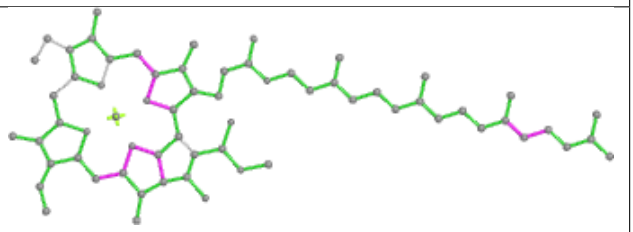
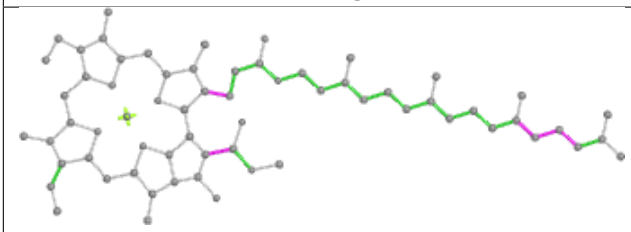


Bond angles



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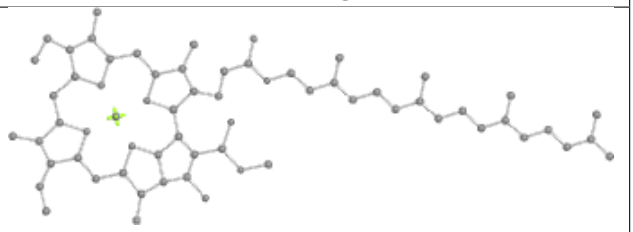
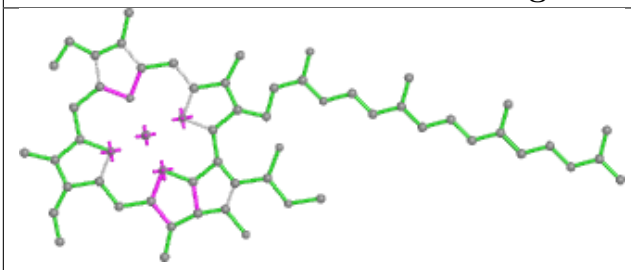


Rings

Ligand CLA e 307



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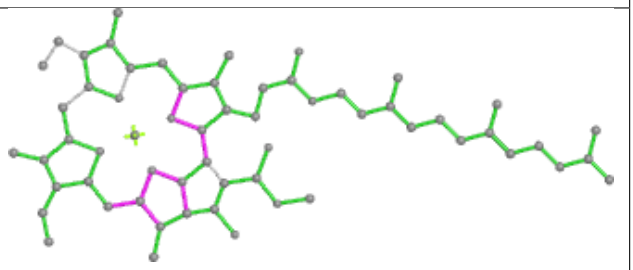

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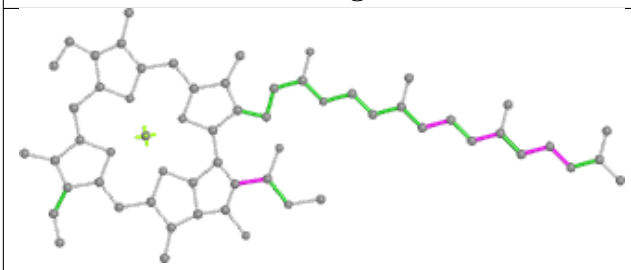

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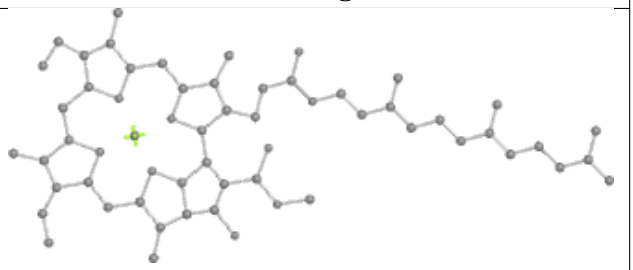
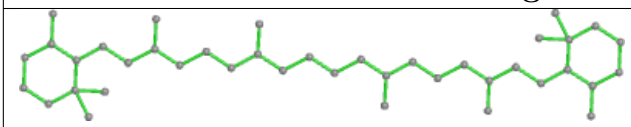


Rings

Ligand BCR B 834



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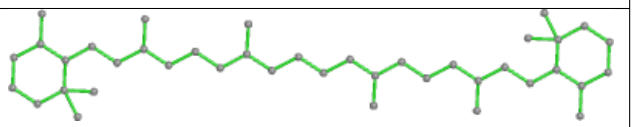
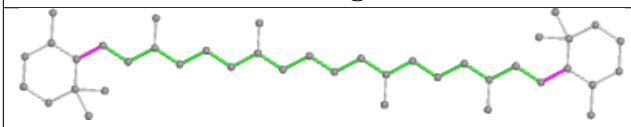
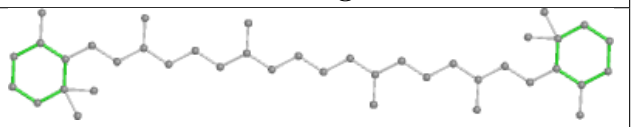


Bond angles

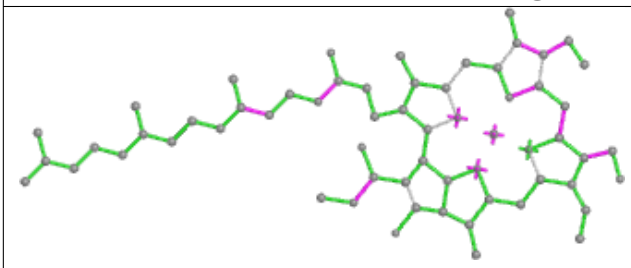


Torsions



Rings

Ligand CHL c 305



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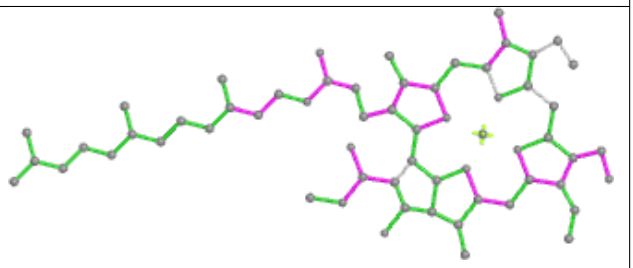

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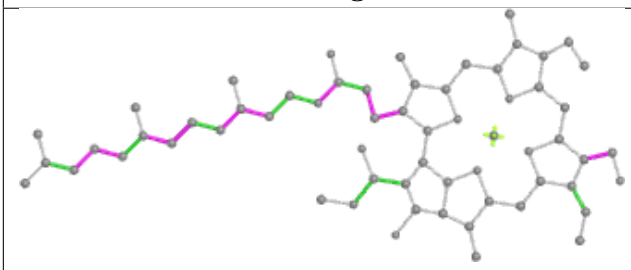

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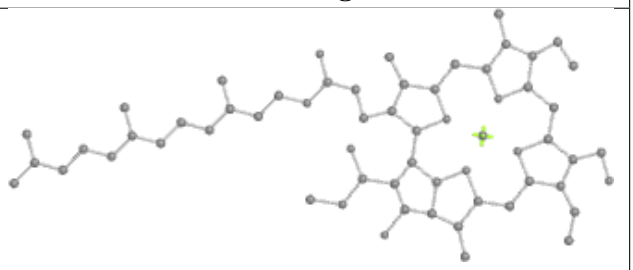
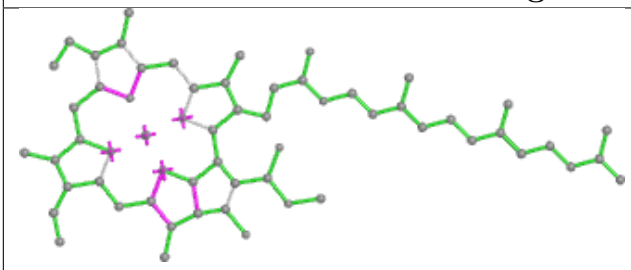


Rings

Ligand CLA h 205



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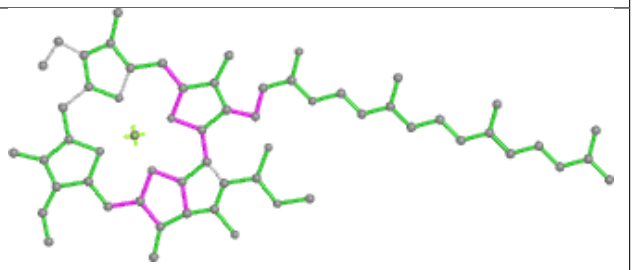
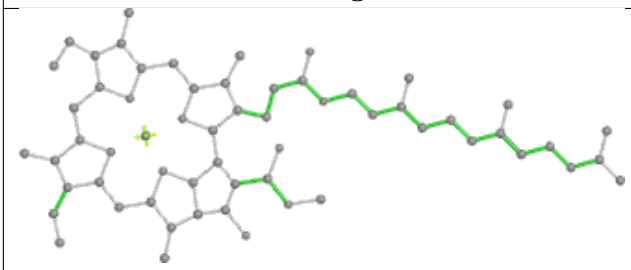


Bond angles



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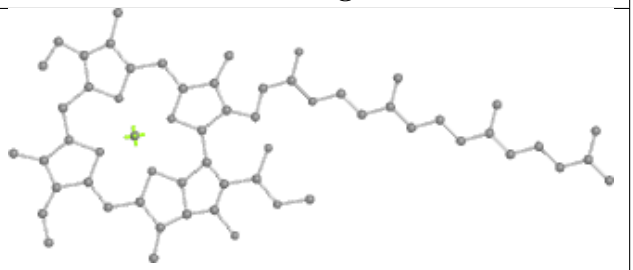
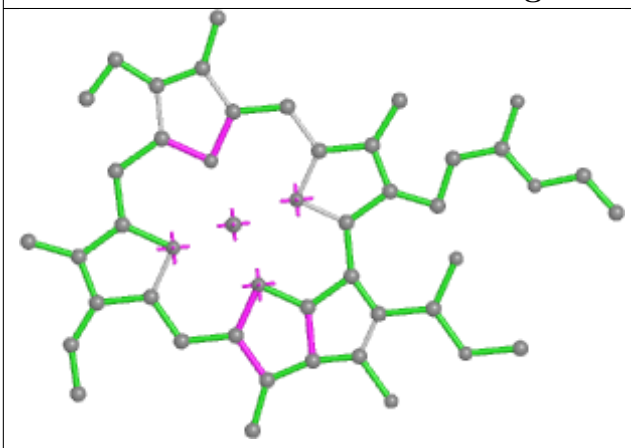


Rings

Ligand CLA B 846



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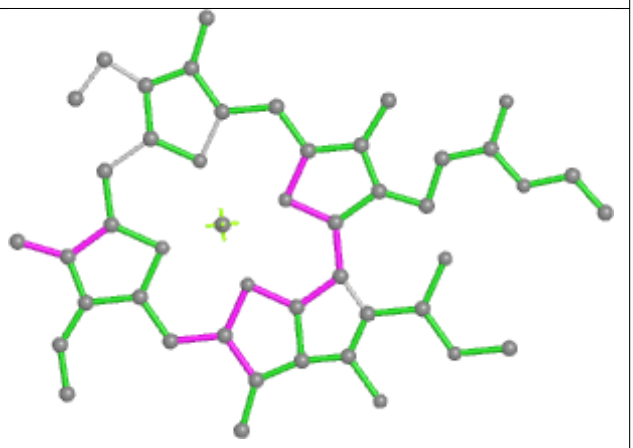
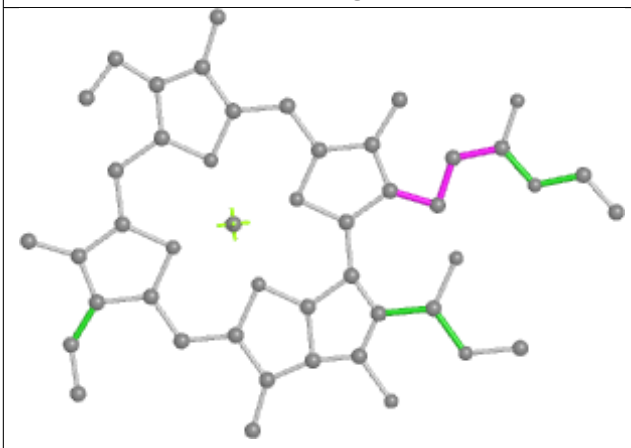


Bond angles



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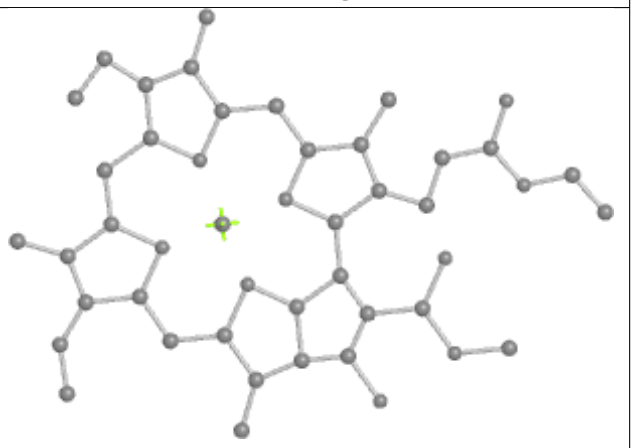
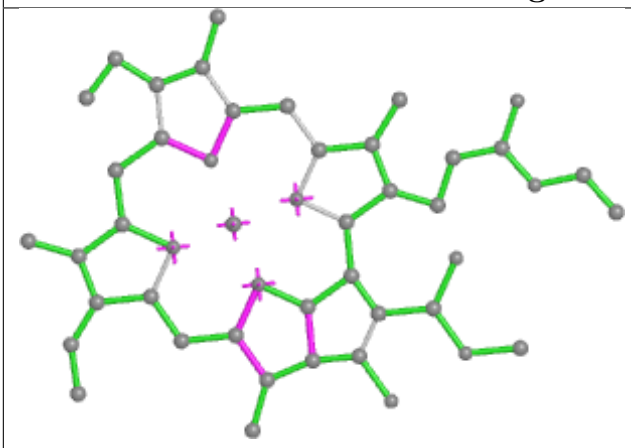


Rings

Ligand CLA o 306



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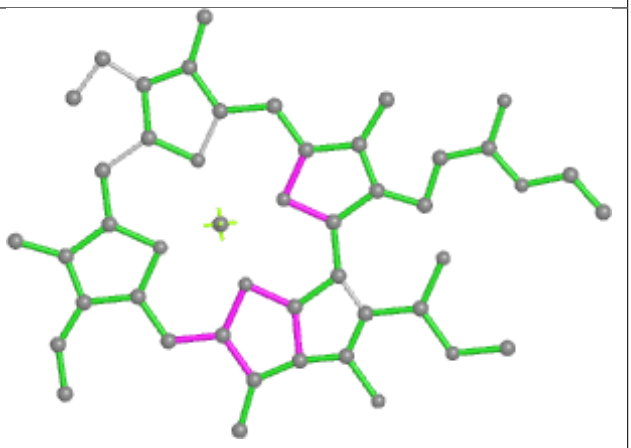
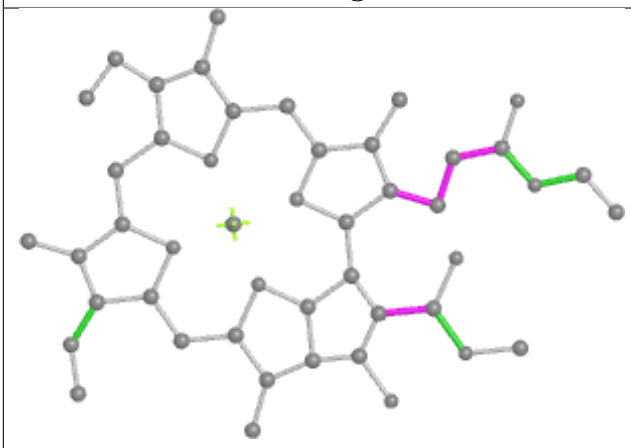
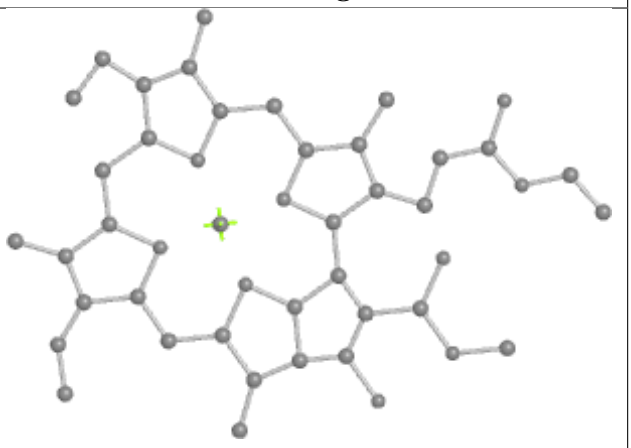


Bond angles

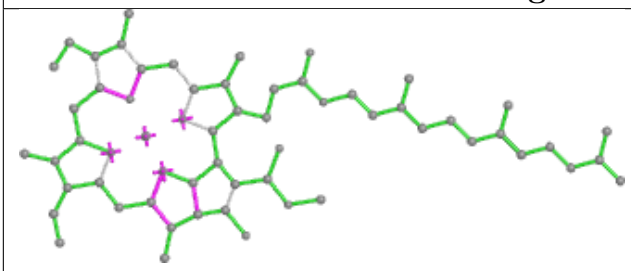


Torsions



Rings

Ligand CLA g 307



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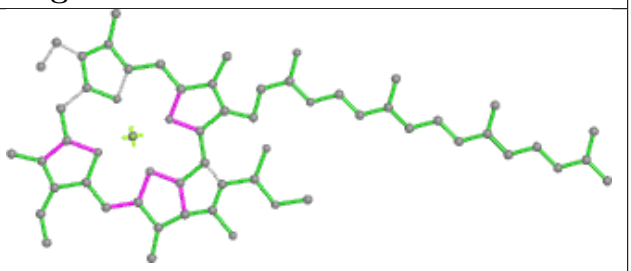
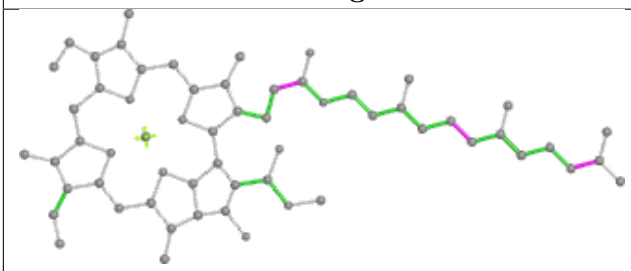


Bond angles



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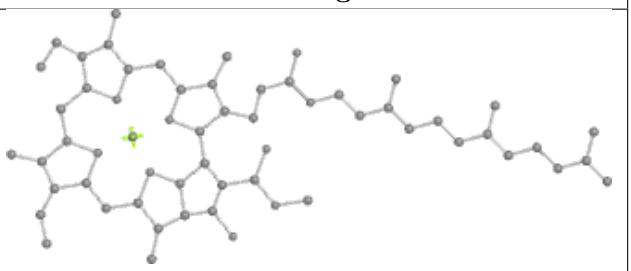
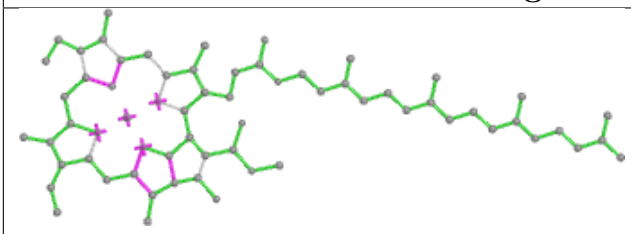
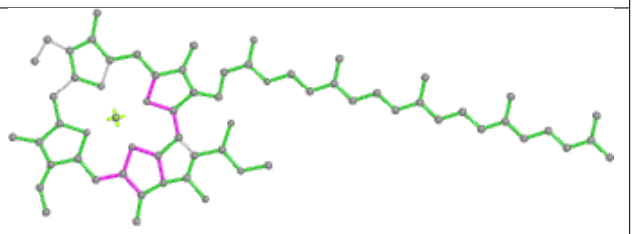
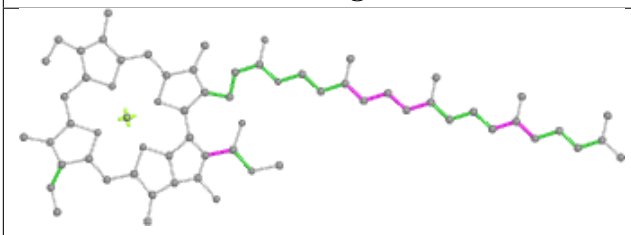
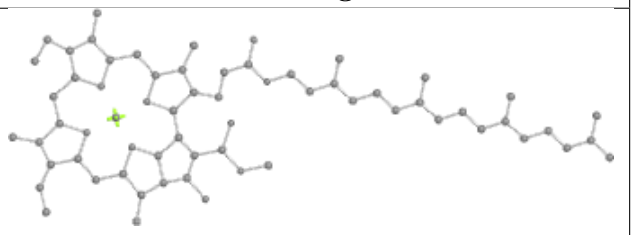
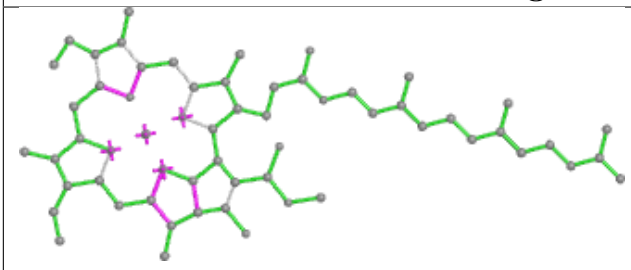
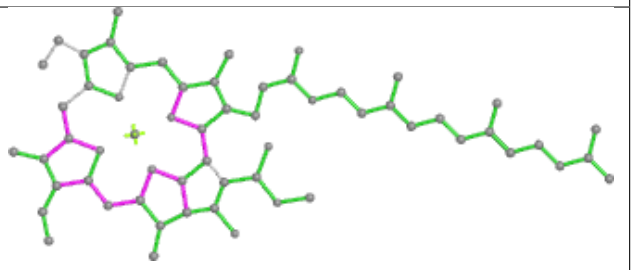
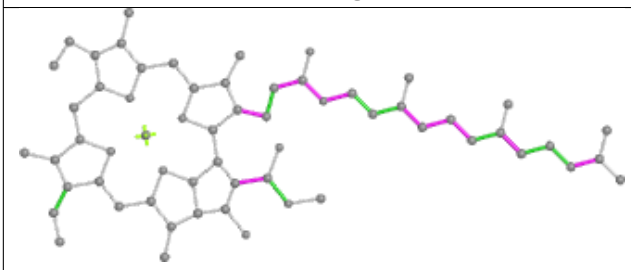
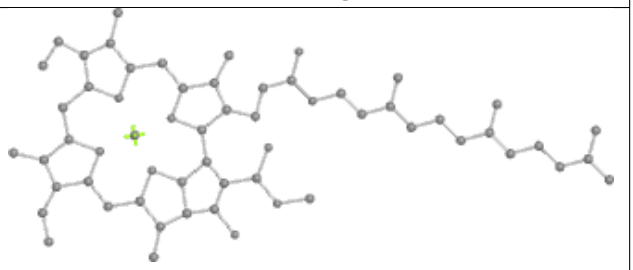
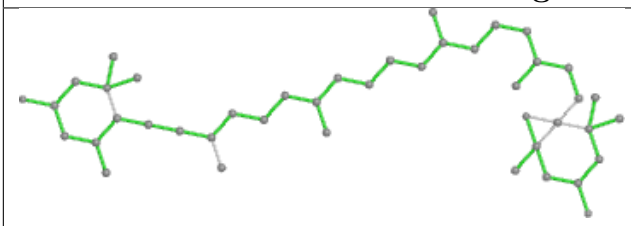


Rings

Ligand CLA B 803	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand CLA b 306	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand DD6 j 316



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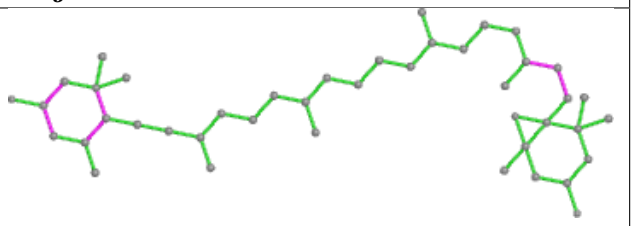
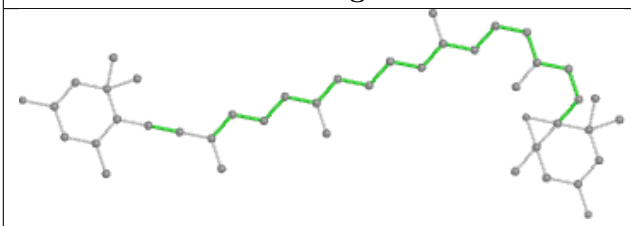
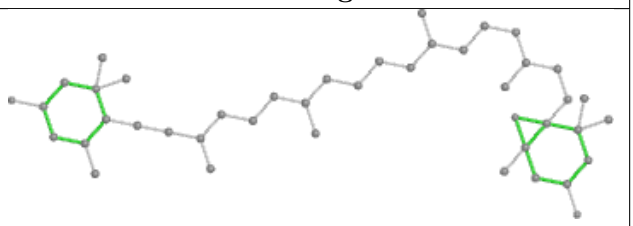


Bond angles

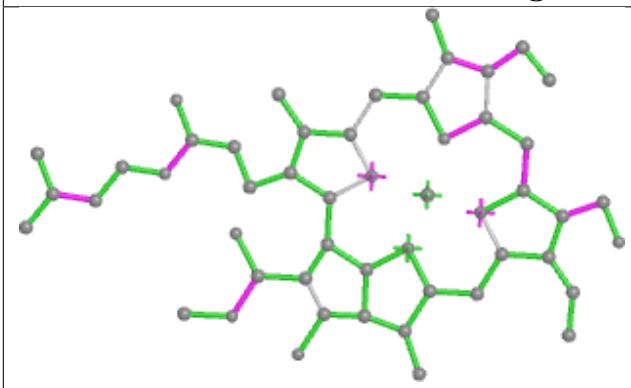


Torsions



Rings

Ligand CHL g 310



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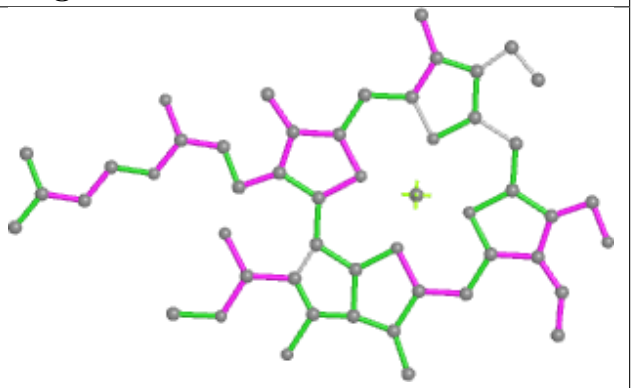

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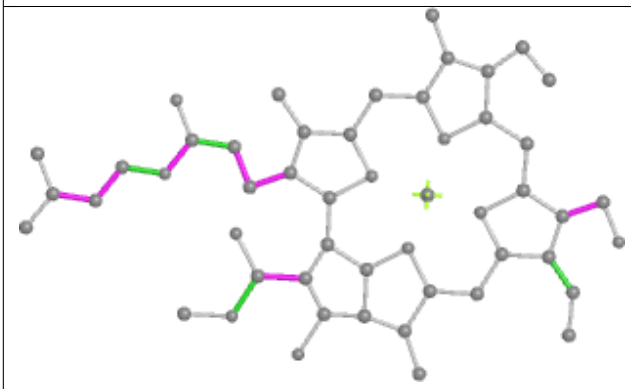

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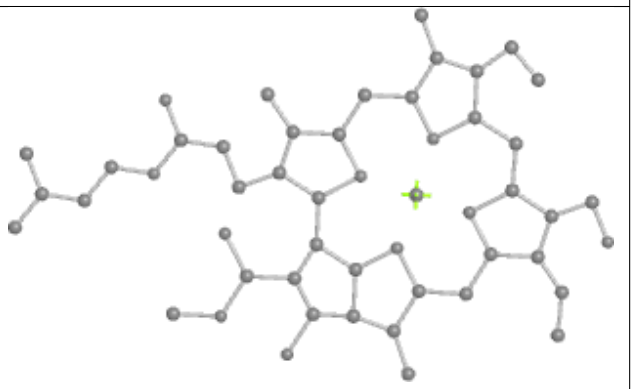
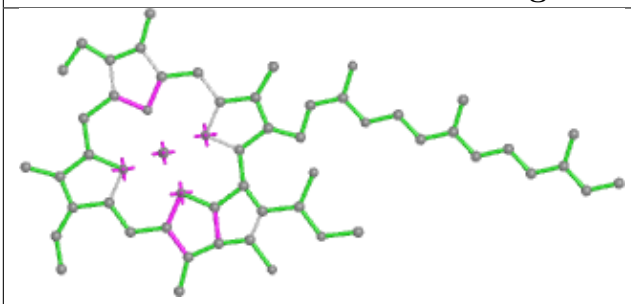


Rings

Ligand CLA c 309



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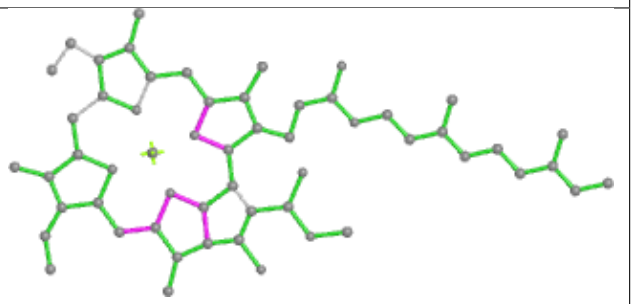

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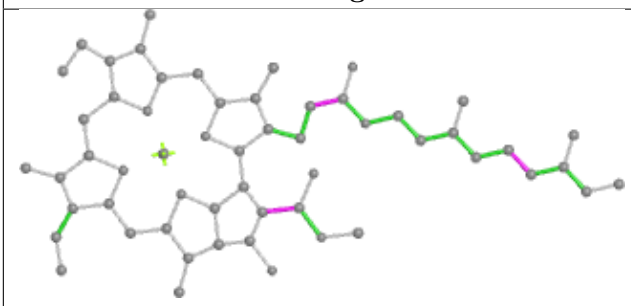

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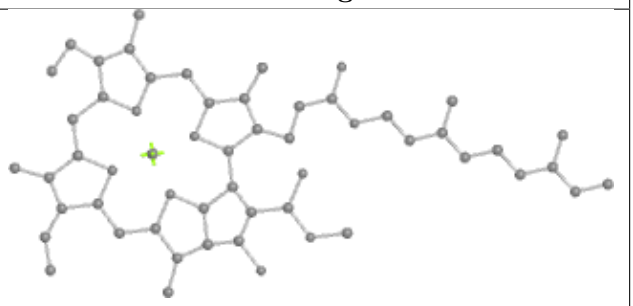
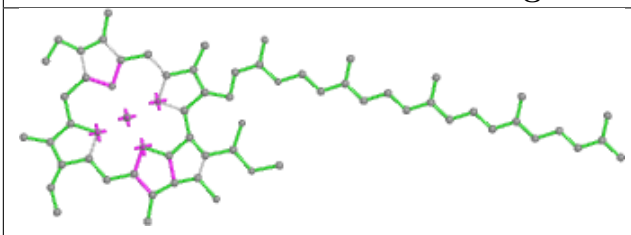


Rings

Ligand CLA A 829



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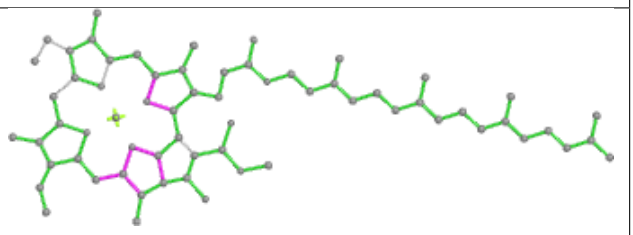
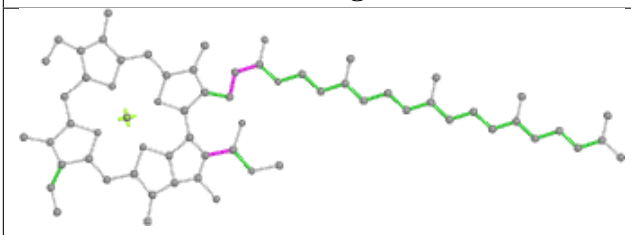


Bond angles



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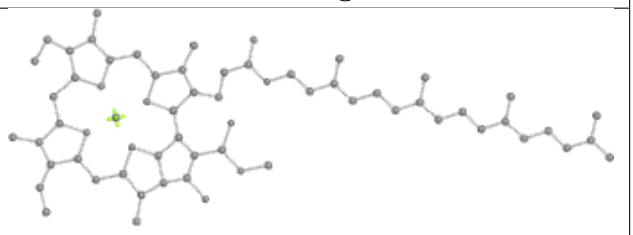
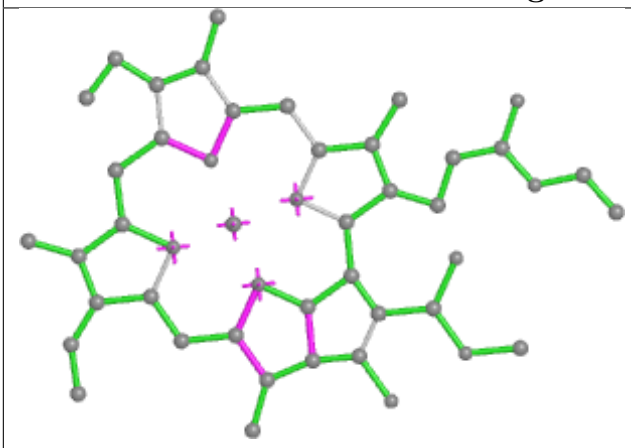


Rings

Ligand CLA d 212



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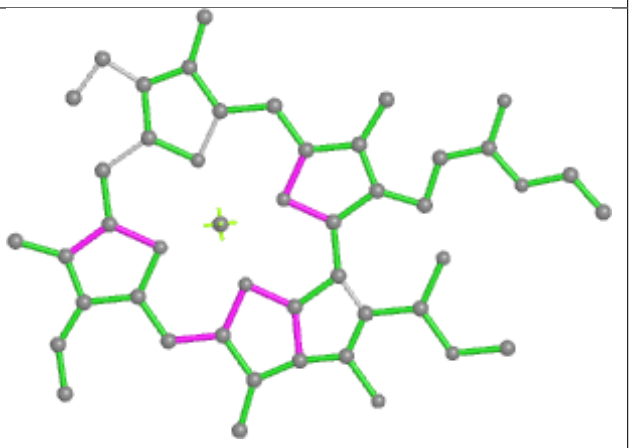
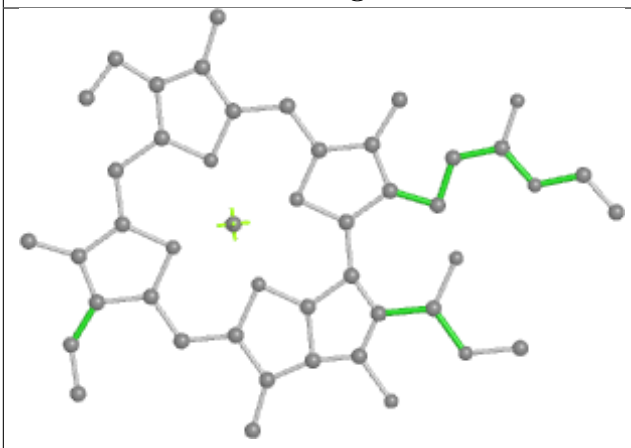


Bond angles



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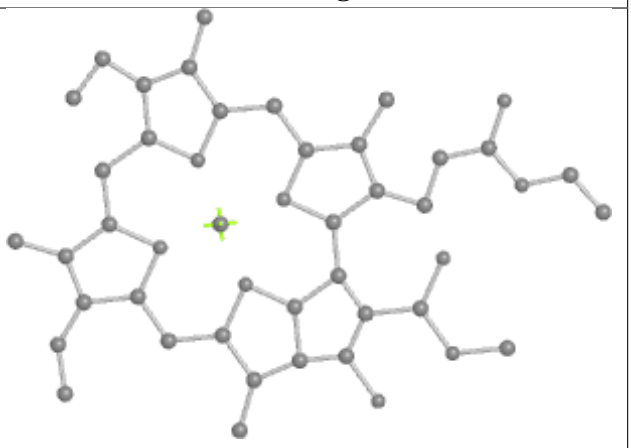
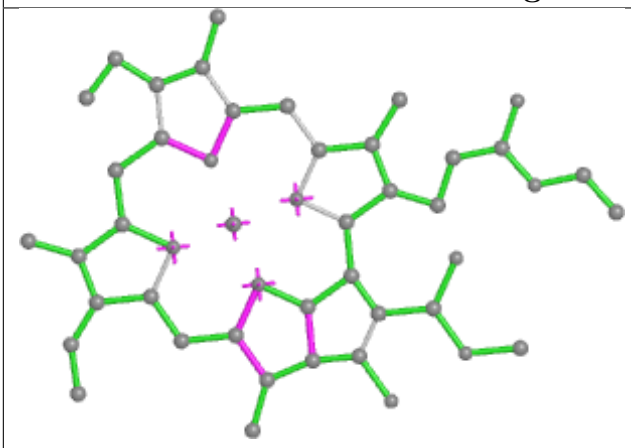


Rings

Ligand CLA A 814



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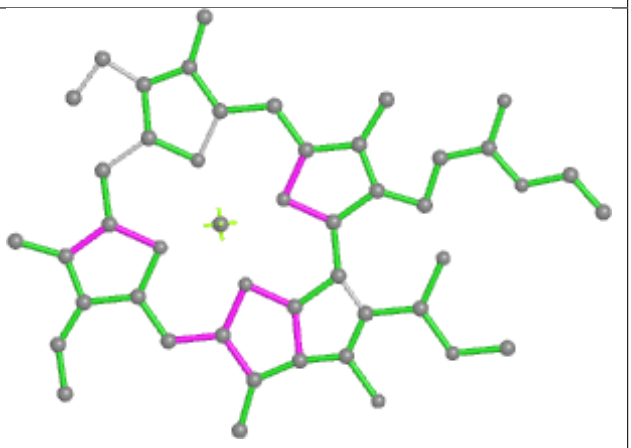
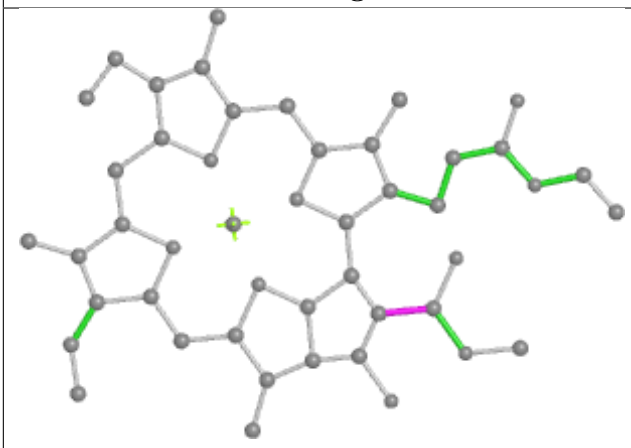


Bond angles



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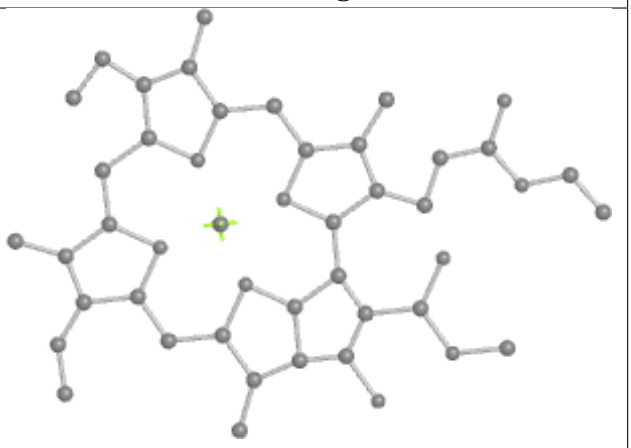
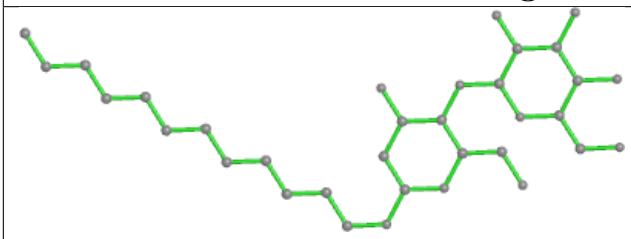


Rings

Ligand LMU A 838



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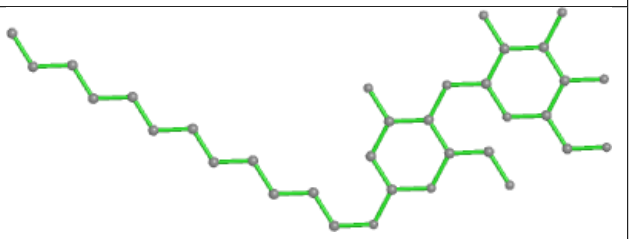
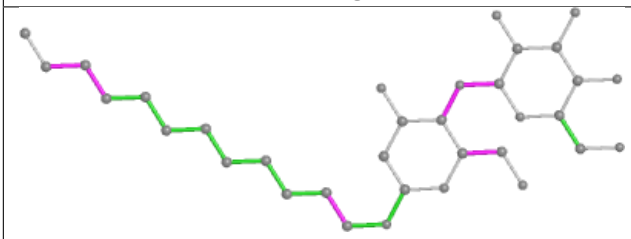


Bond angles



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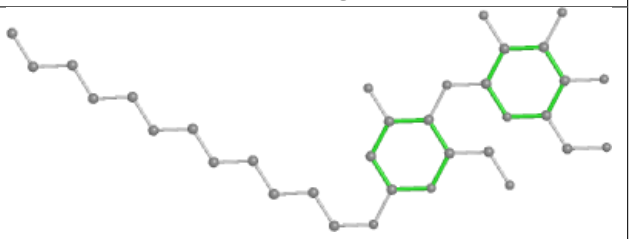
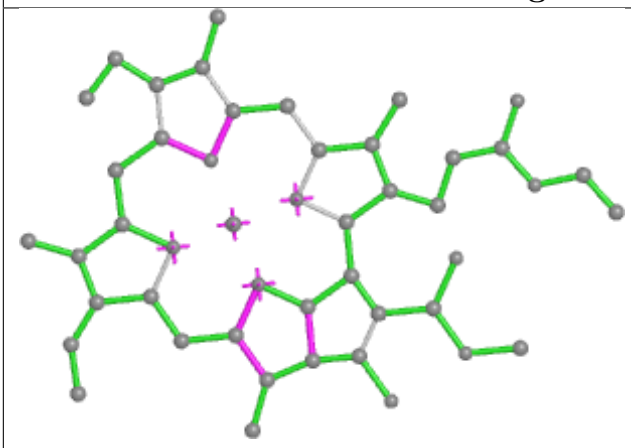


Rings

Ligand CLA o 312



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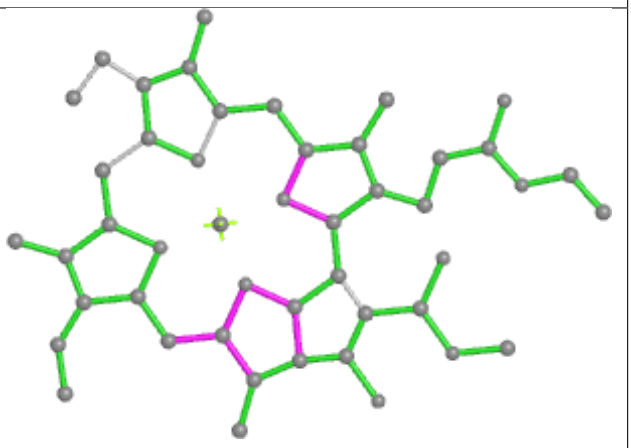
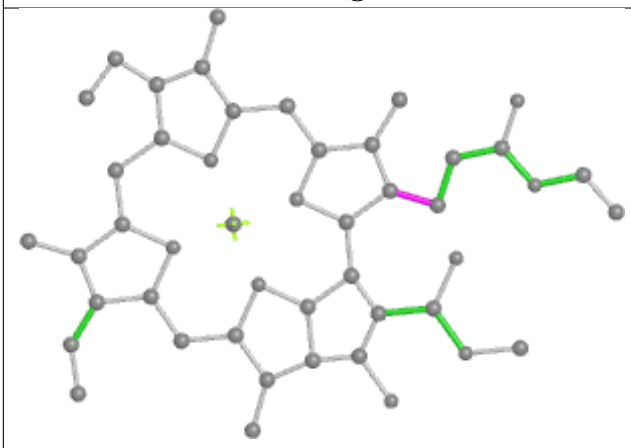


Bond angles



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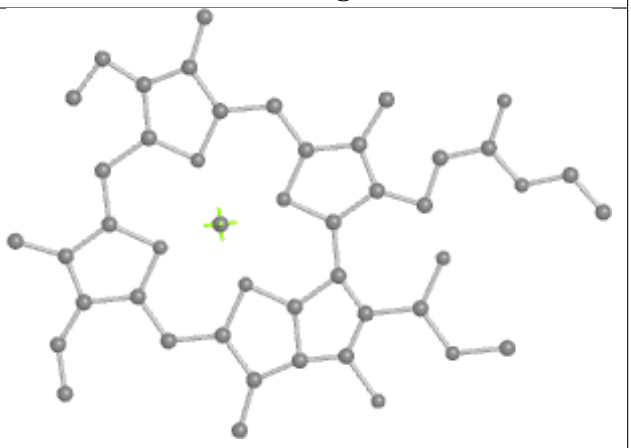
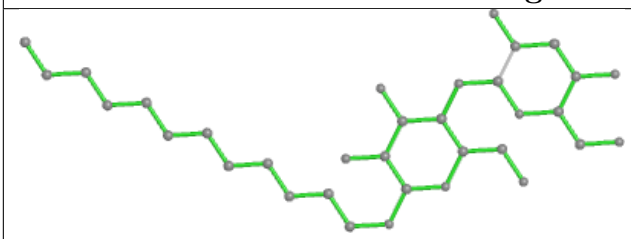


Rings

Ligand LMU c 301



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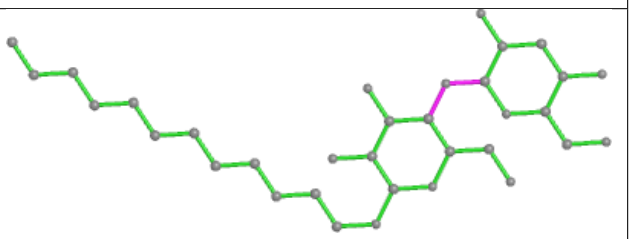

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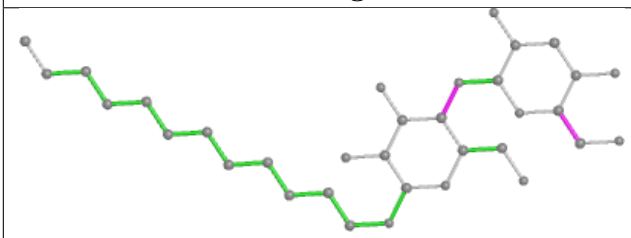

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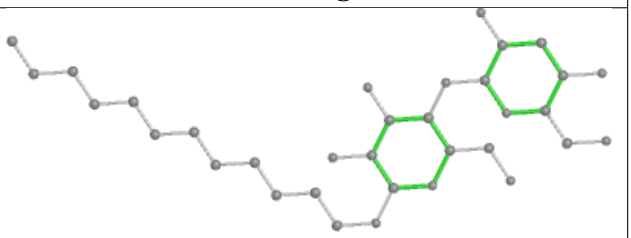
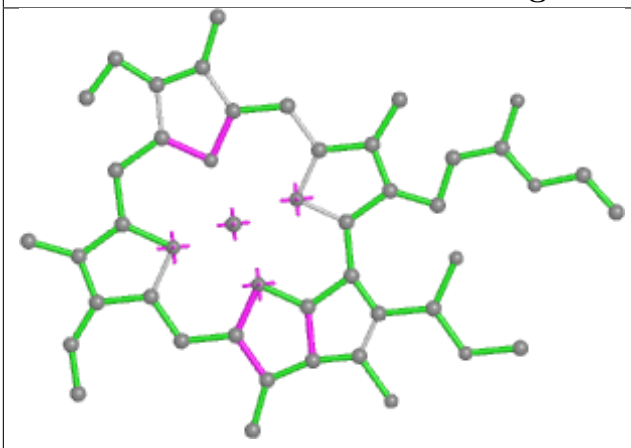


Rings

Ligand CLA e 309



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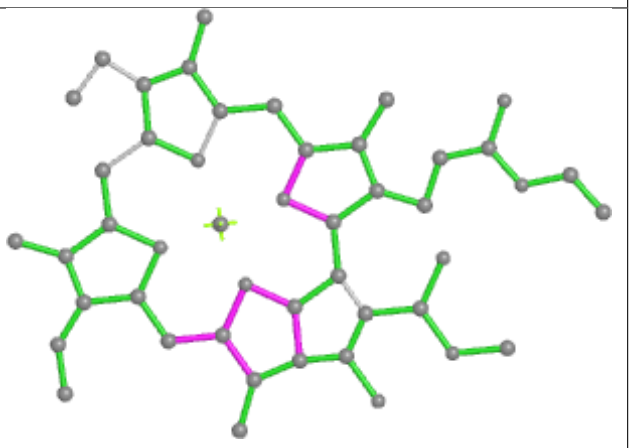
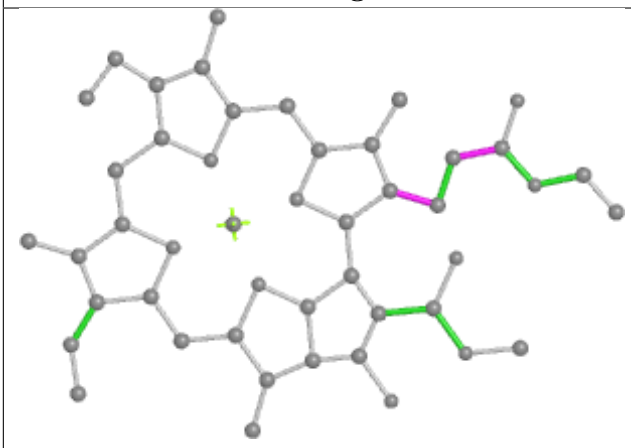


