wwPDB EM Validation Summary Report

Nov 15, 2022 – 09:18 AM JST

PDB ID	:	6L4T
EMDB ID	:	EMD-0834
Title	:	Structure of the peripheral FCPI from diatom
Authors	:	Nagao, R.; Kato, K.; Miyazaki, N.; Akita, F.; Shen, J.R.
Deposited on	:	2019-10-21
Resolution	:	2.60 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

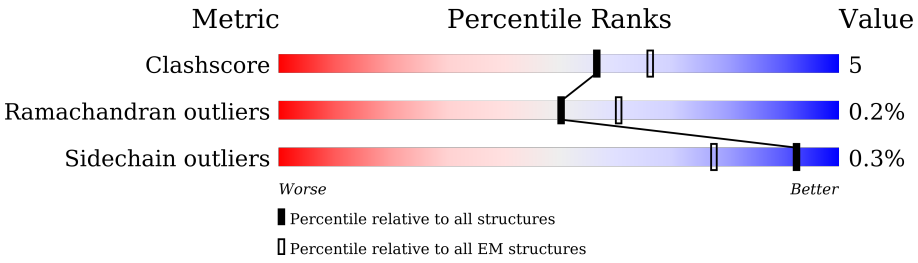
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

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 2.60 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=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	6	208	72% 12% 16%
2	7	296	59% 36%
3	8	270	69% 10% 21%
4	10	207	77% 18%
5	11	229	77% 6% 17%
6	12	204	79% 6% 15%
7	13	244	5% 52% 9% 39%
8	14	249	14% 74% 10% 16%

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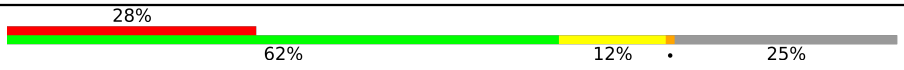
Mol	Chain	Length	Quality of chain
9	15	281	
10	16	218	

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
11	CLA	10	304	X	-	-	-
11	CLA	10	305	X	-	-	-
11	CLA	10	307	X	-	-	-
11	CLA	10	308	X	-	-	-
11	CLA	10	309	X	-	-	-
11	CLA	11	305	X	-	-	-
11	CLA	11	307	X	-	-	-
11	CLA	11	309	X	-	-	-
11	CLA	12	303	X	-	-	-
11	CLA	12	304	X	-	-	-
11	CLA	12	306	X	-	-	-
11	CLA	12	307	X	-	-	-
11	CLA	12	308	X	-	-	-
11	CLA	12	312	X	-	-	-
11	CLA	12	321	X	-	-	-
11	CLA	13	302	X	-	-	-
11	CLA	13	307	X	-	-	-
11	CLA	13	309	X	-	-	-
11	CLA	14	302	X	-	-	-
11	CLA	14	303	X	-	-	-
11	CLA	14	304	X	-	-	-
11	CLA	14	305	X	-	-	-
11	CLA	14	309	X	-	-	-
11	CLA	14	310	X	-	-	-
11	CLA	14	313	X	-	-	-
11	CLA	15	303	X	-	-	-
11	CLA	15	304	X	-	-	-
11	CLA	15	305	X	-	-	-
11	CLA	15	306	X	-	-	-
11	CLA	15	307	X	-	-	-
11	CLA	15	308	X	-	-	-
11	CLA	15	309	X	-	-	-
11	CLA	15	310	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
11	CLA	15	311	X	-	-	-
11	CLA	15	312	X	-	-	-
11	CLA	16	302	X	-	-	-
11	CLA	16	303	X	-	-	-
11	CLA	16	305	X	-	-	-
11	CLA	16	306	X	-	-	-
11	CLA	16	307	X	-	-	-
11	CLA	16	308	X	-	-	-
11	CLA	16	310	X	-	-	-
11	CLA	6	301	X	-	-	-
11	CLA	6	302	X	-	-	-
11	CLA	6	303	X	-	-	-
11	CLA	6	304	X	-	-	-
11	CLA	6	306	X	-	-	-
11	CLA	6	307	X	-	-	-
11	CLA	6	312	X	-	-	-
11	CLA	6	313	X	-	-	-
11	CLA	6	314	X	-	-	-
11	CLA	7	302	X	-	-	-
11	CLA	7	303	X	-	-	-
11	CLA	7	304	X	-	-	-
11	CLA	7	305	X	-	-	-
11	CLA	7	308	X	-	-	-
11	CLA	7	309	X	-	-	-
11	CLA	7	310	X	-	-	-
11	CLA	8	301	X	-	-	-
11	CLA	8	302	X	-	-	-
11	CLA	8	303	X	-	-	-
11	CLA	8	304	X	-	-	-
11	CLA	8	308	X	-	-	-

2 Entry composition (i)

There are 18 unique types of molecules in this entry. The entry contains 23863 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 Fucoxanthin chlorophyll a/c-binding protein Lhcr12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	6	174	1354	884	216	246	8	0	0

- Molecule 2 is a protein called Fucoxanthin chlorophyll a/c-binding protein Lhcr10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	7	188	1416	894	240	266	16	0	0

- Molecule 3 is a protein called Fucoxanthin chlorophyll a/c-binding protein Lhcr4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	8	213	1660	1075	274	302	9	0	0

- Molecule 4 is a protein called Fucoxanthin chlorophyll a/c-binding protein Lhcr3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	10	169	1302	849	212	233	8	0	0

- Molecule 5 is a protein called Fucoxanthin chlorophyll a/c-binding protein Lhcq13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	11	191	1479	958	243	270	8	0	0

- Molecule 6 is a protein called Fucoxanthin chlorophyll a/c-binding protein Lhcq3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	12	173	1274	814	209	243	8	0	0

- Molecule 7 is a protein called Fucoxanthin chlorophyll a/c-binding protein Lhcq11.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	13	150	Total	C	N	O	S	0	0
			1148	736	203	204	5		

- Molecule 8 is a protein called Fucoxanthin chlorophyll a/c-binding protein Lhcq10.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	14	208	Total	C	N	O	S	0	0
			1609	1049	262	292	6		

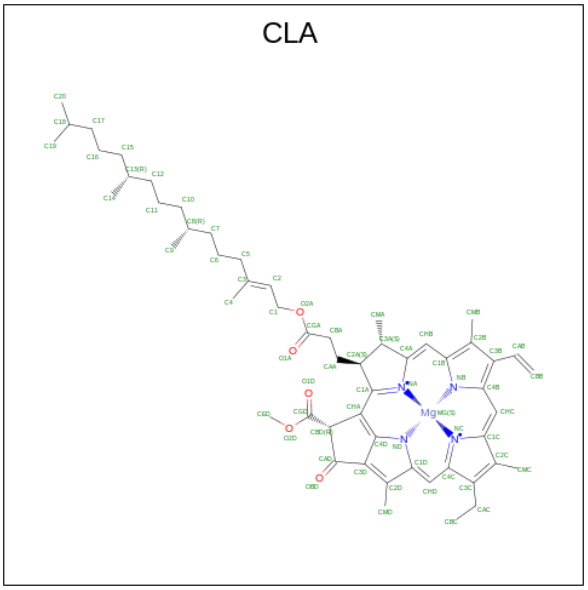
- Molecule 9 is a protein called Fucoxanthin chlorophyll a/c-binding protein Lhcq8.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	15	211	Total	C	N	O	S	0	0
			1654	1077	273	298	6		

- Molecule 10 is a protein called Fucoxanthin chlorophyll a/c-binding protein Lhcq5.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	16	174	Total	C	N	O	S	0	0
			1313	846	217	242	8		

- Molecule 11 is CHLOROPHYLL A (three-letter code: CLA) (formula: $C_{55}H_{72}MgN_4O_5$).



Mol	Chain	Residues	Atoms					AltConf
11	6	1	Total 620	C 520	Mg 10	N 40	O 50	0
11	6	1	Total 620	C 520	Mg 10	N 40	O 50	0
11	6	1	Total 620	C 520	Mg 10	N 40	O 50	0
11	6	1	Total 620	C 520	Mg 10	N 40	O 50	0
11	6	1	Total 620	C 520	Mg 10	N 40	O 50	0
11	6	1	Total 620	C 520	Mg 10	N 40	O 50	0
11	6	1	Total 620	C 520	Mg 10	N 40	O 50	0
11	6	1	Total 620	C 520	Mg 10	N 40	O 50	0
11	6	1	Total 620	C 520	Mg 10	N 40	O 50	0
11	6	1	Total 620	C 520	Mg 10	N 40	O 50	0
11	7	1	Total 566	C 476	Mg 9	N 36	O 45	0
11	7	1	Total 566	C 476	Mg 9	N 36	O 45	0
11	7	1	Total 566	C 476	Mg 9	N 36	O 45	0
11	7	1	Total 566	C 476	Mg 9	N 36	O 45	0
11	7	1	Total 566	C 476	Mg 9	N 36	O 45	0
11	7	1	Total 566	C 476	Mg 9	N 36	O 45	0
11	7	1	Total 566	C 476	Mg 9	N 36	O 45	0
11	7	1	Total 566	C 476	Mg 9	N 36	O 45	0
11	7	1	Total 566	C 476	Mg 9	N 36	O 45	0
11	8	1	Total 420	C 350	Mg 7	N 28	O 35	0
11	8	1	Total 420	C 350	Mg 7	N 28	O 35	0
11	8	1	Total 420	C 350	Mg 7	N 28	O 35	0

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Mol	Chain	Residues	Atoms	AltConf
11	8	1	Total C Mg N O 420 350 7 28 35	0
11	8	1	Total C Mg N O 420 350 7 28 35	0
11	8	1	Total C Mg N O 420 350 7 28 35	0
11	8	1	Total C Mg N O 420 350 7 28 35	0
11	10	1	Total C Mg N O 435 365 7 28 35	0
11	10	1	Total C Mg N O 435 365 7 28 35	0
11	10	1	Total C Mg N O 435 365 7 28 35	0
11	10	1	Total C Mg N O 435 365 7 28 35	0
11	10	1	Total C Mg N O 435 365 7 28 35	0
11	10	1	Total C Mg N O 435 365 7 28 35	0
11	10	1	Total C Mg N O 435 365 7 28 35	0
11	11	1	Total C Mg N O 315 265 5 20 25	0
11	11	1	Total C Mg N O 315 265 5 20 25	0
11	11	1	Total C Mg N O 315 265 5 20 25	0
11	11	1	Total C Mg N O 315 265 5 20 25	0
11	11	1	Total C Mg N O 315 265 5 20 25	0
11	12	1	Total C Mg N O 566 476 9 36 45	0
11	12	1	Total C Mg N O 566 476 9 36 45	0
11	12	1	Total C Mg N O 566 476 9 36 45	0
11	12	1	Total C Mg N O 566 476 9 36 45	0
11	12	1	Total C Mg N O 566 476 9 36 45	0

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Mol	Chain	Residues	Atoms					AltConf
11	12	1	Total 566	C 476	Mg 9	N 36	O 45	0
11	12	1	Total 566	C 476	Mg 9	N 36	O 45	0
11	12	1	Total 566	C 476	Mg 9	N 36	O 45	0
11	12	1	Total 566	C 476	Mg 9	N 36	O 45	0
11	13	1	Total 350	C 290	Mg 6	N 24	O 30	0
11	13	1	Total 350	C 290	Mg 6	N 24	O 30	0
11	13	1	Total 350	C 290	Mg 6	N 24	O 30	0
11	13	1	Total 350	C 290	Mg 6	N 24	O 30	0
11	13	1	Total 350	C 290	Mg 6	N 24	O 30	0
11	13	1	Total 350	C 290	Mg 6	N 24	O 30	0
11	14	1	Total 468	C 378	Mg 9	N 36	O 45	0
11	14	1	Total 468	C 378	Mg 9	N 36	O 45	0
11	14	1	Total 468	C 378	Mg 9	N 36	O 45	0
11	14	1	Total 468	C 378	Mg 9	N 36	O 45	0
11	14	1	Total 468	C 378	Mg 9	N 36	O 45	0
11	14	1	Total 468	C 378	Mg 9	N 36	O 45	0
11	14	1	Total 468	C 378	Mg 9	N 36	O 45	0
11	14	1	Total 468	C 378	Mg 9	N 36	O 45	0
11	14	1	Total 468	C 378	Mg 9	N 36	O 45	0
11	15	1	Total 685	C 555	Mg 13	N 52	O 65	0
11	15	1	Total 685	C 555	Mg 13	N 52	O 65	0

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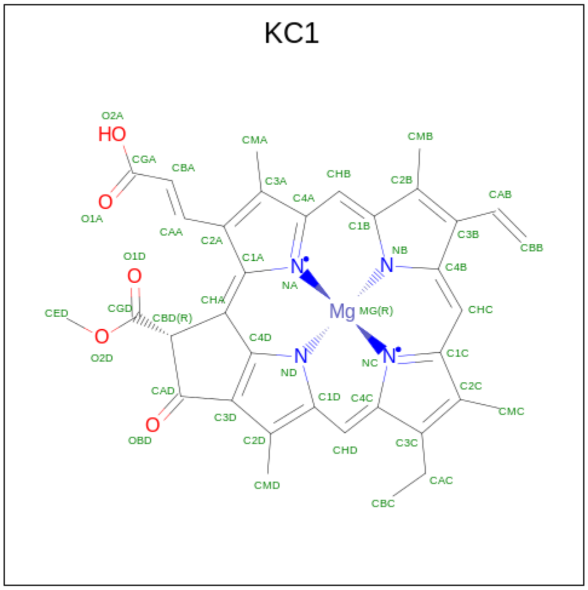
Mol	Chain	Residues	Atoms					AltConf
11	15	1	Total 685	C 555	Mg 13	N 52	O 65	0
11	15	1	Total 685	C 555	Mg 13	N 52	O 65	0
11	15	1	Total 685	C 555	Mg 13	N 52	O 65	0
11	15	1	Total 685	C 555	Mg 13	N 52	O 65	0
11	15	1	Total 685	C 555	Mg 13	N 52	O 65	0
11	15	1	Total 685	C 555	Mg 13	N 52	O 65	0
11	15	1	Total 685	C 555	Mg 13	N 52	O 65	0
11	15	1	Total 685	C 555	Mg 13	N 52	O 65	0
11	15	1	Total 685	C 555	Mg 13	N 52	O 65	0
11	15	1	Total 685	C 555	Mg 13	N 52	O 65	0
11	15	1	Total 685	C 555	Mg 13	N 52	O 65	0
11	16	1	Total 478	C 388	Mg 9	N 36	O 45	0
11	16	1	Total 478	C 388	Mg 9	N 36	O 45	0
11	16	1	Total 478	C 388	Mg 9	N 36	O 45	0
11	16	1	Total 478	C 388	Mg 9	N 36	O 45	0
11	16	1	Total 478	C 388	Mg 9	N 36	O 45	0
11	16	1	Total 478	C 388	Mg 9	N 36	O 45	0
11	16	1	Total 478	C 388	Mg 9	N 36	O 45	0
11	16	1	Total 478	C 388	Mg 9	N 36	O 45	0
11	16	1	Total 478	C 388	Mg 9	N 36	O 45	0

- Molecule 12 is Chlorophyll c1 (three-letter code: KC1) (formula: $C_{35}H_{30}MgN_4O_5$).



Mol	Chain	Residues	Atoms	AltConf
12	6	1	Total C Mg N O 180 140 4 16 20	0
12	6	1	Total C Mg N O 180 140 4 16 20	0
12	6	1	Total C Mg N O 180 140 4 16 20	0
12	6	1	Total C Mg N O 180 140 4 16 20	0
12	7	1	Total C Mg N O 90 70 2 8 10	0
12	7	1	Total C Mg N O 90 70 2 8 10	0
12	8	1	Total C Mg N O 315 245 7 28 35	0
12	8	1	Total C Mg N O 315 245 7 28 35	0
12	8	1	Total C Mg N O 315 245 7 28 35	0
12	8	1	Total C Mg N O 315 245 7 28 35	0
12	8	1	Total C Mg N O 315 245 7 28 35	0
12	8	1	Total C Mg N O 315 245 7 28 35	0
12	8	1	Total C Mg N O 315 245 7 28 35	0
12	10	1	Total C Mg N O 135 105 3 12 15	0

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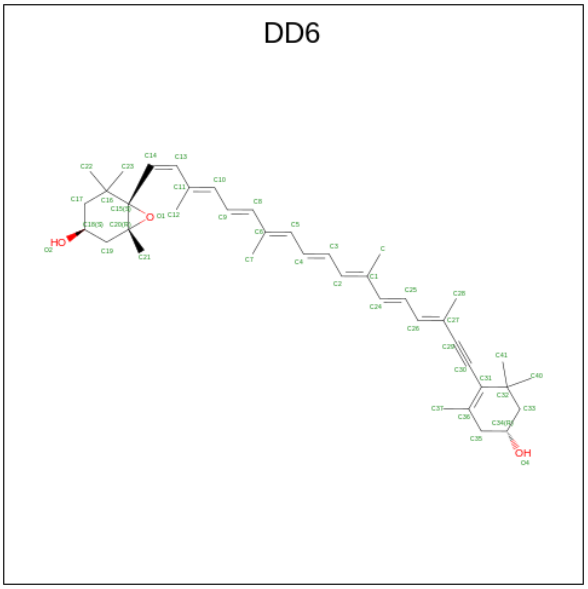
Mol	Chain	Residues	Atoms	AltConf
12	10	1	Total C Mg N O 135 105 3 12 15	0
12	10	1	Total C Mg N O 135 105 3 12 15	0
12	11	1	Total C Mg N O 180 140 4 16 20	0
12	11	1	Total C Mg N O 180 140 4 16 20	0
12	11	1	Total C Mg N O 180 140 4 16 20	0
12	11	1	Total C Mg N O 180 140 4 16 20	0
12	12	1	Total C Mg N O 180 140 4 16 20	0
12	12	1	Total C Mg N O 180 140 4 16 20	0
12	12	1	Total C Mg N O 180 140 4 16 20	0
12	12	1	Total C Mg N O 180 140 4 16 20	0
12	13	1	Total C Mg N O 270 210 6 24 30	0
12	13	1	Total C Mg N O 270 210 6 24 30	0
12	13	1	Total C Mg N O 270 210 6 24 30	0
12	13	1	Total C Mg N O 270 210 6 24 30	0
12	13	1	Total C Mg N O 270 210 6 24 30	0
12	13	1	Total C Mg N O 270 210 6 24 30	0
12	14	1	Total C Mg N O 135 105 3 12 15	0
12	14	1	Total C Mg N O 135 105 3 12 15	0
12	14	1	Total C Mg N O 135 105 3 12 15	0
12	16	1	Total C Mg N O 90 70 2 8 10	0
12	16	1	Total C Mg N O 90 70 2 8 10	0

- Molecule 13 is (3S,3'R,5R,6S,7cis)-7',8'-didehydro-5,6-dihydro-5,6-epoxy-beta,beta-carotene -3,3'-diol (three-letter code: DD6) (formula: $C_{40}H_{54}O_3$).



Mol	Chain	Residues	Atoms	AltConf
13	6	1	Total C O 129 120 9	0
13	6	1	Total C O 129 120 9	0
13	6	1	Total C O 129 120 9	0
13	7	1	Total C O 172 160 12	0
13	7	1	Total C O 172 160 12	0
13	7	1	Total C O 172 160 12	0
13	7	1	Total C O 172 160 12	0
13	8	1	Total C O 86 80 6	0
13	8	1	Total C O 86 80 6	0
13	10	1	Total C O 86 80 6	0
13	10	1	Total C O 86 80 6	0
13	11	1	Total C O 43 40 3	0

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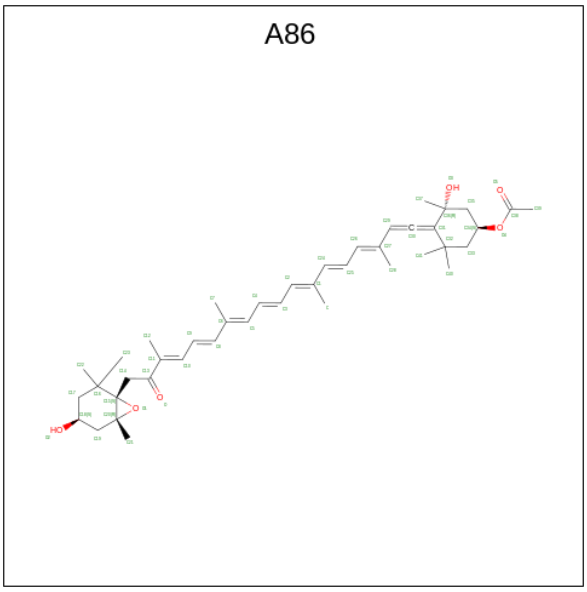
Mol	Chain	Residues	Atoms	AltConf
13	12	1	Total C O 86 80 6	0
13	12	1	Total C O 86 80 6	0
13	13	1	Total C O 43 40 3	0
13	15	1	Total C O 86 80 6	0
13	15	1	Total C O 86 80 6	0
13	16	1	Total C O 43 40 3	0

- Molecule 14 is (3S,3'S,5R,5'R,6S,6'R,8'R)-3,5'-dihydroxy-8-oxo-6',7'-didehydro-5,5',6,6',7,8-hexahydro-5,6-epoxy-beta,beta-caroten-3'-yl acetate (three-letter code: A86) (formula: $C_{42}H_{58}O_6$).



Mol	Chain	Residues	Atoms	AltConf
14	6	1	Total C O 48 42 6	0
14	7	1	Total C O 144 126 18	0
14	7	1	Total C O 144 126 18	0
14	7	1	Total C O 144 126 18	0

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Mol	Chain	Residues	Atoms	AltConf
14	8	1	Total C O 96 84 12	0
14	8	1	Total C O 96 84 12	0
14	10	1	Total C O 240 210 30	0
14	10	1	Total C O 240 210 30	0
14	10	1	Total C O 240 210 30	0
14	10	1	Total C O 240 210 30	0
14	10	1	Total C O 240 210 30	0
14	11	1	Total C O 192 168 24	0
14	11	1	Total C O 192 168 24	0
14	11	1	Total C O 192 168 24	0
14	11	1	Total C O 192 168 24	0
14	12	1	Total C O 96 84 12	0
14	12	1	Total C O 96 84 12	0
14	13	1	Total C O 93 82 11	0
14	13	1	Total C O 93 82 11	0
14	14	1	Total C O 432 378 54	0
14	14	1	Total C O 432 378 54	0
14	14	1	Total C O 432 378 54	0
14	14	1	Total C O 432 378 54	0
14	14	1	Total C O 432 378 54	0
14	14	1	Total C O 432 378 54	0

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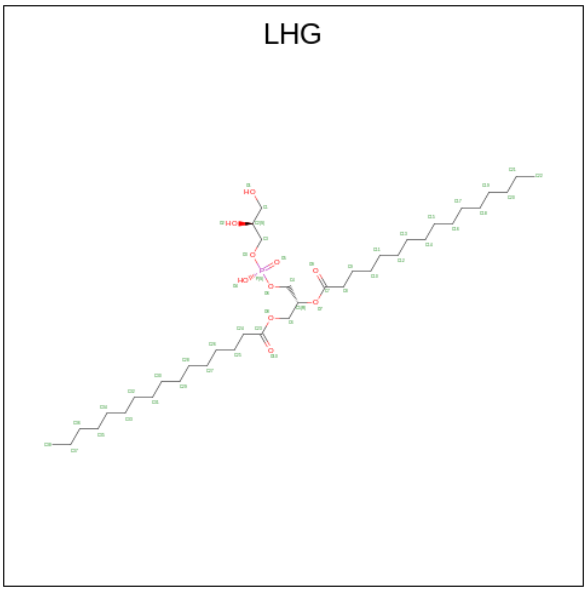
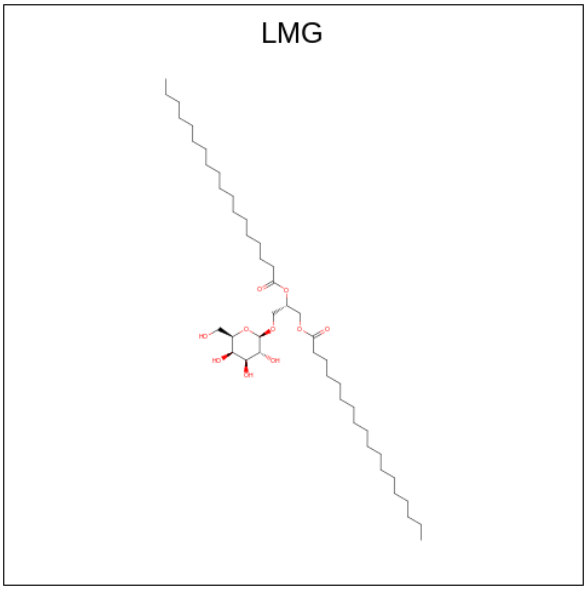
Mol	Chain	Residues	Atoms			AltConf
14	14	1	Total 432	C 378	O 54	0
14	14	1	Total 432	C 378	O 54	0
14	14	1	Total 432	C 378	O 54	0
14	15	1	Total 288	C 252	O 36	0
14	15	1	Total 288	C 252	O 36	0
14	15	1	Total 288	C 252	O 36	0
14	15	1	Total 288	C 252	O 36	0
14	15	1	Total 288	C 252	O 36	0
14	15	1	Total 288	C 252	O 36	0
14	16	1	Total 96	C 84	O 12	0
14	16	1	Total 96	C 84	O 12	0

- Molecule 15 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (three-letter code: LHG) (formula: $C_{38}H_{75}O_{10}P$).



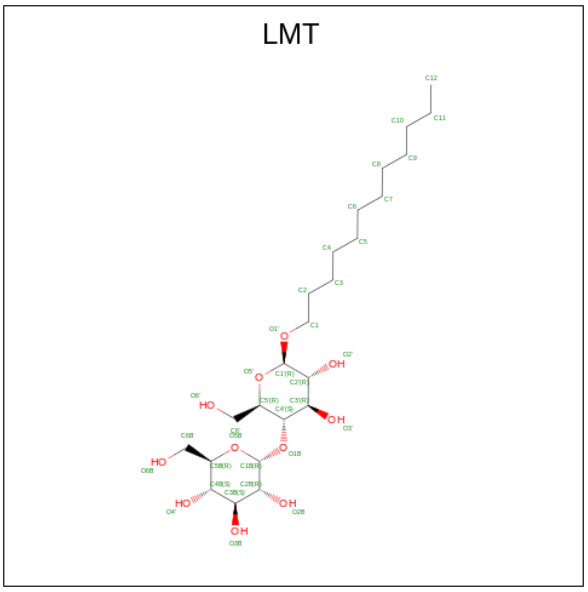
Mol	Chain	Residues	Atoms				AltConf
15	6	1	Total	C	O	P	0
			27	16	10	1	

- Molecule 16 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (three-letter code: LMG) (formula: $C_{45}H_{86}O_{10}$).



Mol	Chain	Residues	Atoms			AltConf
16	7	1	Total	C	O	0
			37	27	10	
16	8	1	Total	C	O	0
			108	78	30	
16	8	1	Total	C	O	0
			108	78	30	
16	8	1	Total	C	O	0
			108	78	30	
16	14	1	Total	C	O	0
			38	28	10	

- Molecule 17 is DODECYL-BETA-D-MALTOSIDE (three-letter code: LMT) (formula: $C_{24}H_{46}O_{11}$).



Mol	Chain	Residues	Atoms			AltConf
17	7	1	Total 35	C 24	O 11	0
17	8	1	Total 105	C 72	O 33	0
17	8	1	Total 105	C 72	O 33	0
17	8	1	Total 105	C 72	O 33	0
17	11	1	Total 70	C 48	O 22	0
17	11	1	Total 70	C 48	O 22	0
17	12	1	Total 175	C 120	O 55	0
17	12	1	Total 175	C 120	O 55	0
17	12	1	Total 175	C 120	O 55	0
17	12	1	Total 175	C 120	O 55	0
17	12	1	Total 175	C 120	O 55	0
17	15	1	Total 35	C 24	O 11	0
17	16	1	Total 35	C 24	O 11	0

- Molecule 18 is water.

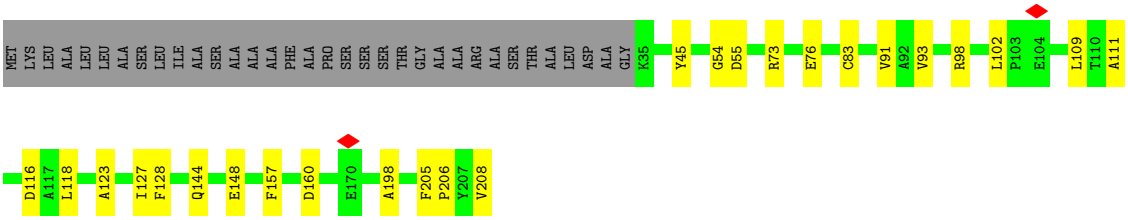
Mol	Chain	Residues	Atoms	AltConf
18	6	2	Total O 2 2	0
18	7	2	Total O 2 2	0
18	8	4	Total O 4 4	0
18	10	1	Total O 1 1	0
18	11	1	Total O 1 1	0
18	12	2	Total O 2 2	0

3 Residue-property plots (i)

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

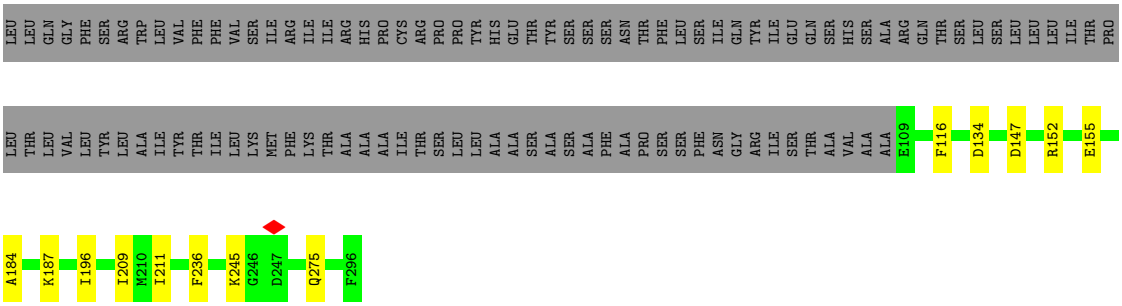
• Molecule 1: Fucoxanthin chlorophyll a/c-binding protein Lhcr12

Chain 6:



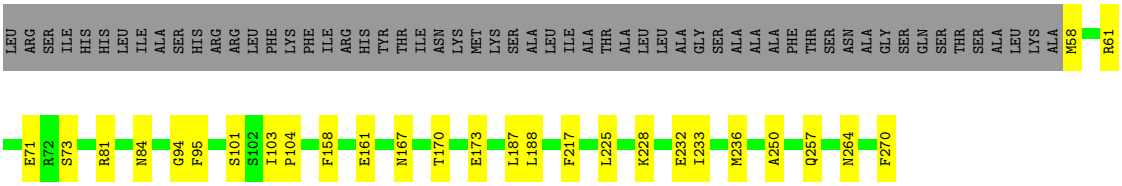
• Molecule 2: Fucoxanthin chlorophyll a/c-binding protein Lhcr10

Chain 7:



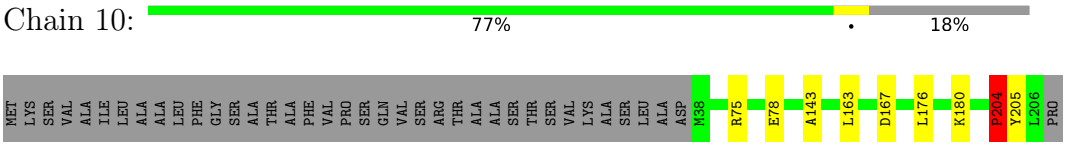
• Molecule 3: Fucoxanthin chlorophyll a/c-binding protein Lhcr4

Chain 8:



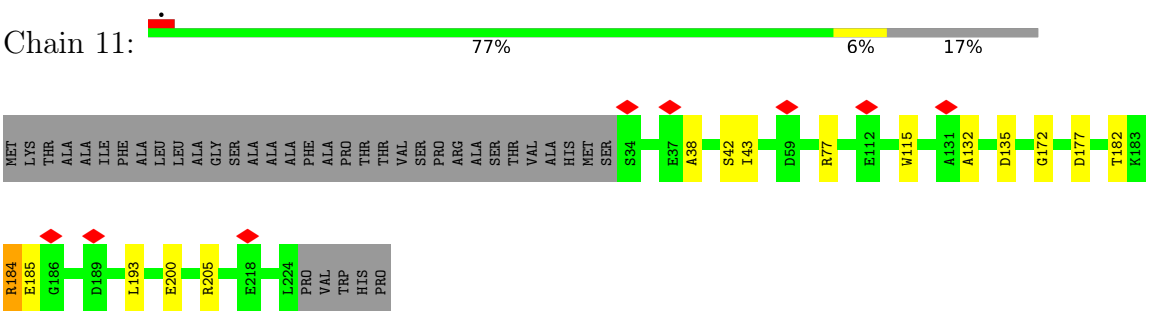
• Molecule 4: Fucoxanthin chlorophyll a/c-binding protein Lhcr3

Chain 10:



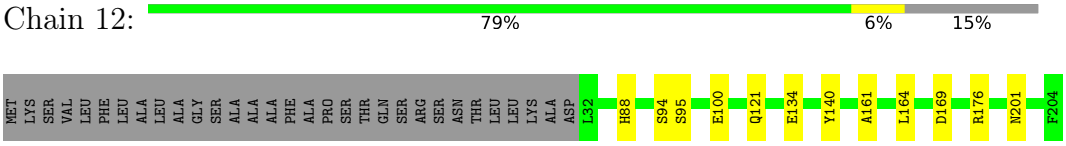
• Molecule 5: Fucoxanthin chlorophyll a/c-binding protein Lhcq13

Chain 11:



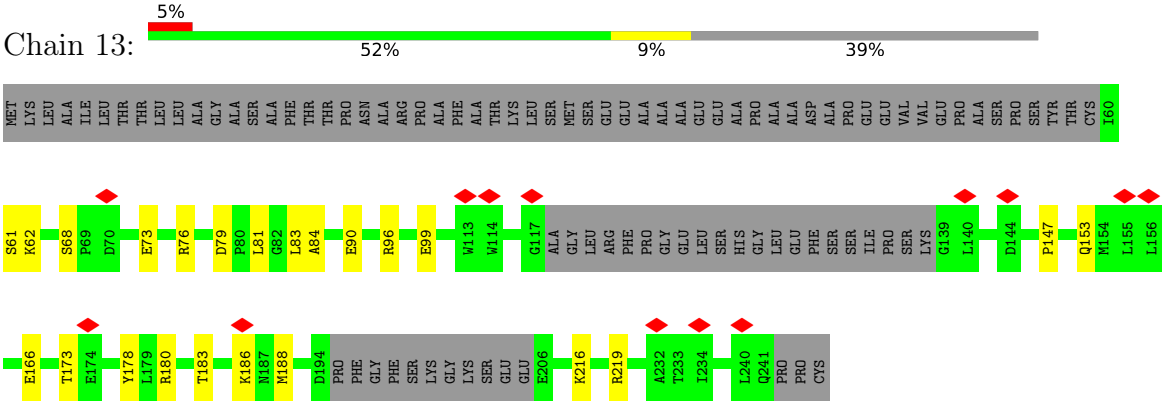
• Molecule 6: Fucoxanthin chlorophyll a/c-binding protein Lhcq3

Chain 12:



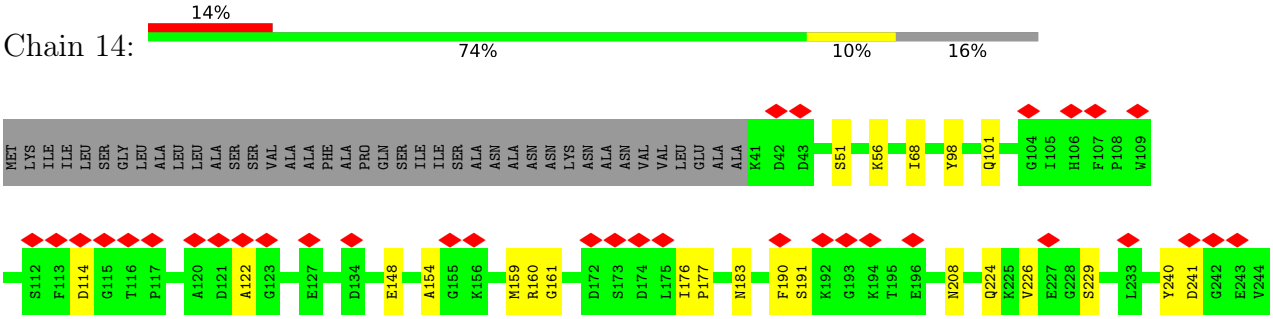
• Molecule 7: Fucoxanthin chlorophyll a/c-binding protein Lhcq11

Chain 13:



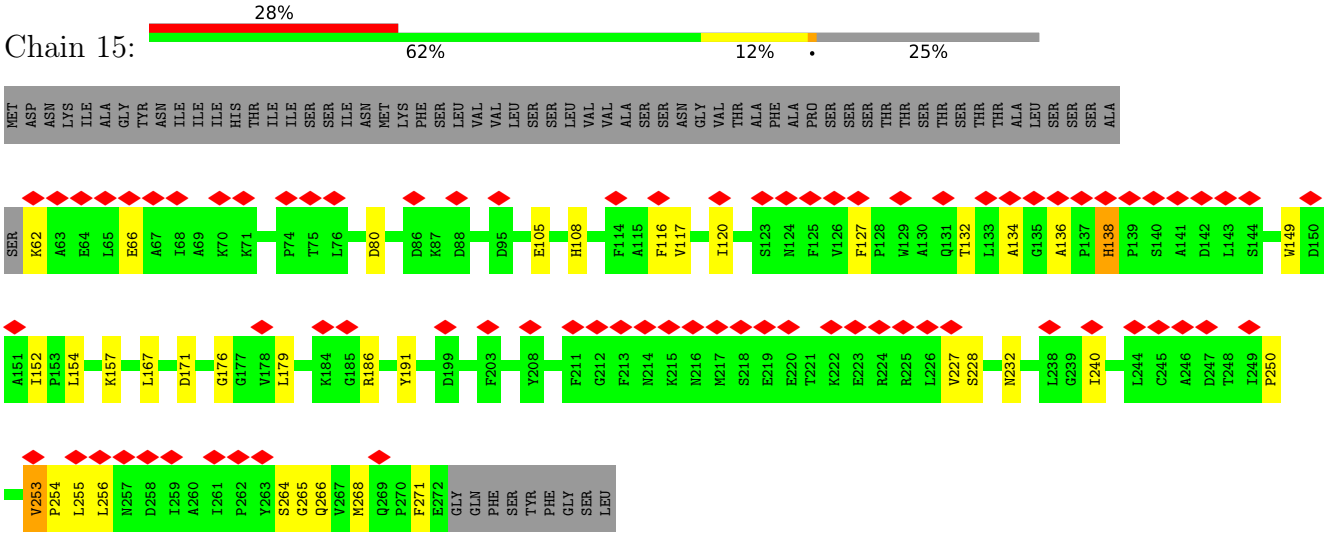
• Molecule 8: Fucoxanthin chlorophyll a/c-binding protein Lhcq10

Chain 14:



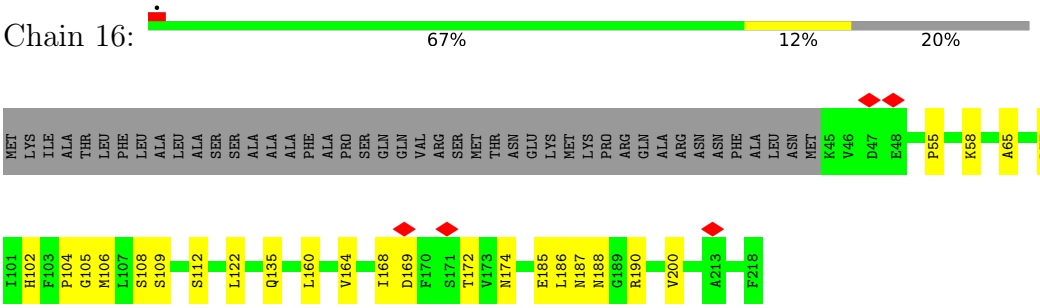
• Molecule 9: Fucoxanthin chlorophyll a/c-binding protein Lhcq8

Chain 15:



• Molecule 10: Fucoxanthin chlorophyll a/c-binding protein Lhcq5

Chain 16:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	470801	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.322	Depositor
Minimum map value	-0.132	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.045	Depositor
Map size (Å)	560.952, 560.952, 560.952	wwPDB
Map dimensions	504, 504, 504	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.113, 1.113, 1.113	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: A86, DD6, LMT, LMG, LHG, CLA, KC1

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	6	0.37	1/1391 (0.1%)	0.48	0/1886
2	7	0.34	0/1445	0.46	0/1952
3	8	0.38	0/1706	0.49	0/2310
4	10	0.35	0/1344	0.52	0/1824
5	11	0.33	0/1522	0.49	0/2070
6	12	0.35	0/1305	0.51	1/1776 (0.1%)
7	13	0.30	0/1177	0.51	0/1592
8	14	0.32	0/1660	0.60	2/2255 (0.1%)
9	15	0.33	0/1705	0.68	3/2319 (0.1%)
10	16	0.31	0/1347	0.59	2/1833 (0.1%)
All	All	0.34	1/14602 (0.0%)	0.54	8/19817 (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
4	10	0	1
8	14	0	2
9	15	0	3
All	All	0	6

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	6	83	CYS	CB-SG	-5.02	1.73	1.81

The worst 5 of 8 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	16	169	ASP	CB-CG-OD1	10.03	127.32	118.30
9	15	152	ILE	C-N-CD	-5.65	108.17	120.60
8	14	241	ASP	CB-CG-OD1	5.59	123.33	118.30
6	12	176	ARG	NE-CZ-NH2	-5.51	117.55	120.30
8	14	122	ALA	C-N-CA	5.21	133.24	122.30

There are no chirality outliers.

5 of 6 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	10	204	PRO	Peptide
8	14	154	ALA	Peptide
8	14	161	GLY	Peptide
9	15	136	ALA	Peptide
9	15	264	SER	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	6	1354	0	1328	17	0
2	7	1416	0	1379	11	0
3	8	1660	0	1625	20	0
4	10	1302	0	1274	6	0
5	11	1479	0	1452	10	0
6	12	1274	0	1267	7	0
7	13	1148	0	1130	16	0
8	14	1609	0	1568	17	0
9	15	1654	0	1613	21	0
10	16	1313	0	1310	20	0
11	10	435	0	465	9	0
11	11	315	0	337	6	0
11	12	566	0	604	13	0
11	13	350	0	354	10	0
11	14	468	0	400	9	0
11	15	685	0	589	17	0
11	16	478	0	429	16	0
11	6	620	0	658	14	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
11	7	566	0	609	14	0
11	8	420	0	427	14	0
12	10	135	0	0	0	0
12	11	180	0	0	0	0
12	12	180	0	0	0	0
12	13	270	0	0	1	0
12	14	135	0	0	0	0
12	16	90	0	0	1	0
12	6	180	0	0	0	0
12	7	90	0	0	0	0
12	8	315	0	0	1	0
13	10	86	0	0	1	0
13	11	43	0	0	1	0
13	12	86	0	0	0	0
13	13	43	0	0	1	0
13	15	86	0	0	0	0
13	16	43	0	0	0	0
13	6	129	0	0	4	0
13	7	172	0	0	1	0
13	8	86	0	0	0	0
14	10	240	0	0	0	0
14	11	192	0	0	1	0
14	12	96	0	0	0	0
14	13	93	0	0	0	0
14	14	432	0	0	2	0
14	15	288	0	0	0	0
14	16	96	0	0	0	0
14	6	48	0	0	0	0
14	7	144	0	0	1	0
14	8	96	0	0	1	0
15	6	27	0	24	0	0
16	14	38	0	46	1	0
16	7	37	0	44	1	0
16	8	108	0	123	2	0
17	11	70	0	92	2	0
17	12	175	0	230	6	0
17	15	35	0	46	0	0
17	16	35	0	46	0	0
17	7	35	0	46	0	0
17	8	105	0	138	1	0
18	10	1	0	0	0	0
18	11	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
18	12	2	0	0	0	0
18	6	2	0	0	0	0
18	7	2	0	0	0	0
18	8	4	0	0	0	0
All	All	23863	0	19653	223	0

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

The worst 5 of 223 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)
8:14:101:GLN:OE1	11:14:303:CLA:NA	2.01	0.94
9:15:105:GLU:OE1	11:15:302:CLA:NB	2.22	0.72
7:13:73:GLU:OE1	11:13:307:CLA:NC	2.23	0.71
1:6:127:ILE:HB	11:6:311:CLA:HBC1	1.77	0.66
9:15:127:PHE:O	9:15:138:HIS:NE2	2.33	0.62

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	6	172/208 (83%)	170 (99%)	2 (1%)	0	100	100
2	7	186/296 (63%)	178 (96%)	8 (4%)	0	100	100
3	8	211/270 (78%)	205 (97%)	6 (3%)	0	100	100
4	10	167/207 (81%)	152 (91%)	13 (8%)	2 (1%)	13	27
5	11	189/229 (82%)	171 (90%)	18 (10%)	0	100	100
6	12	171/204 (84%)	160 (94%)	11 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
7	13	144/244 (59%)	136 (94%)	8 (6%)	0	100 100
8	14	206/249 (83%)	177 (86%)	29 (14%)	0	100 100
9	15	209/281 (74%)	173 (83%)	35 (17%)	1 (0%)	29 52
10	16	172/218 (79%)	156 (91%)	16 (9%)	0	100 100
All	All	1827/2406 (76%)	1678 (92%)	146 (8%)	3 (0%)	50 71

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
9	15	250	PRO
4	10	205	TYR
4	10	204	PRO

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	6	140/160 (88%)	140 (100%)	0	100 100
2	7	143/236 (61%)	143 (100%)	0	100 100
3	8	171/215 (80%)	171 (100%)	0	100 100
4	10	133/161 (83%)	133 (100%)	0	100 100
5	11	154/181 (85%)	153 (99%)	1 (1%)	86 95
6	12	136/159 (86%)	136 (100%)	0	100 100
7	13	112/184 (61%)	111 (99%)	1 (1%)	78 91
8	14	166/196 (85%)	166 (100%)	0	100 100
9	15	171/231 (74%)	168 (98%)	3 (2%)	59 80
10	16	139/174 (80%)	139 (100%)	0	100 100
All	All	1465/1897 (77%)	1460 (100%)	5 (0%)	92 98

All (5) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	11	184	ARG
7	13	76	ARG
9	15	138	HIS
9	15	253	VAL
9	15	271	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 8 such sidechains are listed below:

Mol	Chain	Res	Type
10	16	177	GLN
9	15	200	ASN
8	14	183	ASN
8	14	82	GLN
8	14	209	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 monosaccharides in this entry.

5.6 Ligand geometry (i)

192 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	$\#\|Z\|>2$
11	CLA	12	321	8,6	65,73,73	2.02	17 (26%)	76,113,113	2.62	27 (35%)
11	CLA	13	301	7	65,73,73	1.97	18 (27%)	76,113,113	2.75	30 (39%)
11	CLA	7	303	2	65,73,73	1.96	16 (24%)	76,113,113	2.70	28 (36%)
11	CLA	14	304	8	45,53,73	2.46	16 (35%)	52,89,113	3.18	23 (44%)
14	A86	12	314	-	44,50,50	3.95	23 (52%)	51,76,76	8.15	19 (37%)
14	A86	7	314	-	44,50,50	3.85	23 (52%)	51,76,76	7.93	18 (35%)
11	CLA	12	310	18	65,73,73	1.98	18 (27%)	76,113,113	2.72	25 (32%)
11	CLA	15	313	9	65,73,73	2.05	17 (26%)	76,113,113	2.73	28 (36%)
12	KC1	8	314	18,12	48,53,53	3.39	25 (52%)	55,89,89	3.71	29 (52%)
12	KC1	11	304	5	48,53,53	3.39	25 (52%)	55,89,89	3.82	30 (54%)
11	CLA	13	302	7	65,73,73	2.02	17 (26%)	76,113,113	2.62	28 (36%)
11	CLA	11	308	5	65,73,73	2.00	15 (23%)	76,113,113	2.73	29 (38%)
11	CLA	14	307	12	65,73,73	2.06	17 (26%)	76,113,113	2.79	24 (31%)
17	LMT	12	320	-	36,36,36	0.35	0	47,47,47	0.71	0
11	CLA	8	302	3	65,73,73	2.03	17 (26%)	76,113,113	2.78	25 (32%)
13	DD6	12	315	11	39,45,45	6.61	23 (58%)	52,67,67	6.92	26 (50%)
12	KC1	14	308	8,11	48,53,53	3.44	25 (52%)	55,89,89	3.77	29 (52%)
11	CLA	16	301	10	65,73,73	1.98	16 (24%)	76,113,113	2.74	28 (36%)
14	A86	14	318	-	44,50,50	4.09	23 (52%)	51,76,76	8.48	17 (33%)
14	A86	7	315	-	44,50,50	3.75	22 (50%)	51,76,76	7.73	24 (47%)
12	KC1	6	310	1	48,53,53	3.40	23 (47%)	55,89,89	3.76	30 (54%)
11	CLA	15	302	9,11	65,73,73	2.05	16 (24%)	76,113,113	2.94	29 (38%)
11	CLA	7	309	2	65,73,73	2.01	16 (24%)	76,113,113	2.65	26 (34%)
14	A86	14	317	-	44,50,50	4.03	23 (52%)	51,76,76	8.74	18 (35%)
11	CLA	10	311	-	45,53,73	2.45	17 (37%)	52,89,113	3.16	22 (42%)
12	KC1	10	312	4	48,53,53	3.42	24 (50%)	55,89,89	3.91	29 (52%)
12	KC1	11	306	5	48,53,53	3.46	26 (54%)	55,89,89	3.84	29 (52%)
14	A86	11	315	-	44,50,50	3.94	23 (52%)	51,76,76	8.40	18 (35%)
11	CLA	16	303	10	65,73,73	2.00	16 (24%)	76,113,113	2.85	28 (36%)
11	CLA	7	310	2	65,73,73	1.98	16 (24%)	76,113,113	2.60	26 (34%)
11	CLA	16	310	10	45,53,73	2.45	19 (42%)	52,89,113	3.17	26 (50%)
11	CLA	6	302	1	65,73,73	2.03	17 (26%)	76,113,113	2.64	28 (36%)
11	CLA	15	309	9	65,73,73	2.09	16 (24%)	76,113,113	2.70	25 (32%)
11	CLA	10	308	4	65,73,73	2.00	15 (23%)	76,113,113	2.73	29 (38%)
12	KC1	8	306	18	48,53,53	3.35	22 (45%)	55,89,89	3.71	33 (60%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
11	CLA	7	308	2	65,73,73	1.92	17 (26%)	76,113,113	2.67	24 (31%)
11	CLA	6	313	18	55,63,73	2.19	17 (30%)	64,101,113	2.83	25 (39%)
13	DD6	12	317	-	39,45,45	6.69	22 (56%)	52,67,67	7.11	28 (53%)
12	KC1	8	313	3	48,53,53	3.34	22 (45%)	55,89,89	3.88	30 (54%)
11	CLA	15	310	9	45,53,73	2.52	16 (35%)	52,89,113	3.21	24 (46%)
11	CLA	6	304	1	65,73,73	2.04	17 (26%)	76,113,113	2.66	27 (35%)
12	KC1	11	310	5	48,53,53	3.45	26 (54%)	55,89,89	3.82	29 (52%)
11	CLA	10	307	4	65,73,73	1.96	18 (27%)	76,113,113	2.64	29 (38%)
14	A86	10	315	-	44,50,50	4.12	22 (50%)	51,76,76	8.21	18 (35%)
14	A86	15	320	-	44,50,50	4.24	24 (54%)	51,76,76	8.22	19 (37%)
11	CLA	15	306	-	45,53,73	2.46	17 (37%)	52,89,113	3.29	24 (46%)
11	CLA	16	305	10	50,58,73	2.26	17 (34%)	58,95,113	3.00	27 (46%)
17	LMT	12	319	-	36,36,36	0.37	0	47,47,47	0.80	0
14	A86	12	316	-	44,50,50	4.02	23 (52%)	51,76,76	8.31	17 (33%)
16	LMG	8	321	-	42,42,55	0.93	2 (4%)	50,50,63	1.33	4 (8%)
13	DD6	11	312	-	39,45,45	6.71	23 (58%)	52,67,67	7.00	29 (55%)
12	KC1	13	310	7	48,53,53	3.45	24 (50%)	55,89,89	3.77	29 (52%)
12	KC1	13	308	7	48,53,53	3.45	25 (52%)	55,89,89	3.87	29 (52%)
13	DD6	15	318	-	39,45,45	6.74	21 (53%)	52,67,67	6.97	31 (59%)
11	CLA	6	311	1	65,73,73	1.96	15 (23%)	76,113,113	2.76	28 (36%)
11	CLA	10	303	4	65,73,73	2.00	16 (24%)	76,113,113	2.69	27 (35%)
11	CLA	16	302	10	65,73,73	1.98	18 (27%)	76,113,113	2.68	27 (35%)
14	A86	13	315	-	44,50,50	4.17	23 (52%)	51,76,76	8.46	19 (37%)
14	A86	8	315	-	44,50,50	3.65	22 (50%)	51,76,76	8.21	21 (41%)
13	DD6	6	318	-	39,45,45	6.55	23 (58%)	52,67,67	6.75	28 (53%)
11	CLA	7	304	18,2	65,73,73	2.12	18 (27%)	76,113,113	2.82	28 (36%)
11	CLA	16	308	10	45,53,73	2.46	17 (37%)	52,89,113	3.23	24 (46%)
13	DD6	10	313	-	39,45,45	6.76	23 (58%)	52,67,67	7.06	28 (53%)
11	CLA	13	304	7	45,53,73	2.50	16 (35%)	52,89,113	3.20	25 (48%)
14	A86	13	313	7	41,47,50	4.23	22 (53%)	49,72,76	8.48	14 (28%)
11	CLA	15	307	9	50,58,73	2.29	18 (36%)	58,95,113	2.99	26 (44%)
14	A86	15	315	9	44,50,50	4.30	23 (52%)	51,76,76	8.24	27 (52%)
14	A86	14	319	11	44,50,50	4.08	23 (52%)	51,76,76	8.28	17 (33%)
12	KC1	8	312	12	48,53,53	3.40	24 (50%)	55,89,89	3.39	28 (50%)
11	CLA	14	303	8	57,65,73	2.19	16 (28%)	66,103,113	2.86	29 (43%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
13	DD6	8	316	-	39,45,45	6.55	22 (56%)	52,67,67	6.81	30 (57%)
13	DD6	15	319	11	39,45,45	6.77	22 (56%)	52,67,67	6.93	30 (57%)
17	LMT	8	319	-	36,36,36	0.39	0	47,47,47	0.85	1 (2%)
11	CLA	7	305	2	65,73,73	1.99	17 (26%)	76,113,113	2.61	27 (35%)
12	KC1	16	311	10	48,53,53	3.47	25 (52%)	55,89,89	3.71	26 (47%)
11	CLA	6	306	1	65,73,73	2.01	16 (24%)	76,113,113	2.72	32 (42%)
14	A86	11	313	-	44,50,50	3.99	23 (52%)	51,76,76	8.39	18 (35%)
11	CLA	10	309	4	65,73,73	2.03	18 (27%)	76,113,113	2.65	27 (35%)
13	DD6	8	317	-	39,45,45	6.63	22 (56%)	52,67,67	6.94	29 (55%)
11	CLA	12	308	18	65,73,73	2.00	18 (27%)	76,113,113	2.62	25 (32%)
11	CLA	15	312	9	45,53,73	2.46	16 (35%)	52,89,113	3.32	28 (53%)
13	DD6	7	316	-	39,45,45	6.72	21 (53%)	52,67,67	6.71	29 (55%)
12	KC1	16	304	10	48,53,53	3.48	24 (50%)	55,89,89	3.57	27 (49%)
11	CLA	12	302	6	65,73,73	1.97	17 (26%)	76,113,113	2.82	30 (39%)
12	KC1	7	307	18	48,53,53	3.41	22 (45%)	55,89,89	3.70	28 (50%)
17	LMT	8	322	-	36,36,36	0.37	0	47,47,47	0.71	0
16	LMG	7	319	-	37,37,55	0.98	3 (8%)	45,45,63	1.27	4 (8%)
11	CLA	16	307	-	46,54,73	2.42	17 (36%)	53,90,113	3.11	24 (45%)
14	A86	14	314	-	44,50,50	4.08	23 (52%)	51,76,76	8.24	22 (43%)
11	CLA	8	303	18	65,73,73	1.97	15 (23%)	76,113,113	2.64	27 (35%)
12	KC1	12	309	6	48,53,53	3.40	23 (47%)	55,89,89	3.73	31 (56%)
12	KC1	13	311	7	48,53,53	3.47	26 (54%)	55,89,89	3.53	28 (50%)
14	A86	8	318	-	44,50,50	3.96	24 (54%)	51,76,76	10.85	22 (43%)
16	LMG	8	320	3,16	37,37,55	0.98	1 (2%)	45,45,63	1.24	4 (8%)
12	KC1	12	311	6	48,53,53	3.43	24 (50%)	55,89,89	3.93	31 (56%)
12	KC1	13	312	7	48,53,53	3.52	27 (56%)	55,89,89	3.78	29 (52%)
12	KC1	7	312	-	48,53,53	3.36	22 (45%)	55,89,89	3.81	29 (52%)
13	DD6	10	314	-	39,45,45	6.63	23 (58%)	52,67,67	6.73	29 (55%)
17	LMT	11	302	-	36,36,36	0.32	0	47,47,47	0.79	2 (4%)
11	CLA	11	305	18	55,63,73	2.20	16 (29%)	64,101,113	3.03	27 (42%)
13	DD6	6	316	-	39,45,45	6.69	23 (58%)	52,67,67	6.50	30 (57%)
11	CLA	15	308	9,11	45,53,73	2.42	16 (35%)	52,89,113	3.13	27 (51%)
11	CLA	15	311	14	45,53,73	2.48	16 (35%)	52,89,113	3.16	24 (46%)
16	LMG	14	322	-	38,38,55	0.97	3 (7%)	46,46,63	1.20	3 (6%)
13	DD6	7	313	-	39,45,45	6.57	22 (56%)	52,67,67	7.25	29 (55%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
17	LMT	7	320	-	36,36,36	0.30	0	47,47,47	0.71	1 (2%)
14	A86	10	316	-	44,50,50	3.92	23 (52%)	51,76,76	7.96	23 (45%)
11	CLA	13	307	7	65,73,73	2.06	18 (27%)	76,113,113	2.67	28 (36%)
14	A86	6	317	-	44,50,50	4.01	24 (54%)	51,76,76	7.16	21 (41%)
11	CLA	14	313	8	46,54,73	2.42	16 (34%)	53,90,113	3.25	26 (49%)
11	CLA	10	304	4	65,73,73	2.02	18 (27%)	76,113,113	2.65	26 (34%)
12	KC1	6	305	1	48,53,53	3.39	24 (50%)	55,89,89	3.82	27 (49%)
14	A86	15	316	11	44,50,50	4.09	23 (52%)	51,76,76	7.82	17 (33%)
11	CLA	15	314	9,11	45,53,73	2.40	17 (37%)	52,89,113	3.32	23 (44%)
11	CLA	8	308	3	55,63,73	2.16	15 (27%)	64,101,113	2.91	26 (40%)
11	CLA	13	309	-	45,53,73	2.49	17 (37%)	52,89,113	3.13	26 (50%)
13	DD6	16	313	-	39,45,45	6.74	20 (51%)	52,67,67	7.14	30 (57%)
11	CLA	7	311	2	46,54,73	2.42	17 (36%)	53,90,113	3.10	24 (45%)
14	A86	14	321	-	44,50,50	4.17	23 (52%)	51,76,76	8.40	16 (31%)
14	A86	7	318	-	44,50,50	4.01	23 (52%)	51,76,76	7.94	25 (49%)
17	LMT	8	324	-	36,36,36	0.40	0	47,47,47	0.70	0
12	KC1	14	311	8	48,53,53	3.43	24 (50%)	55,89,89	3.80	30 (54%)
14	A86	15	321	9	44,50,50	4.09	23 (52%)	51,76,76	8.65	19 (37%)
12	KC1	12	305	6	48,53,53	3.41	24 (50%)	55,89,89	3.79	27 (49%)
17	LMT	12	318	-	36,36,36	0.40	0	47,47,47	0.79	1 (2%)
11	CLA	8	305	3	65,73,73	1.99	18 (27%)	76,113,113	4.73	30 (39%)
11	CLA	12	312	6	65,73,73	2.01	18 (27%)	76,113,113	2.70	27 (35%)
14	A86	11	314	-	44,50,50	4.00	22 (50%)	51,76,76	7.45	23 (45%)
11	CLA	15	304	9,11,13	65,73,73	2.06	17 (26%)	76,113,113	2.74	27 (35%)
11	CLA	6	314	-	65,73,73	2.08	17 (26%)	76,113,113	2.64	27 (35%)
12	KC1	13	305	7	48,53,53	3.44	26 (54%)	55,89,89	3.76	29 (52%)
13	DD6	7	301	-	39,45,45	6.75	22 (56%)	52,67,67	6.70	28 (53%)
14	A86	10	317	-	44,50,50	4.17	23 (52%)	51,76,76	8.20	17 (33%)
14	A86	16	312	10	44,50,50	4.02	24 (54%)	51,76,76	8.20	22 (43%)
11	CLA	14	312	8,14	45,53,73	2.46	17 (37%)	52,89,113	3.15	24 (46%)
12	KC1	8	310	3	48,53,53	3.31	22 (45%)	55,89,89	3.78	28 (50%)
11	CLA	14	309	8	45,53,73	2.50	16 (35%)	52,89,113	3.09	24 (46%)
13	DD6	13	314	-	39,45,45	6.72	22 (56%)	52,67,67	7.10	32 (61%)
11	CLA	15	303	9,11,14	60,68,73	2.09	17 (28%)	70,107,113	2.87	28 (40%)
11	CLA	7	302	2	65,73,73	1.95	15 (23%)	76,113,113	2.71	30 (39%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
11	CLA	14	302	8	65,73,73	2.03	17 (26%)	76,113,113	2.74	31 (40%)
11	CLA	11	307	5	65,73,73	2.00	15 (23%)	76,113,113	2.68	27 (35%)
15	LHG	6	319	11	26,26,48	0.91	1 (3%)	29,32,54	1.39	3 (10%)
12	KC1	14	306	8	48,53,53	3.43	24 (50%)	55,89,89	3.86	30 (54%)
14	A86	15	322	11	44,50,50	4.26	23 (52%)	51,76,76	8.45	22 (43%)
14	A86	16	314	-	44,50,50	4.10	24 (54%)	51,76,76	8.52	21 (41%)
12	KC1	6	309	1	48,53,53	3.42	24 (50%)	55,89,89	3.79	30 (54%)
13	DD6	6	315	-	39,45,45	6.65	24 (61%)	52,67,67	6.62	27 (51%)
17	LMT	16	315	-	36,36,36	0.41	0	47,47,47	0.64	0
11	CLA	8	304	3	58,66,73	2.07	15 (25%)	67,104,113	2.99	31 (46%)
11	CLA	7	306	2	65,73,73	1.98	15 (23%)	76,113,113	2.75	26 (34%)
11	CLA	14	310	-	50,58,73	2.32	16 (32%)	58,95,113	3.10	26 (44%)
12	KC1	6	308	1	48,53,53	3.37	23 (47%)	55,89,89	3.98	28 (50%)
11	CLA	12	307	6	46,54,73	2.32	16 (34%)	53,90,113	3.21	26 (49%)
11	CLA	11	309	5	65,73,73	2.07	17 (26%)	76,113,113	2.64	26 (34%)
11	CLA	8	301	3	65,73,73	2.00	17 (26%)	76,113,113	2.75	27 (35%)
11	CLA	12	304	13,6	65,73,73	2.03	18 (27%)	76,113,113	2.88	29 (38%)
11	CLA	12	306	6	65,73,73	1.97	16 (24%)	76,113,113	2.59	26 (34%)
14	A86	15	317	11	44,50,50	4.15	23 (52%)	51,76,76	8.46	15 (29%)
17	LMT	12	322	-	36,36,36	0.43	0	47,47,47	0.87	1 (2%)
11	CLA	6	303	18	65,73,73	2.01	17 (26%)	76,113,113	2.72	27 (35%)
11	CLA	10	305	18	65,73,73	1.99	16 (24%)	76,113,113	2.78	27 (35%)
11	CLA	8	309	3	47,55,73	2.35	16 (34%)	54,91,113	3.04	24 (44%)
11	CLA	15	305	9,14	45,53,73	2.46	17 (37%)	52,89,113	3.16	26 (50%)
14	A86	14	301	8	44,50,50	4.06	23 (52%)	51,76,76	8.05	19 (37%)
11	CLA	6	307	15	65,73,73	2.02	17 (26%)	76,113,113	2.58	28 (36%)
12	KC1	12	313	6	48,53,53	3.42	23 (47%)	55,89,89	4.51	28 (50%)
17	LMT	11	316	-	36,36,36	0.40	0	47,47,47	1.00	5 (10%)
11	CLA	12	303	6	65,73,73	2.06	18 (27%)	76,113,113	2.63	27 (35%)
12	KC1	8	307	3	48,53,53	3.32	22 (45%)	55,89,89	3.85	30 (54%)
17	LMT	12	301	-	36,36,36	0.39	0	47,47,47	0.79	0
14	A86	14	315	8	44,50,50	3.95	23 (52%)	51,76,76	8.88	21 (41%)
12	KC1	10	306	4	48,53,53	3.34	25 (52%)	55,89,89	3.95	32 (58%)
14	A86	10	301	4	44,50,50	3.84	23 (52%)	51,76,76	7.25	24 (47%)
14	A86	14	316	-	44,50,50	3.99	23 (52%)	51,76,76	8.18	17 (33%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
11	CLA	11	303	5	65,73,73	2.01	16 (24%)	76,113,113	2.72	25 (32%)
12	KC1	11	311	-	48,53,53	3.41	24 (50%)	55,89,89	3.55	29 (52%)
14	A86	14	320	-	44,50,50	4.12	23 (52%)	51,76,76	7.23	21 (41%)
11	CLA	16	309	10	45,53,73	2.47	17 (37%)	52,89,113	3.26	24 (46%)
13	DD6	7	317	-	39,45,45	6.75	21 (53%)	52,67,67	6.90	28 (53%)
17	LMT	15	301	-	36,36,36	0.44	0	47,47,47	1.04	3 (6%)
14	A86	11	301	-	44,50,50	3.98	23 (52%)	51,76,76	8.34	19 (37%)
12	KC1	13	306	7	48,53,53	3.40	24 (50%)	55,89,89	3.76	30 (54%)
14	A86	10	302	-	44,50,50	4.08	23 (52%)	51,76,76	8.60	20 (39%)
11	CLA	14	305	8	50,58,73	2.31	16 (32%)	58,95,113	3.03	27 (46%)
11	CLA	6	312	1	45,53,73	2.49	17 (37%)	52,89,113	3.11	23 (44%)
11	CLA	16	306	10	52,60,73	2.26	18 (34%)	60,97,113	2.95	28 (46%)
16	LMG	8	323	16	29,29,55	1.14	2 (6%)	37,37,63	1.27	5 (13%)
11	CLA	6	301	1	65,73,73	1.97	15 (23%)	76,113,113	2.70	28 (36%)
11	CLA	13	303	-	65,73,73	2.07	16 (24%)	76,113,113	2.77	29 (38%)
12	KC1	8	311	18	48,53,53	3.37	23 (47%)	55,89,89	3.79	29 (52%)
12	KC1	10	310	4	48,53,53	3.44	24 (50%)	55,89,89	3.94	30 (54%)