Bond angles



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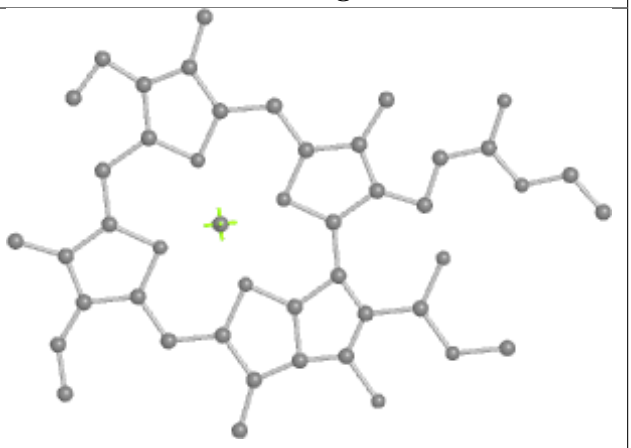
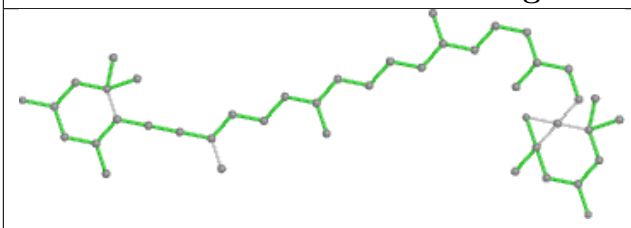


Rings

Ligand DD6 m 313



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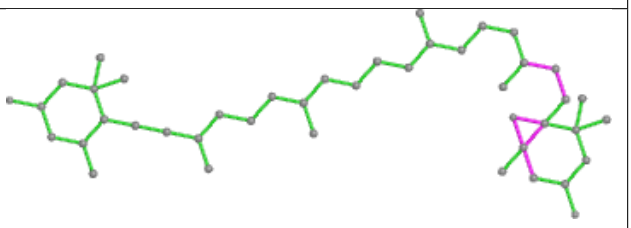
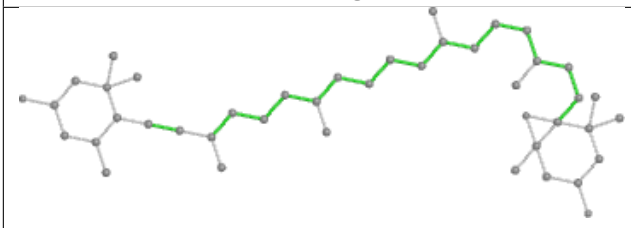


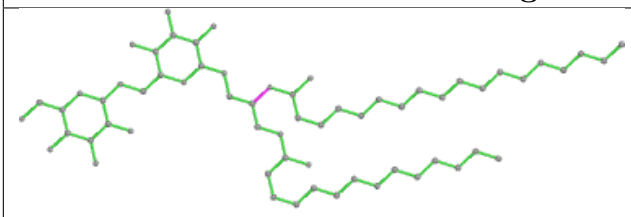
Bond angles



Torsions

Rings

Ligand DGD B 829



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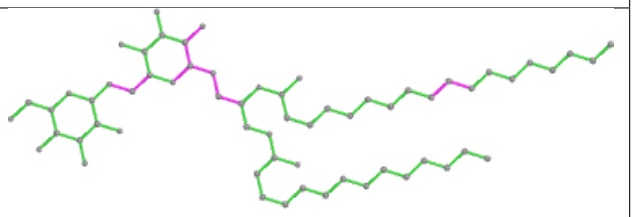
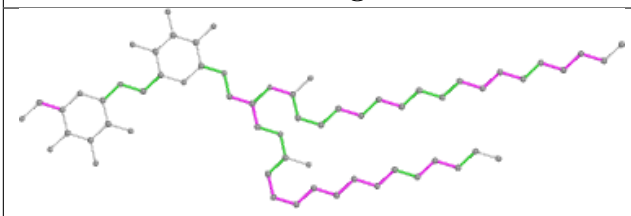
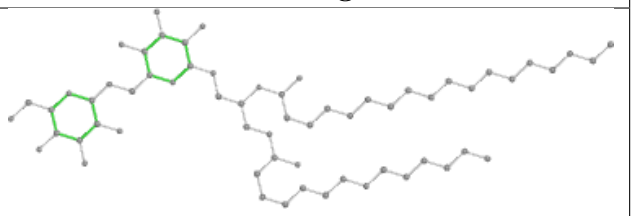


Bond angles

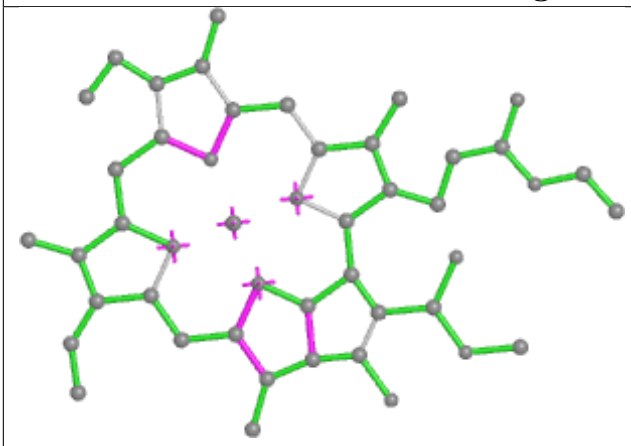


Torsions

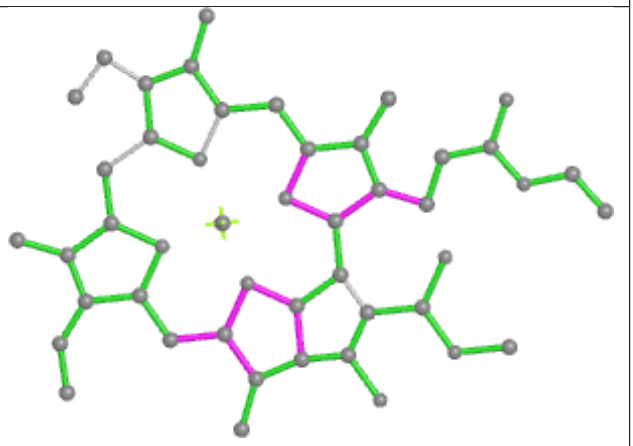


Rings

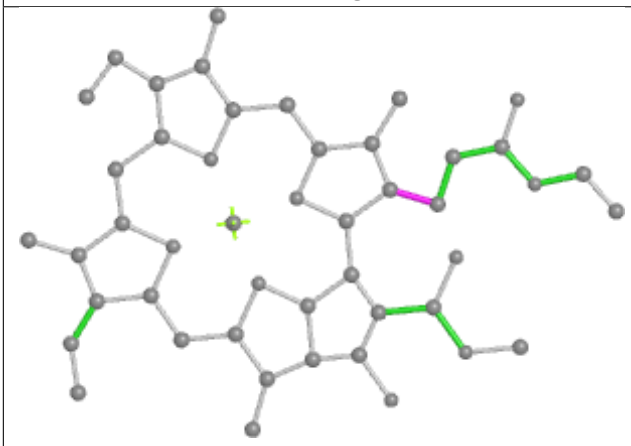
Ligand CLA i 305



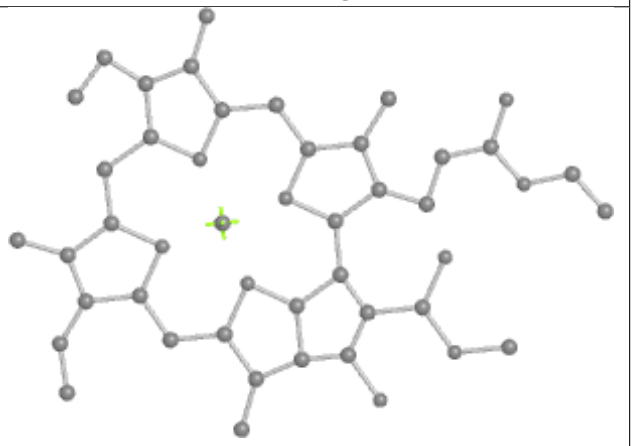
Bond lengths



Bond angles

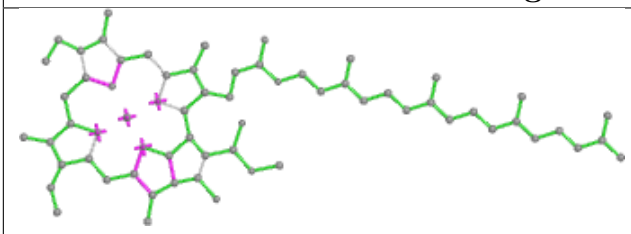


Torsions



Rings

Ligand CLA B 807



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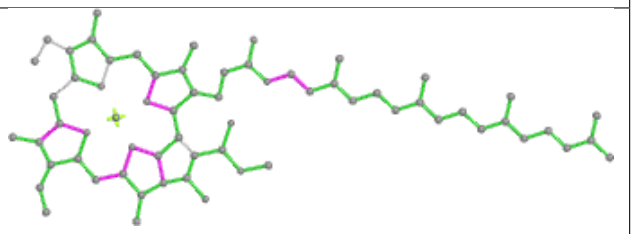
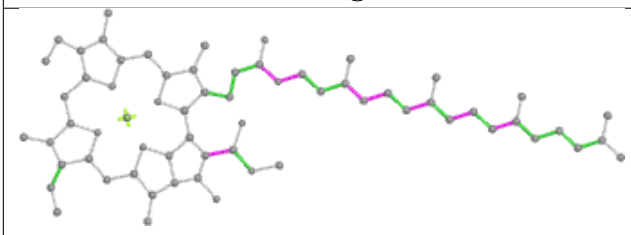


Bond angles



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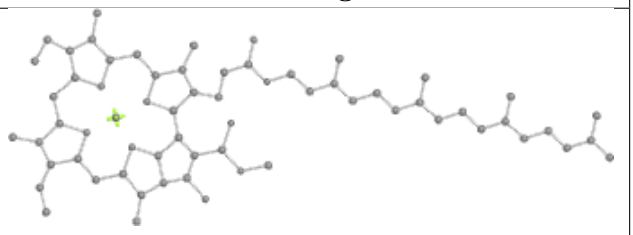
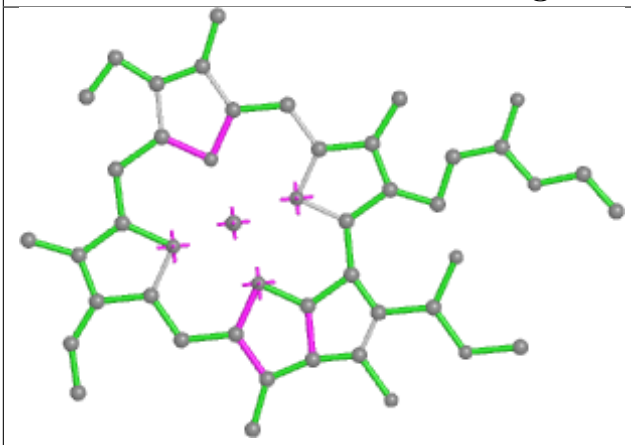


Rings

Ligand CLA j 306



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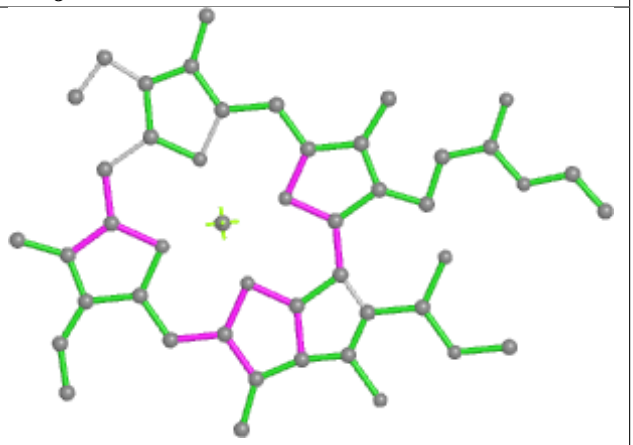
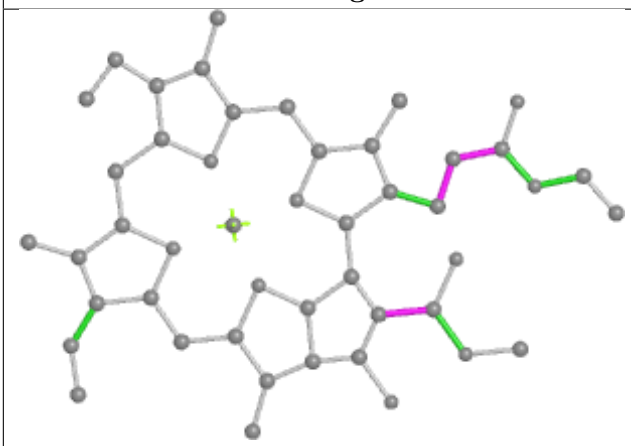


Bond angles



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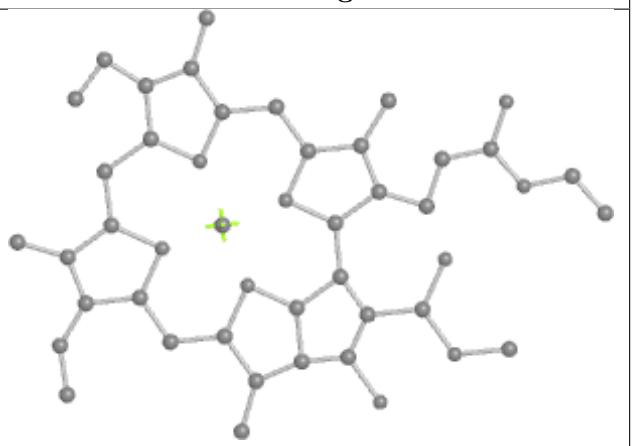
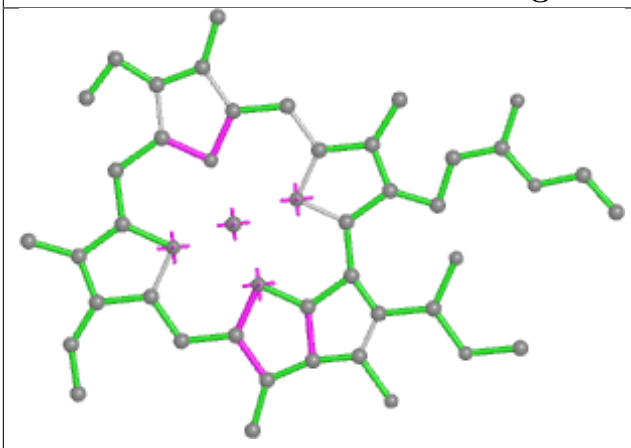


Rings

Ligand CLA f 303



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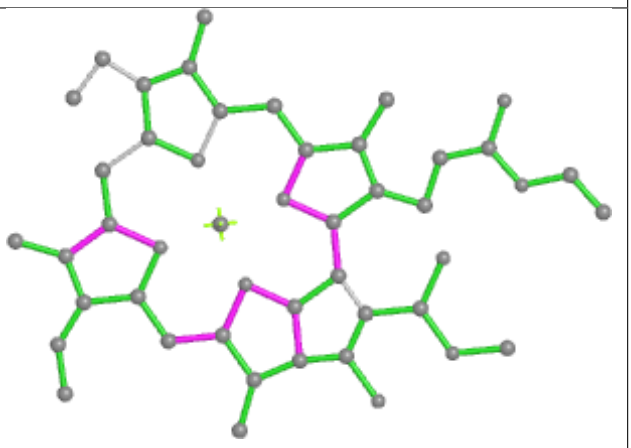

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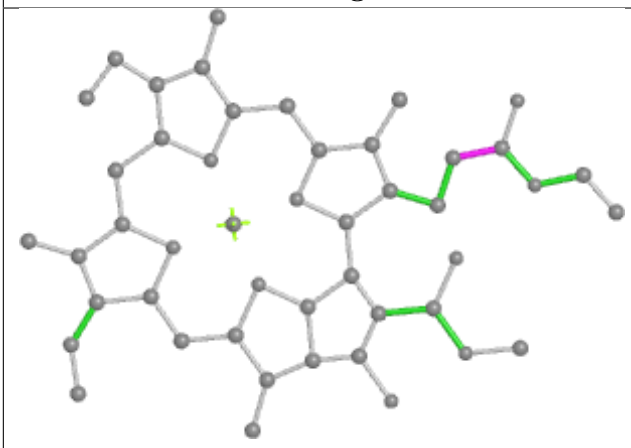

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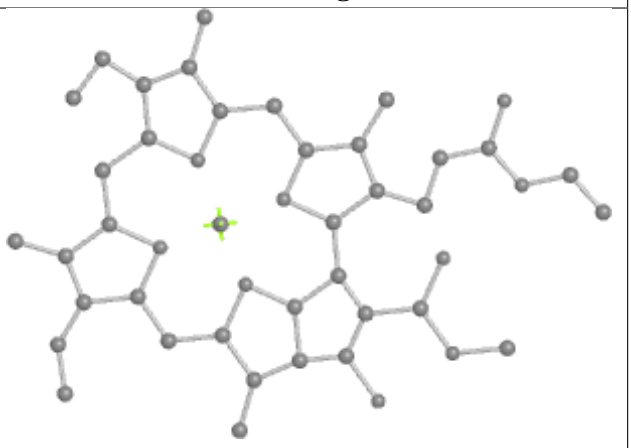
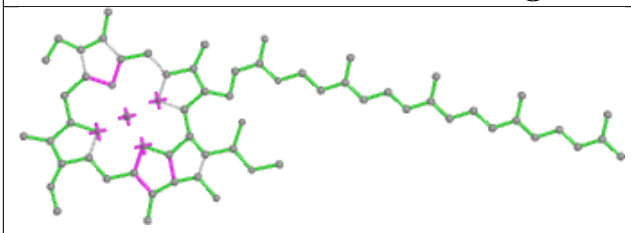


Rings

Ligand CLA B 818



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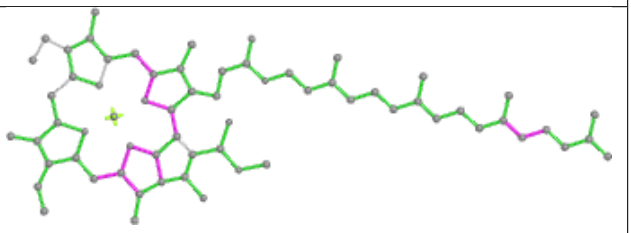
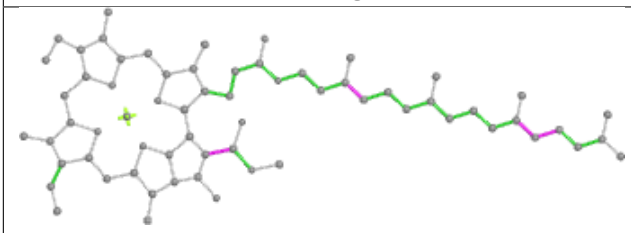


Bond angles



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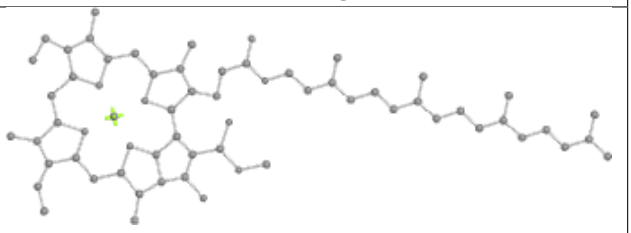
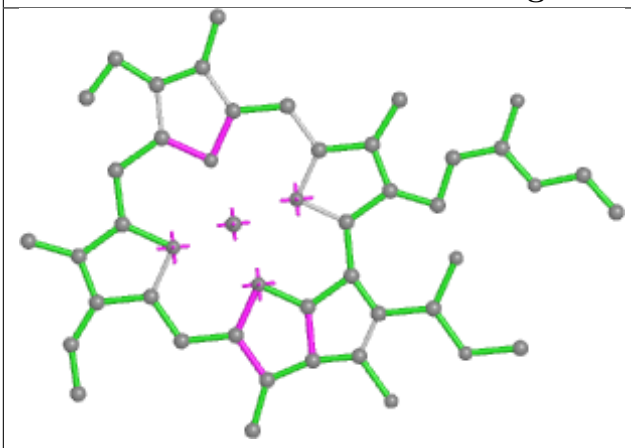


Rings

Ligand CLA h 206



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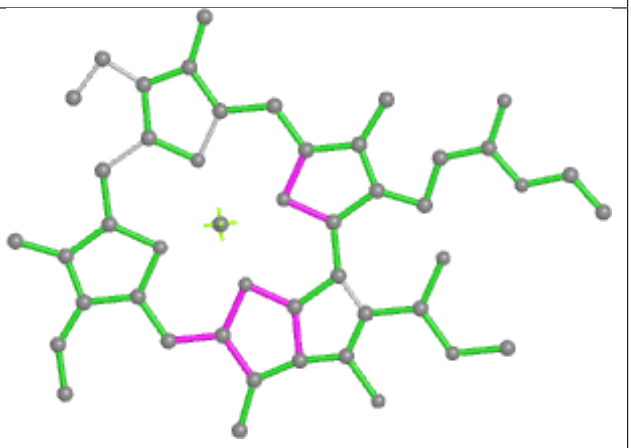
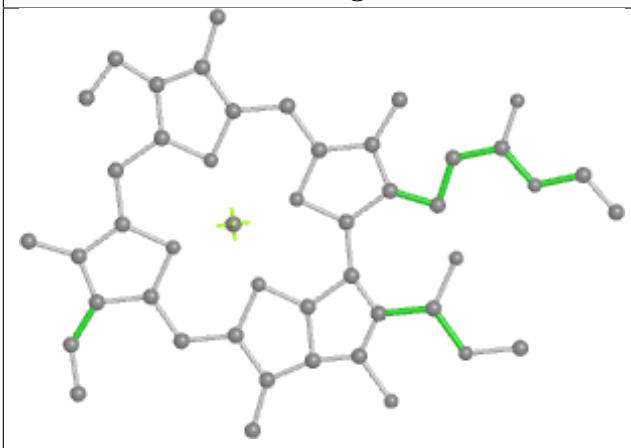


Bond angles



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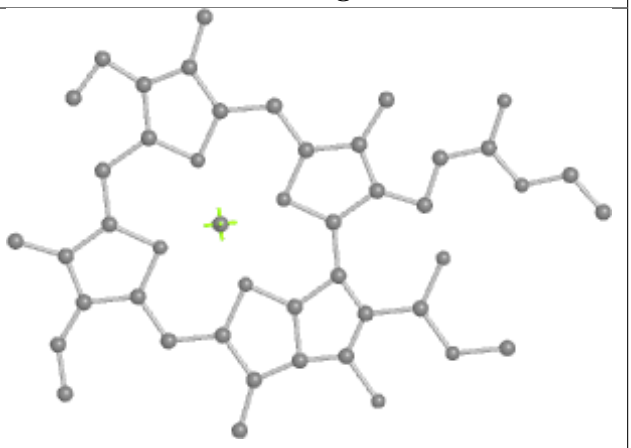
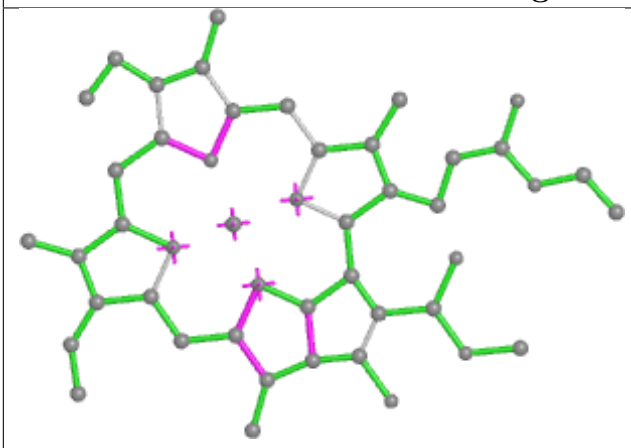


Rings

Ligand CLA j 310



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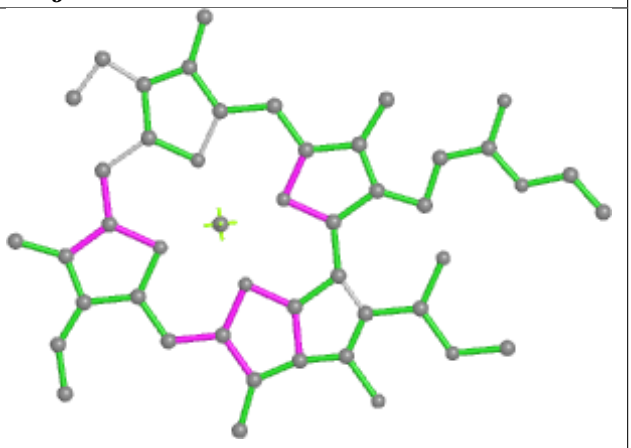
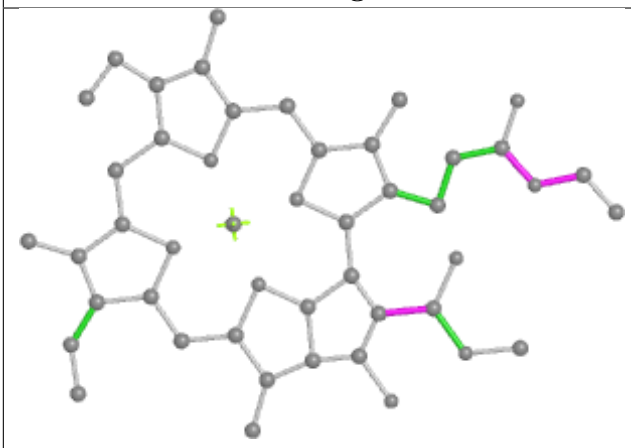


Bond angles



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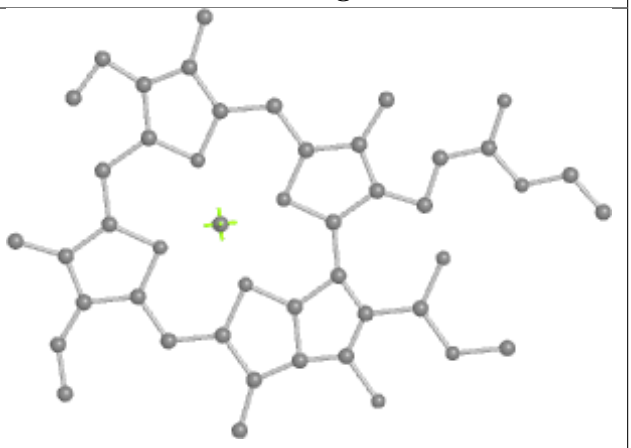
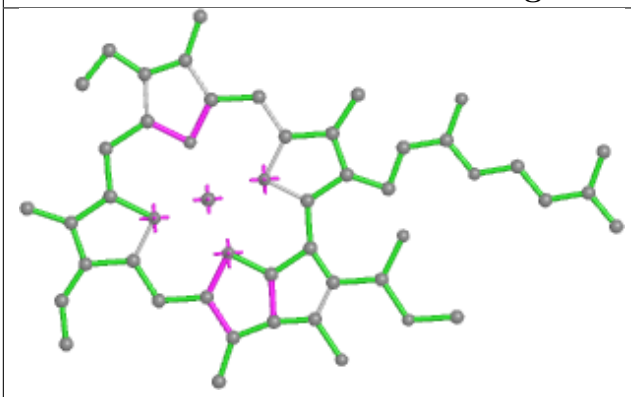


Rings

Ligand CLA B 837



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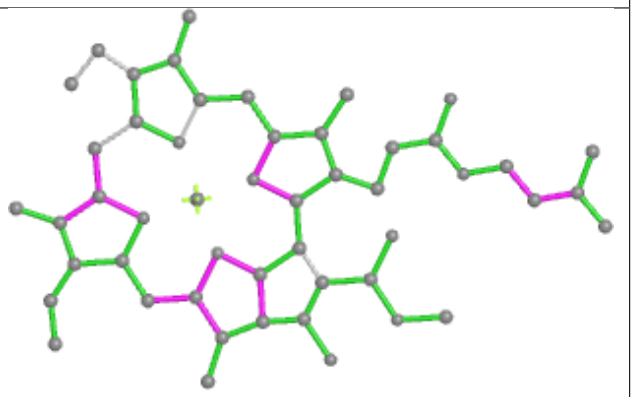

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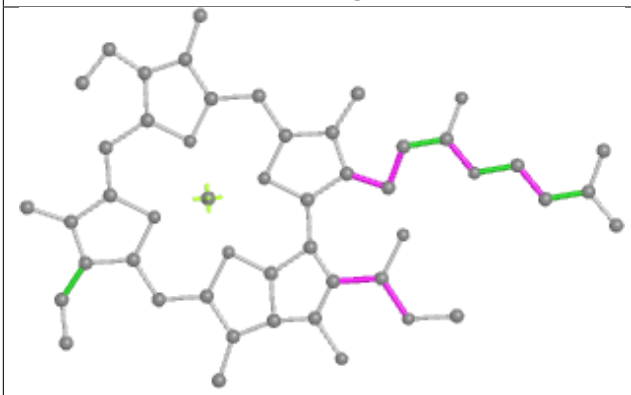

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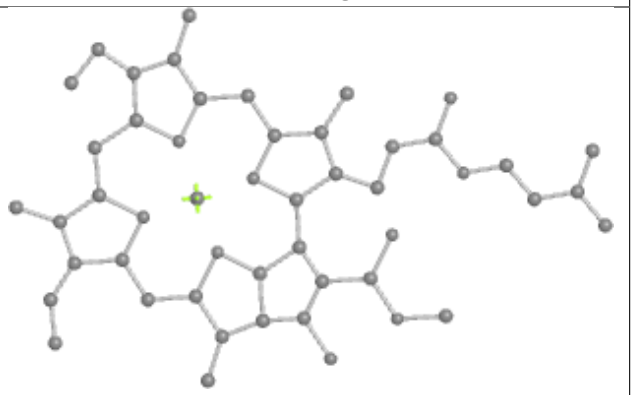
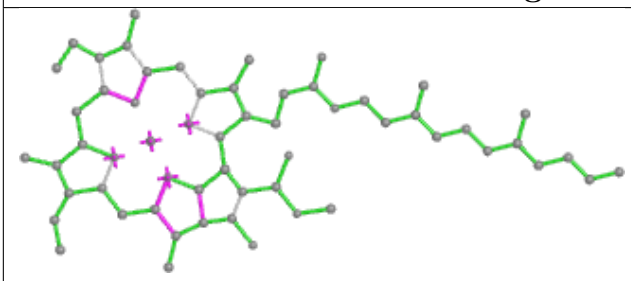


Rings

Ligand CLA B 811



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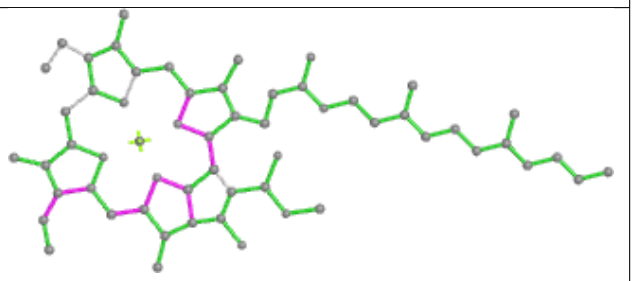
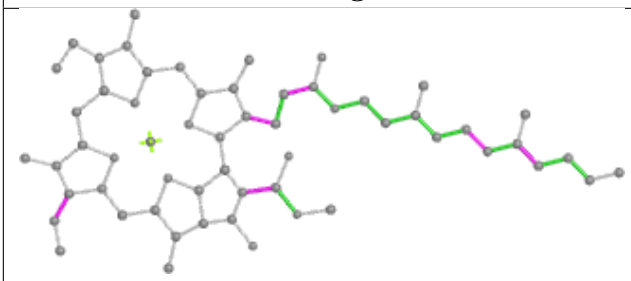


Bond angles



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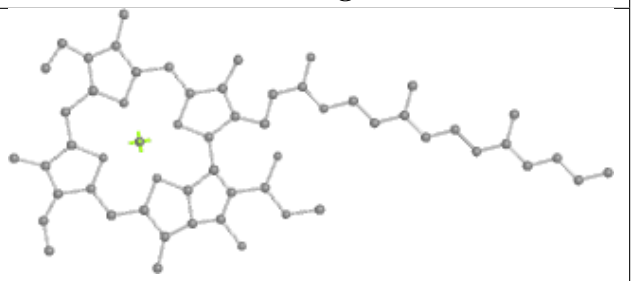
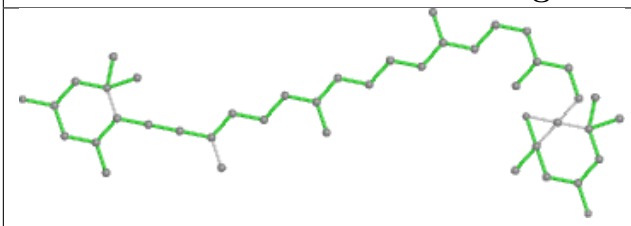


Rings

Ligand DD6 j 315



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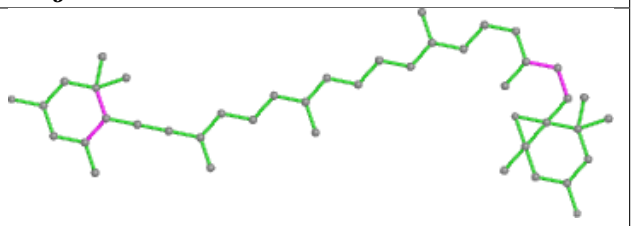

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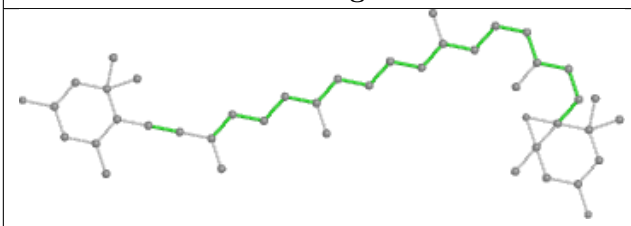

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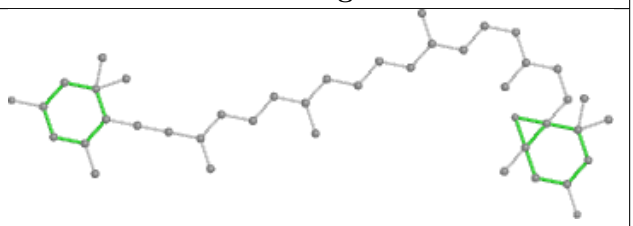
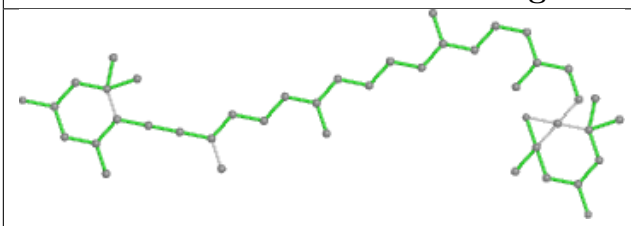


Rings

Ligand DD6 k 314



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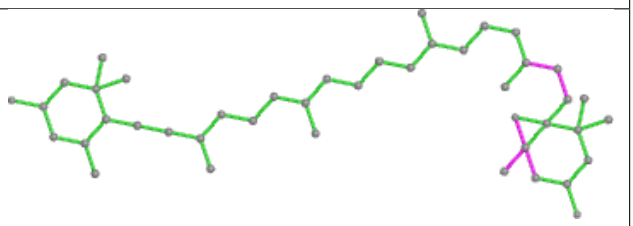
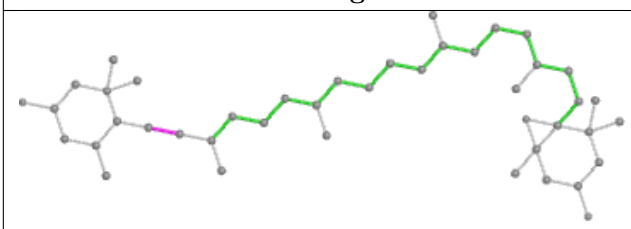


Bond angles



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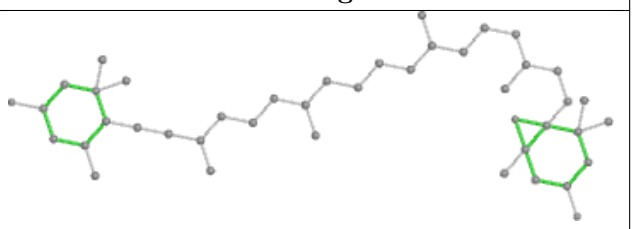
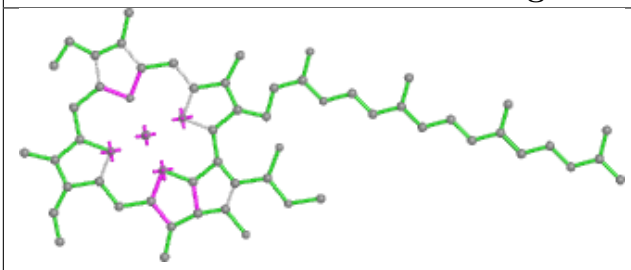


Rings

Ligand CLA d 210



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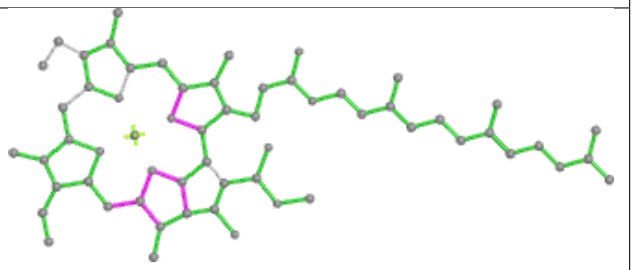
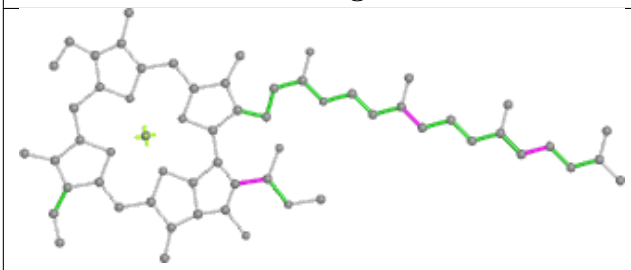


Bond angles



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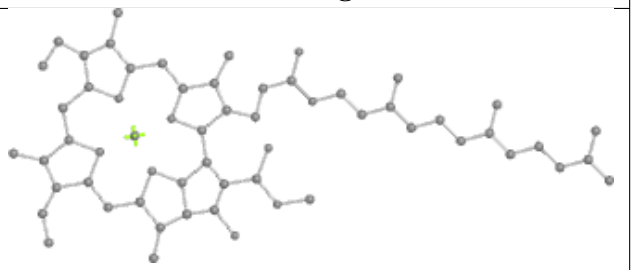
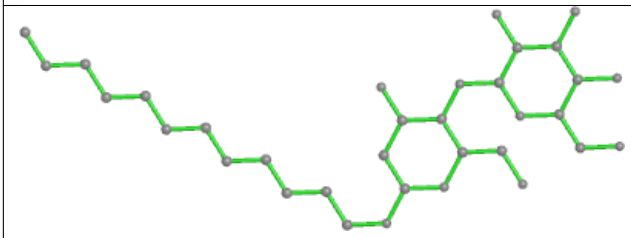


Rings

Ligand LMU a 319



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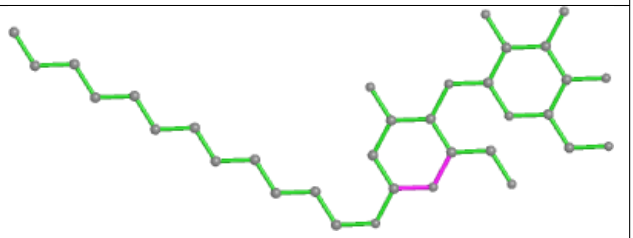
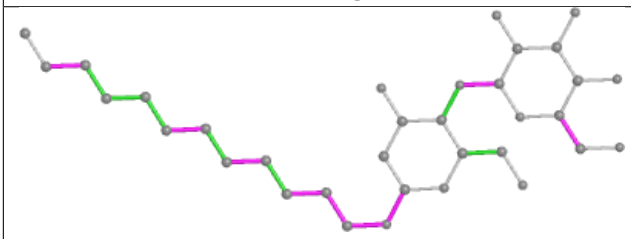


Bond angles



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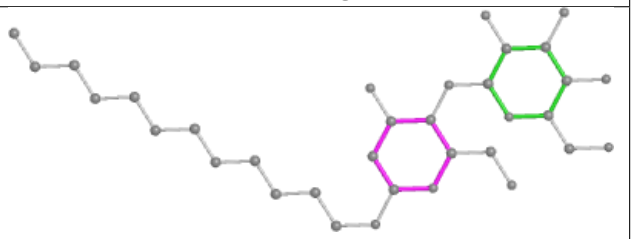
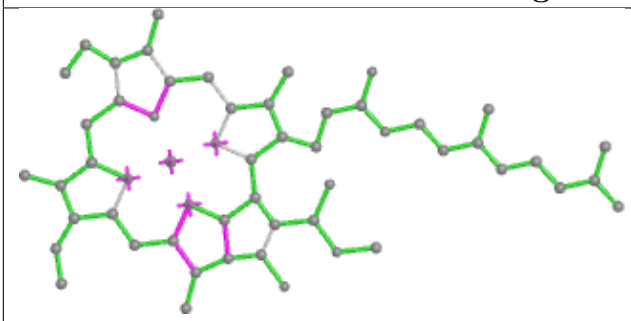


Rings

Ligand CLA i 302



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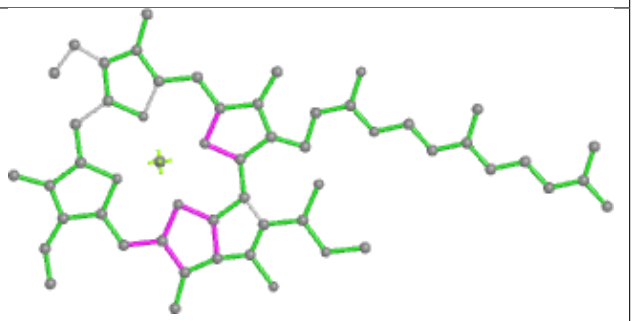
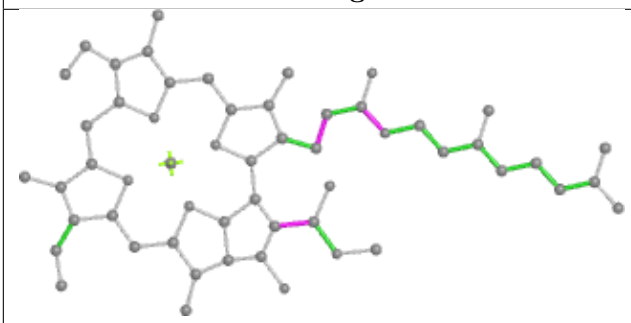
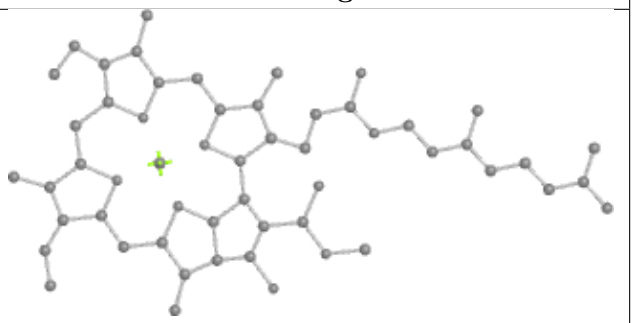


Bond angles

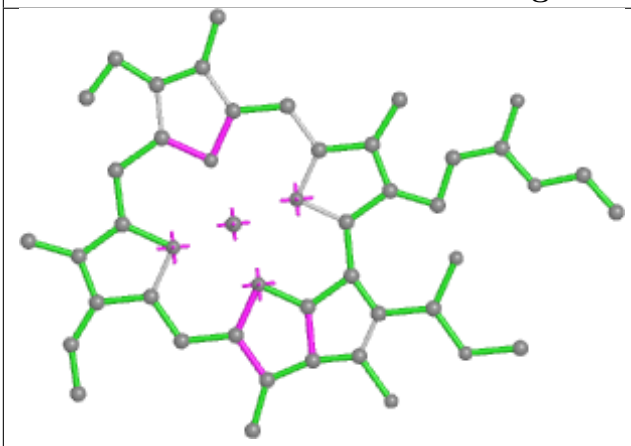


Torsions

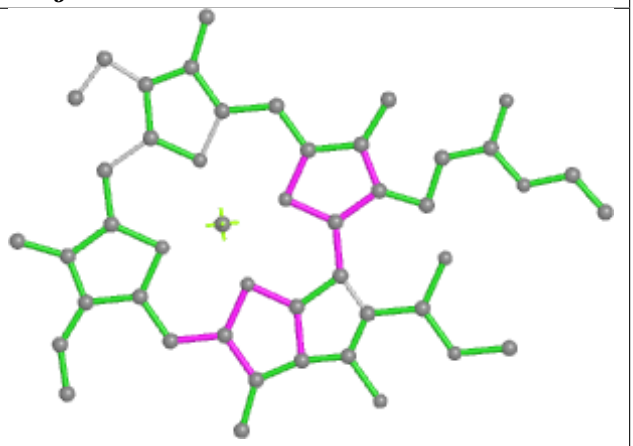


Rings

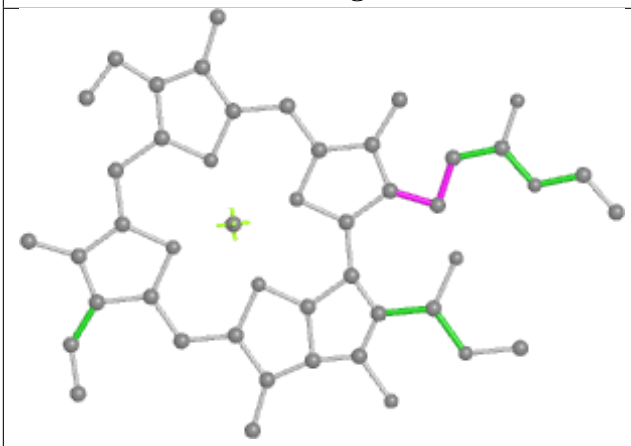
Ligand CLA j 312



Bond lengths



Bond angles



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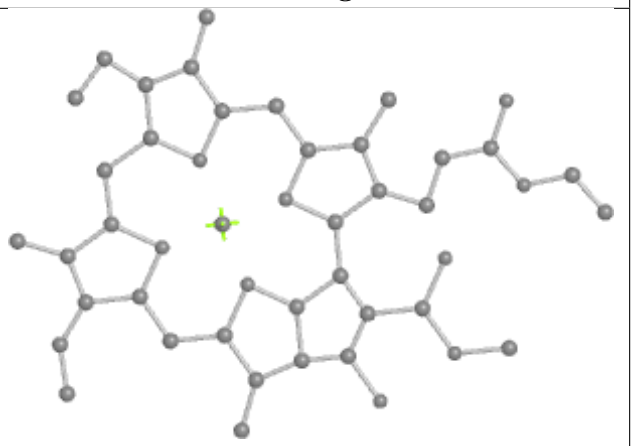
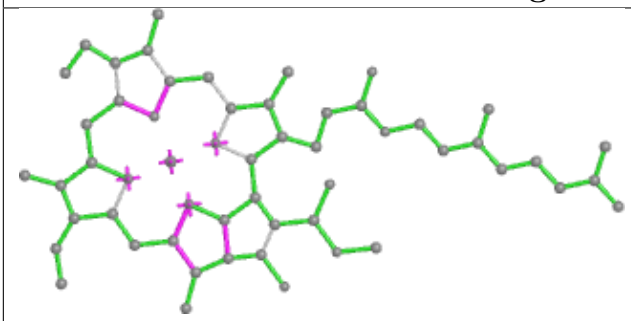


Rings

Ligand CLA c 303



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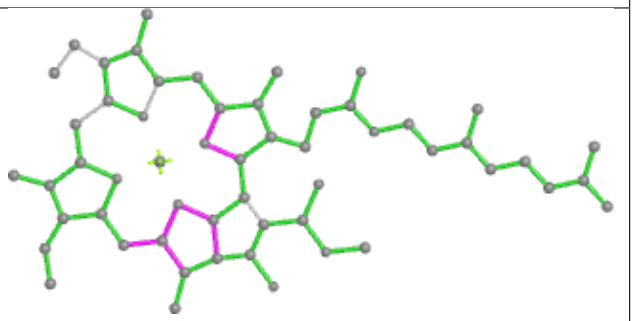

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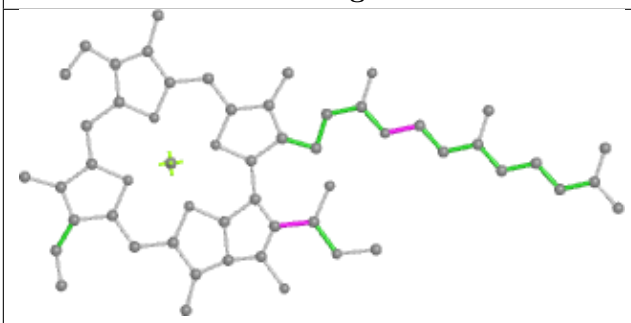

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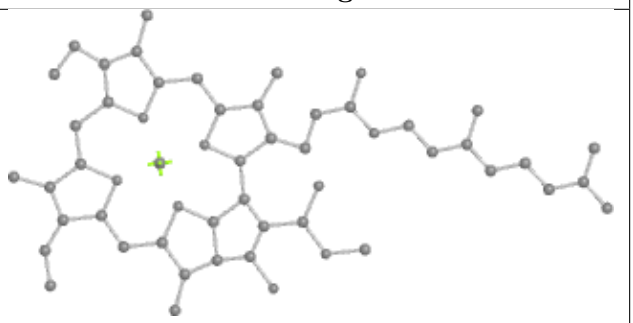
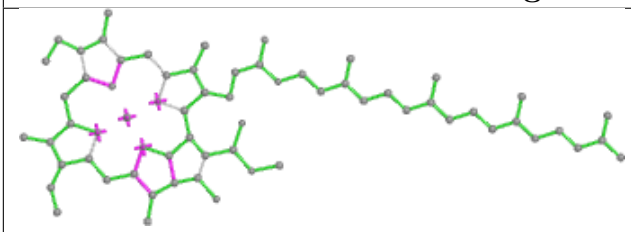