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
11	CLA	12	321	8,6	1/1/15/20	4/37/115/115	-
11	CLA	14	304	8	1/1/11/20	4/13/91/115	-
11	CLA	7	303	2	1/1/15/20	6/37/115/115	-
11	CLA	13	301	7	-	16/37/115/115	-
14	A86	12	314	-	-	12/34/90/90	0/3/3/3
14	A86	7	314	-	-	16/34/90/90	0/3/3/3
11	CLA	12	310	18	-	9/37/115/115	-
11	CLA	15	313	9	-	11/37/115/115	-
12	KC1	8	314	18,12	-	6/15/71/71	-
12	KC1	11	304	5	-	7/15/71/71	-
11	CLA	13	302	7	1/1/15/20	11/37/115/115	-
11	CLA	11	308	5	-	15/37/115/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
11	CLA	14	307	12	-	9/37/115/115	-
17	LMT	12	320	-	-	1/21/61/61	0/2/2/2
11	CLA	8	302	3	1/1/15/20	6/37/115/115	-
13	DD6	12	315	11	-	9/26/80/80	0/3/3/3
12	KC1	14	308	8,11	-	9/15/71/71	-
11	CLA	16	301	10	-	13/37/115/115	-
14	A86	14	318	-	-	17/34/90/90	0/3/3/3
14	A86	7	315	-	-	9/34/90/90	0/3/3/3
12	KC1	6	310	1	-	6/15/71/71	-
11	CLA	15	302	9,11	-	15/37/115/115	-
11	CLA	7	309	2	1/1/15/20	14/37/115/115	-
14	A86	14	317	-	-	15/34/90/90	0/3/3/3
11	CLA	10	311	-	-	7/13/91/115	-
12	KC1	10	312	4	-	5/15/71/71	-
12	KC1	11	306	5	-	10/15/71/71	-
14	A86	11	315	-	-	15/34/90/90	0/3/3/3
11	CLA	16	303	10	1/1/15/20	19/37/115/115	-
11	CLA	7	310	2	1/1/15/20	12/37/115/115	-
11	CLA	16	310	10	1/1/11/20	7/13/91/115	-
11	CLA	6	302	1	1/1/15/20	4/37/115/115	-
11	CLA	15	309	9	1/1/15/20	10/37/115/115	-
11	CLA	10	308	4	1/1/15/20	10/37/115/115	-
12	KC1	8	306	18	-	5/15/71/71	-
11	CLA	7	308	2	1/1/15/20	8/37/115/115	-
11	CLA	6	313	18	1/1/13/20	5/25/103/115	-
13	DD6	12	317	-	-	12/26/80/80	0/3/3/3
12	KC1	8	313	3	-	8/15/71/71	-
11	CLA	15	310	9	1/1/11/20	6/13/91/115	-
11	CLA	6	304	1	1/1/15/20	18/37/115/115	-
12	KC1	11	310	5	-	6/15/71/71	-
11	CLA	10	307	4	1/1/15/20	11/37/115/115	-
14	A86	10	315	-	-	15/34/90/90	0/3/3/3
14	A86	15	320	-	-	15/34/90/90	0/3/3/3
11	CLA	15	306	-	1/1/11/20	6/13/91/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
11	CLA	16	305	10	1/1/12/20	3/19/97/115	-
17	LMT	12	319	-	-	0/21/61/61	0/2/2/2
14	A86	12	316	-	-	14/34/90/90	0/3/3/3
16	LMG	8	321	-	-	22/37/57/70	0/1/1/1
13	DD6	11	312	-	-	11/26/80/80	0/3/3/3
12	KC1	13	310	7	-	5/15/71/71	-
12	KC1	13	308	7	-	10/15/71/71	-
13	DD6	15	318	-	-	13/26/80/80	0/3/3/3
11	CLA	6	311	1	-	14/37/115/115	-
11	CLA	10	303	4	-	12/37/115/115	-
11	CLA	16	302	10	1/1/15/20	9/37/115/115	-
14	A86	13	315	-	-	16/34/90/90	0/3/3/3
14	A86	8	315	-	-	7/34/90/90	0/3/3/3
13	DD6	6	318	-	-	9/26/80/80	0/3/3/3
11	CLA	7	304	18,2	1/1/15/20	8/37/115/115	-
11	CLA	16	308	10	1/1/11/20	6/13/91/115	-
13	DD6	10	313	-	-	10/26/80/80	0/3/3/3
11	CLA	13	304	7	-	6/13/91/115	-
14	A86	13	313	7	-	11/30/86/90	0/3/3/3
11	CLA	15	307	9	1/1/12/20	7/19/97/115	-
14	A86	15	315	9	-	9/34/90/90	0/3/3/3
14	A86	14	319	11	-	11/34/90/90	0/3/3/3
12	KC1	8	312	12	-	7/15/71/71	-
11	CLA	14	303	8	1/1/13/20	7/28/106/115	-
13	DD6	8	316	-	-	11/26/80/80	0/3/3/3
13	DD6	15	319	11	-	13/26/80/80	0/3/3/3
17	LMT	8	319	-	-	10/21/61/61	0/2/2/2
11	CLA	7	305	2	1/1/15/20	6/37/115/115	-
12	KC1	16	311	10	-	6/15/71/71	-
11	CLA	6	306	1	1/1/15/20	12/37/115/115	-
14	A86	11	313	-	-	13/34/90/90	0/3/3/3
11	CLA	10	309	4	1/1/15/20	12/37/115/115	-
13	DD6	8	317	-	-	11/26/80/80	0/3/3/3
11	CLA	12	308	18	1/1/15/20	9/37/115/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
11	CLA	15	312	9	1/1/11/20	5/13/91/115	-
13	DD6	7	316	-	-	10/26/80/80	0/3/3/3
12	KC1	16	304	10	-	8/15/71/71	-
11	CLA	12	302	6	-	14/37/115/115	-
12	KC1	7	307	18	-	7/15/71/71	-
17	LMT	8	322	-	-	1/21/61/61	0/2/2/2
16	LMG	7	319	-	-	12/32/52/70	0/1/1/1
11	CLA	16	307	-	1/1/11/20	7/15/93/115	-
14	A86	14	314	-	-	13/34/90/90	0/3/3/3
11	CLA	8	303	18	1/1/15/20	10/37/115/115	-
12	KC1	12	309	6	-	7/15/71/71	-
12	KC1	13	311	7	-	6/15/71/71	-
14	A86	8	318	-	-	14/34/90/90	0/3/3/3
16	LMG	8	320	3,16	-	17/32/52/70	0/1/1/1
12	KC1	12	311	6	-	6/15/71/71	-
12	KC1	13	312	7	-	7/15/71/71	-
12	KC1	7	312	-	-	4/15/71/71	-
13	DD6	10	314	-	-	9/26/80/80	0/3/3/3
17	LMT	11	302	-	-	0/21/61/61	0/2/2/2
11	CLA	11	305	18	1/1/13/20	8/25/103/115	-
13	DD6	6	316	-	-	11/26/80/80	0/3/3/3
11	CLA	15	308	9,11	1/1/11/20	6/13/91/115	-
11	CLA	15	311	14	1/1/11/20	8/13/91/115	-
16	LMG	14	322	-	-	14/33/53/70	0/1/1/1
13	DD6	7	313	-	-	11/26/80/80	0/3/3/3
17	LMT	7	320	-	-	4/21/61/61	0/2/2/2
14	A86	10	316	-	-	11/34/90/90	0/3/3/3
11	CLA	13	307	7	1/1/15/20	10/37/115/115	-
14	A86	6	317	-	-	8/34/90/90	0/3/3/3
11	CLA	14	313	8	1/1/11/20	4/15/93/115	-
11	CLA	10	304	4	1/1/15/20	2/37/115/115	-
12	KC1	6	305	1	-	6/15/71/71	-
14	A86	15	316	11	-	14/34/90/90	0/3/3/3
11	CLA	15	314	9,11	-	4/13/91/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
11	CLA	8	308	3	1/1/13/20	10/25/103/115	-
11	CLA	13	309	-	1/1/11/20	6/13/91/115	-
13	DD6	16	313	-	-	13/26/80/80	0/3/3/3
11	CLA	7	311	2	-	6/15/93/115	-
14	A86	14	321	-	-	15/34/90/90	0/3/3/3
14	A86	7	318	-	-	9/34/90/90	0/3/3/3
17	LMT	8	324	-	-	5/21/61/61	0/2/2/2
12	KC1	14	311	8	-	5/15/71/71	-
14	A86	15	321	9	-	13/34/90/90	0/3/3/3
12	KC1	12	305	6	-	7/15/71/71	-
17	LMT	12	318	-	-	1/21/61/61	0/2/2/2
11	CLA	12	312	6	1/1/15/20	12/37/115/115	-
11	CLA	8	305	3	-	13/37/115/115	-
14	A86	11	314	-	-	18/34/90/90	0/3/3/3
11	CLA	15	304	9,11,13	1/1/15/20	21/37/115/115	-
11	CLA	6	314	-	1/1/15/20	6/37/115/115	-
12	KC1	13	305	7	-	10/15/71/71	-
13	DD6	7	301	-	-	11/26/80/80	0/3/3/3
14	A86	10	317	-	-	10/34/90/90	0/3/3/3
14	A86	16	312	10	-	12/34/90/90	0/3/3/3
11	CLA	14	312	8,14	-	7/13/91/115	-
12	KC1	8	310	3	-	7/15/71/71	-
11	CLA	14	309	8	1/1/11/20	3/13/91/115	-
13	DD6	13	314	-	-	13/26/80/80	0/3/3/3
11	CLA	15	303	9,11,14	1/1/14/20	9/31/109/115	-
11	CLA	7	302	2	1/1/15/20	13/37/115/115	-
11	CLA	14	302	8	1/1/15/20	14/37/115/115	-
11	CLA	11	307	5	1/1/15/20	10/37/115/115	-
15	LHG	6	319	11	-	13/31/31/53	-
12	KC1	14	306	8	-	7/15/71/71	-
14	A86	15	322	11	-	15/34/90/90	0/3/3/3
14	A86	16	314	-	-	11/34/90/90	0/3/3/3
12	KC1	6	309	1	-	5/15/71/71	-
13	DD6	6	315	-	-	10/26/80/80	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
17	LMT	16	315	-	-	5/21/61/61	0/2/2/2
11	CLA	8	304	3	1/1/13/20	11/29/107/115	-
11	CLA	7	306	2	-	21/37/115/115	-
11	CLA	14	310	-	1/1/12/20	5/19/97/115	-
12	KC1	6	308	1	-	8/15/71/71	-
11	CLA	12	307	6	1/1/11/20	7/15/93/115	-
11	CLA	11	309	5	1/1/15/20	15/37/115/115	-
11	CLA	8	301	3	1/1/15/20	15/37/115/115	-
11	CLA	12	304	13,6	1/1/15/20	14/37/115/115	-
11	CLA	12	306	6	1/1/15/20	6/37/115/115	-
14	A86	15	317	11	-	16/34/90/90	0/3/3/3
17	LMT	12	322	-	-	1/21/61/61	0/2/2/2
11	CLA	6	303	18	1/1/15/20	7/37/115/115	-
11	CLA	10	305	18	1/1/15/20	8/37/115/115	-
11	CLA	15	305	9,14	1/1/11/20	8/13/91/115	-
11	CLA	8	309	3	-	3/16/94/115	-
14	A86	14	301	8	-	8/34/90/90	0/3/3/3
11	CLA	6	307	15	1/1/15/20	10/37/115/115	-
12	KC1	12	313	6	-	7/15/71/71	-
17	LMT	11	316	-	-	1/21/61/61	0/2/2/2
11	CLA	12	303	6	1/1/15/20	7/37/115/115	-
12	KC1	8	307	3	-	8/15/71/71	-
17	LMT	12	301	-	-	3/21/61/61	0/2/2/2
14	A86	14	315	8	-	11/34/90/90	0/3/3/3
12	KC1	10	306	4	-	8/15/71/71	-
14	A86	10	301	4	-	9/34/90/90	0/3/3/3
14	A86	14	316	-	-	12/34/90/90	0/3/3/3
11	CLA	11	303	5	-	10/37/115/115	-
12	KC1	11	311	-	-	9/15/71/71	-
14	A86	14	320	-	-	9/34/90/90	0/3/3/3
11	CLA	16	309	10	-	4/13/91/115	-
13	DD6	7	317	-	-	15/26/80/80	0/3/3/3
17	LMT	15	301	-	-	7/21/61/61	0/2/2/2
14	A86	11	301	-	-	12/34/90/90	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
12	KC1	13	306	7	-	11/15/71/71	-
14	A86	10	302	-	-	13/34/90/90	0/3/3/3
11	CLA	14	305	8	1/1/12/20	2/19/97/115	-
11	CLA	6	312	1	1/1/11/20	4/13/91/115	-
11	CLA	16	306	10	1/1/12/20	13/22/100/115	-
16	LMG	8	323	16	-	5/24/44/70	0/1/1/1
11	CLA	6	301	1	1/1/15/20	12/37/115/115	-
11	CLA	13	303	-	-	16/37/115/115	-
12	KC1	8	311	18	-	8/15/71/71	-
12	KC1	10	310	4	-	8/15/71/71	-

The worst 5 of 3477 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
13	11	312	DD6	C10-C11	26.03	1.70	1.35
13	10	313	DD6	C10-C11	25.96	1.70	1.35
13	7	317	DD6	C10-C11	25.86	1.70	1.35
13	15	318	DD6	C10-C11	25.75	1.69	1.35
13	10	314	DD6	C10-C11	25.68	1.69	1.35

The worst 5 of 4528 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
14	14	315	A86	O1-C20-C19	58.19	157.09	113.38
14	14	317	A86	O1-C20-C19	57.22	156.37	113.38
14	15	321	A86	O1-C20-C19	57.11	156.29	113.38
14	8	318	A86	O1-C20-C19	56.82	156.07	113.38
14	16	314	A86	O1-C20-C19	56.19	155.59	113.38

5 of 63 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
11	6	301	CLA	ND
11	6	302	CLA	ND
11	6	303	CLA	ND
11	6	304	CLA	ND
11	6	306	CLA	ND

5 of 1794 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
11	6	301	CLA	C1A-C2A-CAA-CBA
11	6	301	CLA	C3A-C2A-CAA-CBA
11	6	304	CLA	C2-C3-C5-C6
11	6	304	CLA	C4-C3-C5-C6
11	6	306	CLA	C1A-C2A-CAA-CBA

There are no ring outliers.

88 monomers are involved in 141 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
11	12	321	CLA	1	0
11	13	301	CLA	2	0
11	7	303	CLA	1	0
14	7	314	A86	1	0
11	12	310	CLA	2	0
11	15	313	CLA	4	0
11	13	302	CLA	2	0
11	11	308	CLA	1	0
11	14	307	CLA	2	0
17	12	320	LMT	2	0
11	8	302	CLA	2	0
11	16	301	CLA	7	0
11	15	302	CLA	5	0
11	7	309	CLA	1	0
14	14	317	A86	1	0
11	16	303	CLA	3	0
11	7	310	CLA	2	0
11	16	310	CLA	2	0
11	6	302	CLA	1	0
11	15	309	CLA	2	0
11	10	308	CLA	3	0
11	7	308	CLA	4	0
11	6	313	CLA	2	0
12	8	313	KC1	1	0
11	6	304	CLA	2	0
11	10	307	CLA	2	0
17	12	319	LMT	3	0
16	8	321	LMG	1	0
13	11	312	DD6	1	0
12	13	310	KC1	1	0
11	6	311	CLA	3	0
11	10	303	CLA	3	0
11	16	302	CLA	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
14	8	315	A86	1	0
13	6	318	DD6	1	0
13	10	313	DD6	1	0
11	13	304	CLA	2	0
11	15	307	CLA	2	0
11	14	303	CLA	3	0
11	7	305	CLA	2	0
11	6	306	CLA	3	0
11	10	309	CLA	1	0
11	12	308	CLA	3	0
11	15	312	CLA	1	0
12	16	304	KC1	1	0
11	12	302	CLA	1	0
16	7	319	LMG	1	0
11	16	307	CLA	2	0
11	8	303	CLA	5	0
16	8	320	LMG	1	0
13	6	316	DD6	1	0
11	15	308	CLA	1	0
16	14	322	LMG	1	0
13	7	313	DD6	1	0
11	13	307	CLA	4	0
11	10	304	CLA	3	0
11	8	308	CLA	2	0
17	8	324	LMT	1	0
11	8	305	CLA	2	0
11	12	312	CLA	1	0
14	11	314	A86	1	0
11	15	304	CLA	1	0
11	14	312	CLA	1	0
13	13	314	DD6	1	0
11	15	303	CLA	3	0
11	7	302	CLA	1	0
11	14	302	CLA	2	0
11	11	307	CLA	1	0
13	6	315	DD6	2	0
11	8	304	CLA	1	0
11	7	306	CLA	3	0
11	8	301	CLA	1	0
11	12	304	CLA	2	0
11	12	306	CLA	2	0
17	12	322	LMT	1	0

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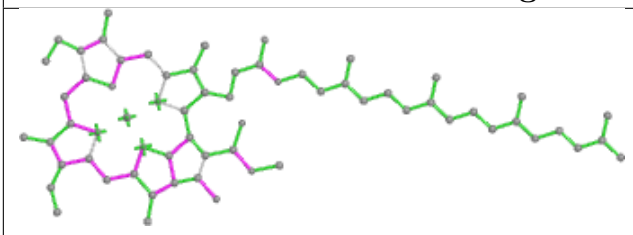
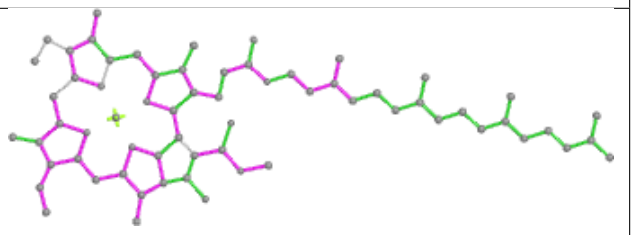
Mol	Chain	Res	Type	Clashes	Symm-Clashes
11	6	303	CLA	1	0
11	10	305	CLA	2	0
11	8	309	CLA	1	0
17	11	316	LMT	2	0
11	12	303	CLA	3	0
17	12	301	LMT	1	0
11	11	303	CLA	4	0
14	14	320	A86	1	0
11	14	305	CLA	1	0
11	16	306	CLA	1	0
16	8	323	LMG	1	0
11	6	301	CLA	2	0
11	13	303	CLA	1	0

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

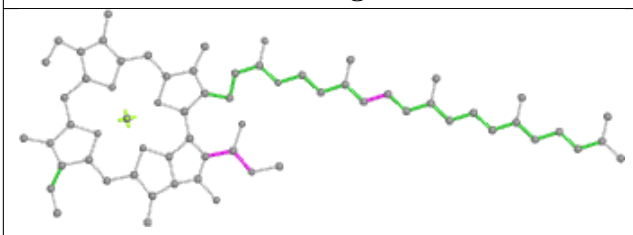
Ligand CLA 12 321



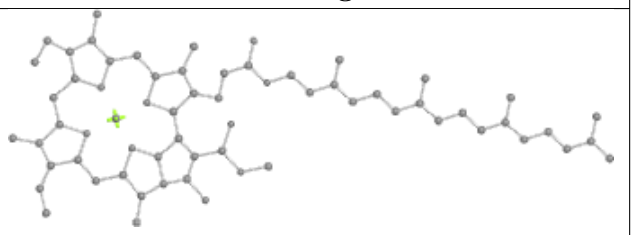
Bond lengths



Bond angles

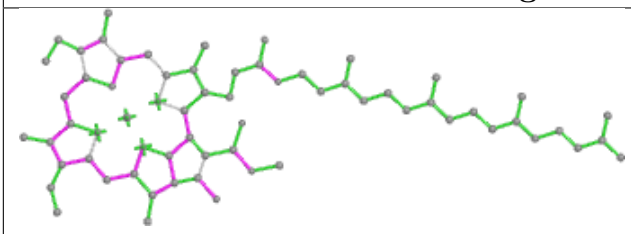


Torsions

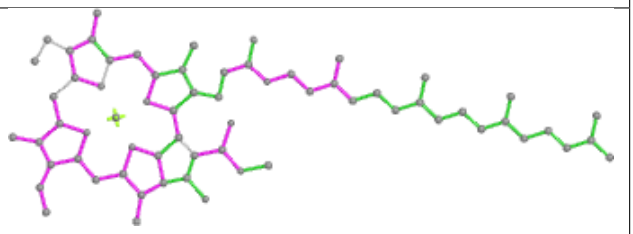


Rings

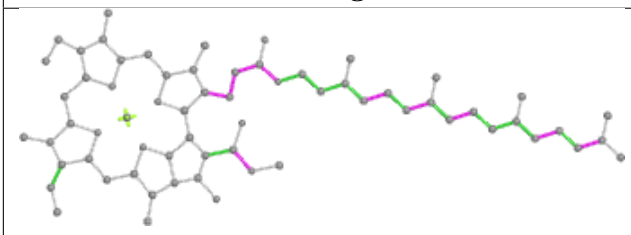
Ligand CLA 13 301



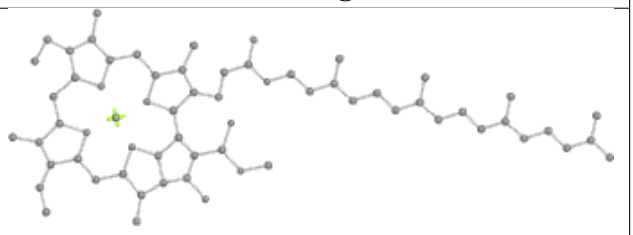
Bond lengths



Bond angles

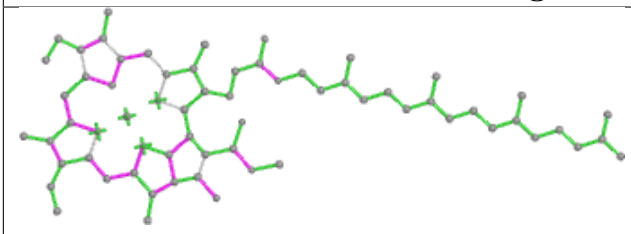


Torsions

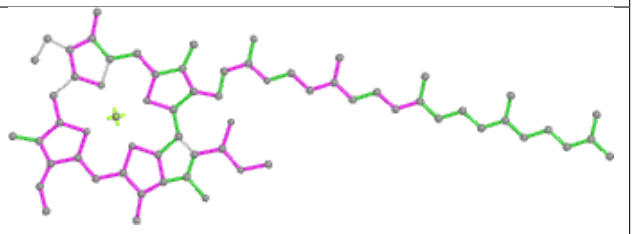


Rings

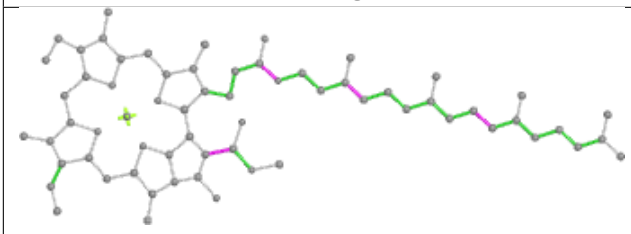
Ligand CLA 7 303



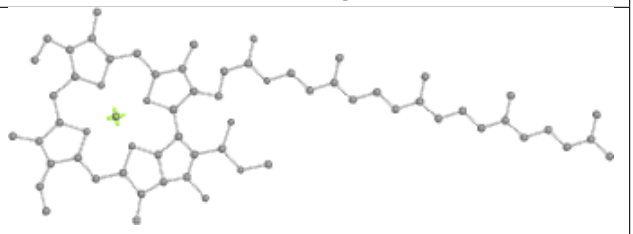
Bond lengths



Bond angles

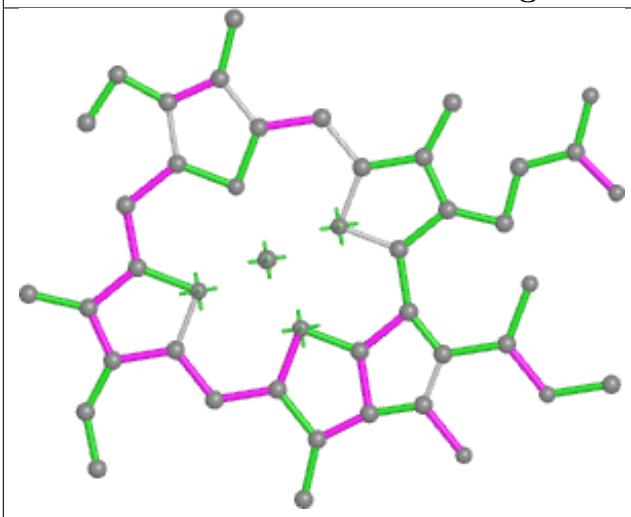


Torsions

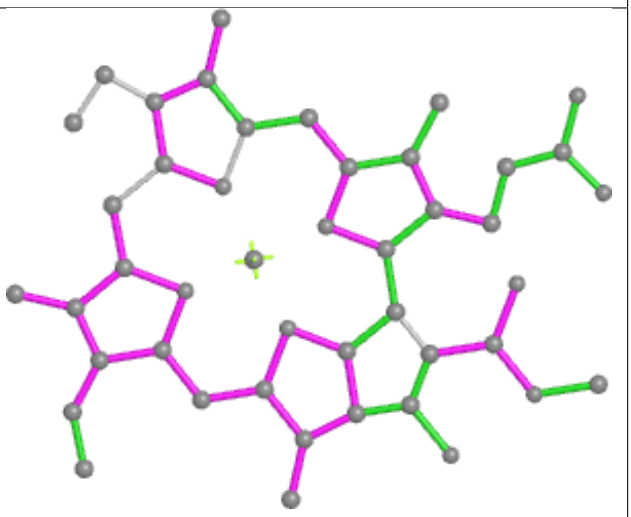


Rings

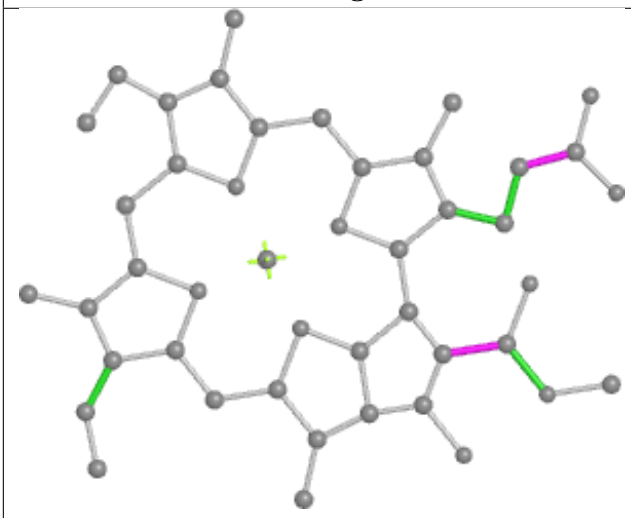
Ligand CLA 14 304



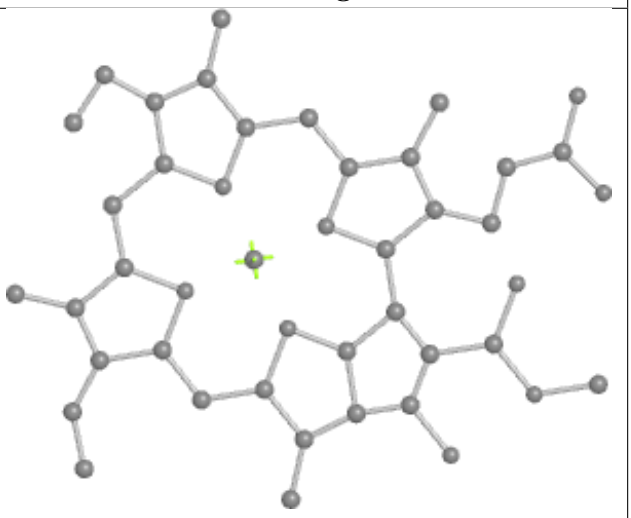
Bond lengths



Bond angles

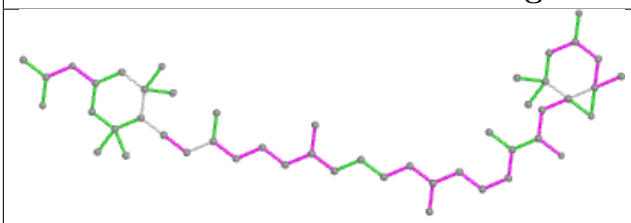


Torsions



Rings

Ligand A86 12 314



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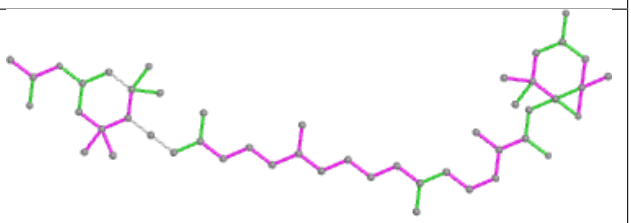

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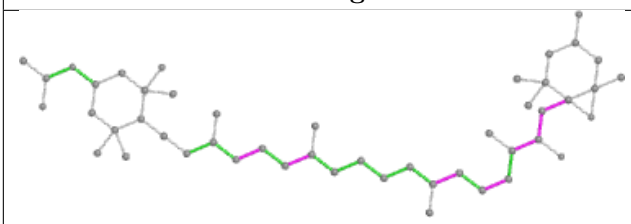

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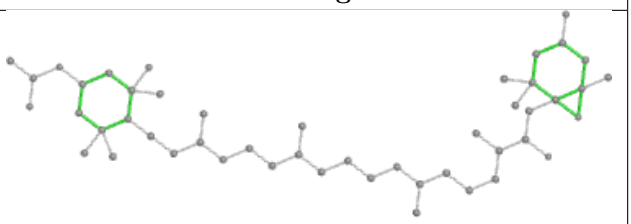
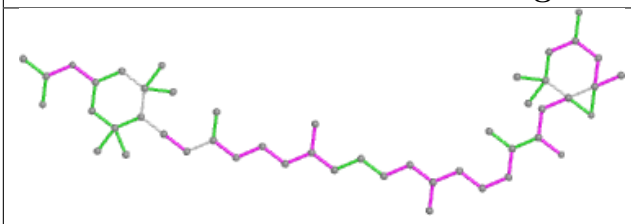


Rings

Ligand A86 7 314



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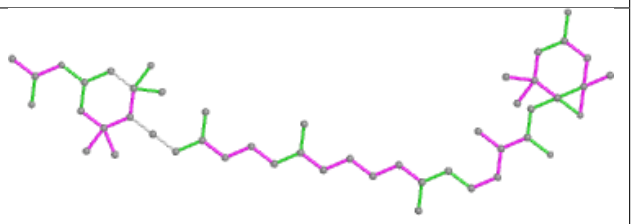

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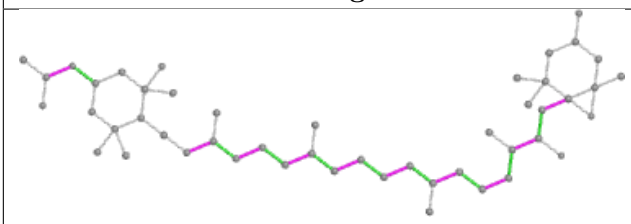

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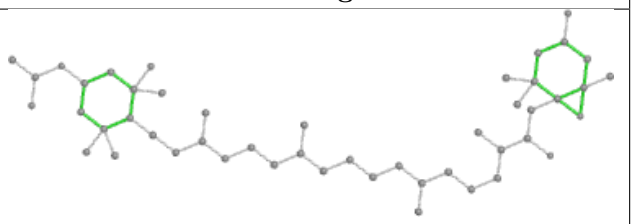
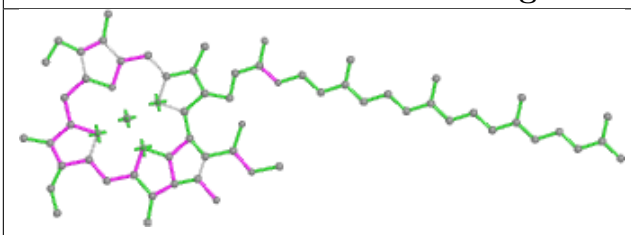


Rings

Ligand CLA 12 310



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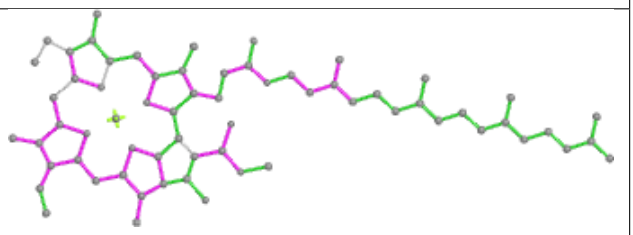
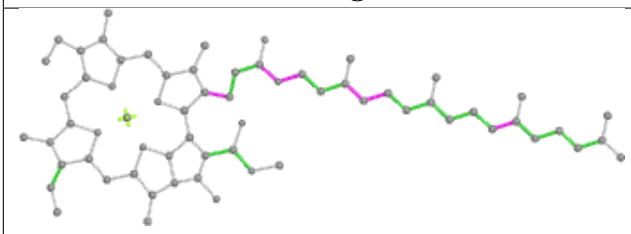


Bond angles



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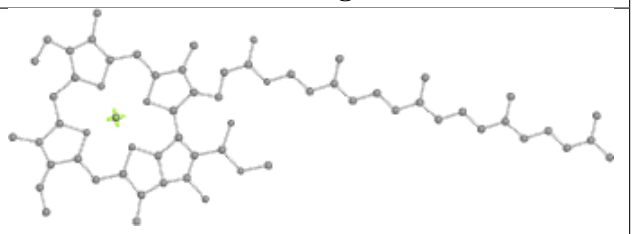
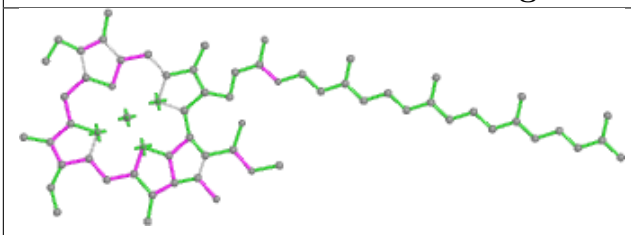


Rings

Ligand CLA 15 313



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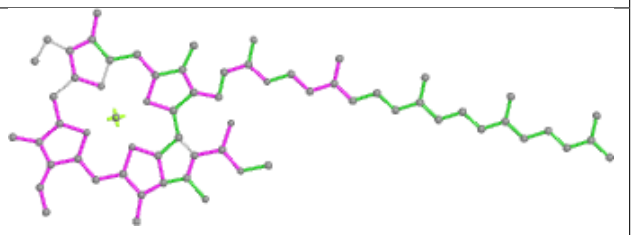

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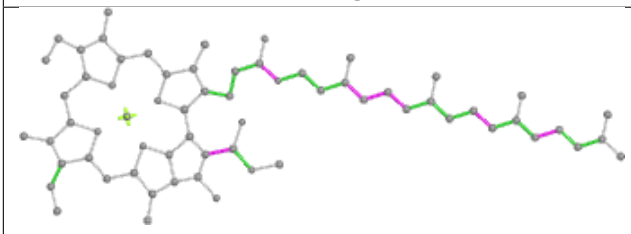

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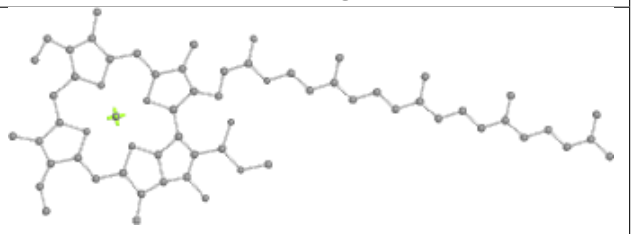
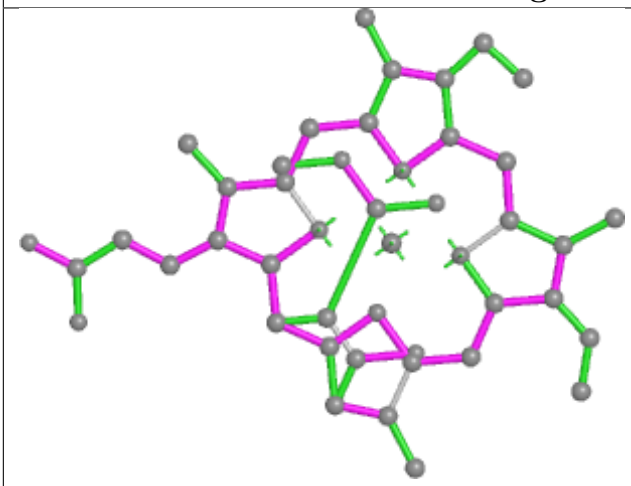


Rings

Ligand KC1 8 314



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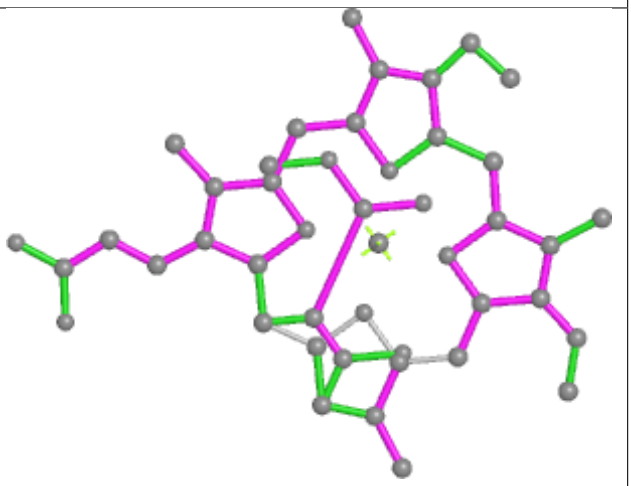

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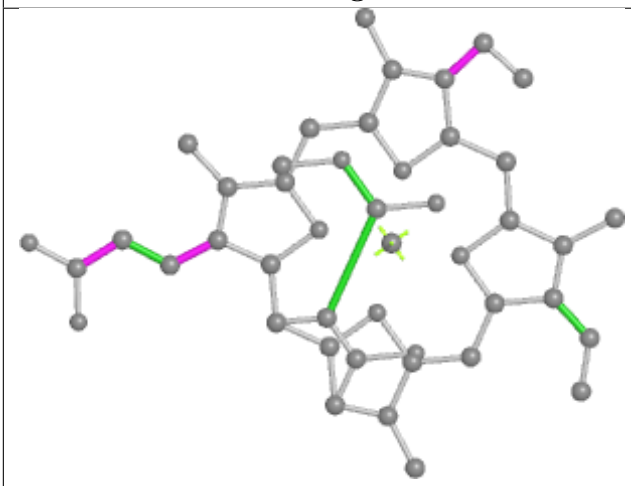

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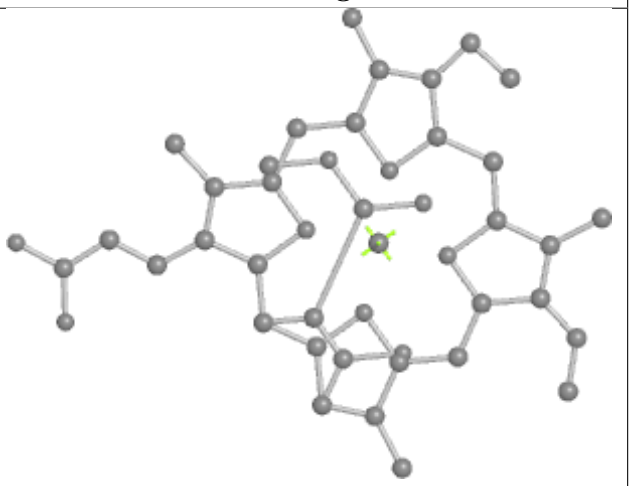
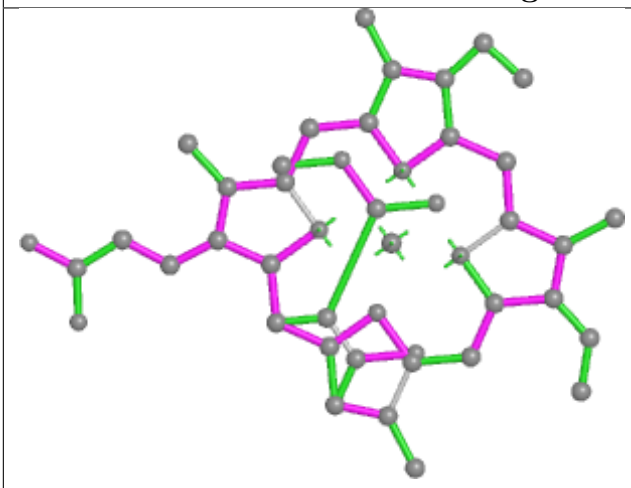


Rings

Ligand KC1 11 304



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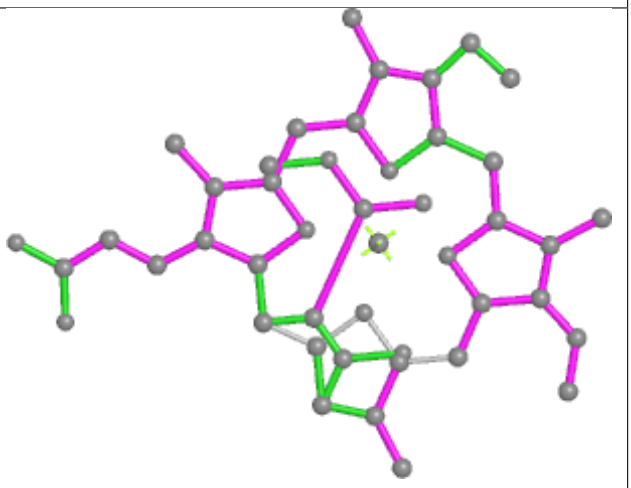

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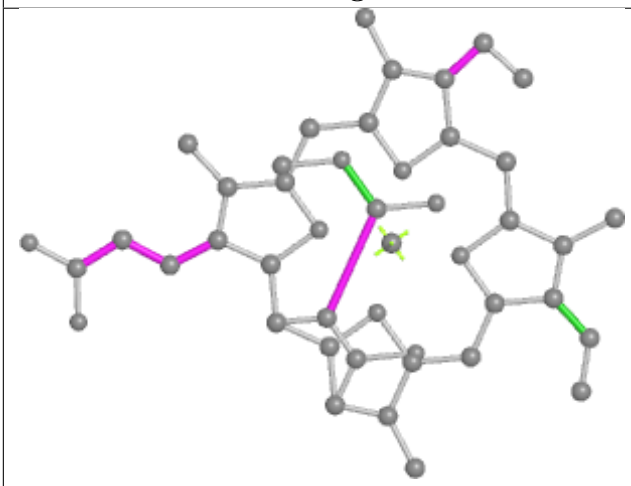

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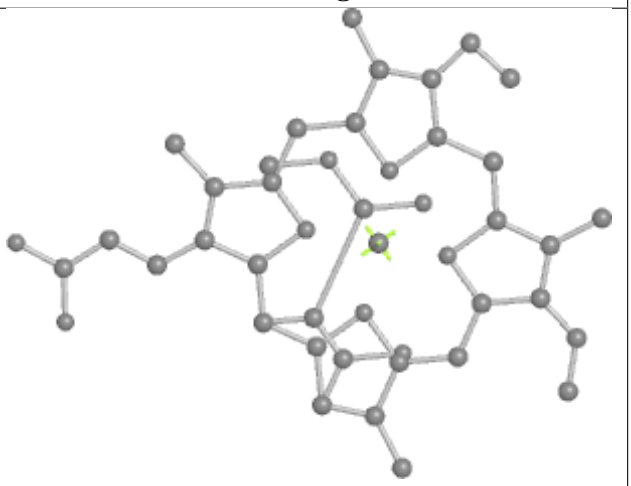
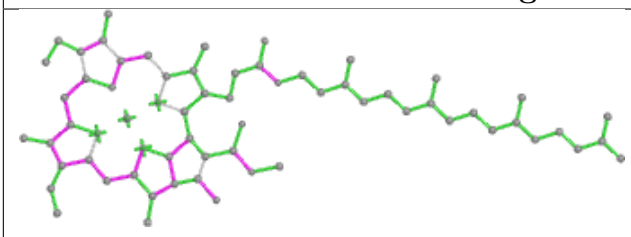


Rings

Ligand CLA 13 302



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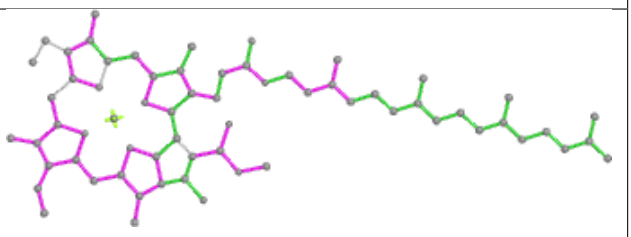

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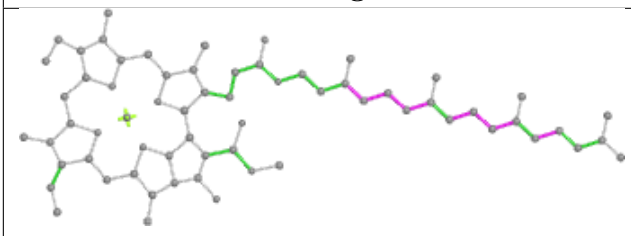

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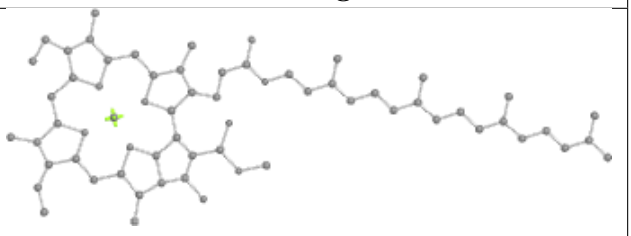
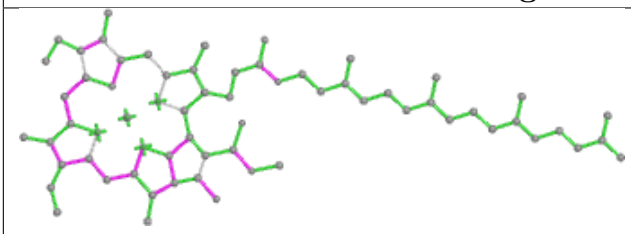


Rings

Ligand CLA 11 308



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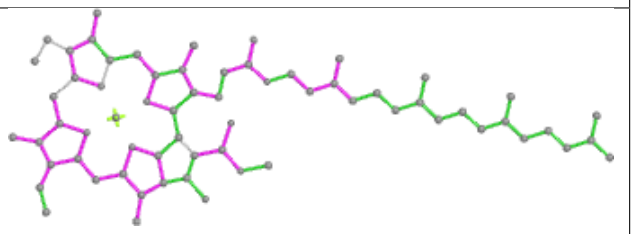

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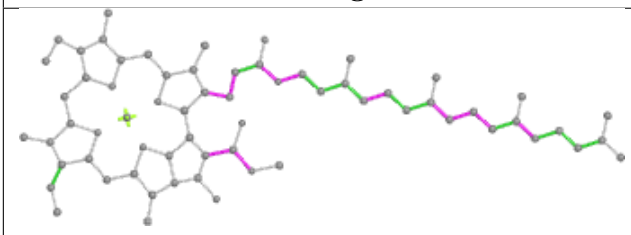

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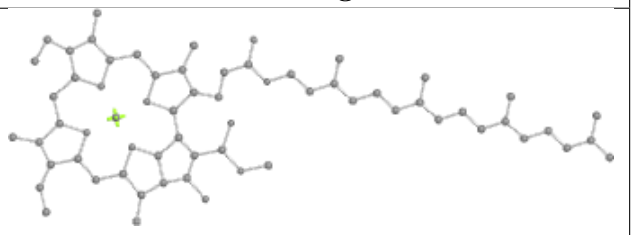
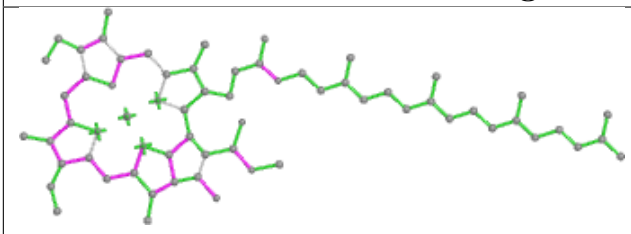


Rings

Ligand CLA 14 307



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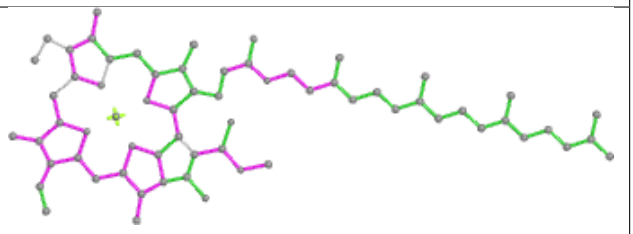

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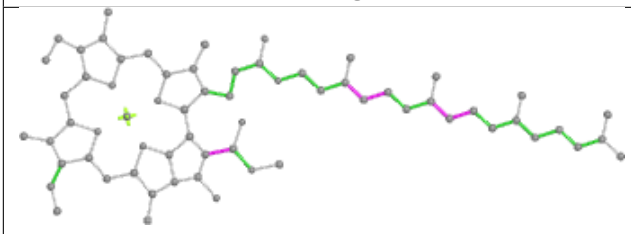

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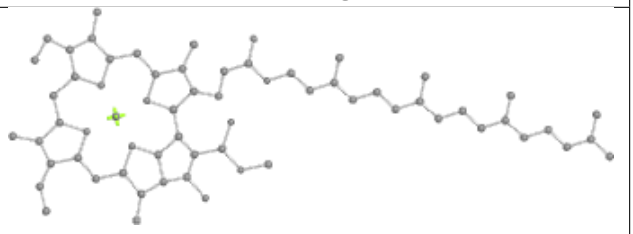
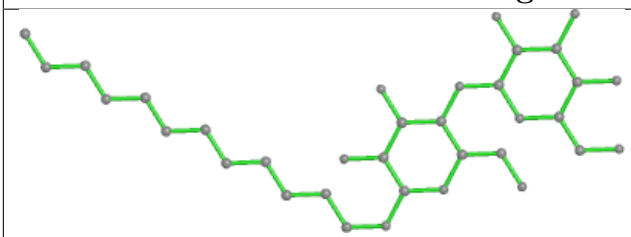


Rings

Ligand LMT 12 320



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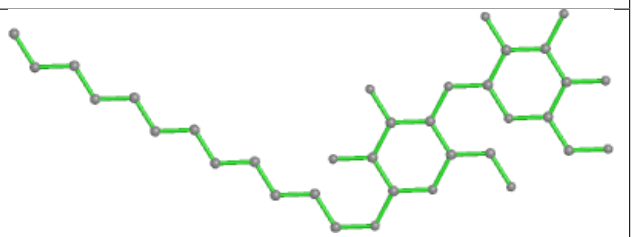

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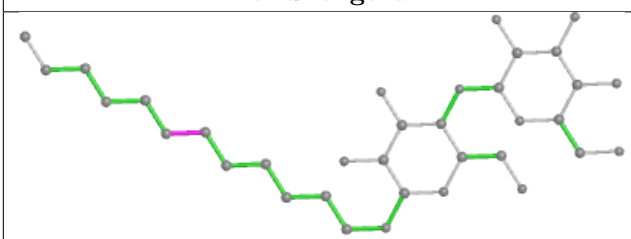

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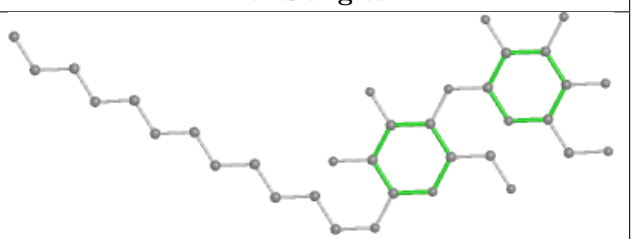
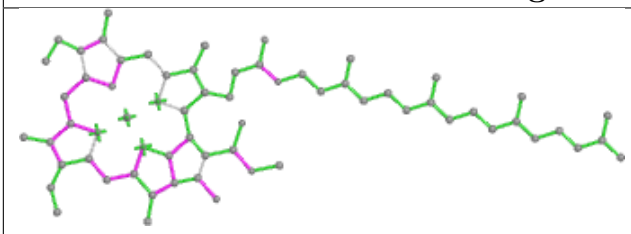


Rings

Ligand CLA 8 302



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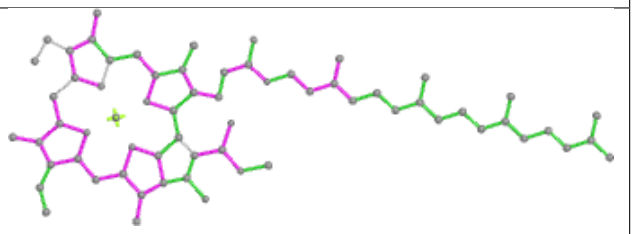
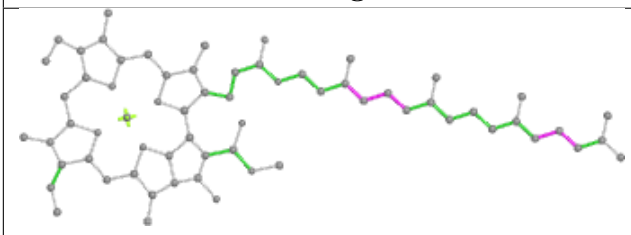


Bond angles



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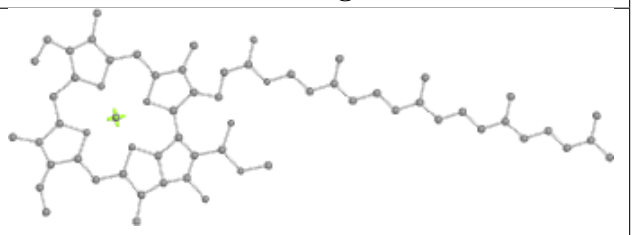
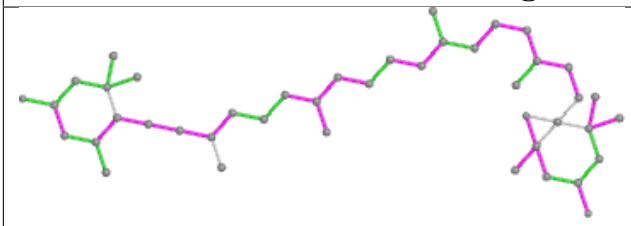


Rings

Ligand DD6 12 315



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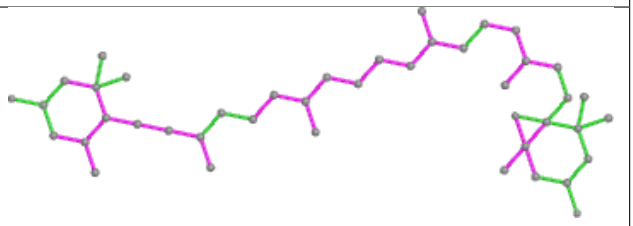
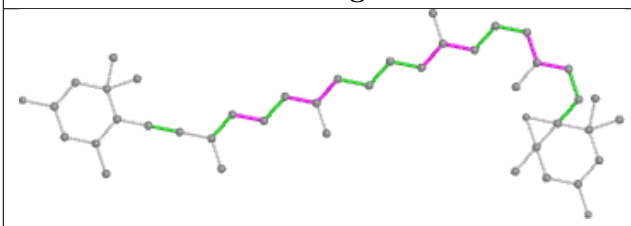


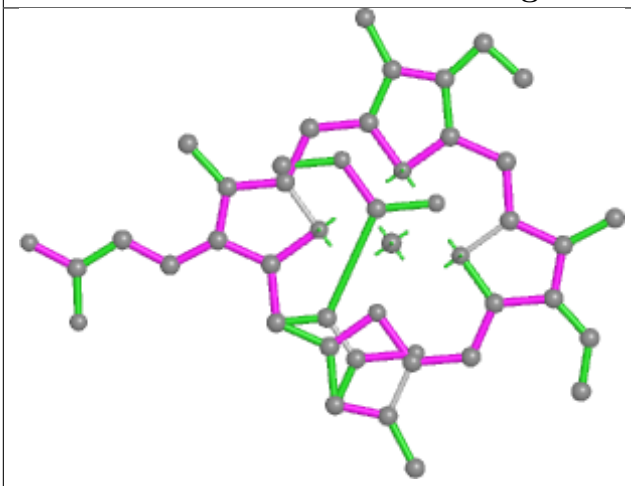
Bond angles



Torsions

Rings

Ligand KC1 14 308



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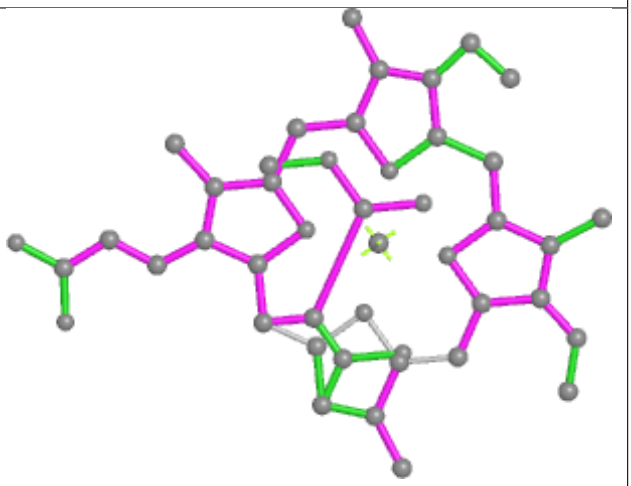
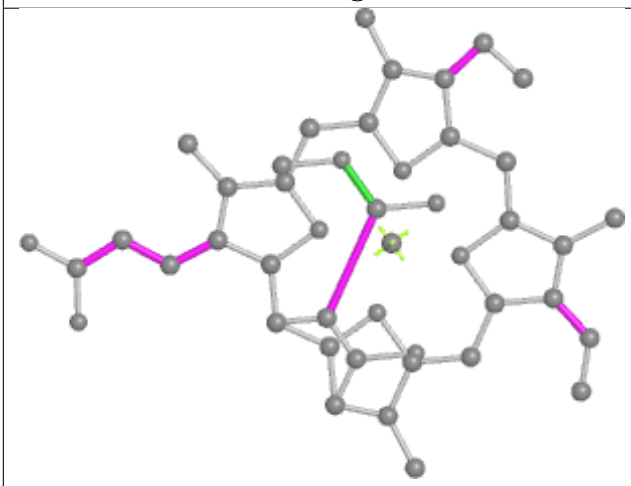
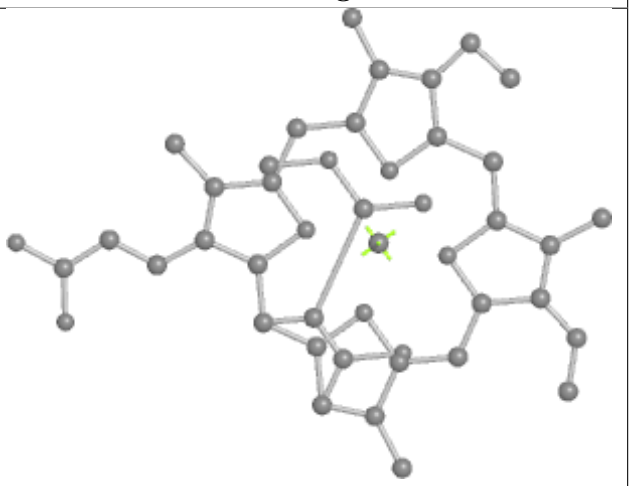


Bond angles

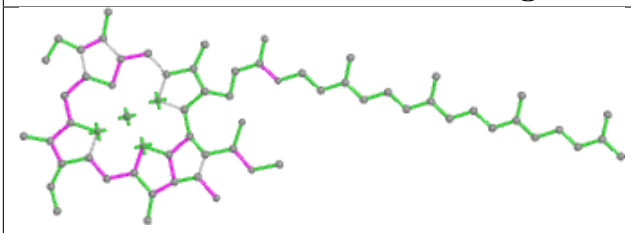


Torsions



Rings

Ligand CLA 16 301



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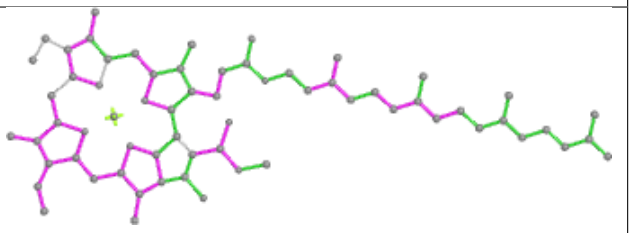
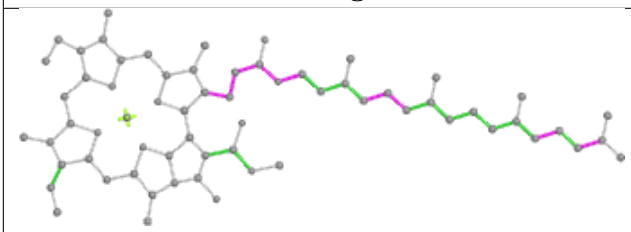


Bond angles



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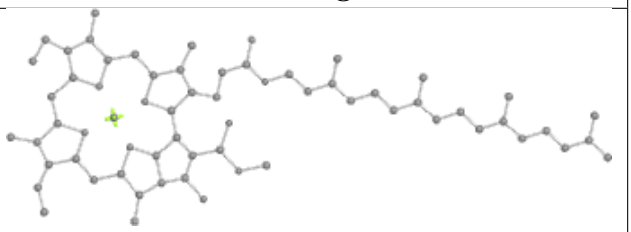
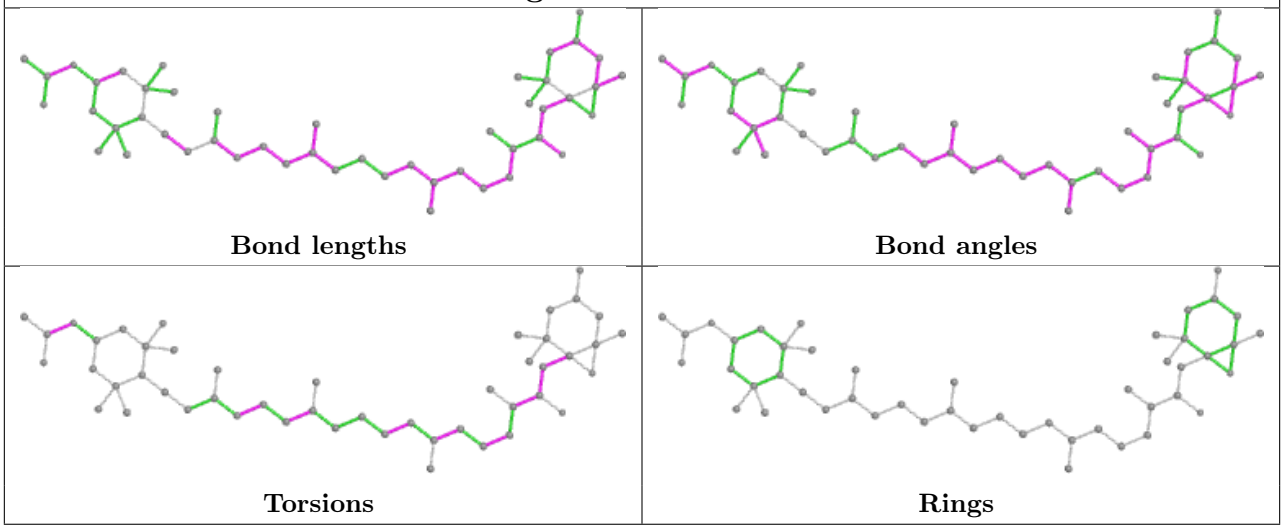
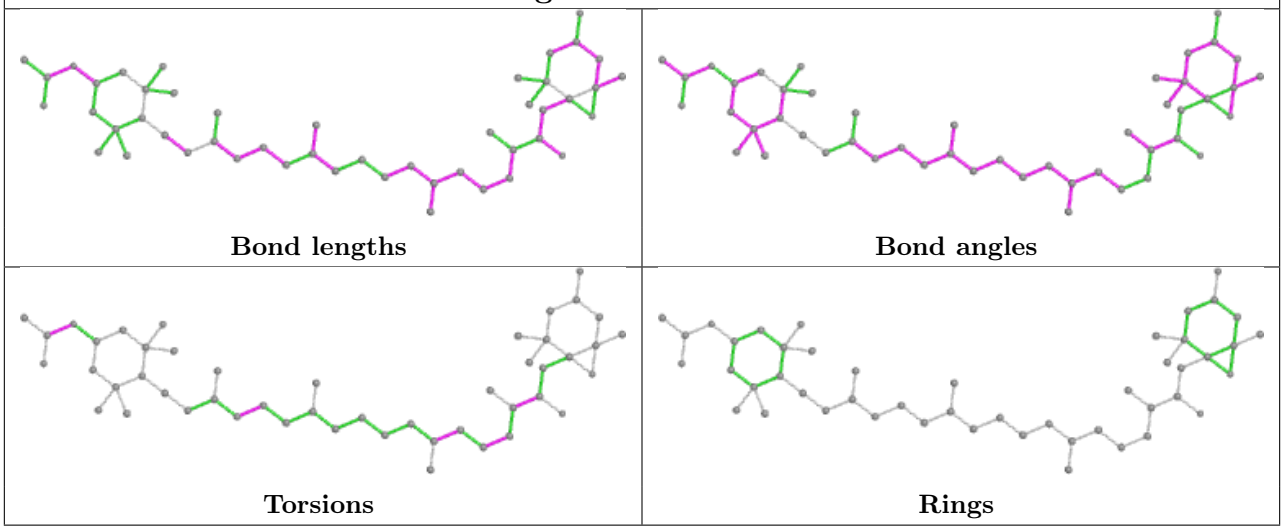


Rings

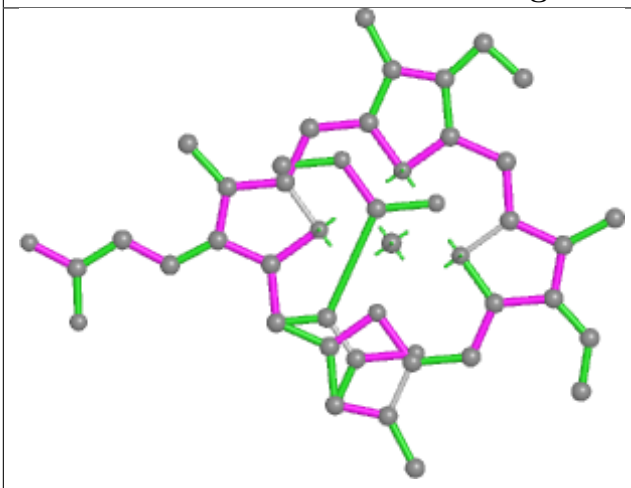
Ligand A86 14 318



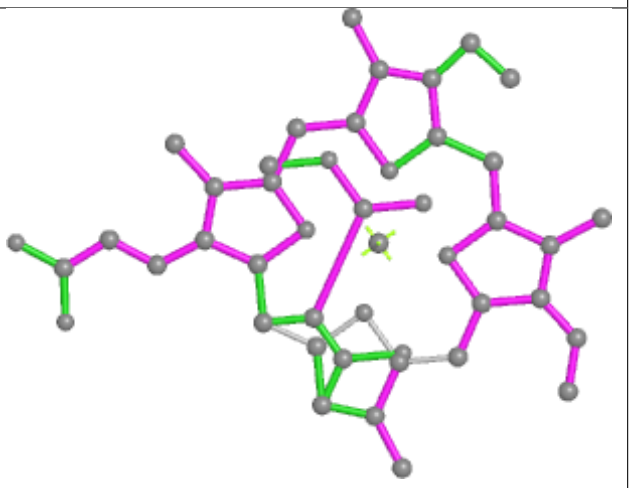
Ligand A86 7 315



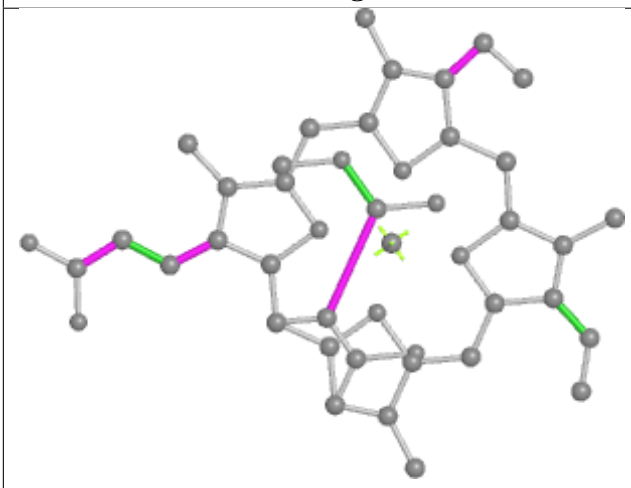
Ligand KC1 6 310



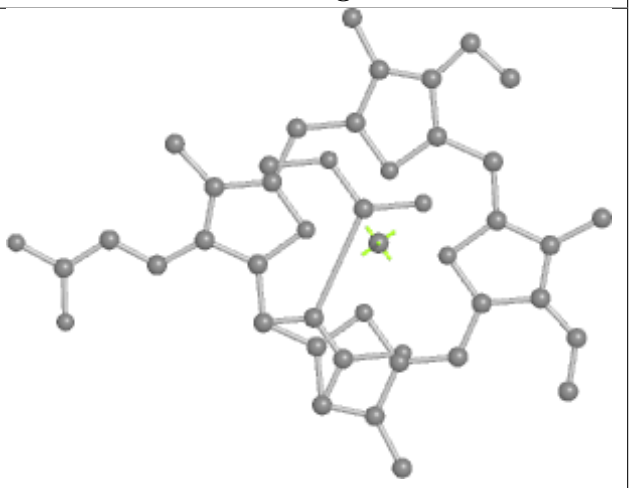
Bond lengths



Bond angles

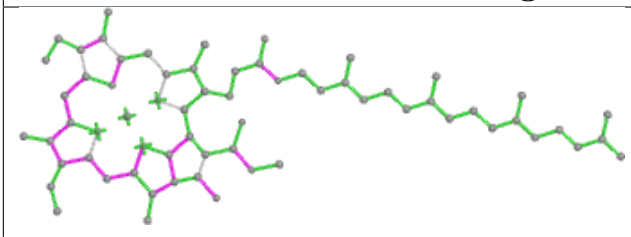


Torsions



Rings

Ligand CLA 15 302



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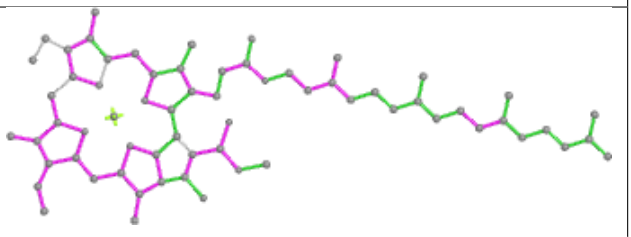
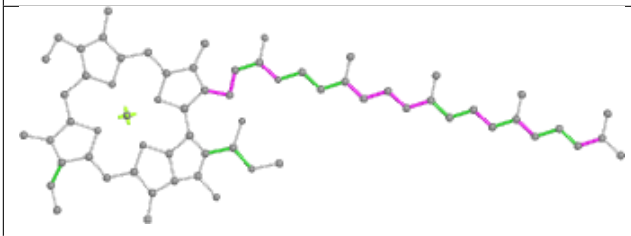


Bond angles



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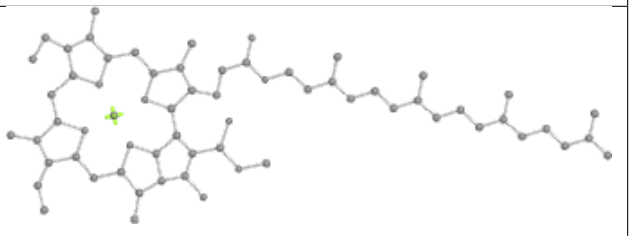
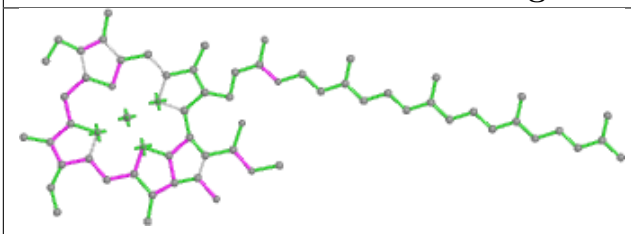


Rings

Ligand CLA 7 309



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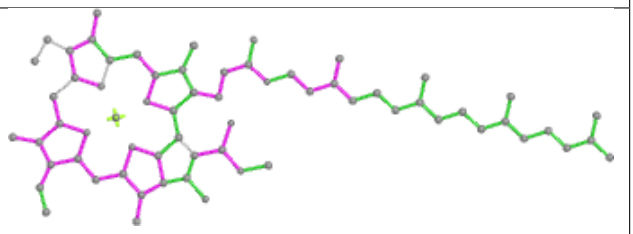
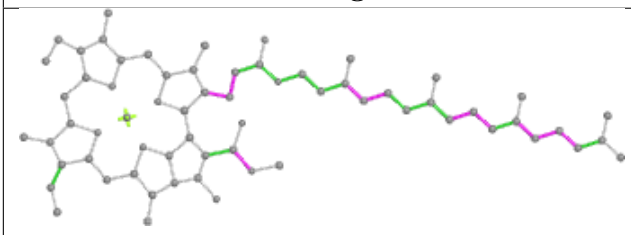
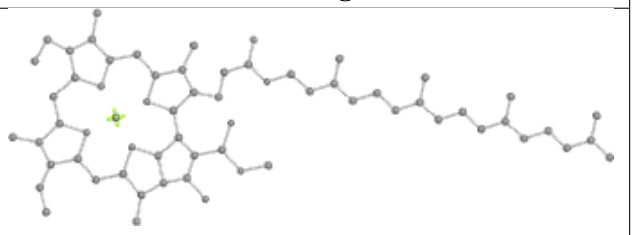


Bond angles

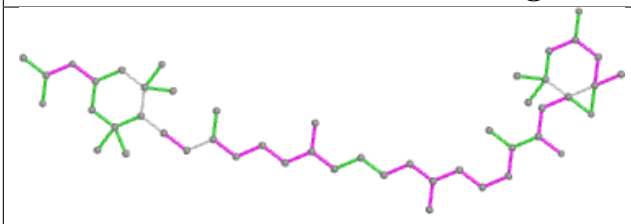


Torsions



Rings

Ligand A86 14 317



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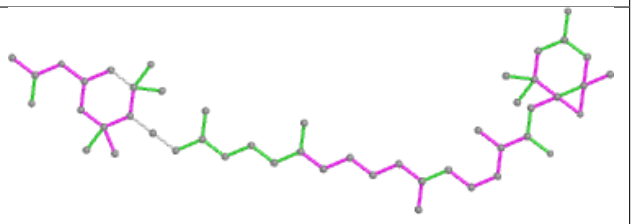
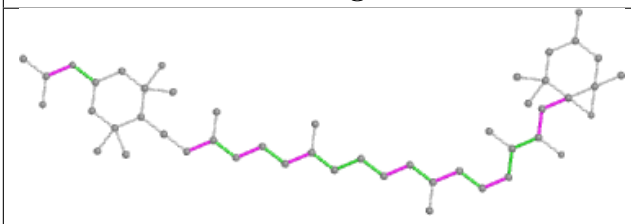
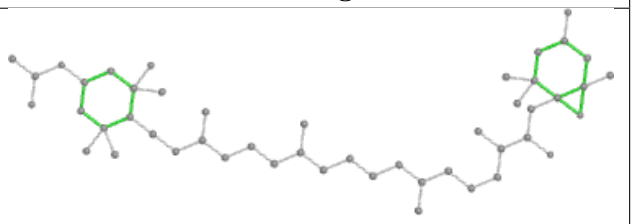


Bond angles

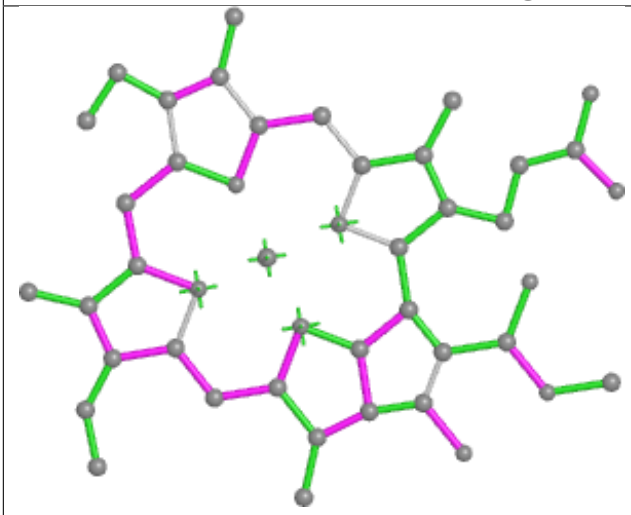


Torsions

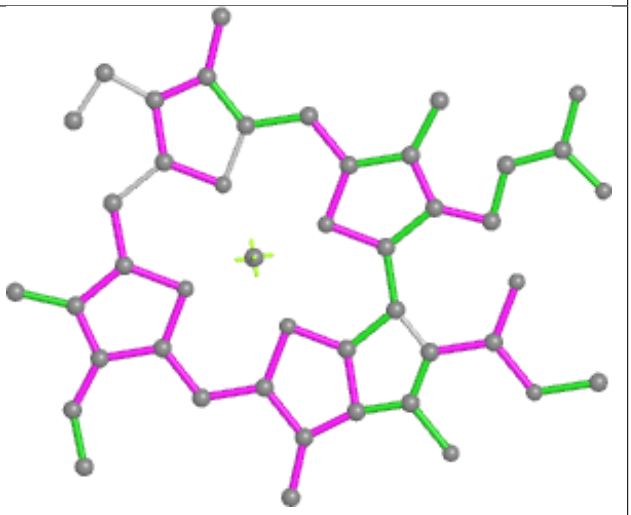


Rings

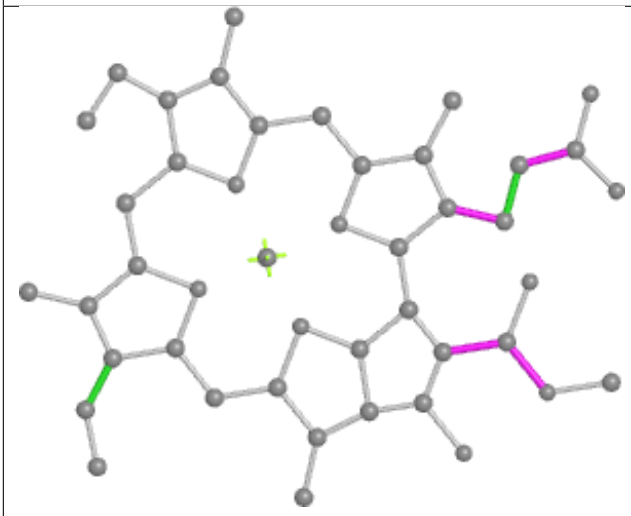
Ligand CLA 10 311



Bond lengths



Bond angles



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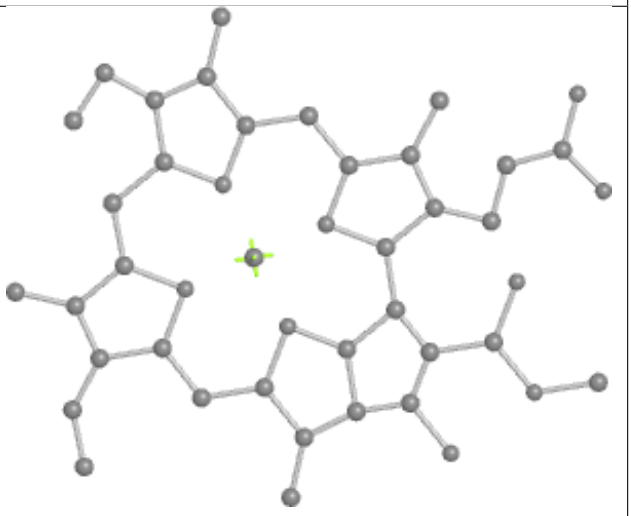
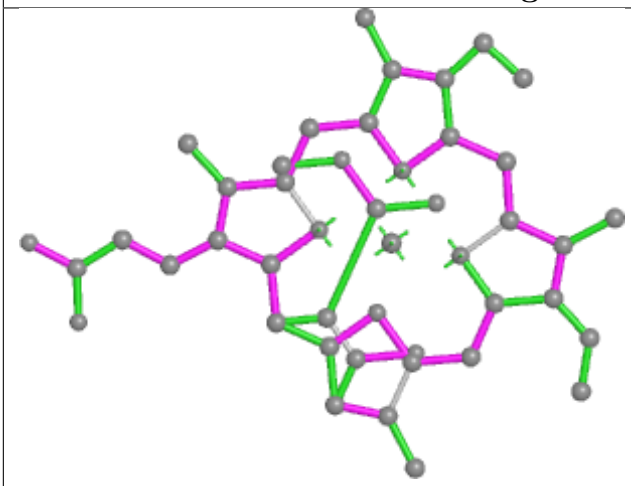


Rings

Ligand KC1 10 312



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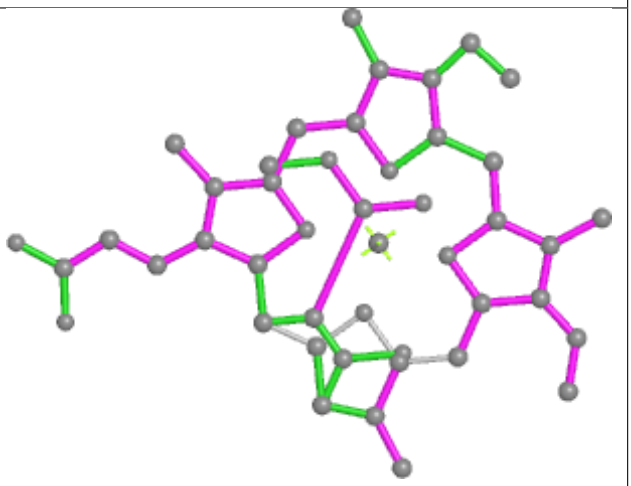
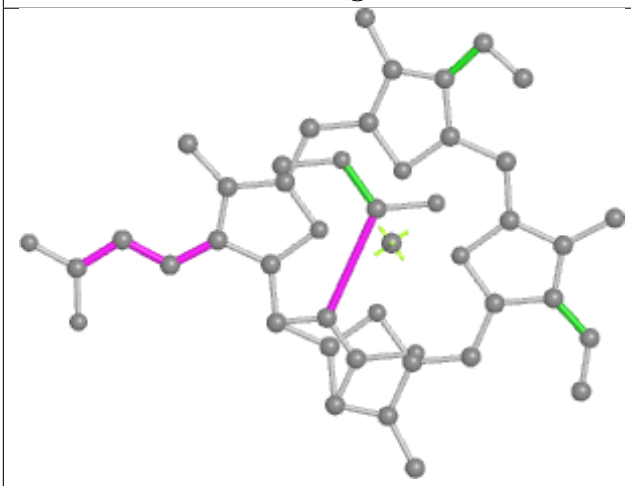


Bond angles



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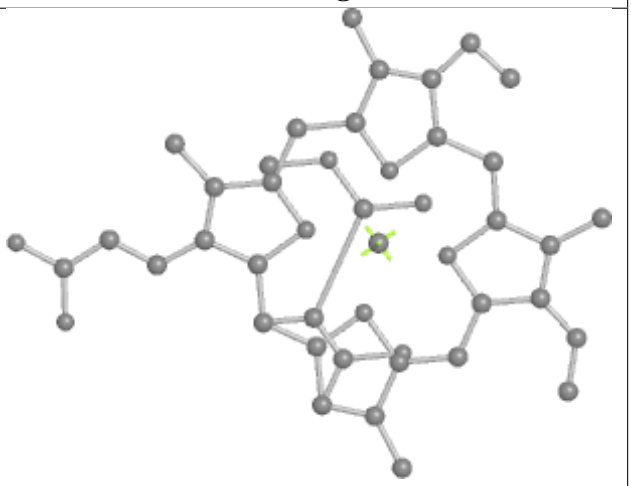
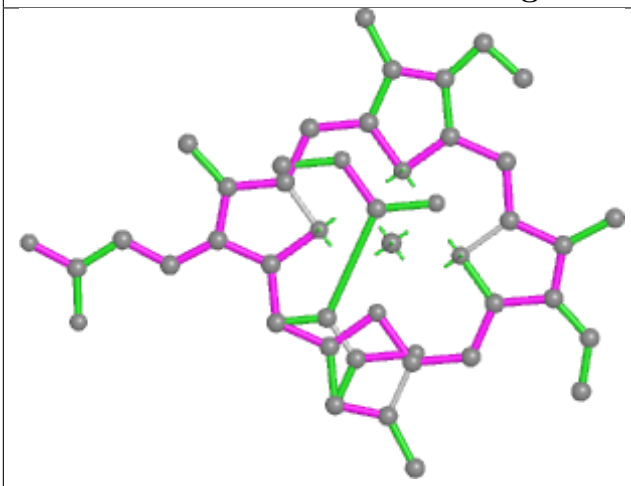
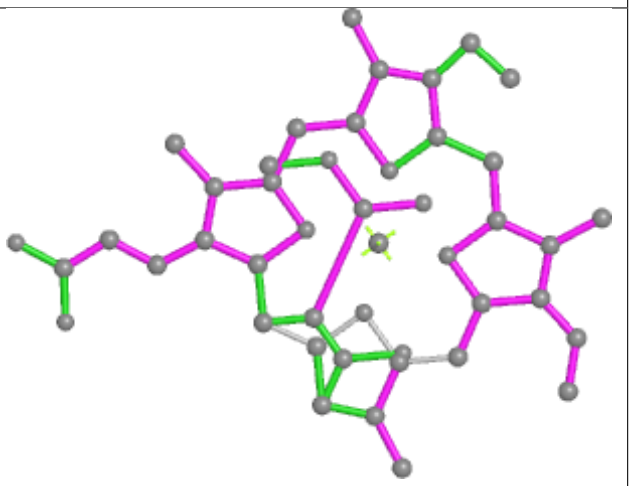


Rings

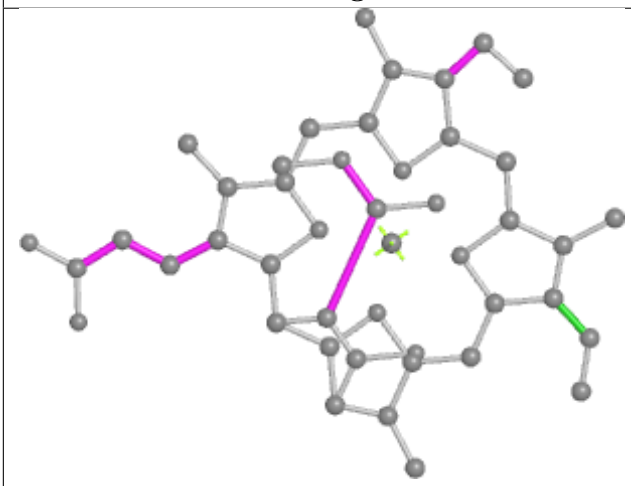
Ligand KC1 11 306



Bond lengths



Bond angles



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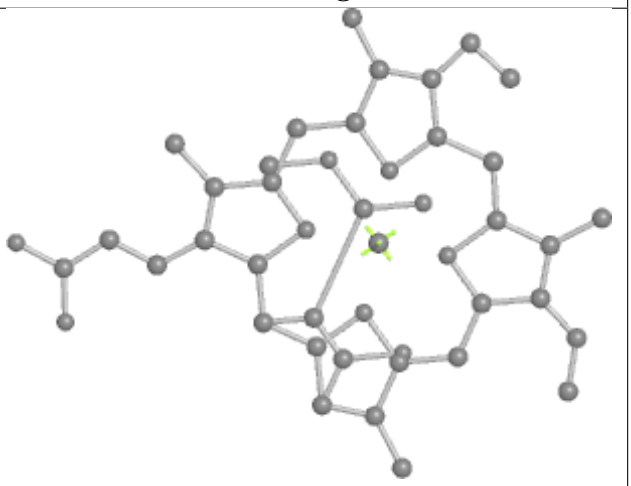
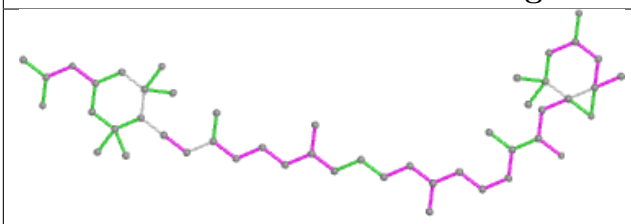
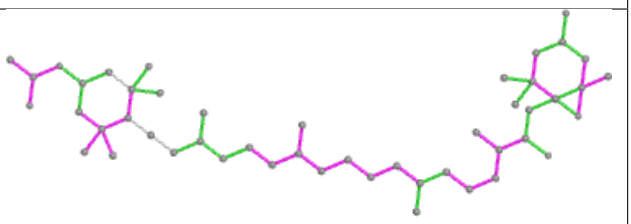


Rings

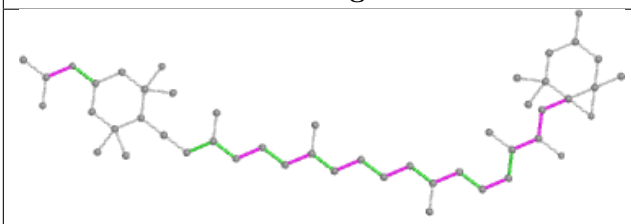
Ligand A86 11 315



Bond lengths



Bond angles



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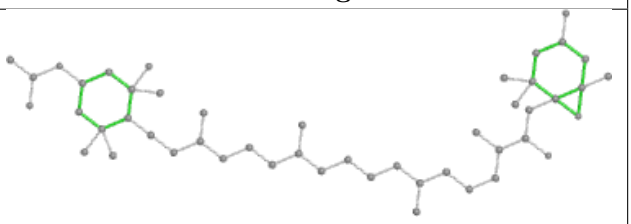
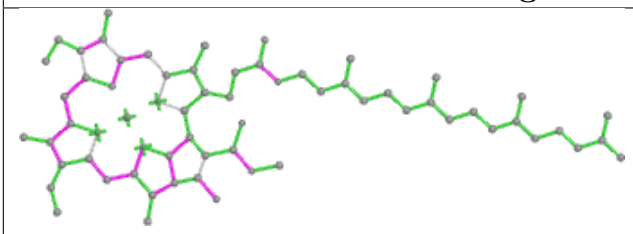
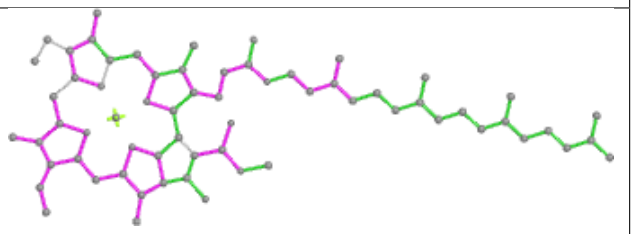


Rings

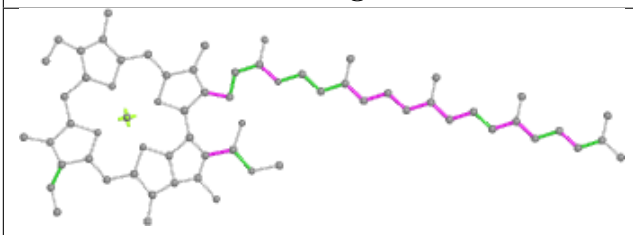
Ligand CLA 16 303



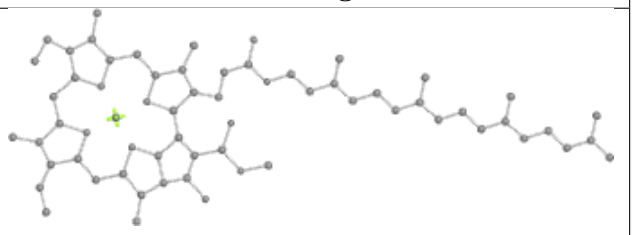
Bond lengths



Bond angles

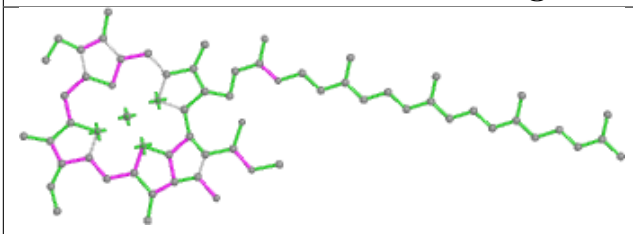


Torsions

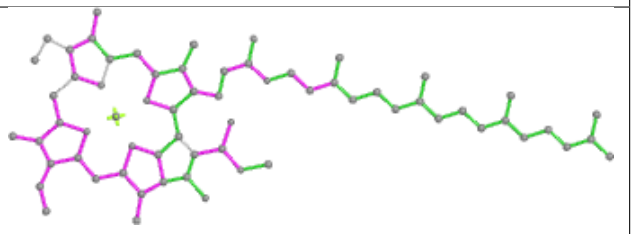


Rings

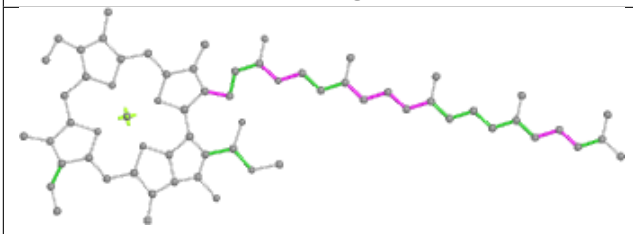
Ligand CLA 7 310



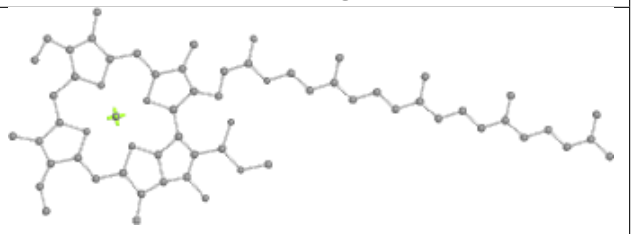
Bond lengths



Bond angles

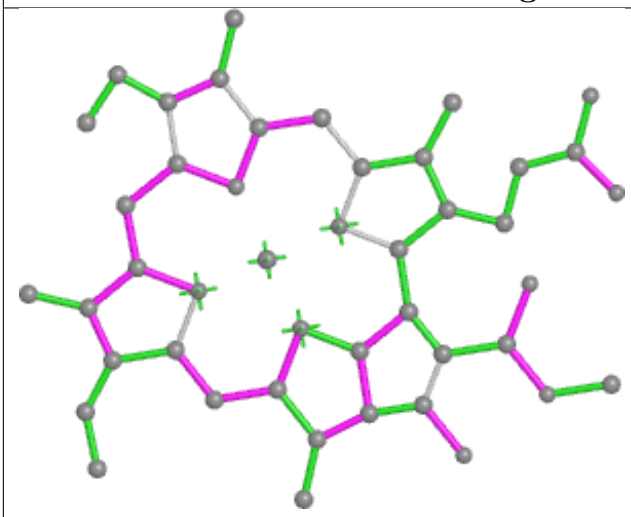


Torsions

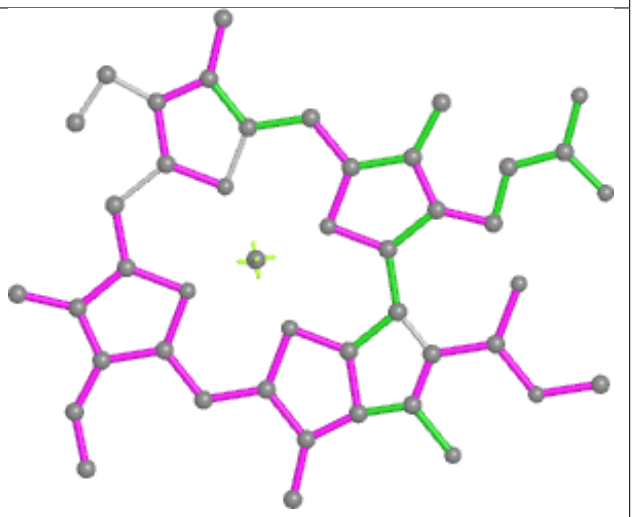


Rings

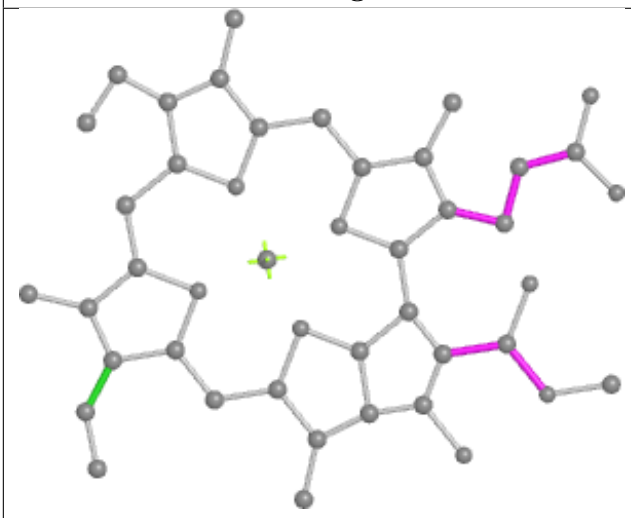
Ligand CLA 16 310



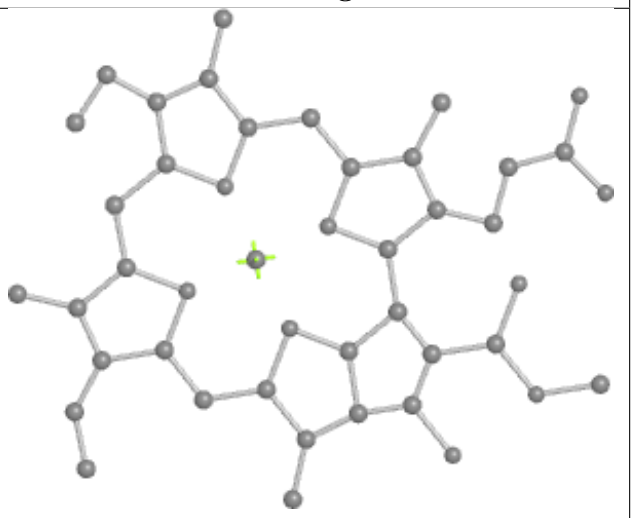
Bond lengths



Bond angles

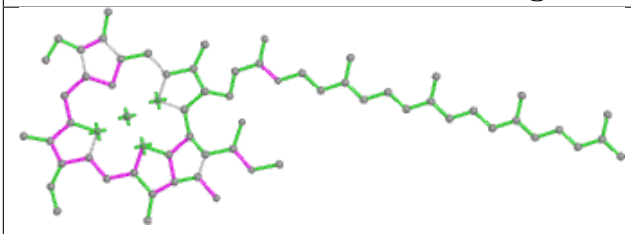


Torsions

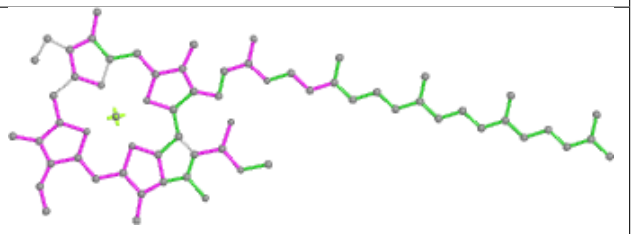


Rings

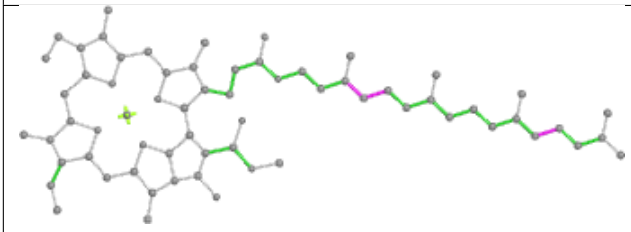
Ligand CLA 6 302



Bond lengths



Bond angles



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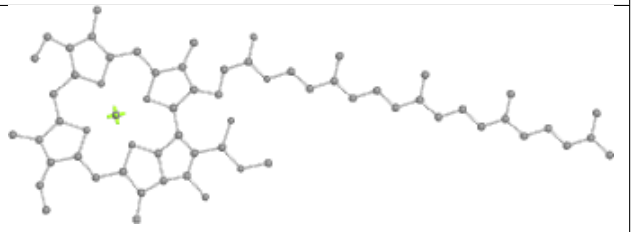
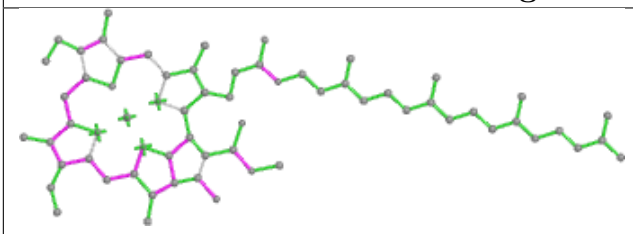
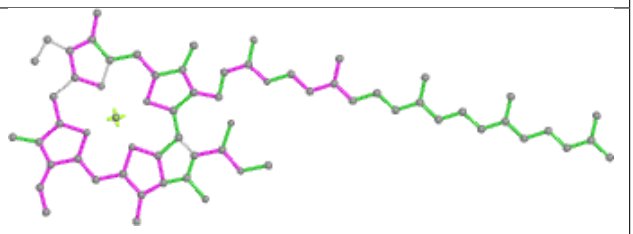


Rings

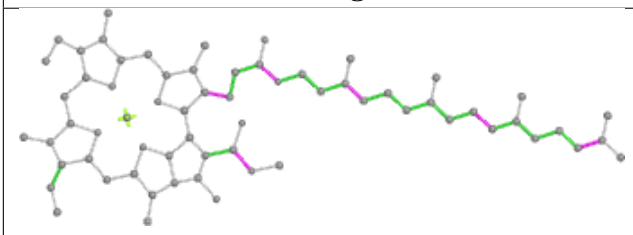
Ligand CLA 15 309



Bond lengths



Bond angles



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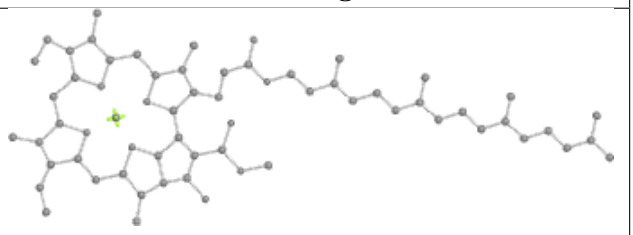
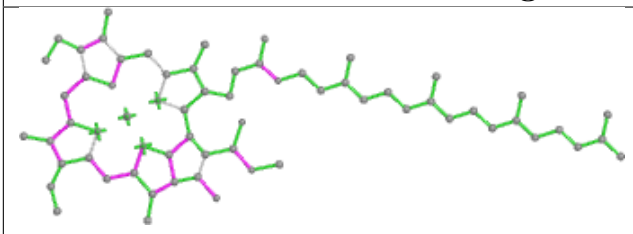
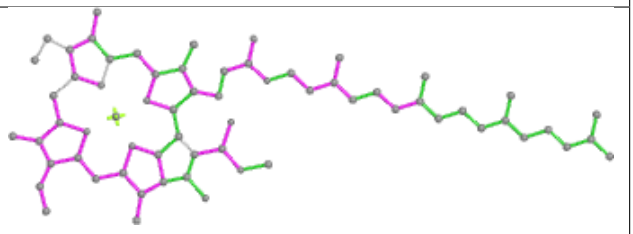


Rings

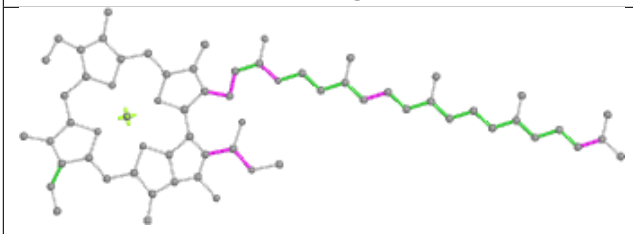
Ligand CLA 10 308



Bond lengths



Bond angles



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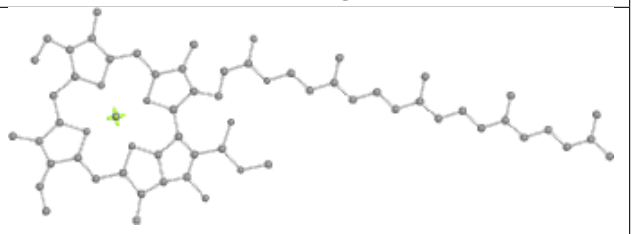
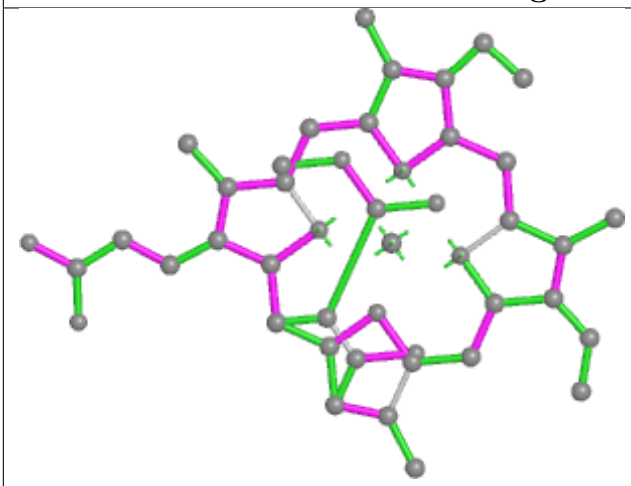
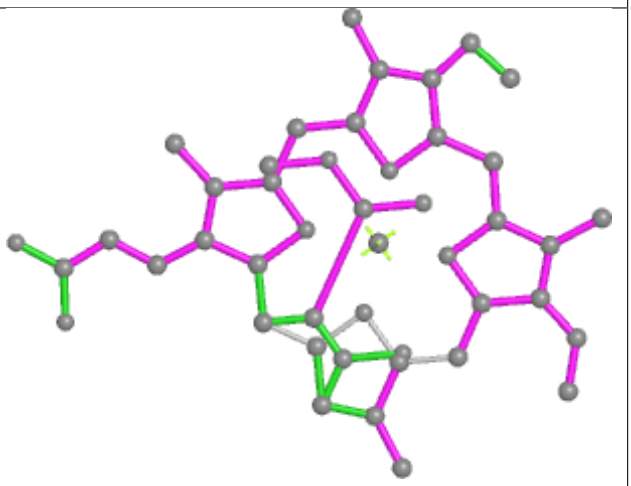


Rings

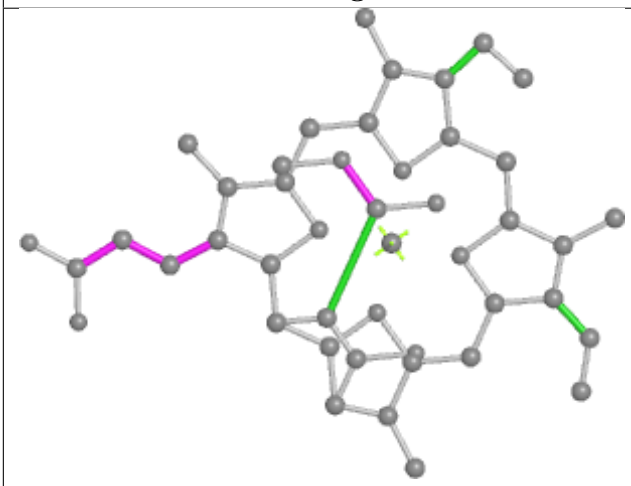
Ligand KC1 8 306



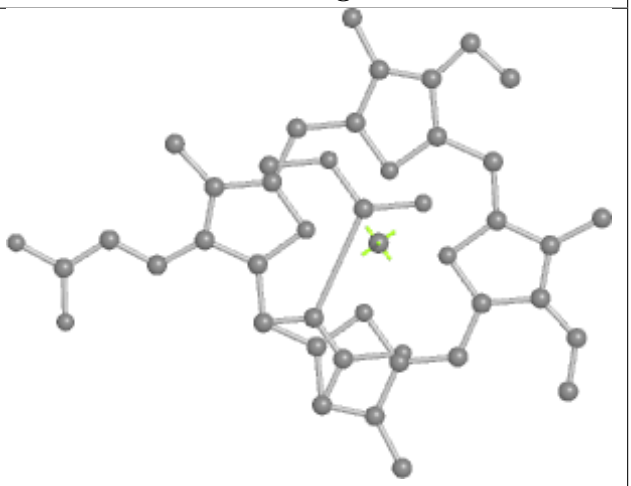
Bond lengths



Bond angles

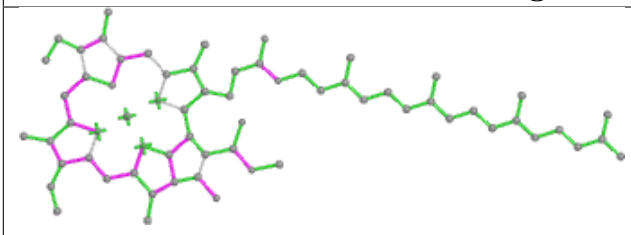


Torsions

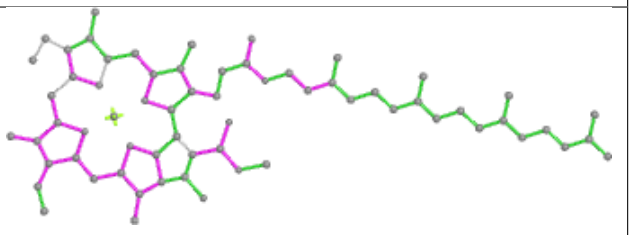


Rings

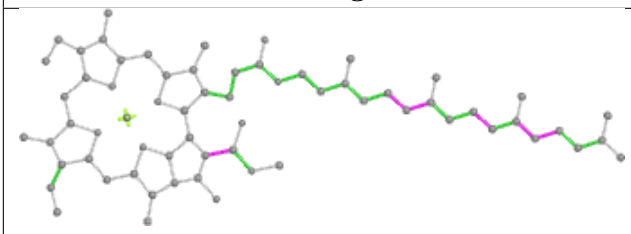
Ligand CLA 7 308



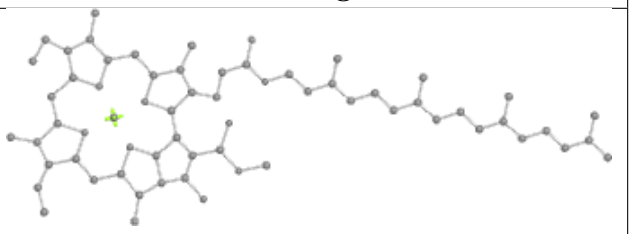
Bond lengths



Bond angles

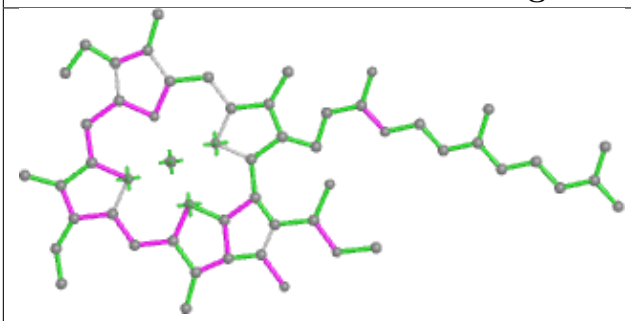


Torsions



Rings

Ligand CLA 6 313



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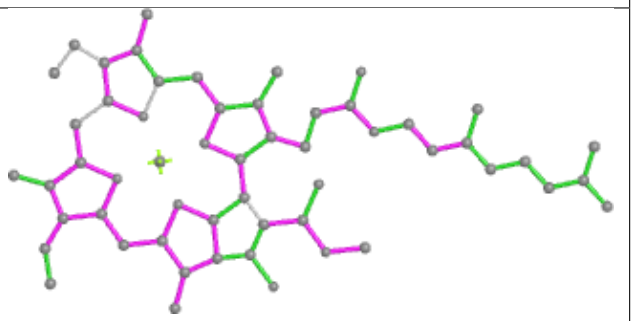