Rings

Ligand CLA A 828



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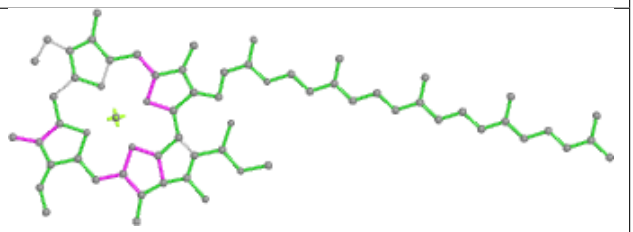
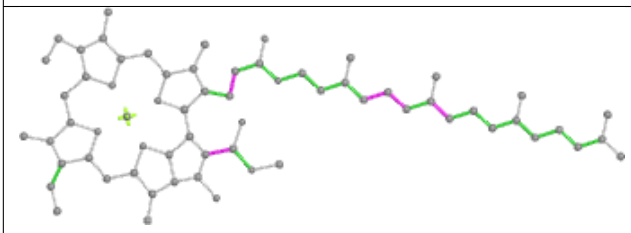


Bond angles



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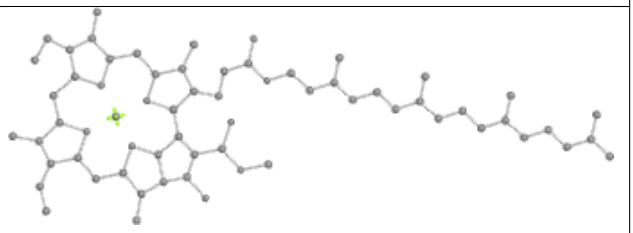
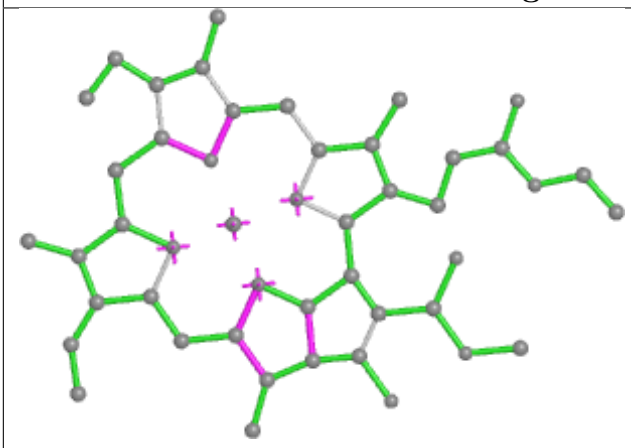


Rings

Ligand CLA m 303



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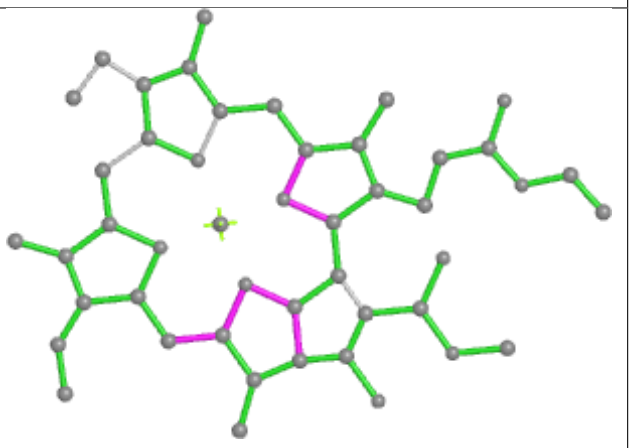
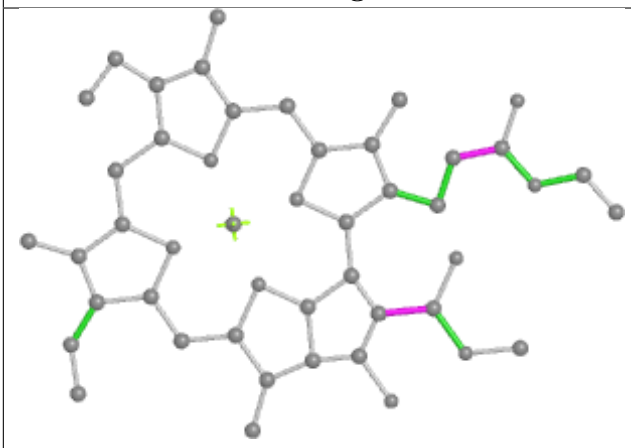


Bond angles



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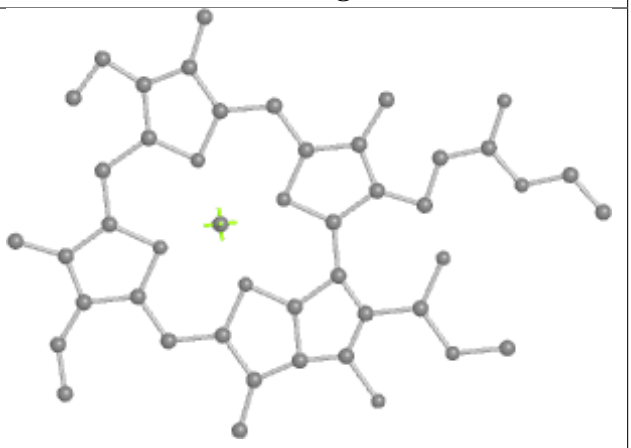
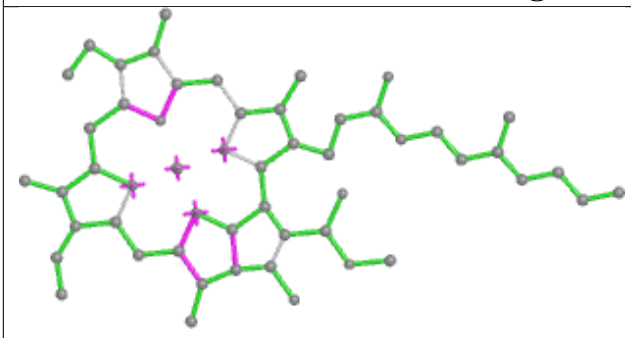


Rings

Ligand CLA o 308



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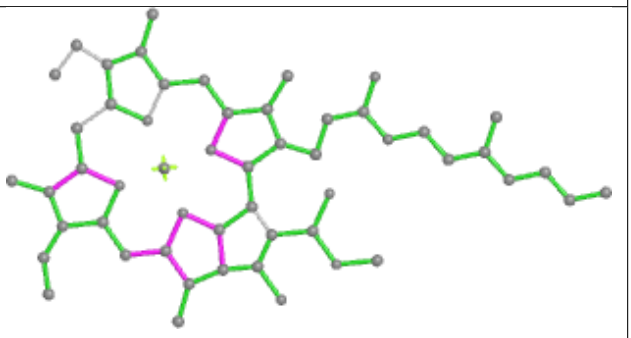

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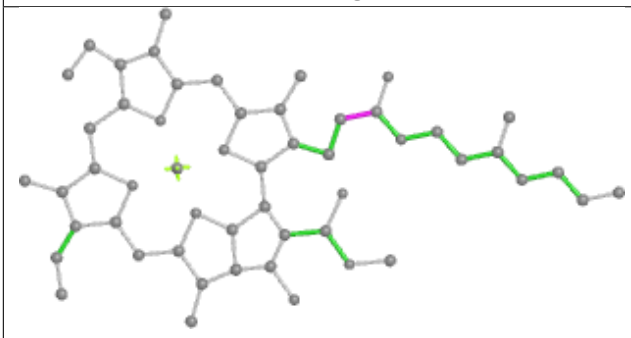

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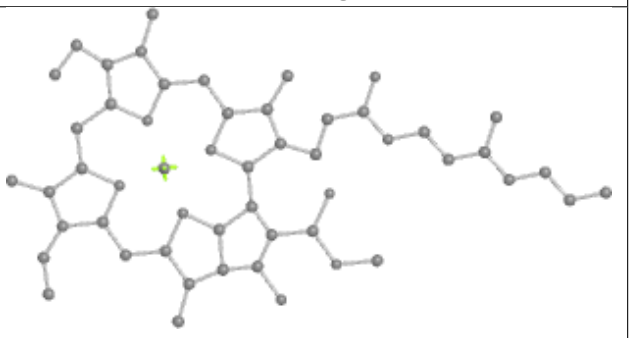
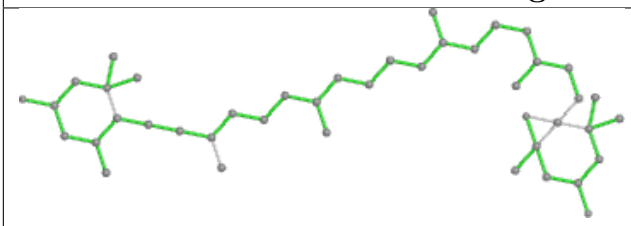


Rings

Ligand DD6 J 802



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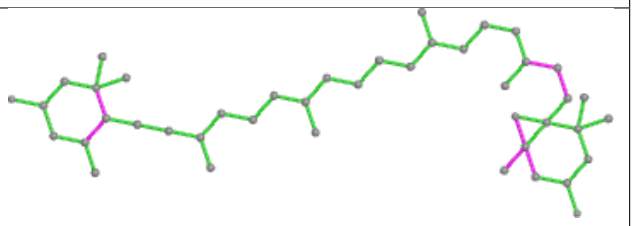

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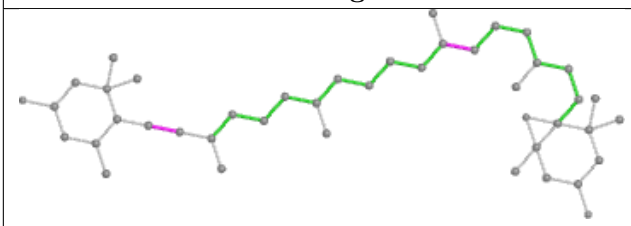

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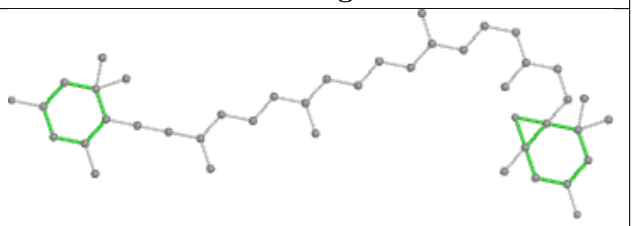
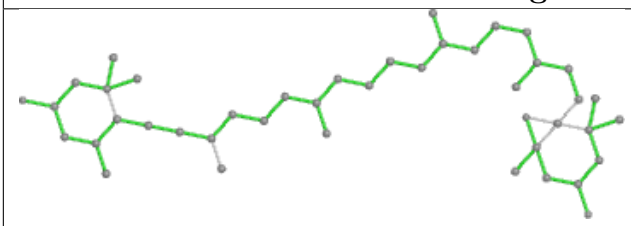


Rings

Ligand DD6 e 313



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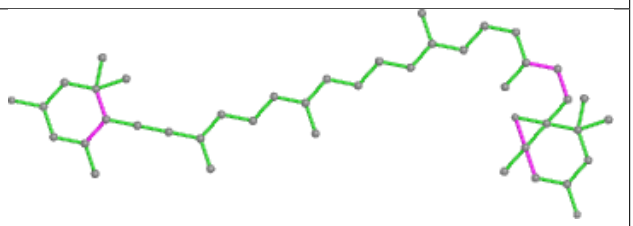

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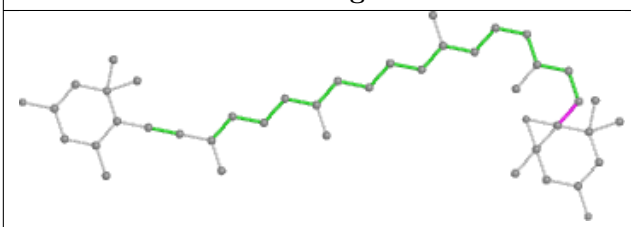

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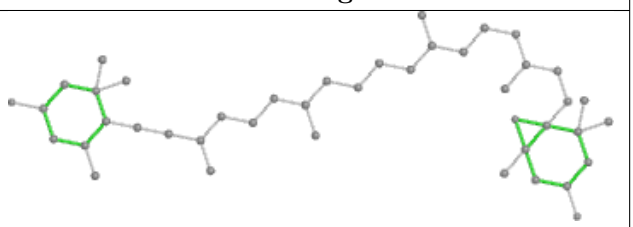
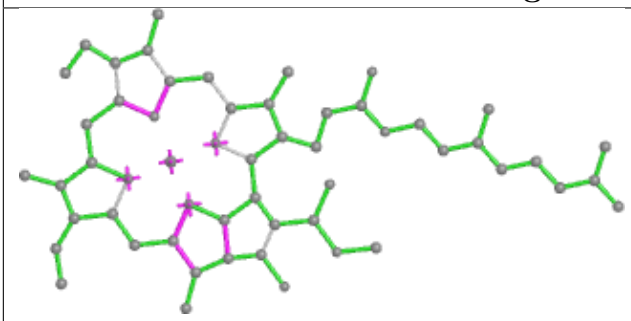


Rings

Ligand CLA A 820



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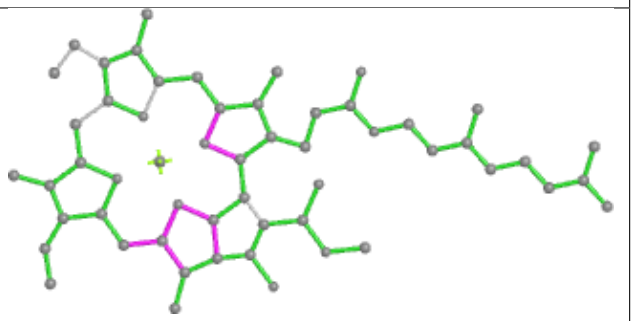
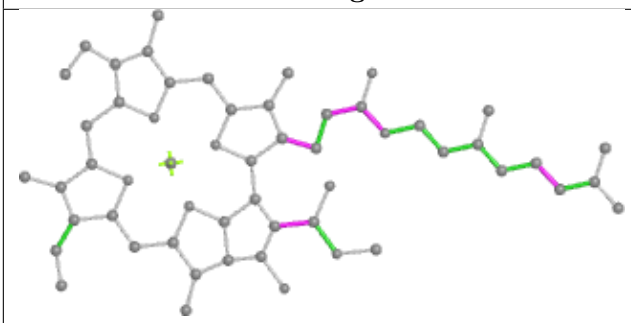


Bond angles



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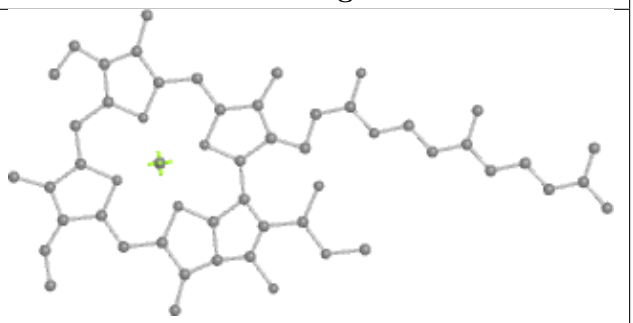
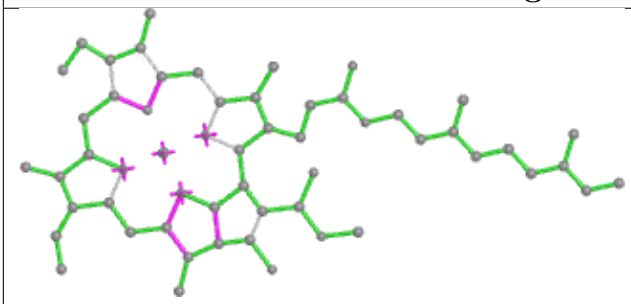


Rings

Ligand CLA B 835



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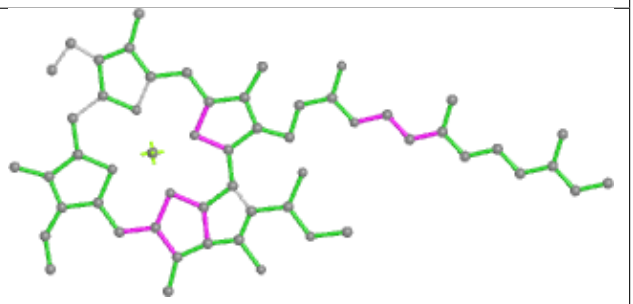
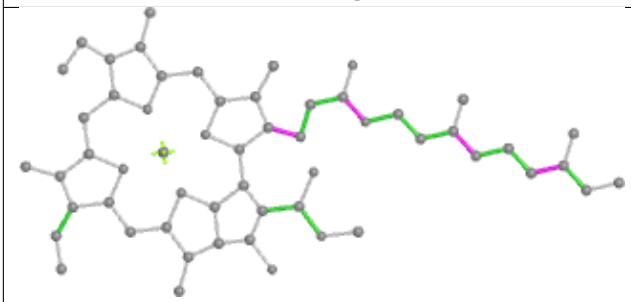


Bond angles



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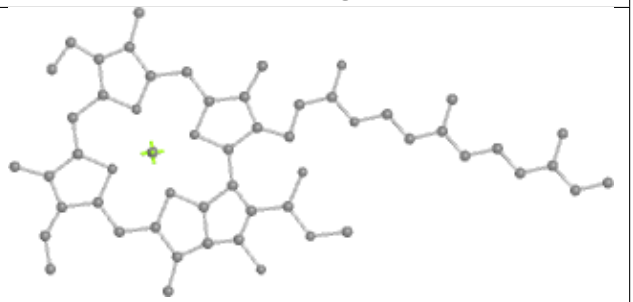
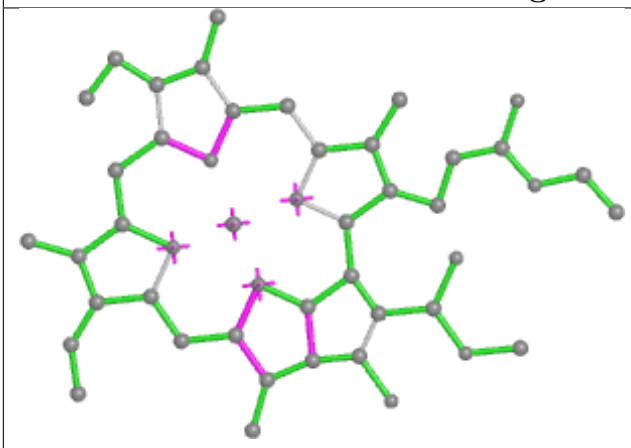


Rings

Ligand CLA c 314



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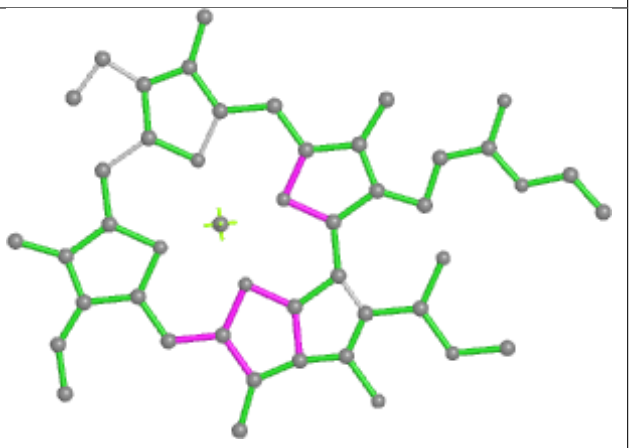
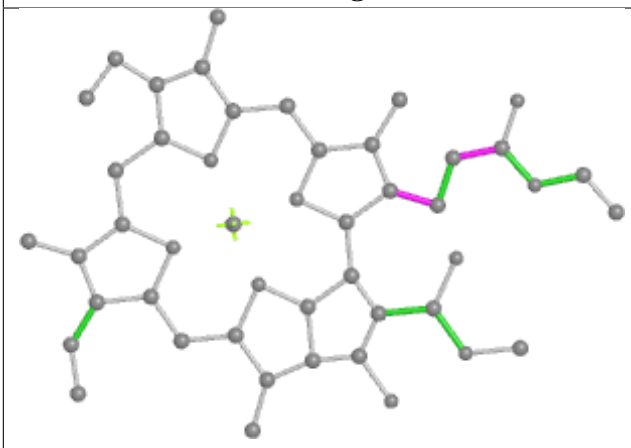


Bond angles



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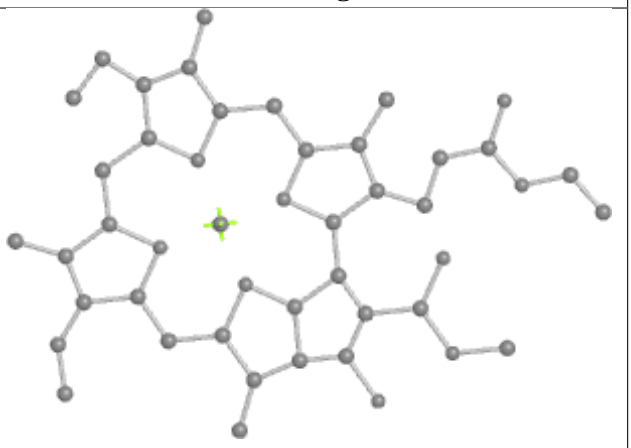
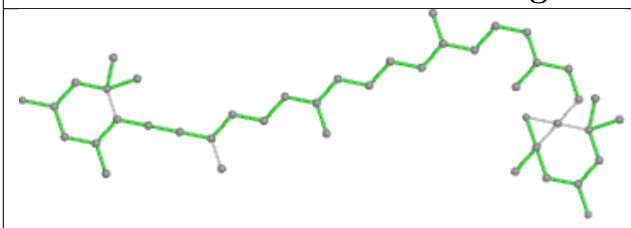


Rings

Ligand DD6 c 318



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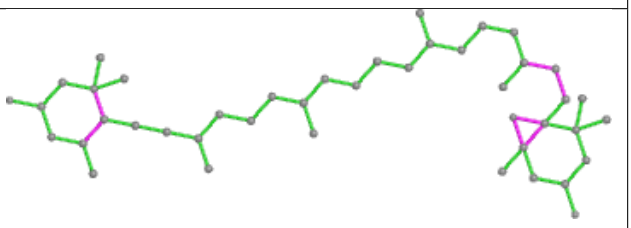
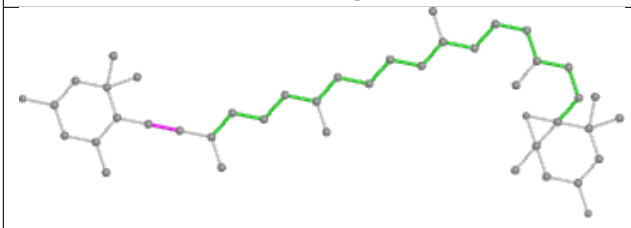


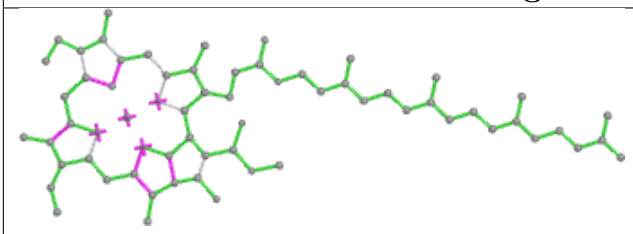
Bond angles



Torsions

Rings

Ligand CLA A 802



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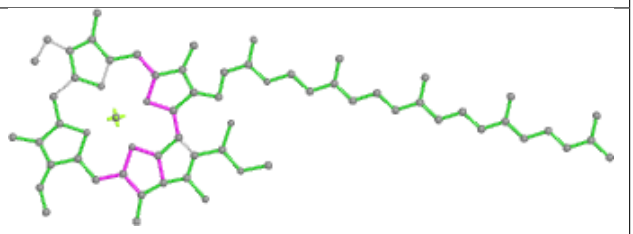
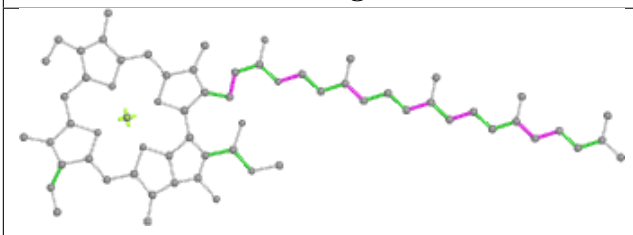
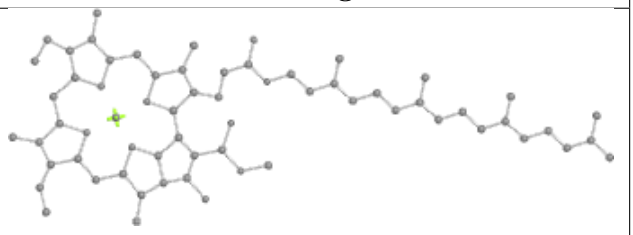


Bond angles

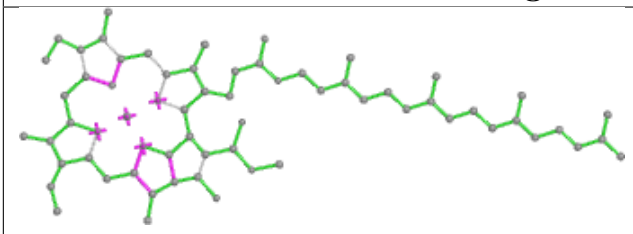


Torsions



Rings

Ligand CLA B 822



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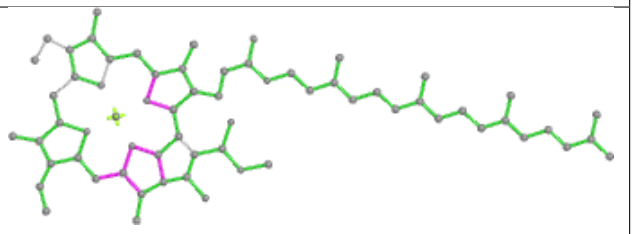
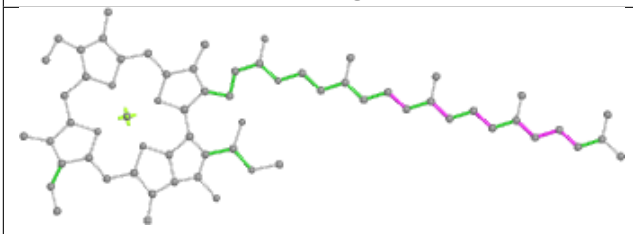


Bond angles



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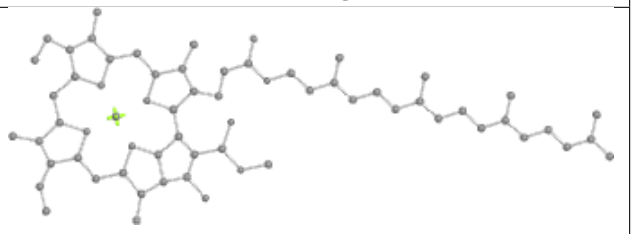
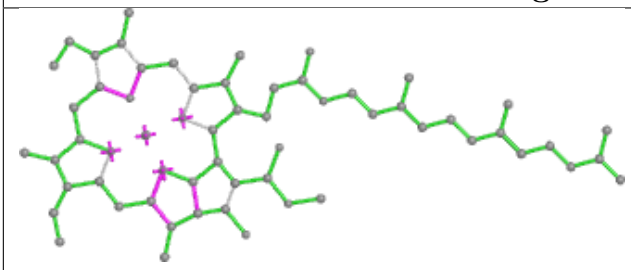
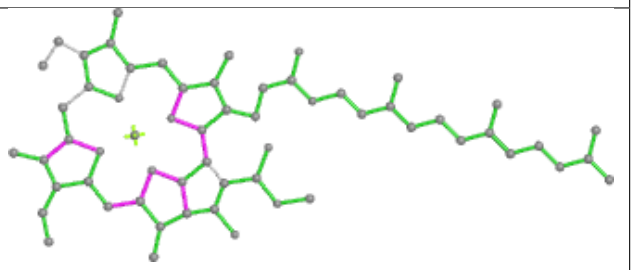
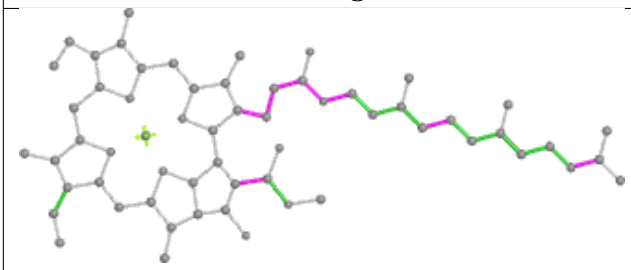
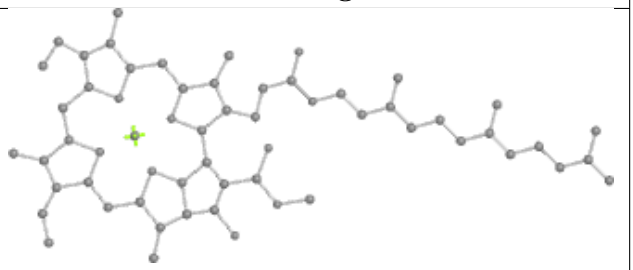
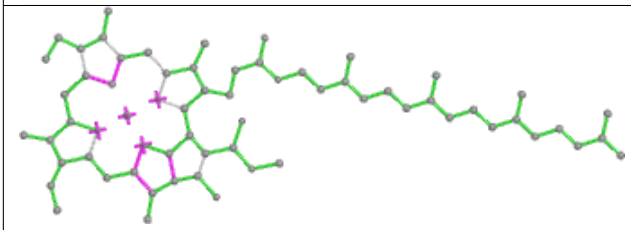
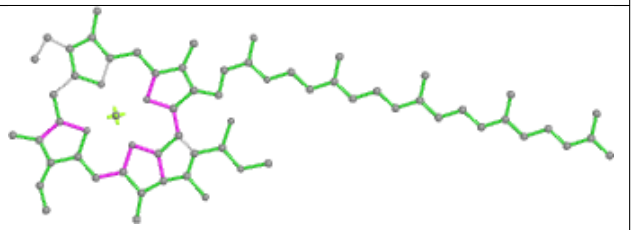
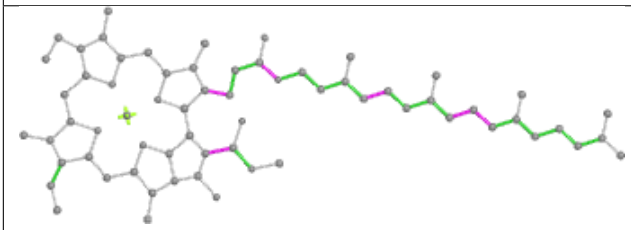
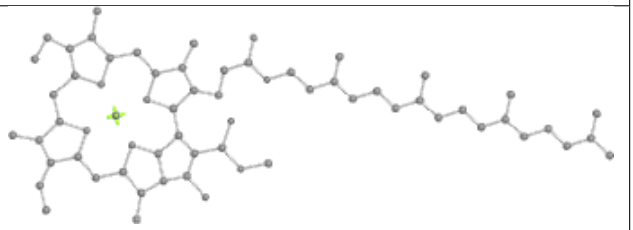
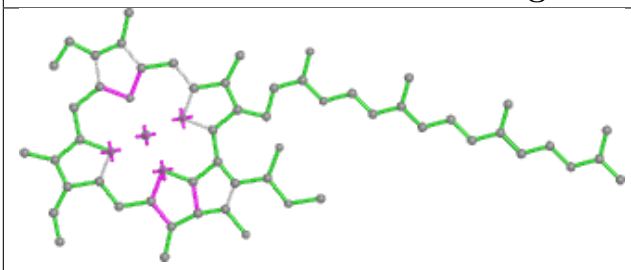


Rings

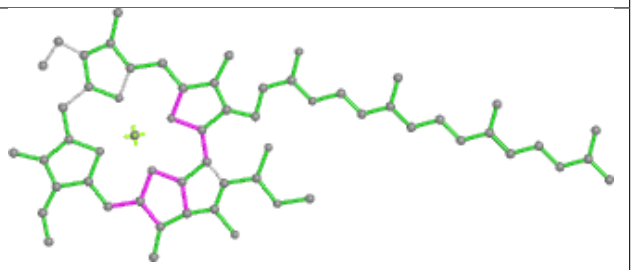
Ligand CLA i 309	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA B 839	
 Bond lengths	 Bond angles
 Torsions	 Rings

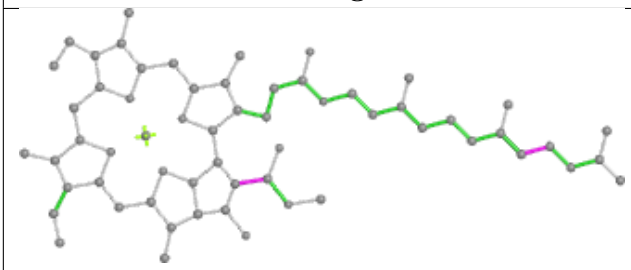
Ligand CLA a 308



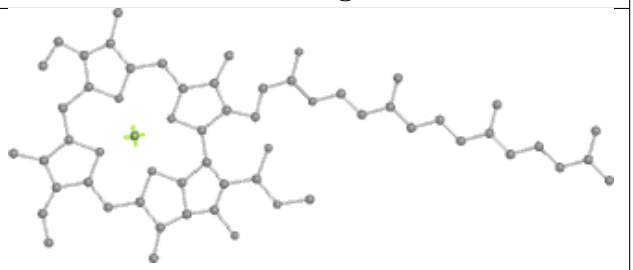
Bond lengths



Bond angles

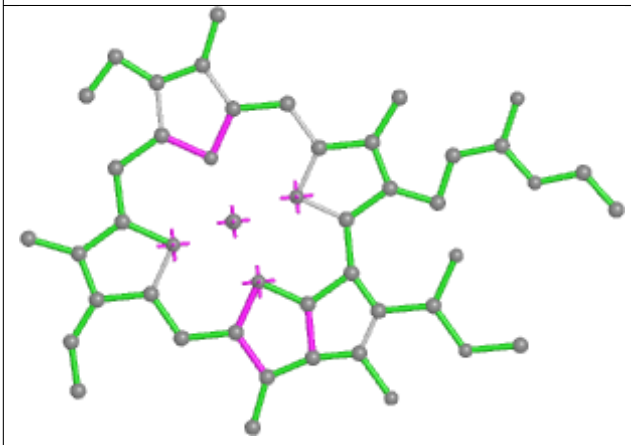


Torsions



Rings

Ligand CLA B 840



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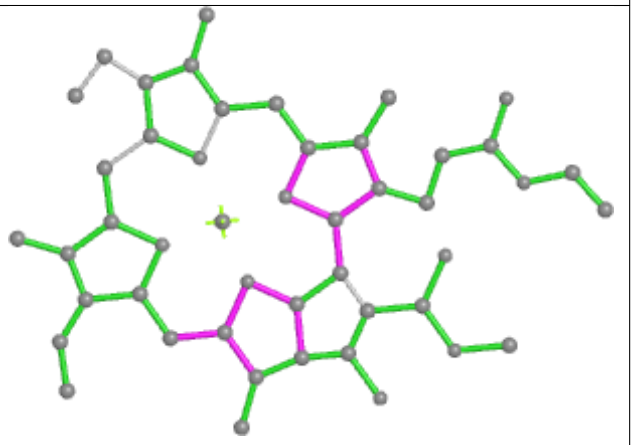
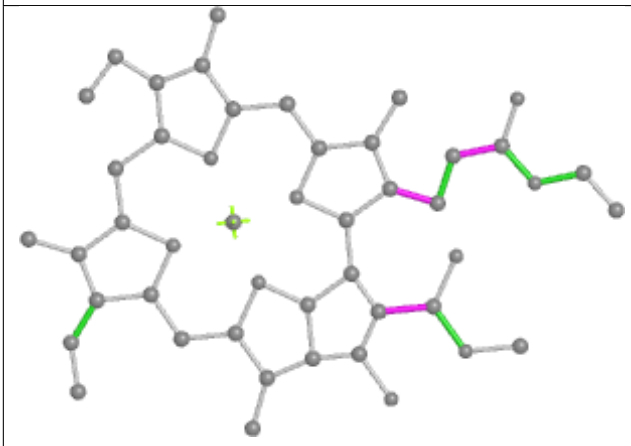
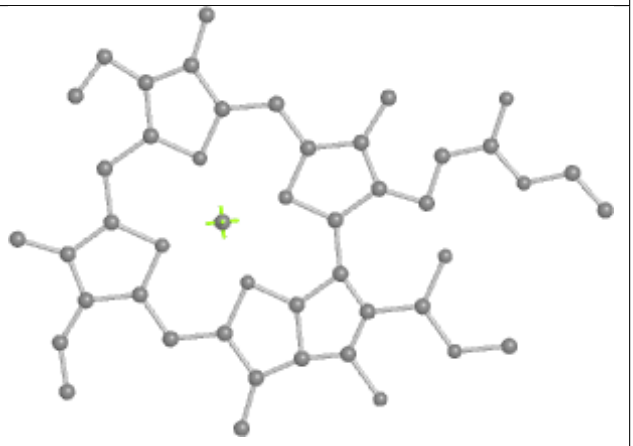


Bond angles

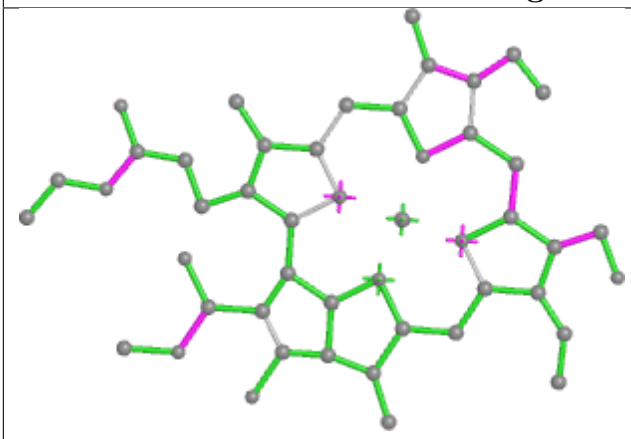


Torsions



Rings

Ligand CHL b 310



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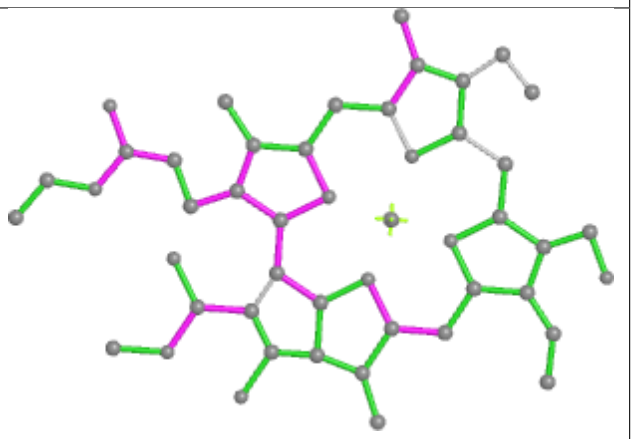
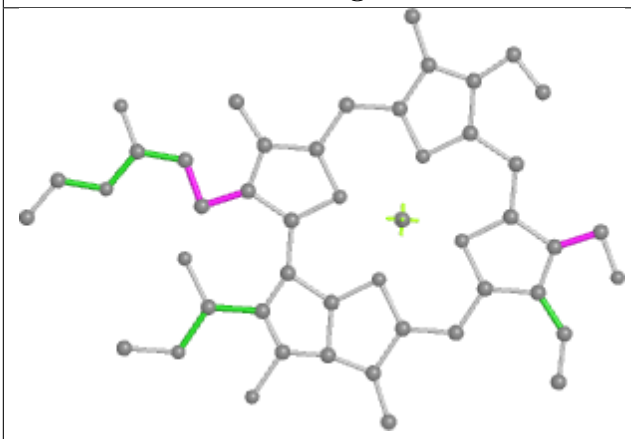


Bond angles



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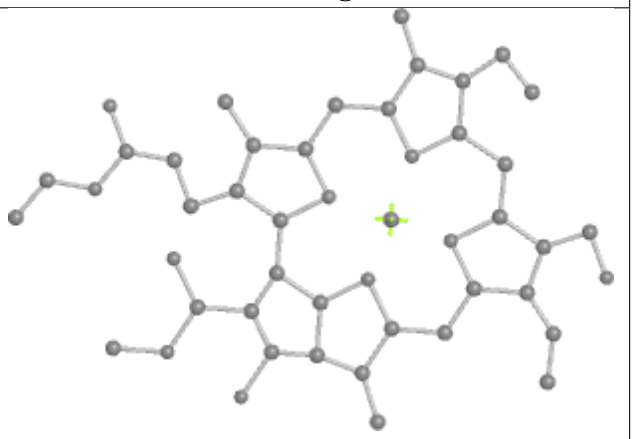
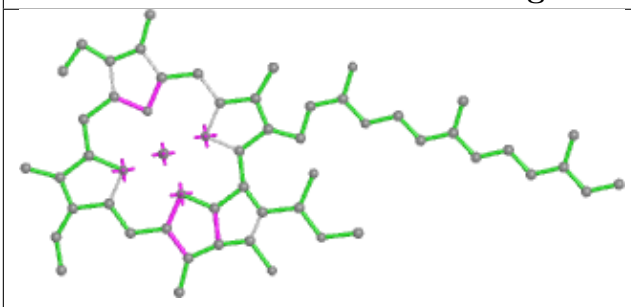
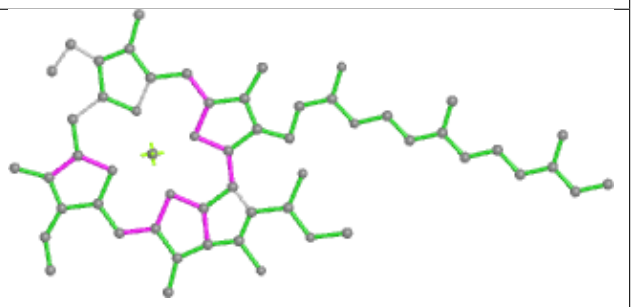


Rings

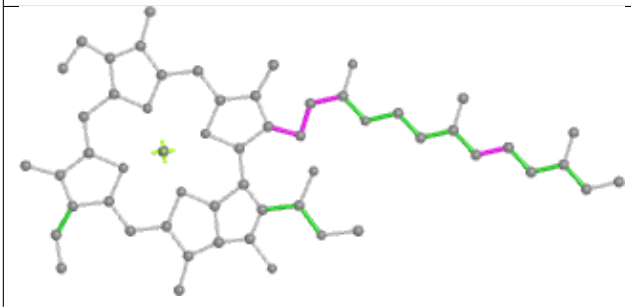
Ligand CLA h 212



Bond lengths



Bond angles



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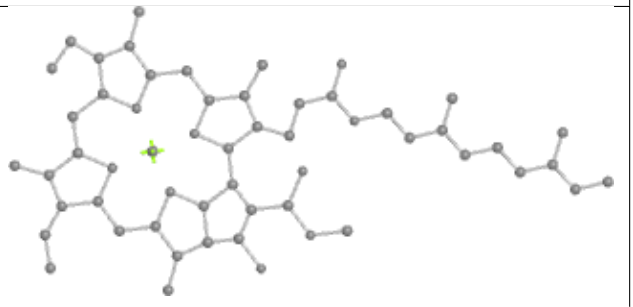

Rings

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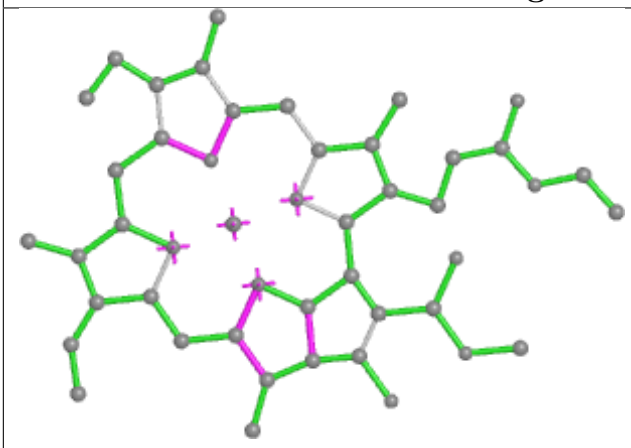

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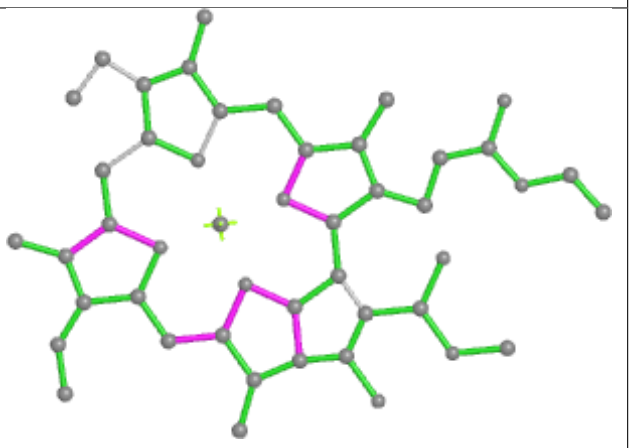
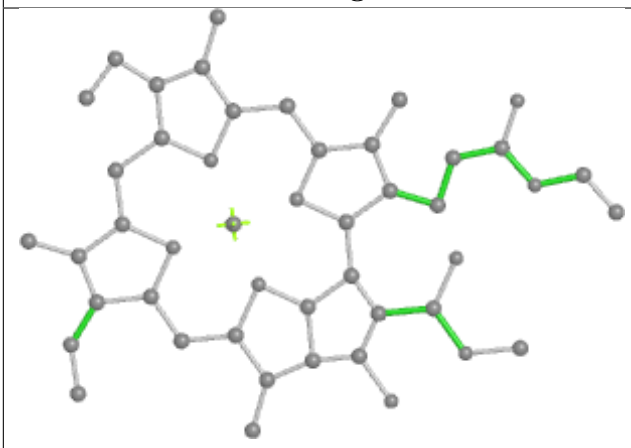


Bond angles



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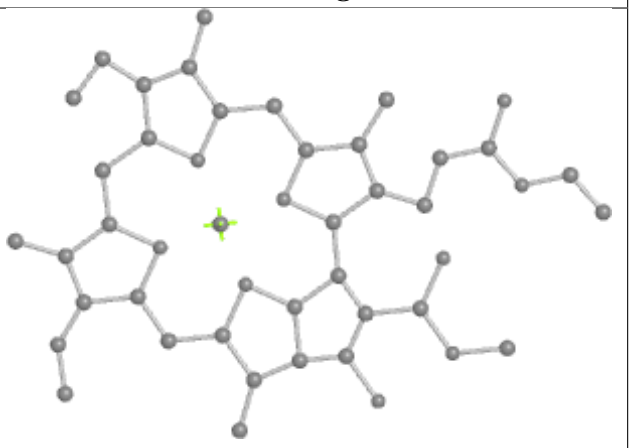
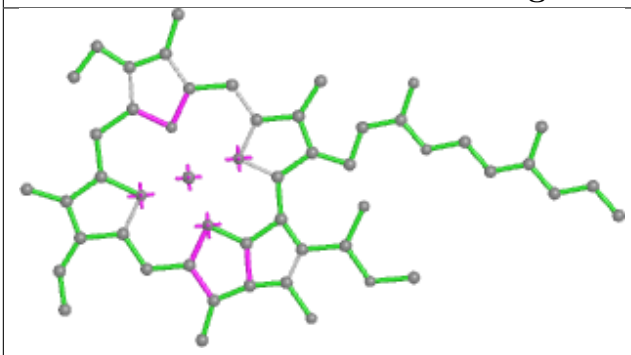


Rings

Ligand CLA a 306



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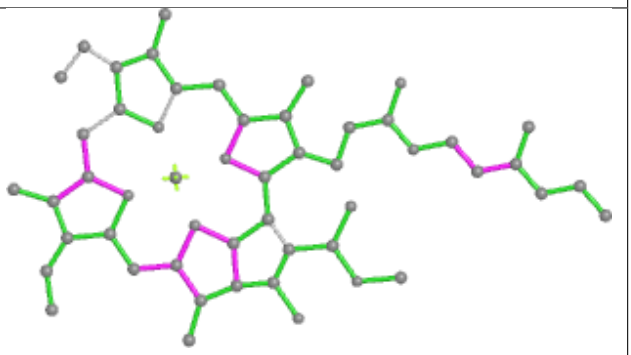

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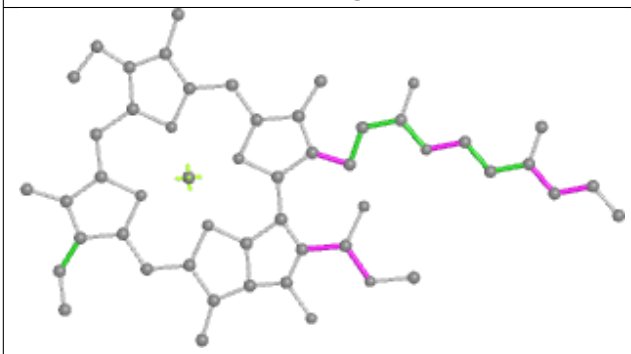

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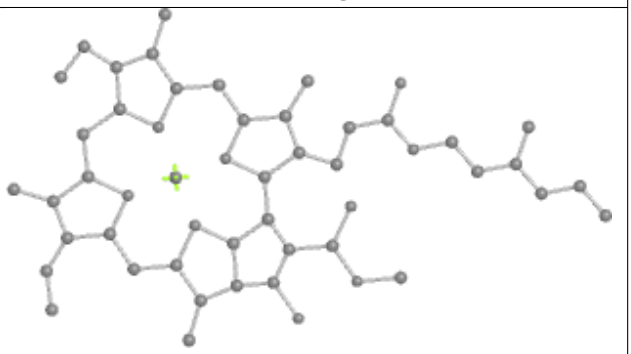
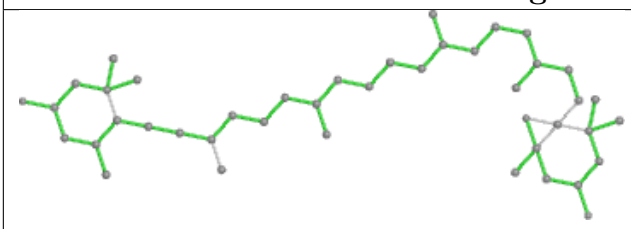