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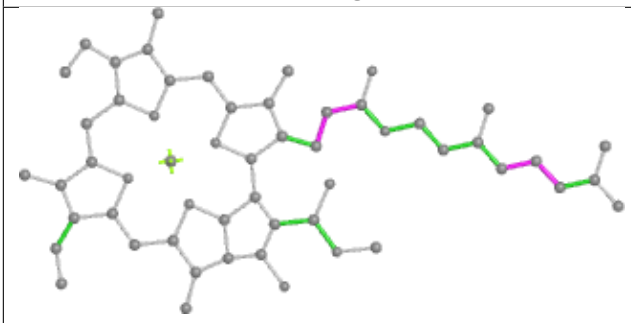

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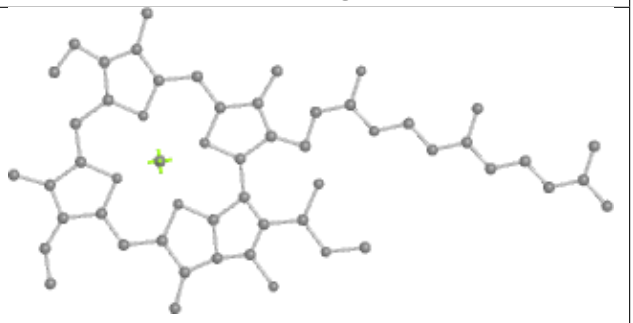
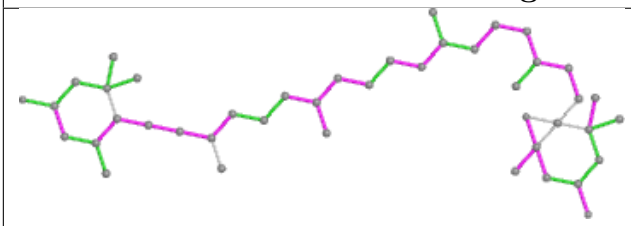


Rings

Ligand DD6 12 317



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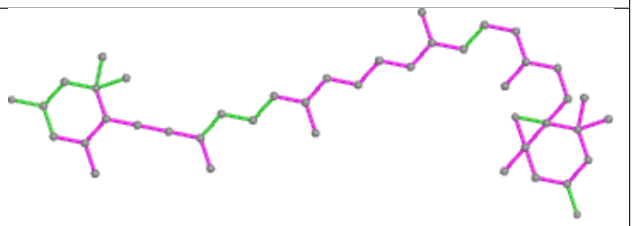

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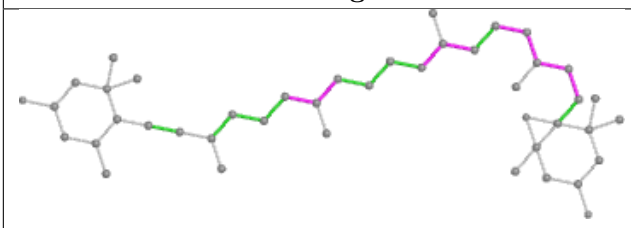
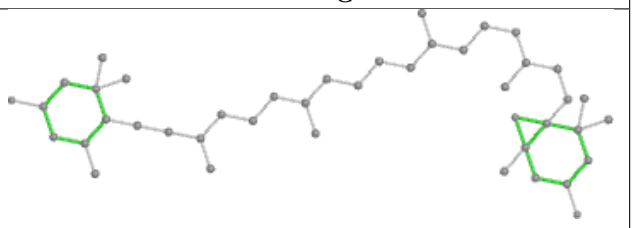
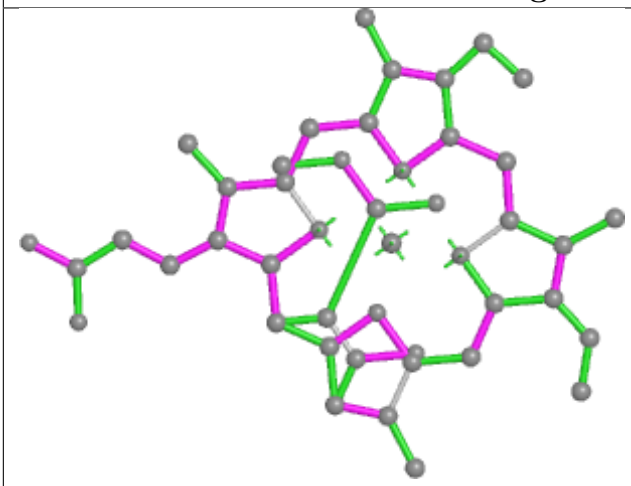


Torsions



Rings

Ligand KC1 8 313



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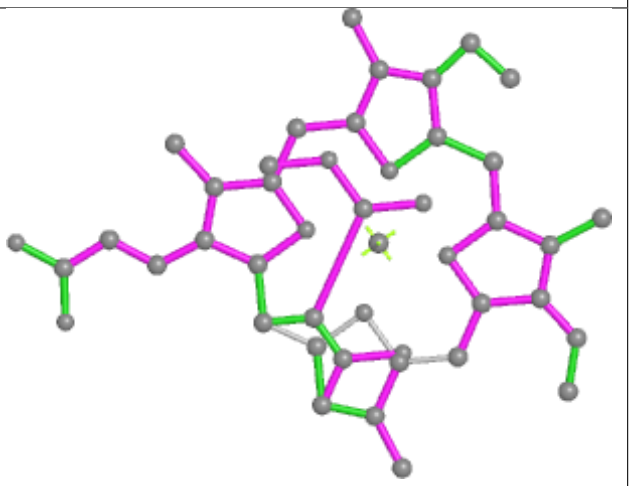

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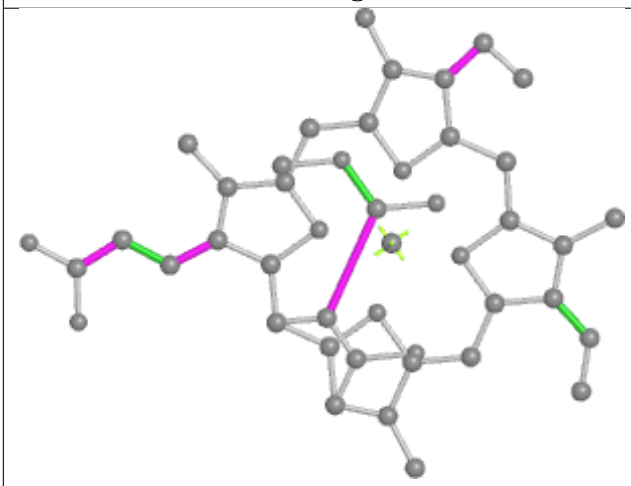

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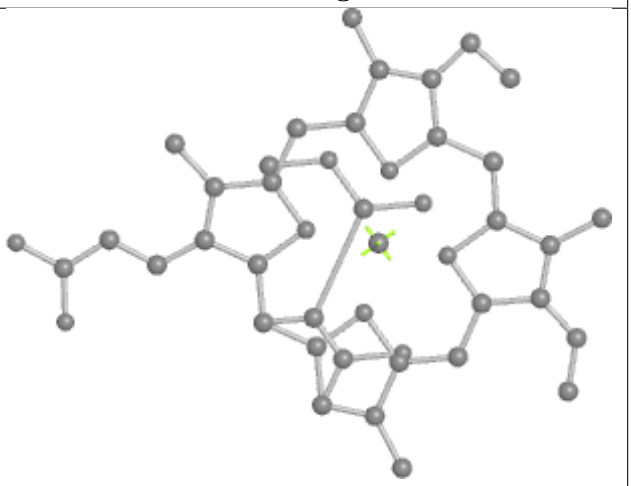
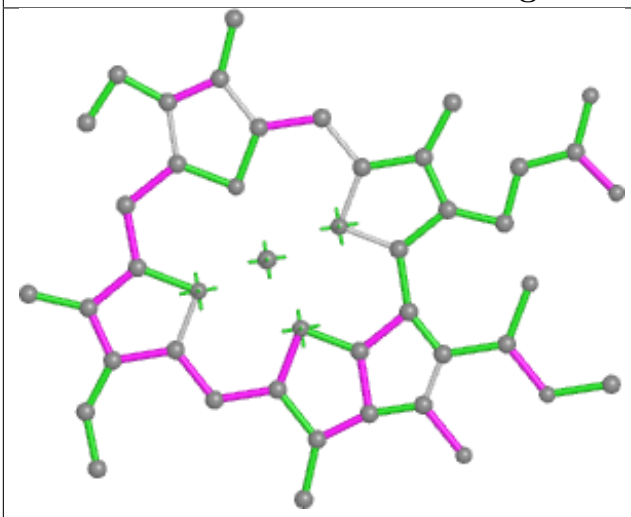


Rings

Ligand CLA 15 310



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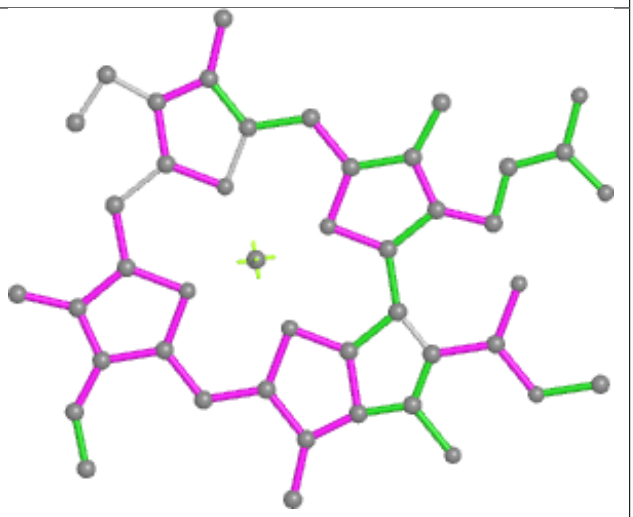

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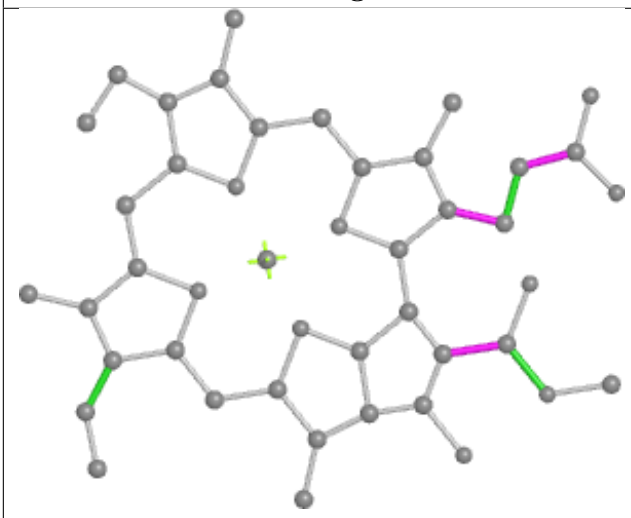

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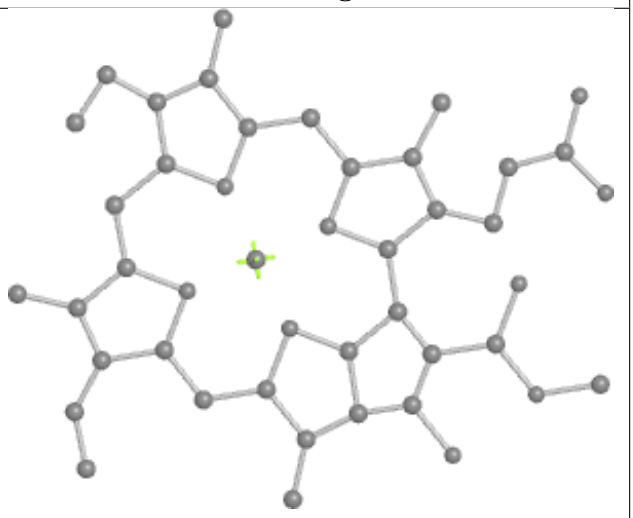
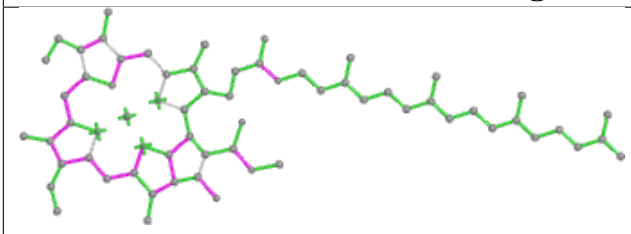


Rings

Ligand CLA 6 304



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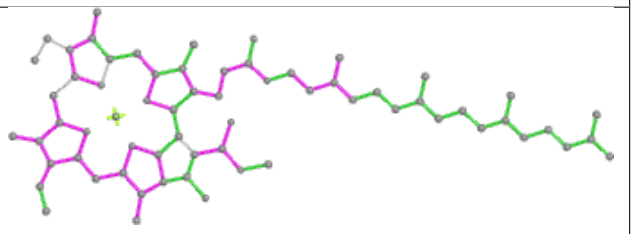
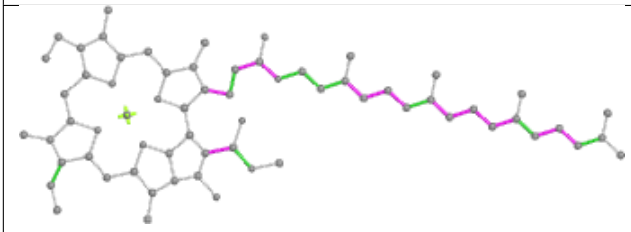


Bond angles



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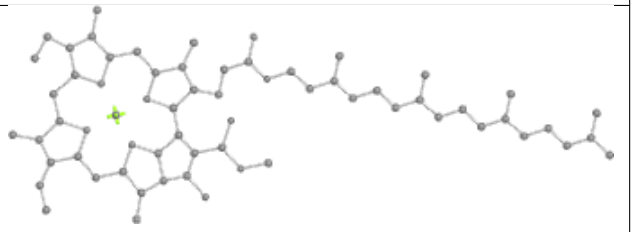
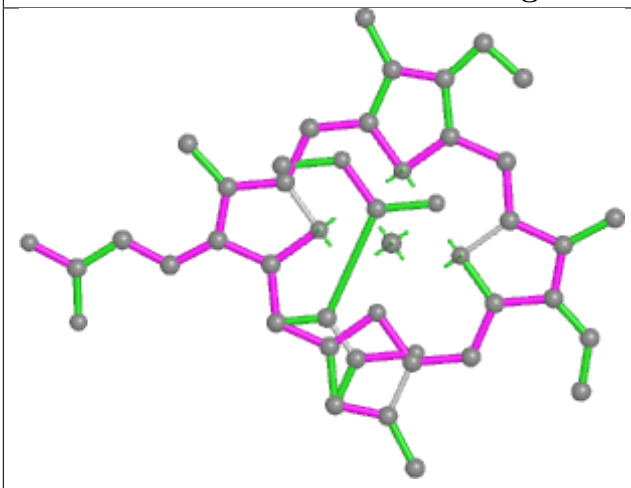


Rings

Ligand KC1 11 310



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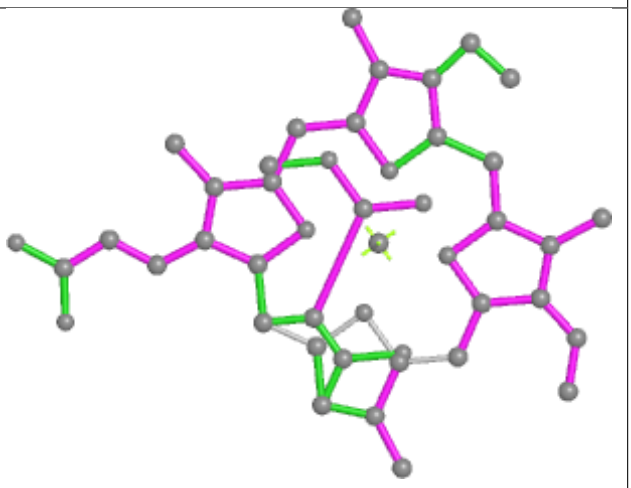

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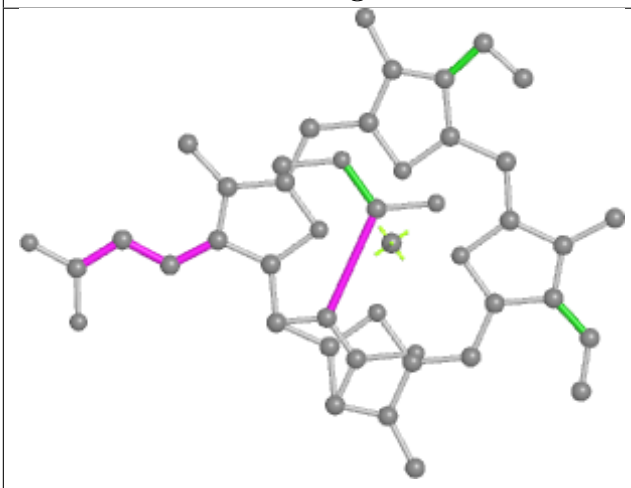

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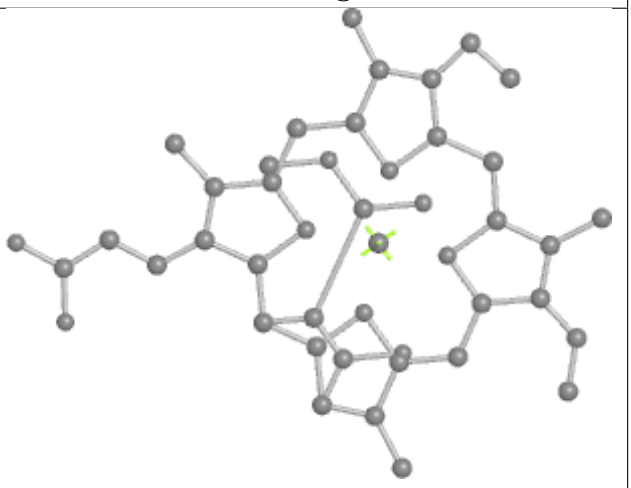
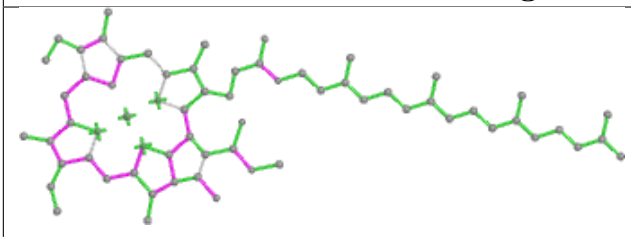


Rings

Ligand CLA 10 307



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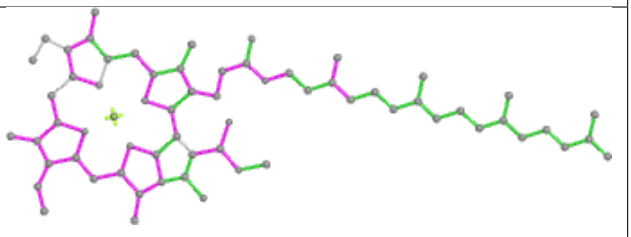

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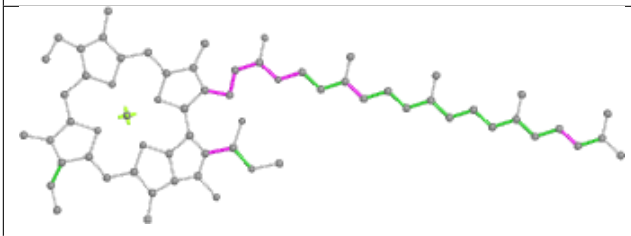

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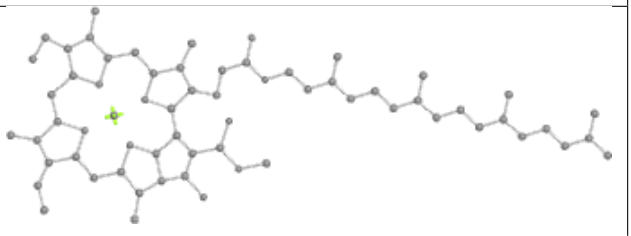
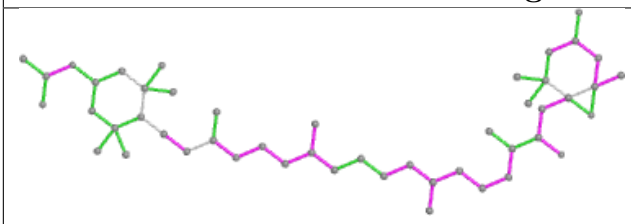


Rings

Ligand A86 10 315



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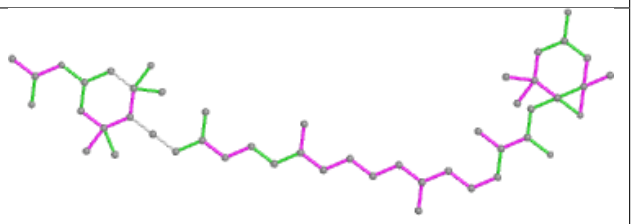
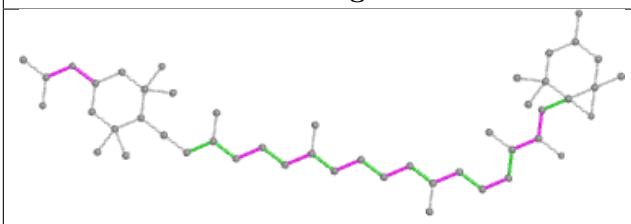


Bond angles



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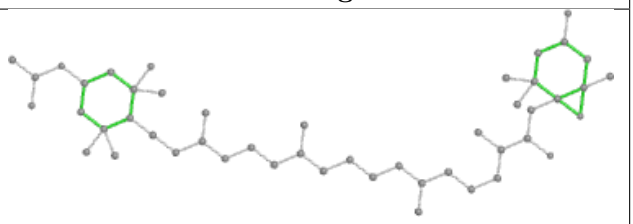
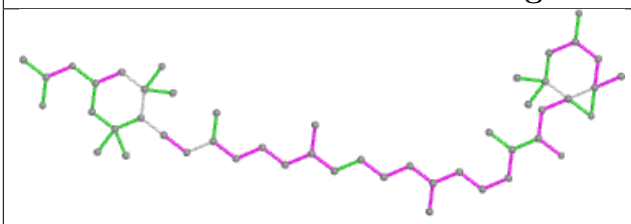


Rings

Ligand A86 15 320



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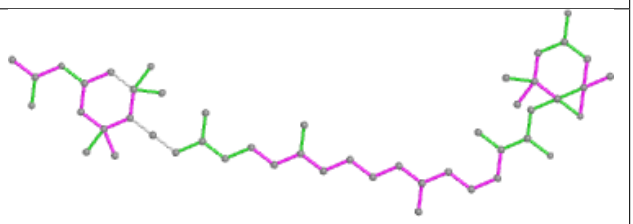

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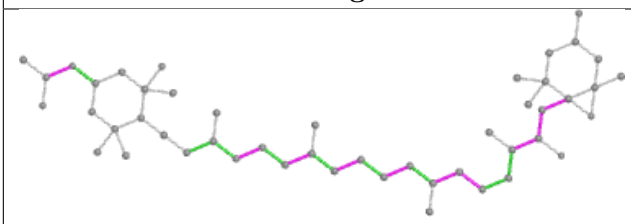

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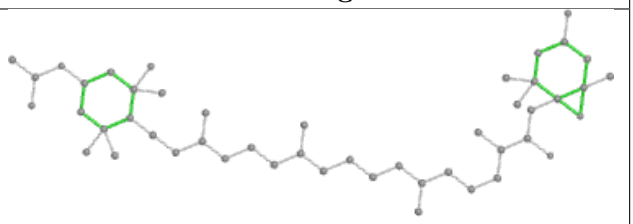
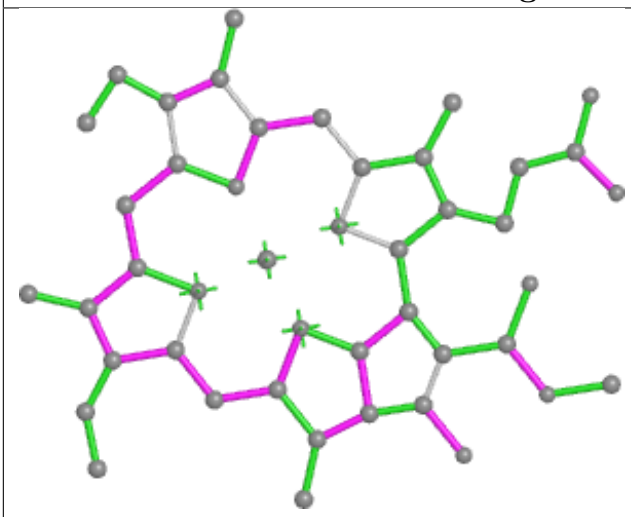


Rings

Ligand CLA 15 306



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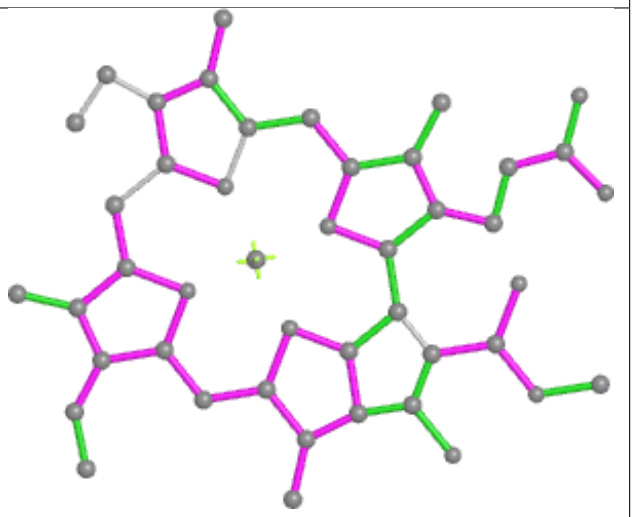
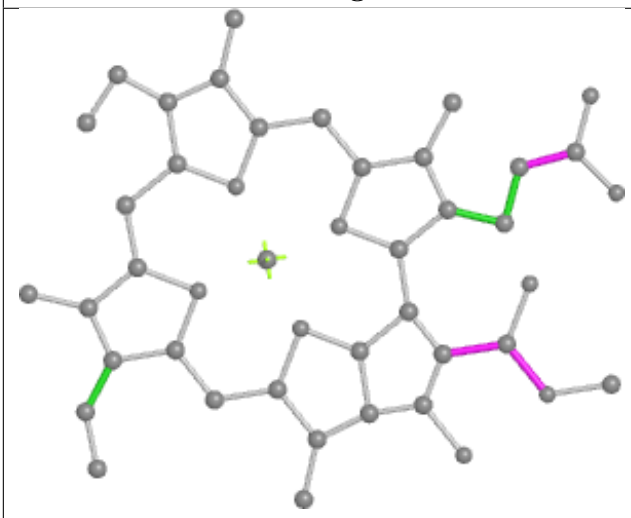


Bond angles



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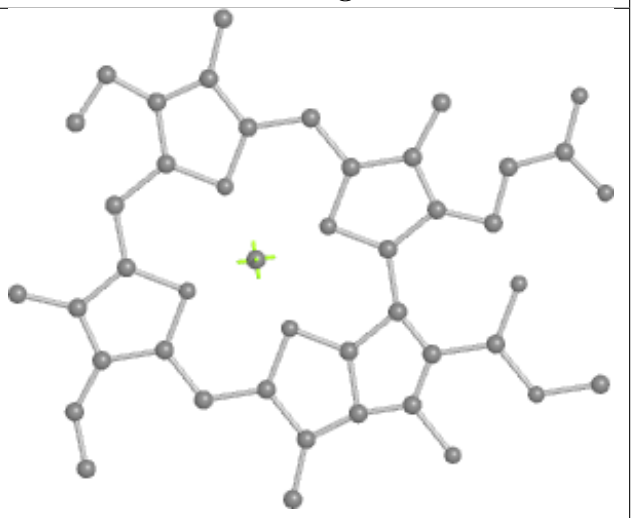
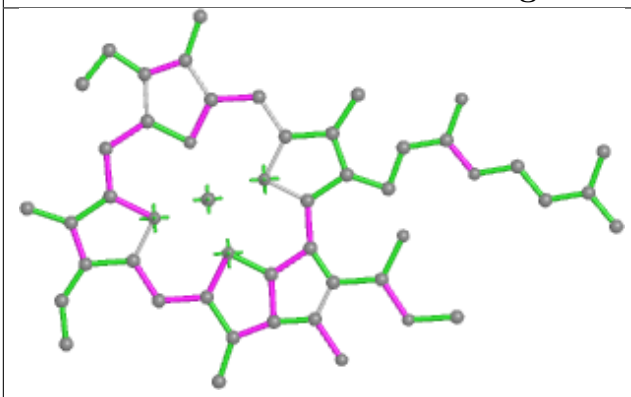


Rings

Ligand CLA 16 305



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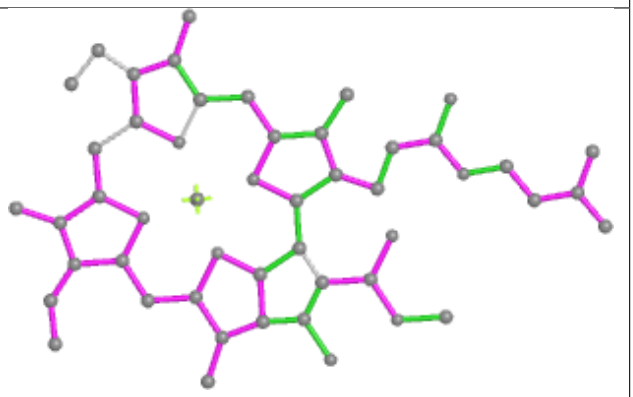

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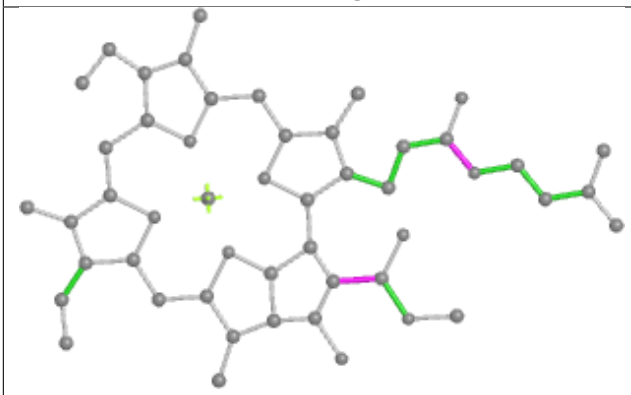

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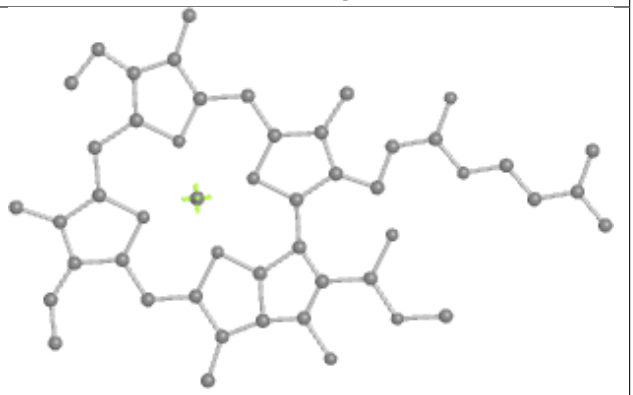
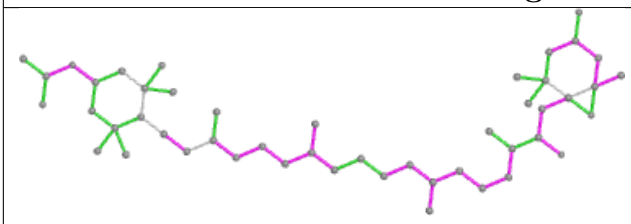


Rings

Ligand A86 12 316



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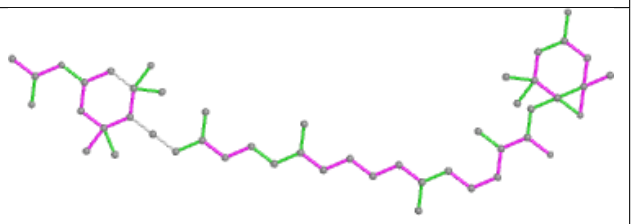
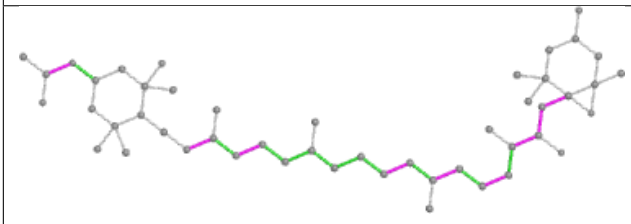


Bond angles



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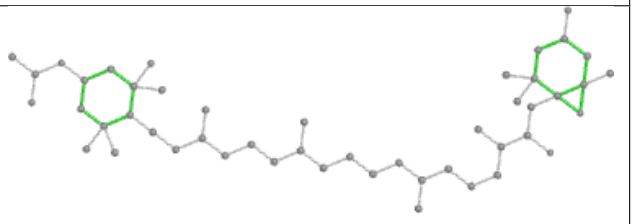
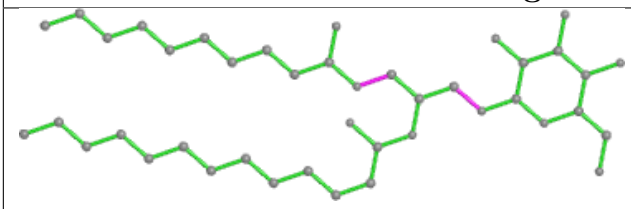
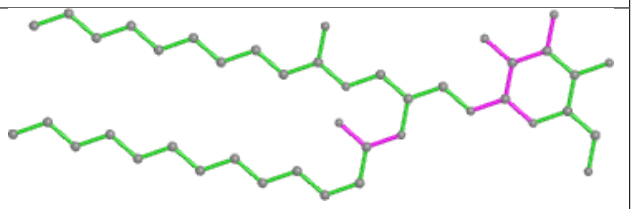


Rings

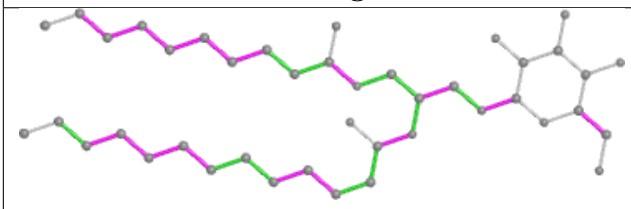
Ligand LMG 8 321



Bond lengths



Bond angles



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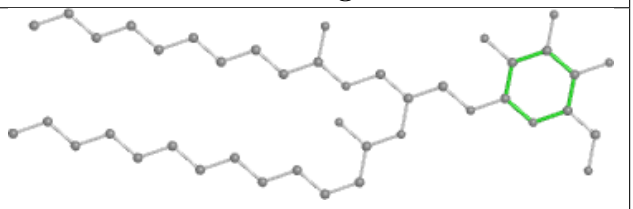
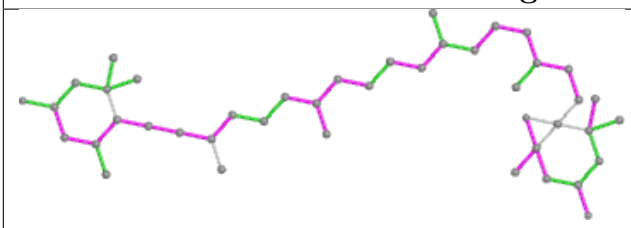
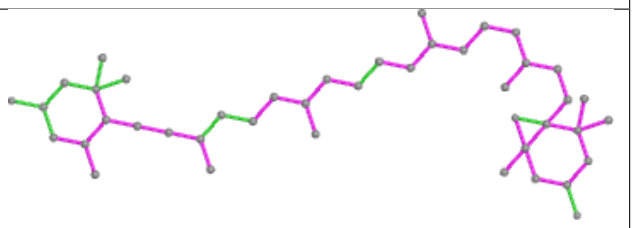


Rings

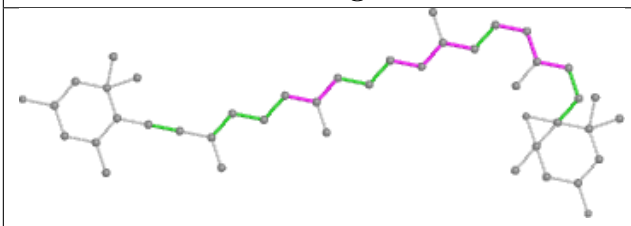
Ligand DD6 11 312



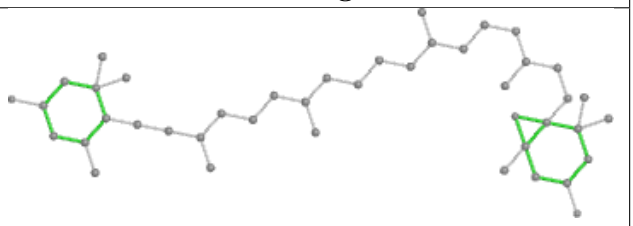
Bond lengths



Bond angles

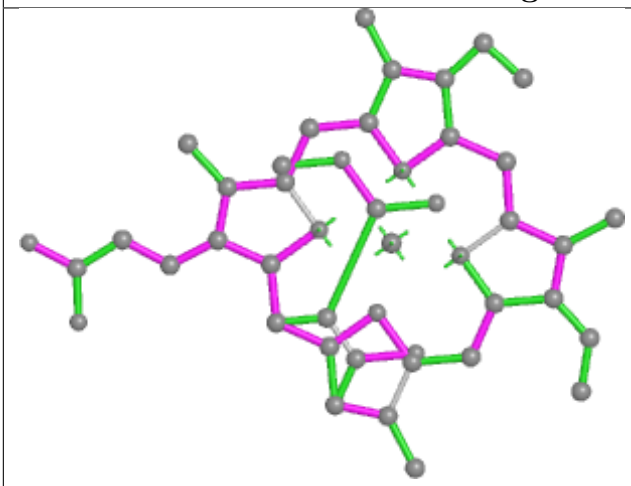


Torsions



Rings

Ligand KC1 13 310



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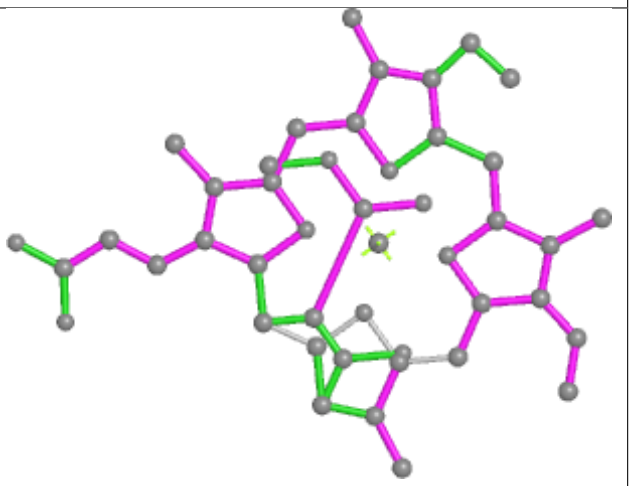
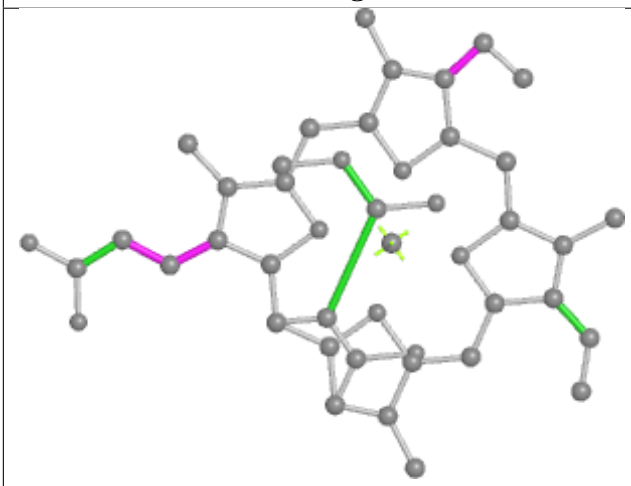


Bond angles



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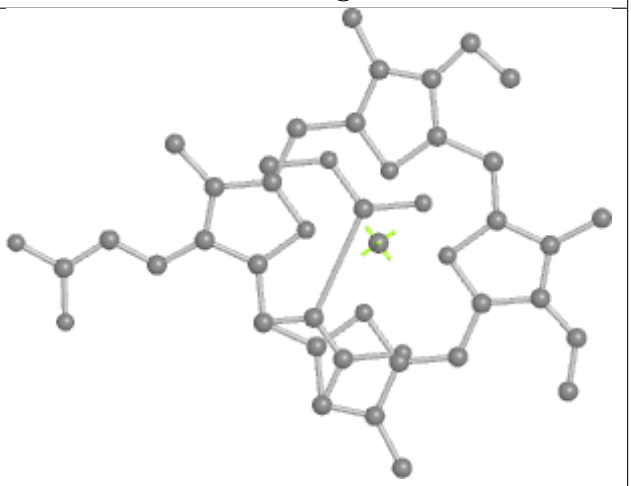
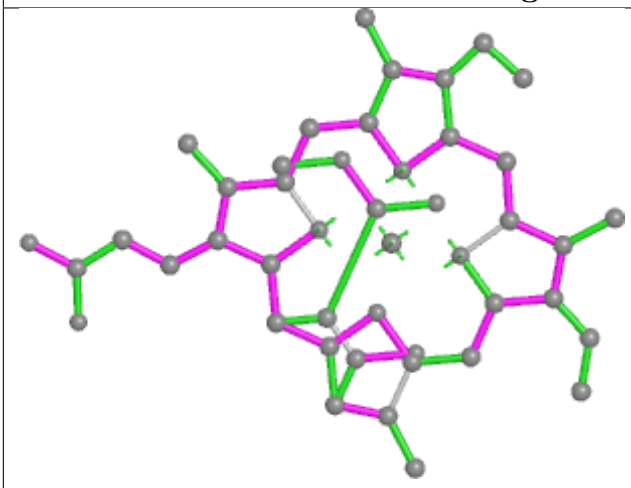


Rings

Ligand KC1 13 308



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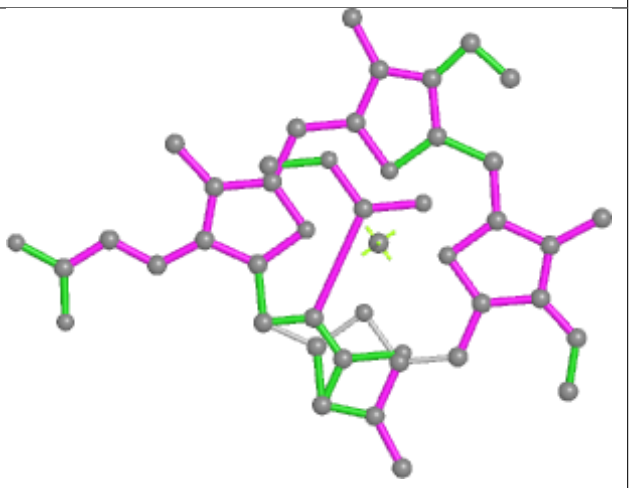

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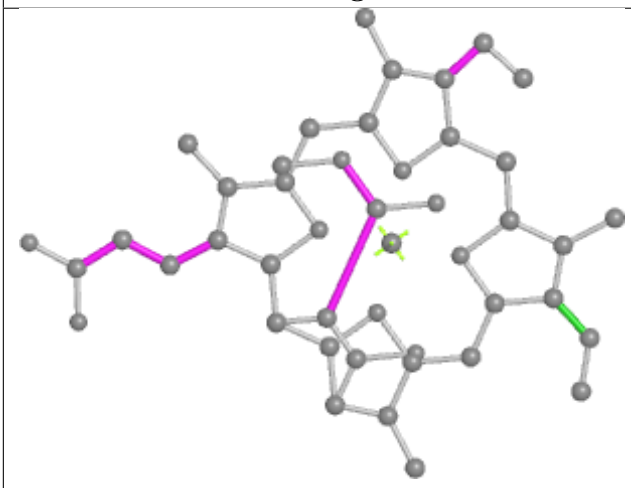

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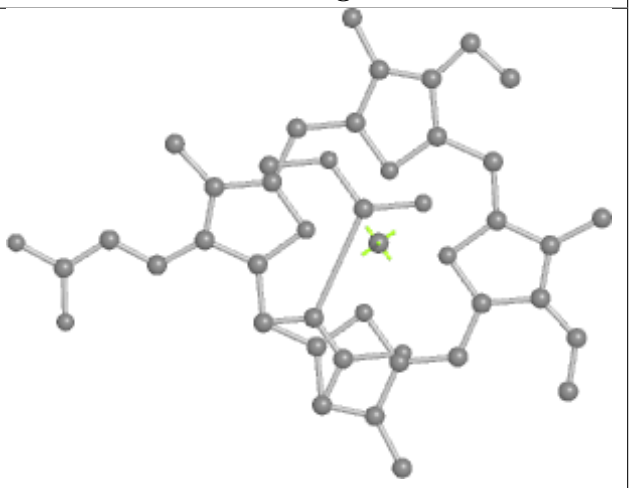
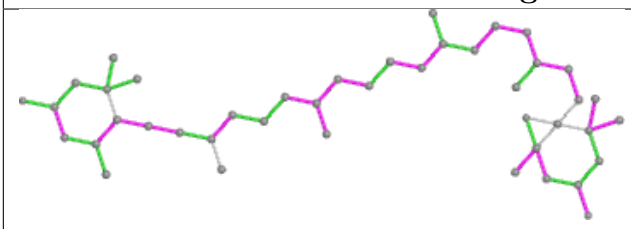


Rings

Ligand DD6 15 318



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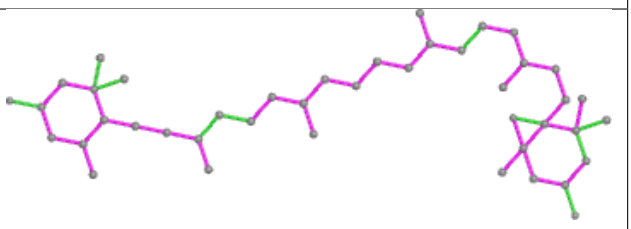
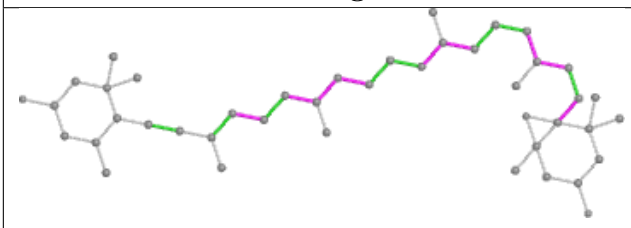


Bond angles



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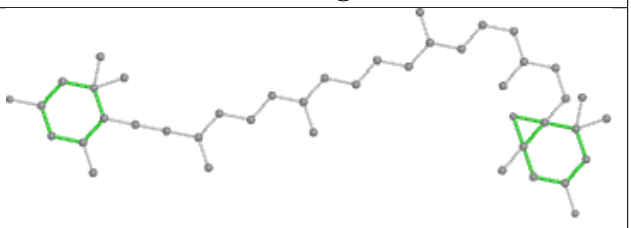
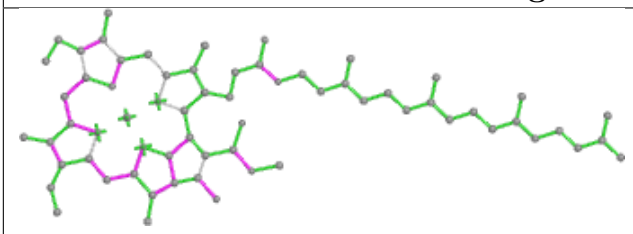
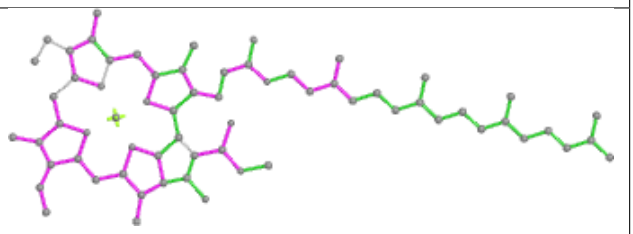


Rings

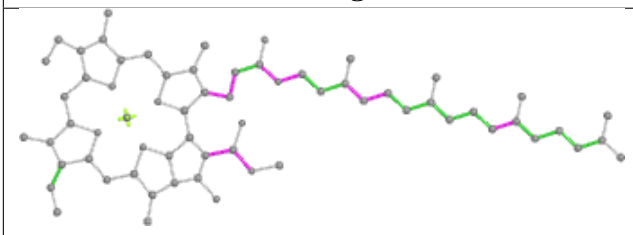
Ligand CLA 6 311



Bond lengths



Bond angles



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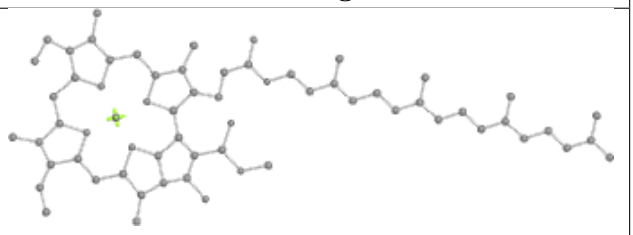
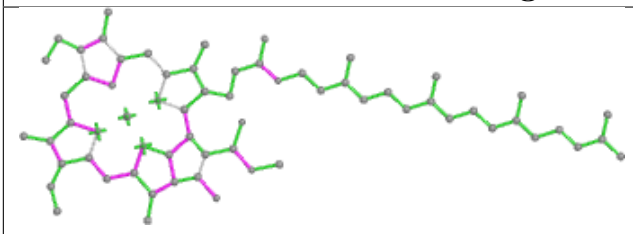


Rings

Ligand CLA 10 303



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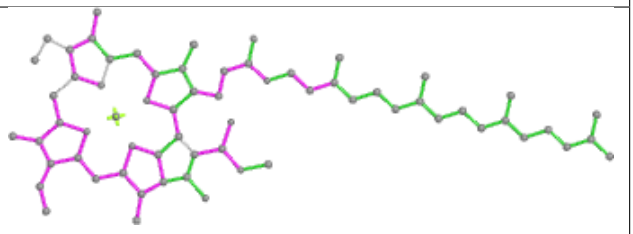
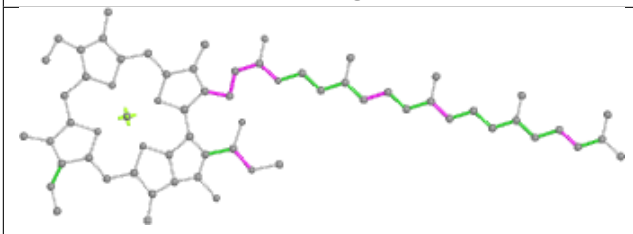


Bond angles



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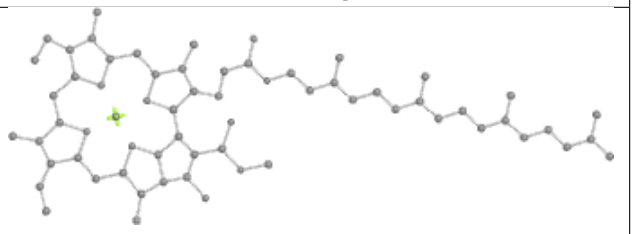
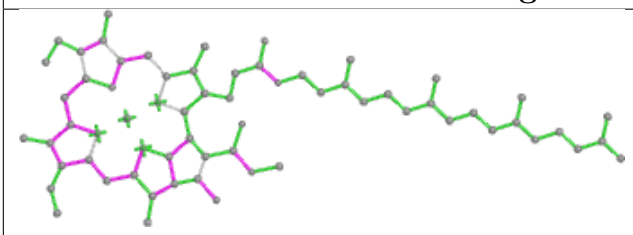


Rings

Ligand CLA 16 302



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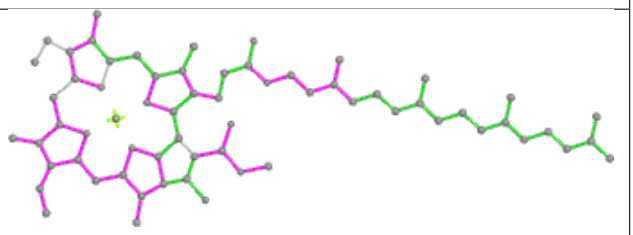
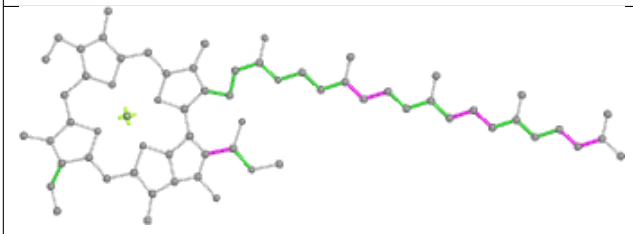


Bond angles



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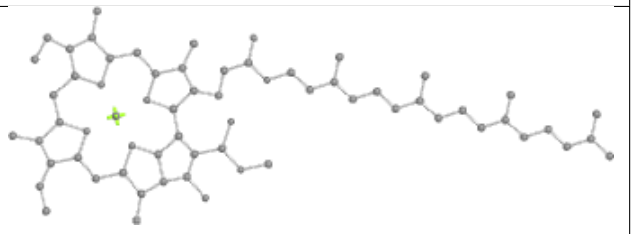
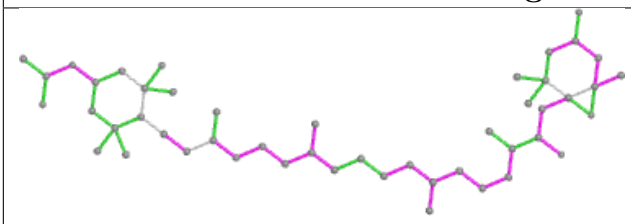


Rings

Ligand A86 13 315



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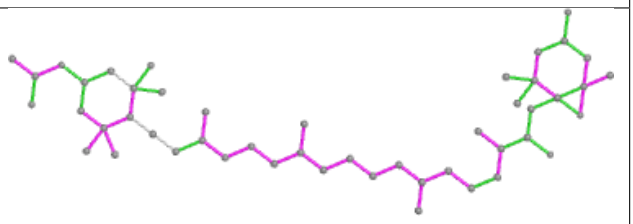

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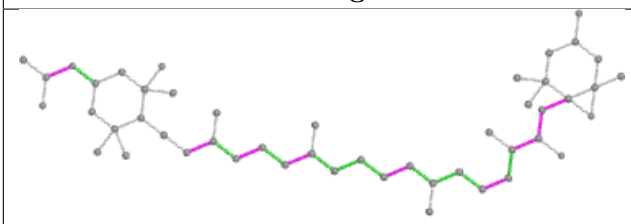

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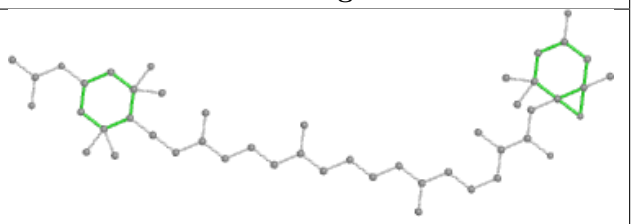
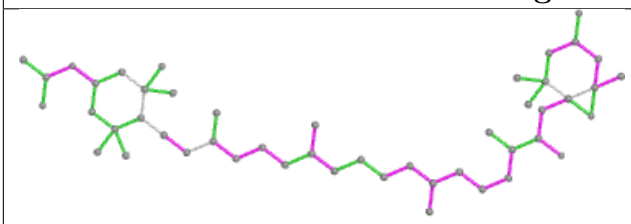


Rings

Ligand A86 8 315



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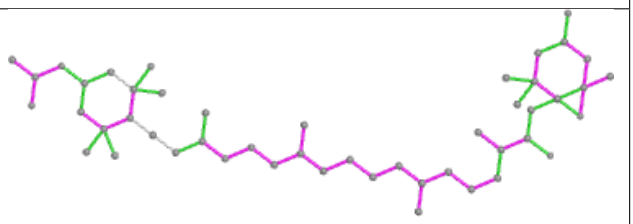
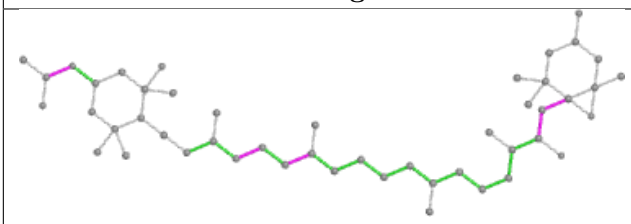


Bond angles



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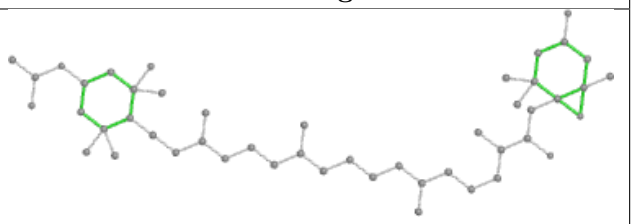
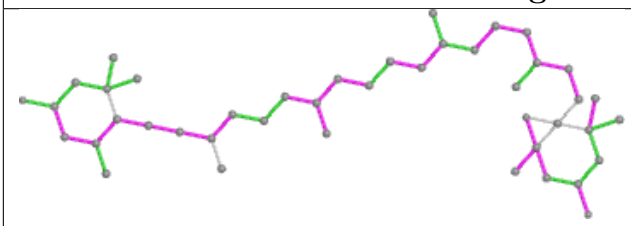
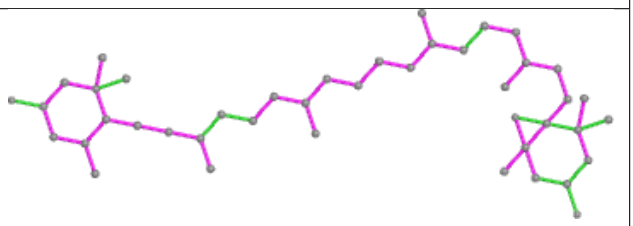


Rings

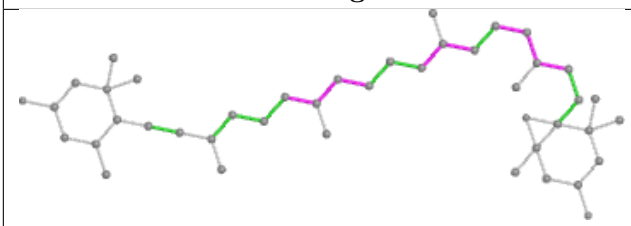
Ligand DD6 6 318



Bond lengths



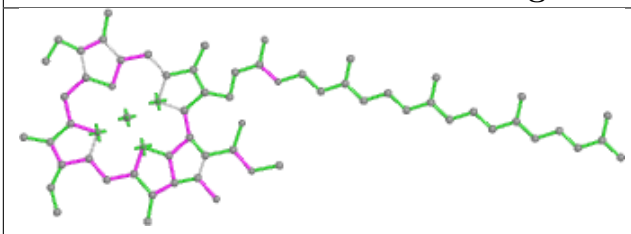
Bond angles



Torsions

Rings

Ligand CLA 7 304



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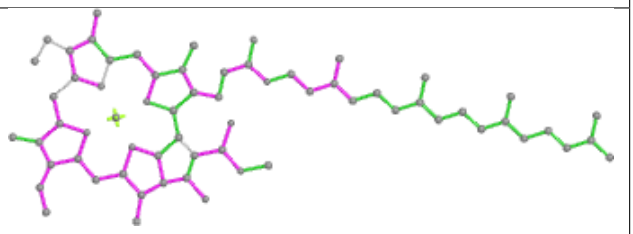
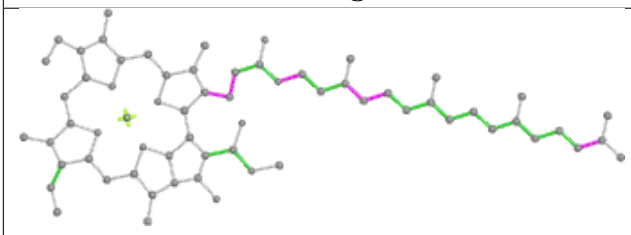


Bond angles



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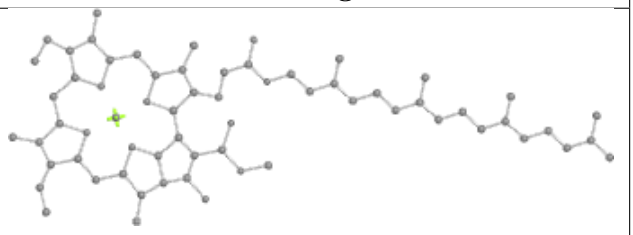
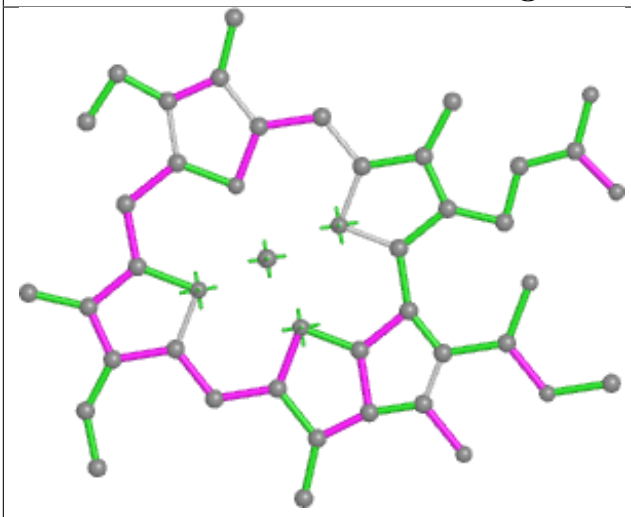


Rings

Ligand CLA 16 308



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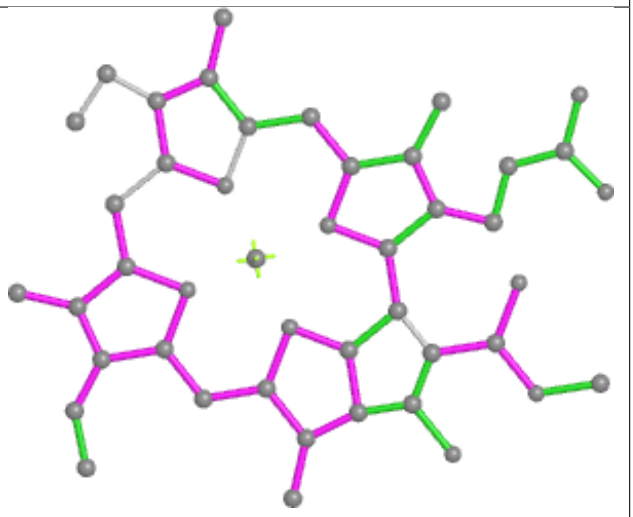
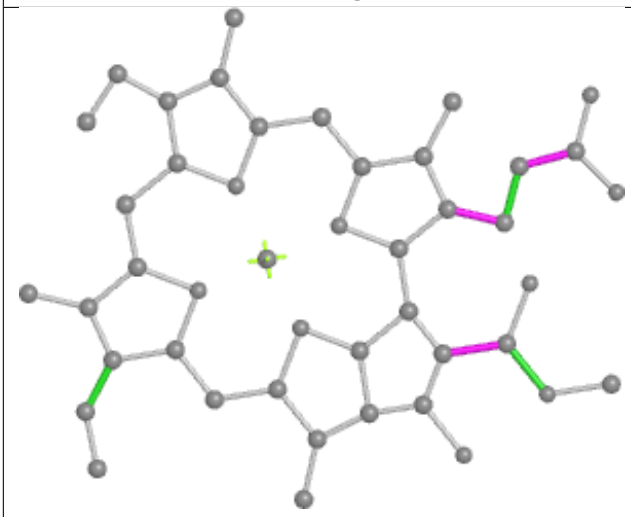
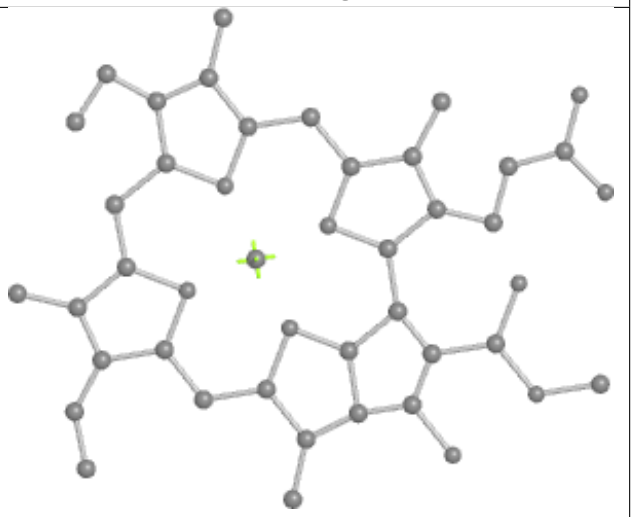


Bond angles

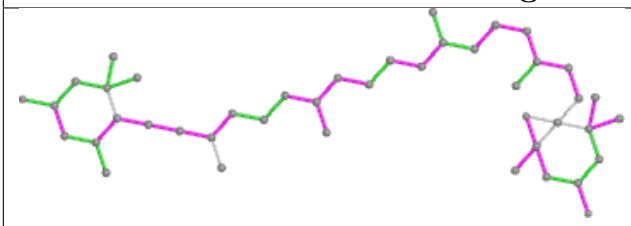


Torsions



Rings

Ligand DD6 10 313



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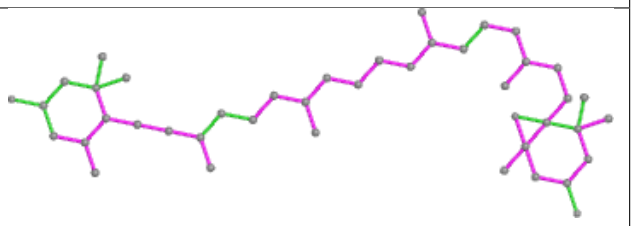
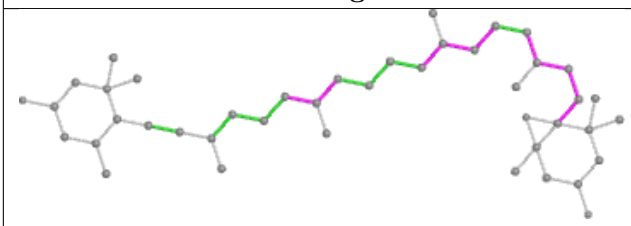


Bond angles



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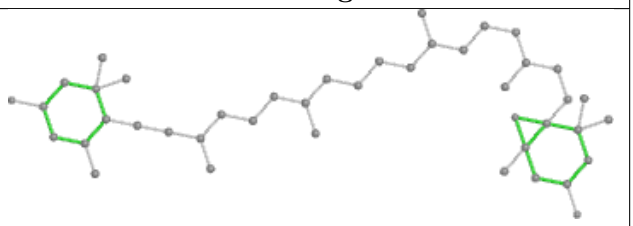
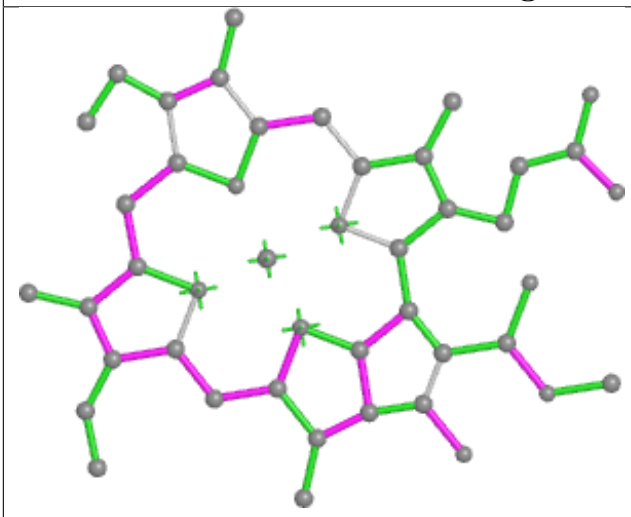
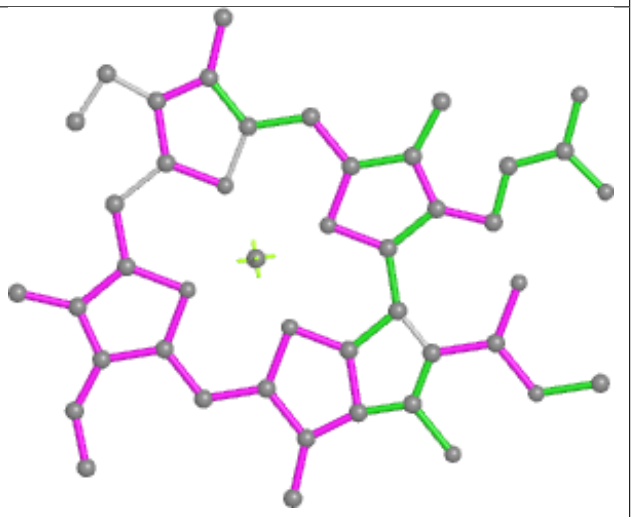


Rings

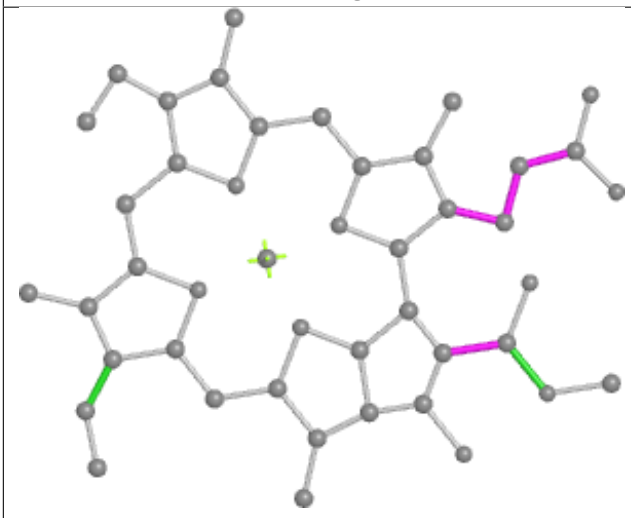
Ligand CLA 13 304



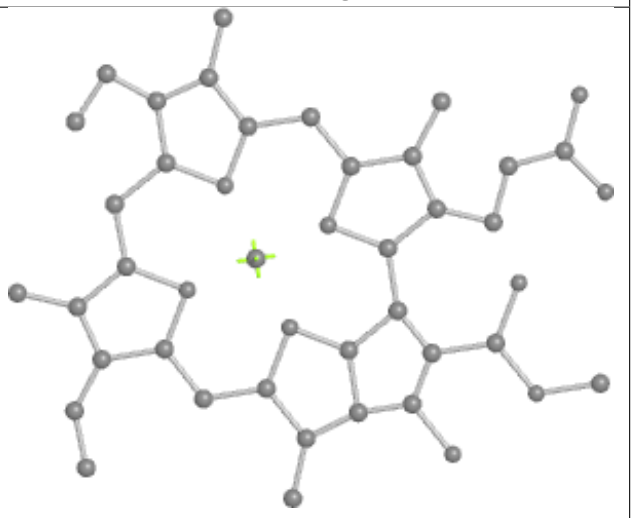
Bond lengths



Bond angles

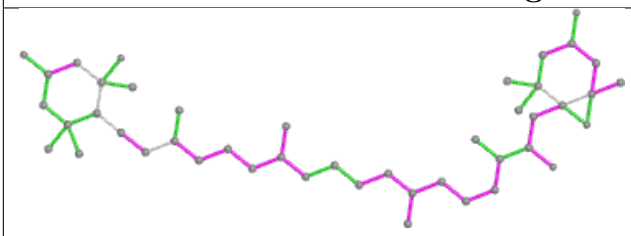


Torsions

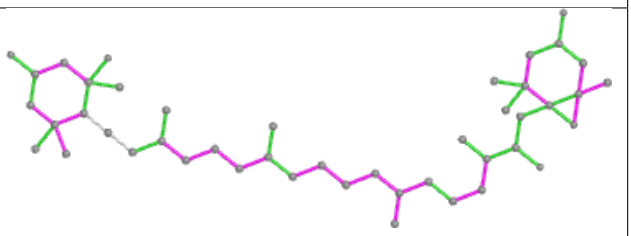


Rings

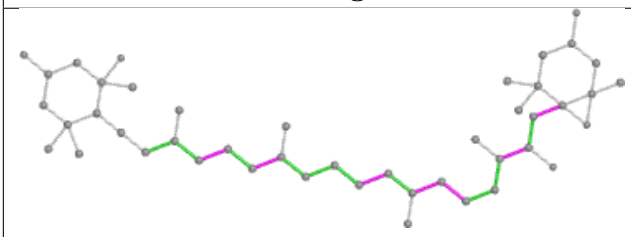
Ligand A86 13 313



Bond lengths



Bond angles



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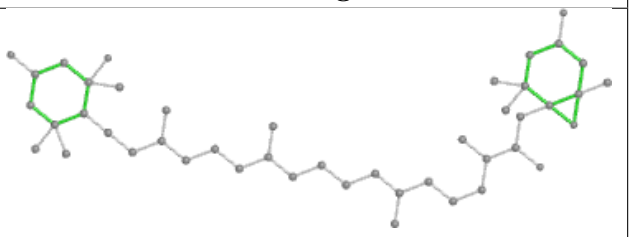
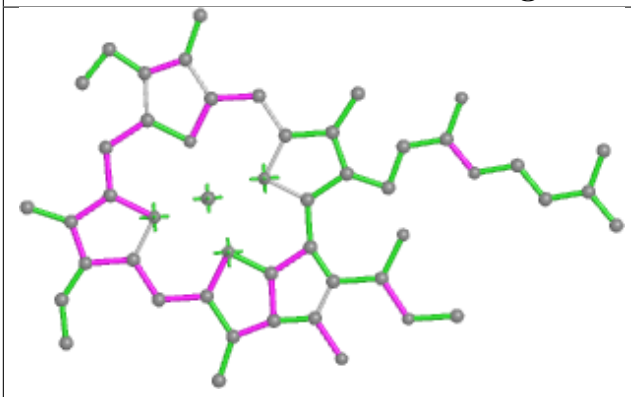
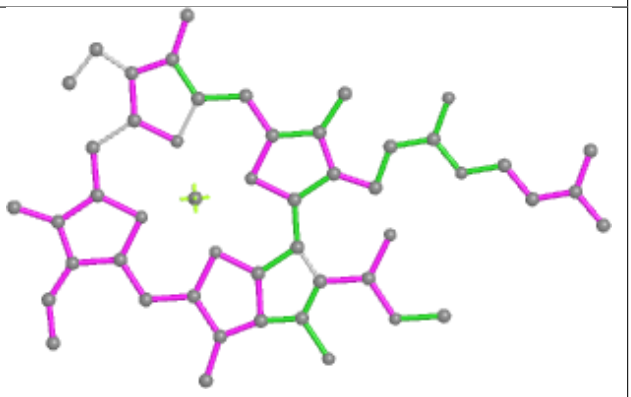


Rings

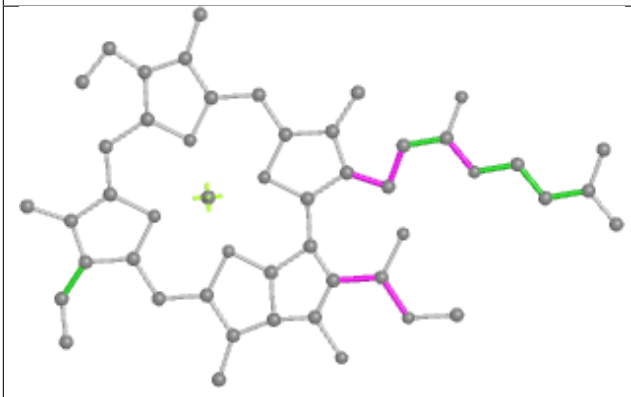
Ligand CLA 15 307



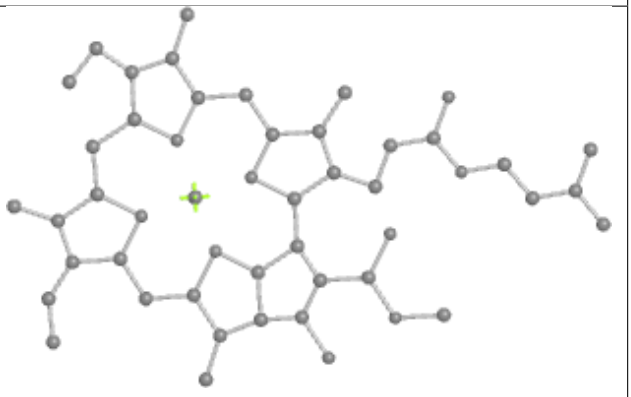
Bond lengths



Bond angles

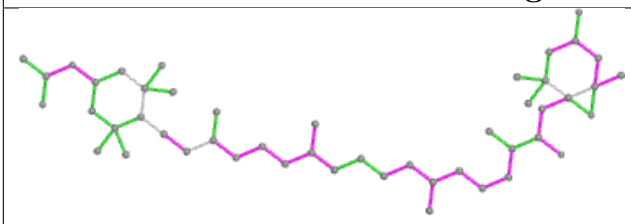


Torsions

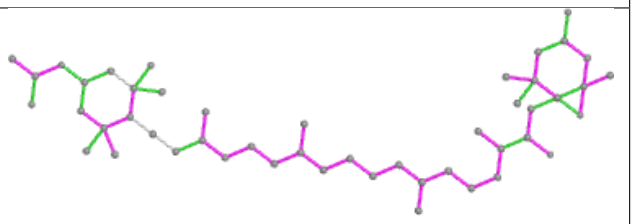


Rings

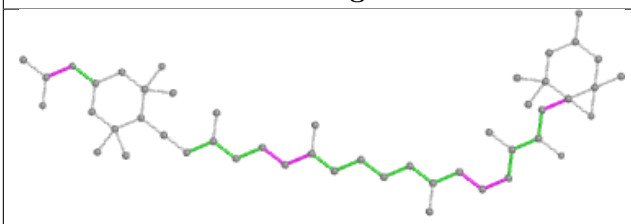
Ligand A86 15 315



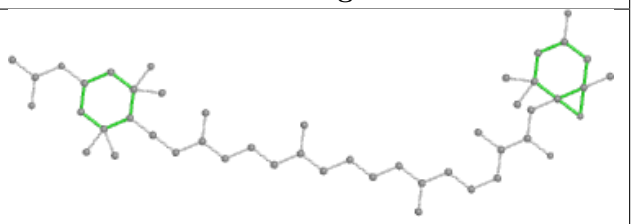
Bond lengths



Bond angles

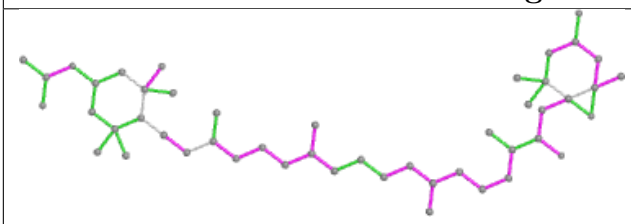


Torsions

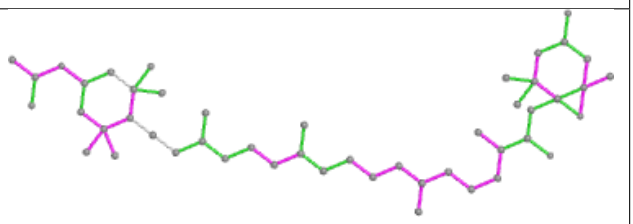


Rings

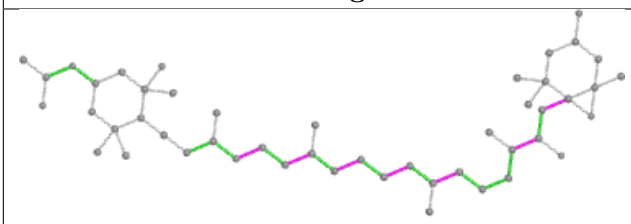
Ligand A86 14 319



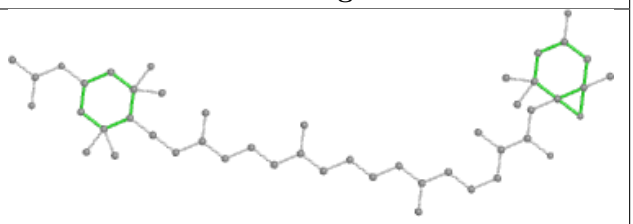
Bond lengths



Bond angles

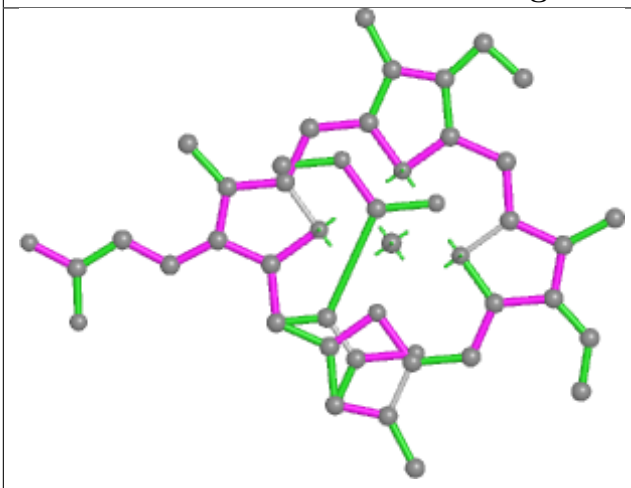


Torsions



Rings

Ligand KC1 8 312



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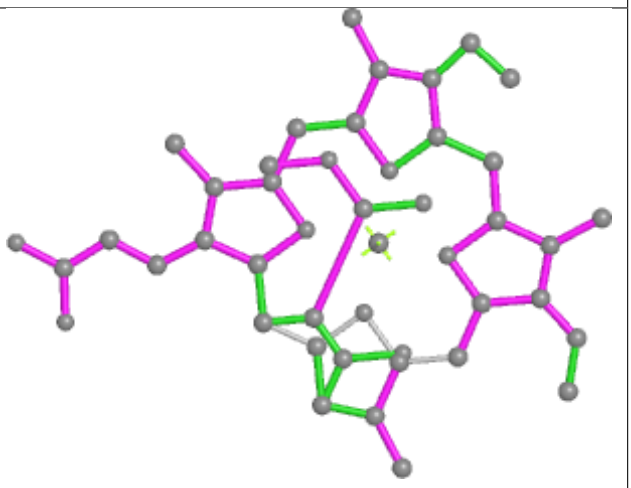
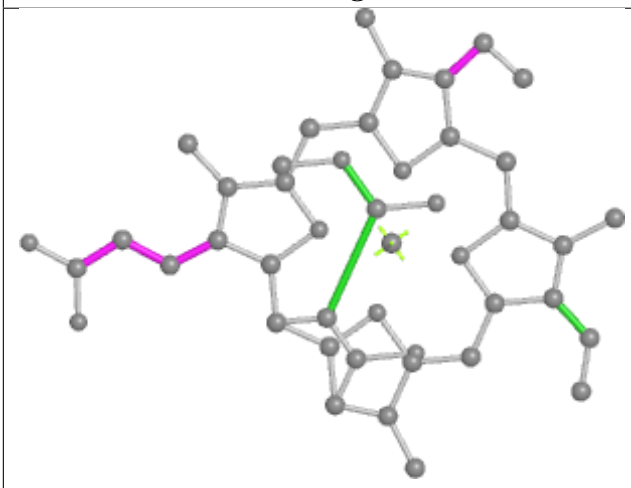
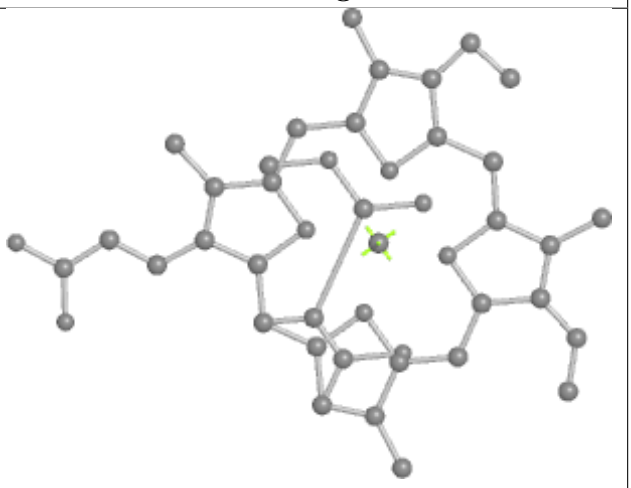


Bond angles

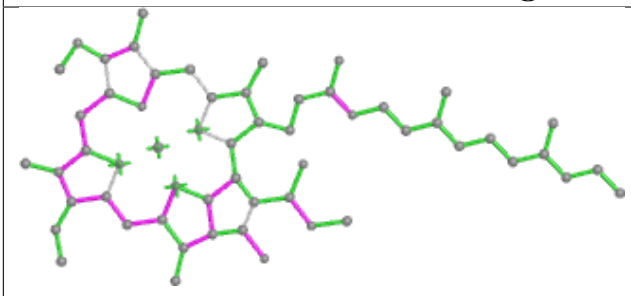


Torsions

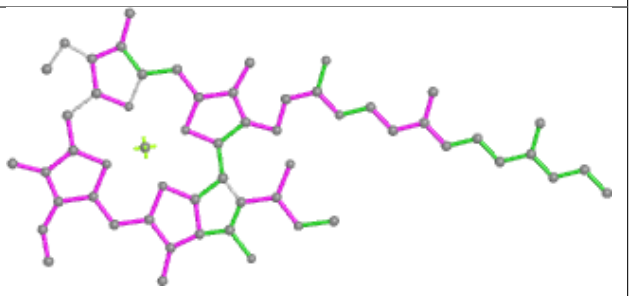


Rings

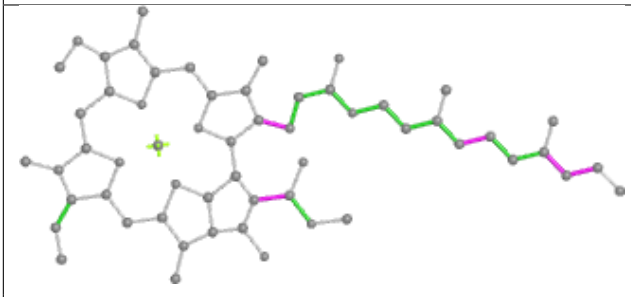
Ligand CLA 14 303



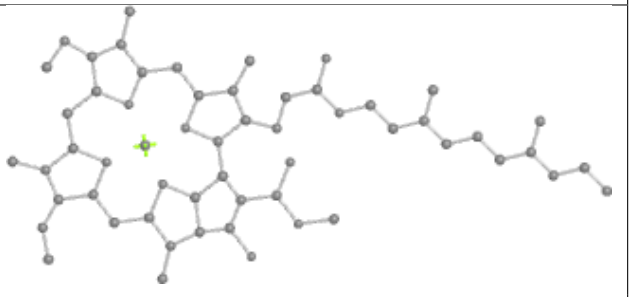
Bond lengths



Bond angles

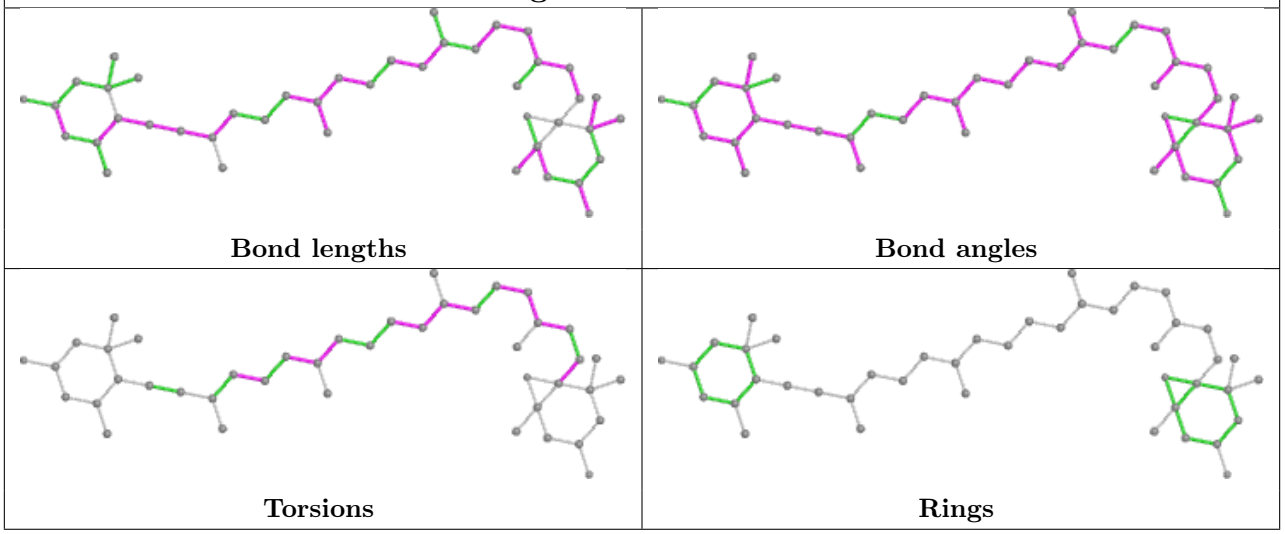


Torsions

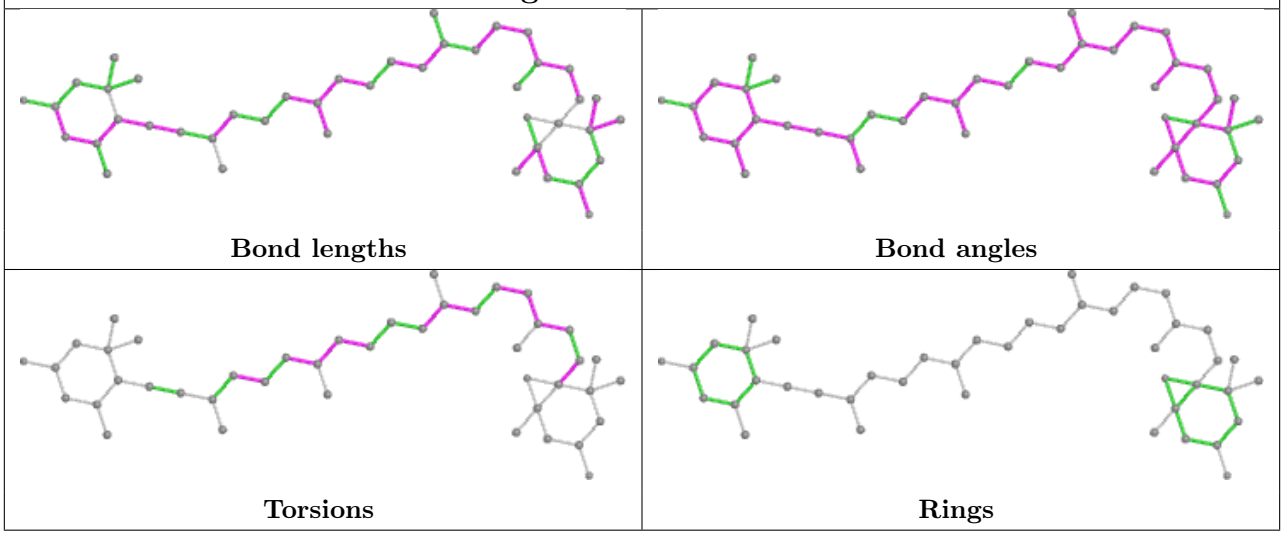


Rings

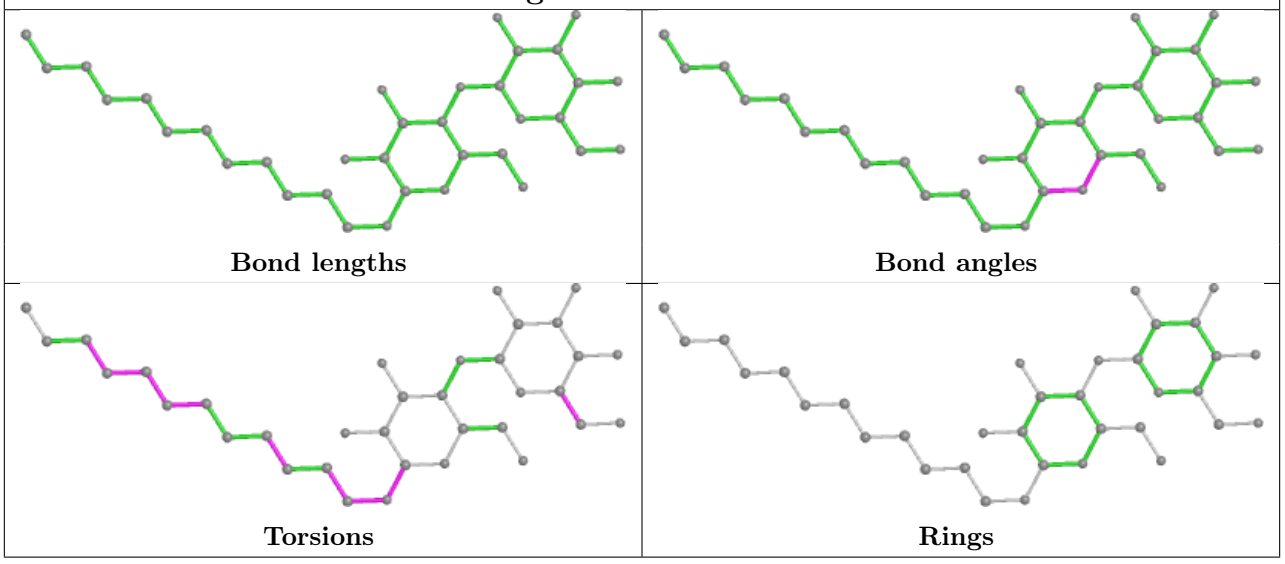
Ligand DD6 8 316



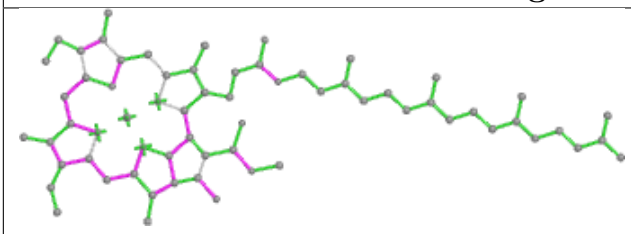
Ligand DD6 15 319



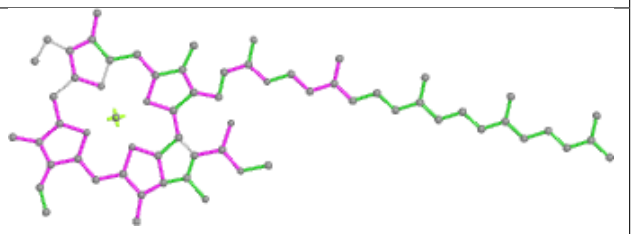
Ligand LMT 8 319



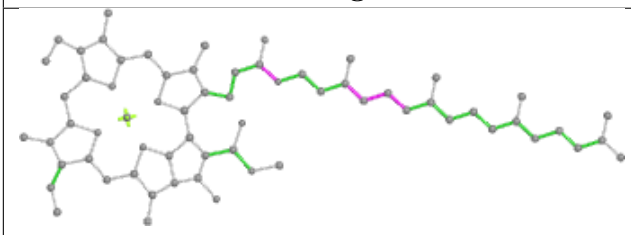
Ligand CLA 7 305



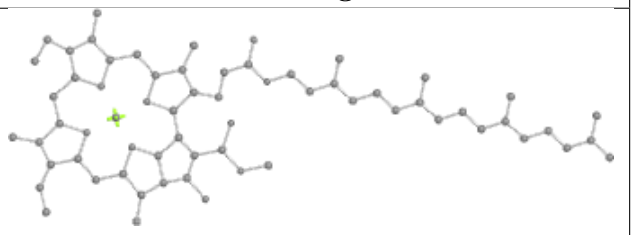
Bond lengths



Bond angles

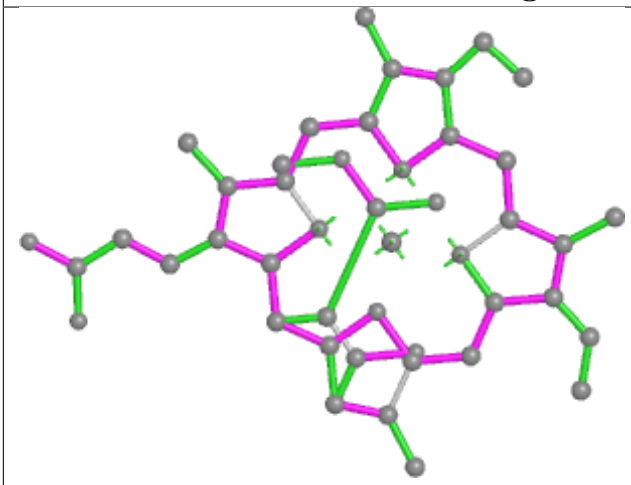


Torsions

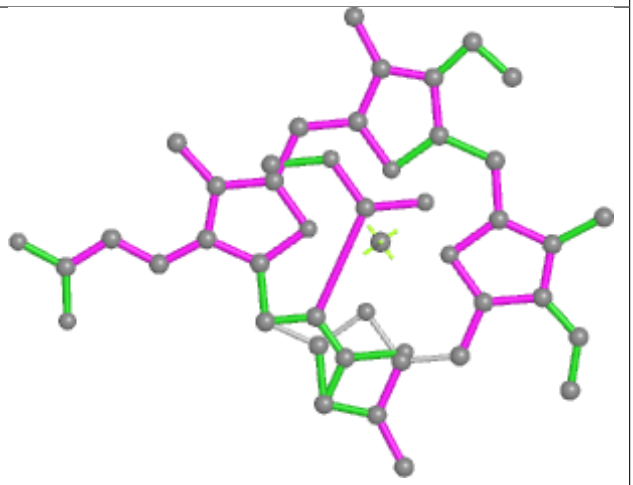


Rings

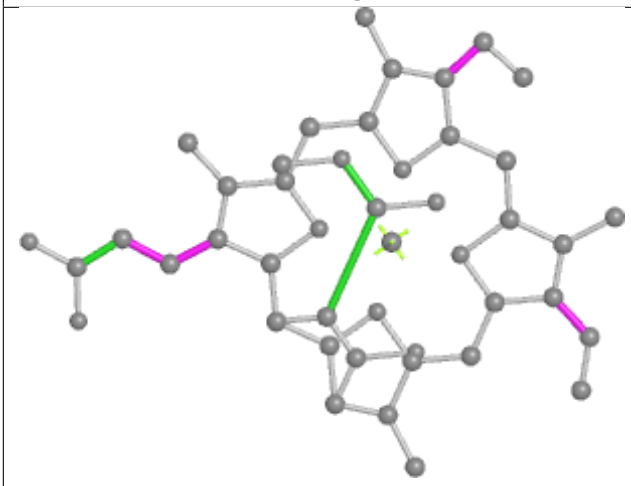
Ligand KC1 16 311



Bond lengths



Bond angles



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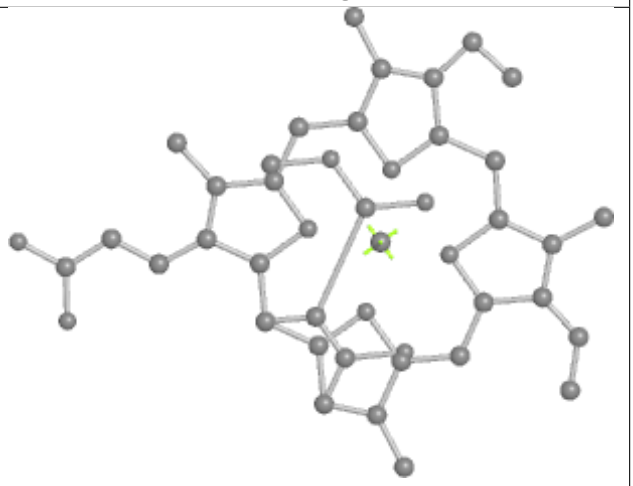
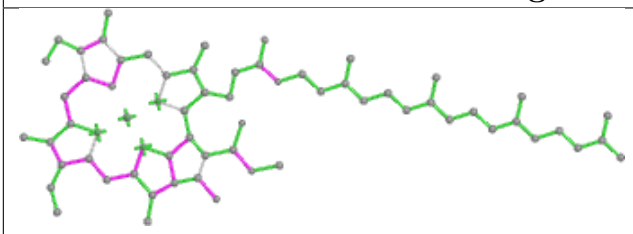
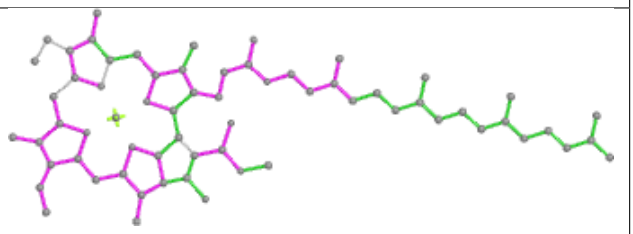


Rings

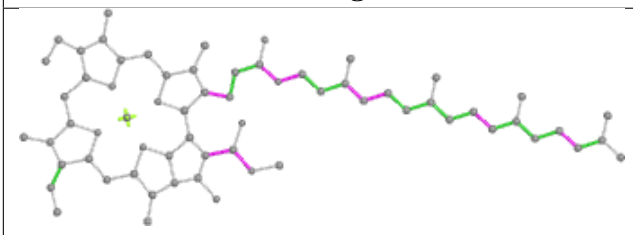
Ligand CLA 6 306



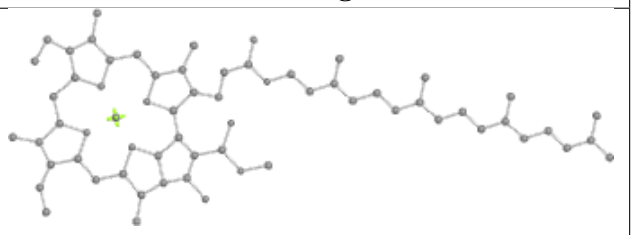
Bond lengths



Bond angles

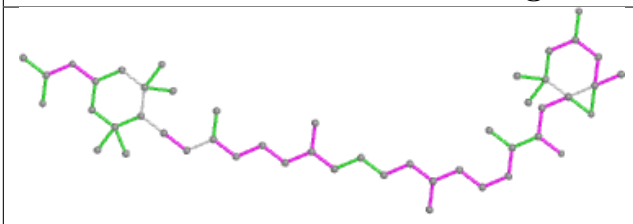


Torsions

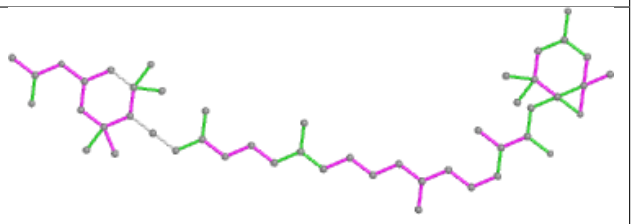


Rings

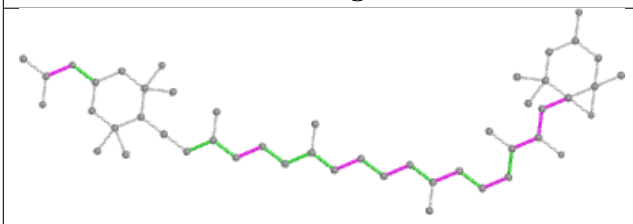
Ligand A86 11 313



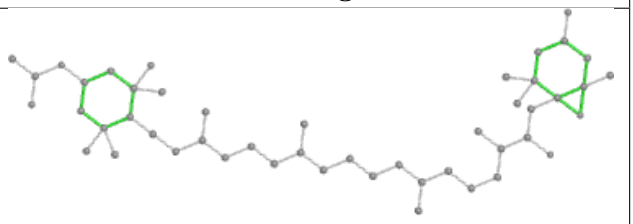
Bond lengths



Bond angles

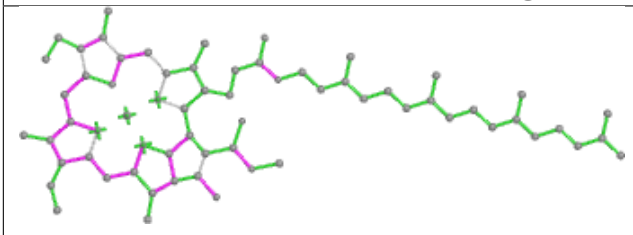


Torsions

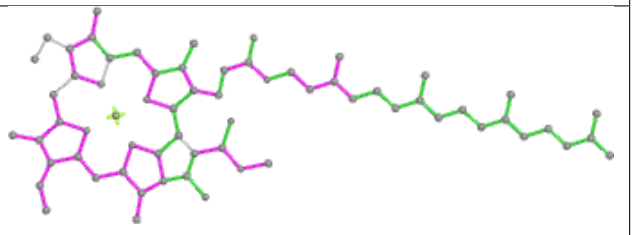


Rings

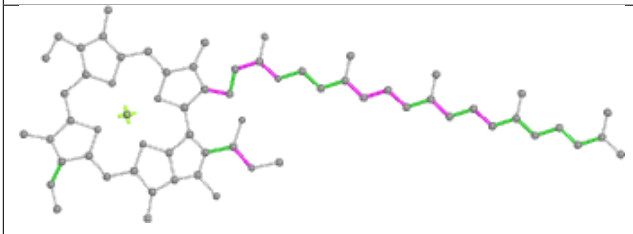
Ligand CLA 10 309



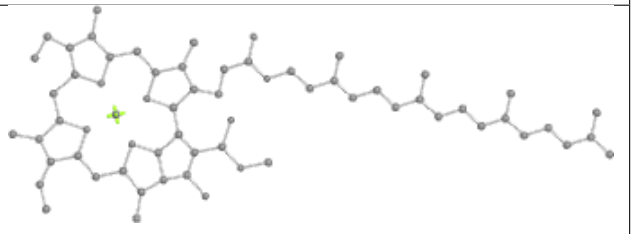
Bond lengths



Bond angles

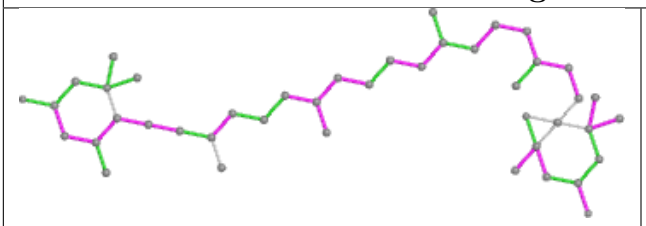


Torsions

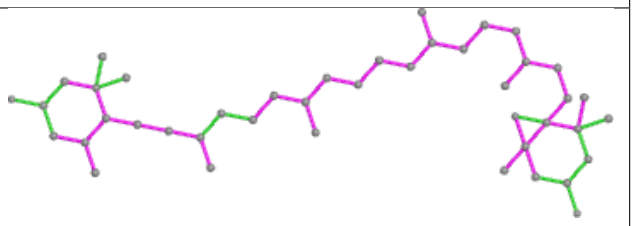


Rings

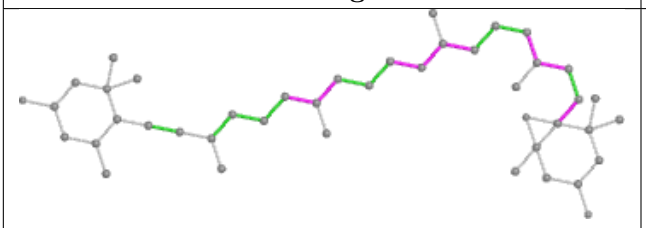
Ligand DD6 8 317



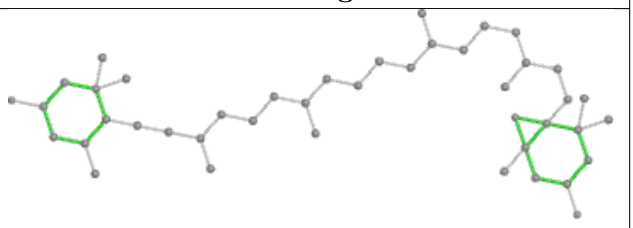
Bond lengths



Bond angles

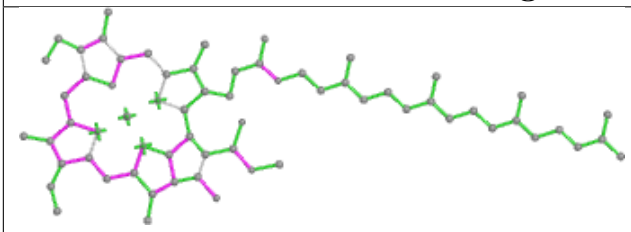


Torsions

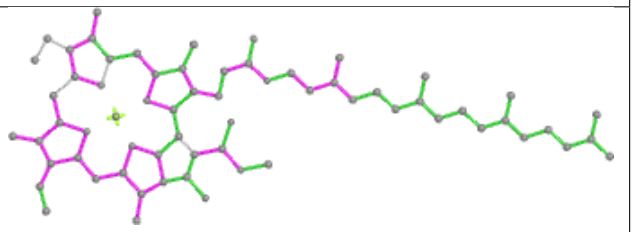


Rings

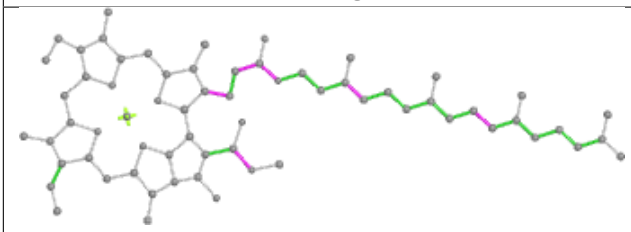
Ligand CLA 12 308



Bond lengths



Bond angles



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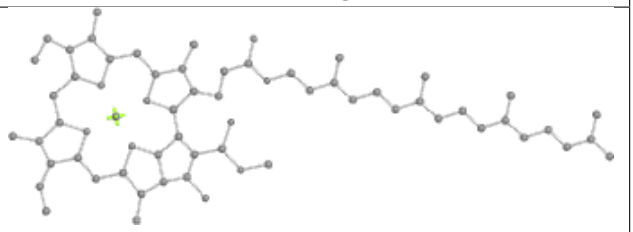
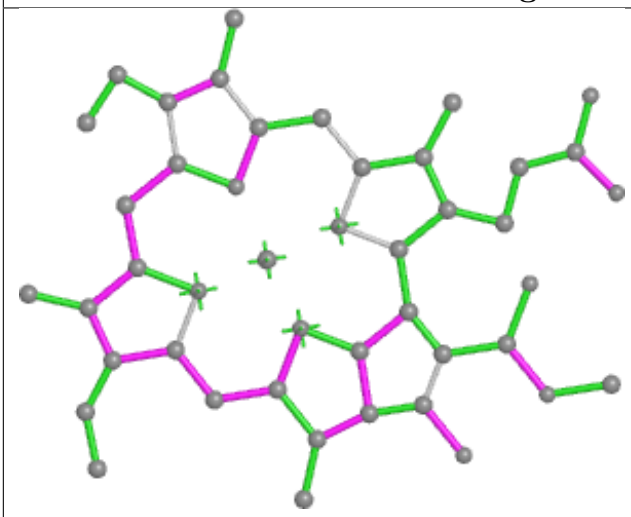
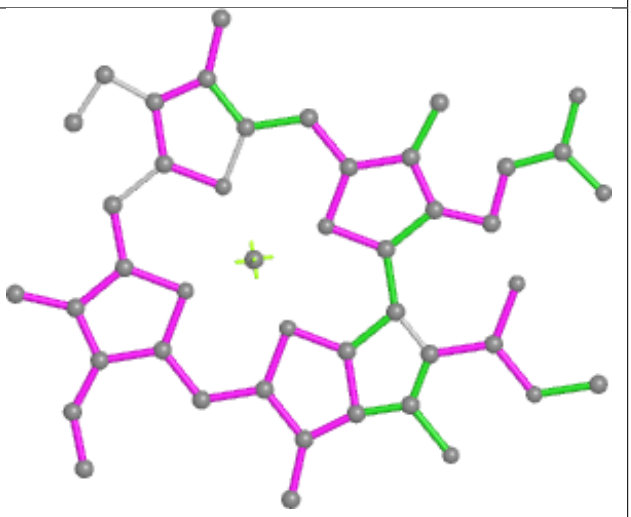


Rings

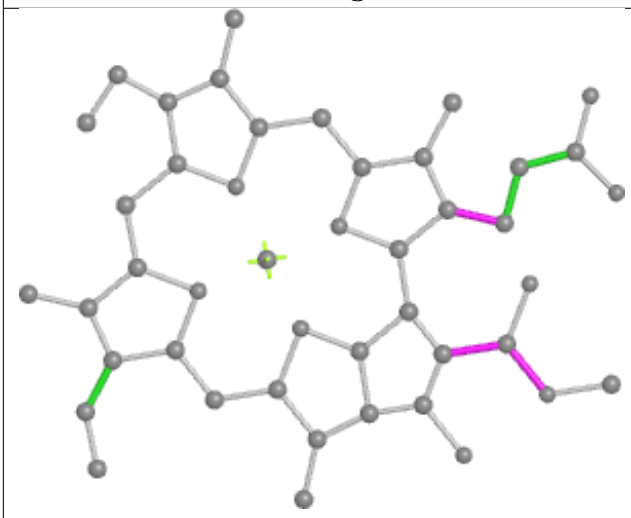
Ligand CLA 15 312



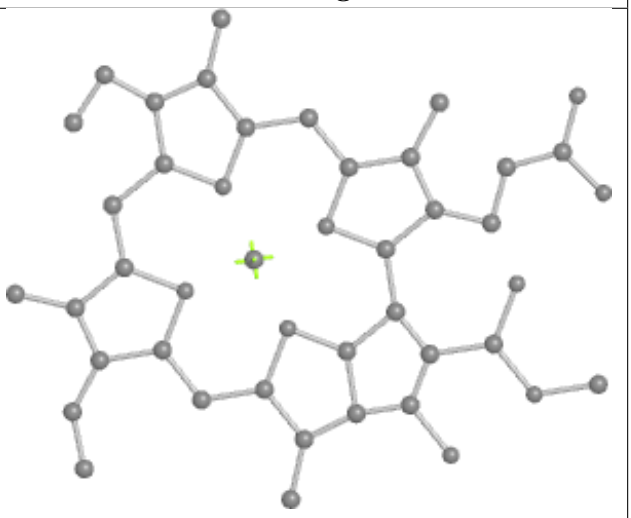
Bond lengths



Bond angles

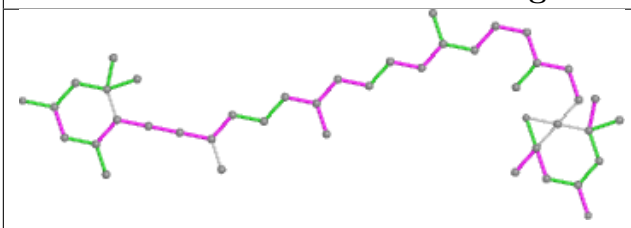


Torsions

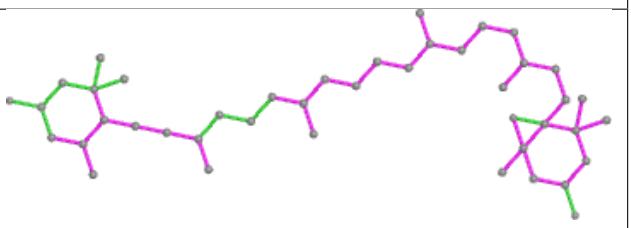


Rings

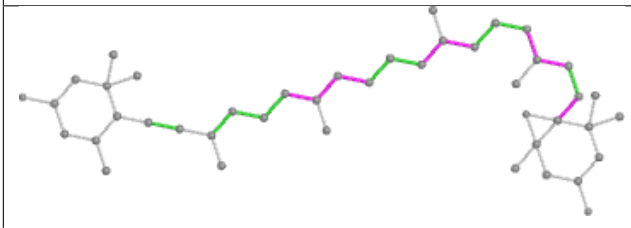
Ligand DD6 7 316



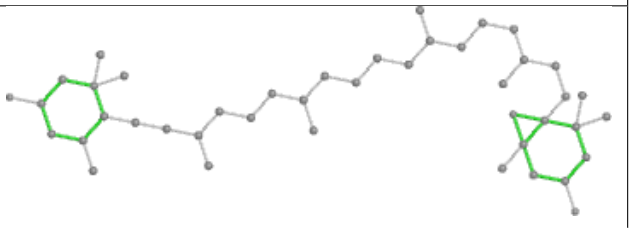
Bond lengths



Bond angles

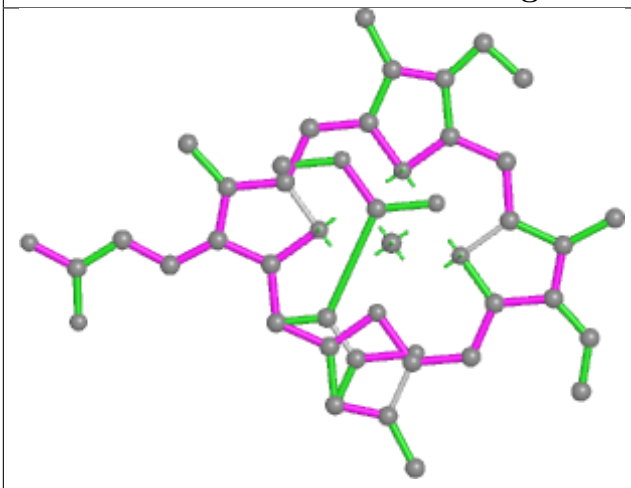


Torsions

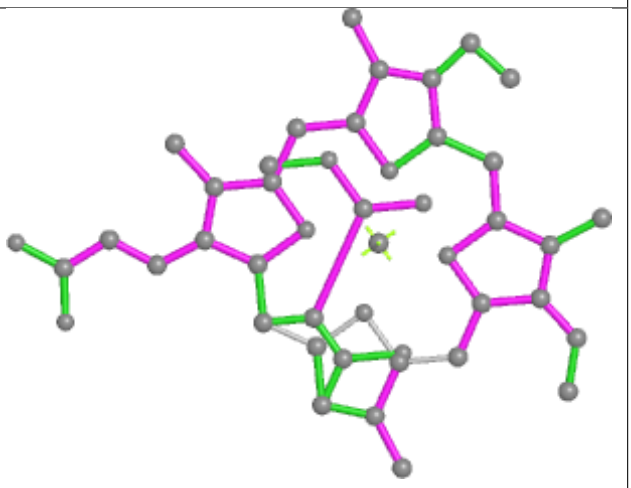


Rings

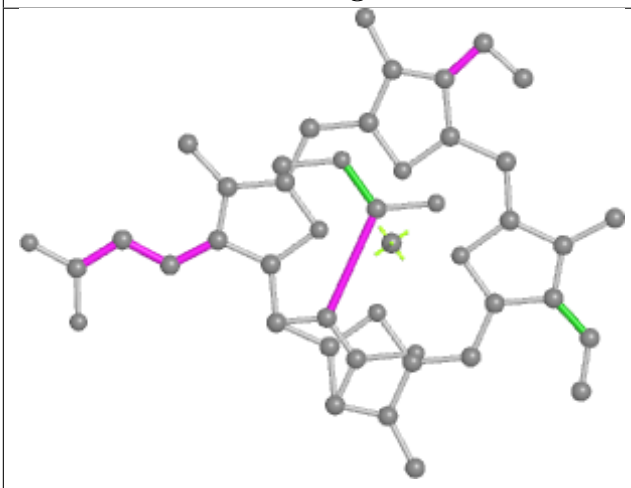
Ligand KC1 16 304



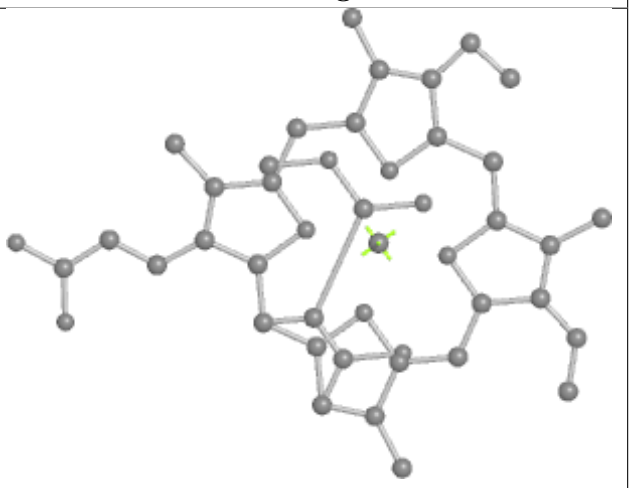
Bond lengths



Bond angles

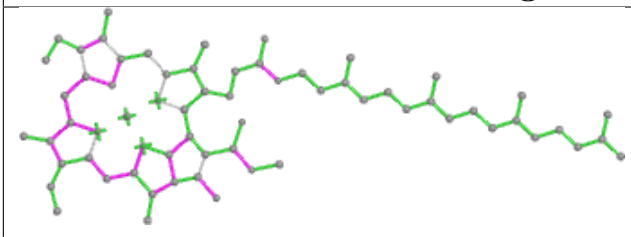


Torsions



Rings

Ligand CLA 12 302



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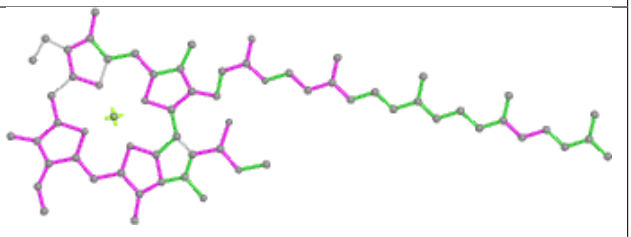