Rings

Ligand DD6 a 320



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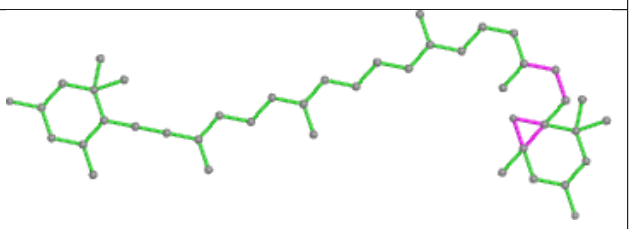
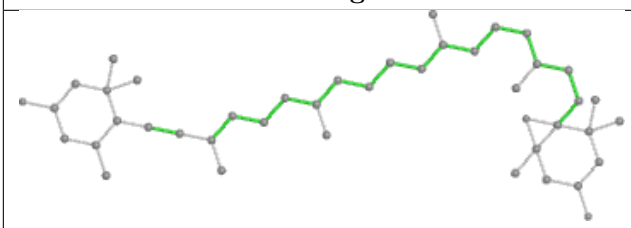
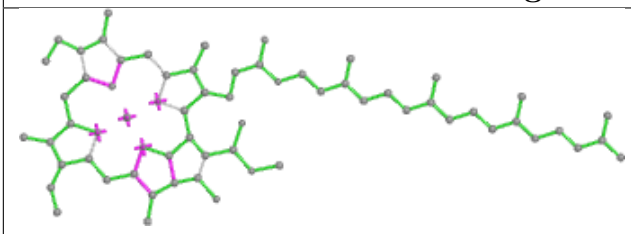
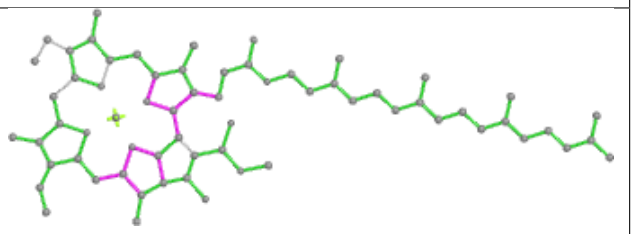
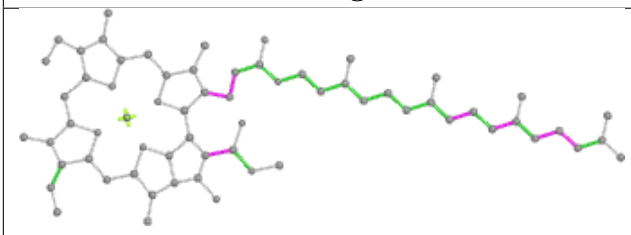
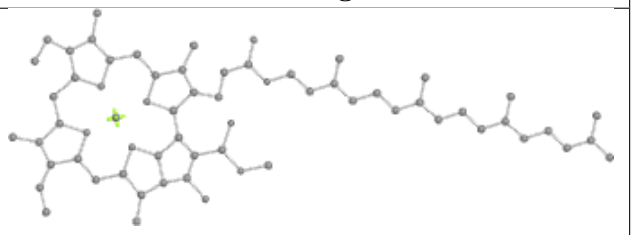


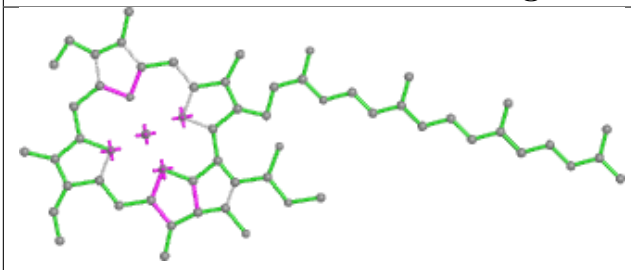
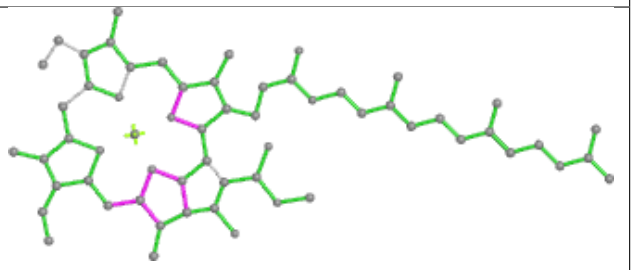
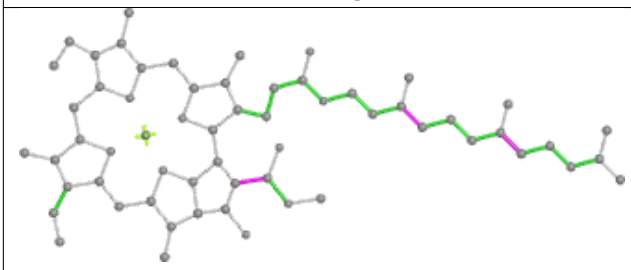
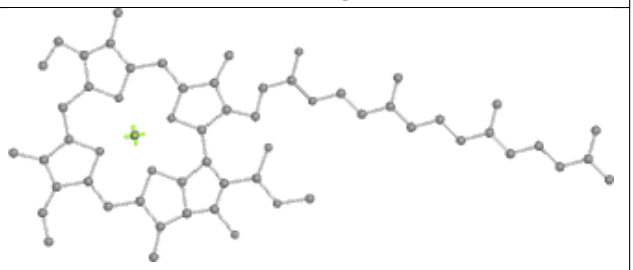
Bond angles



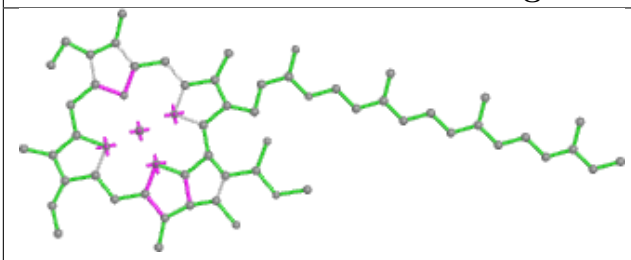
Torsions

Rings

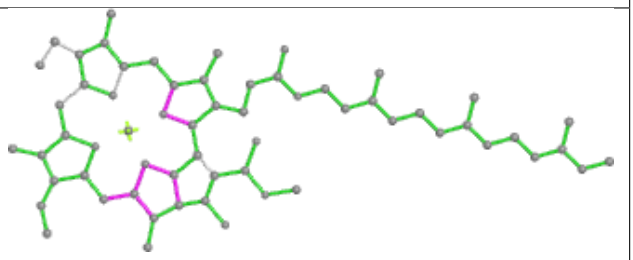
Ligand CLA B 805	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA m 307	
 Bond lengths	 Bond angles
 Torsions	 Rings

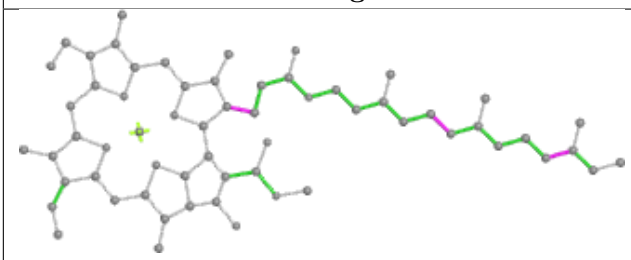
Ligand CLA A 811



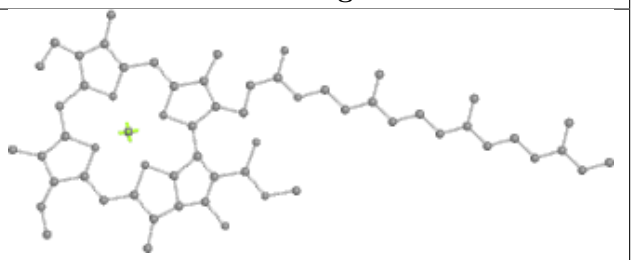
Bond lengths



Bond angles

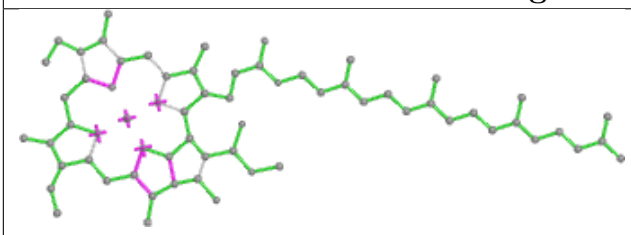


Torsions



Rings

Ligand CLA c 316



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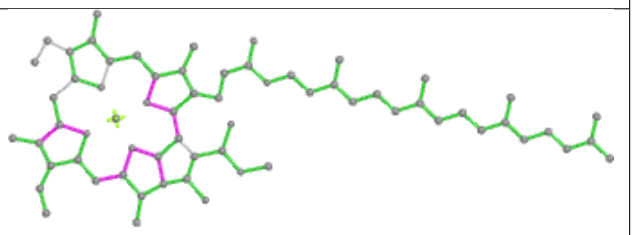
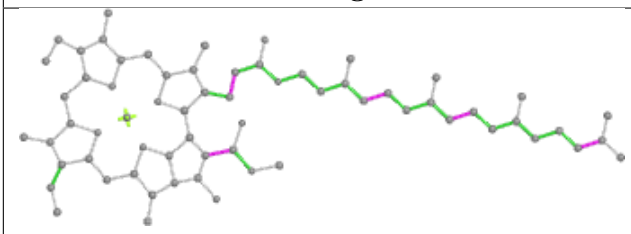
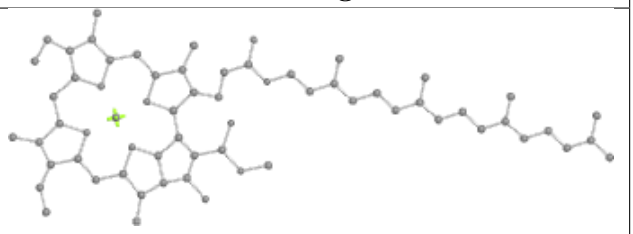


Bond angles

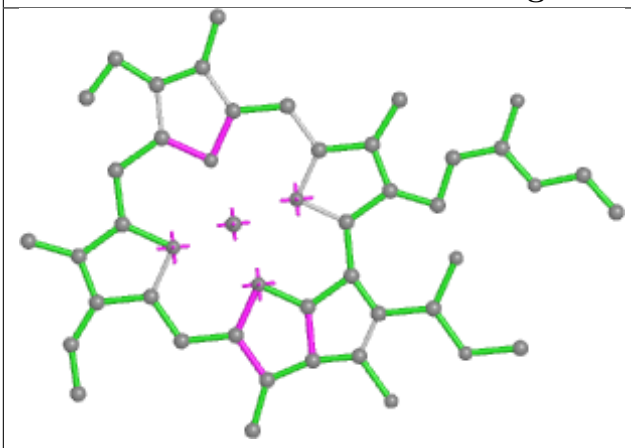


Torsions



Rings

Ligand CLA n 201



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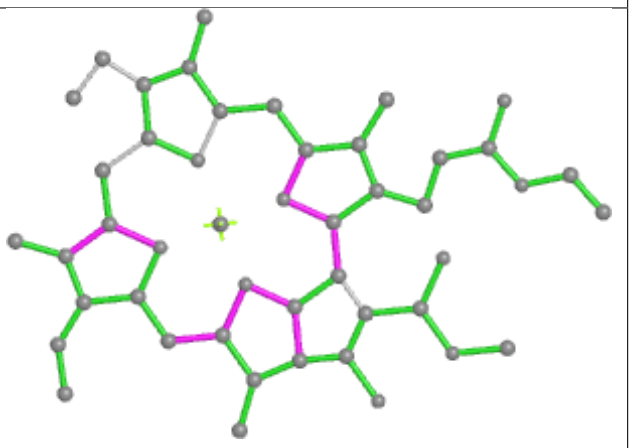
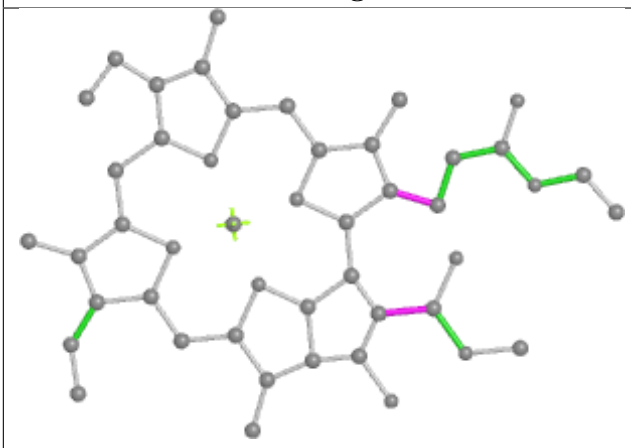
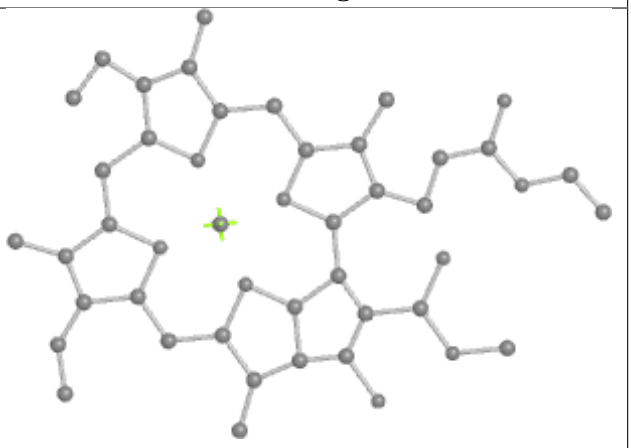


Bond angles

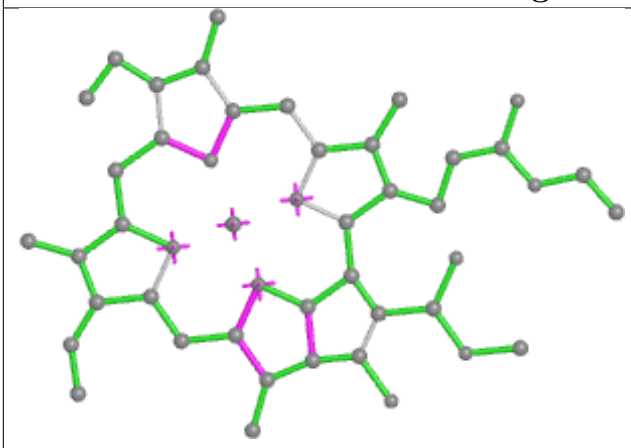


Torsions

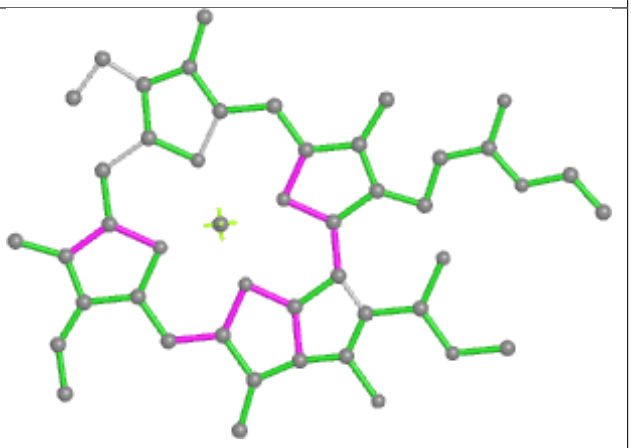


Rings

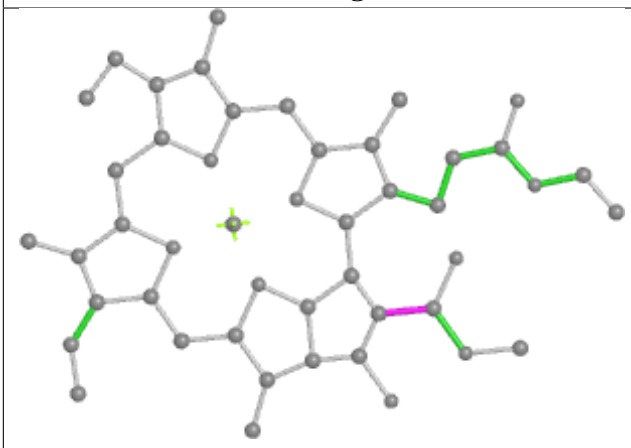
Ligand CLA f 310



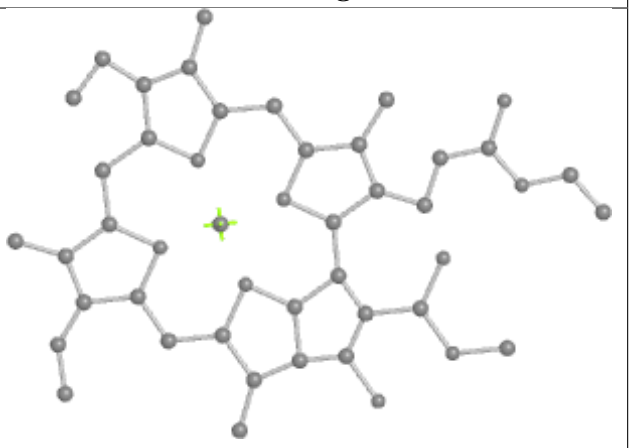
Bond lengths



Bond angles

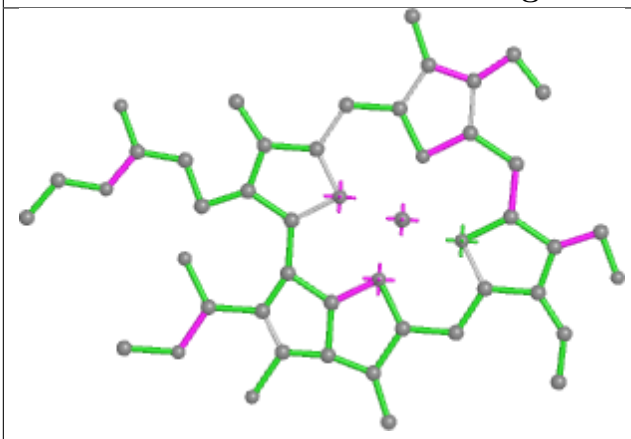


Torsions



Rings

Ligand CHL m 301



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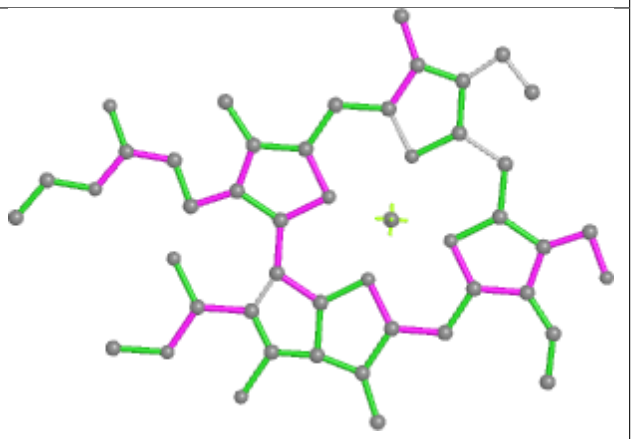
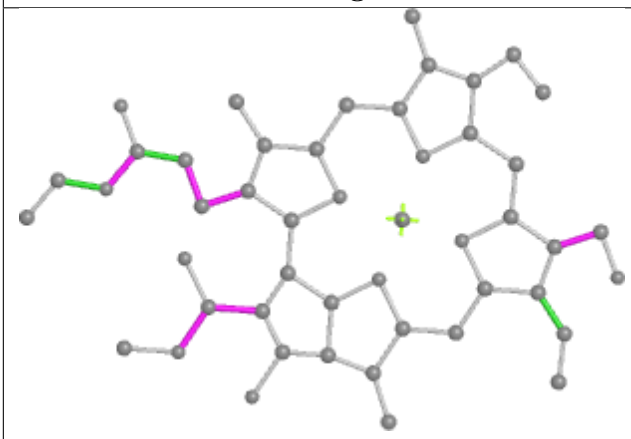


Bond angles



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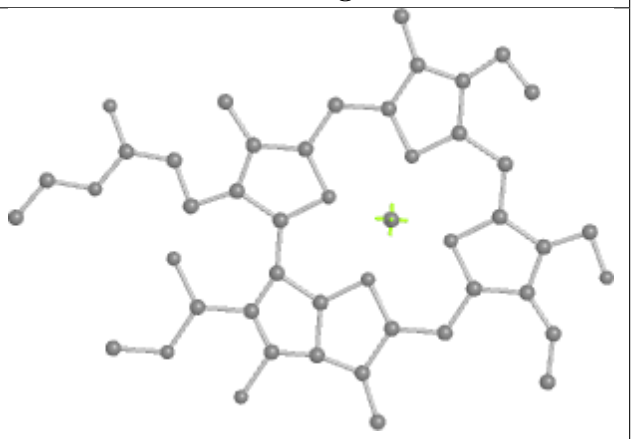
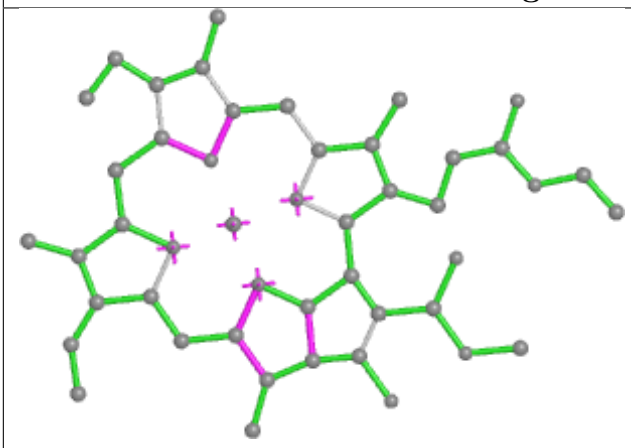


Rings

Ligand CLA m 311



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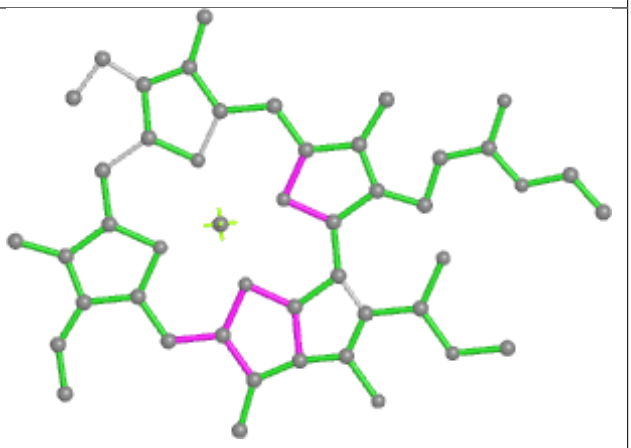

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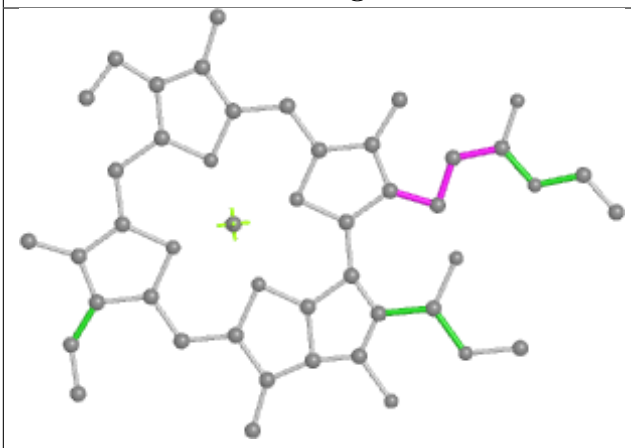

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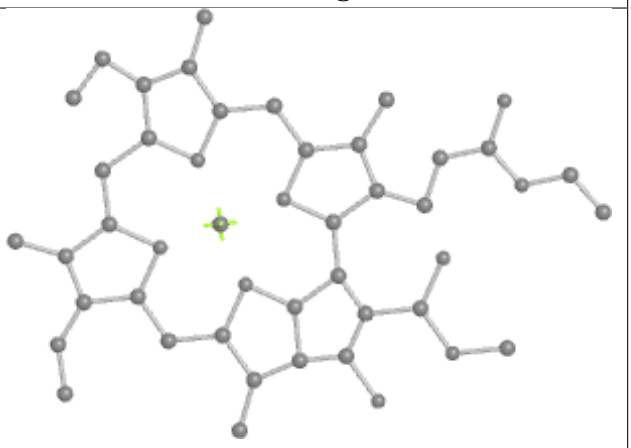
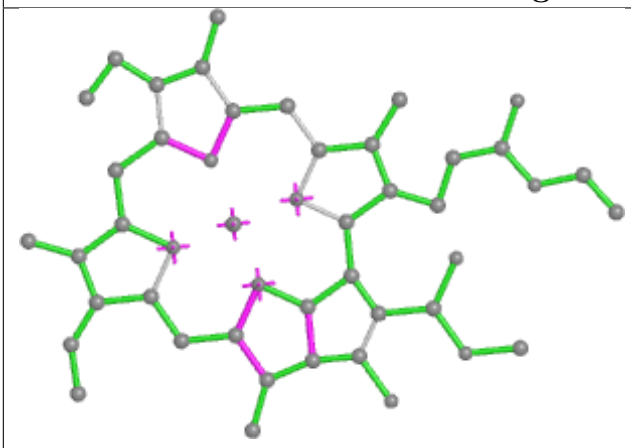


Rings

Ligand CLA i 310



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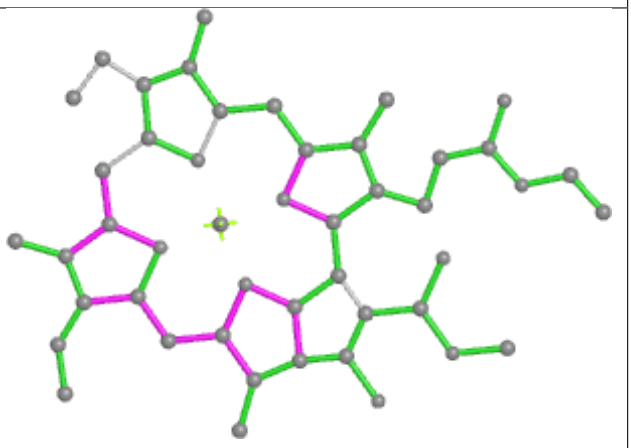

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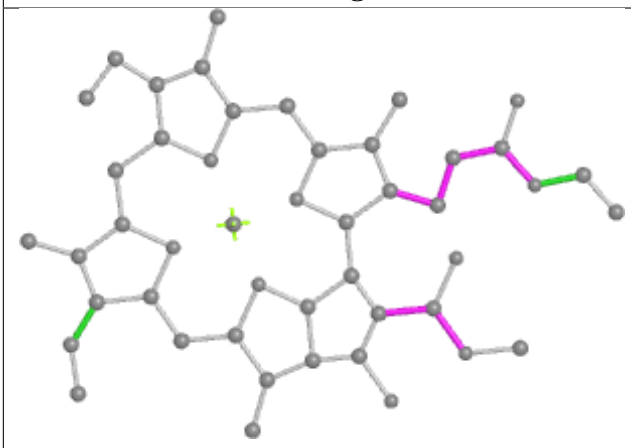

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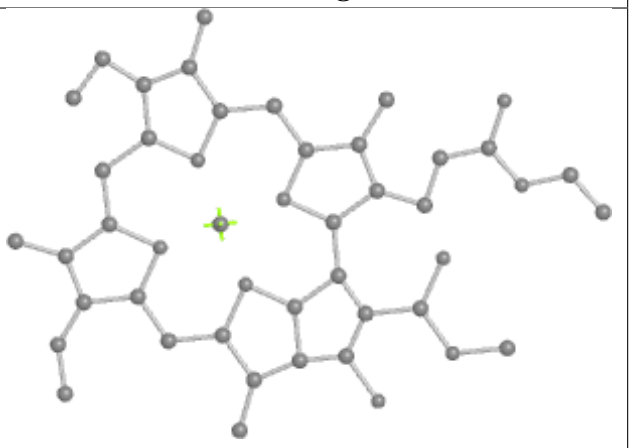
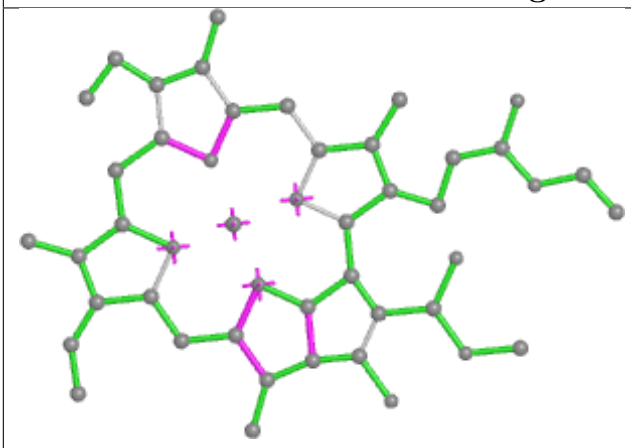


Rings

Ligand CLA e 303



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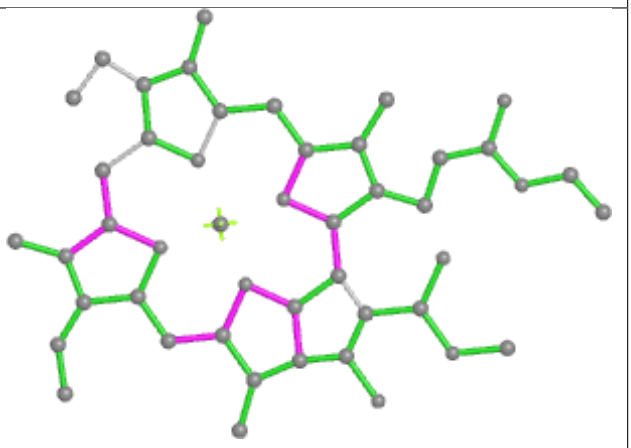
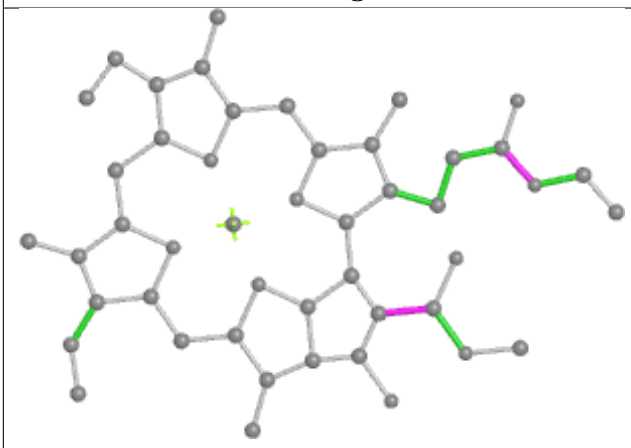


Bond angles



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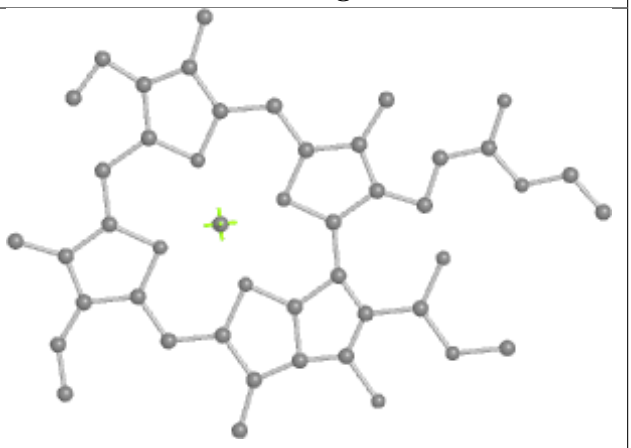
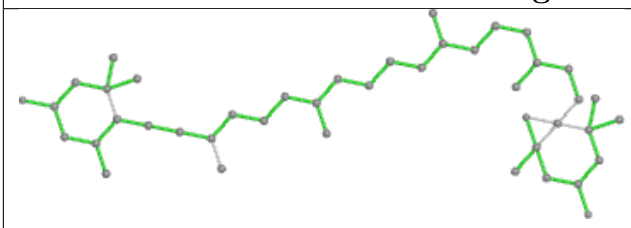


Rings

Ligand DD6 f 315



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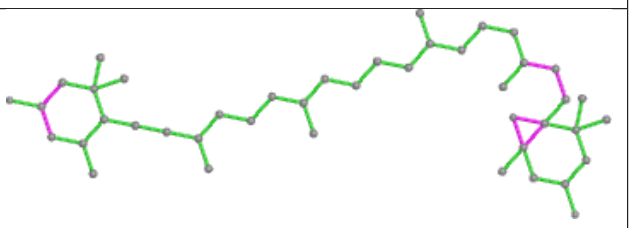
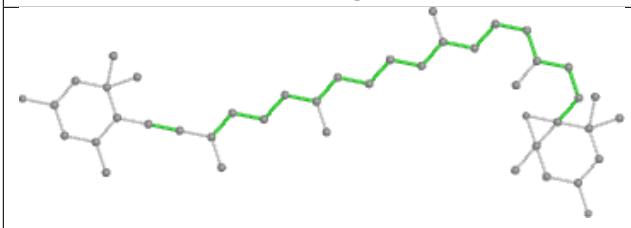


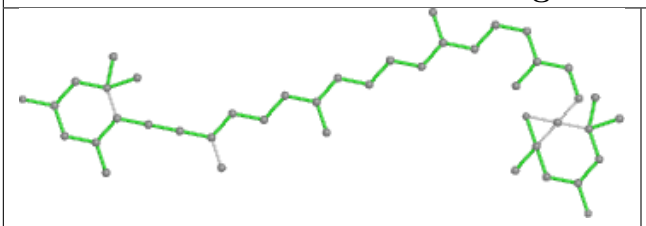
Bond angles



Torsions

Rings

Ligand DD6 f 316



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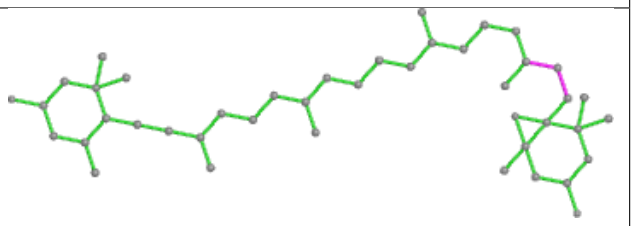

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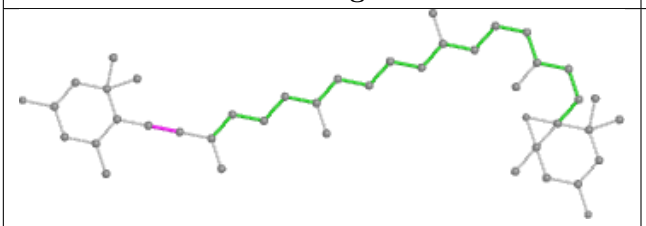

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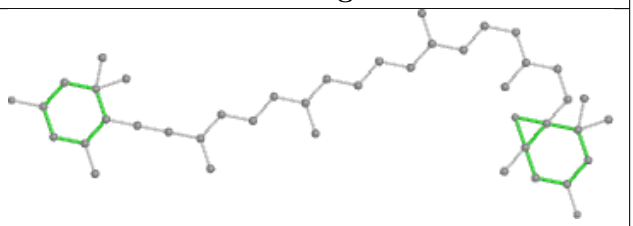
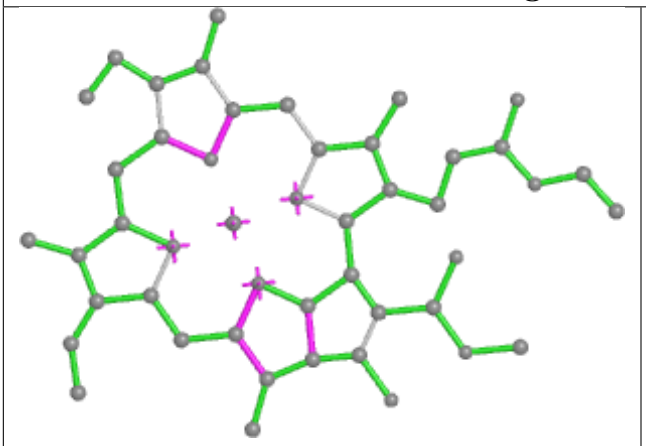


Rings

Ligand CLA A 853



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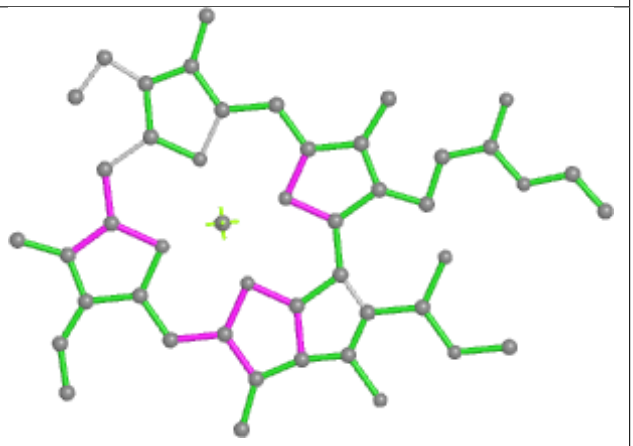

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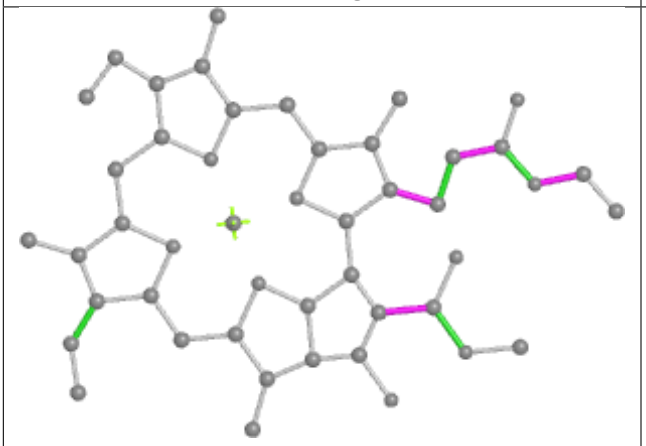

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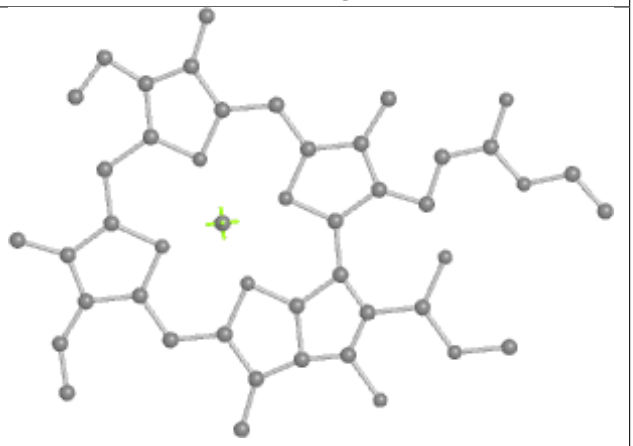
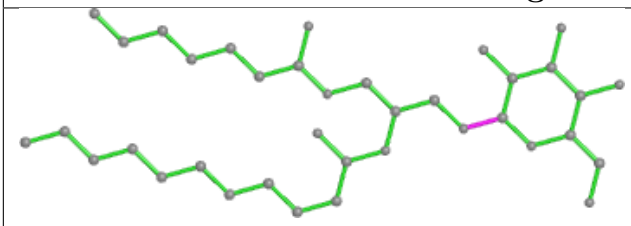


Rings

Ligand LMG j 314



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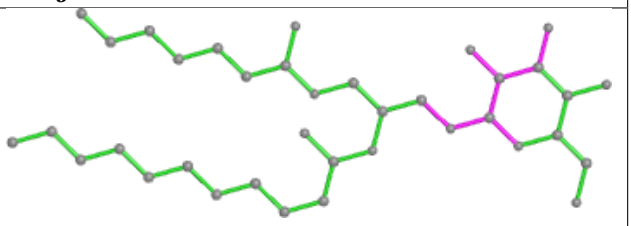

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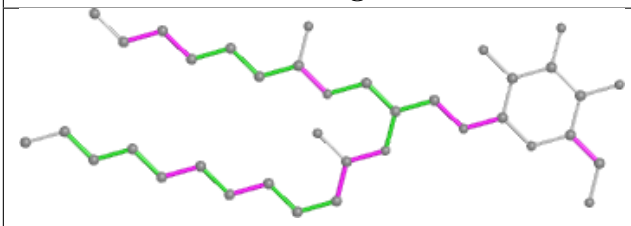

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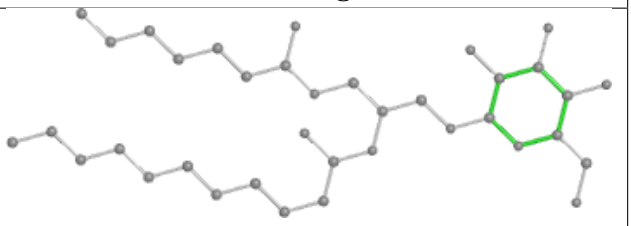

Rings

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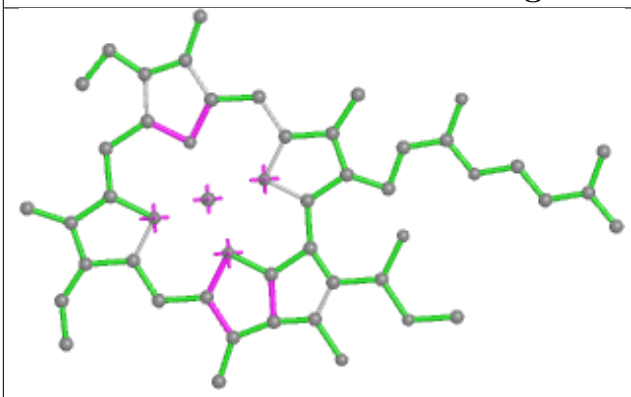

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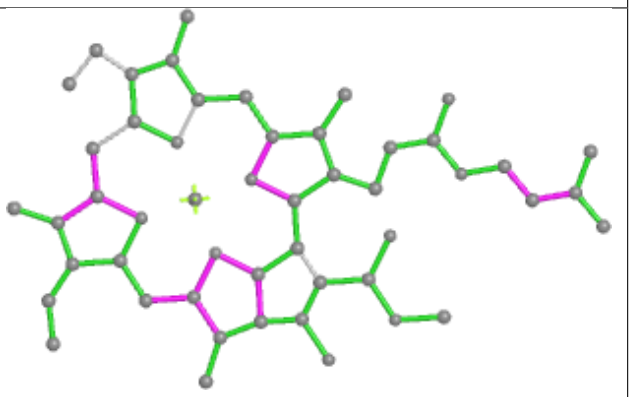

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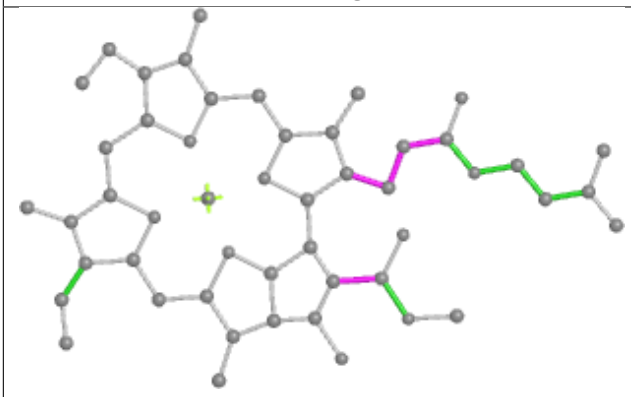

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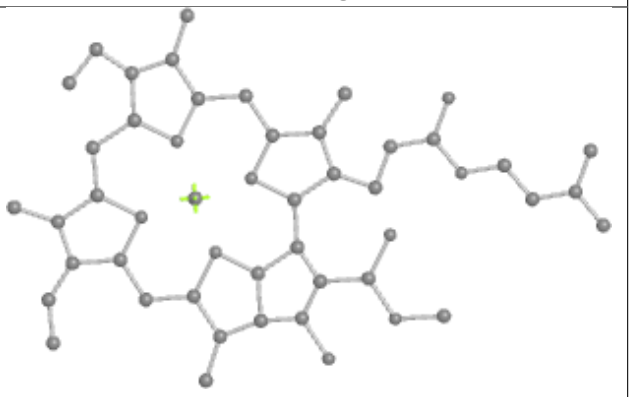
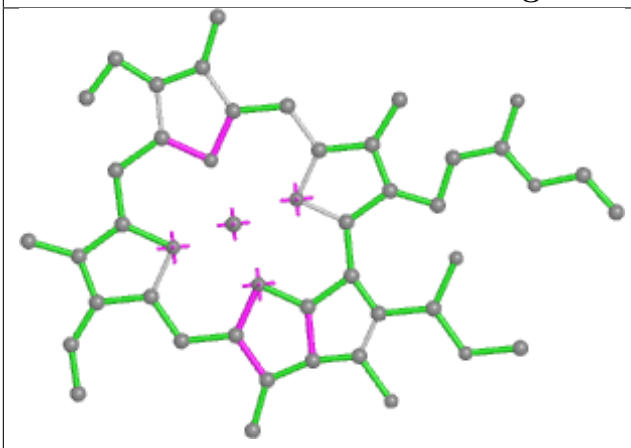


Rings

Ligand CLA m 302



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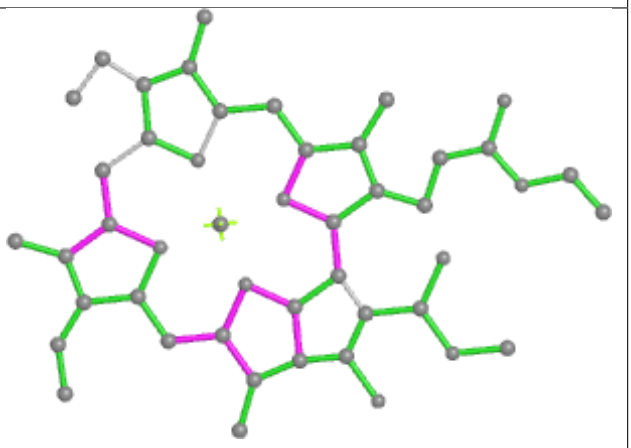

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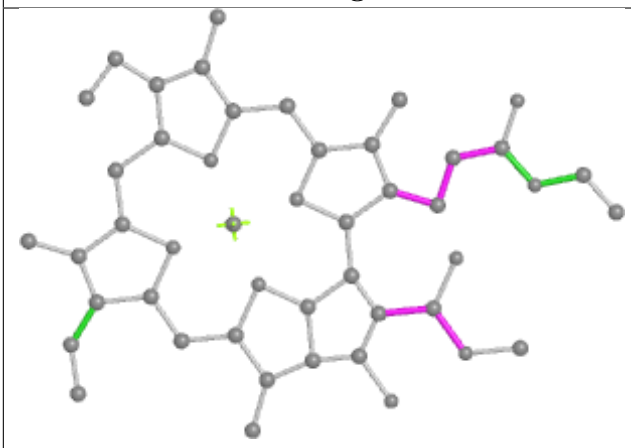

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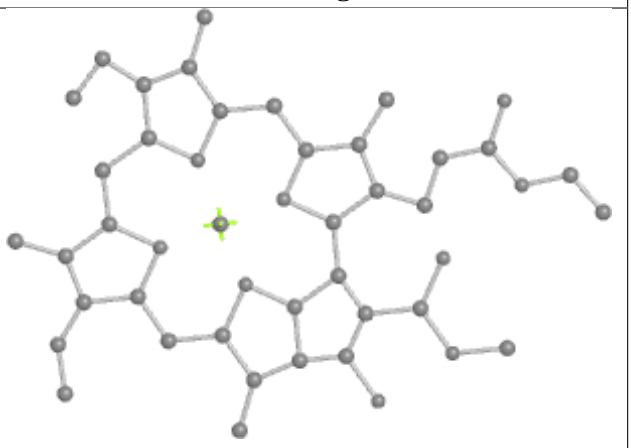
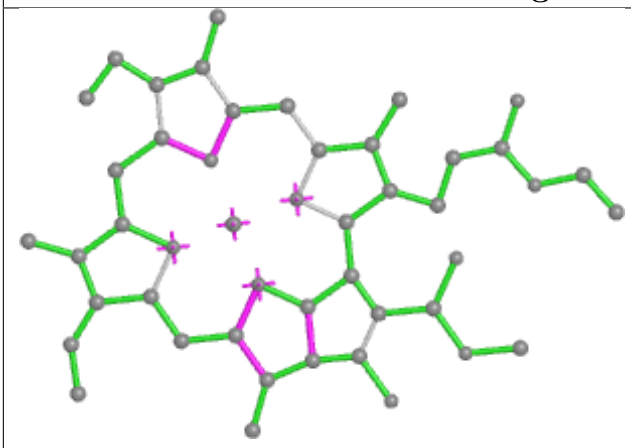


Rings

Ligand CLA f 312



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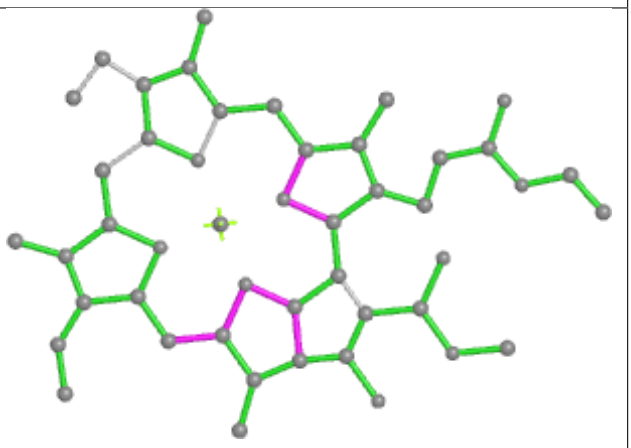
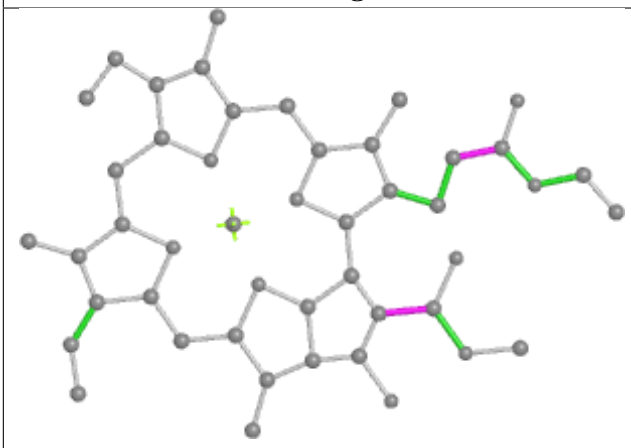