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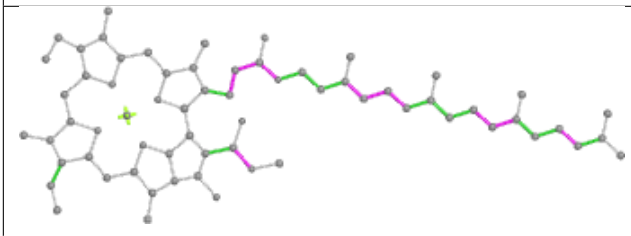

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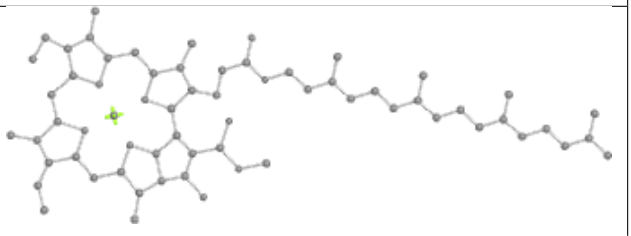
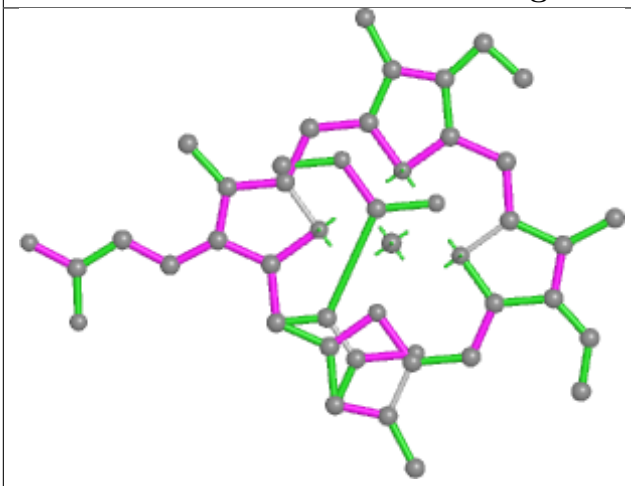


Rings

Ligand KC1 7 307



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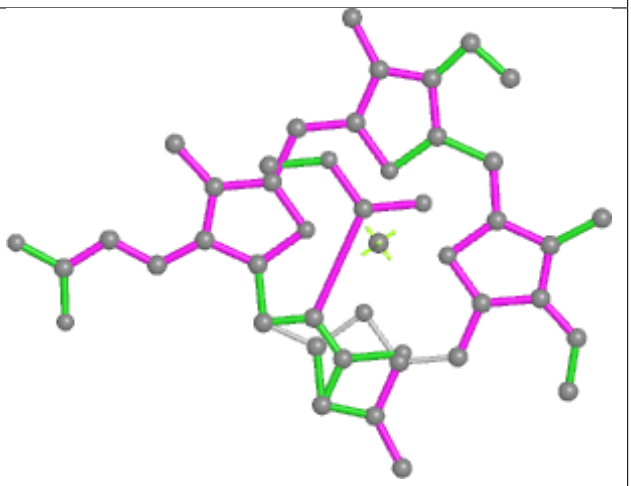
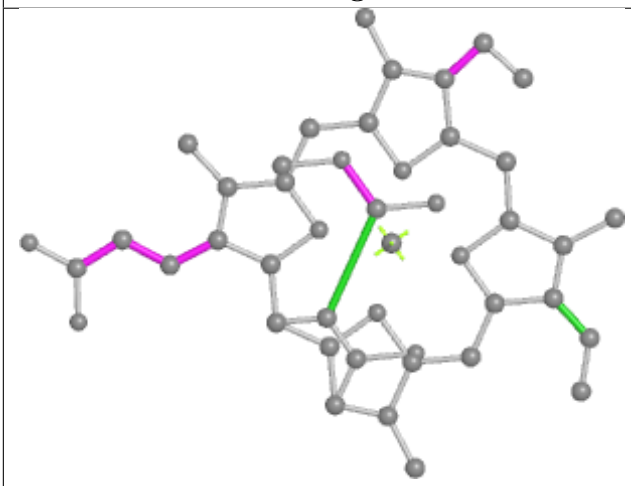


Bond angles



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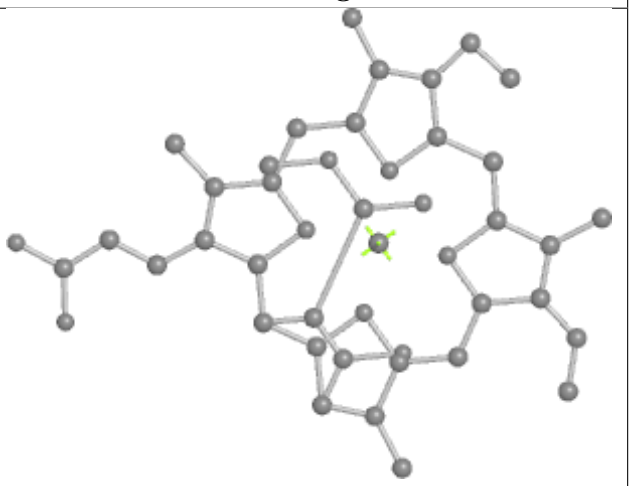
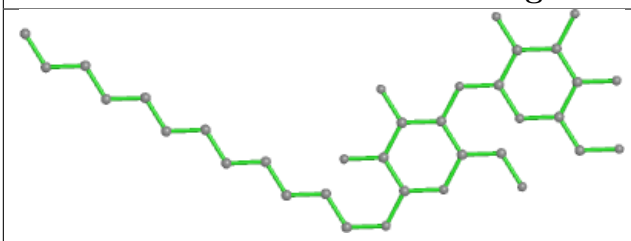


Rings

Ligand LMT 8 322



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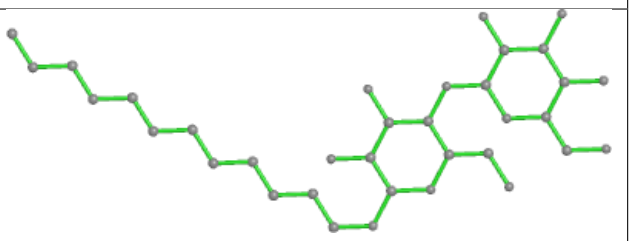
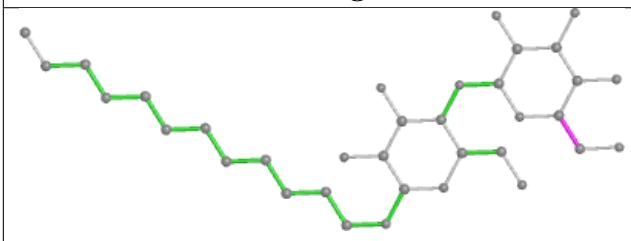


Bond angles



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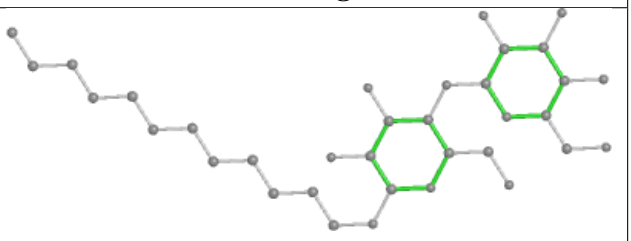
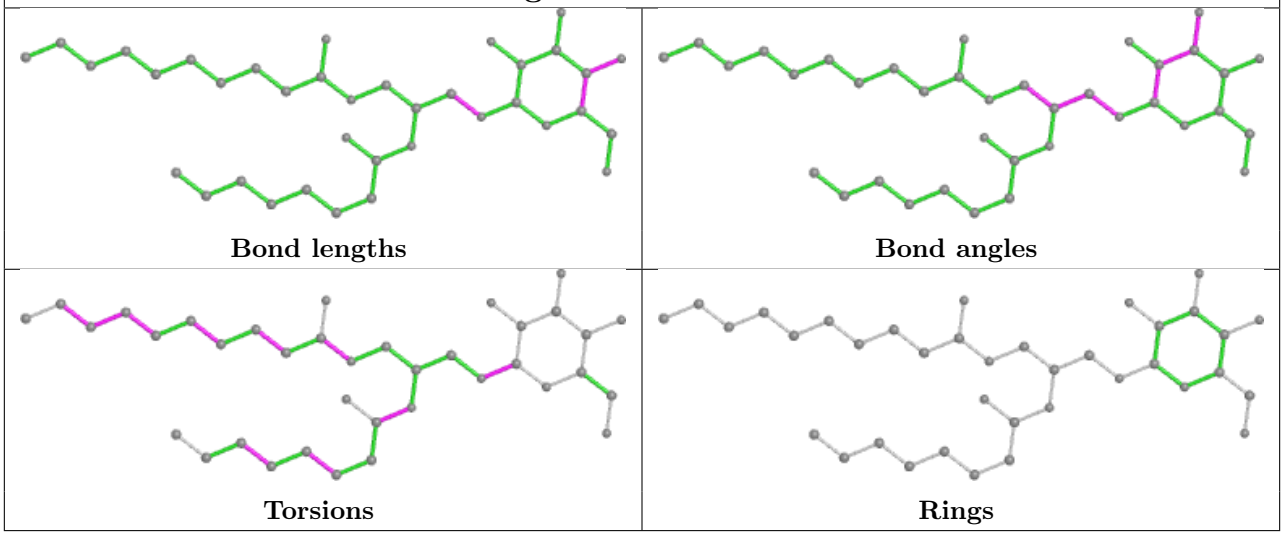


Rings

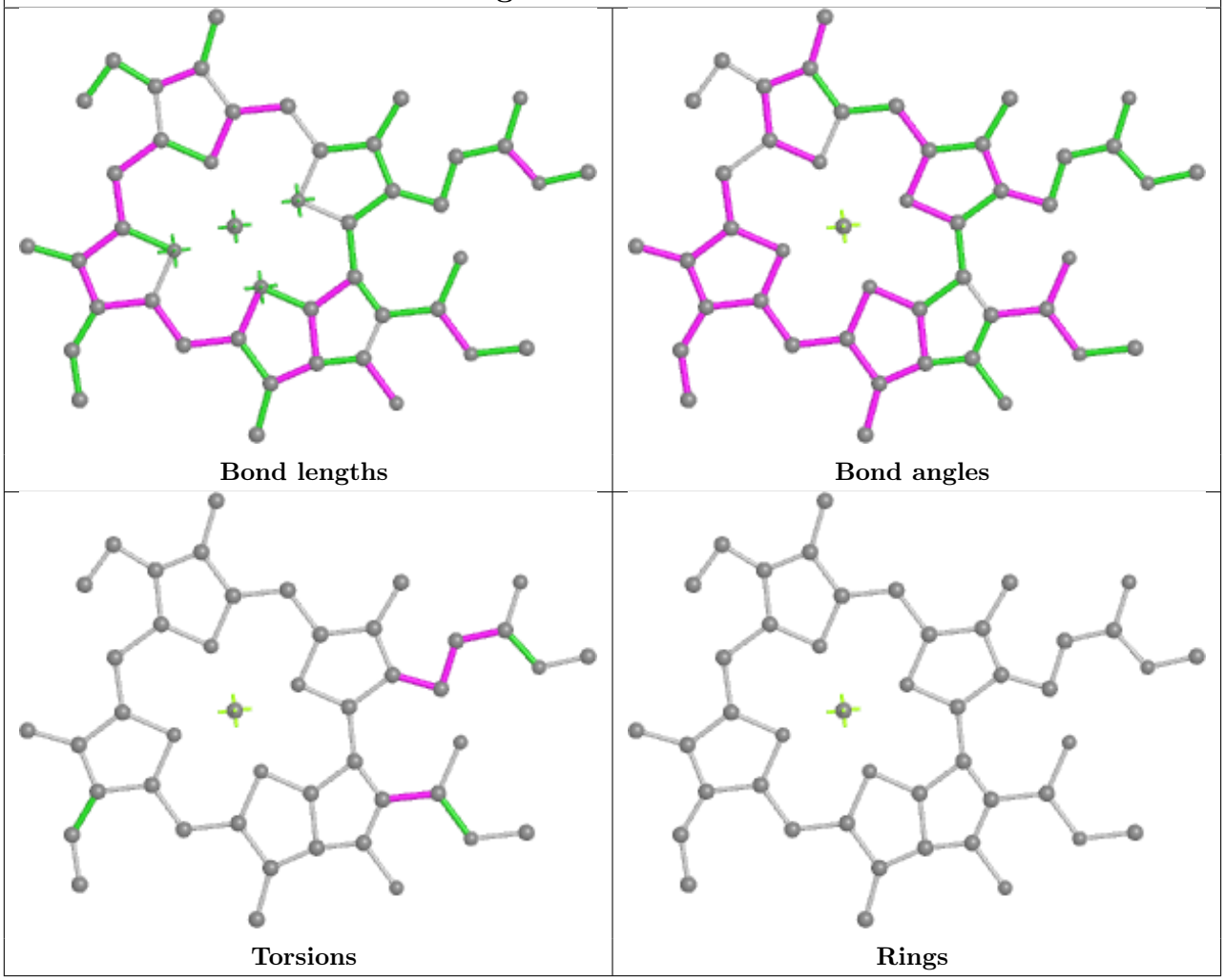
Ligand LMG 7 319



Bond lengths | Bond angles

Torsions | Rings

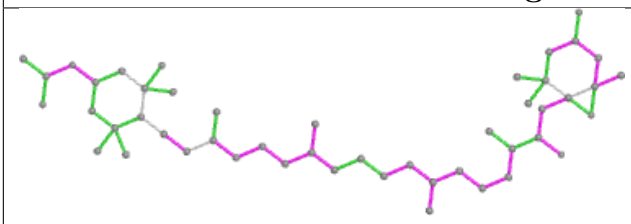
Ligand CLA 16 307



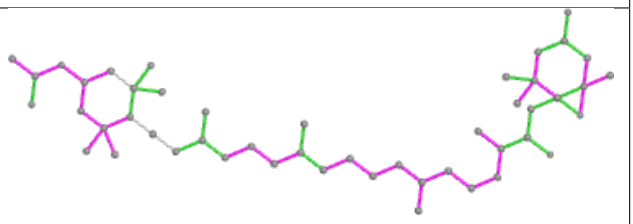
Bond lengths | Bond angles

Torsions | Rings

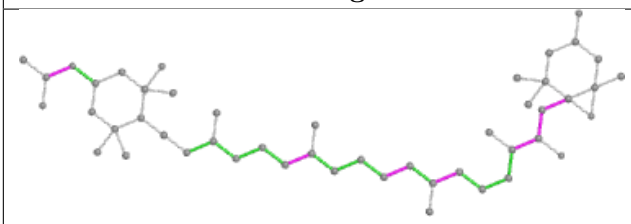
Ligand A86 14 314



Bond lengths



Bond angles



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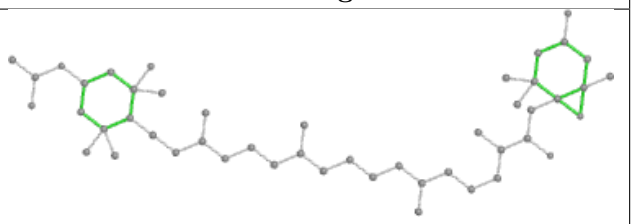
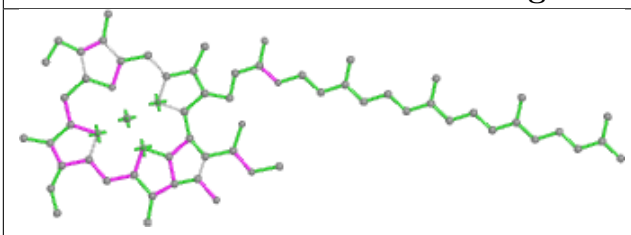


Rings

Ligand CLA 8 303



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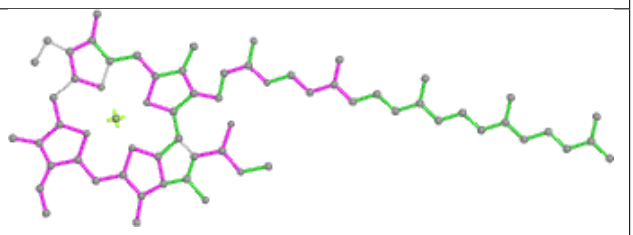
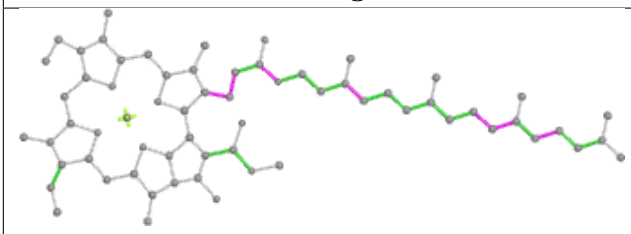


Bond angles



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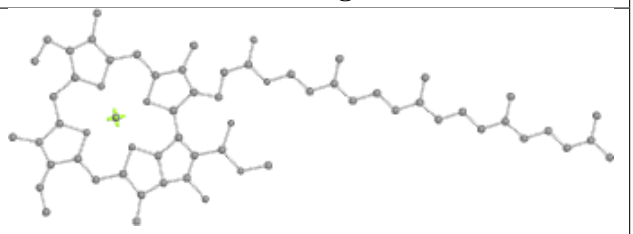
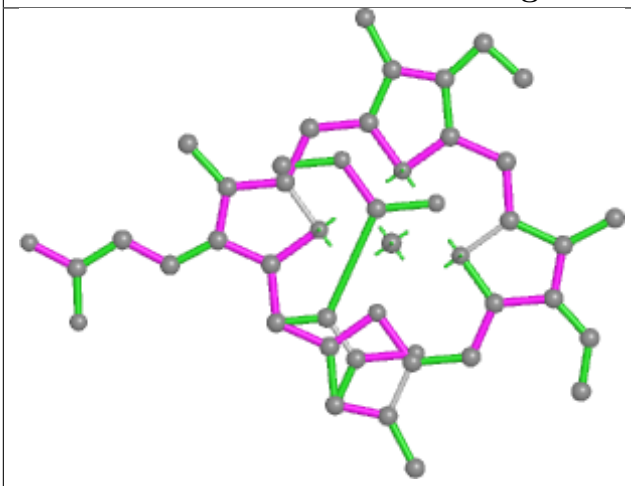


Rings

Ligand KC1 12 309



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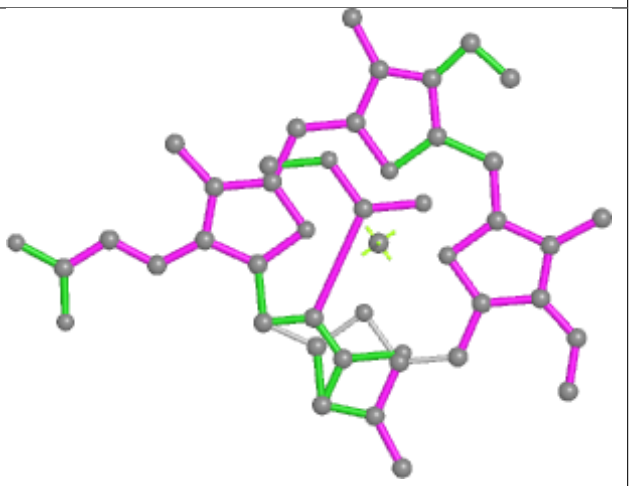
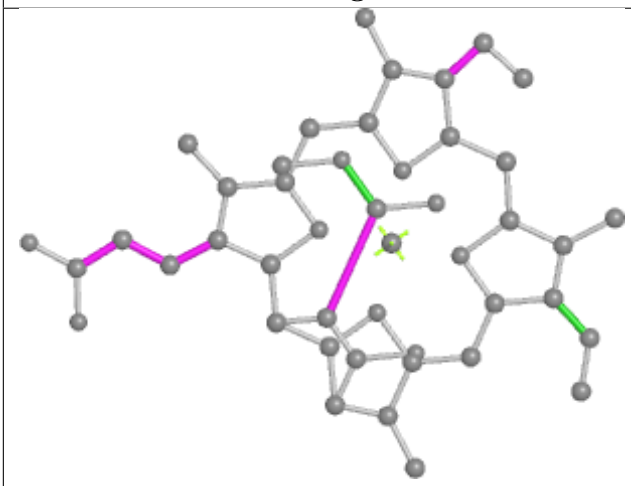


Bond angles



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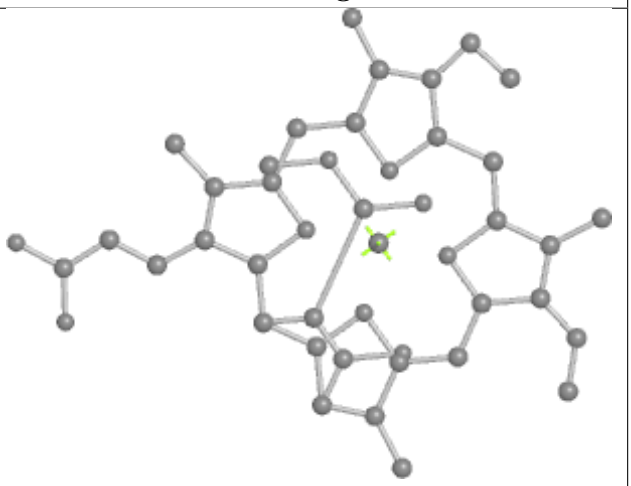
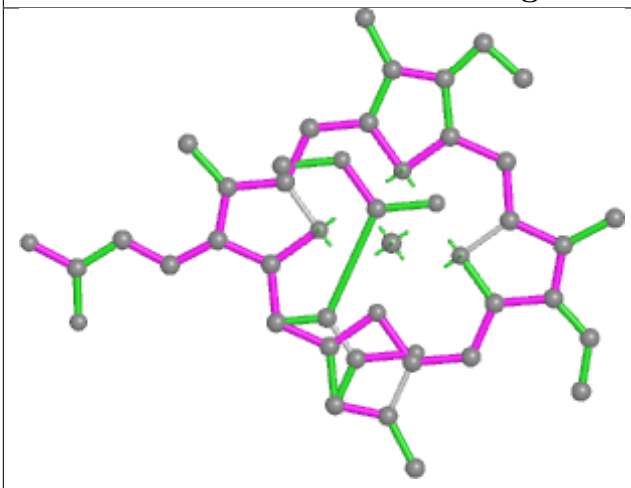


Rings

Ligand KC1 13 311



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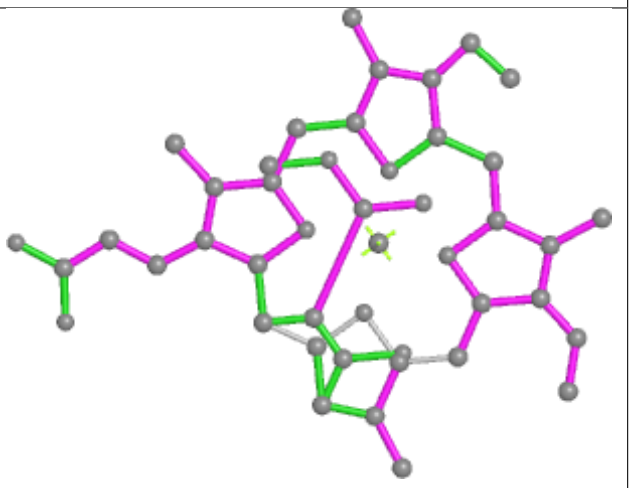
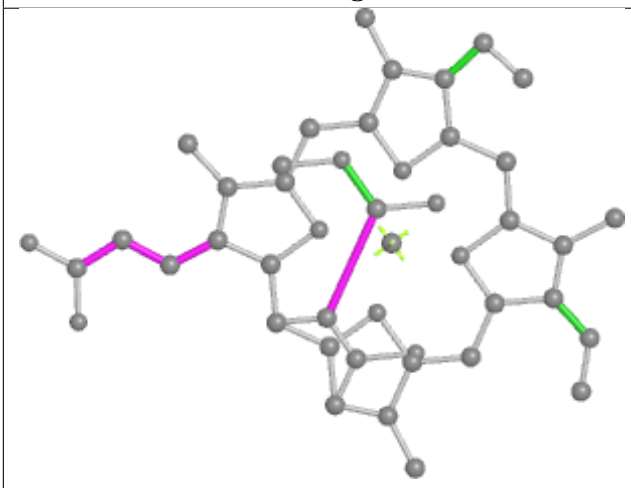


Bond angles



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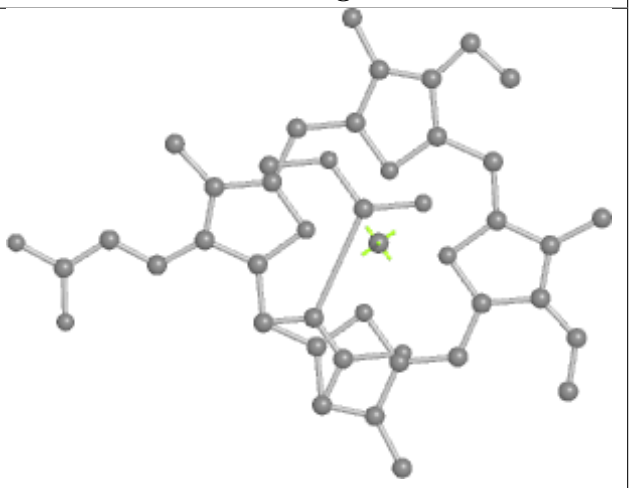
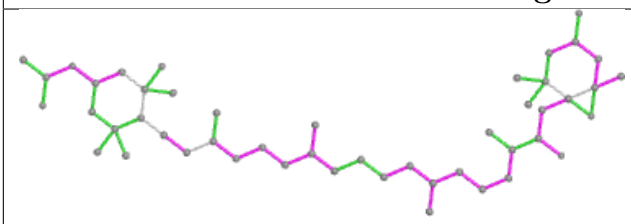


Rings

Ligand A86 8 318



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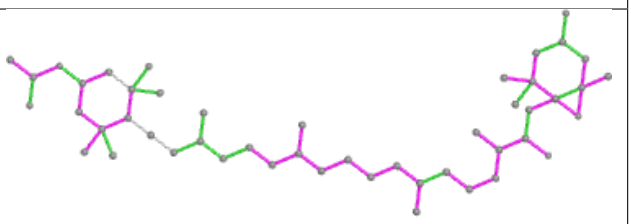
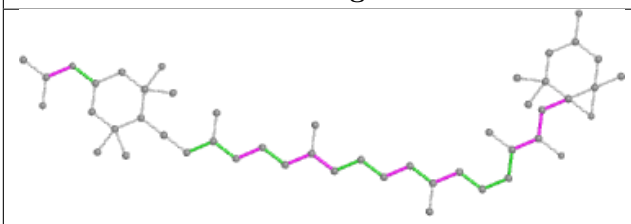
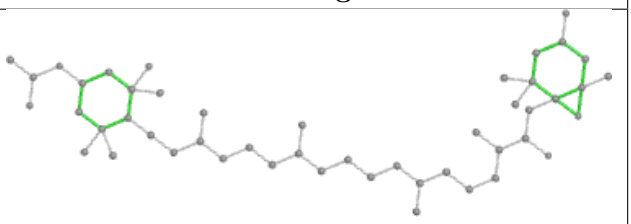


Bond angles

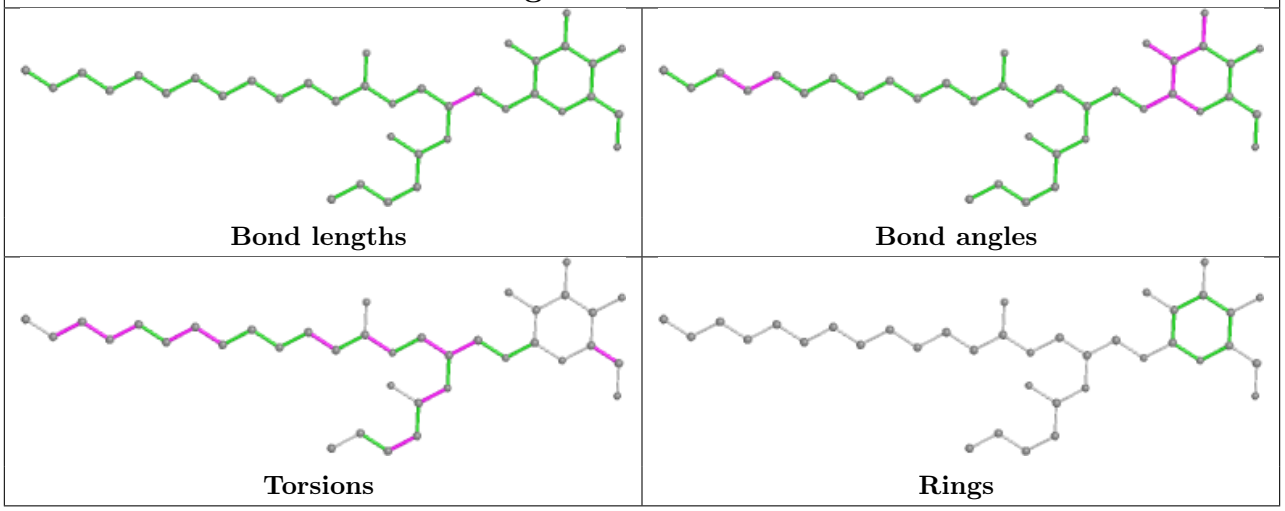


Torsions

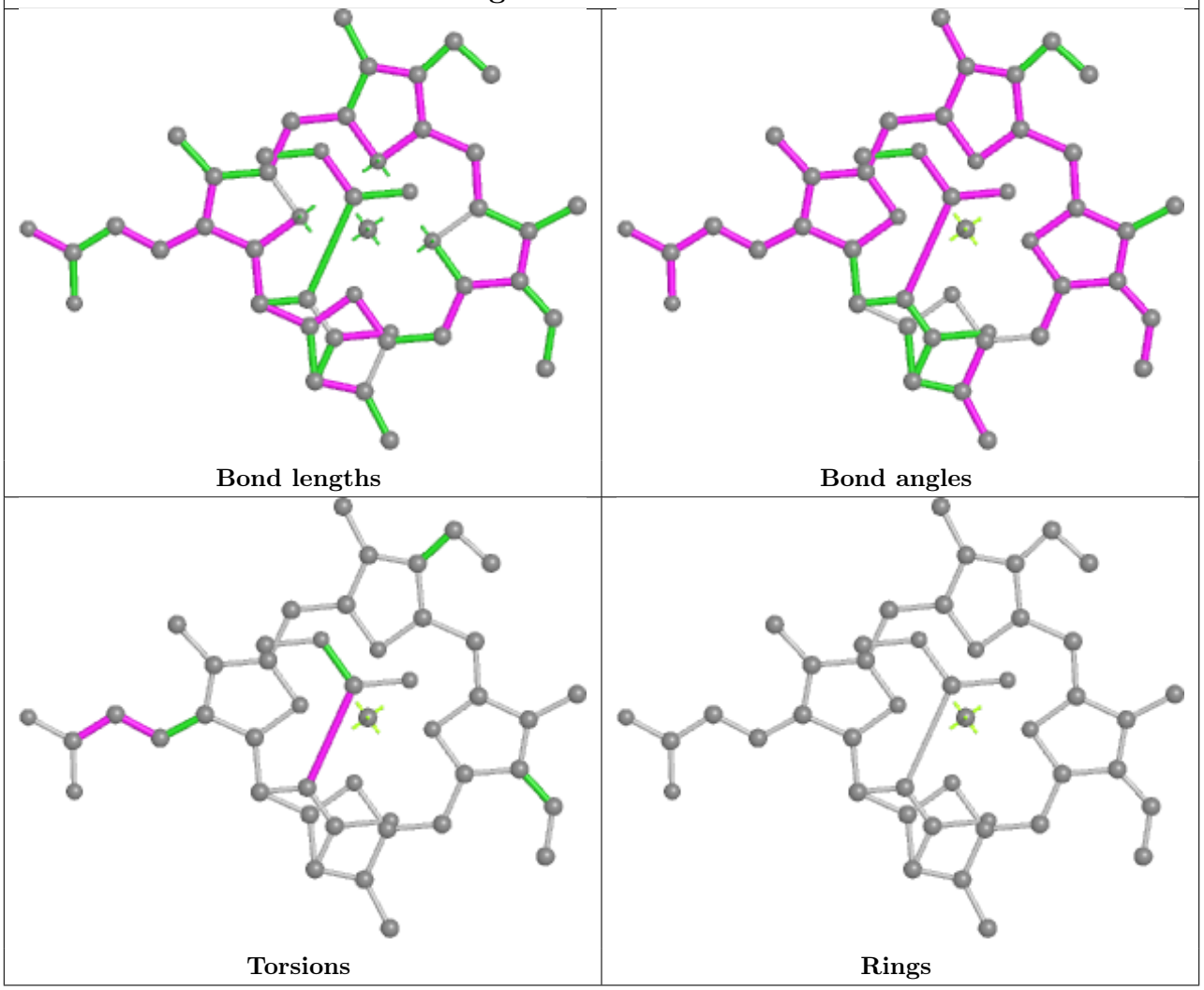


Rings

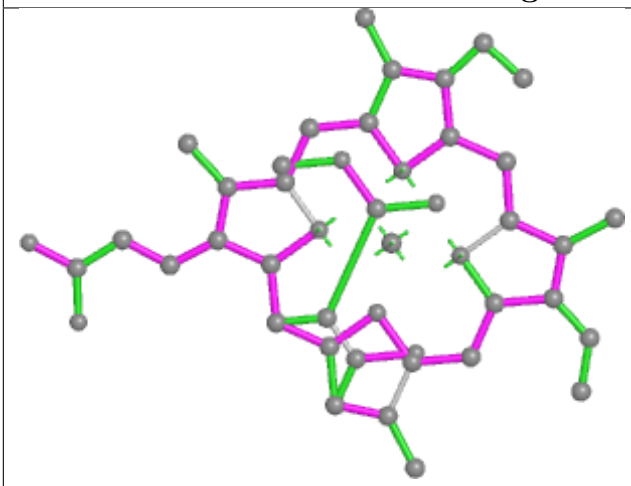
Ligand LMG 8 320



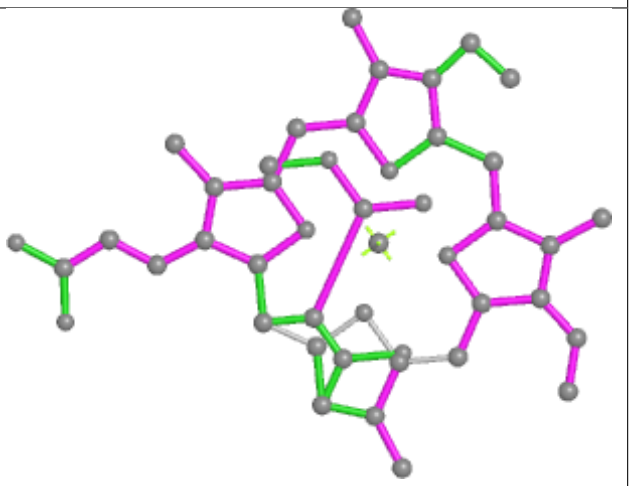
Ligand KC1 12 311



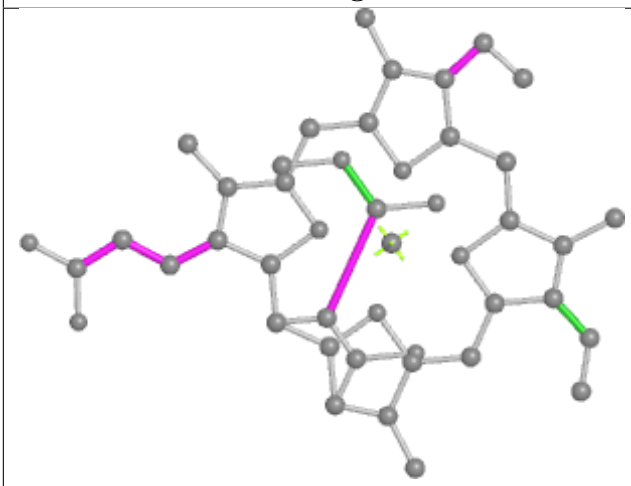
Ligand KC1 13 312



Bond lengths



Bond angles



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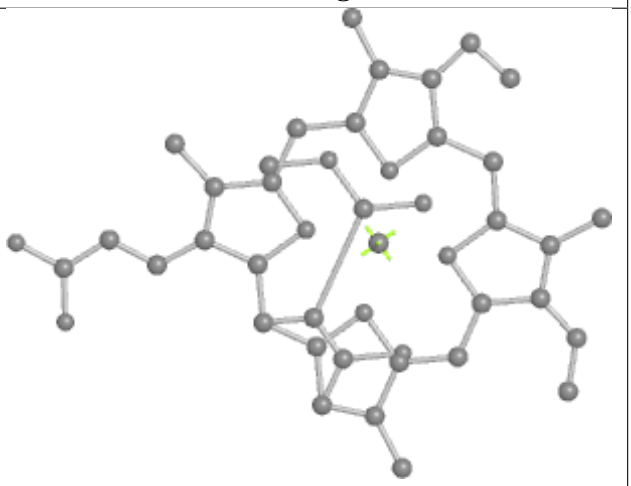
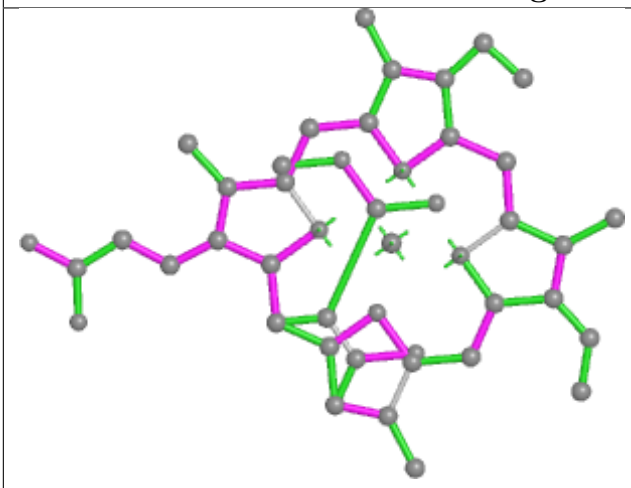


Rings

Ligand KC1 7 312



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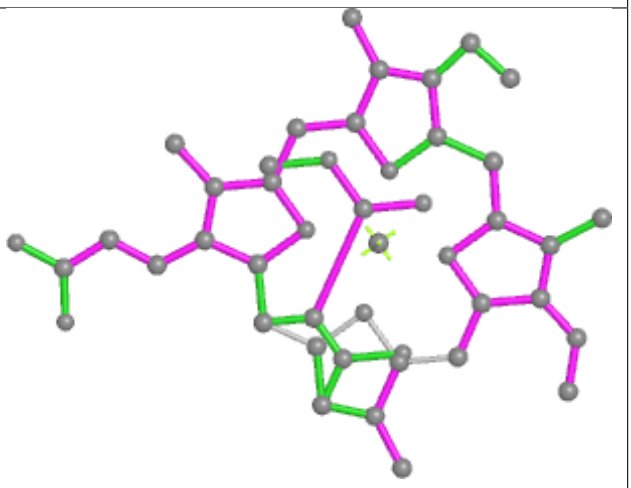
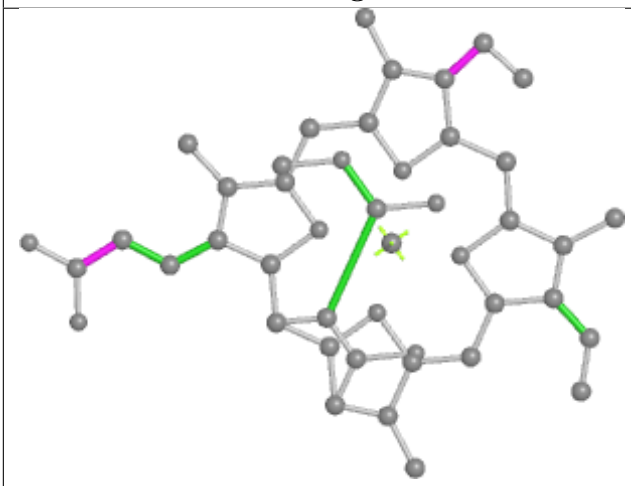


Bond angles



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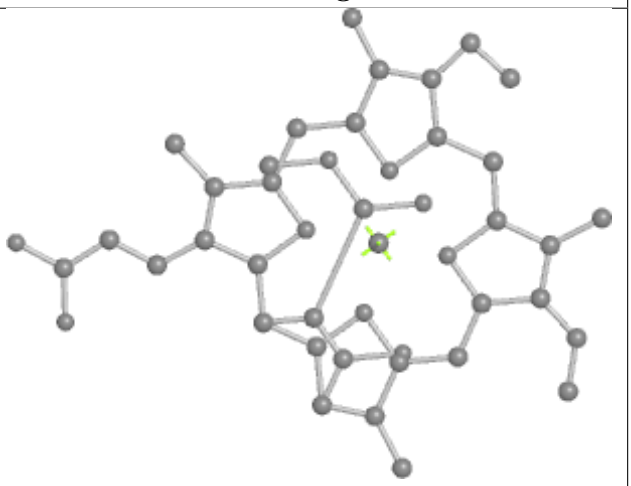
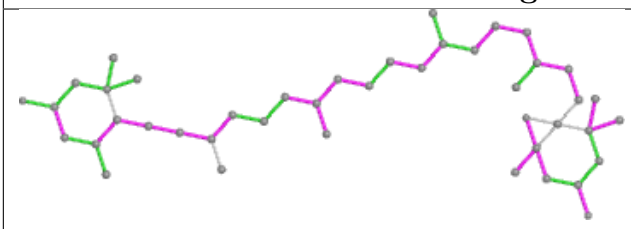
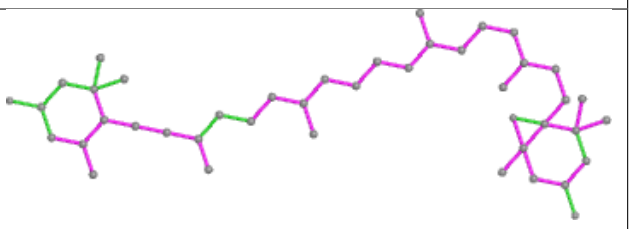


Rings

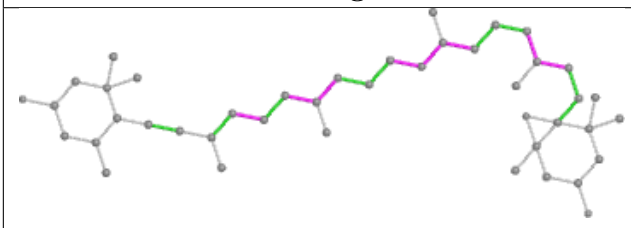
Ligand DD6 10 314



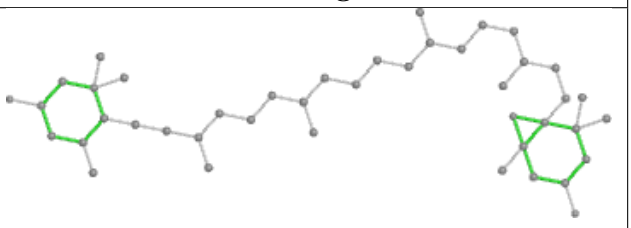
Bond lengths



Bond angles

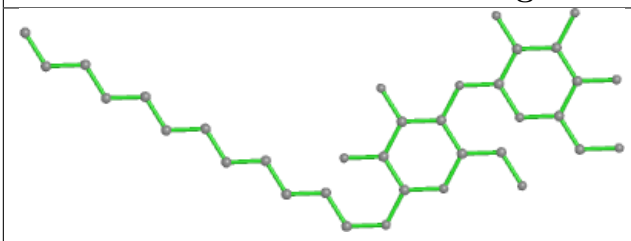


Torsions

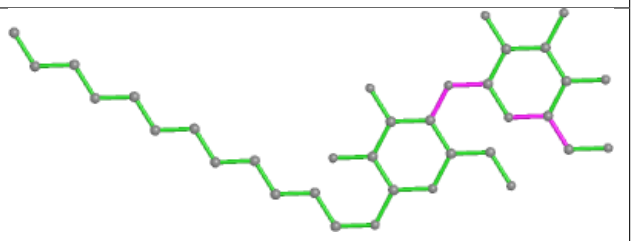


Rings

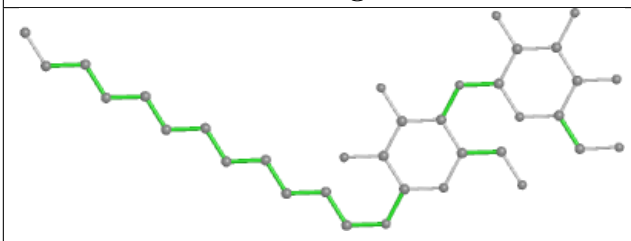
Ligand LMT 11 302



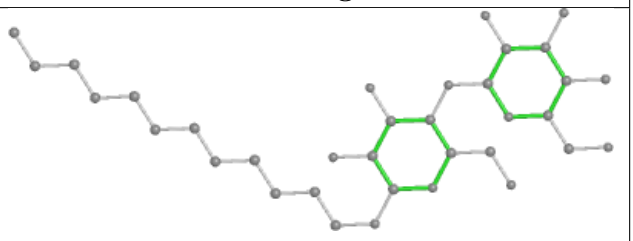
Bond lengths



Bond angles

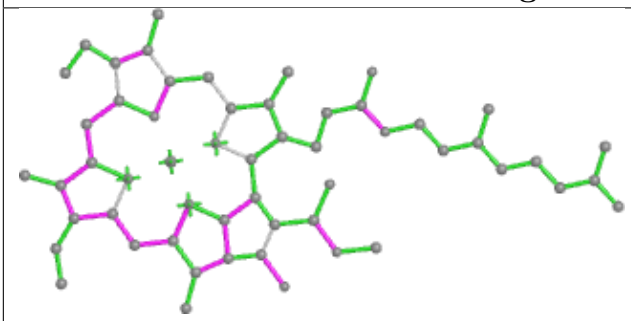


Torsions

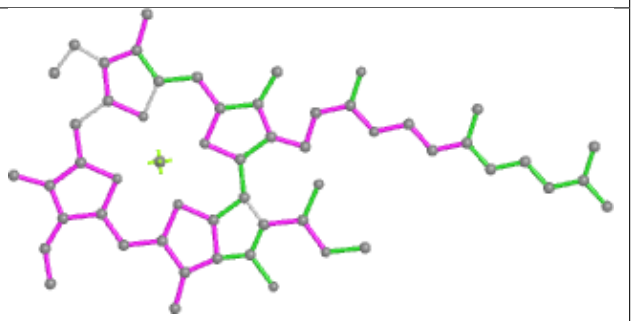


Rings

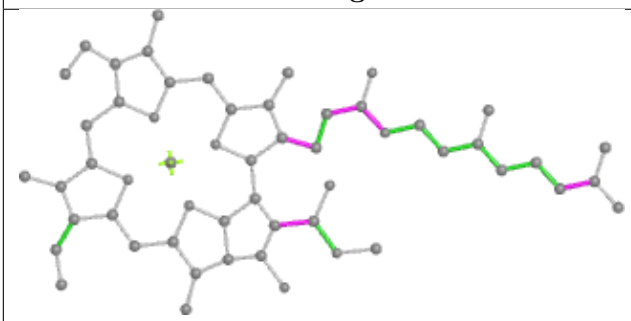
Ligand CLA 11 305



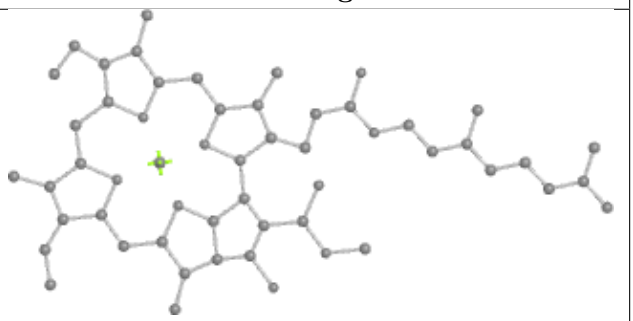
Bond lengths



Bond angles

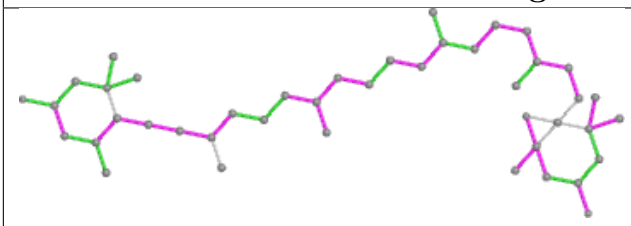


Torsions

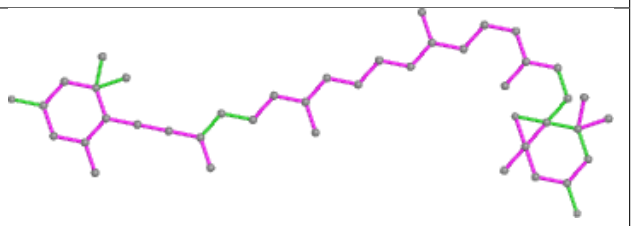


Rings

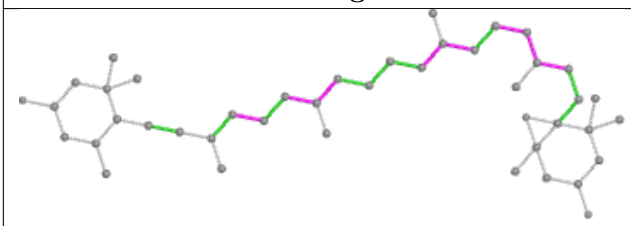
Ligand DD6 6 316



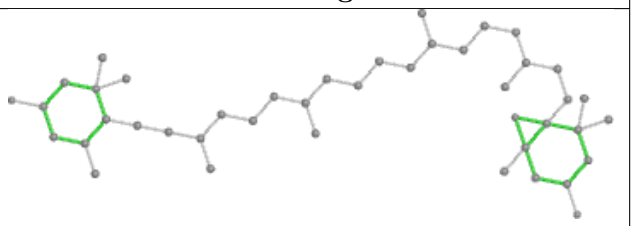
Bond lengths



Bond angles

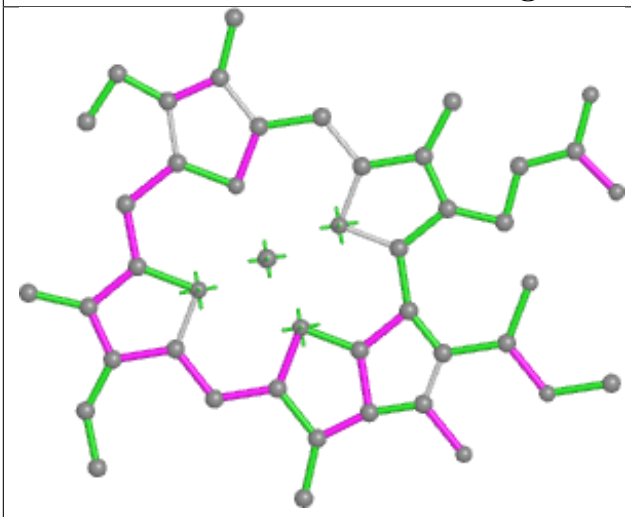


Torsions



Rings

Ligand CLA 15 308



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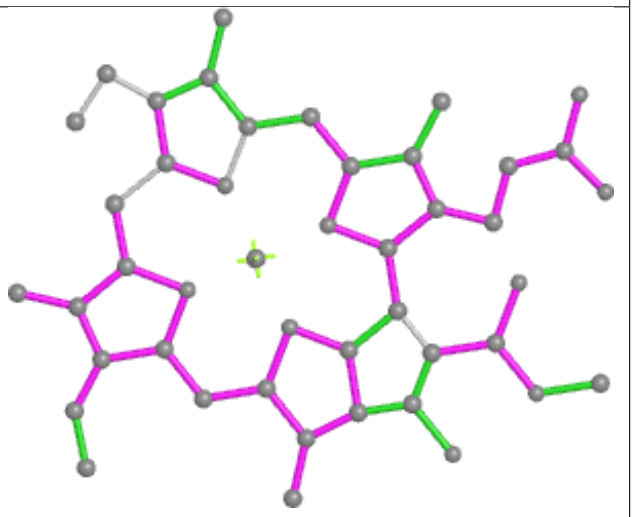
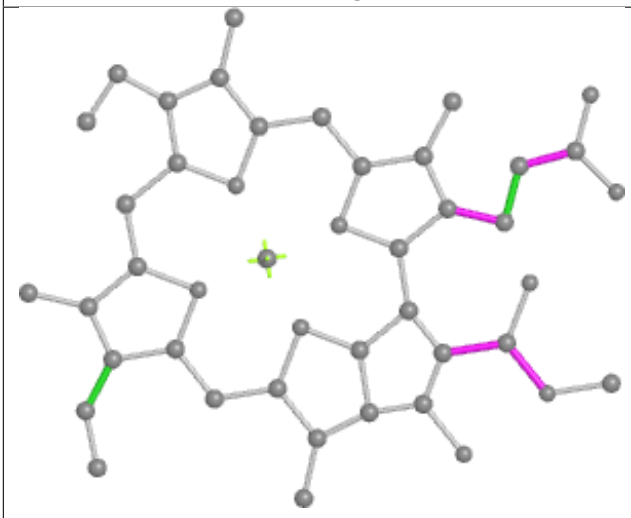


Bond angles



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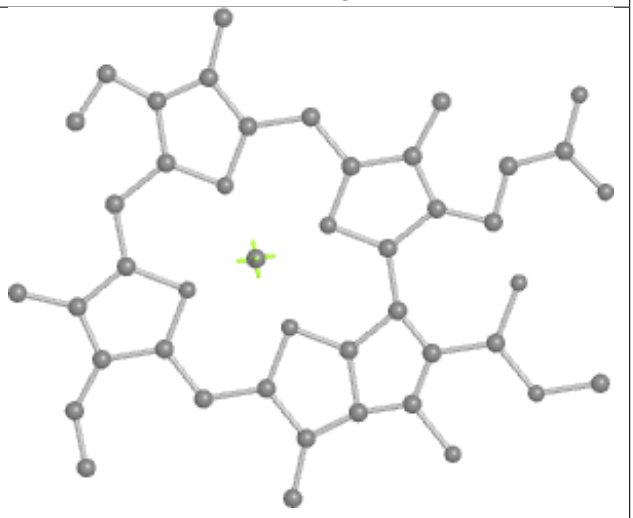
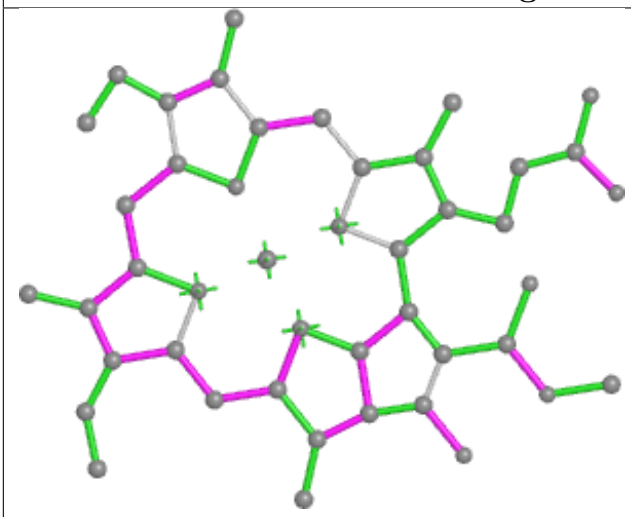