Bond angles



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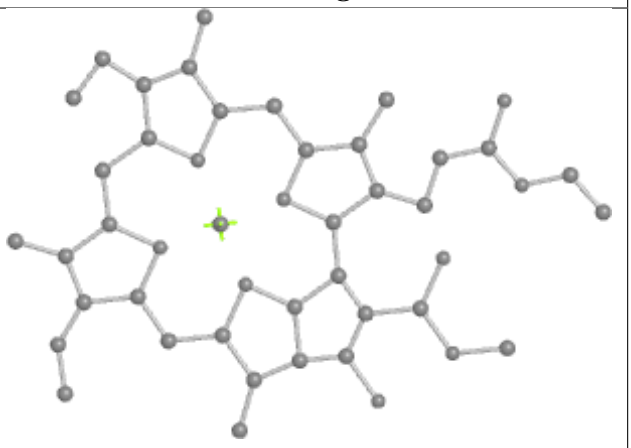
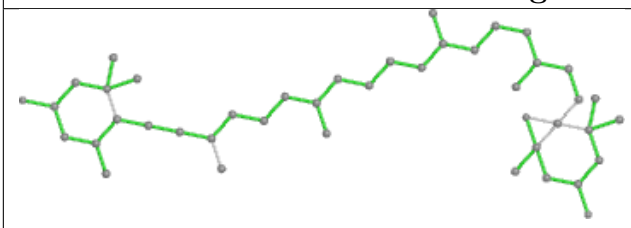


Rings

Ligand DD6 e 314



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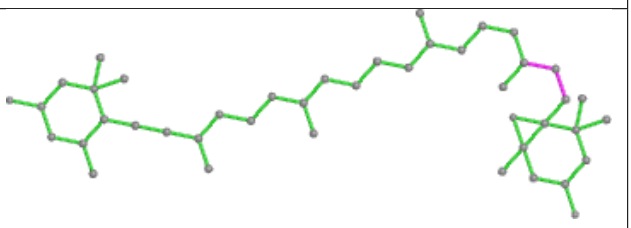
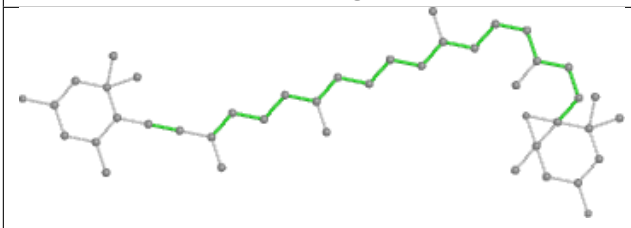


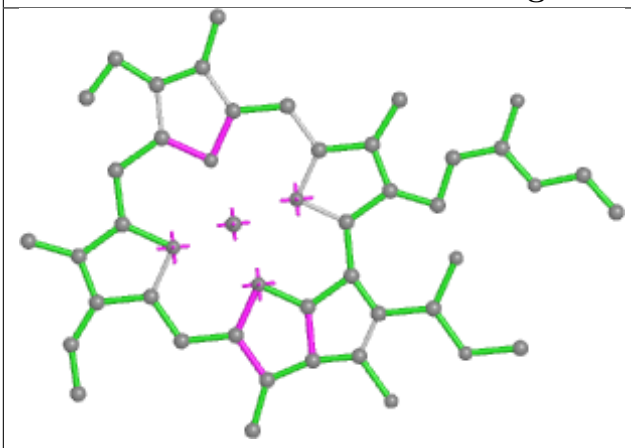
Bond angles



Torsions

Rings

Ligand CLA k 306



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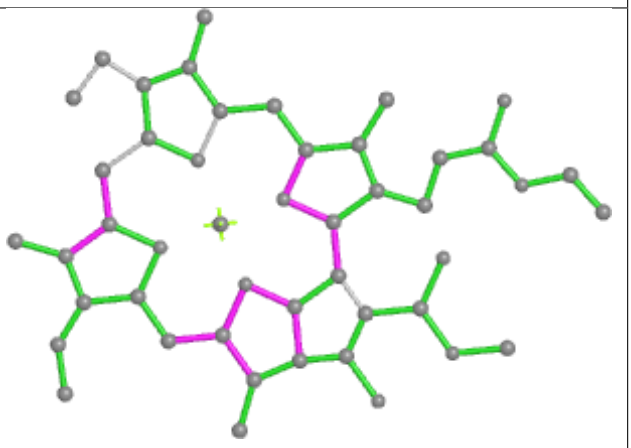
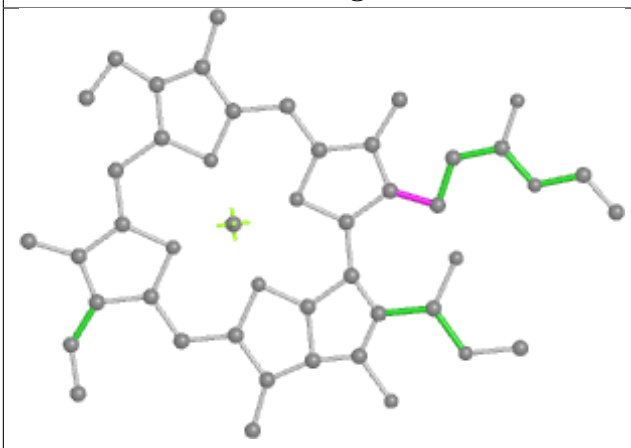
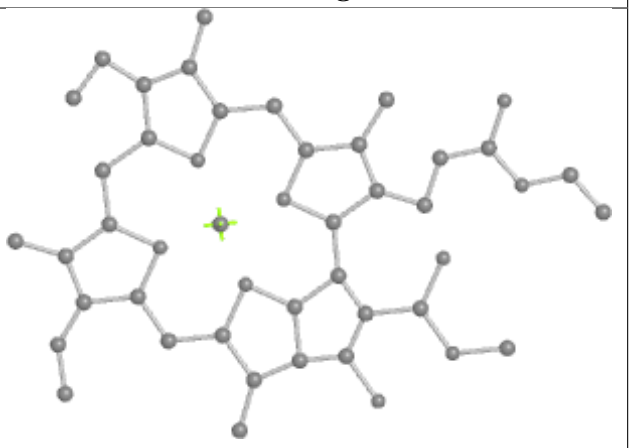


Bond angles

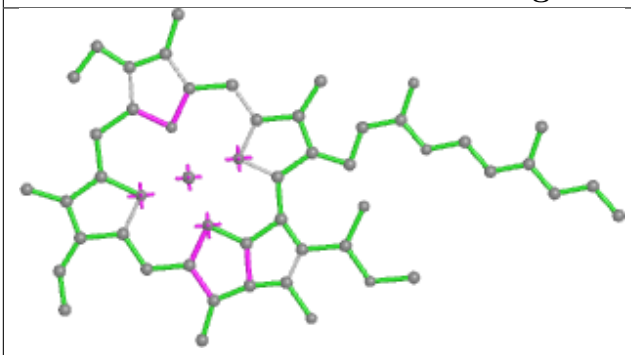


Torsions

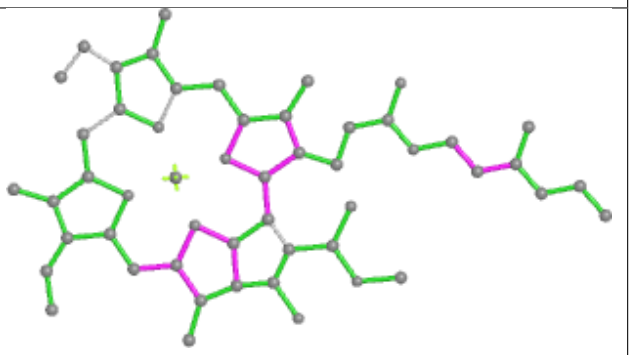


Rings

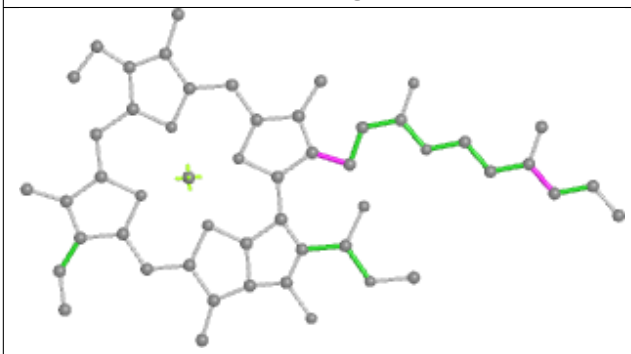
Ligand CLA i 311



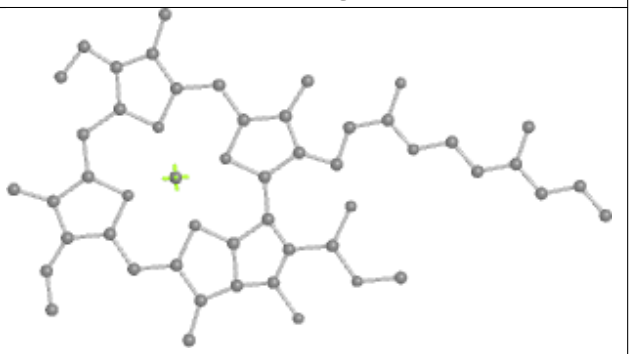
Bond lengths



Bond angles

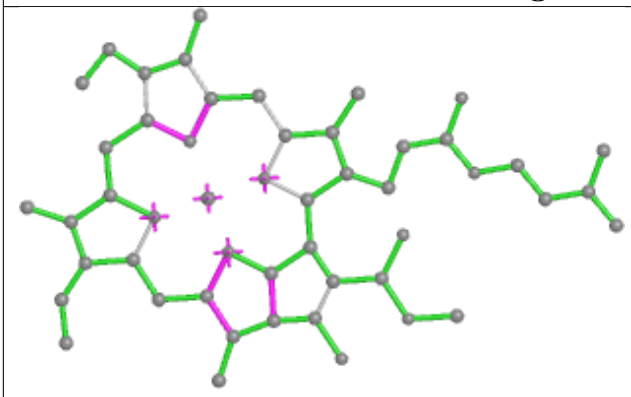


Torsions



Rings

Ligand CLA c 310



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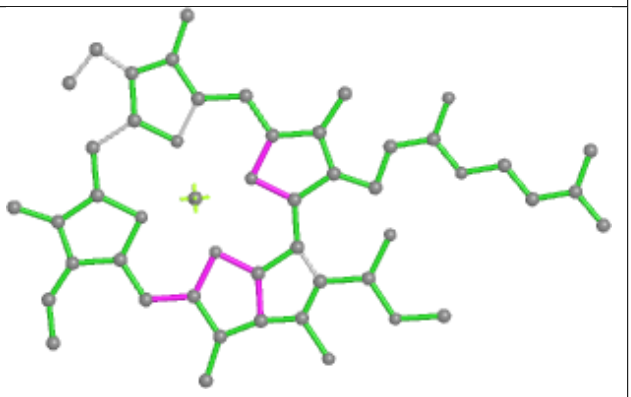

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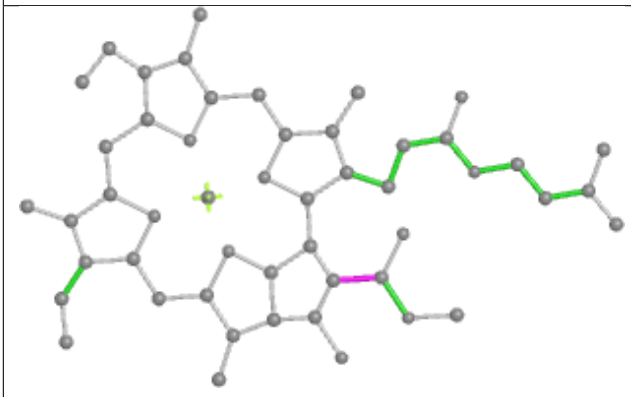

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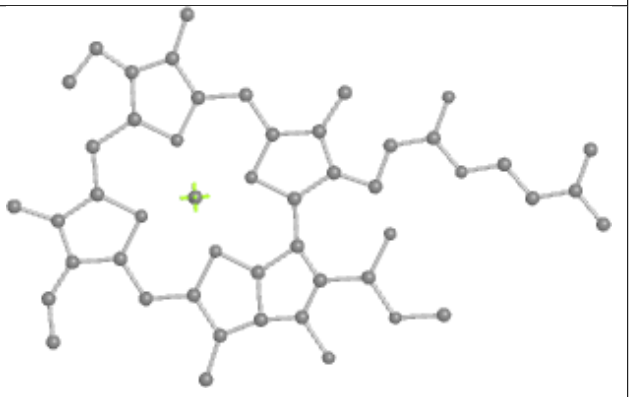
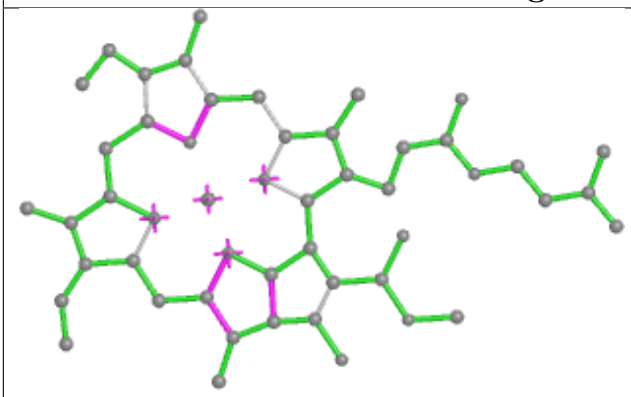


Rings

Ligand CLA k 308



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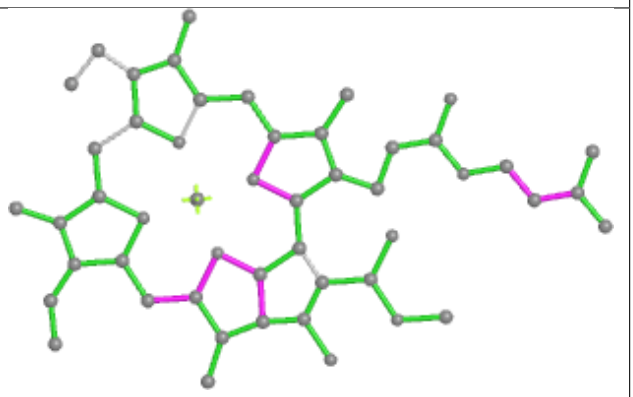

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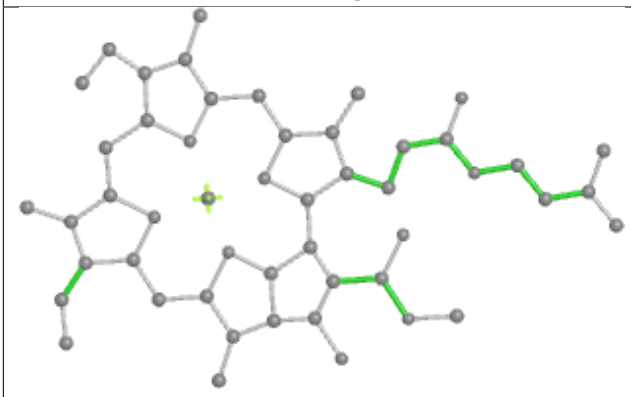

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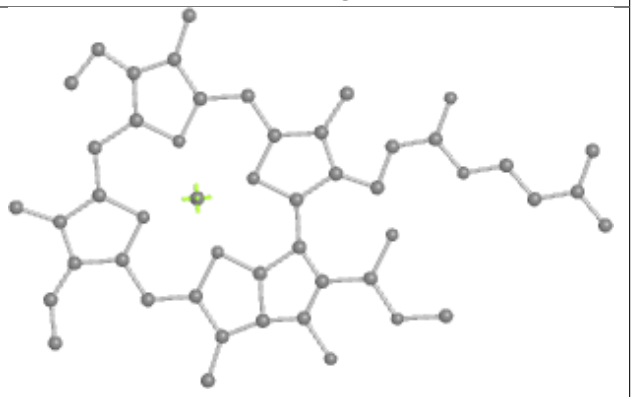
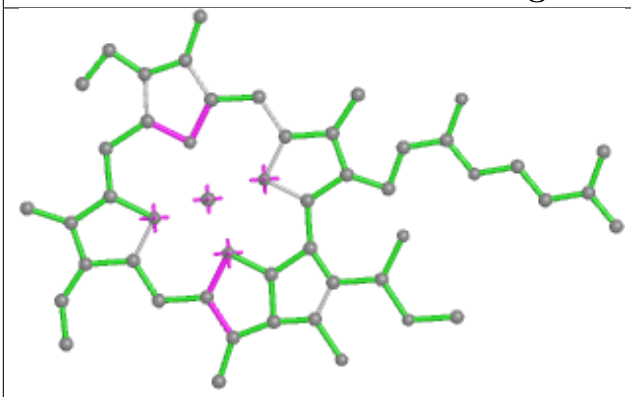


Rings

Ligand CLA o 311



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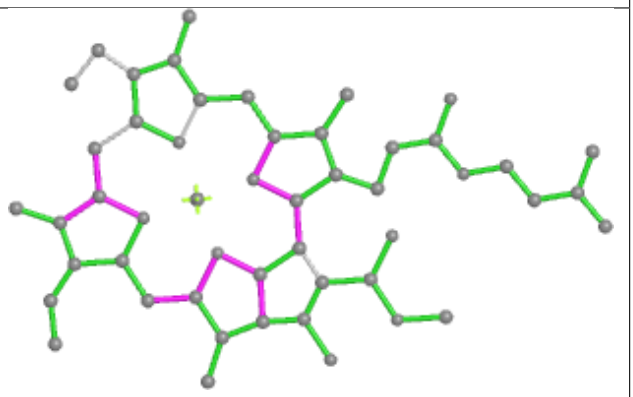

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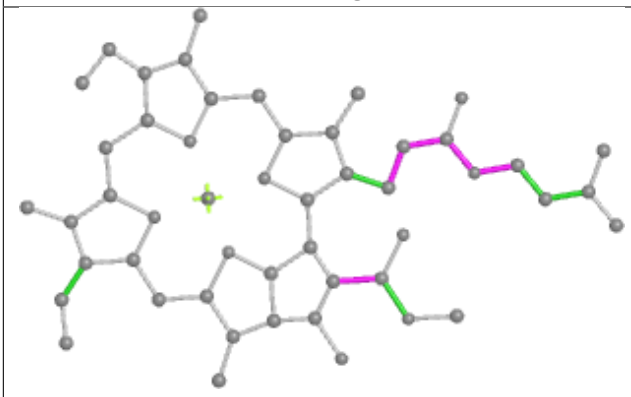

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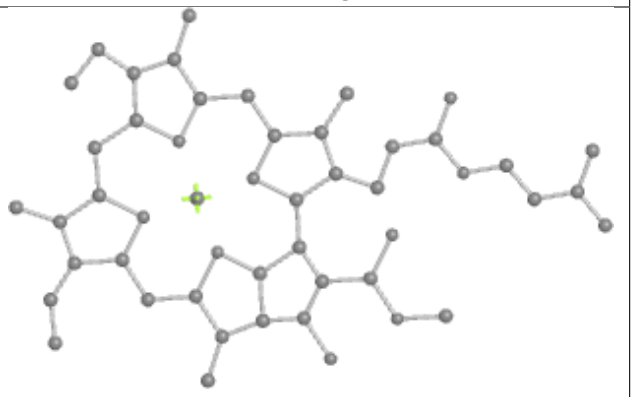
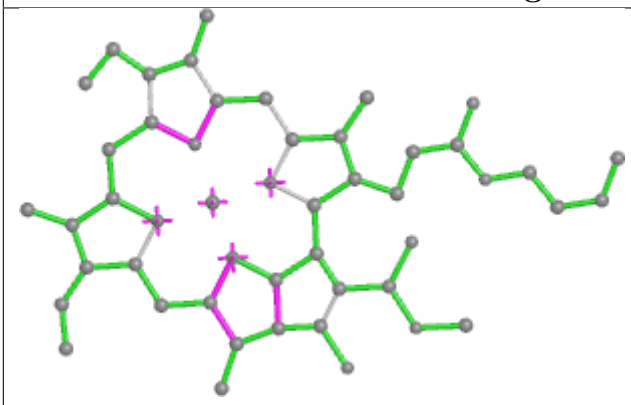


Rings

Ligand CLA B 816



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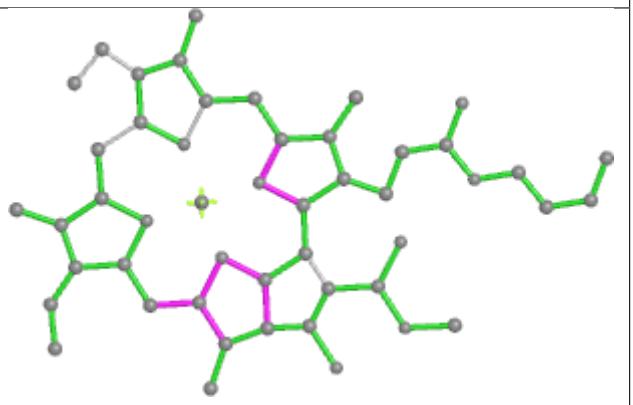
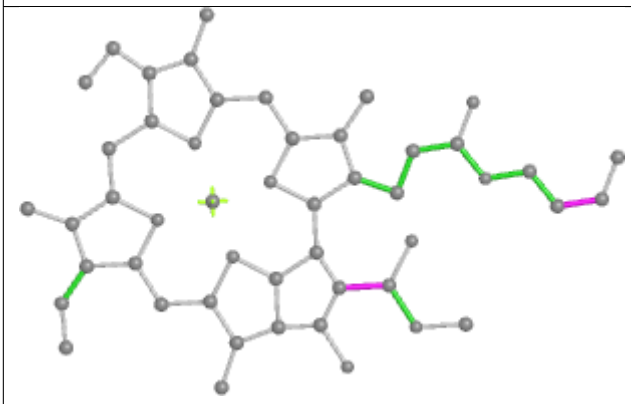


Bond angles



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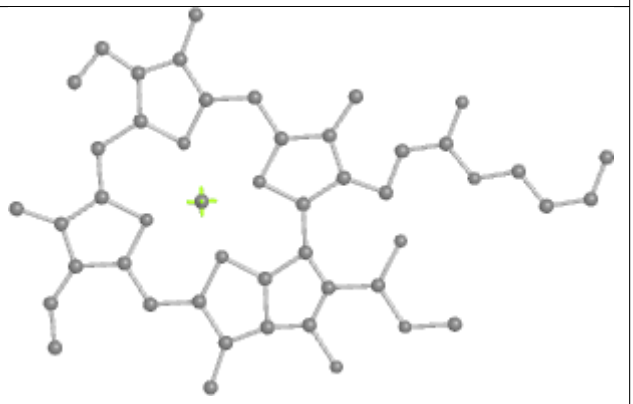
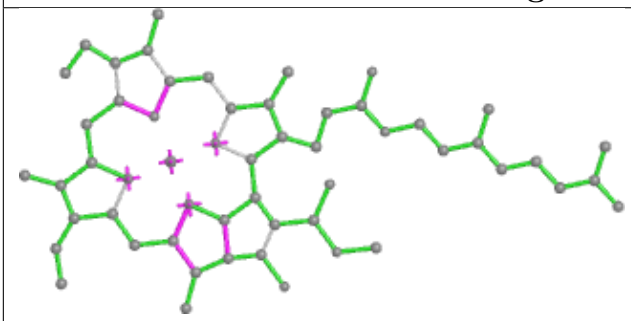


Rings

Ligand CLA b 304



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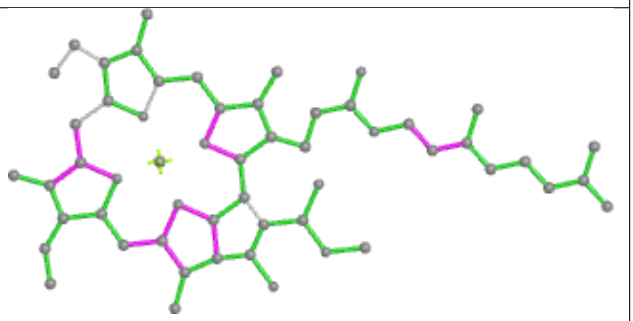

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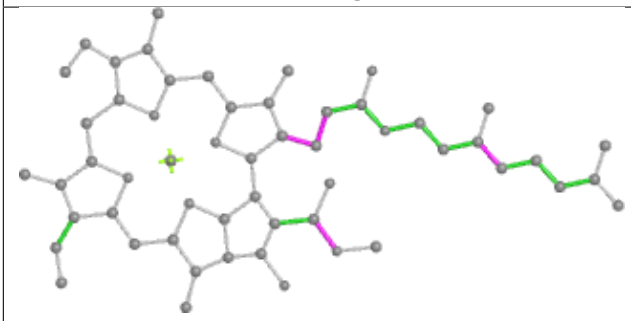

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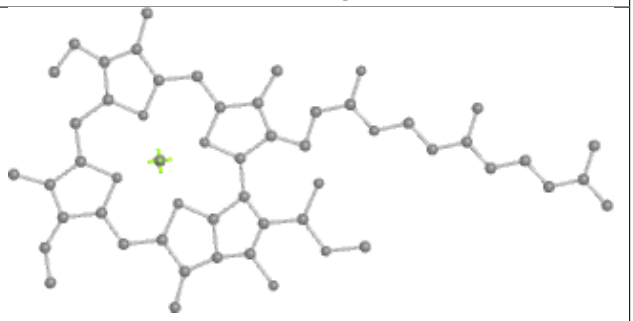
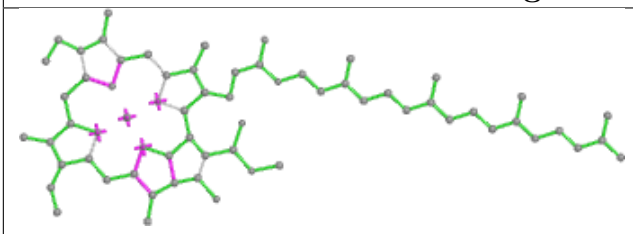


Rings

Ligand CLA A 840



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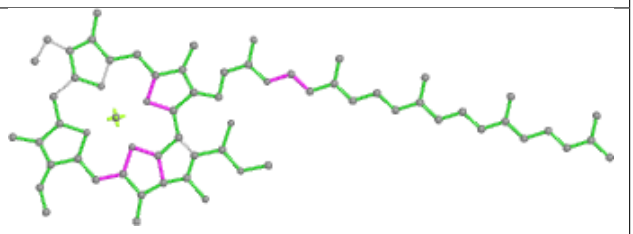

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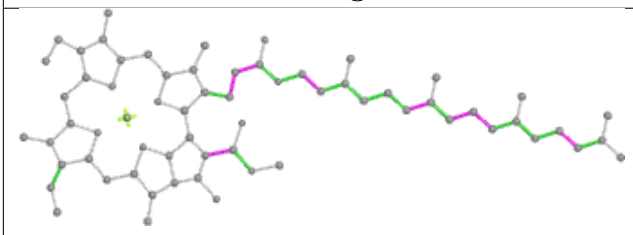

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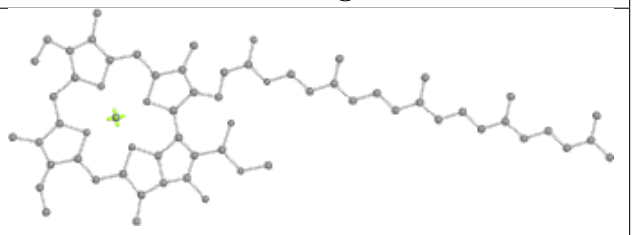
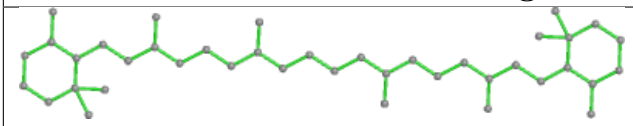


Rings

Ligand BCR M 801



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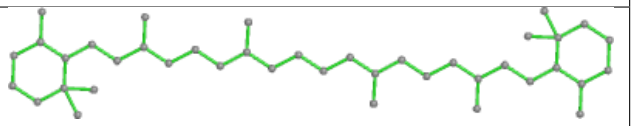

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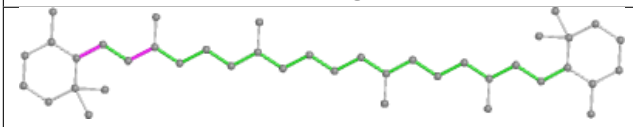
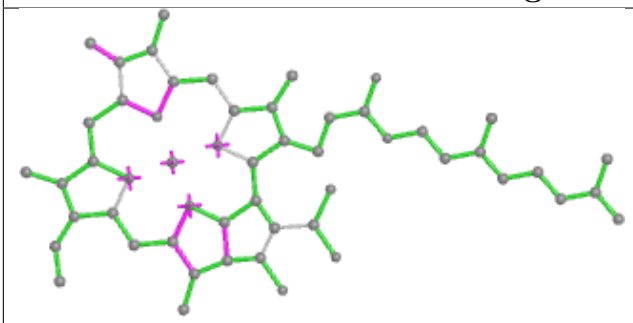


Torsions

Rings

Ligand CLA B 810



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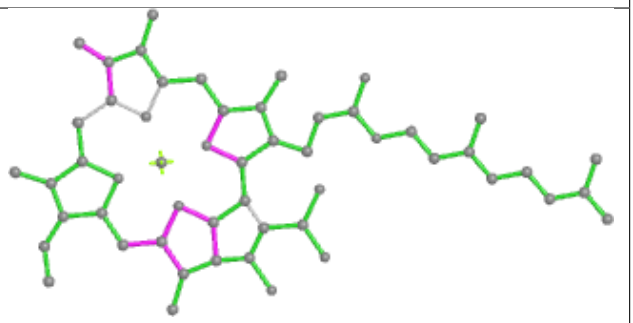

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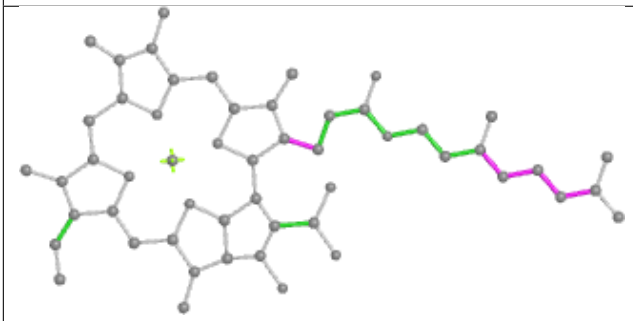

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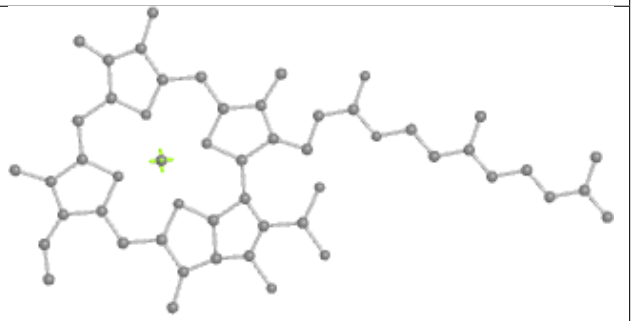

Rings

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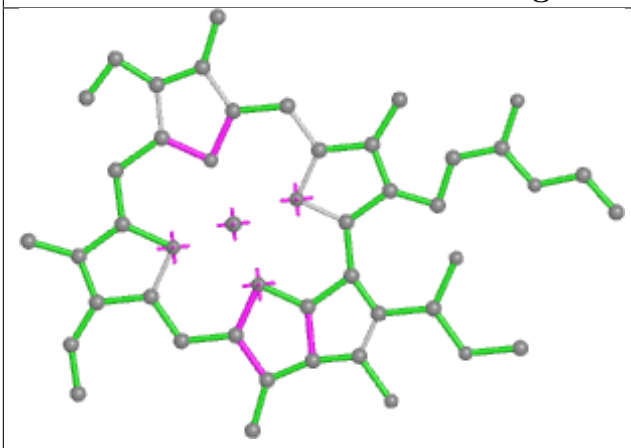

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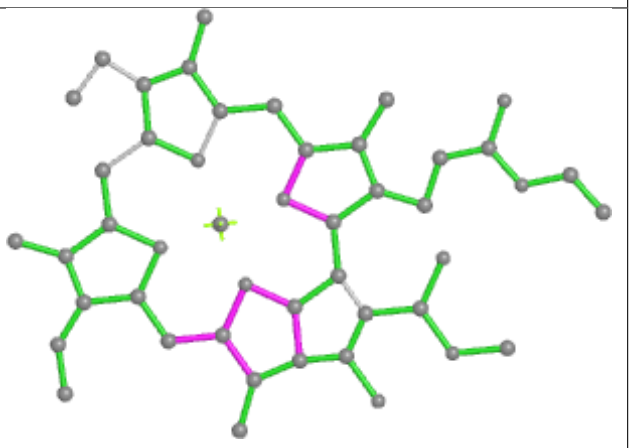

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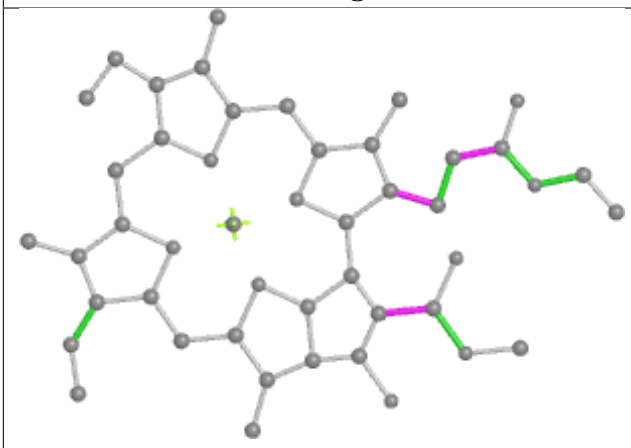

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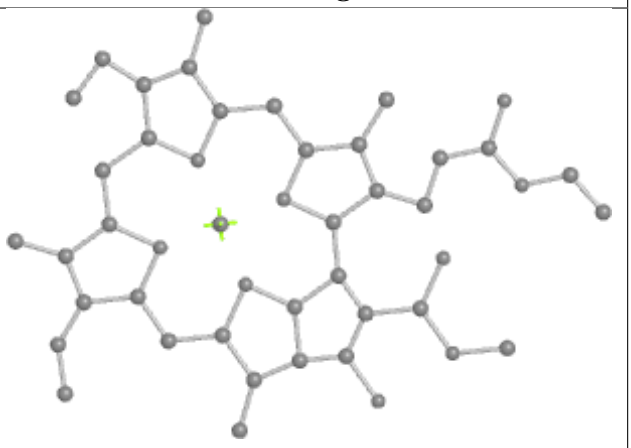
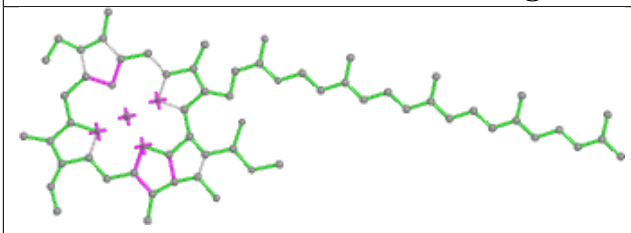


Rings

Ligand CLA A 824



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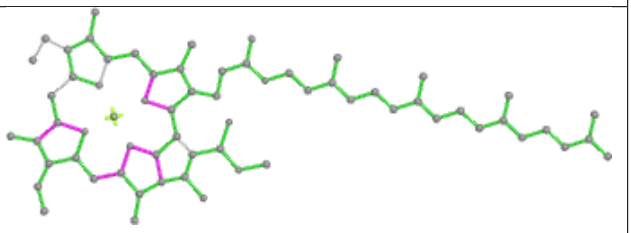

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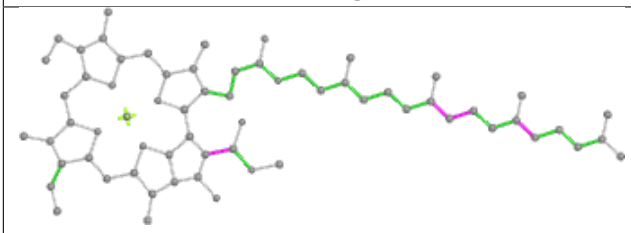

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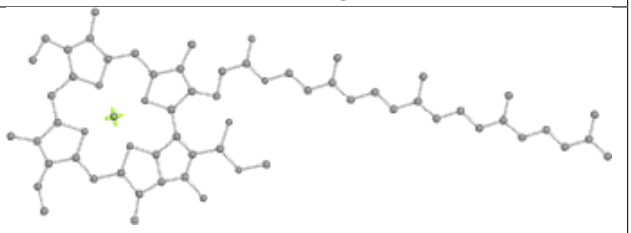
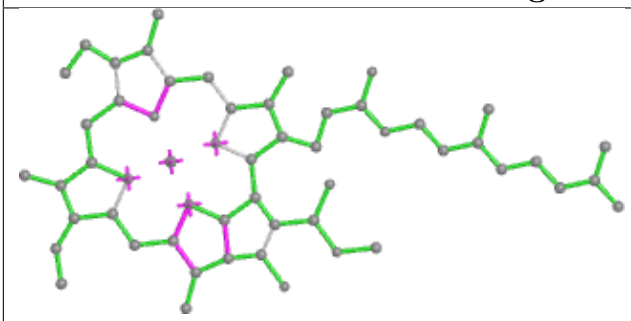


Rings

Ligand CLA o 302



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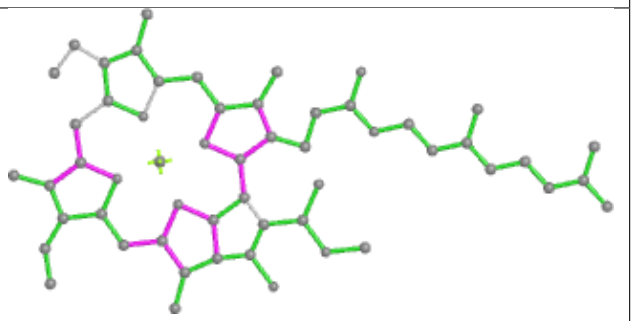

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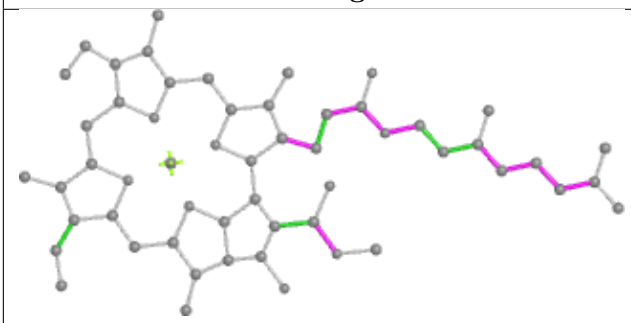

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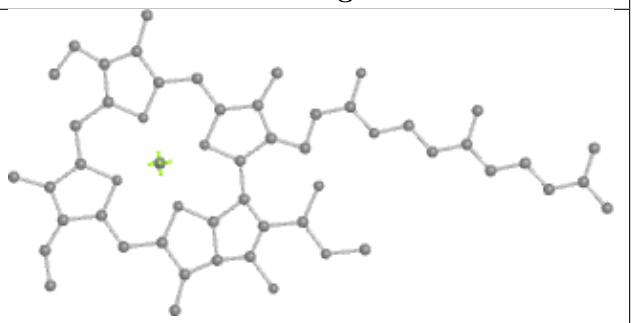
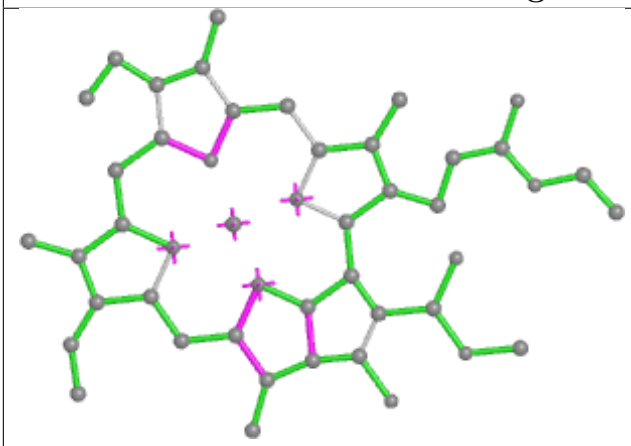


Rings

Ligand CLA b 305



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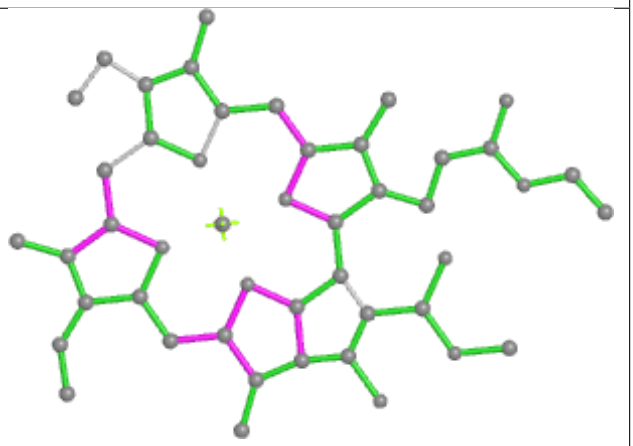
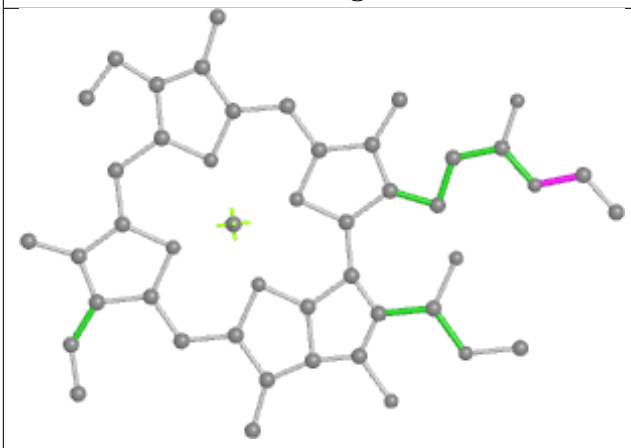


Bond angles



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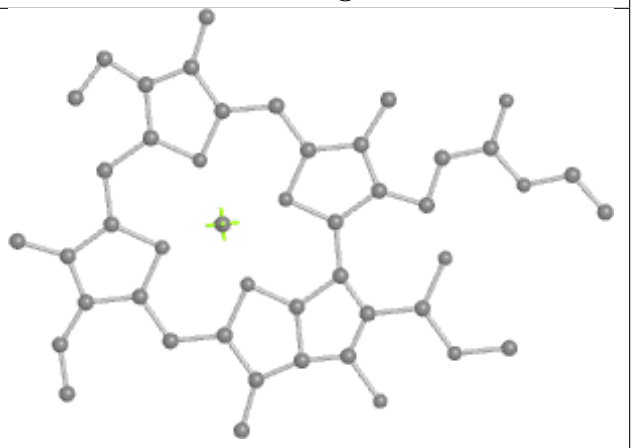
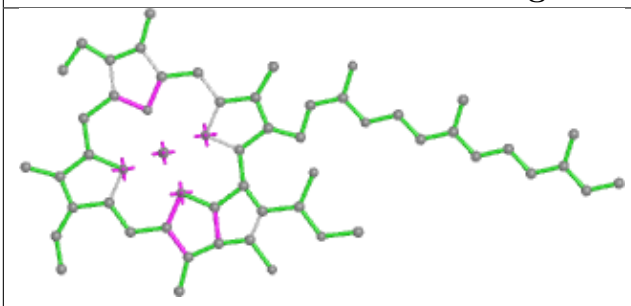
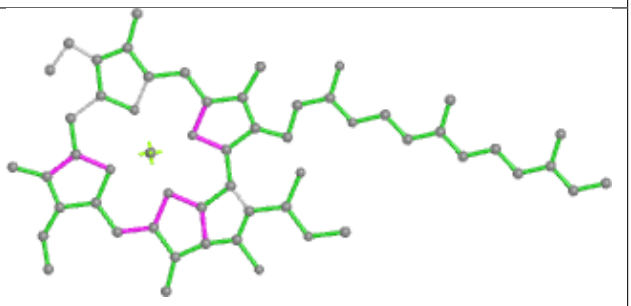
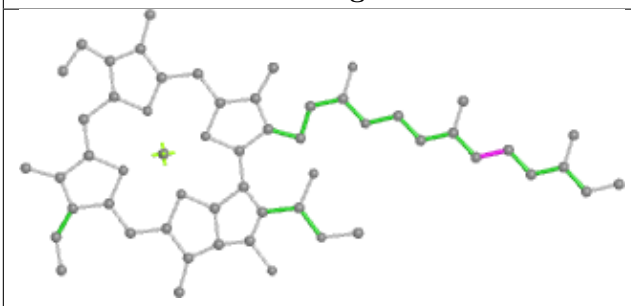
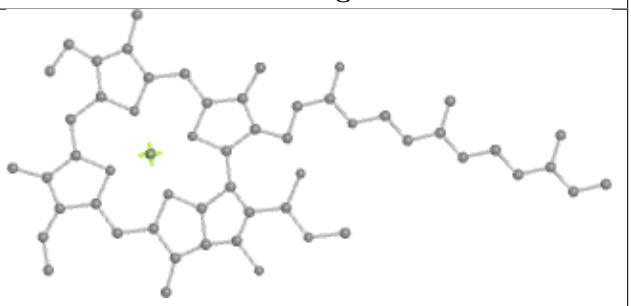
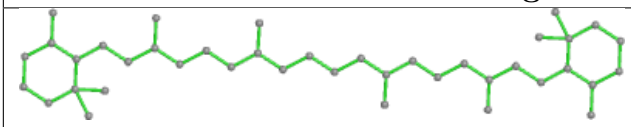
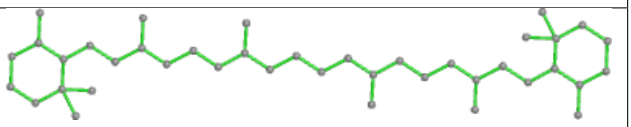
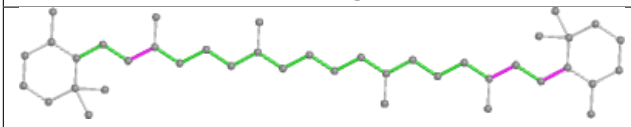
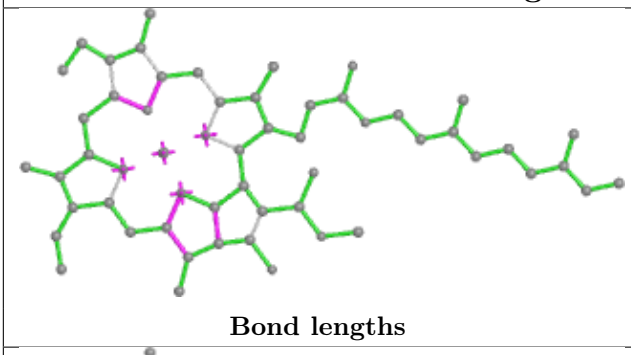


Rings

Ligand CLA a 309	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand BCR B 831	
 Bond lengths	 Bond angles
 Torsions	Rings

Ligand CLA B 833



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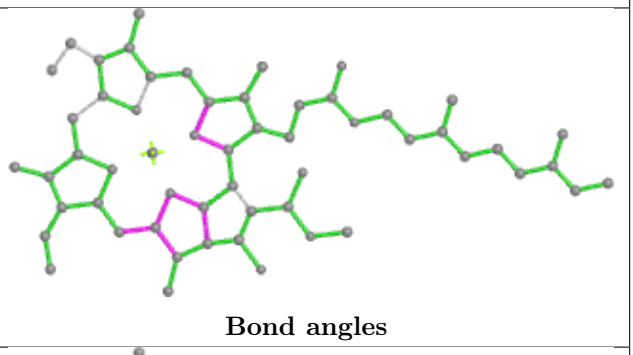

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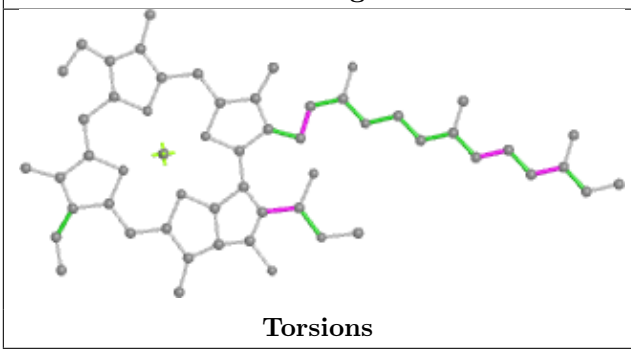

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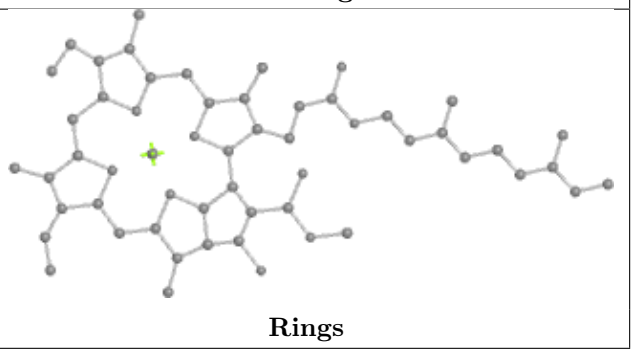
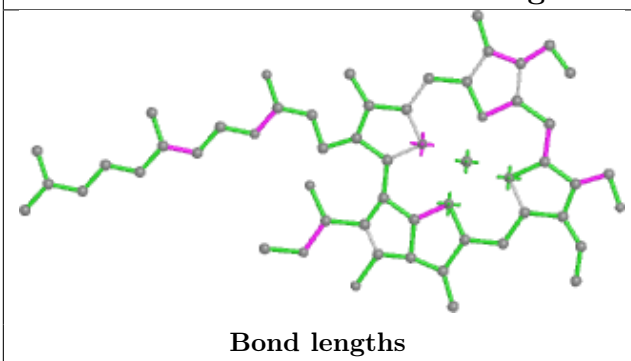


Rings

Ligand CHL g 303



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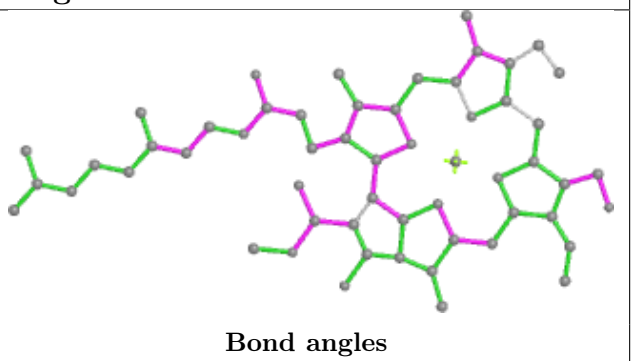

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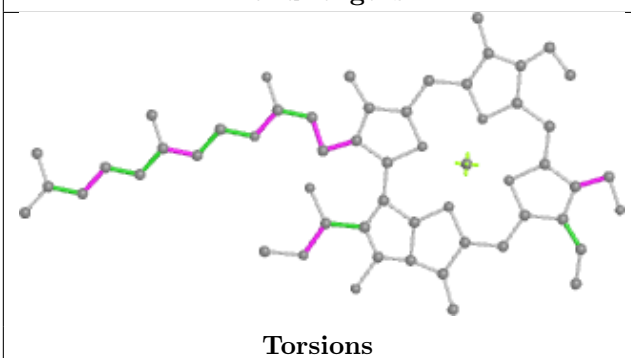
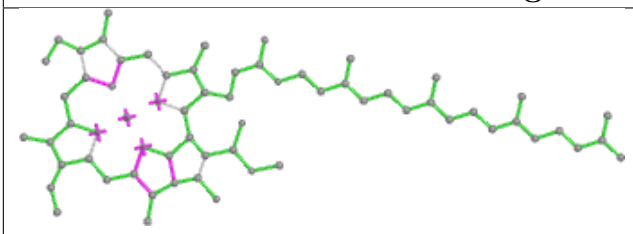


Torsions

Rings

Ligand CLA B 806



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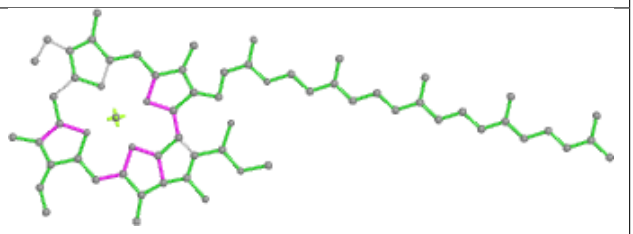

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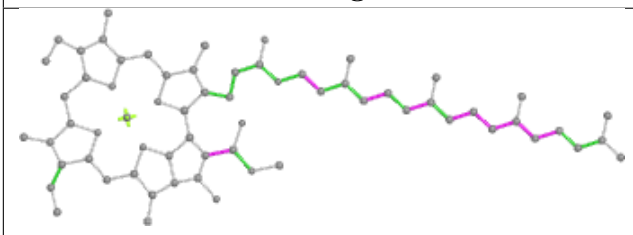

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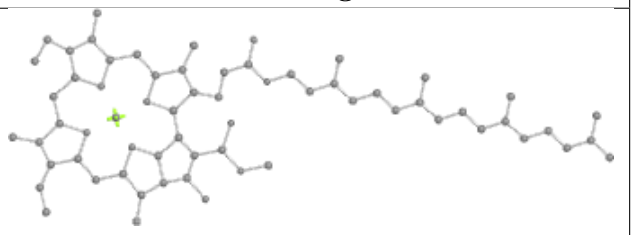
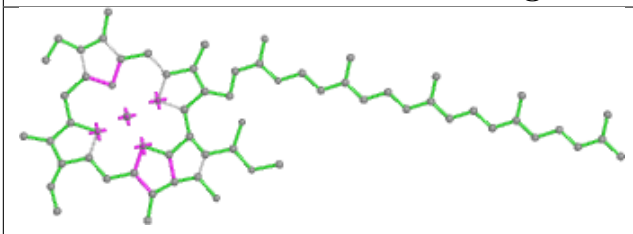


Rings

Ligand CLA A 809



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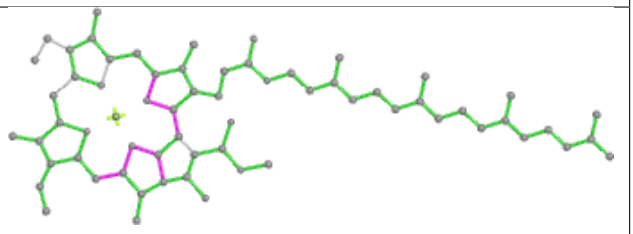

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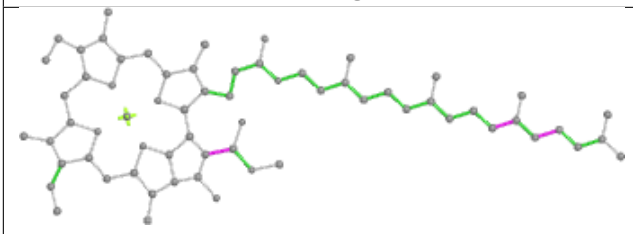

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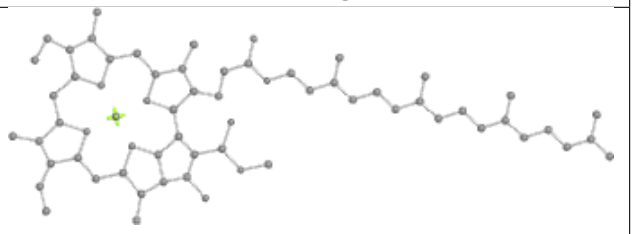
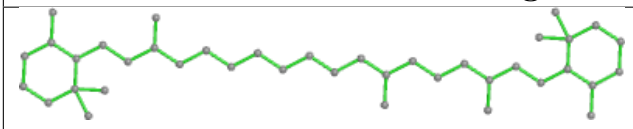


Rings

Ligand BCR A 835



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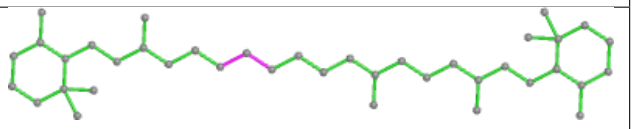

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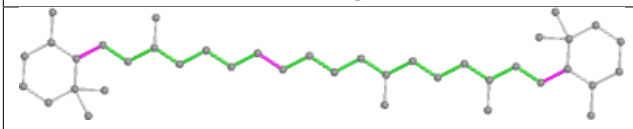

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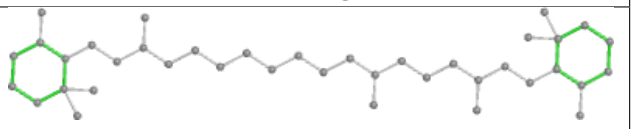
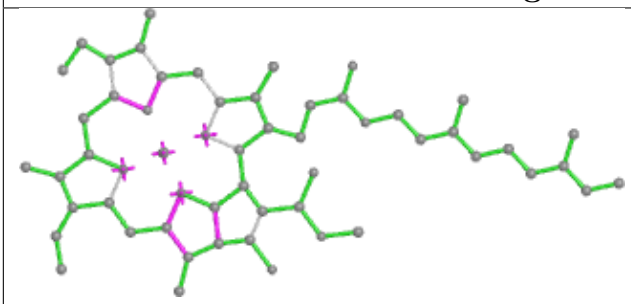


Rings

Ligand CLA A 812



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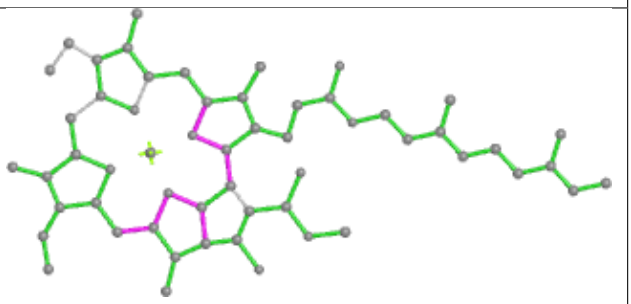

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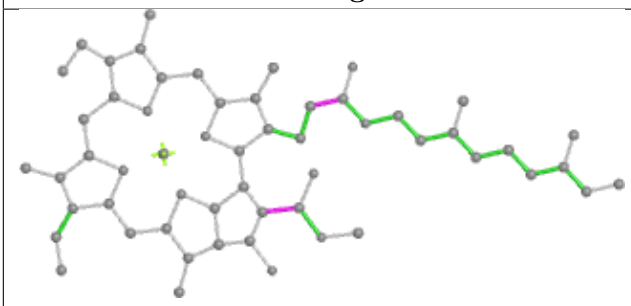

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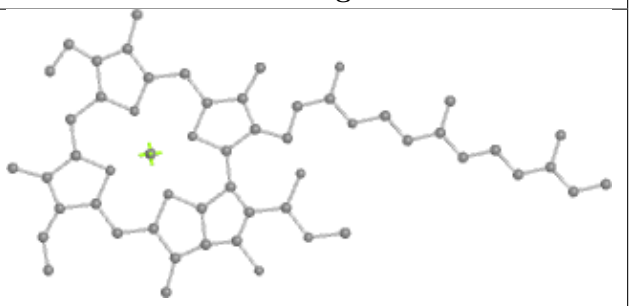
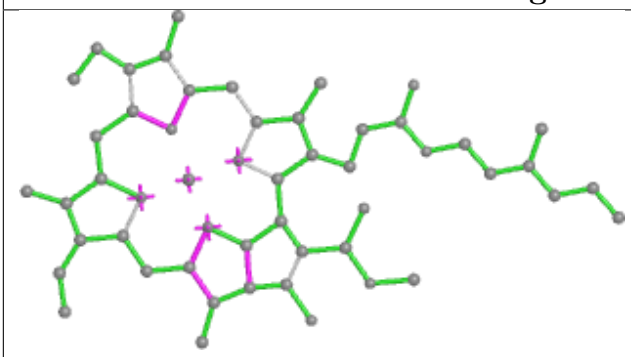


Rings

Ligand CLA c 304



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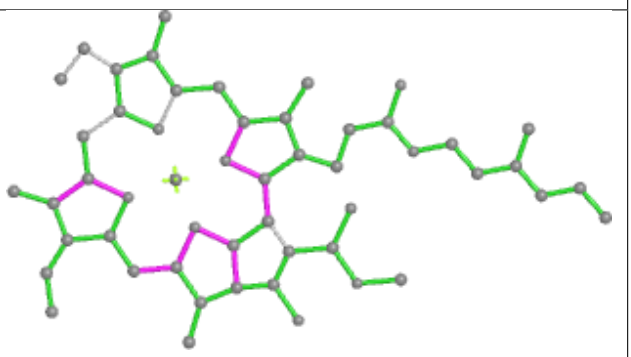

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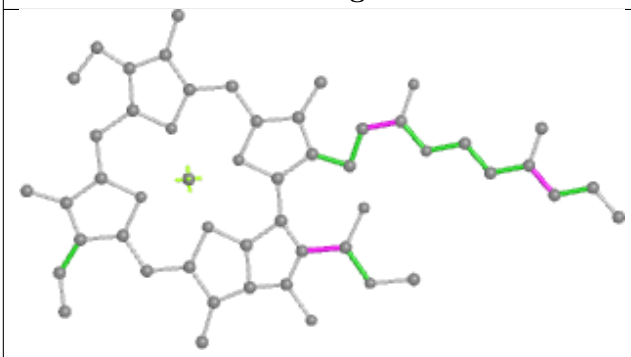

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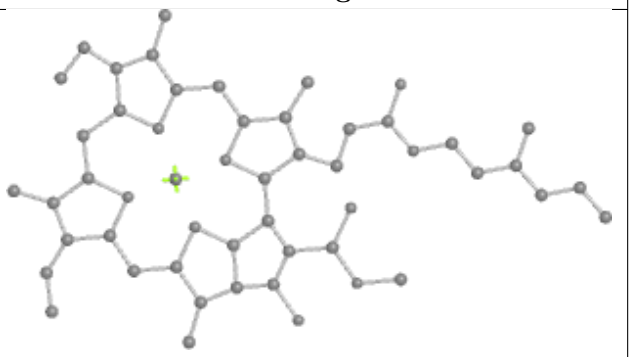
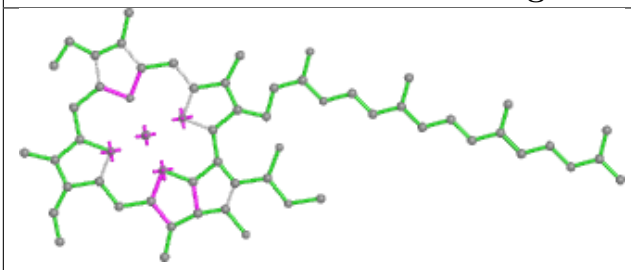


Rings

Ligand CLA n 203



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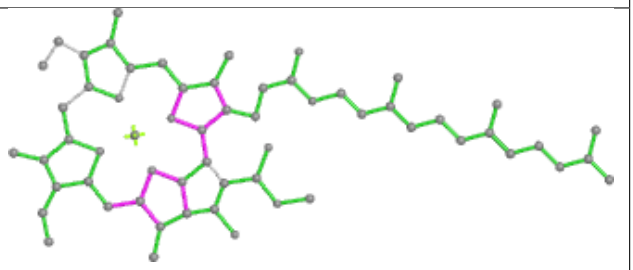

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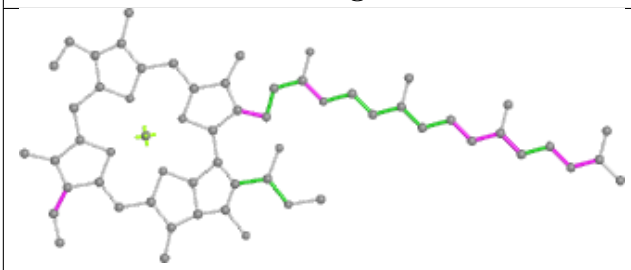

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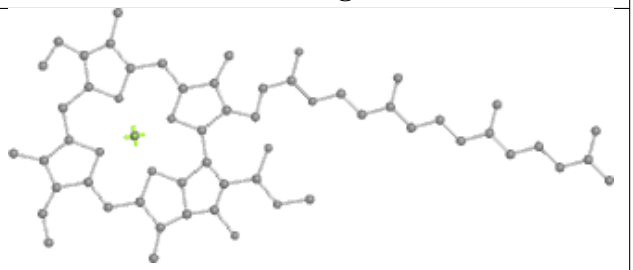
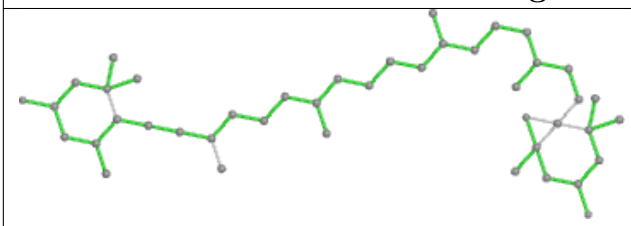


Rings

Ligand DD6 g 315



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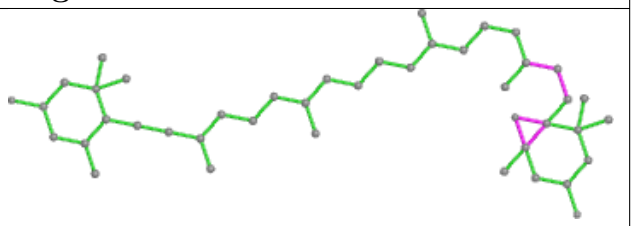
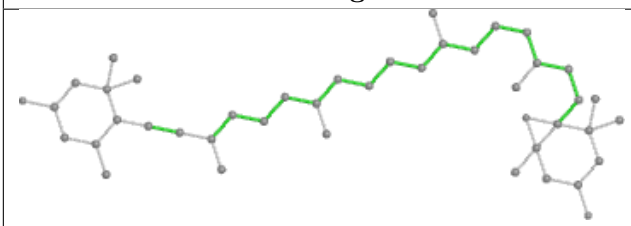


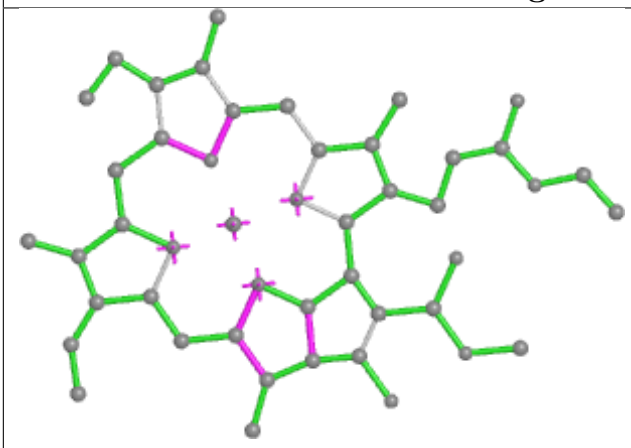
Bond angles



Torsions

Rings

Ligand CLA a 302



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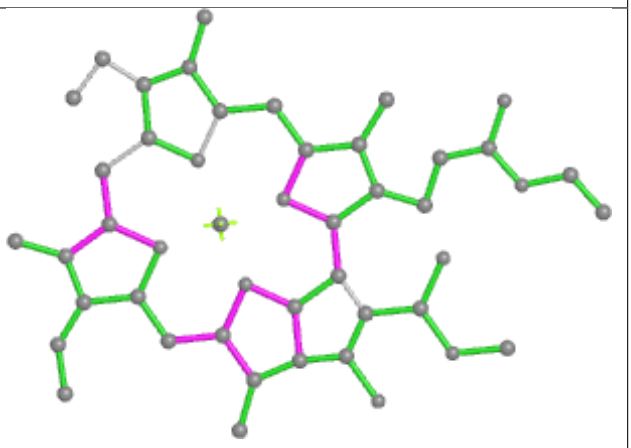
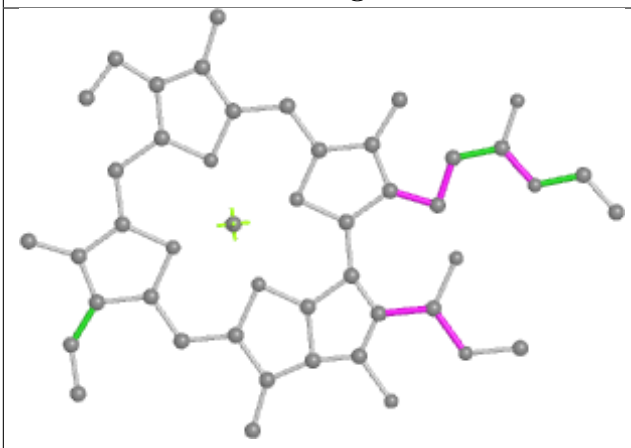
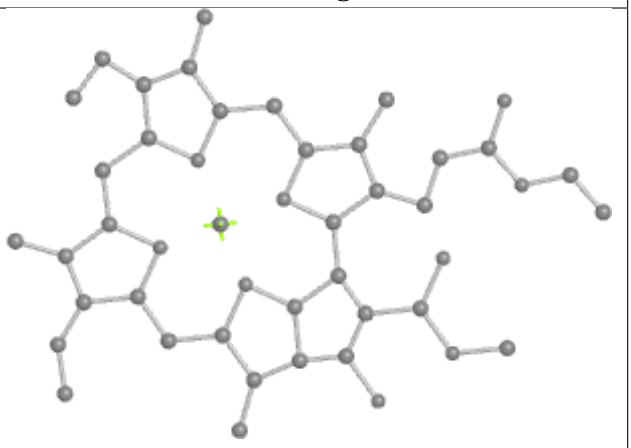


Bond angles

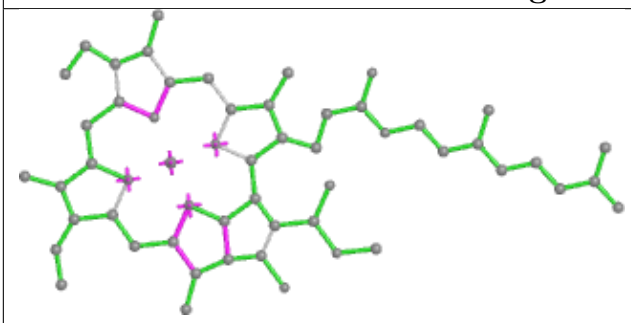


Torsions



Rings

Ligand CLA c 307



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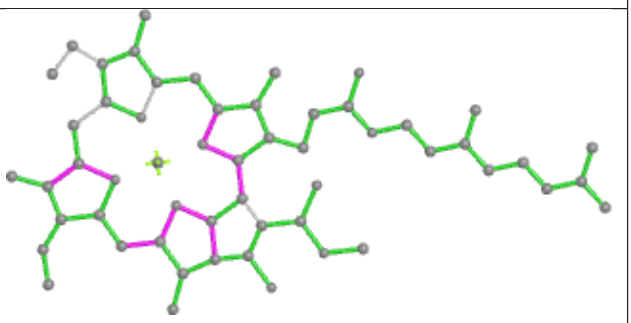
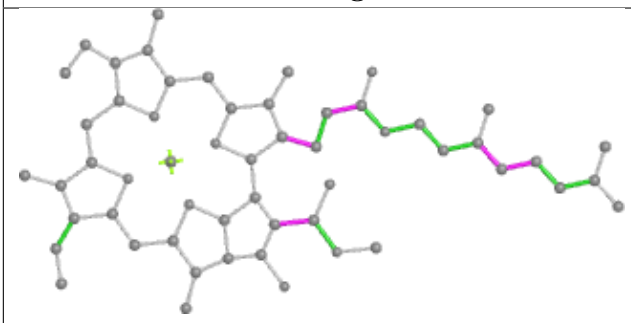


Bond angles



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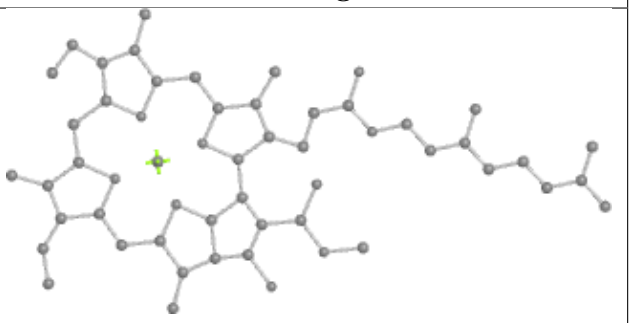
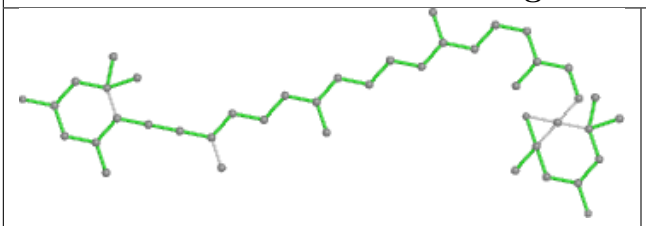


Rings

Ligand DD6 A 833



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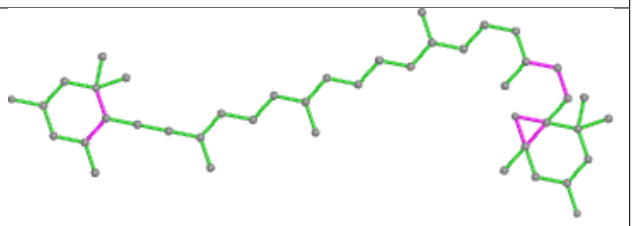
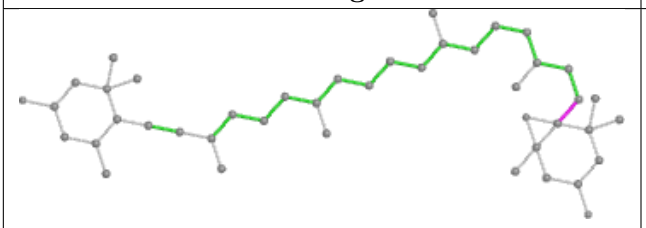
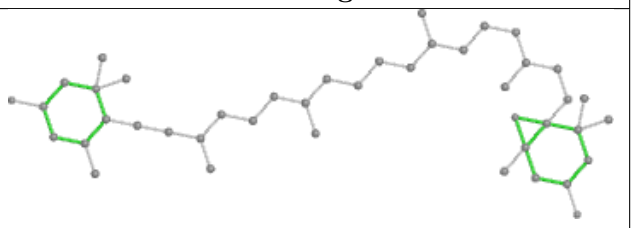


Bond angles

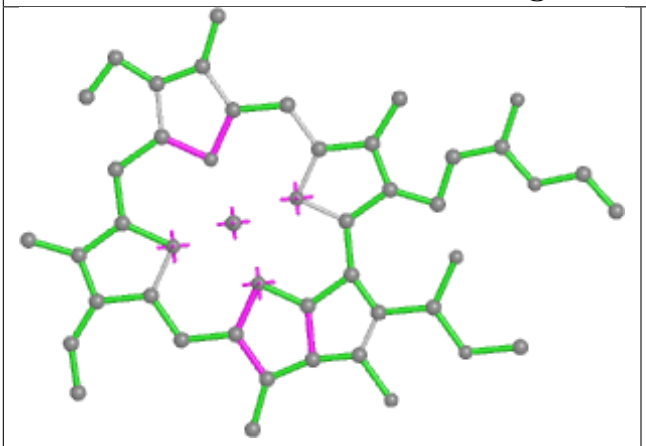


Torsions

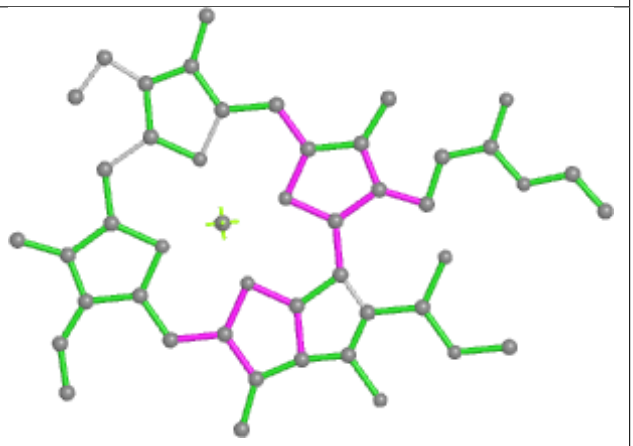


Rings

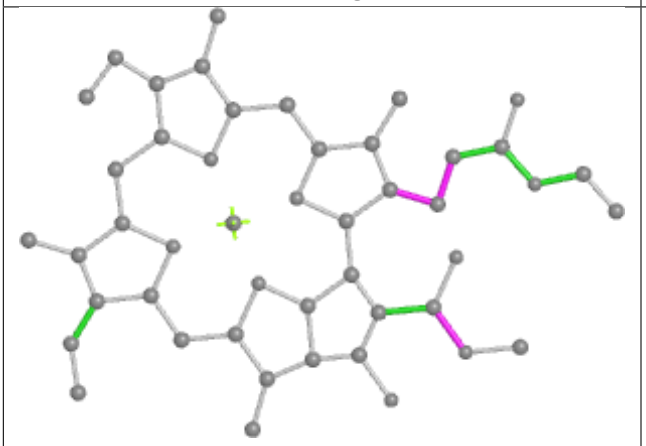
Ligand CLA o 305



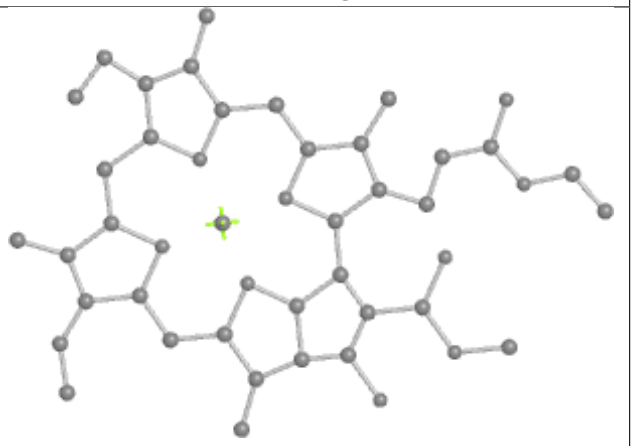
Bond lengths



Bond angles

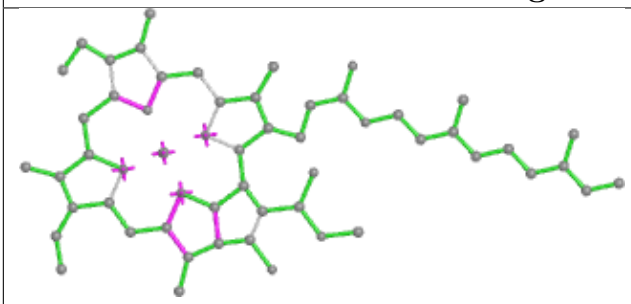


Torsions

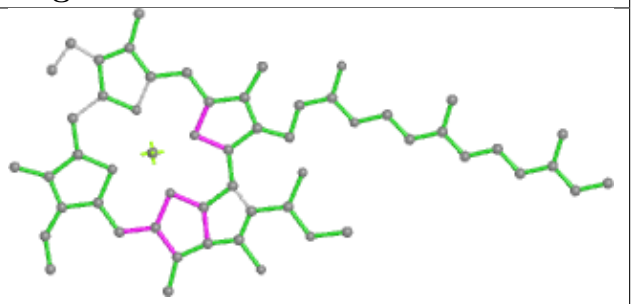


Rings

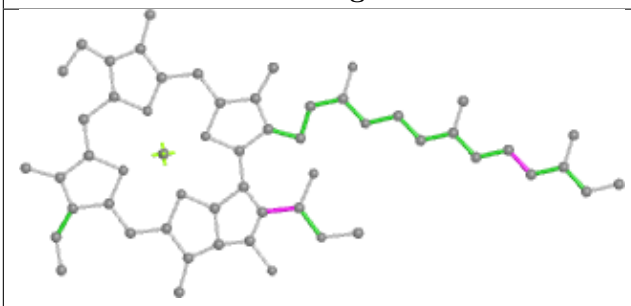
Ligand CLA g 308



Bond lengths



Bond angles



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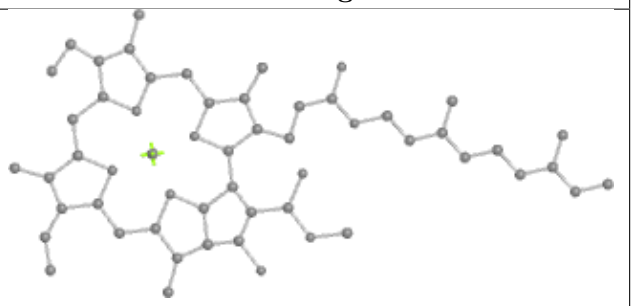
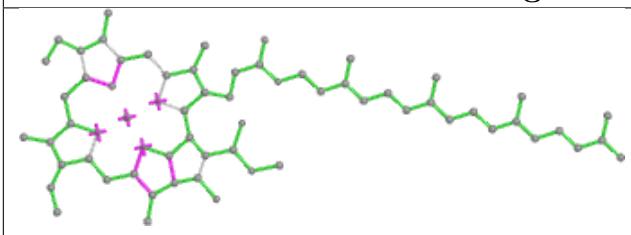


Rings

Ligand CLA A 823



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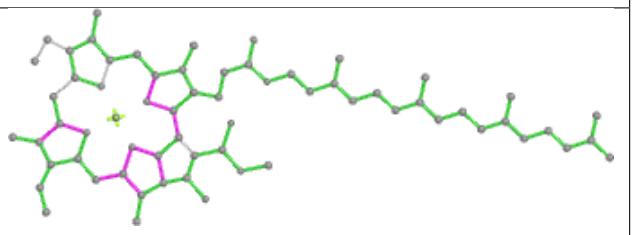
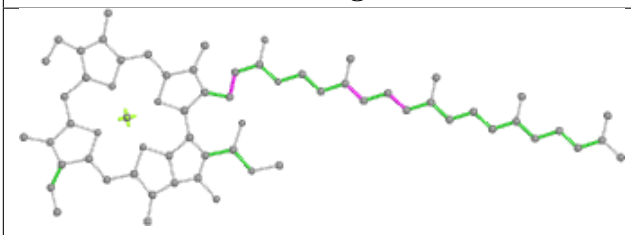


Bond angles



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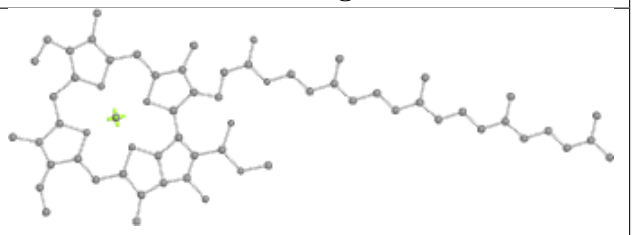
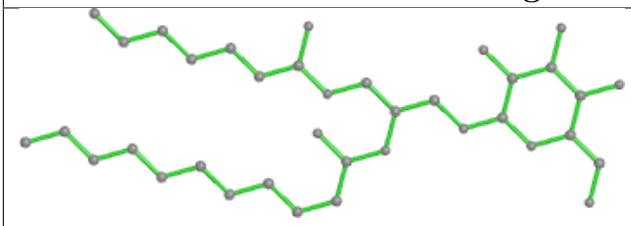


Rings

Ligand LMG k 312



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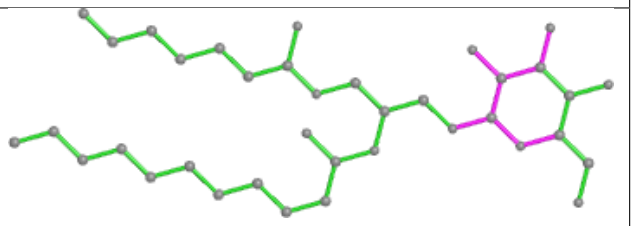
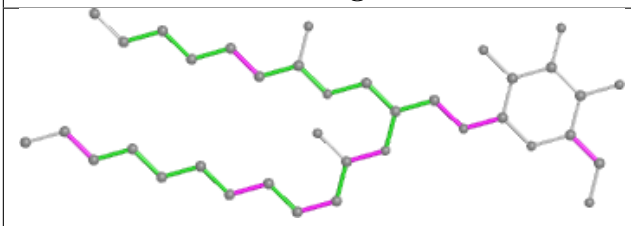


Bond angles



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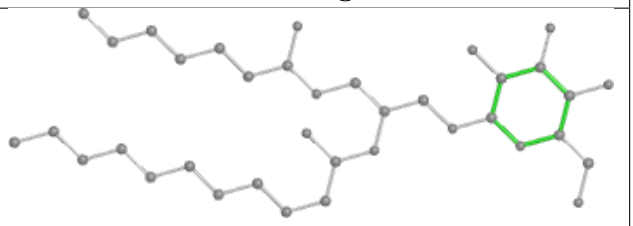
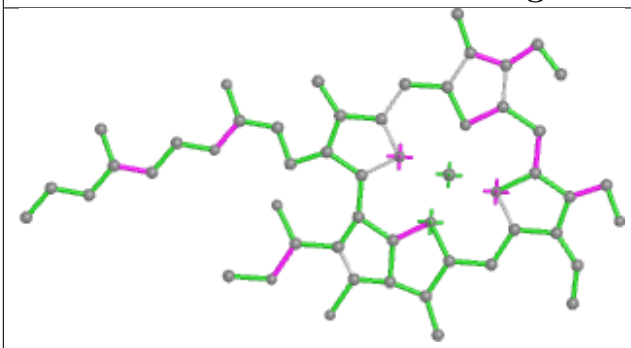


Rings

Ligand CHL b 312



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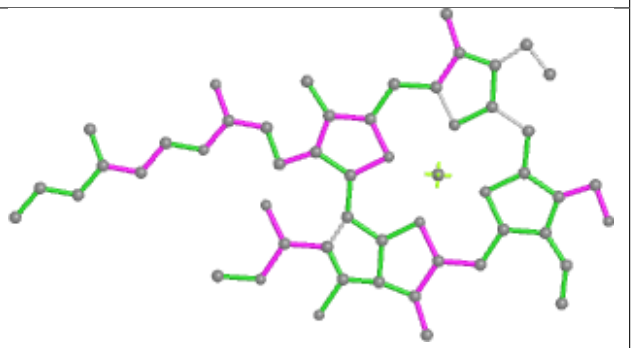
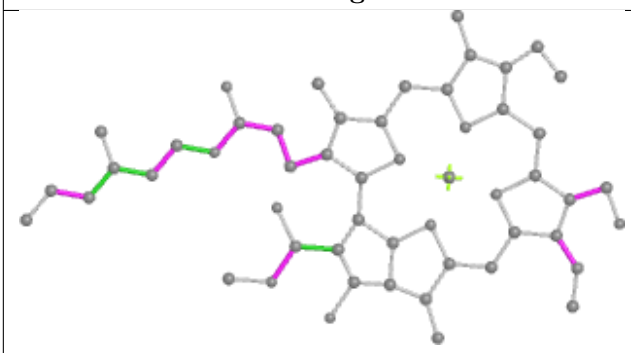


Bond angles



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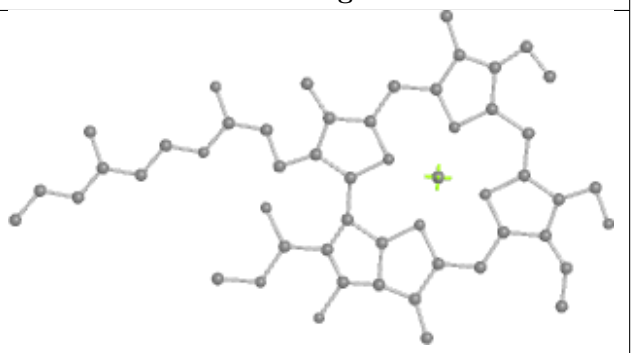
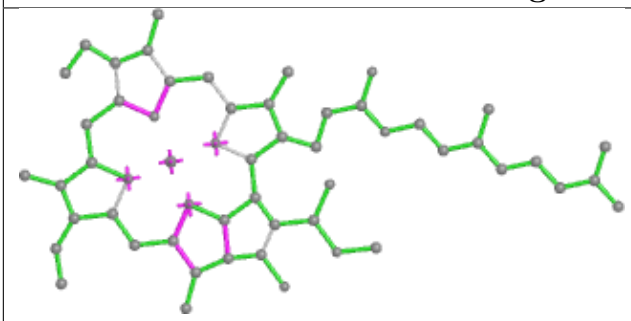


Rings

Ligand CLA e 310



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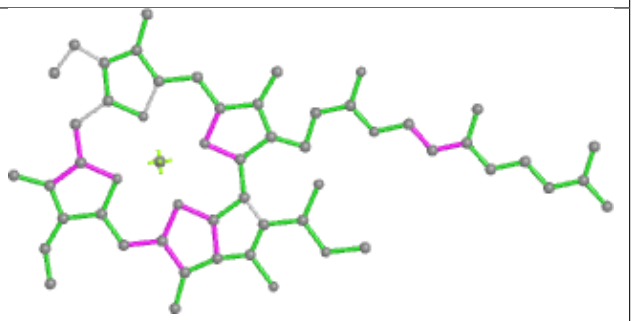
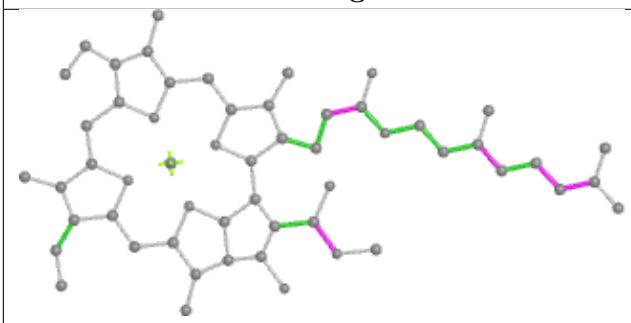


Bond angles



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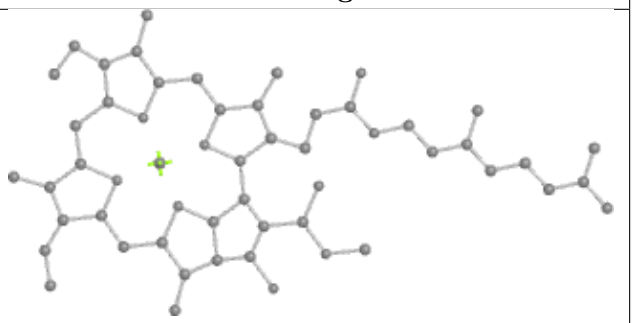
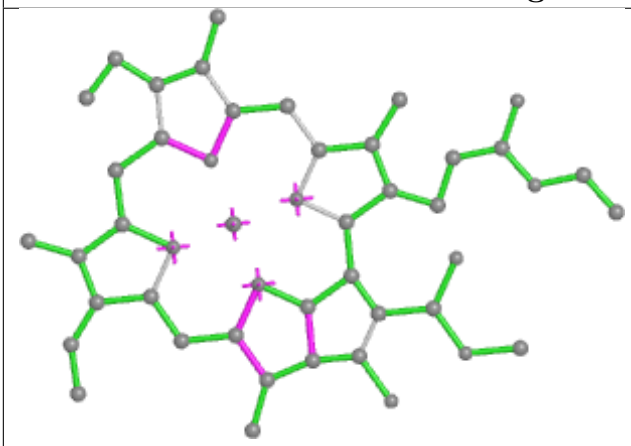


Rings

Ligand CLA n 207



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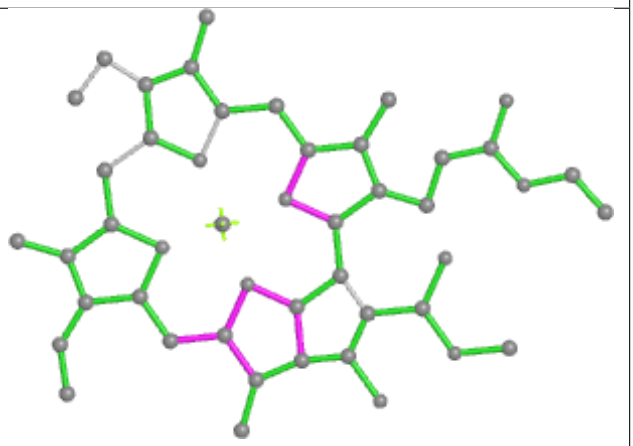

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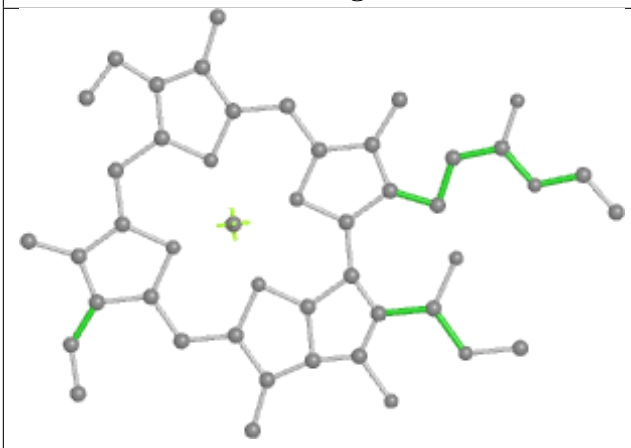

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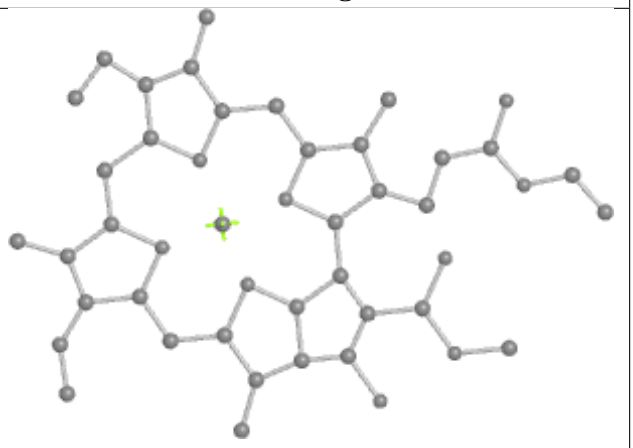
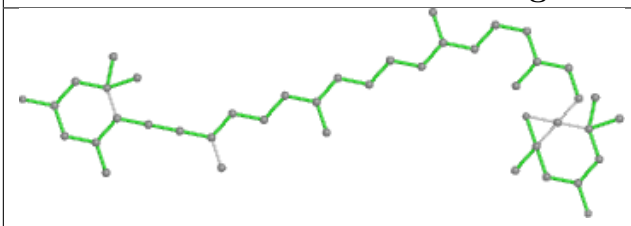


Rings

Ligand DD6 a 321



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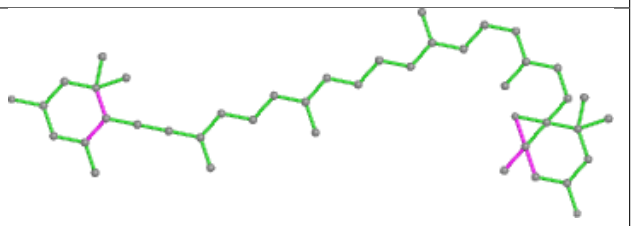
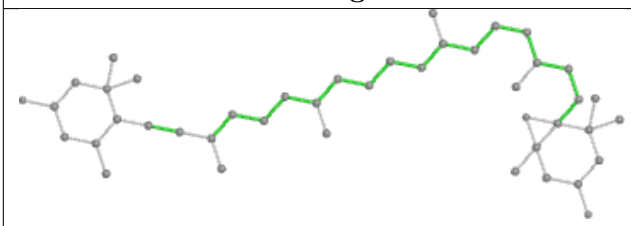


Bond angles



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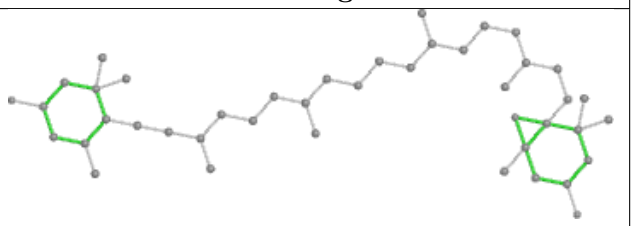
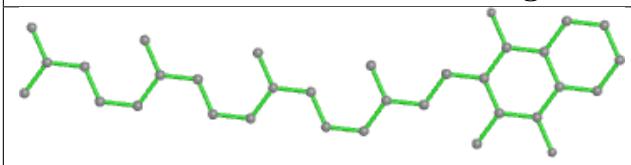


Rings

Ligand PQN B 824



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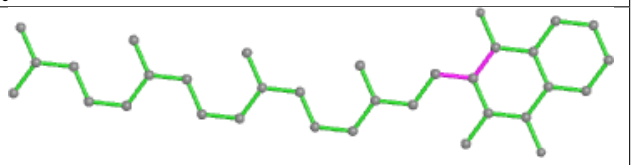
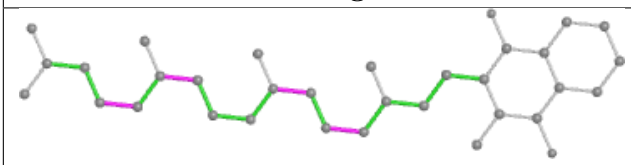


Bond angles



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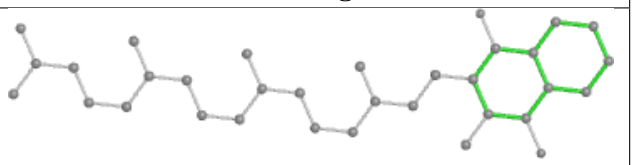
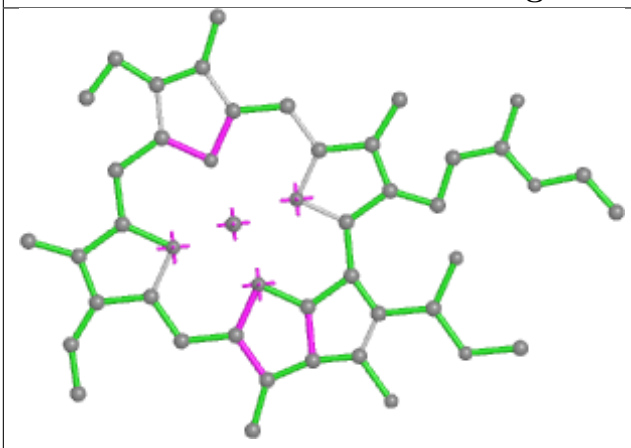


Rings

Ligand CLA F 204



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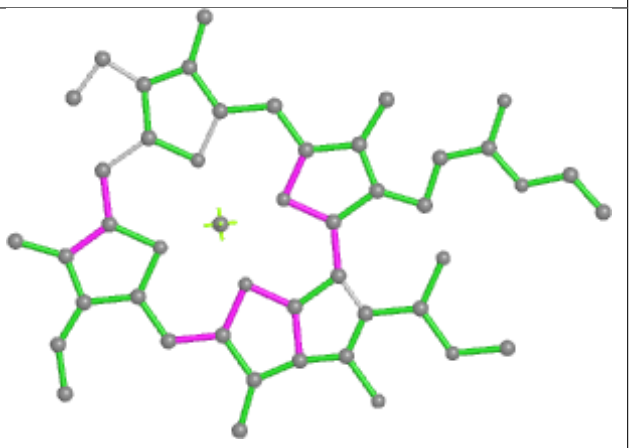

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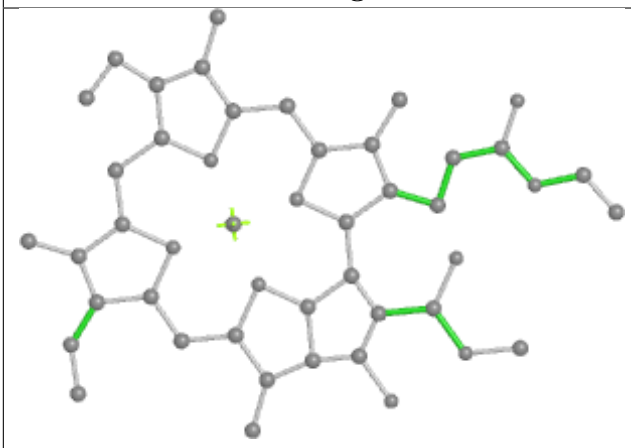

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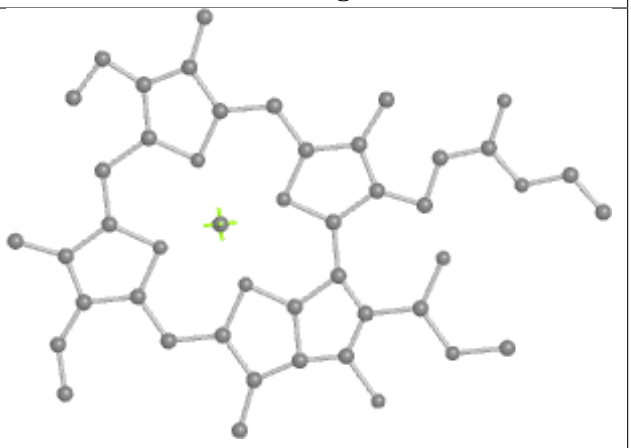
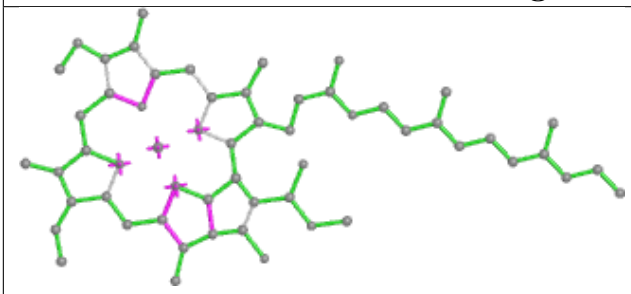