Rings

Ligand CLA 15 311



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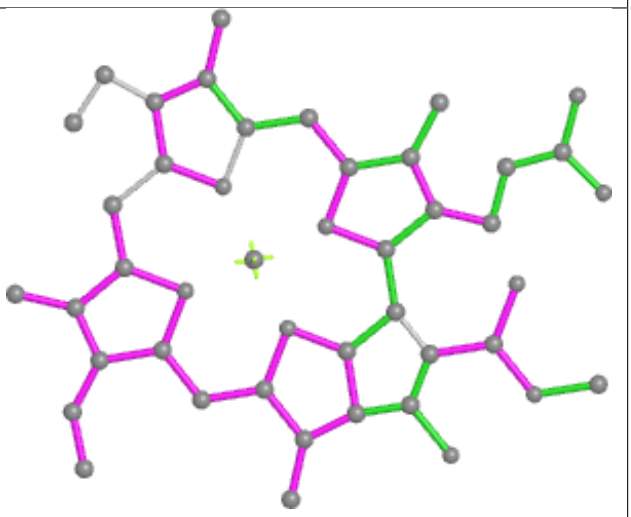
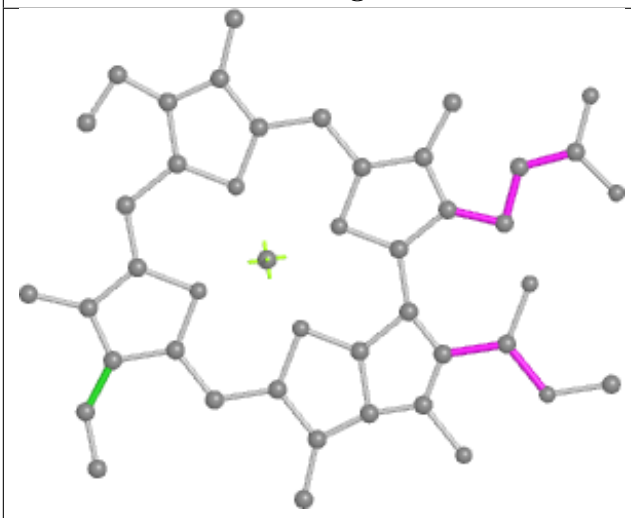


Bond angles



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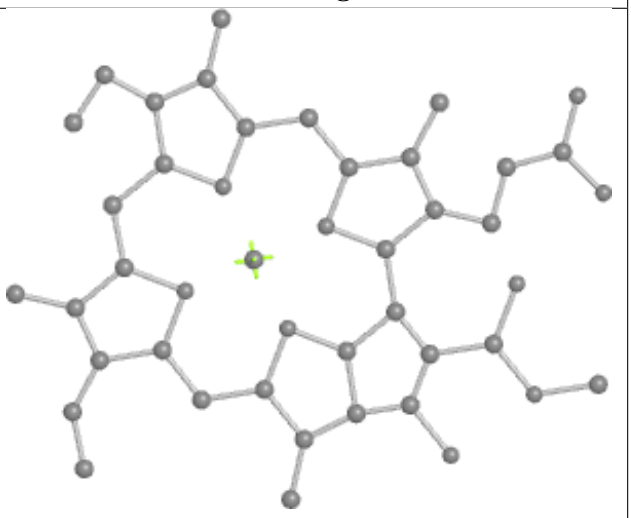
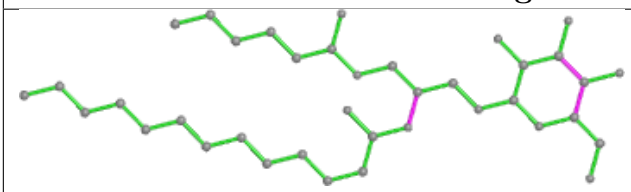


Rings

Ligand LMG 14 322



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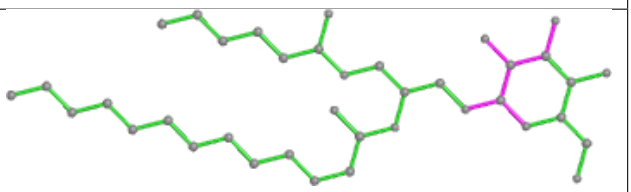
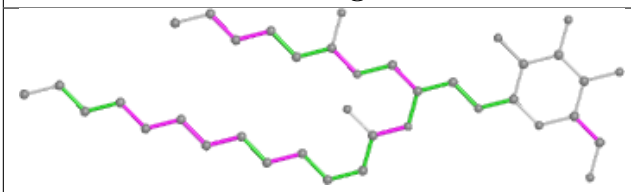


Bond angles



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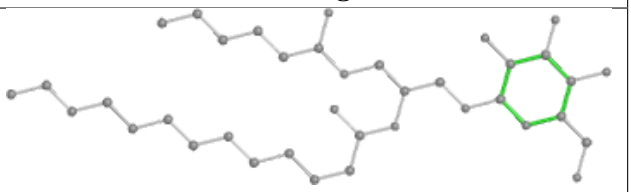
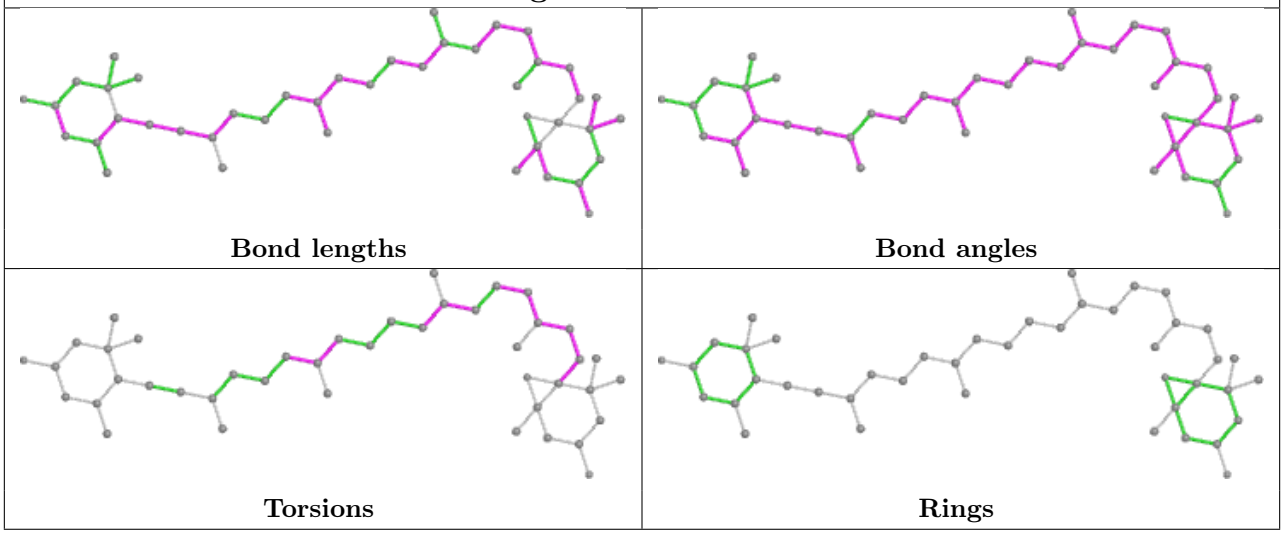


Rings

Ligand DD6 7 313



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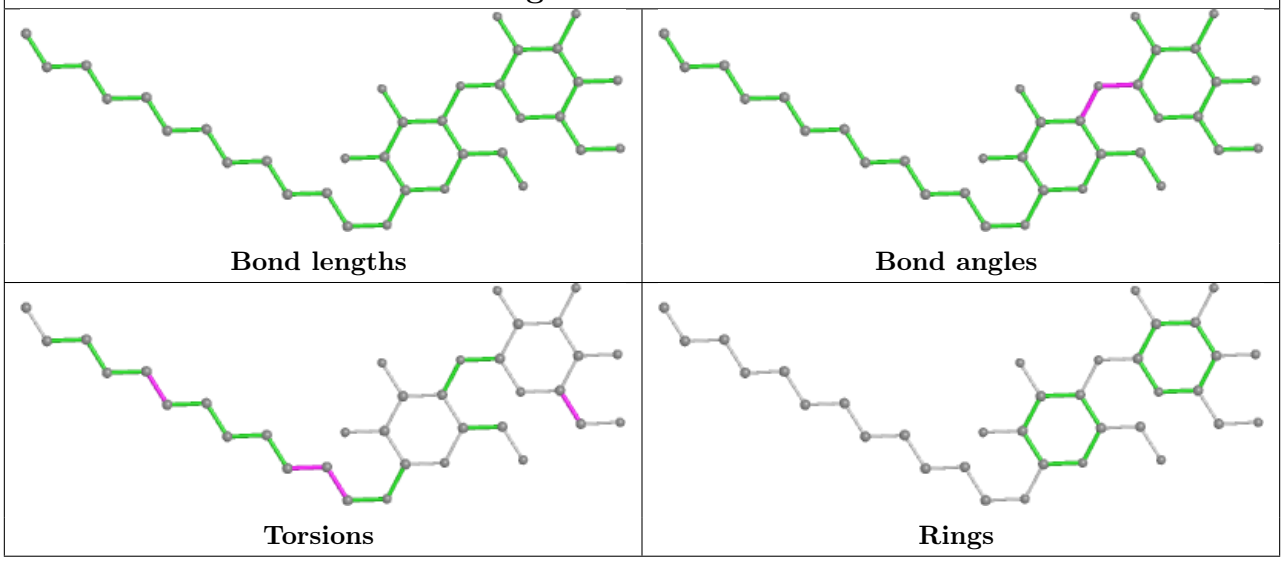
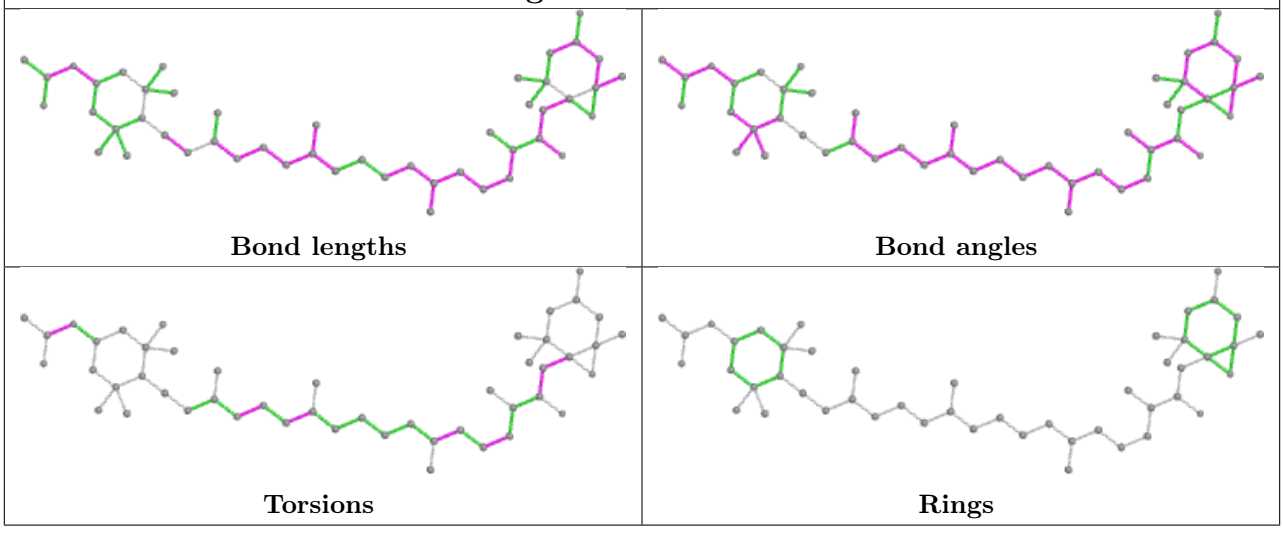
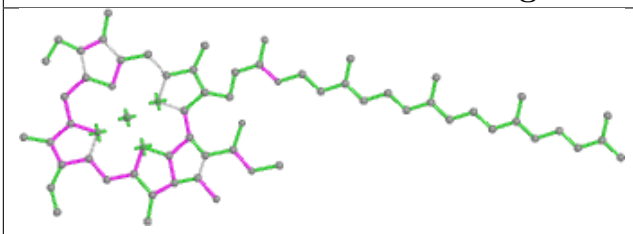


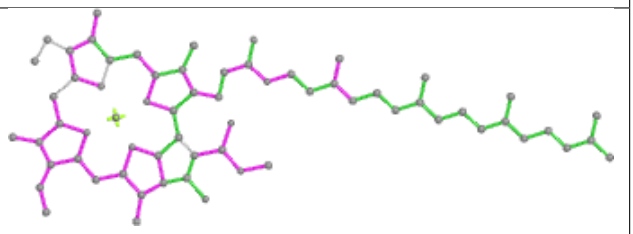
Ligand A86 10 316



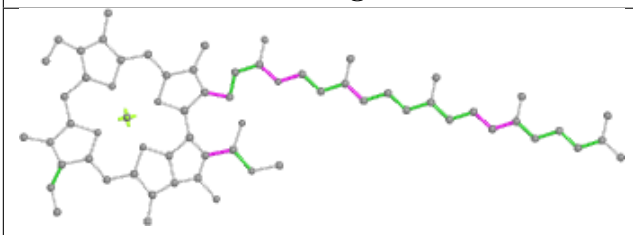
Ligand CLA 13 307



Bond lengths



Bond angles



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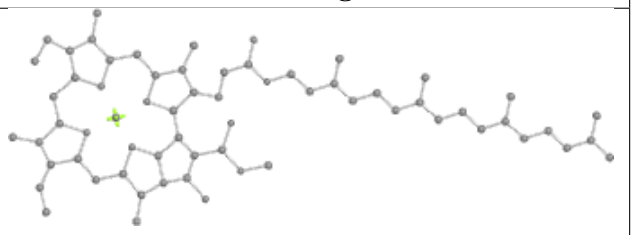
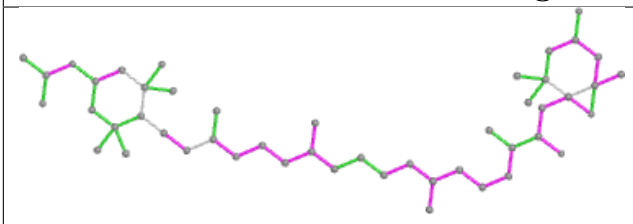


Rings

Ligand A86 6 317



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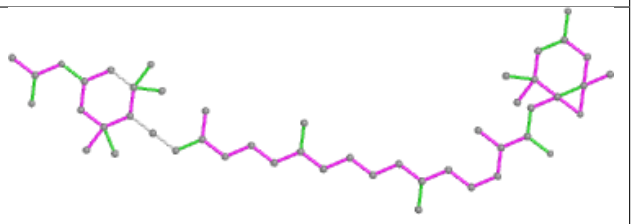
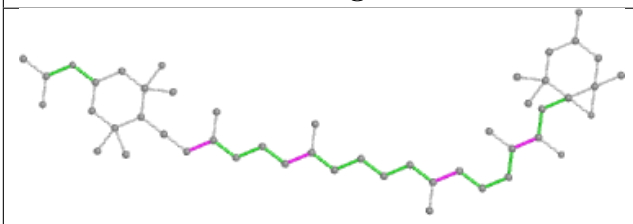


Bond angles



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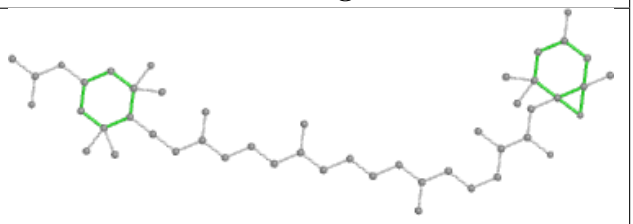
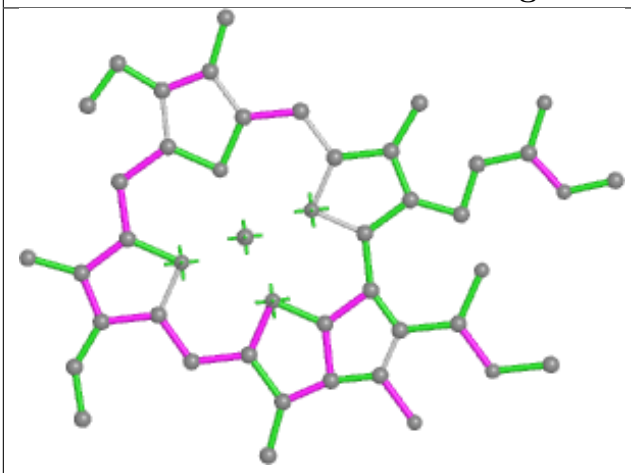


Rings

Ligand CLA 14 313



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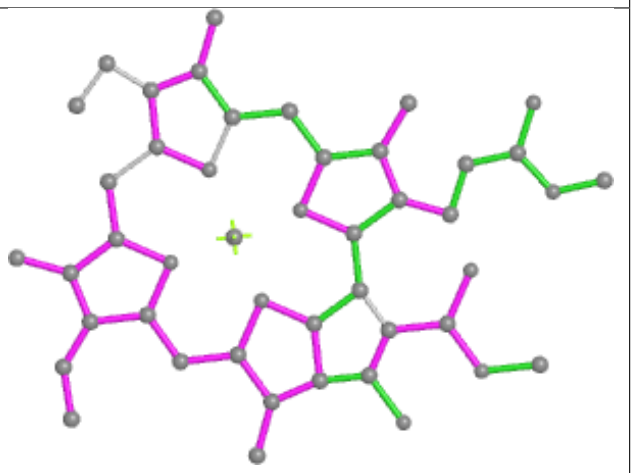
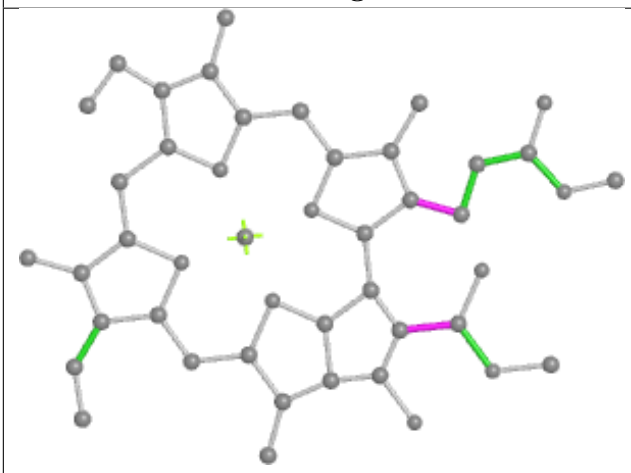


Bond angles



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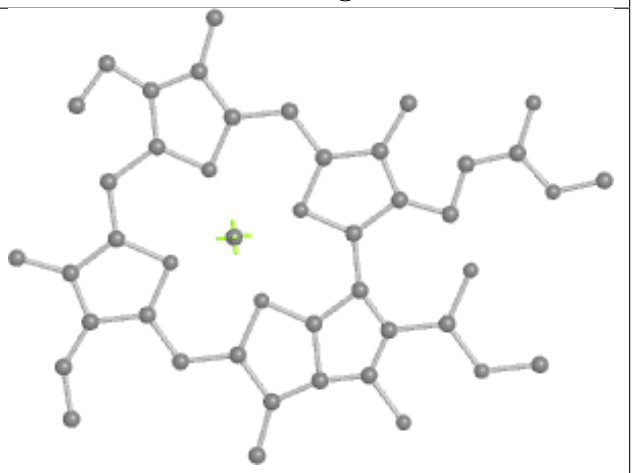
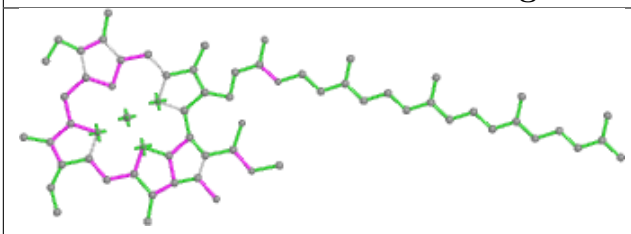


Rings

Ligand CLA 10 304



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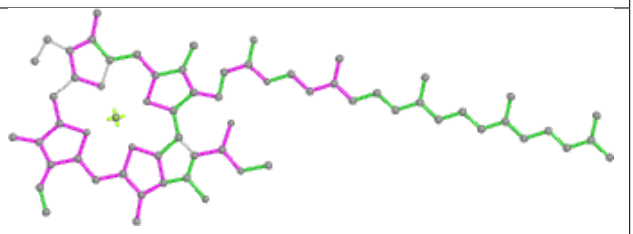
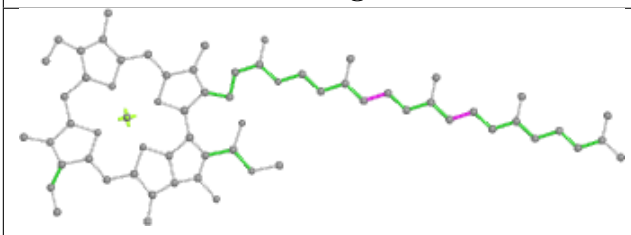


Bond angles



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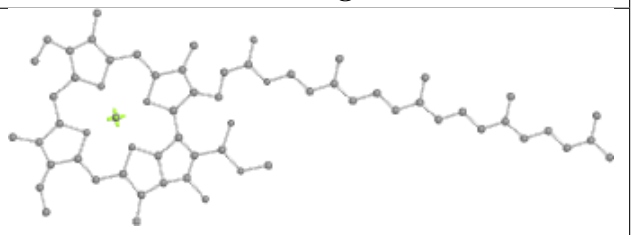
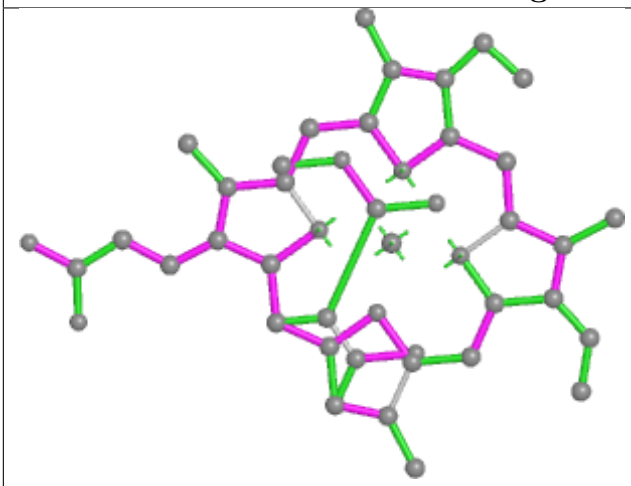


Rings

Ligand KC1 6 305



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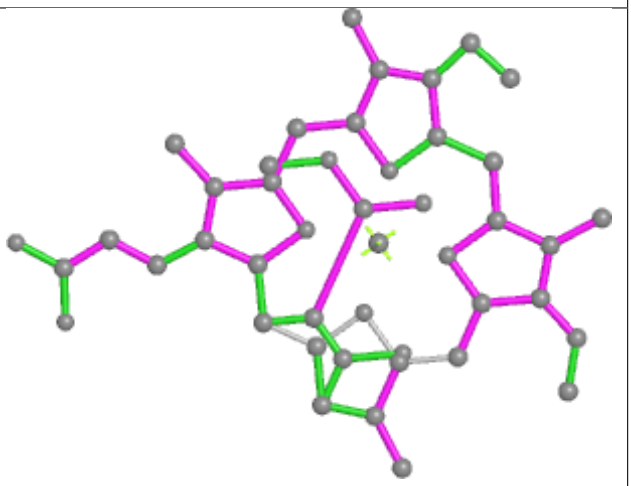
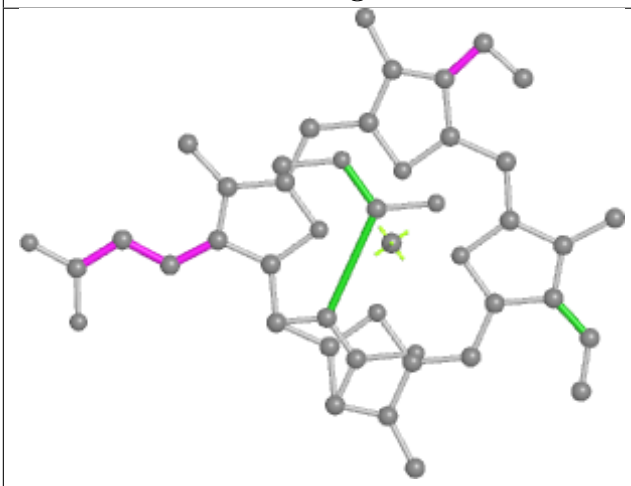
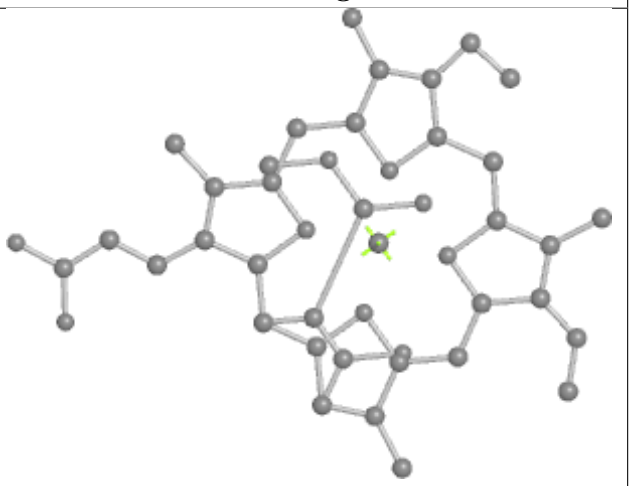


Bond angles

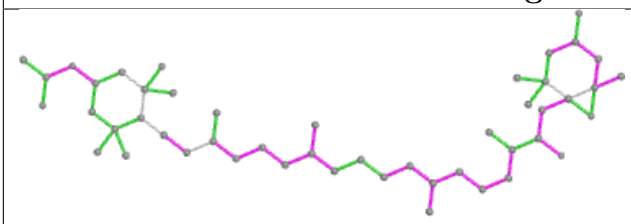


Torsions

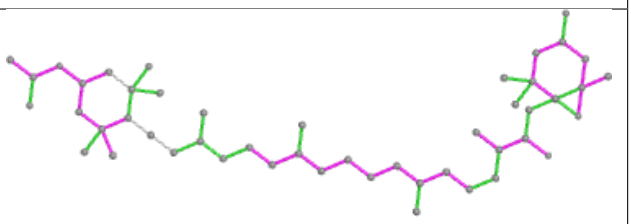


Rings

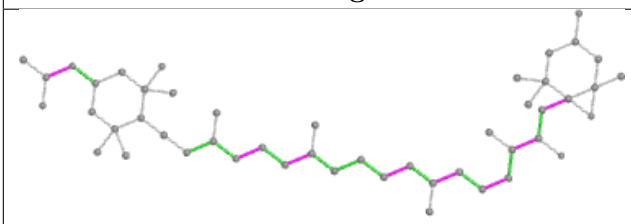
Ligand A86 15 316



Bond lengths



Bond angles



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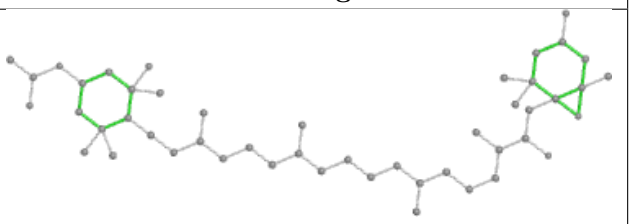
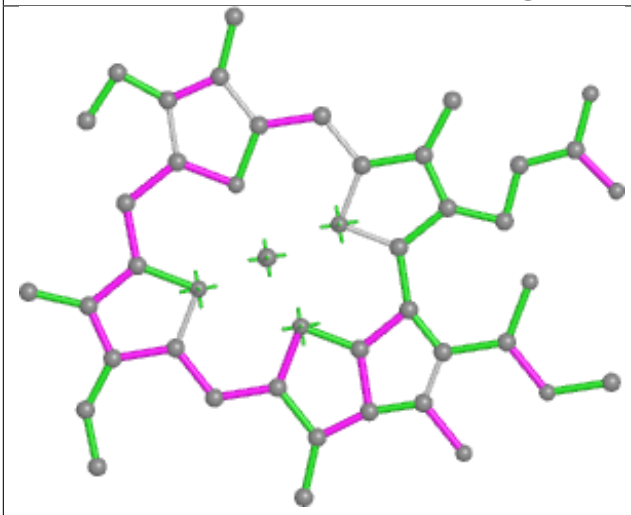


Rings

Ligand CLA 15 314



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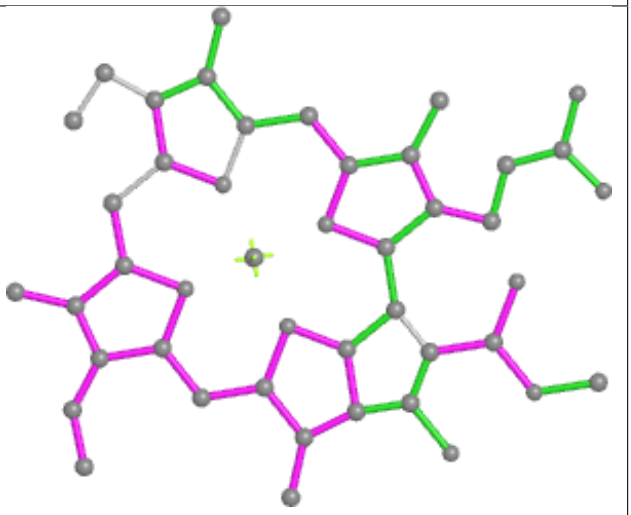
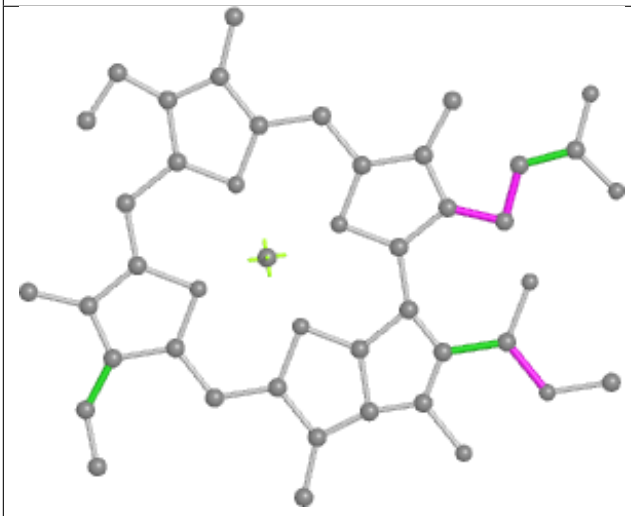


Bond angles



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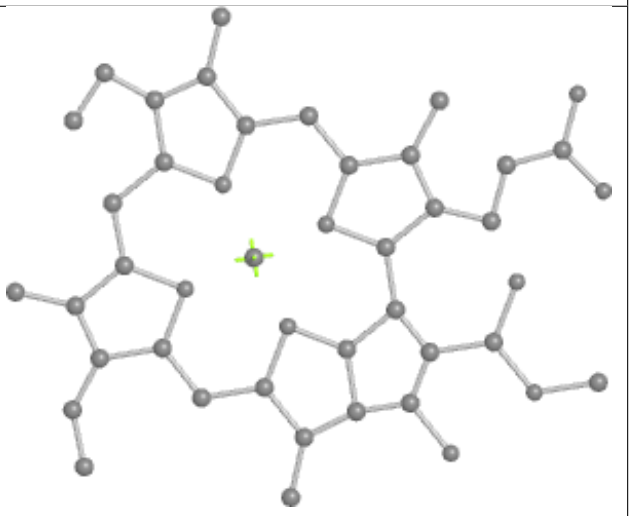
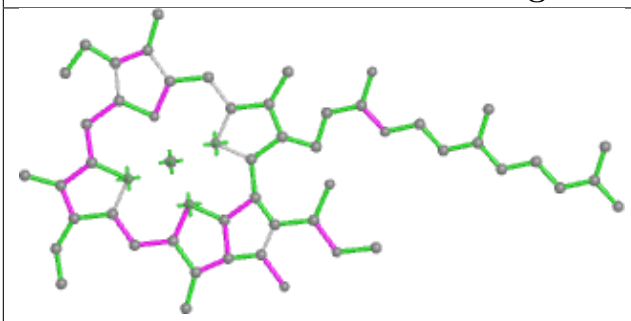
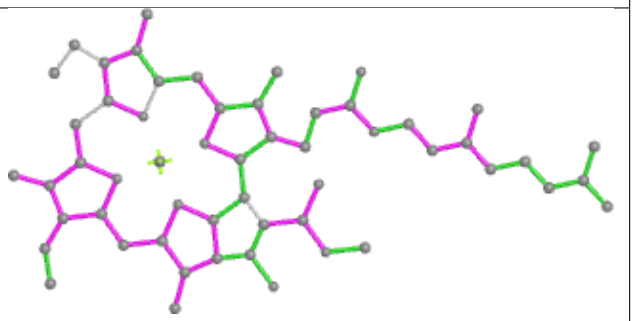


Rings

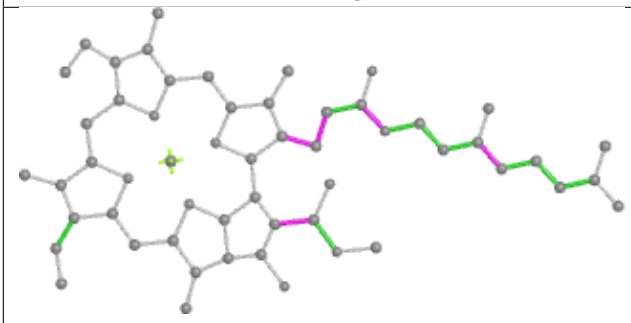
Ligand CLA 8 308



Bond lengths



Bond angles



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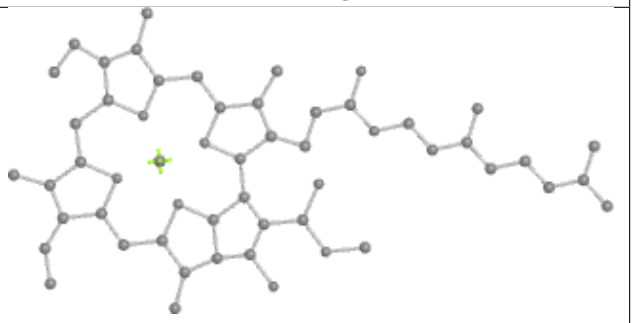
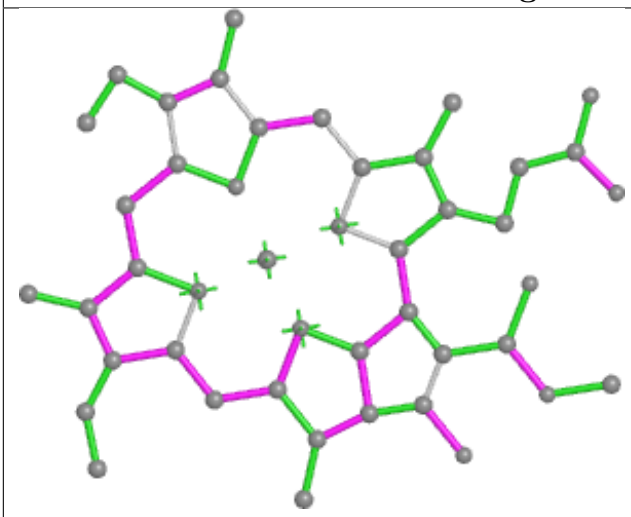
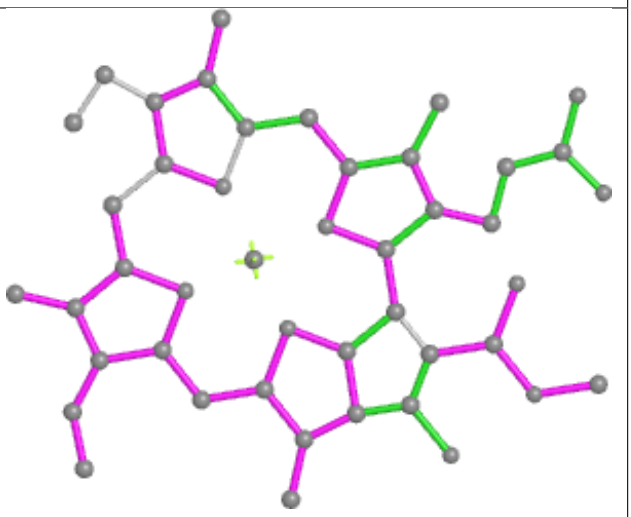


Rings

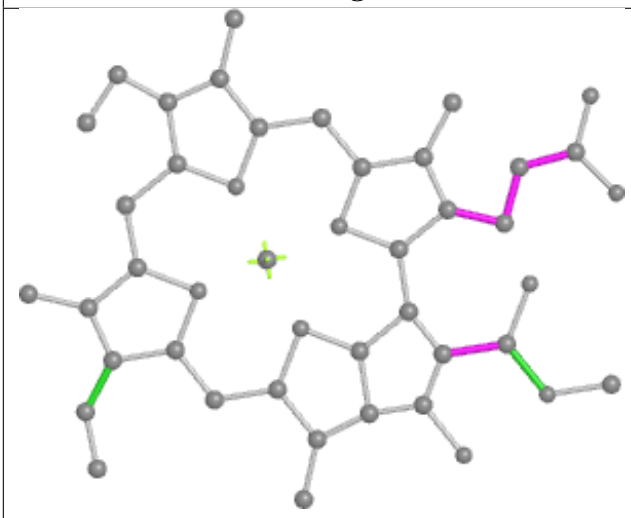
Ligand CLA 13 309



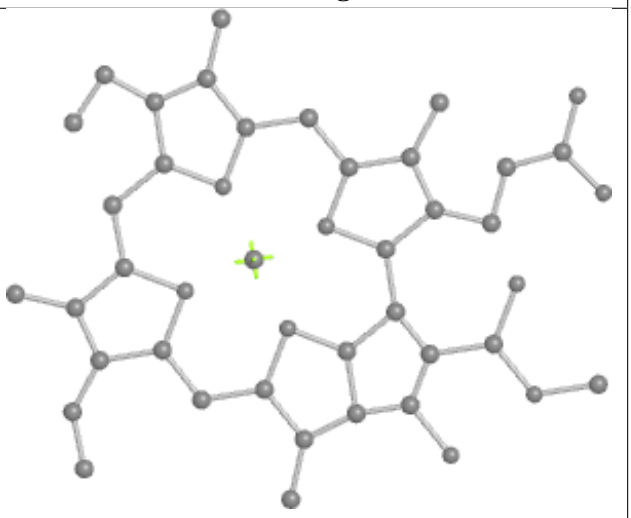
Bond lengths



Bond angles

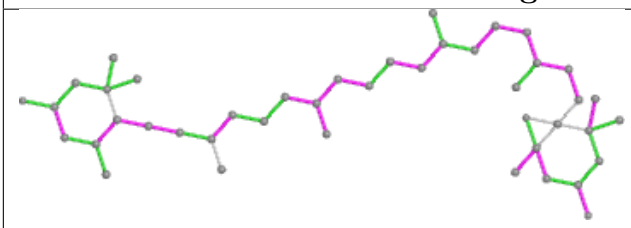


Torsions

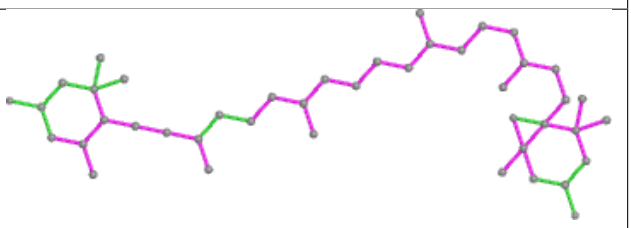


Rings

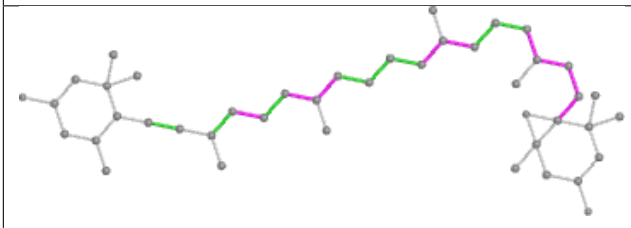
Ligand DD6 16 313



Bond lengths



Bond angles



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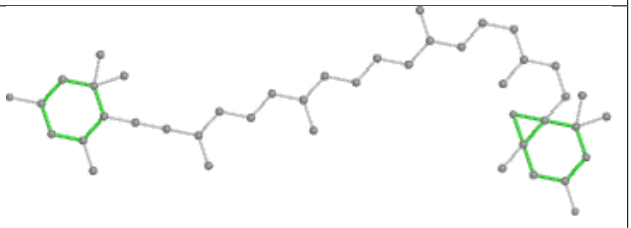
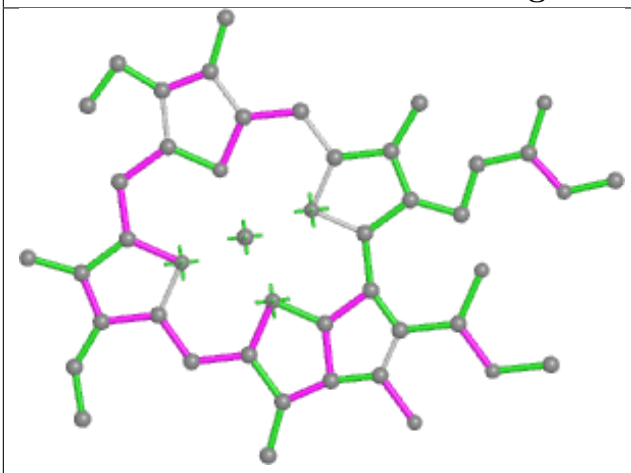
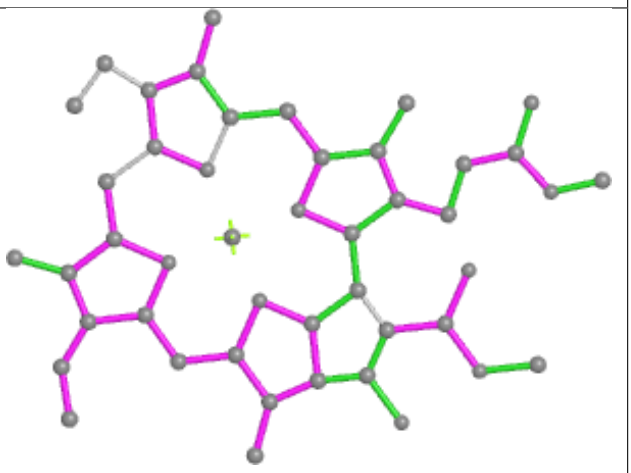


Rings

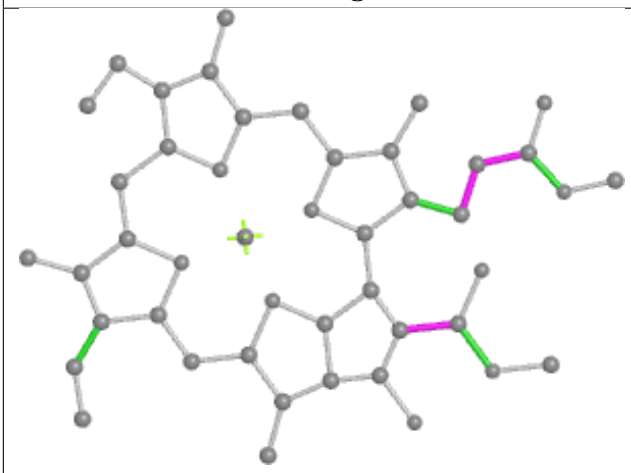
Ligand CLA 7 311



Bond lengths



Bond angles



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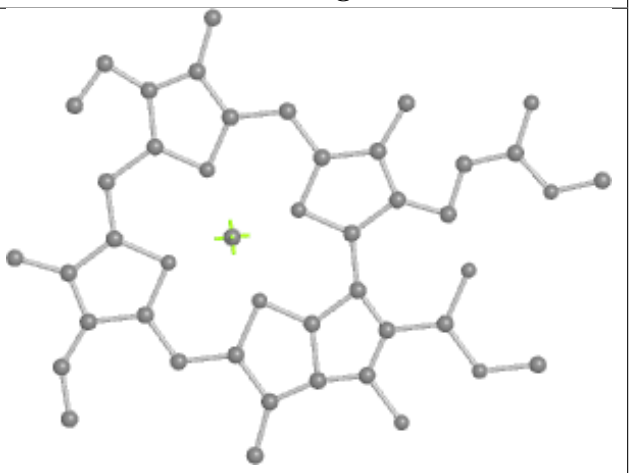
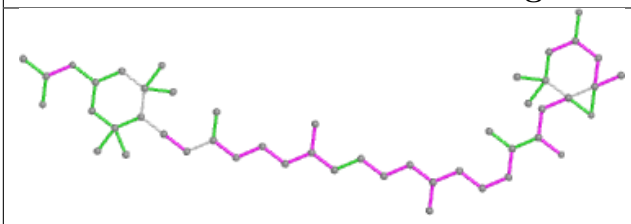


Rings

Ligand A86 14 321



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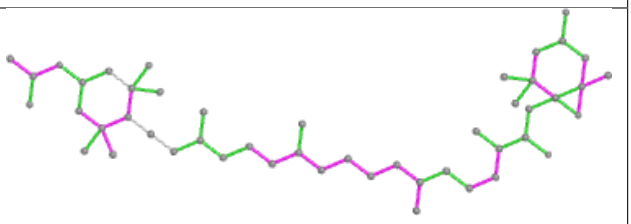

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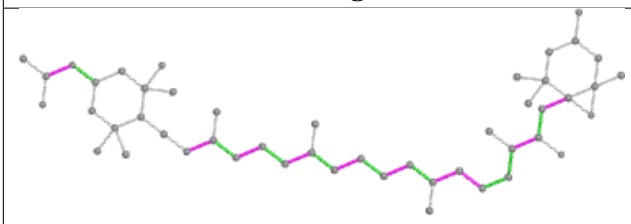

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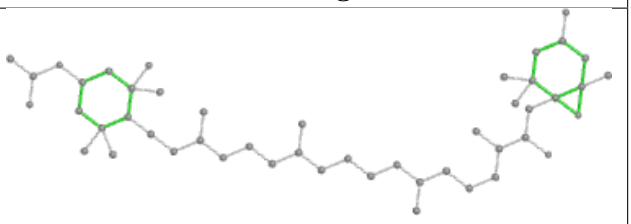
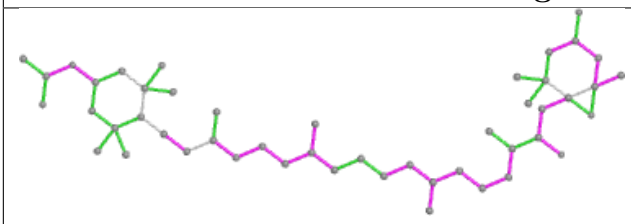


Rings

Ligand A86 7 318



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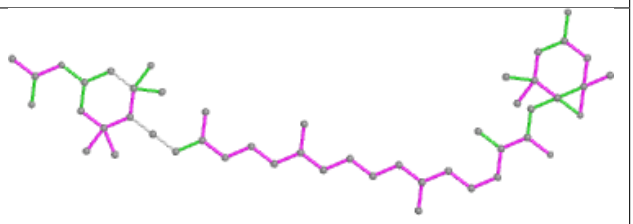

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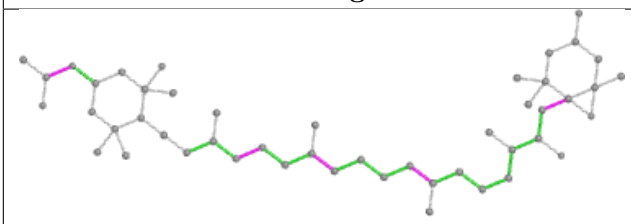

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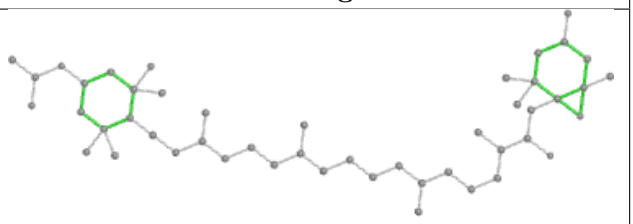
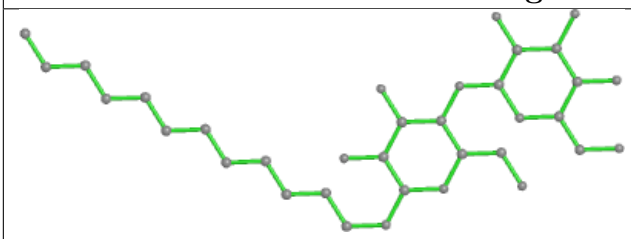


Rings

Ligand LMT 8 324



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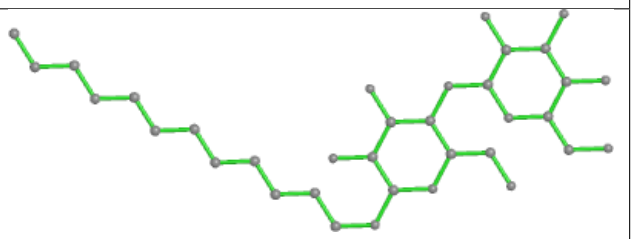

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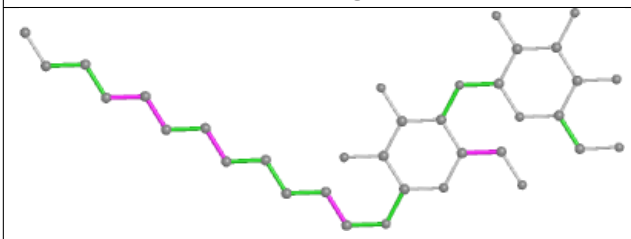

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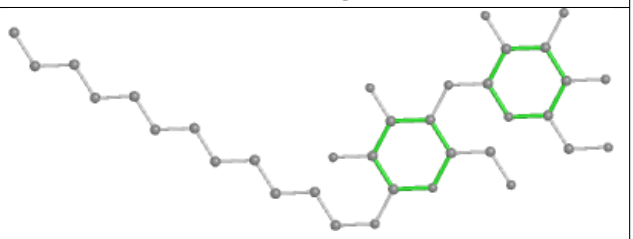
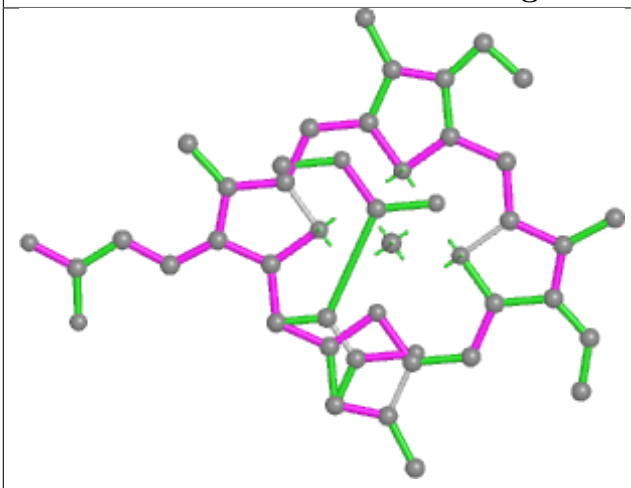


Rings

Ligand KC1 14 311



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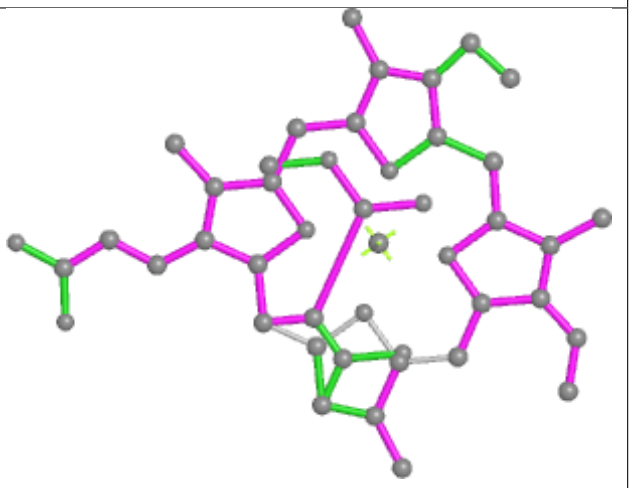

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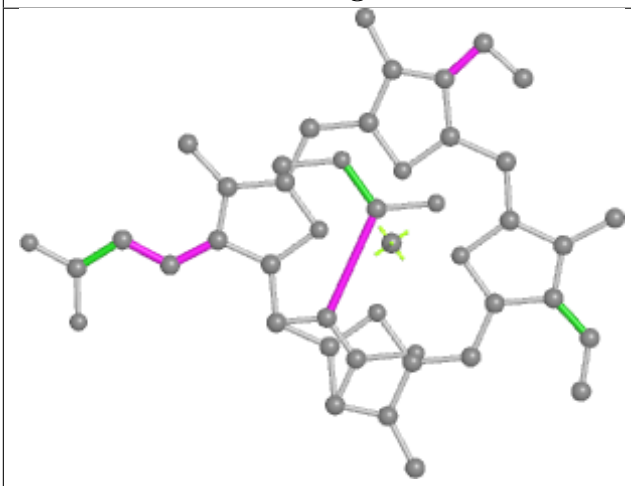

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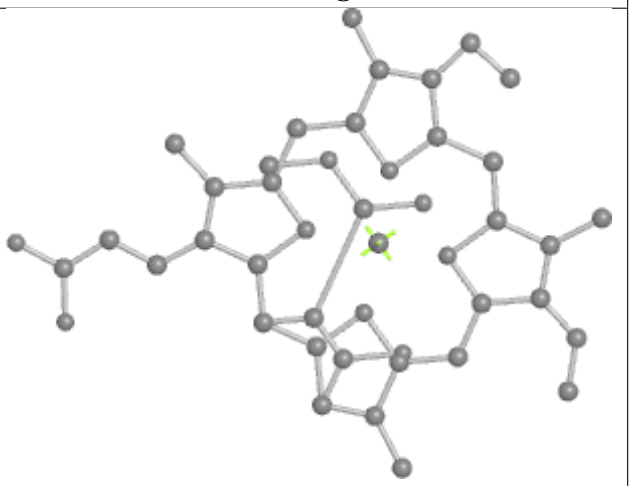
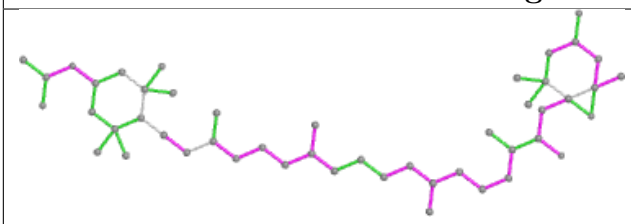


Rings

Ligand A86 15 321



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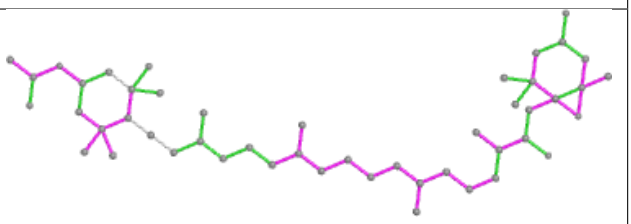

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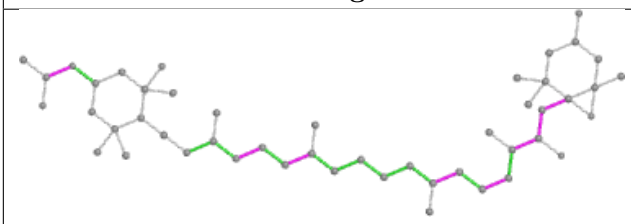

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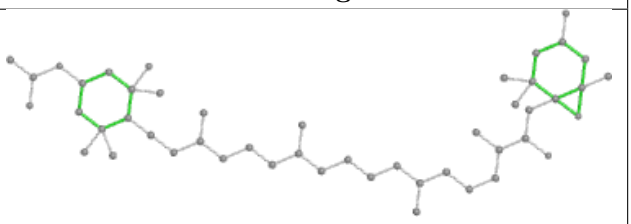

Rings

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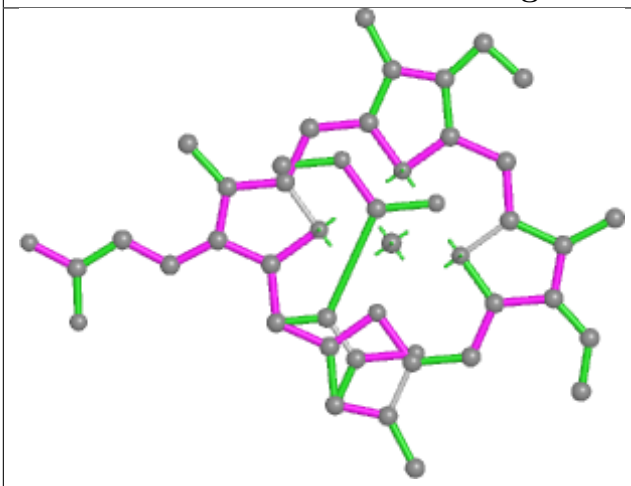

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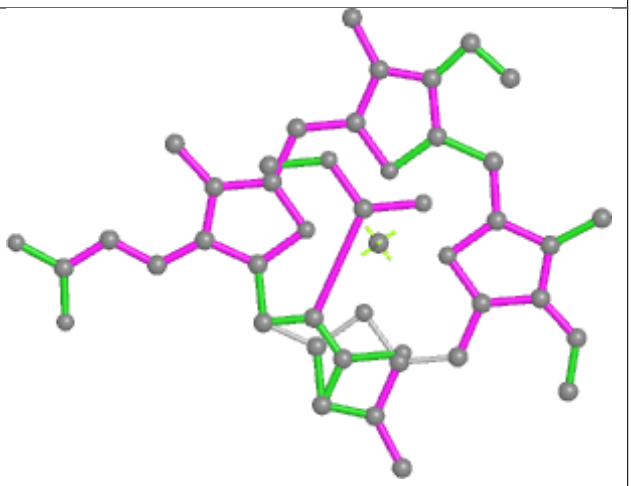

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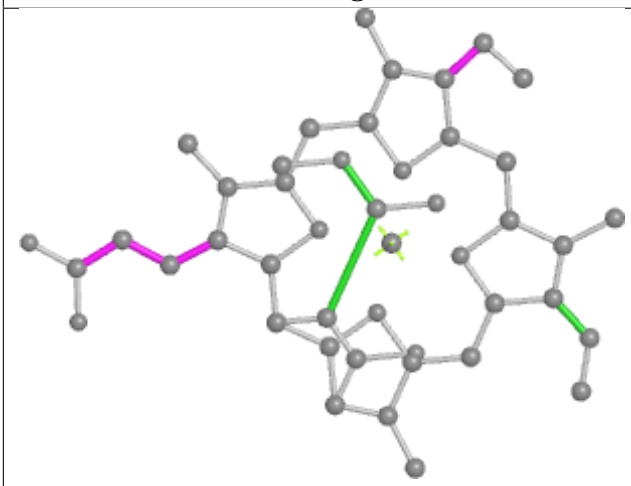