Rings

Ligand CLA c 308



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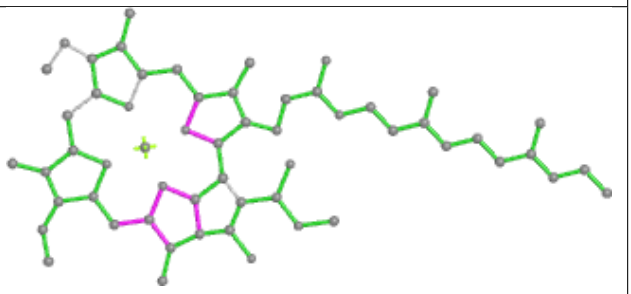

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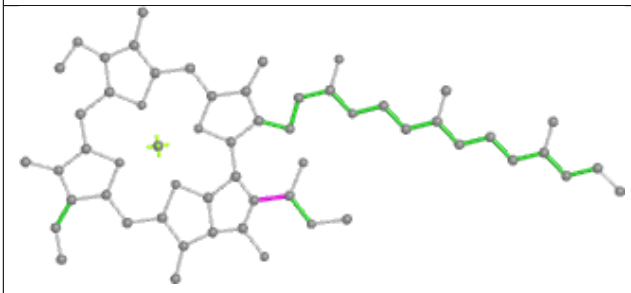

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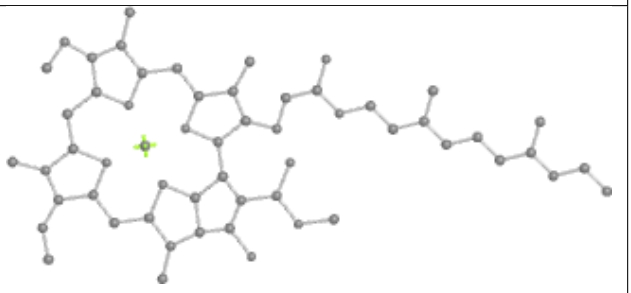
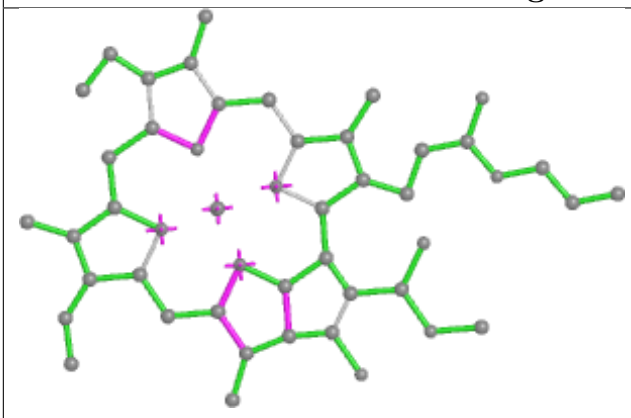


Rings

Ligand CLA h 204



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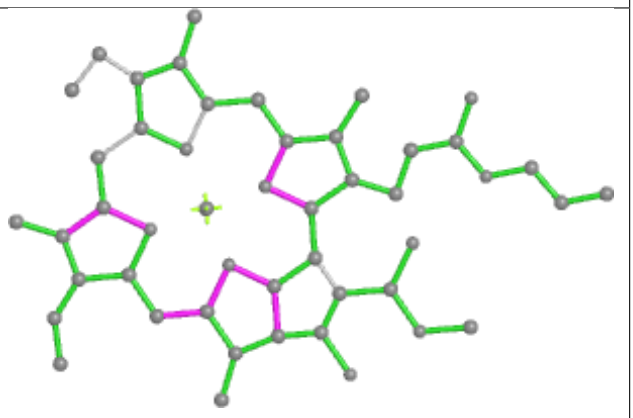
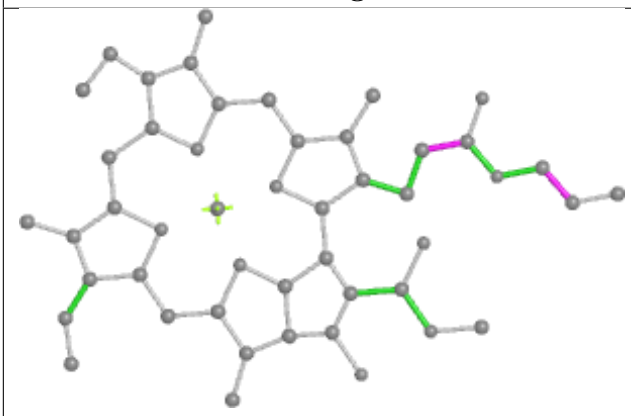


Bond angles



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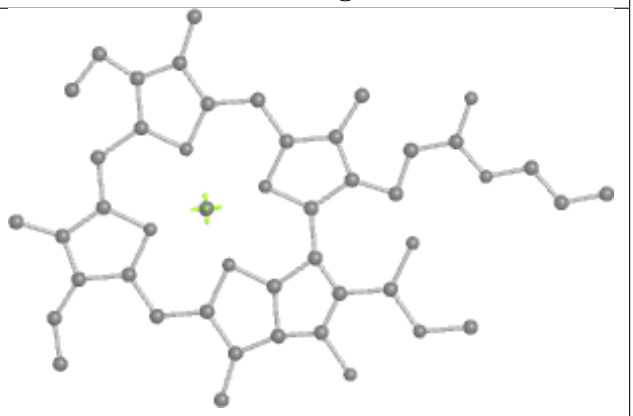
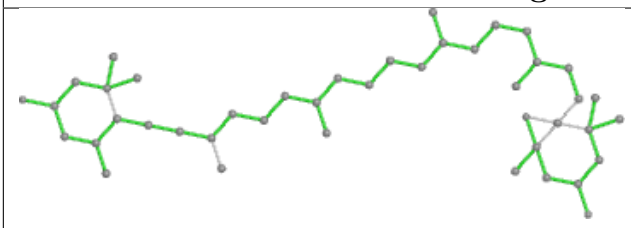


Rings

Ligand DD6 c 319



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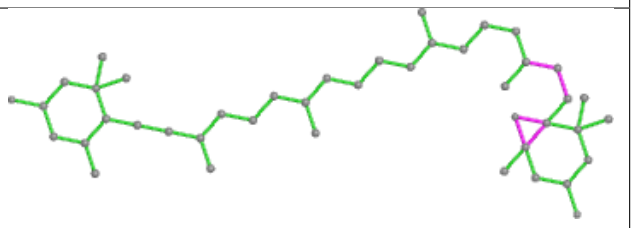
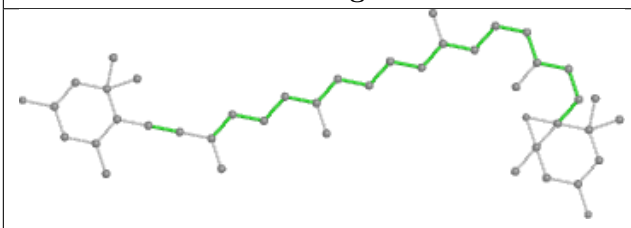


Bond angles



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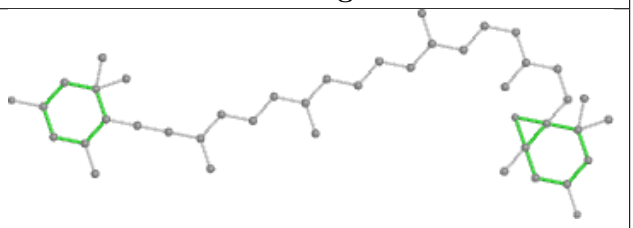
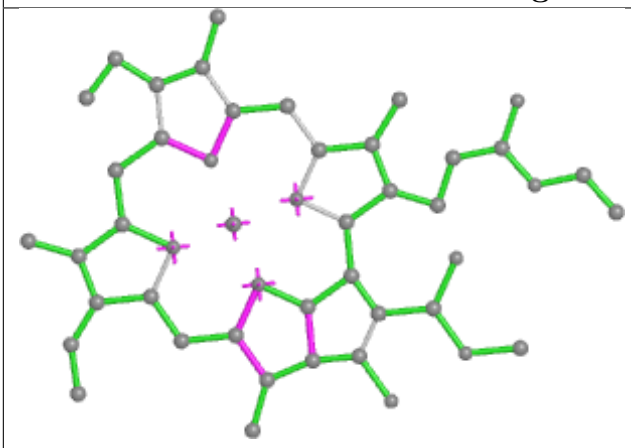


Rings

Ligand CLA f 306



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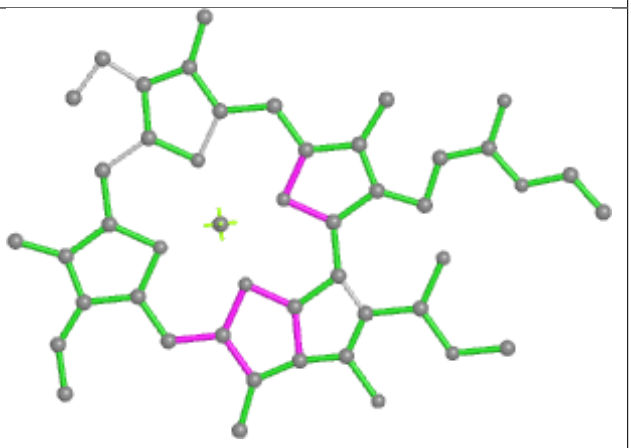
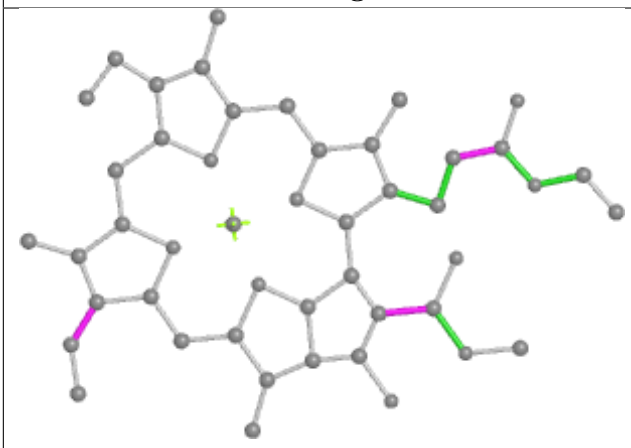


Bond angles



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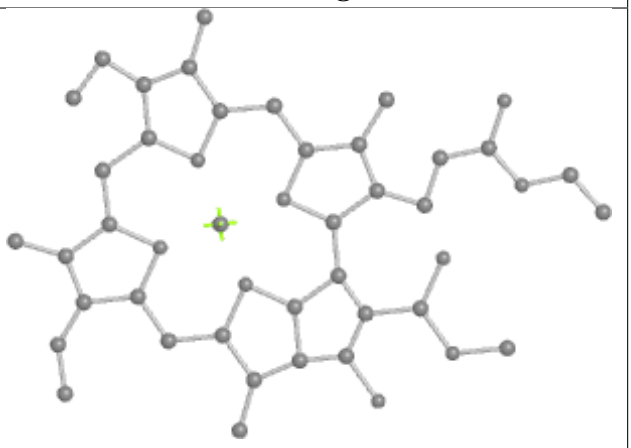
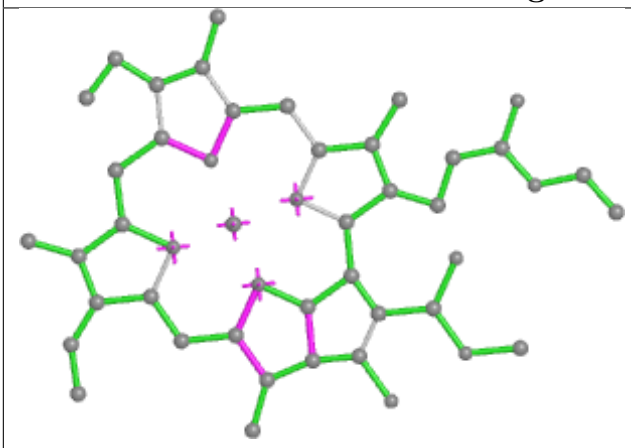
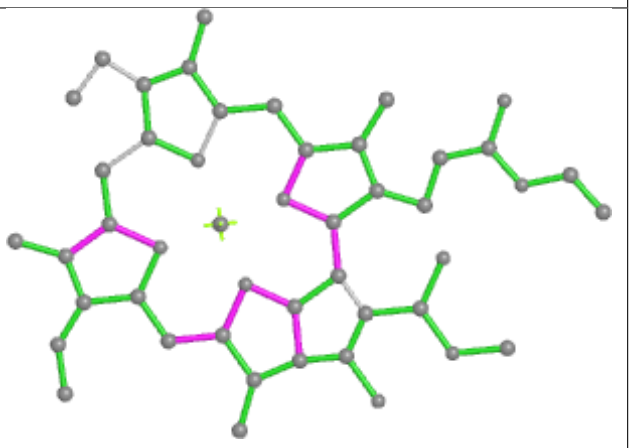


Rings

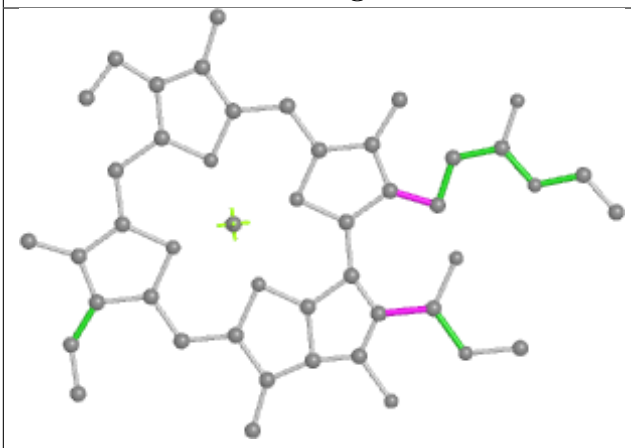
Ligand CLA k 303



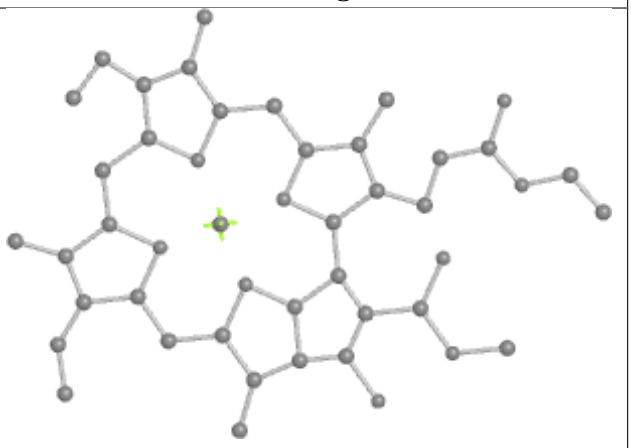
Bond lengths



Bond angles

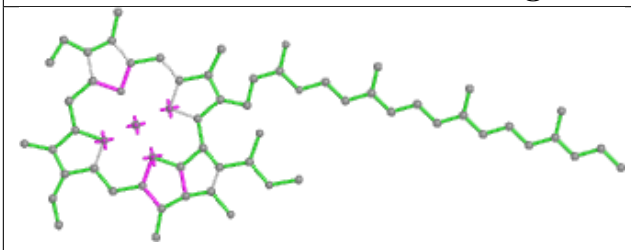


Torsions



Rings

Ligand CLA B 817



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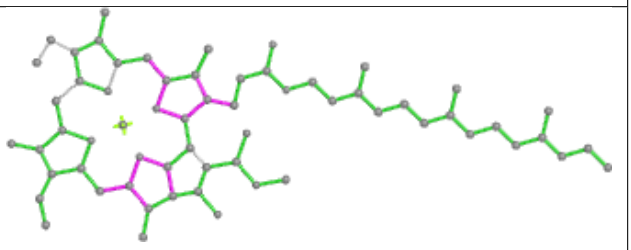

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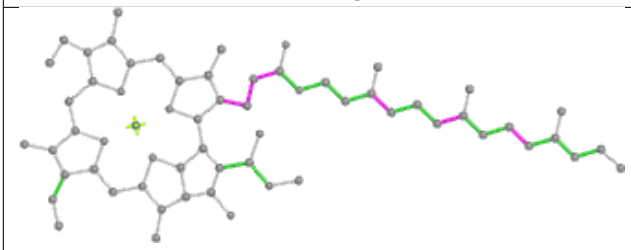

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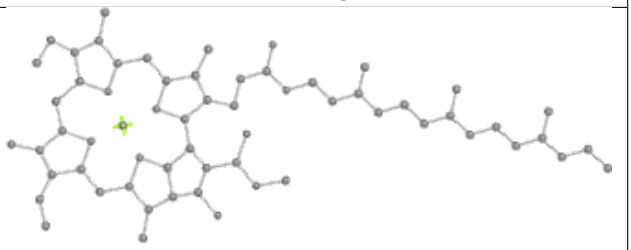
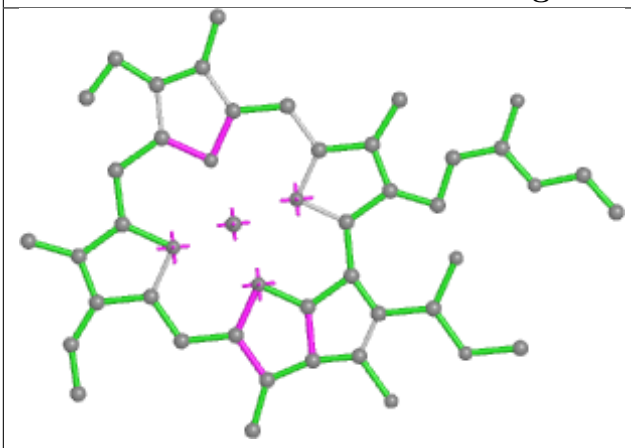


Rings

Ligand CLA l 201



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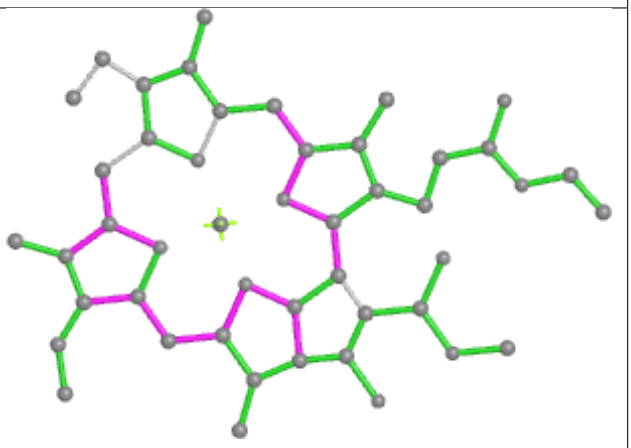
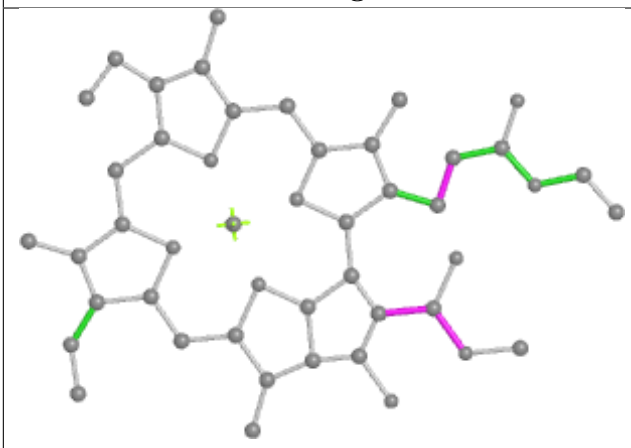


Bond angles



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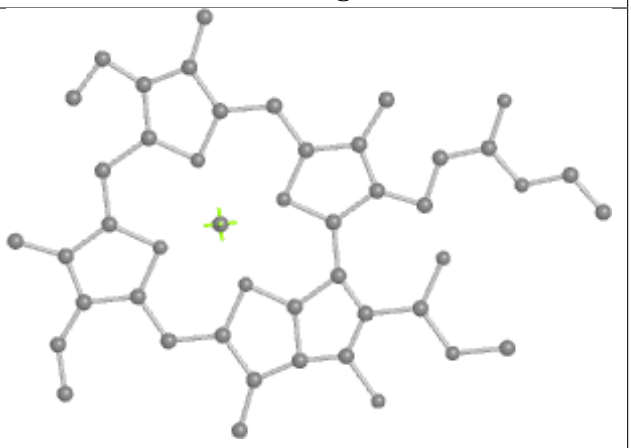
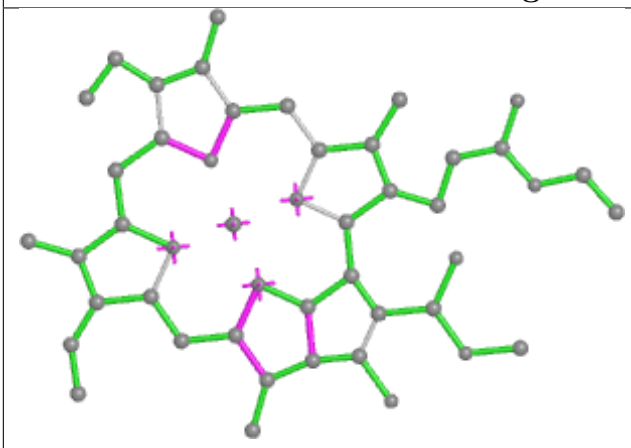


Rings

Ligand CLA m 306



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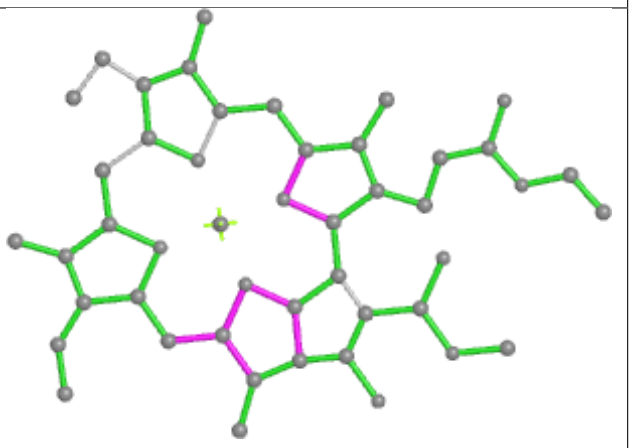

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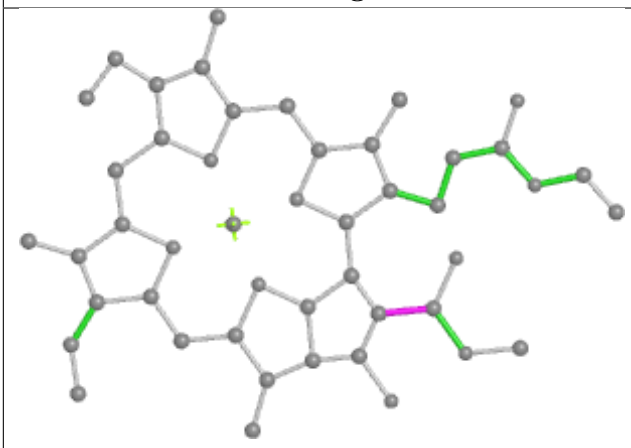

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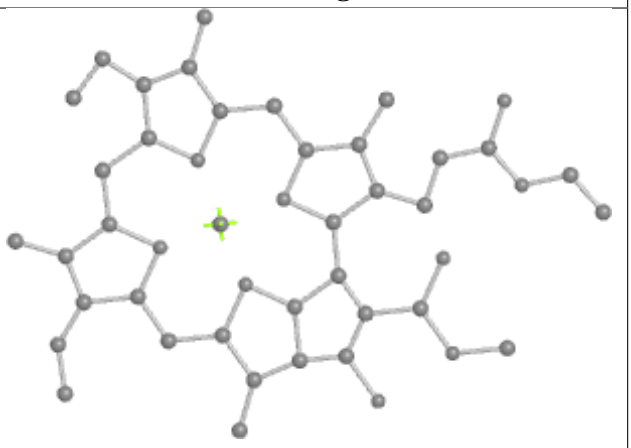
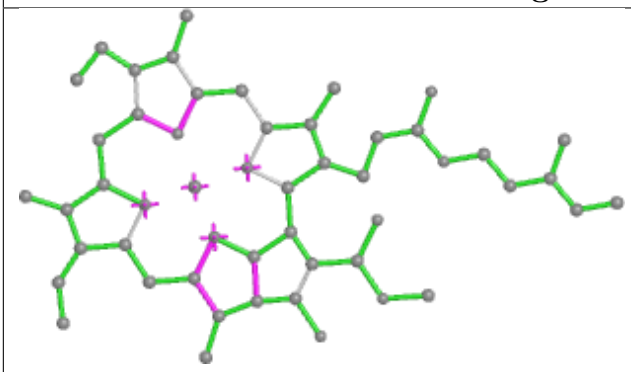


Rings

Ligand CLA f 308



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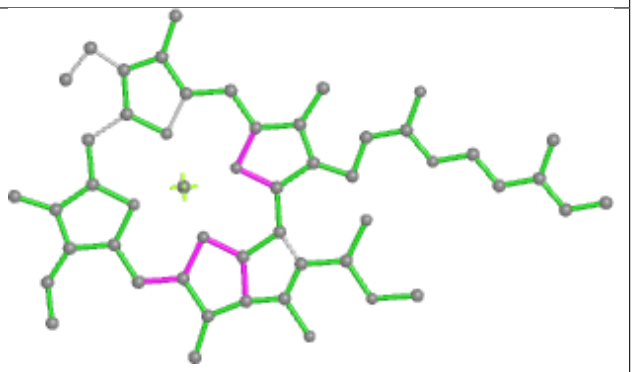

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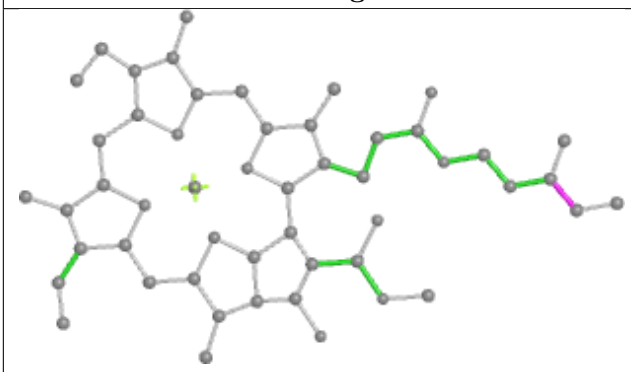

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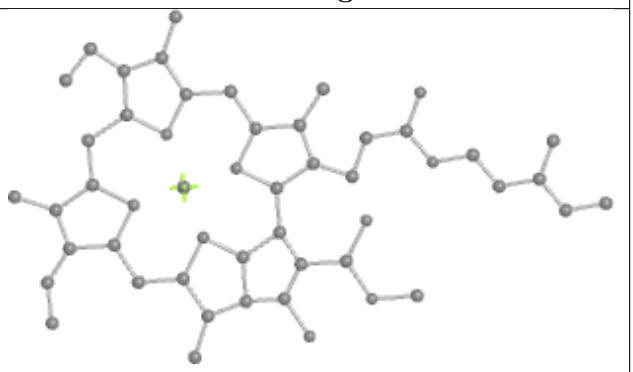
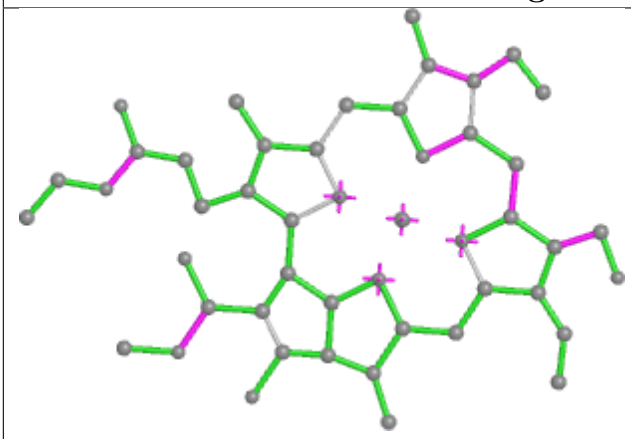


Rings

Ligand CHL a 315



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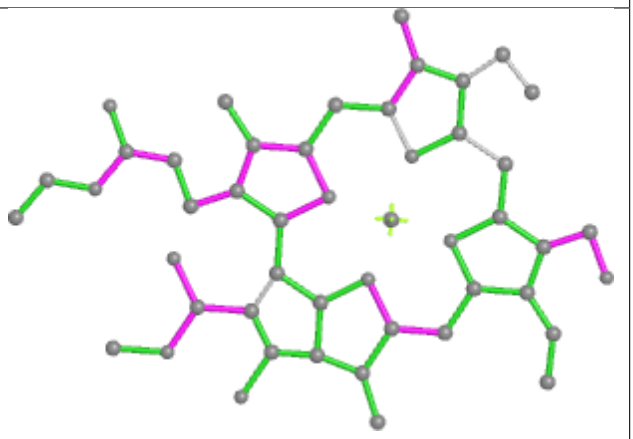

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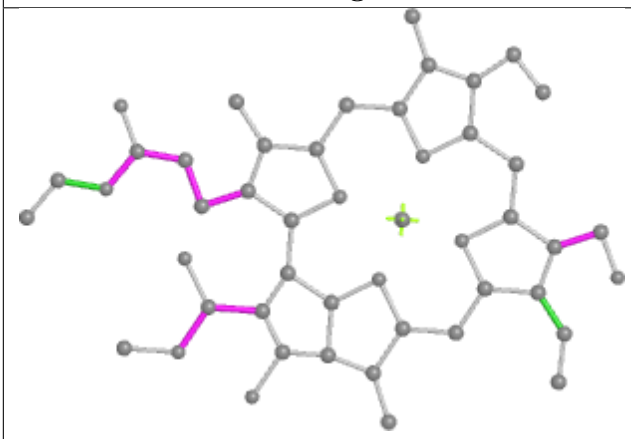

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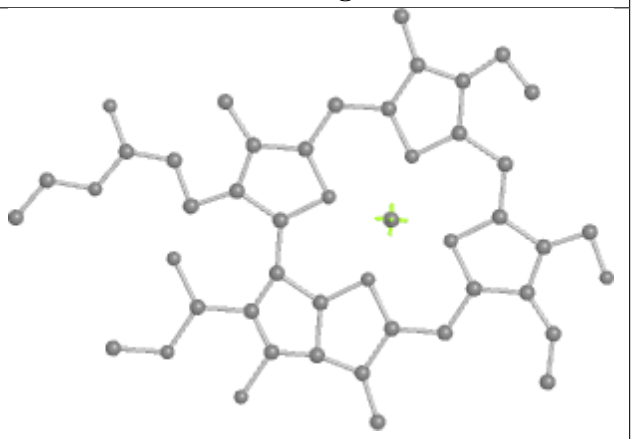
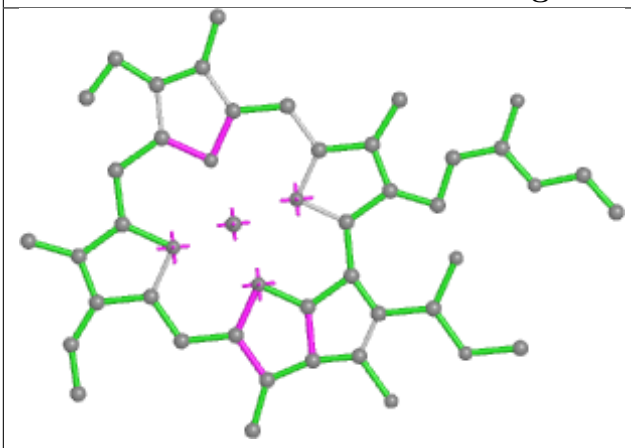


Rings

Ligand CLA j 301



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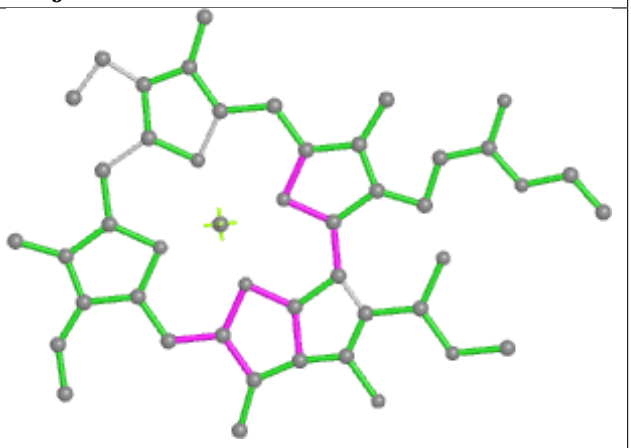

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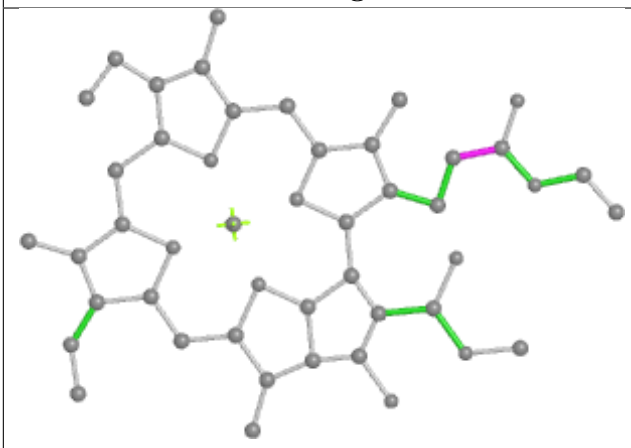

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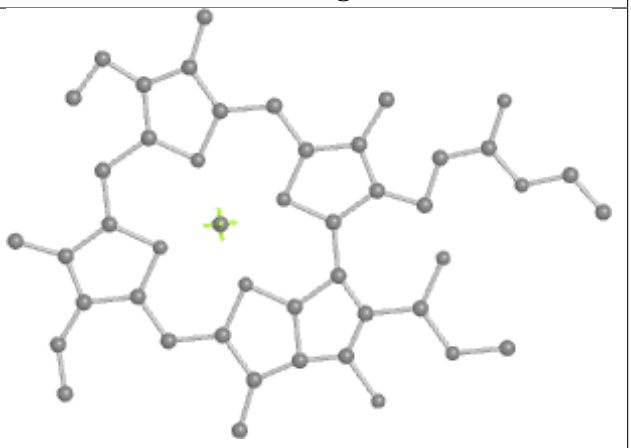
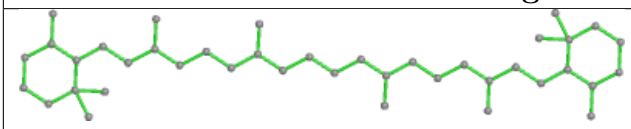


Rings

Ligand BCR A 834



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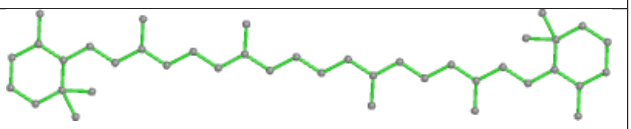

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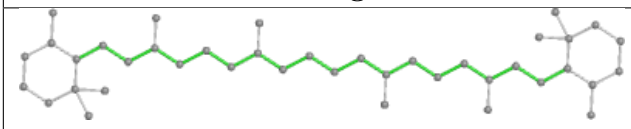

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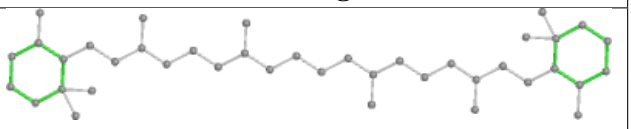
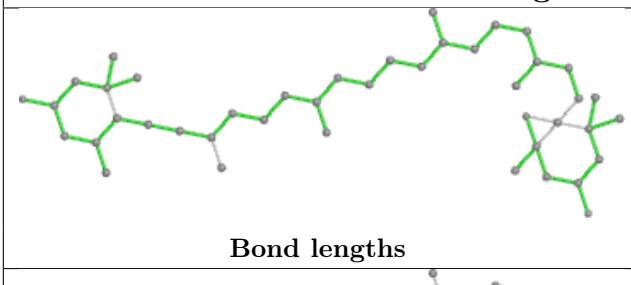


Rings

Ligand DD6 i 314



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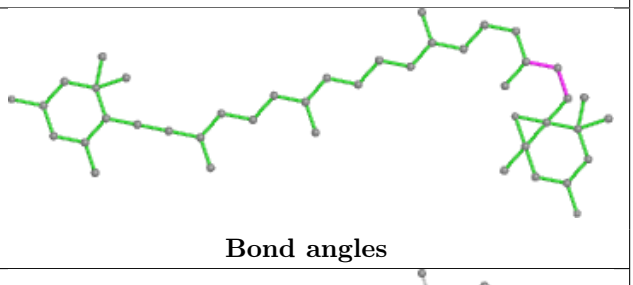

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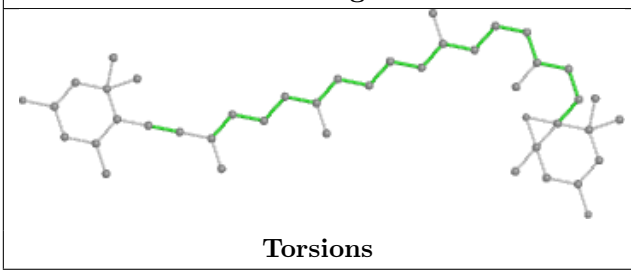

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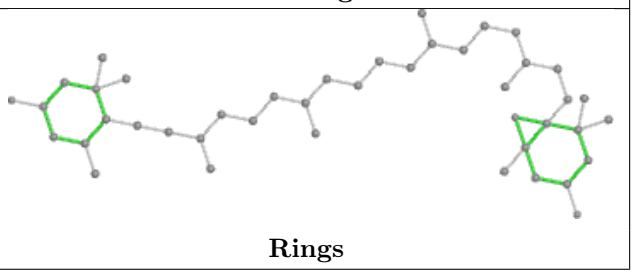
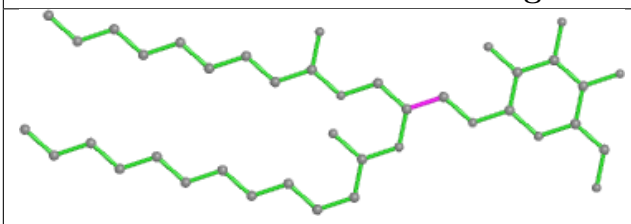


Rings

Ligand LMG a 318



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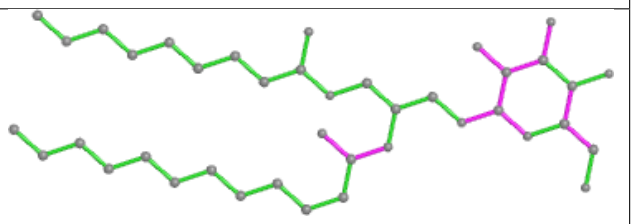

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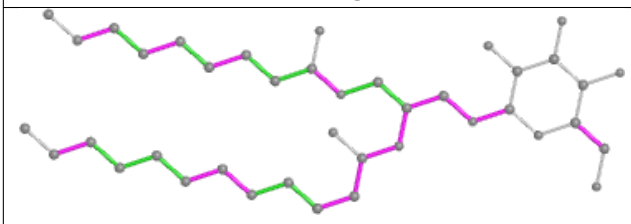

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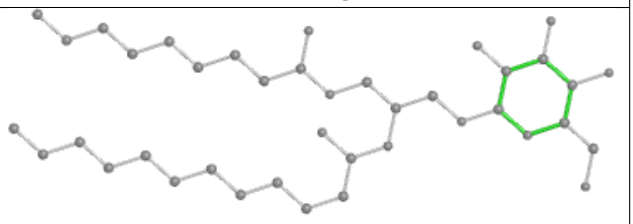
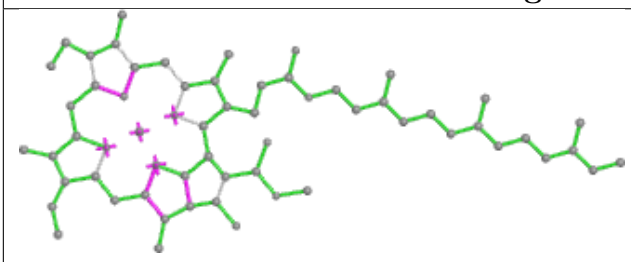


Rings

Ligand CLA B 849



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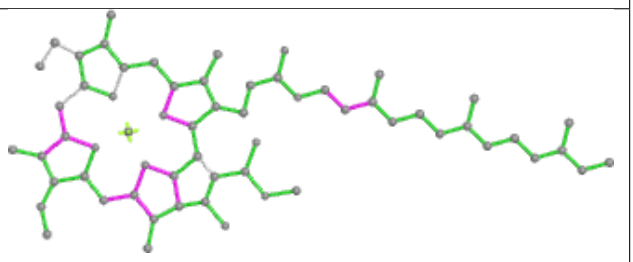

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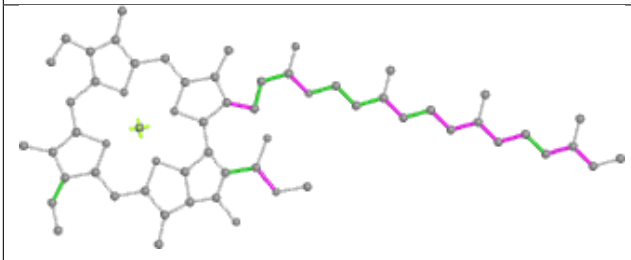

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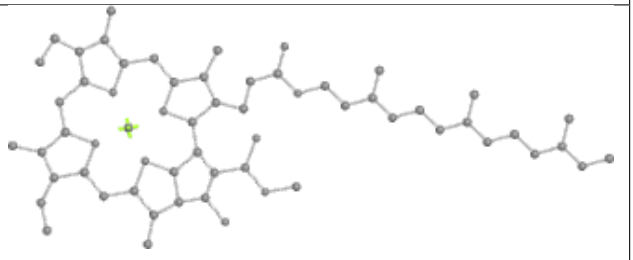
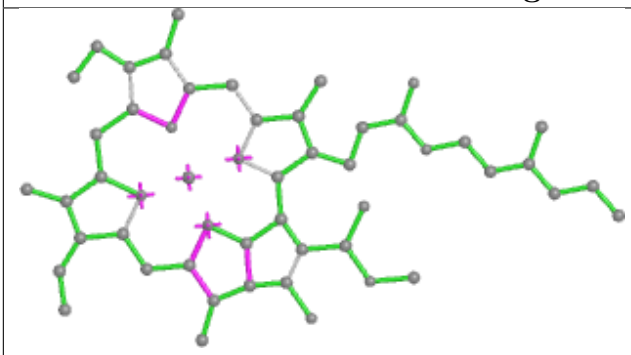


Rings

Ligand CLA D 301



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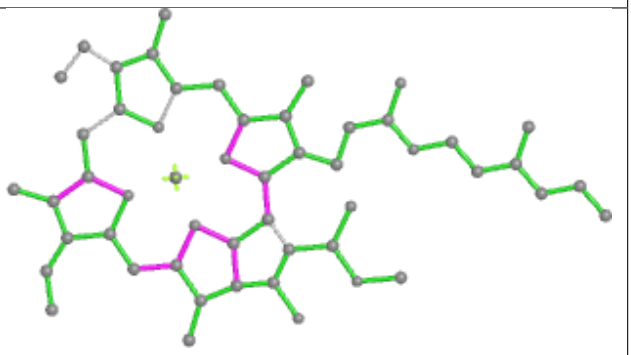

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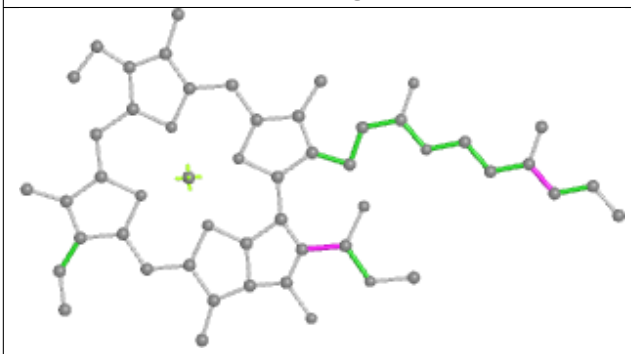

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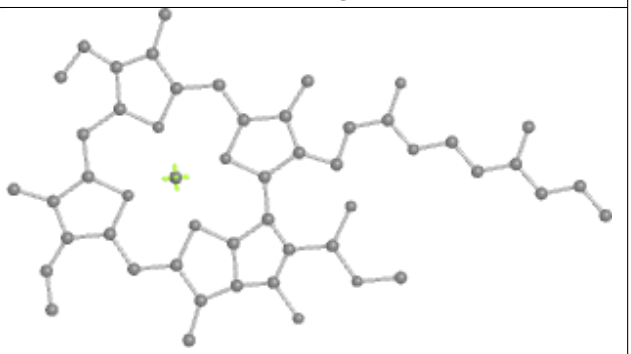
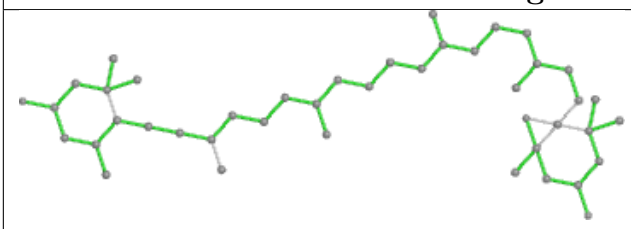


Rings

Ligand DD6 F 205



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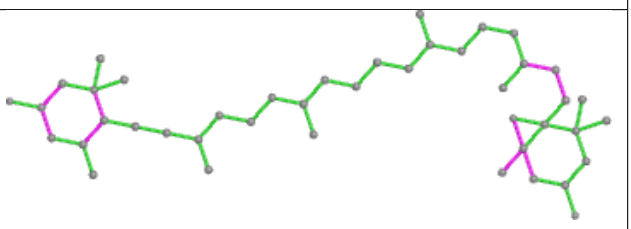
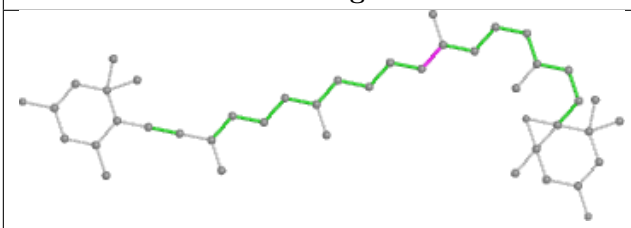


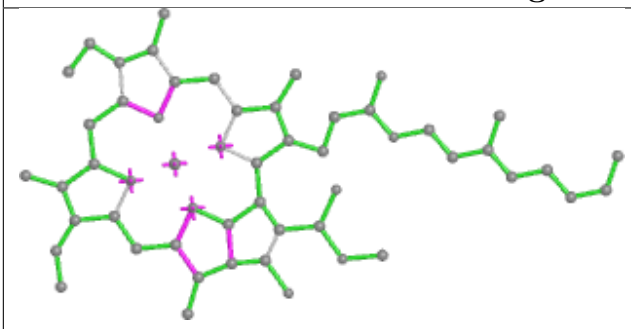
Bond angles



Torsions

Rings

Ligand CLA o 304



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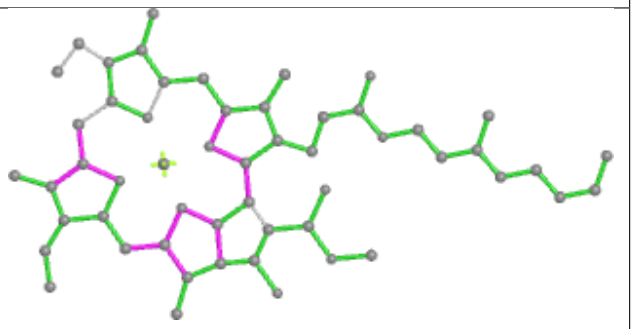
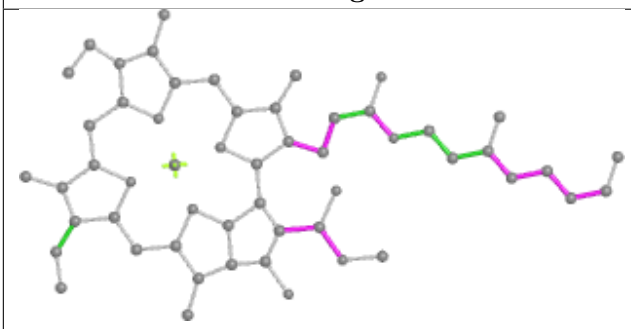
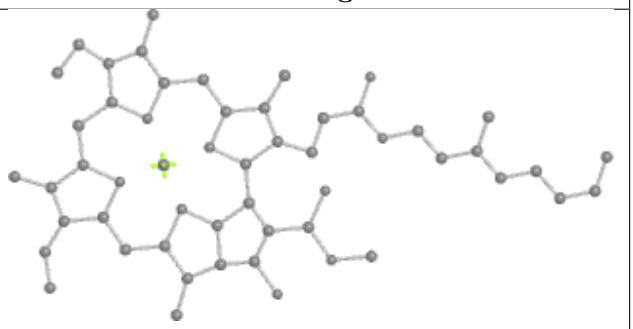


Bond angles

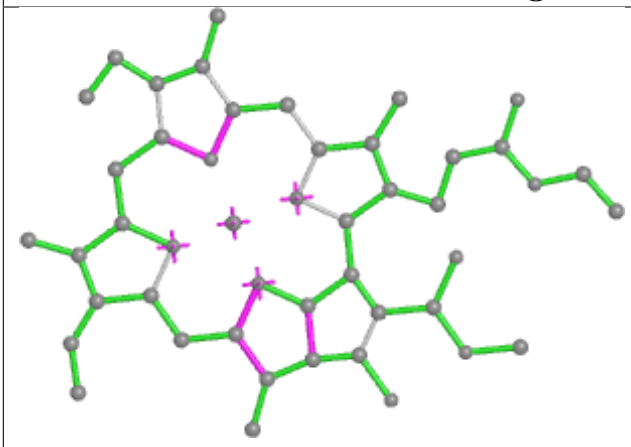


Torsions

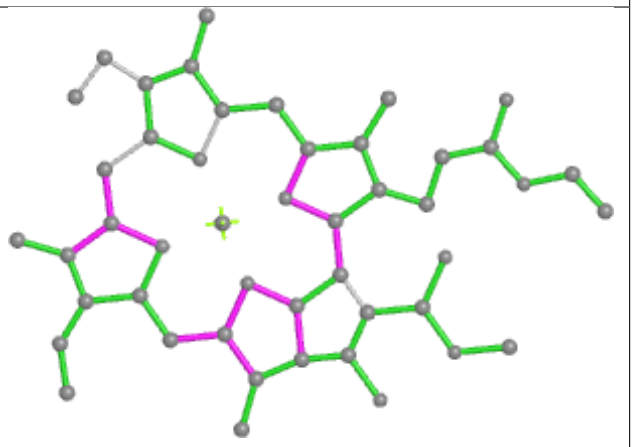


Rings

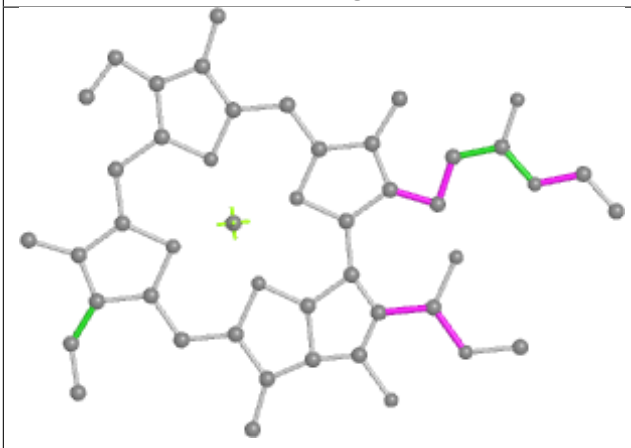
Ligand CLA n 209



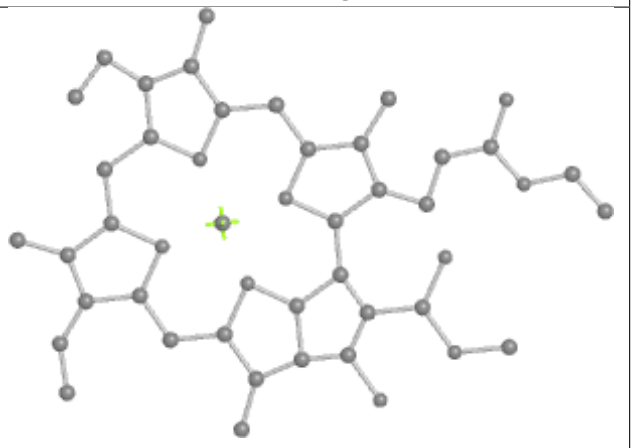
Bond lengths



Bond angles

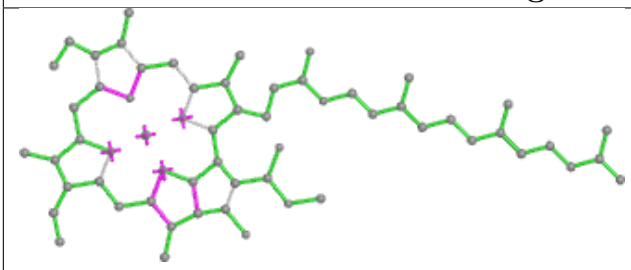


Torsions

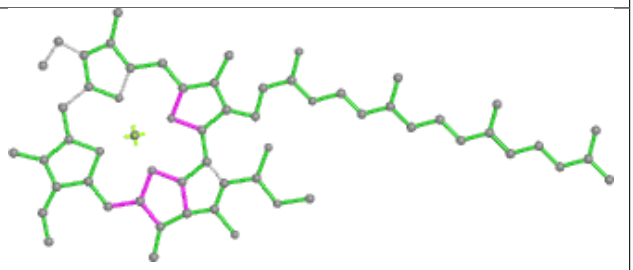


Rings

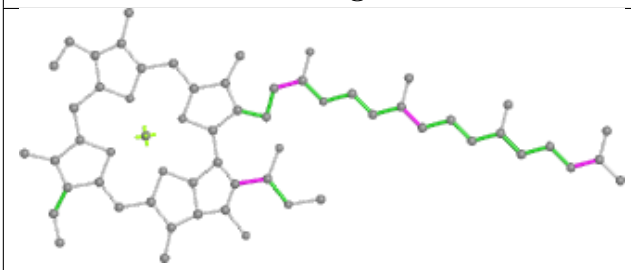
Ligand CLA h 209



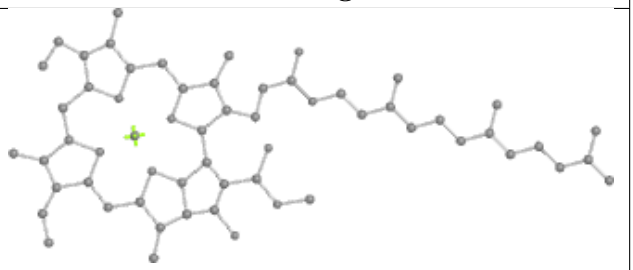
Bond lengths



Bond angles

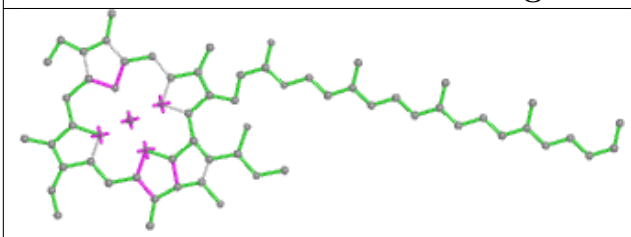


Torsions

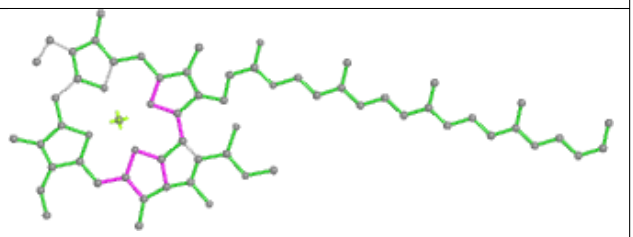


Rings

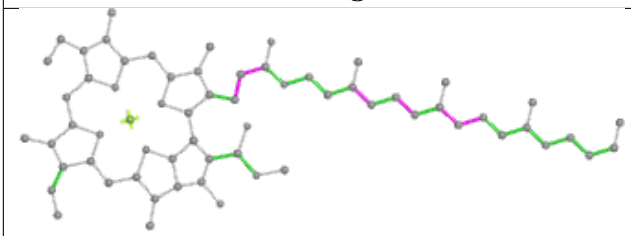
Ligand CLA B 801



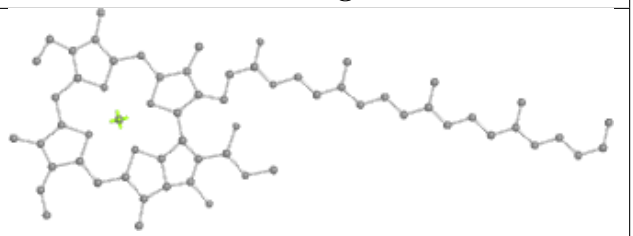
Bond lengths



Bond angles

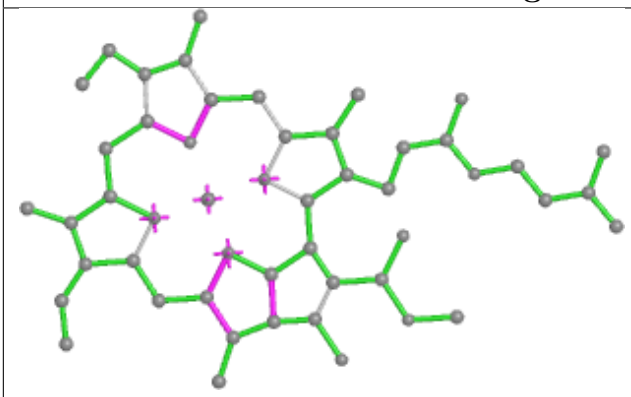


Torsions

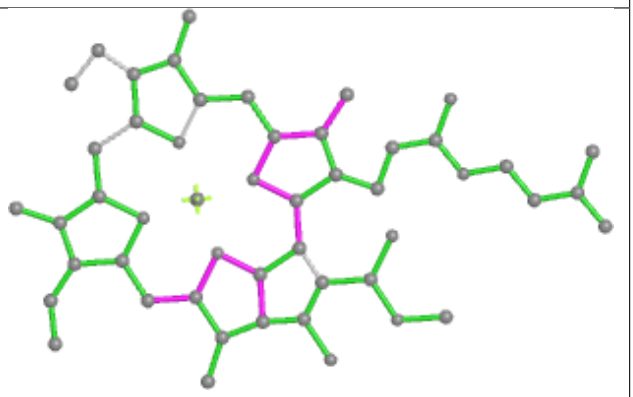


Rings

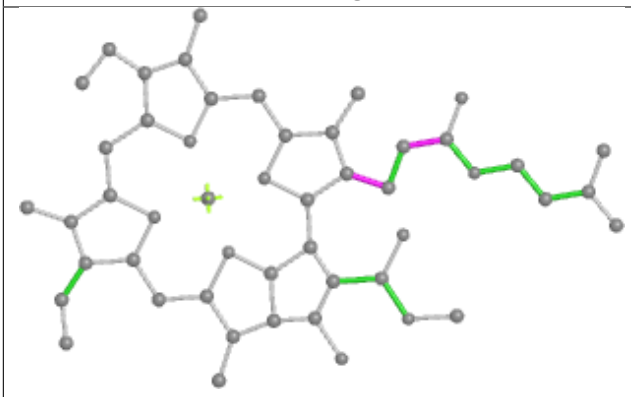
Ligand CLA A 810



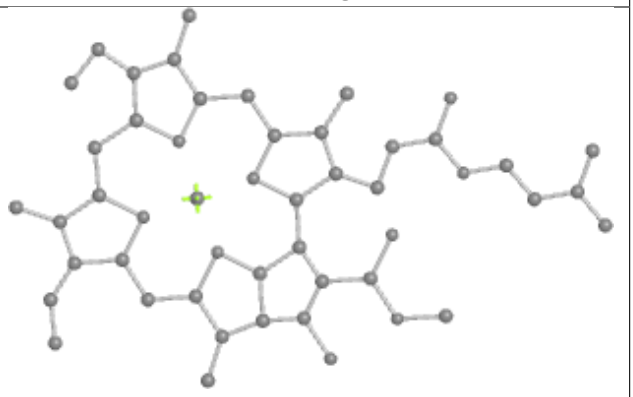
Bond lengths



Bond angles



Torsions



Rings

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.

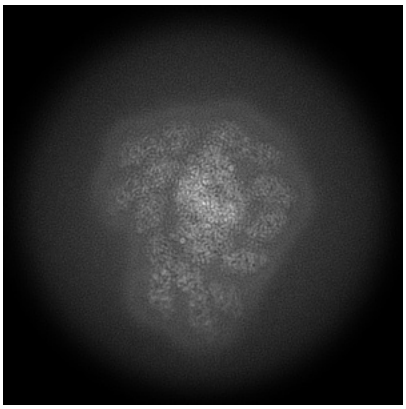
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-65121. These allow visual inspection of the internal detail of the map and identification of artifacts.

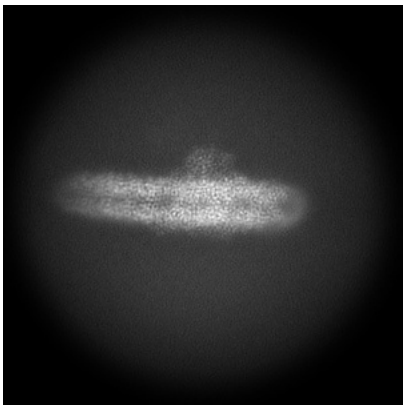
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

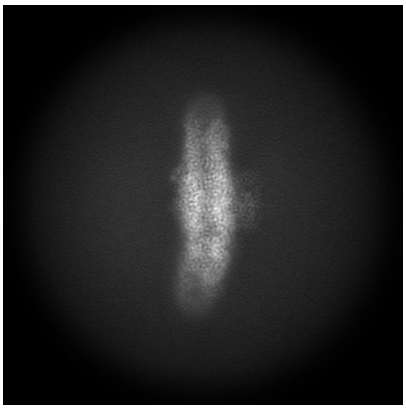
6.1.1 Primary map



X

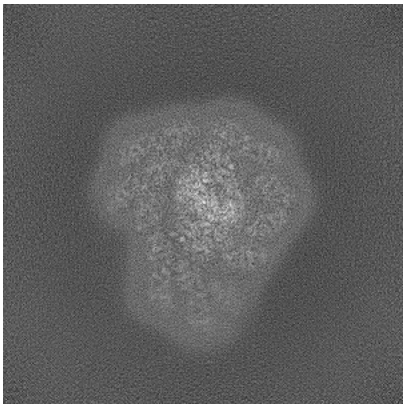


Y

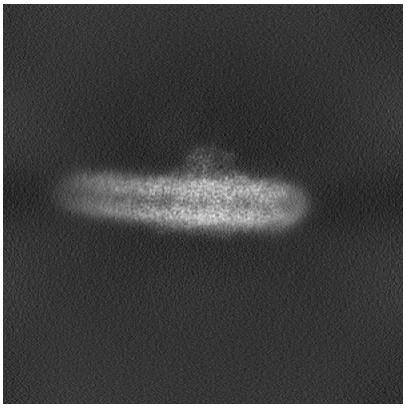


Z

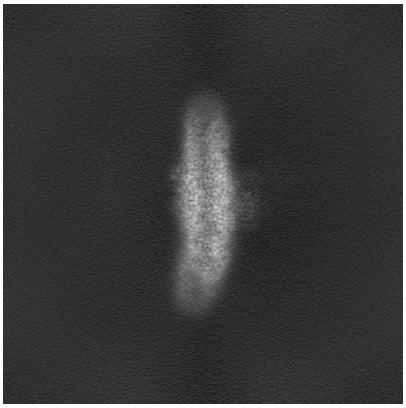
6.1.2 Raw map



X



Y

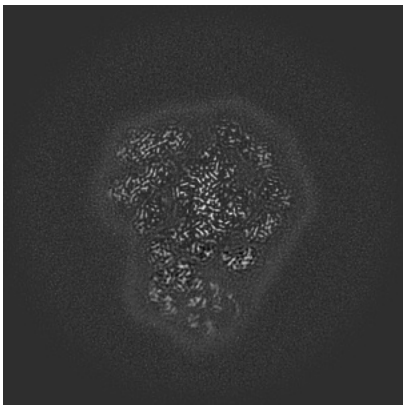


Z

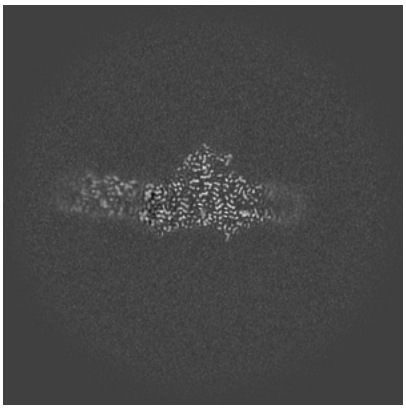
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

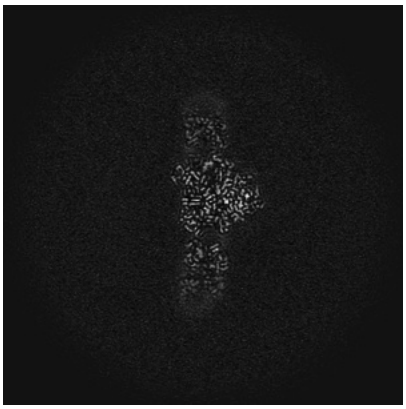
6.2.1 Primary map



X Index: 250

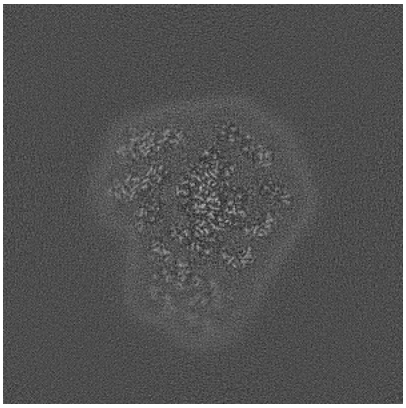


Y Index: 250

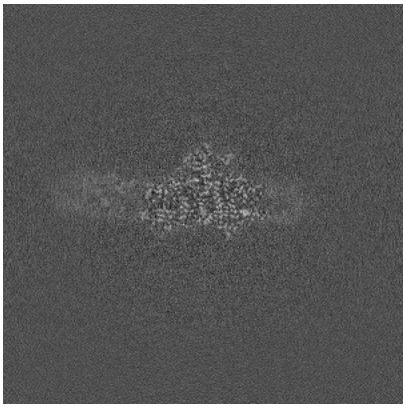


Z Index: 250

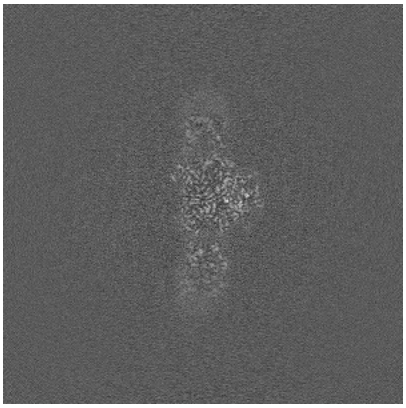
6.2.2 Raw map



X Index: 250



Y Index: 250

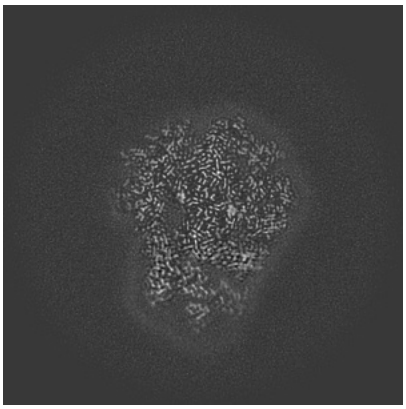


Z Index: 250

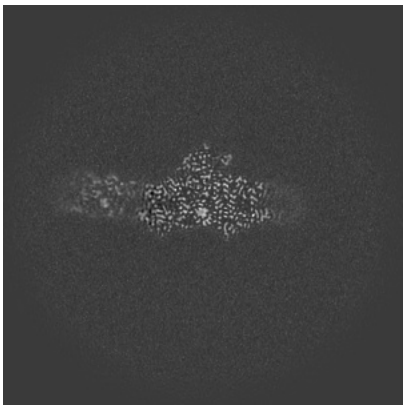
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

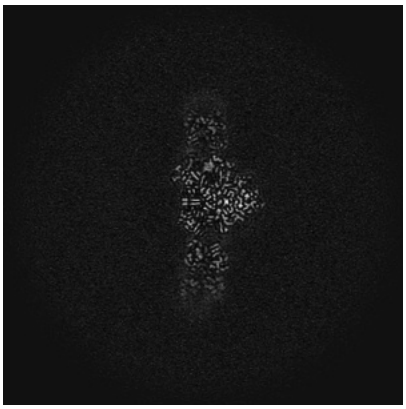
6.3.1 Primary map



X Index: 267

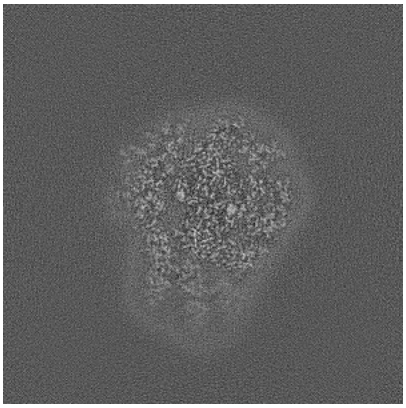


Y Index: 251

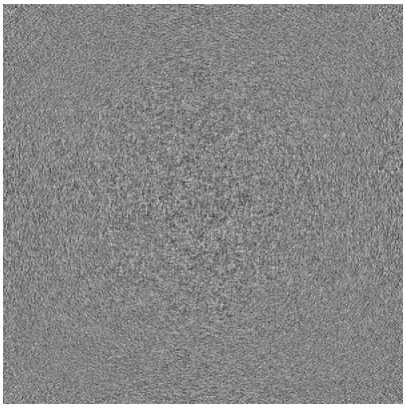


Z Index: 251

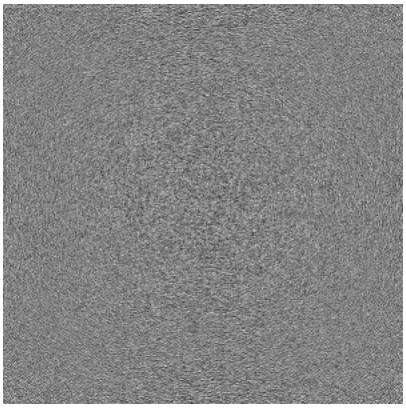
6.3.2 Raw map



X Index: 267



Y Index: 0

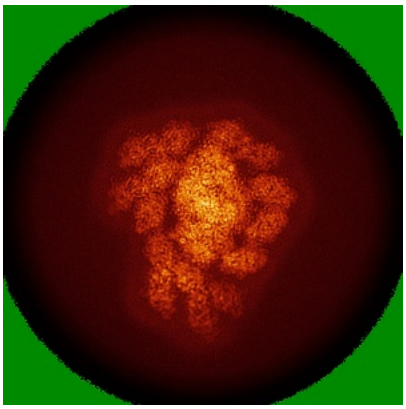


Z Index: 499

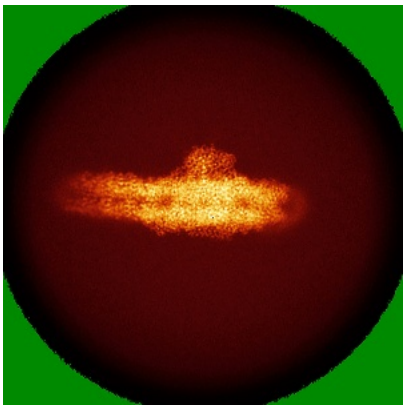
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

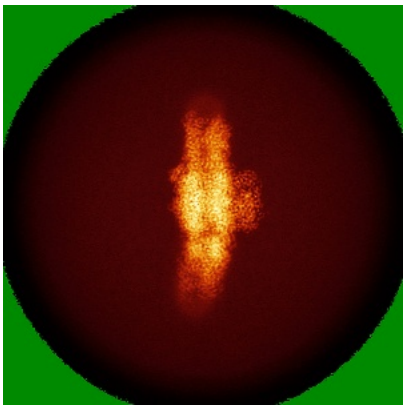
6.4.1 Primary map



X

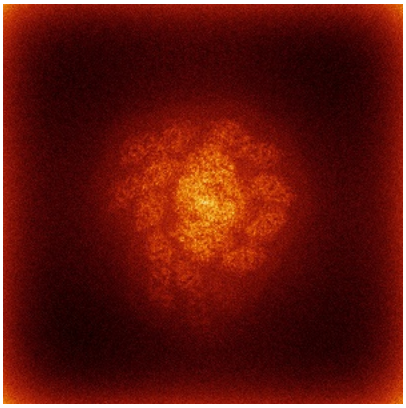


Y

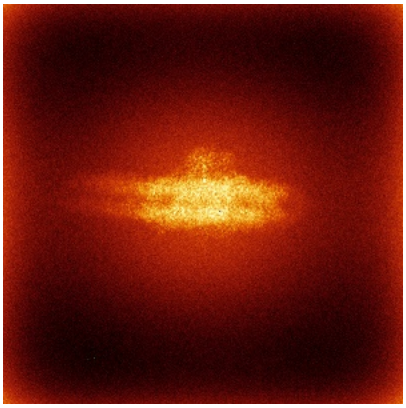


Z

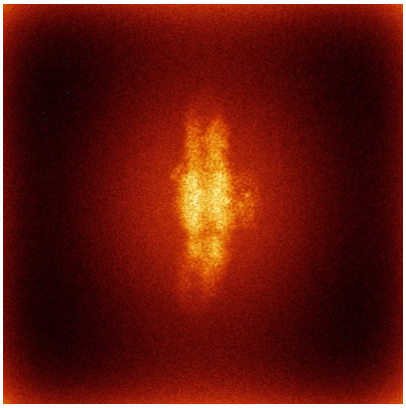
6.4.2 Raw map



X



Y



Z

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

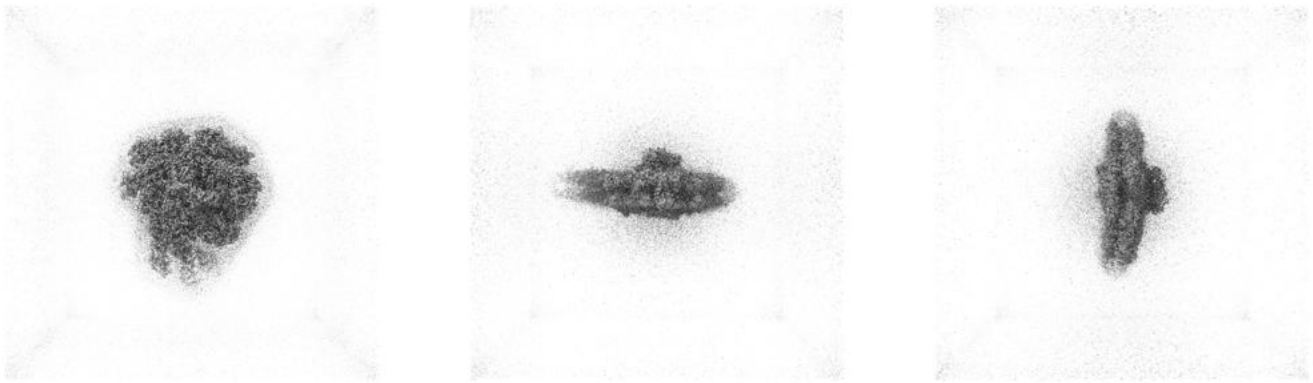
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.22. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

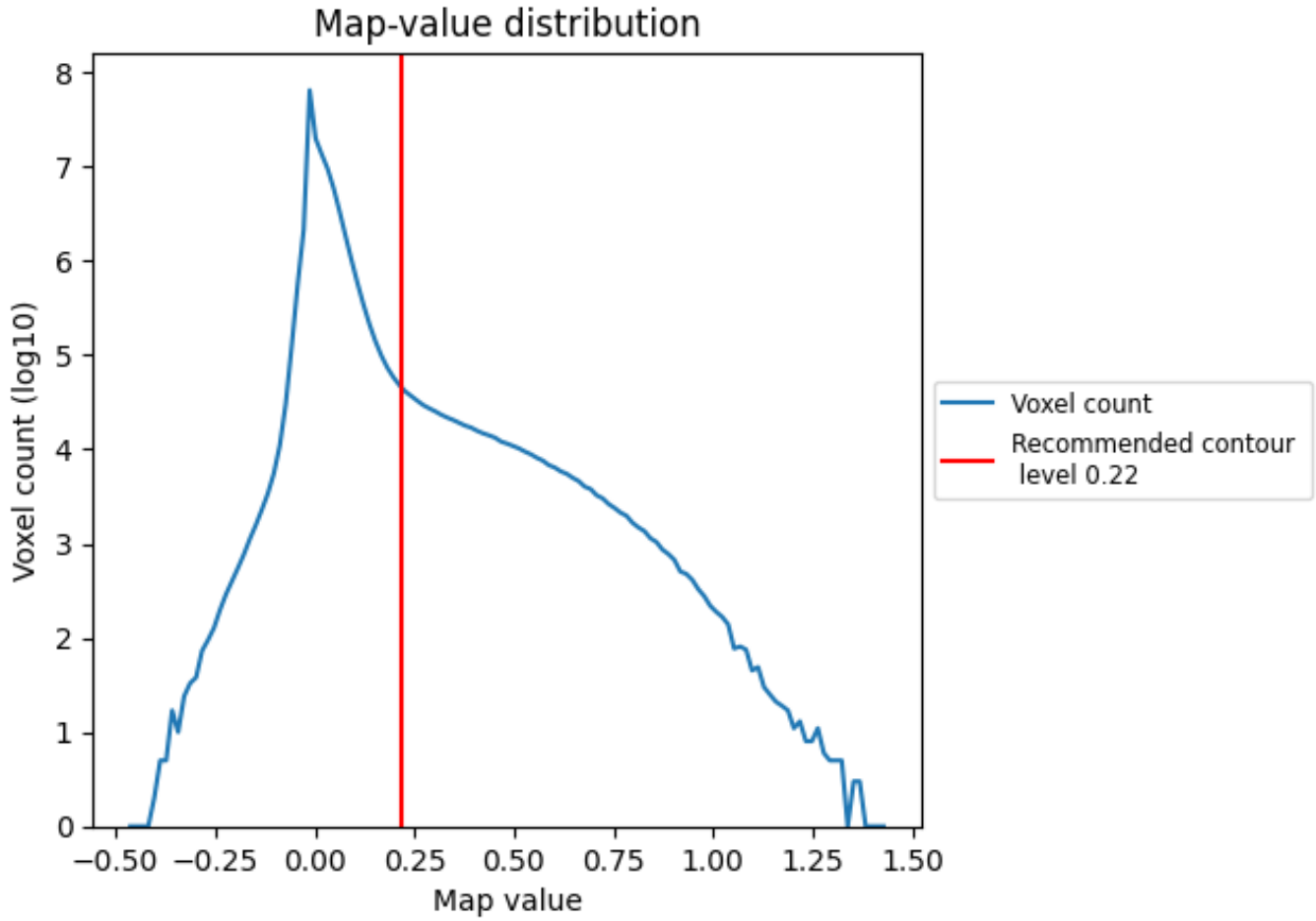
6.6 Mask visualisation (i)

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

7 Map analysis

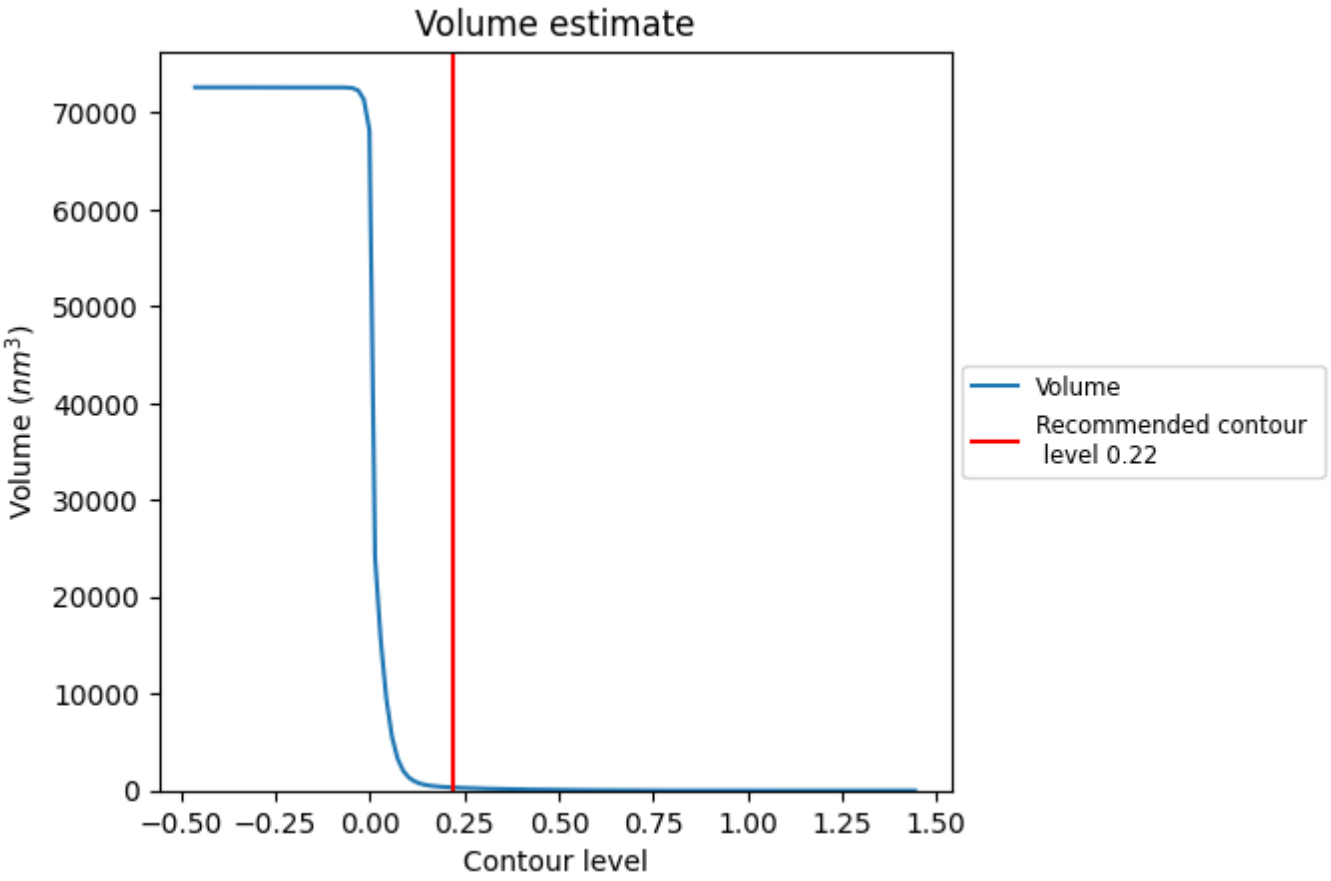
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

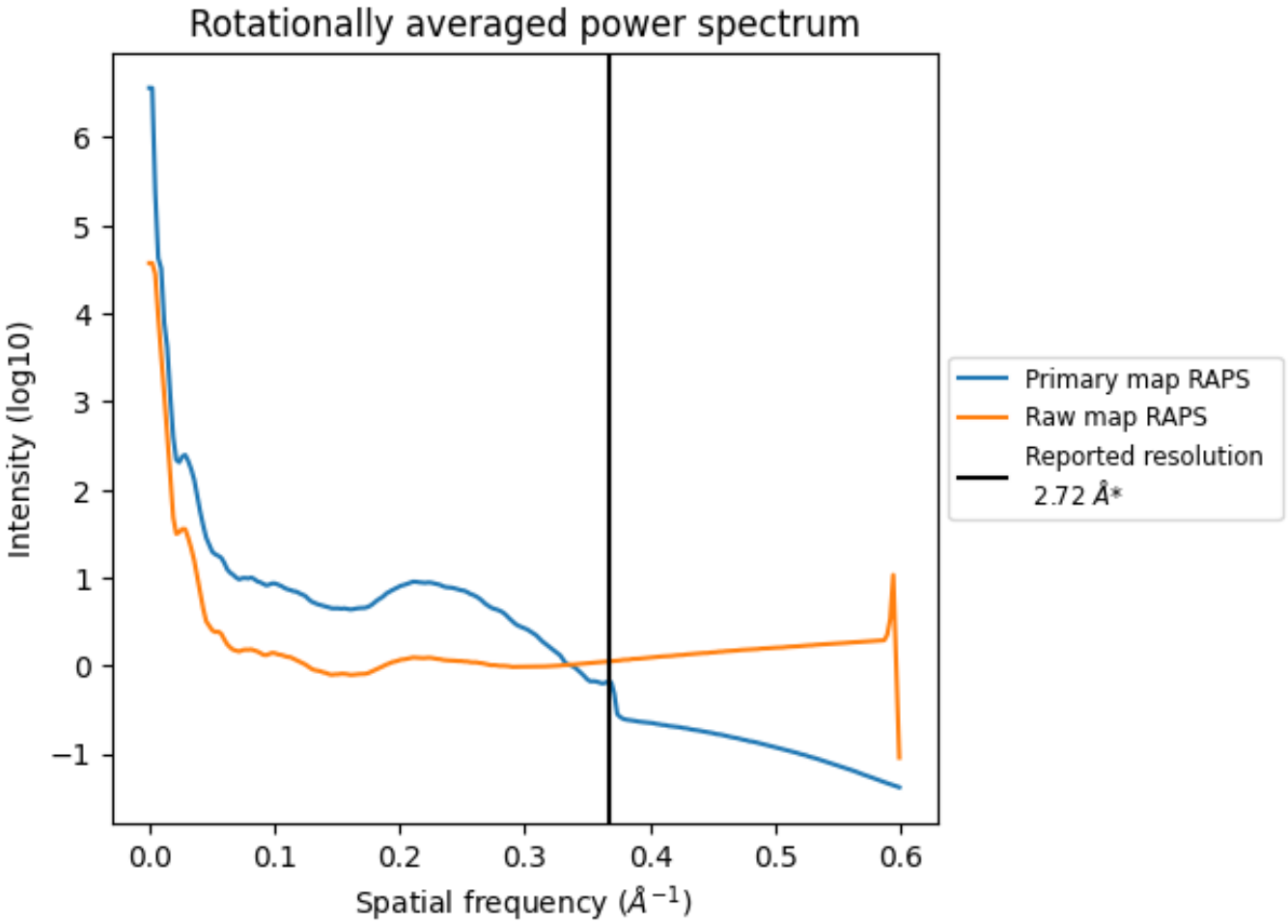
7.2 Volume estimate (i)



The volume at the recommended contour level is 315 nm^3; this corresponds to an approximate mass of 285 kDa.

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

7.3 Rotationally averaged power spectrum (i)

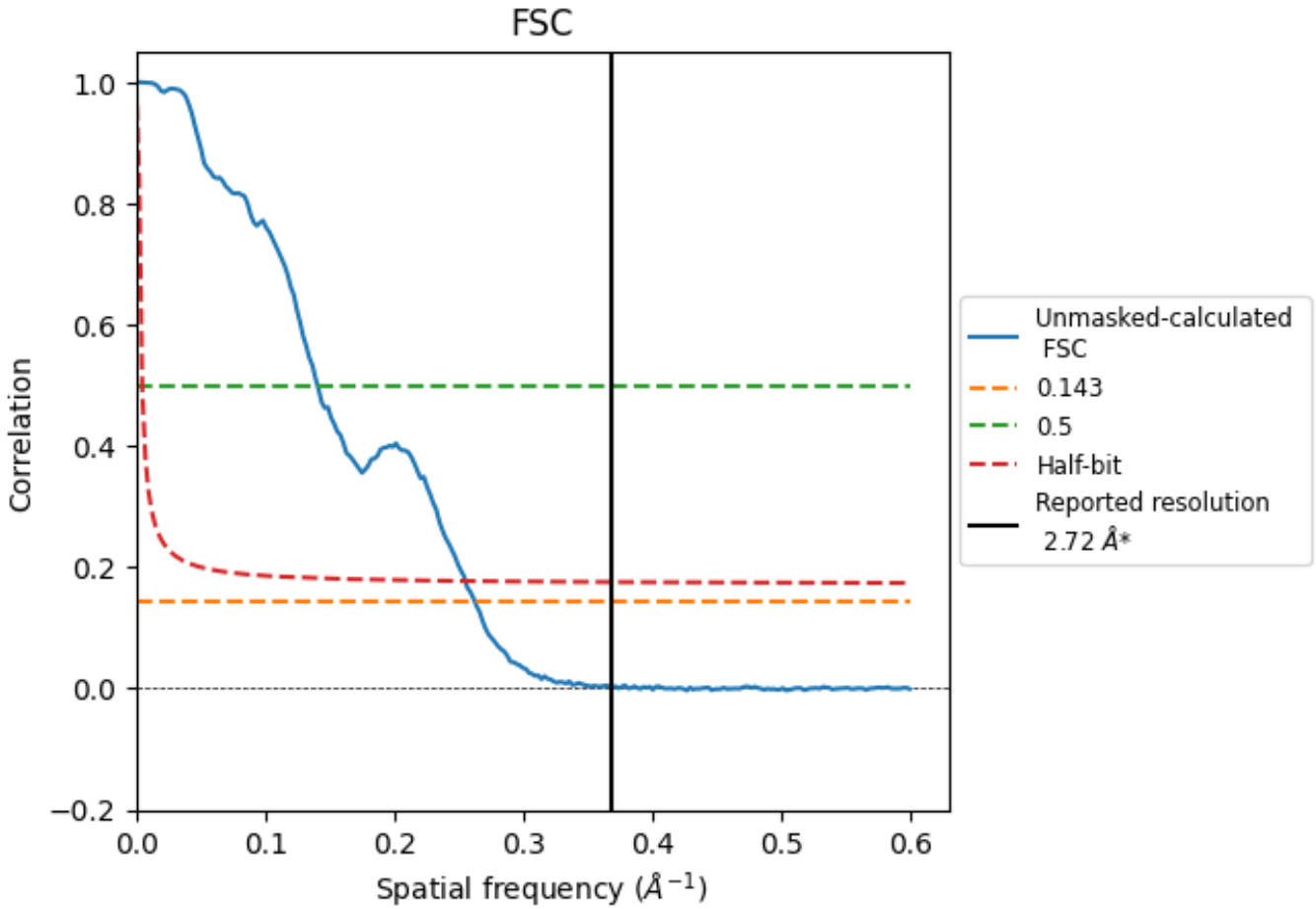


*Reported resolution corresponds to spatial frequency of 0.368 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.368 Å^{-1}

8.2 Resolution estimates (i)

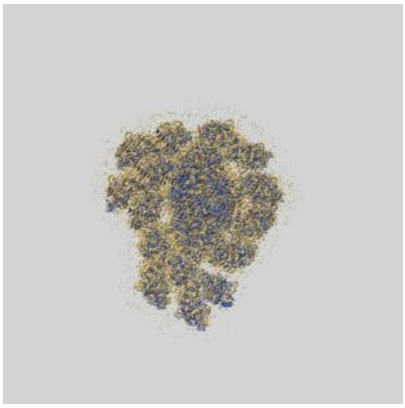
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.72	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.81	7.12	3.92

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.81 differs from the reported value 2.72 by more than 10 %

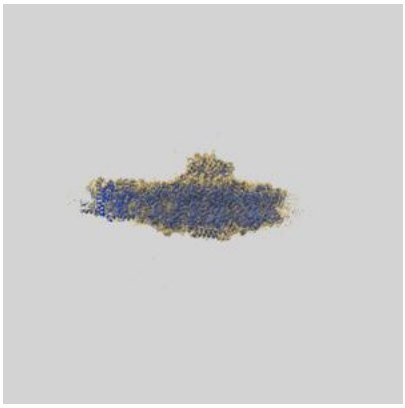
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-65121 and PDB model 9VJS. Per-residue inclusion information can be found in section 3 on page 37.

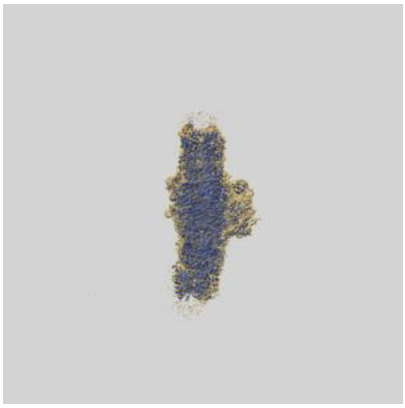
9.1 Map-model overlay



X



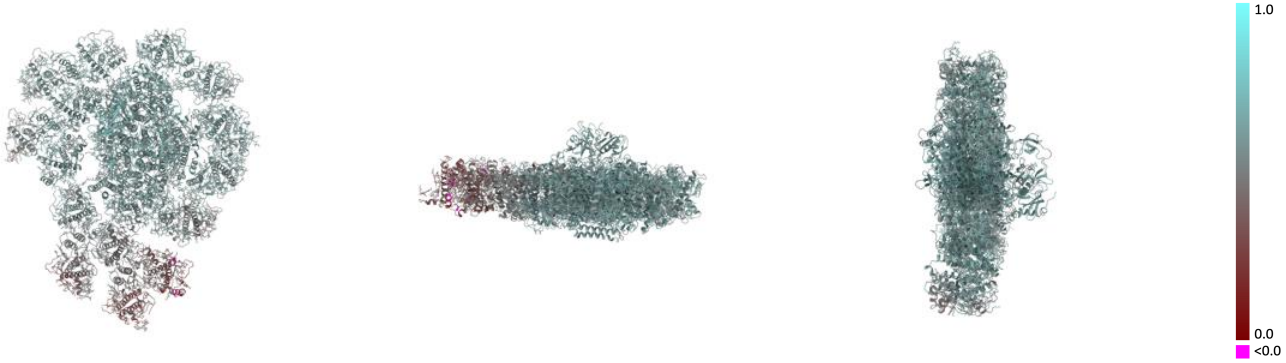
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.22 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.

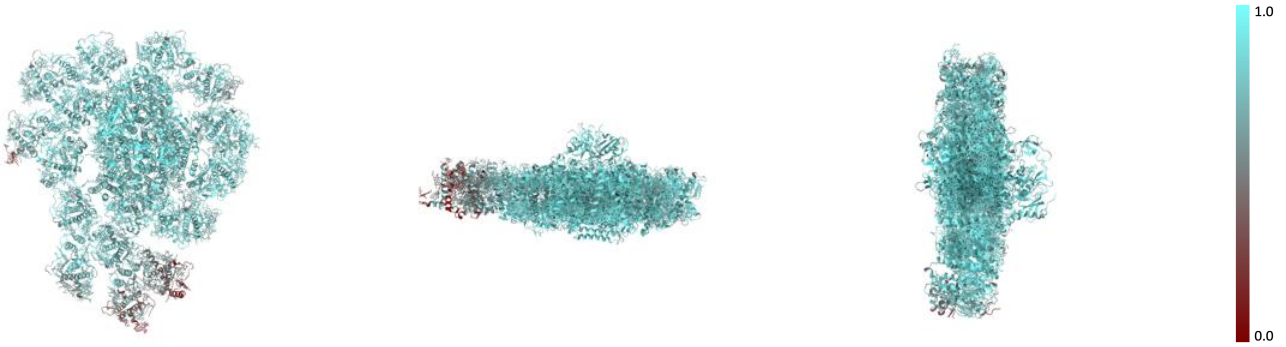
9.2 Q-score mapped to coordinate model



X Y Z

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.

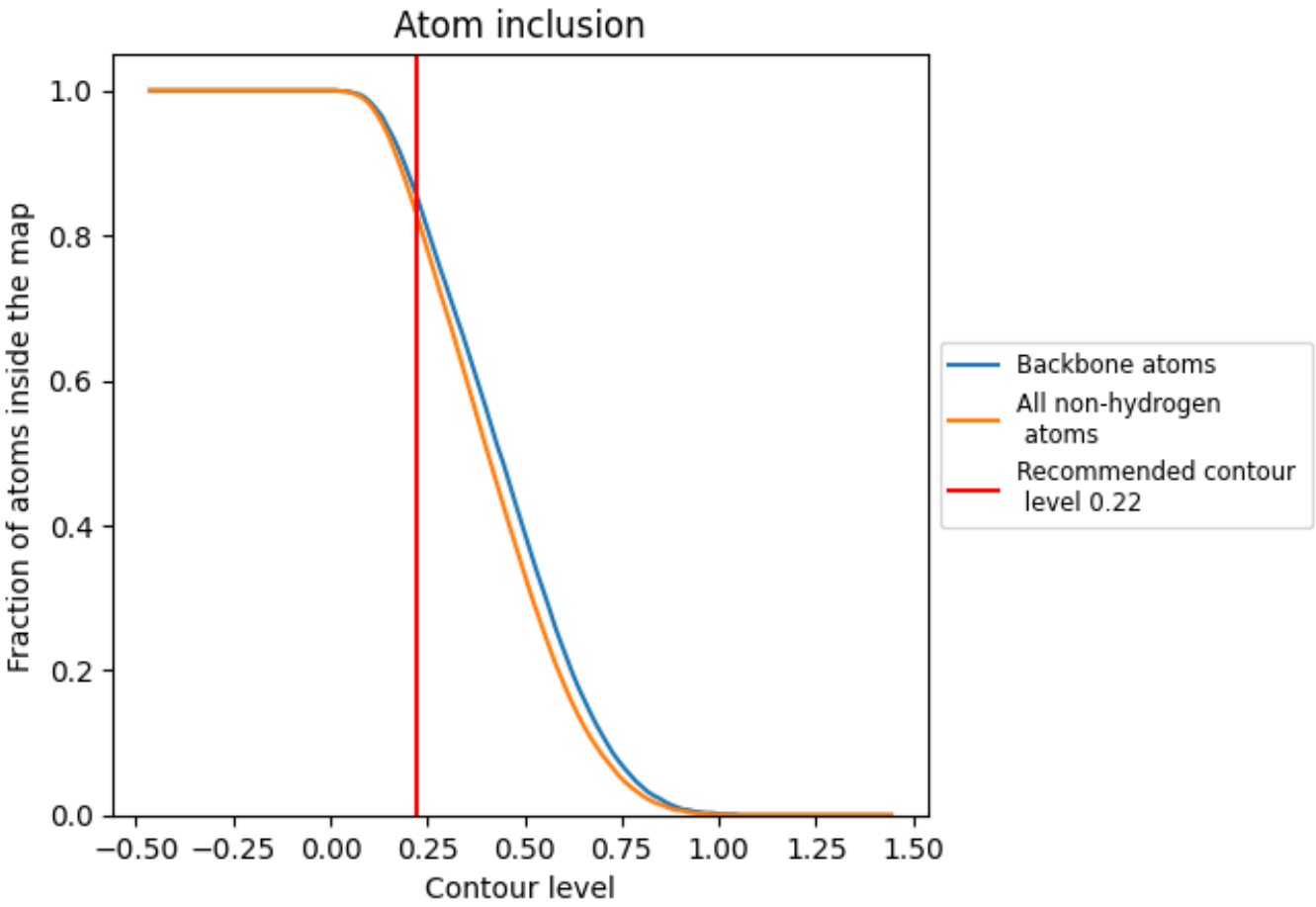
9.3 Atom inclusion mapped to coordinate model



X Y Z

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 (0.22).

9.4 Atom inclusion (i)



At the recommended contour level, 86% of all backbone atoms, 83% 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 (0.22) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8330	0.5710
A	0.9380	0.6360
B	0.9210	0.6160
C	0.9430	0.6200
D	0.8720	0.6140
E	0.8550	0.6040
F	0.8690	0.6070
J	0.8970	0.6150
M	0.8400	0.5830
a	0.8230	0.5250
b	0.8560	0.5880
c	0.8400	0.5980
d	0.7760	0.5790
e	0.8250	0.5930
f	0.8350	0.5860
g	0.9040	0.6140
h	0.8640	0.5950
i	0.8280	0.5570
j	0.7880	0.4850
k	0.7750	0.5630
l	0.6880	0.5250
m	0.7010	0.4350
n	0.4940	0.3690
o	0.4690	0.3550