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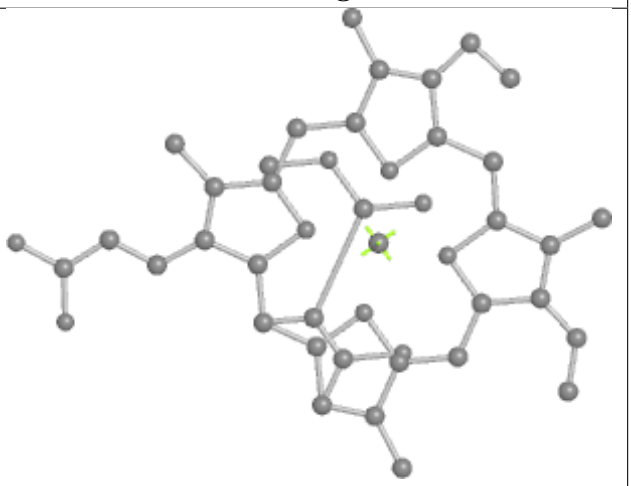
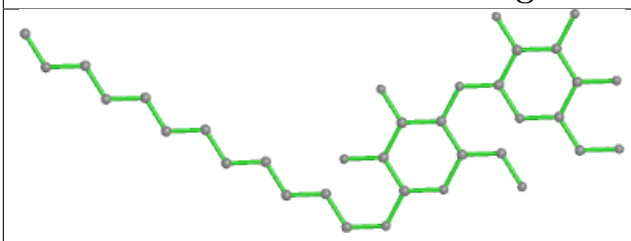


Rings

Ligand LMT 12 318



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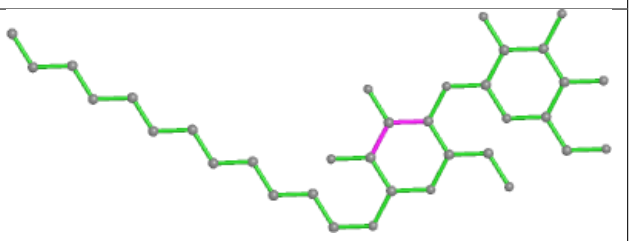

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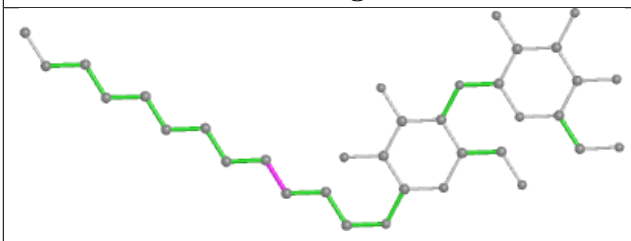

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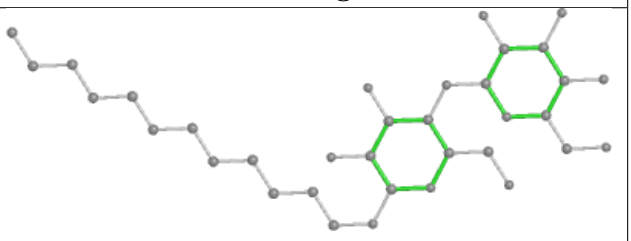
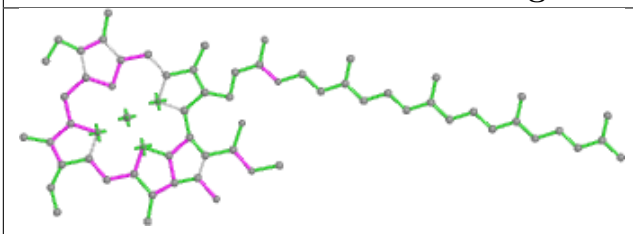


Rings

Ligand CLA 8 305



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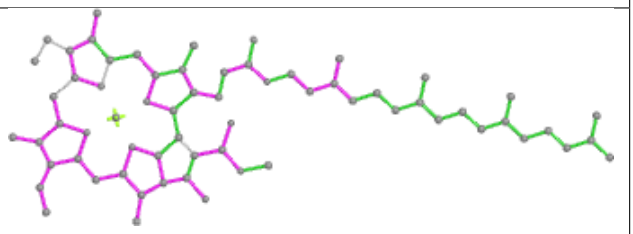

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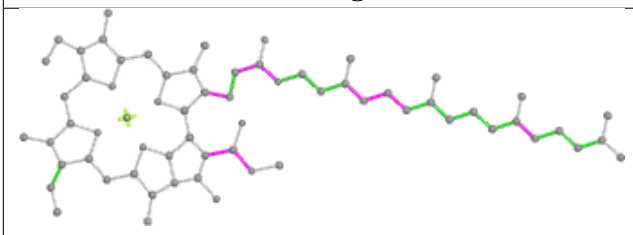

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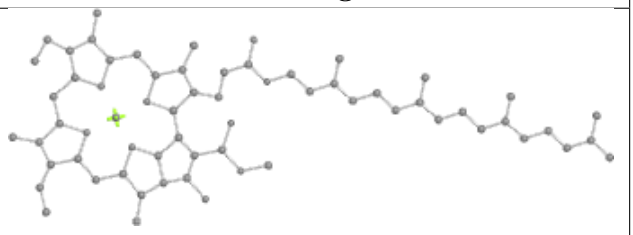

Rings

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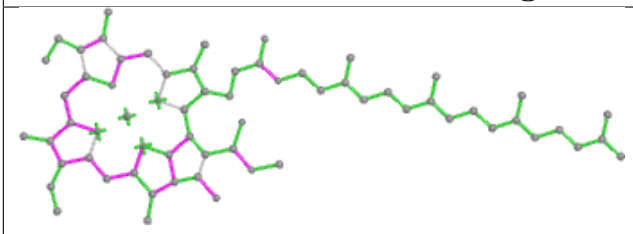

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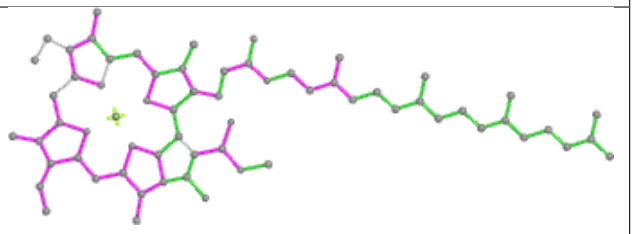

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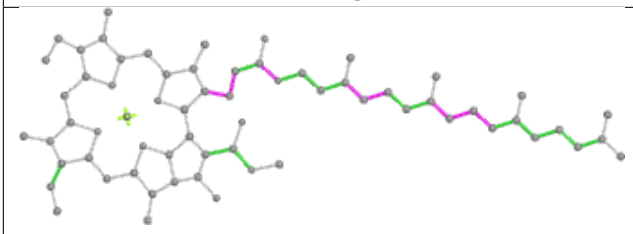

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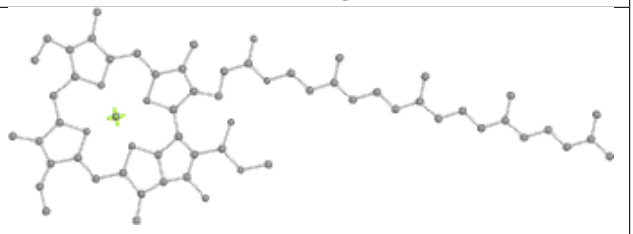

Rings

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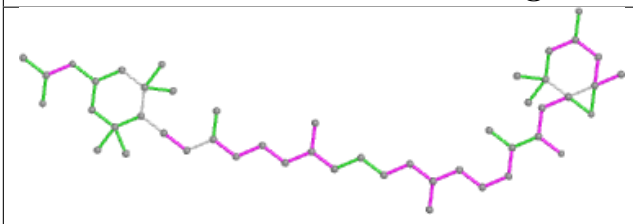

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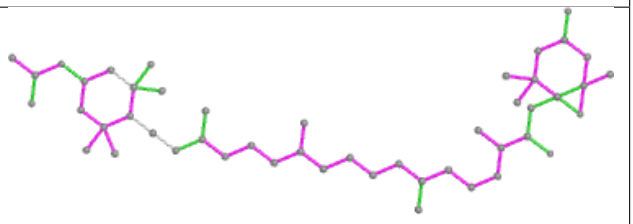

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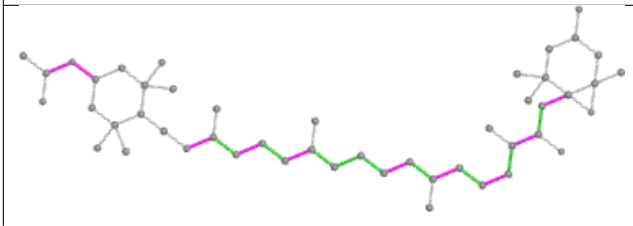

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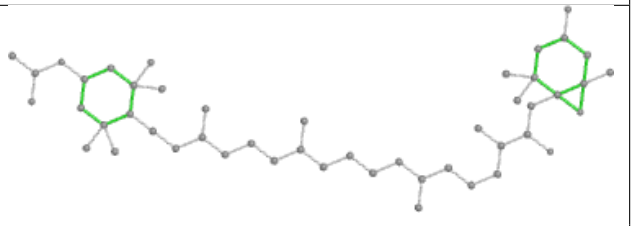
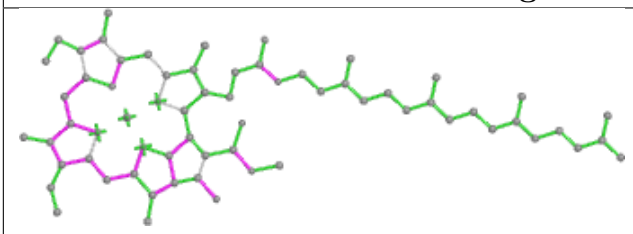


Rings

Ligand CLA 15 304



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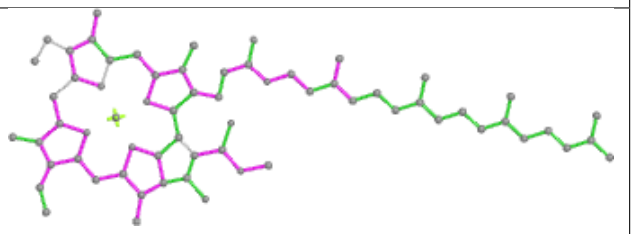

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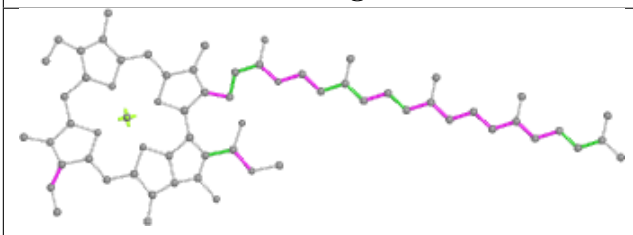

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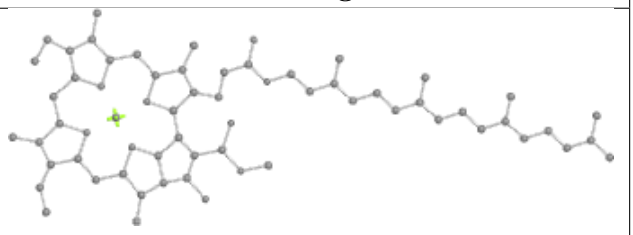
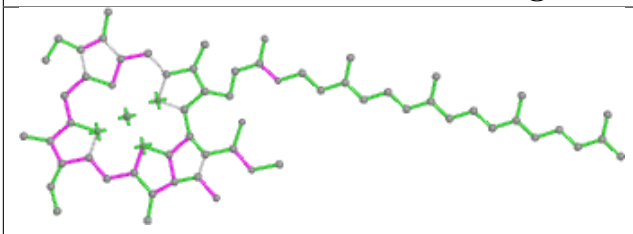


Rings

Ligand CLA 6 314



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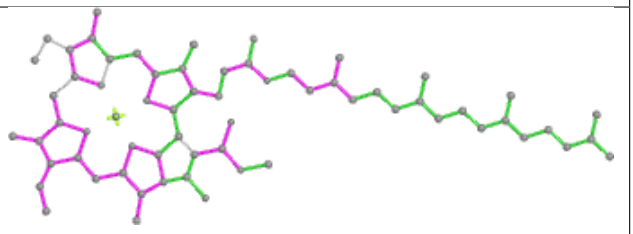

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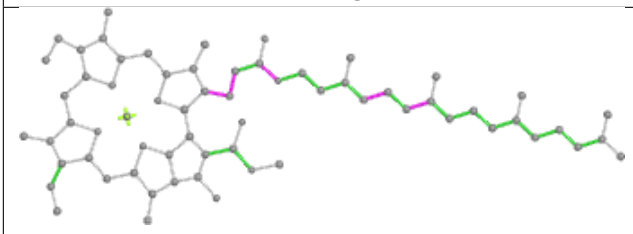

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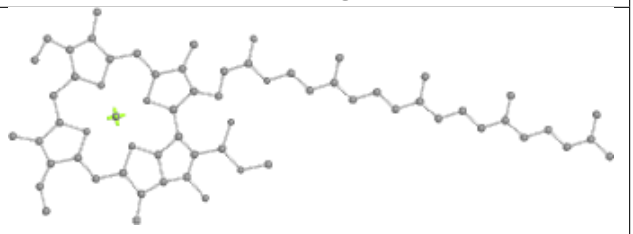
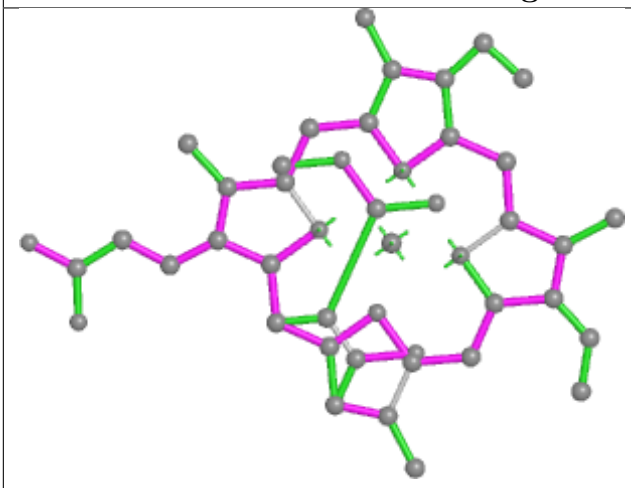


Rings

Ligand KC1 13 305



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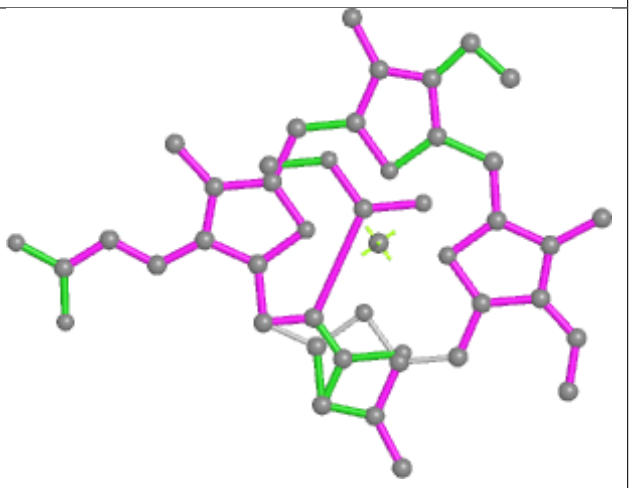

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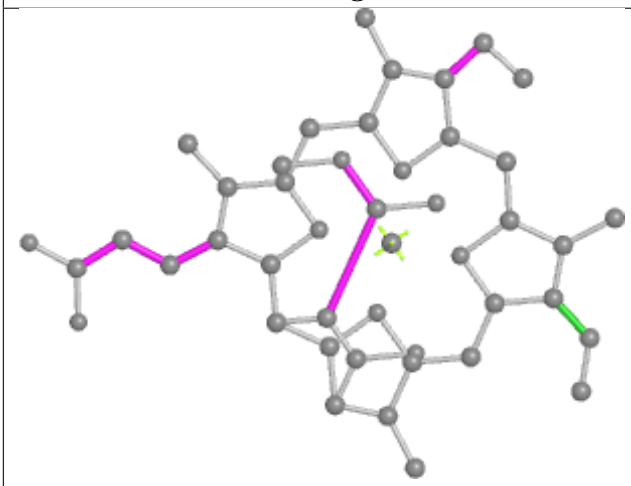

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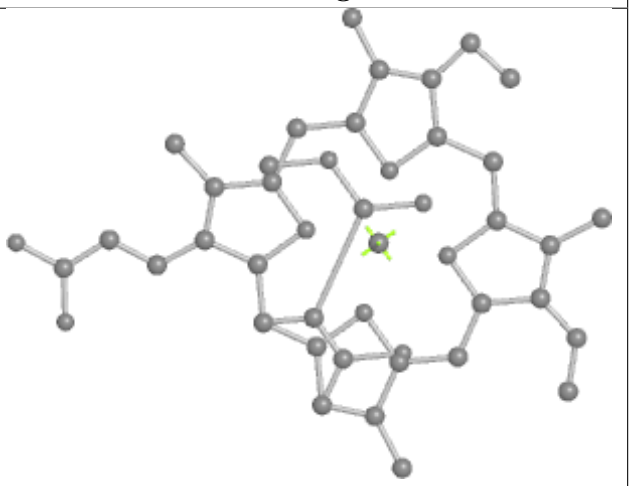
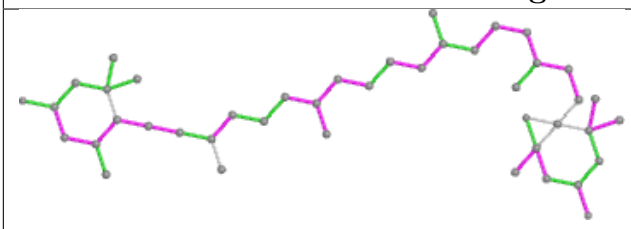


Rings

Ligand DD6 7 301



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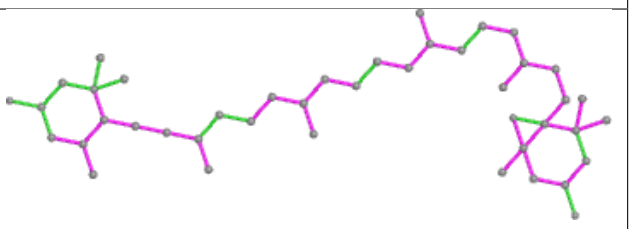
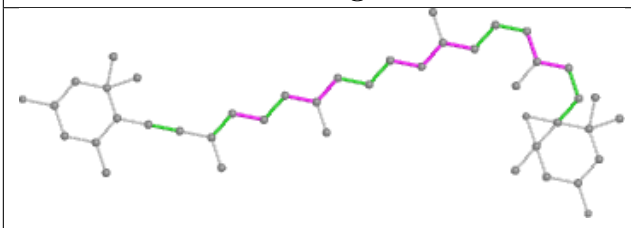


Bond angles



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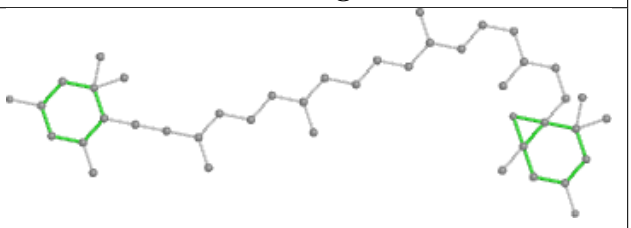
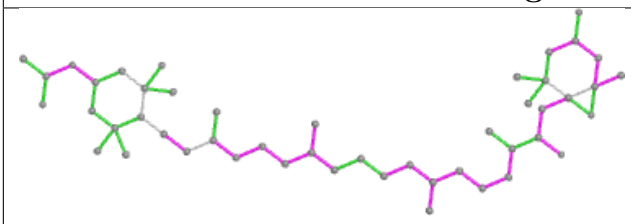


Rings

Ligand A86 10 317



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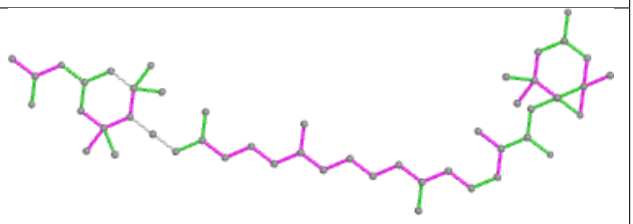
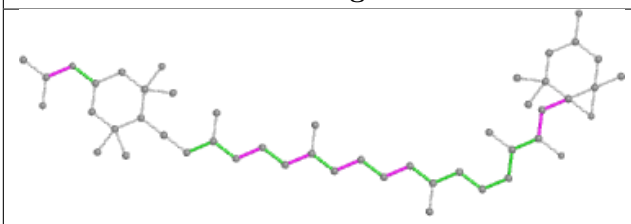
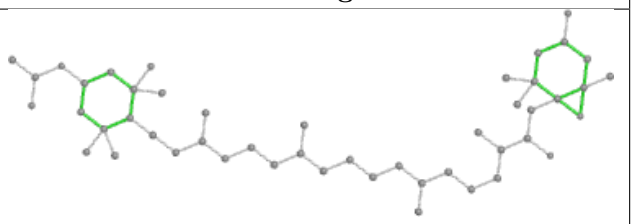


Bond angles

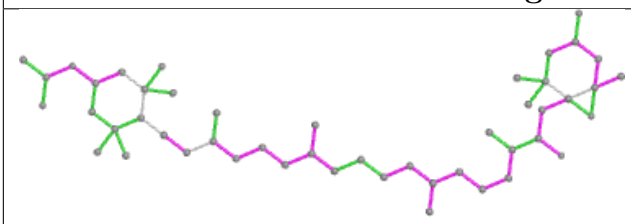


Torsions



Rings

Ligand A86 16 312



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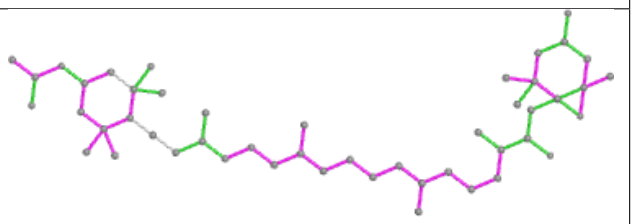

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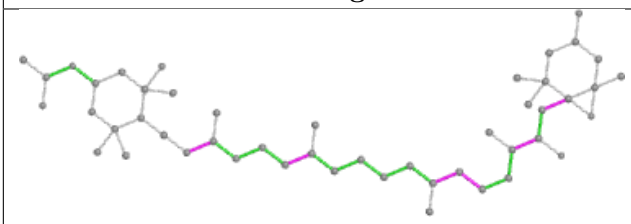

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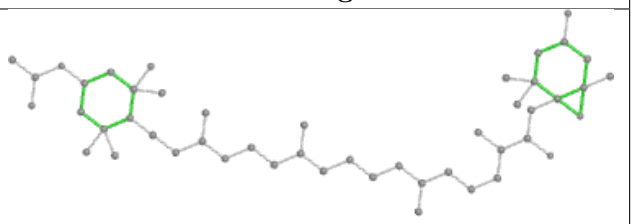
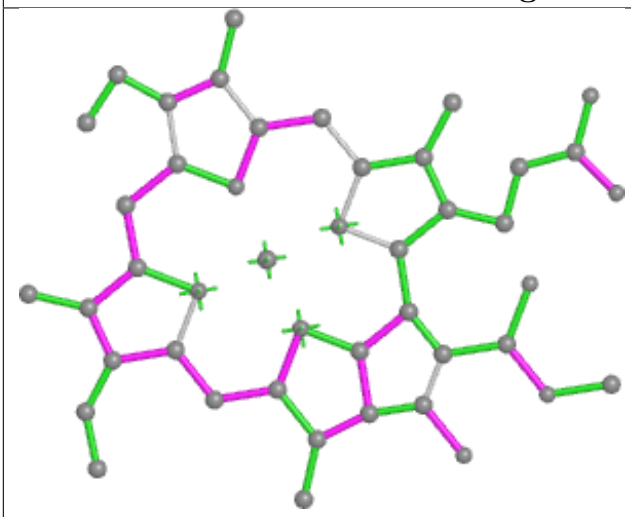


Rings

Ligand CLA 14 312



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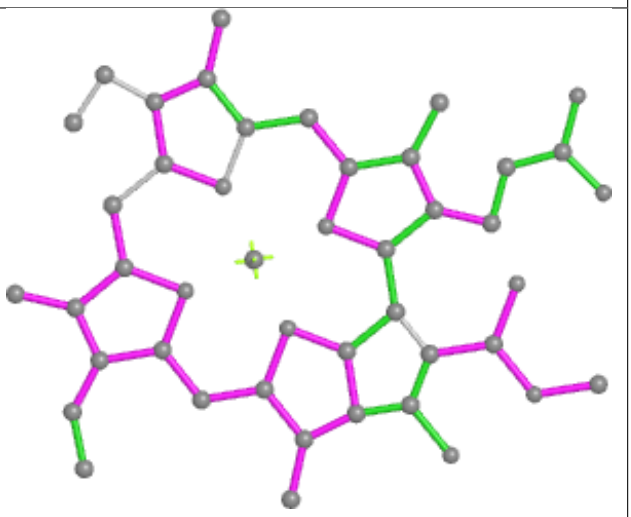

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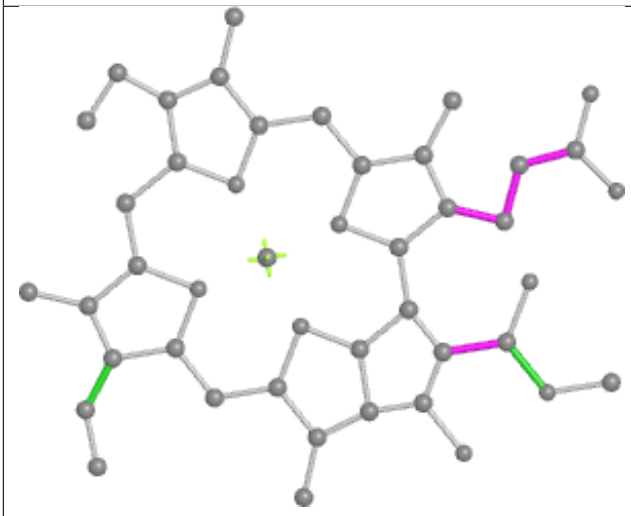

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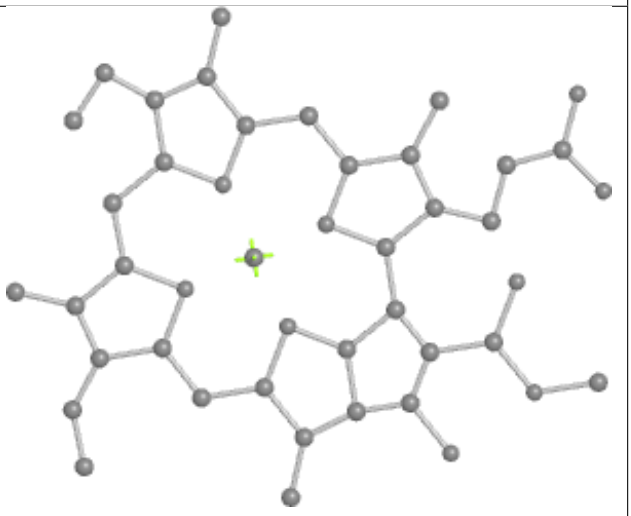

Rings

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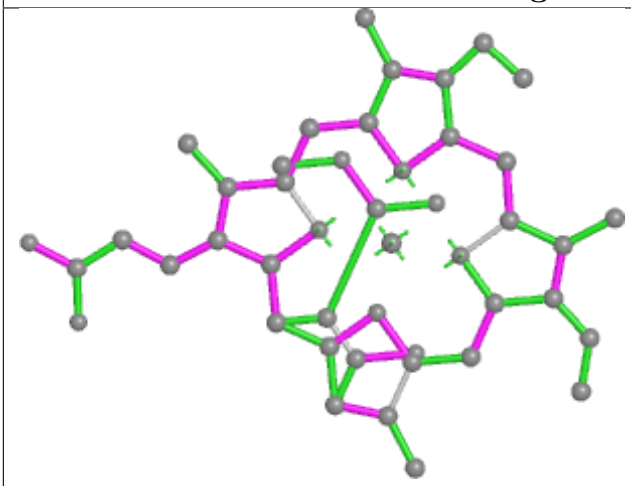

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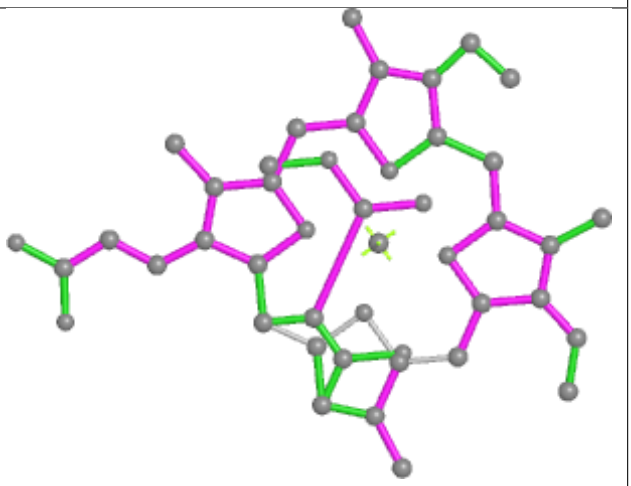

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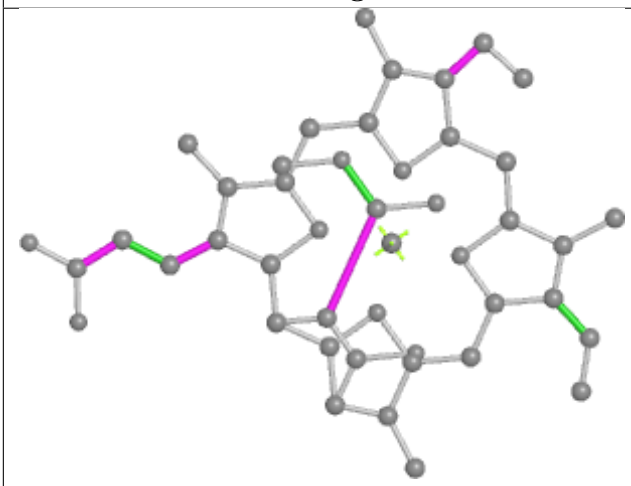

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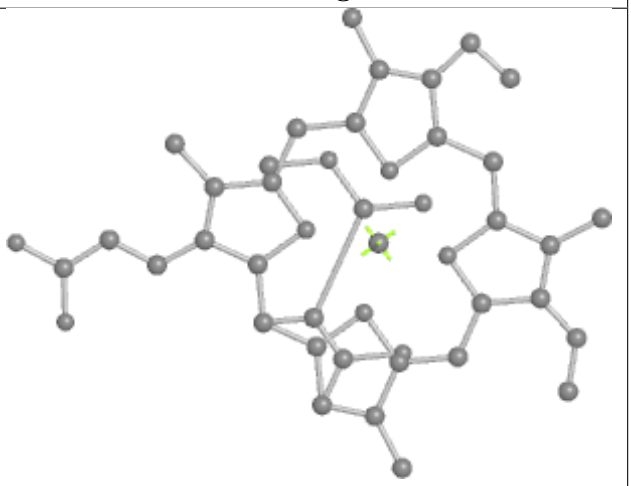

Rings

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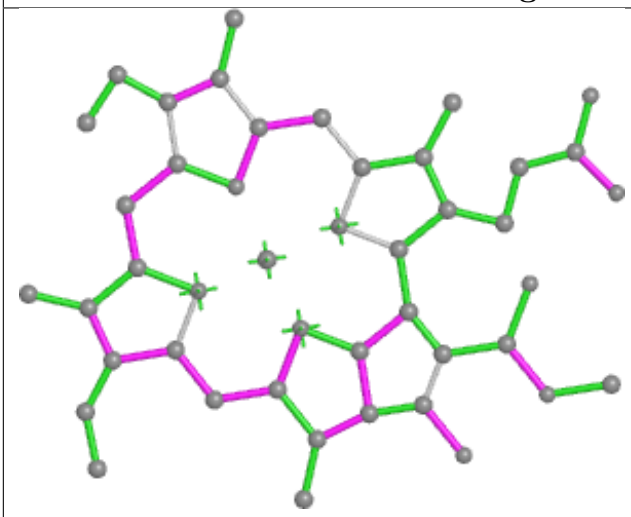

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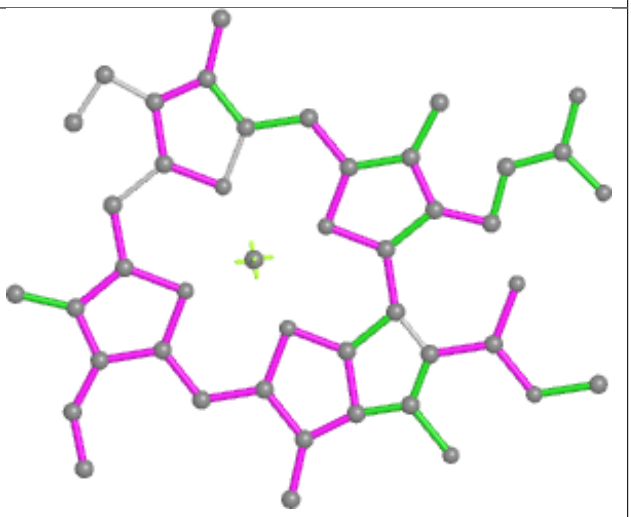

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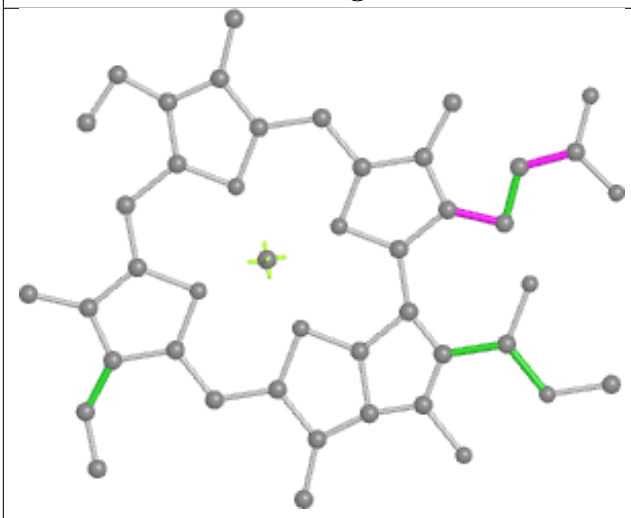

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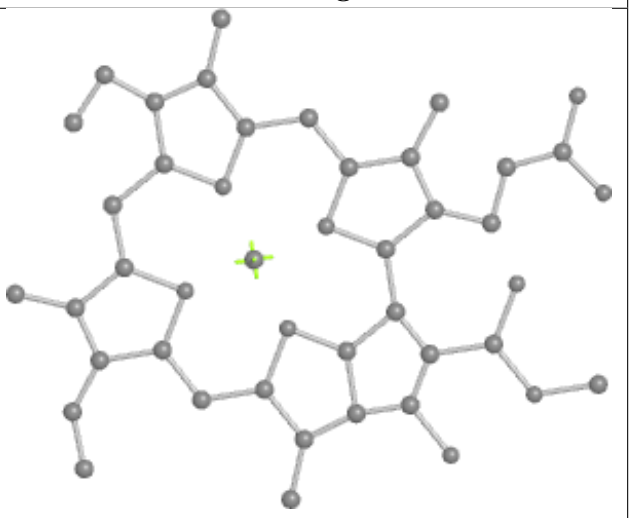
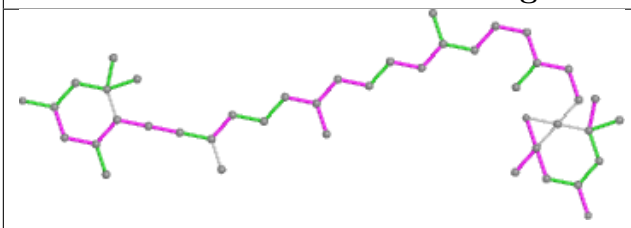


Rings

Ligand DD6 13 314



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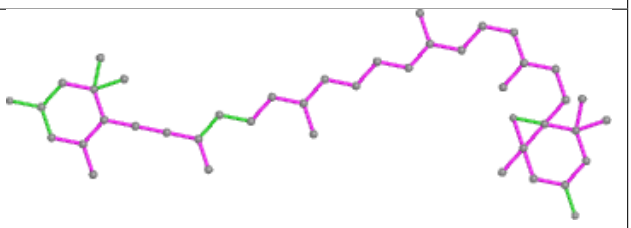

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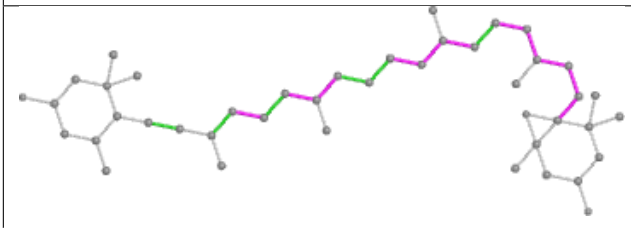

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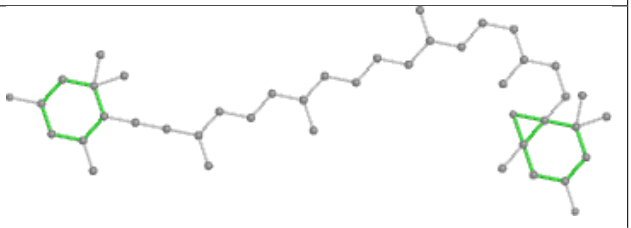

Rings

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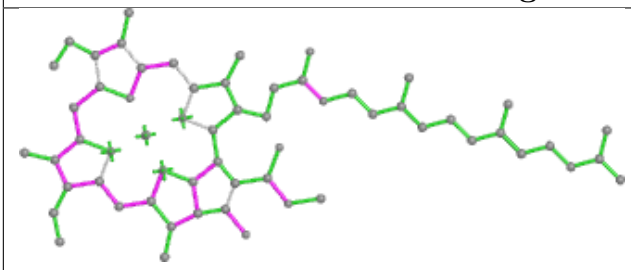
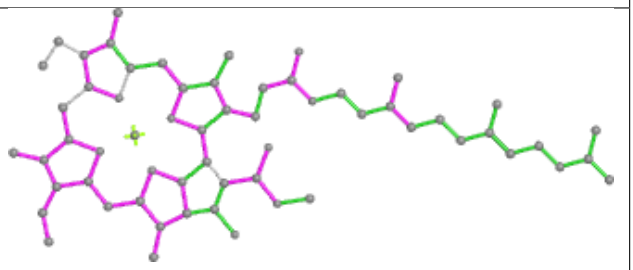
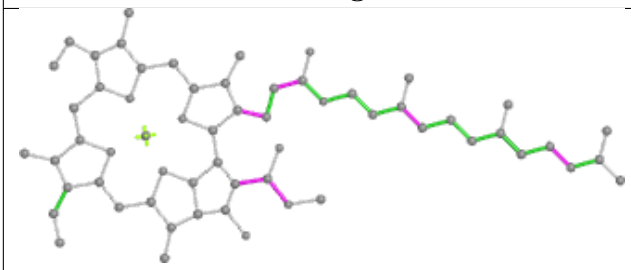
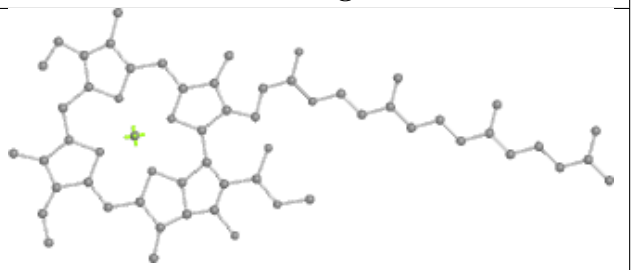
 Bond lengths	 Bond angles
 Torsions	 Rings

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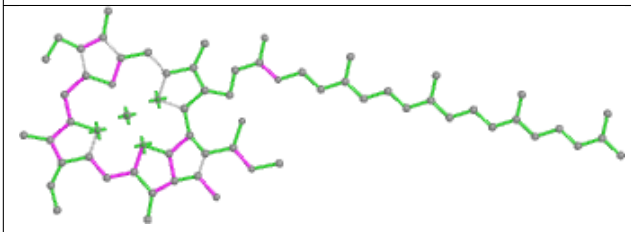
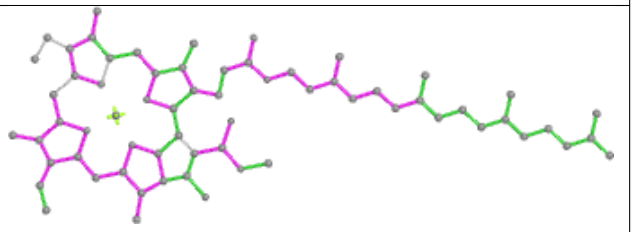
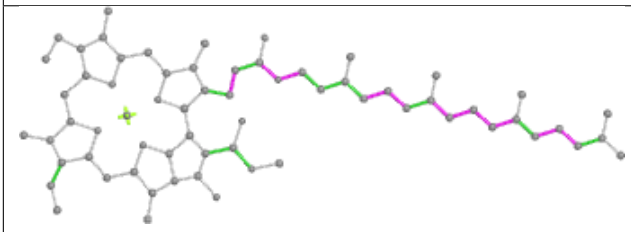
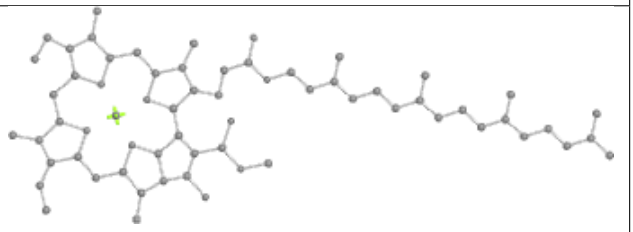
 Bond lengths	 Bond angles
 Torsions	 Rings

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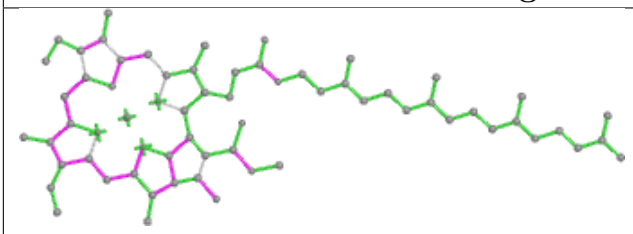

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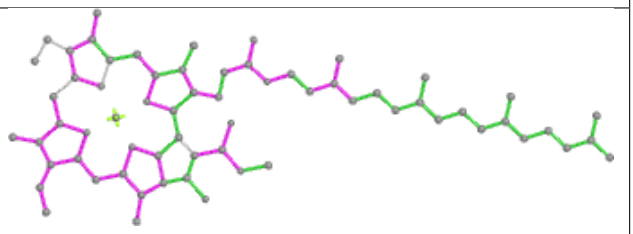

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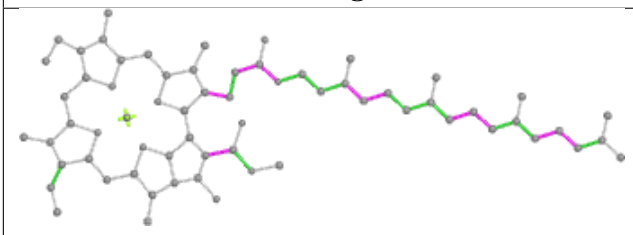

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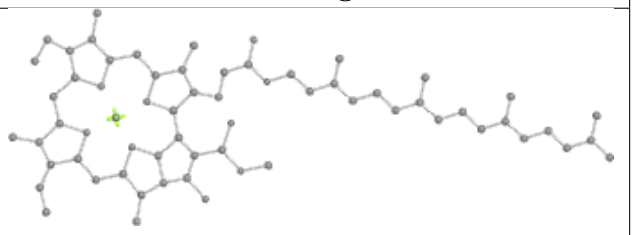

Rings

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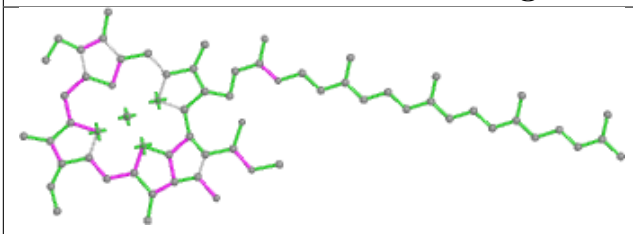

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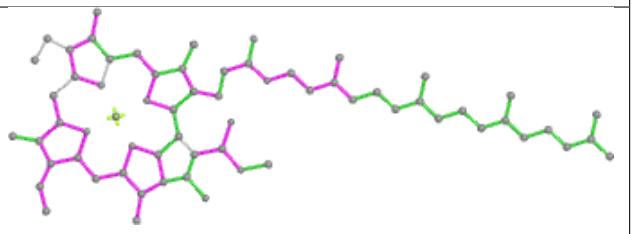

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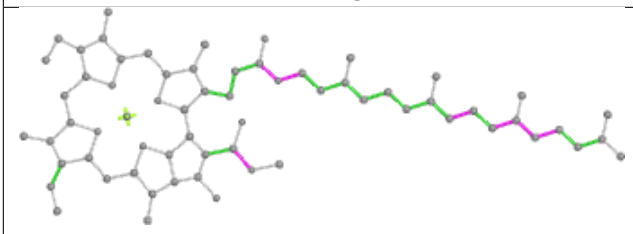

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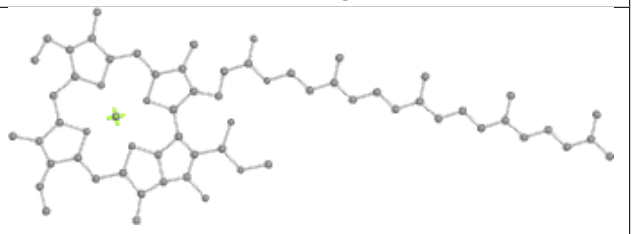
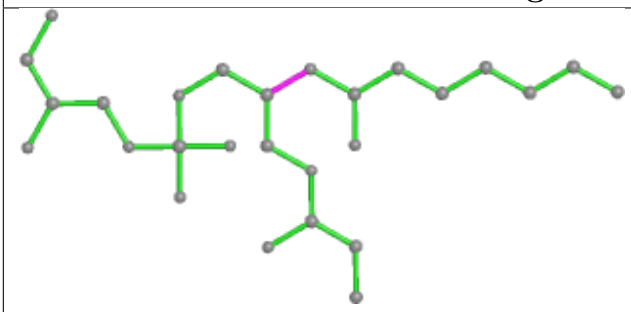


Rings

Ligand LHG 6 319



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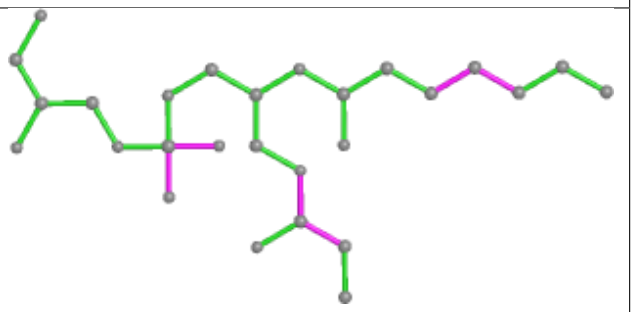

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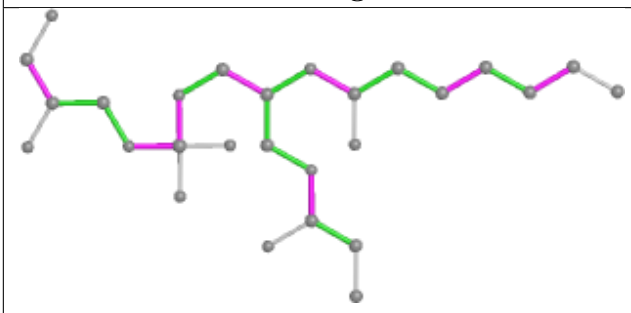

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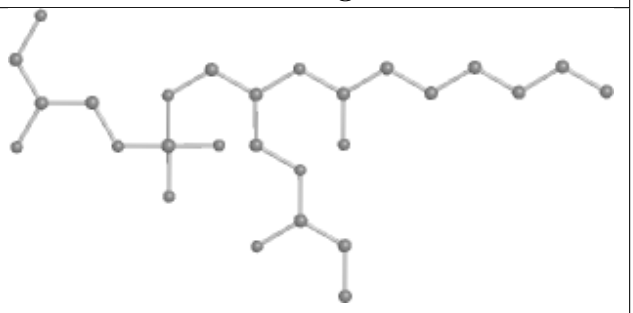
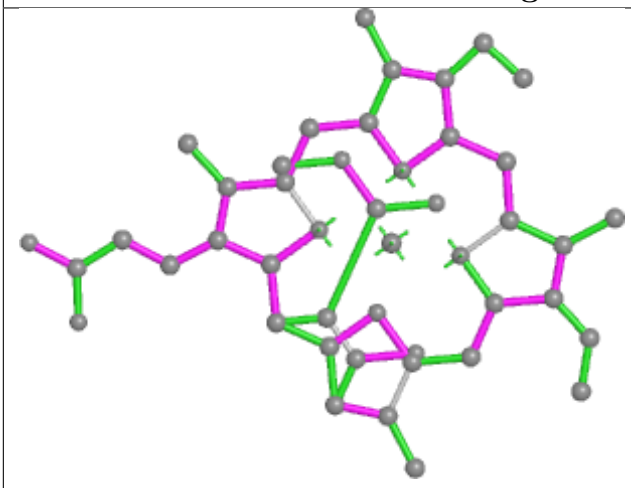


Rings

Ligand KC1 14 306



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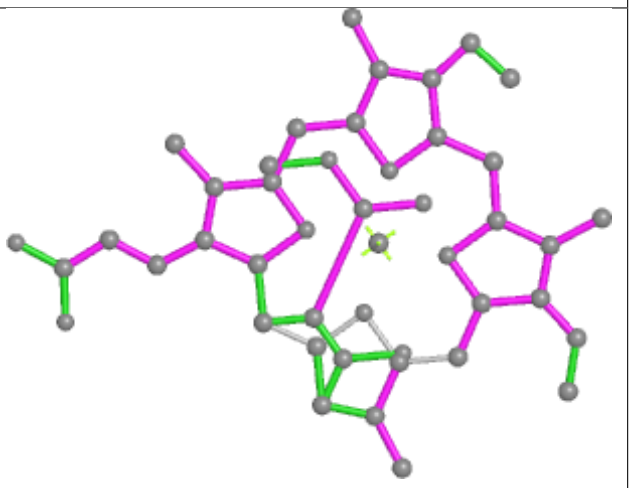

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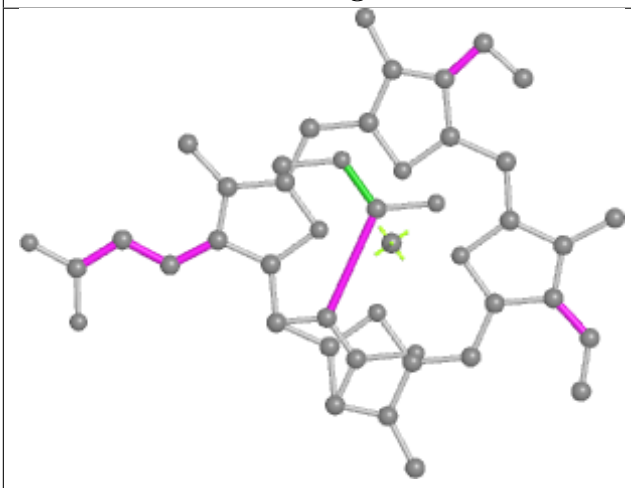

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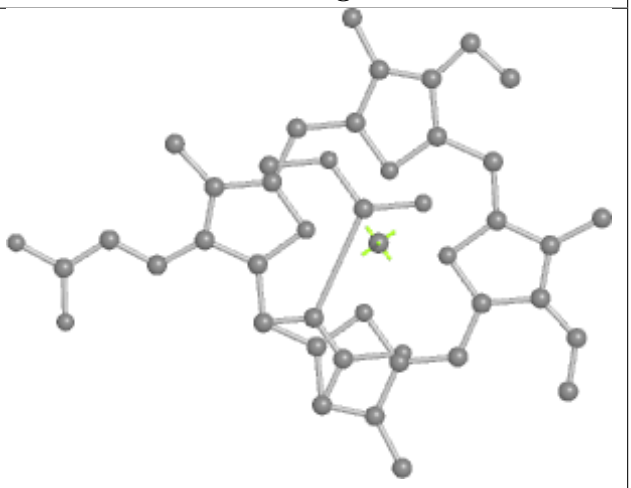
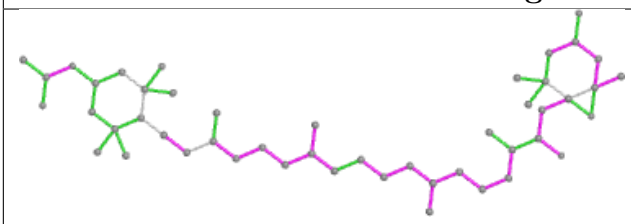


Rings

Ligand A86 15 322



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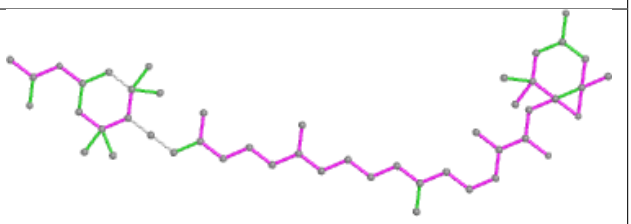
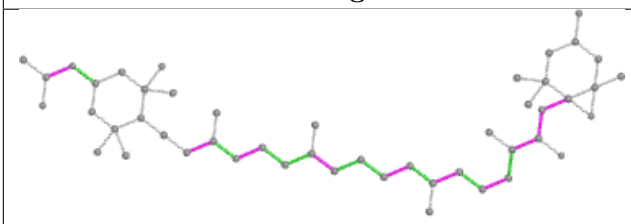


Bond angles



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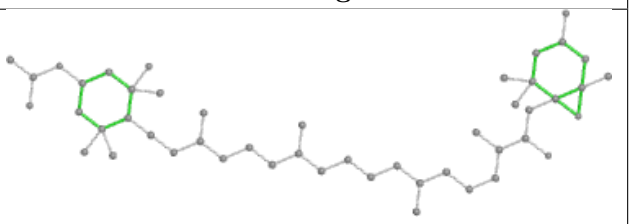
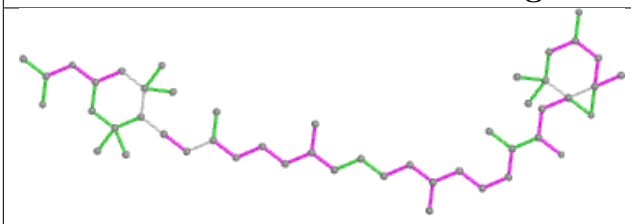
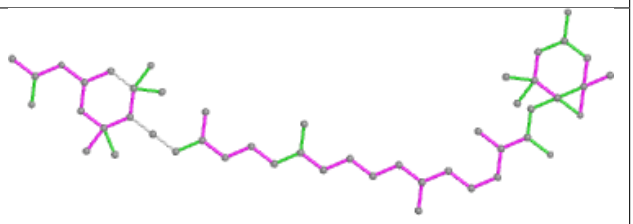


Rings

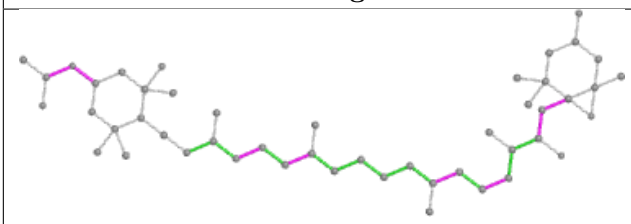
Ligand A86 16 314



Bond lengths



Bond angles



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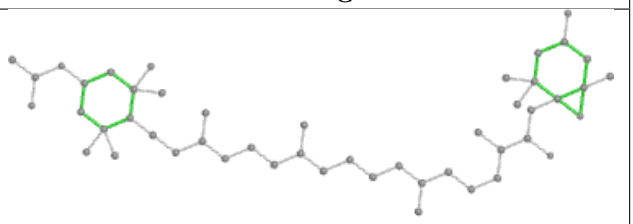
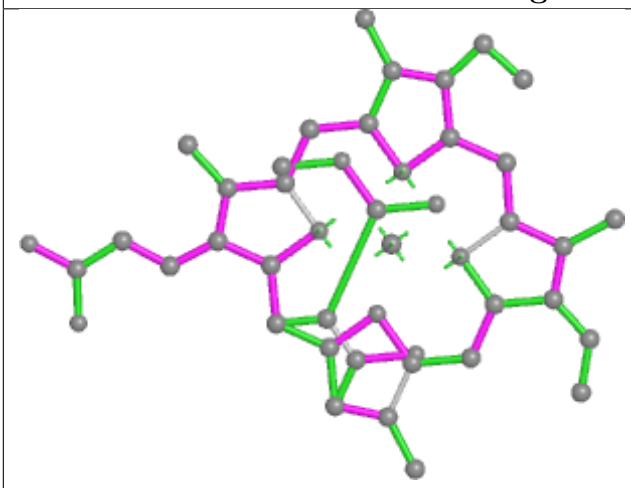


Rings

Ligand KC1 6 309



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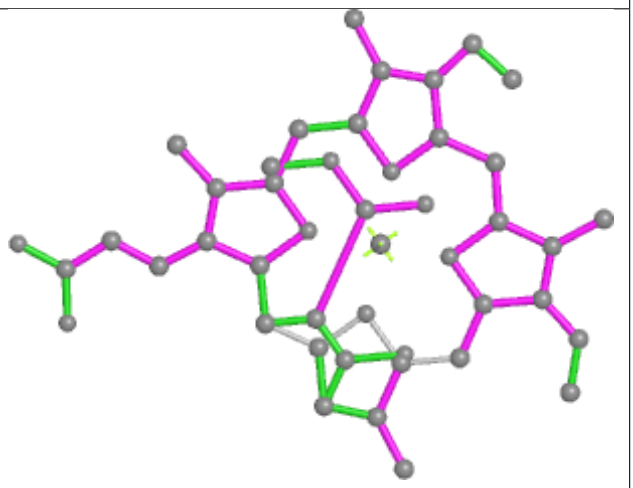
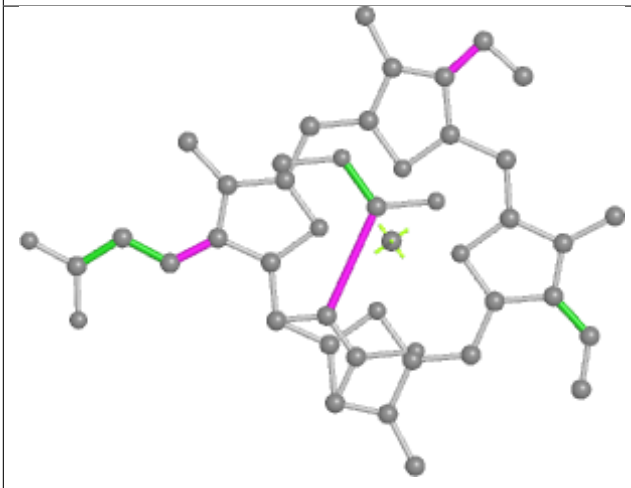


Bond angles



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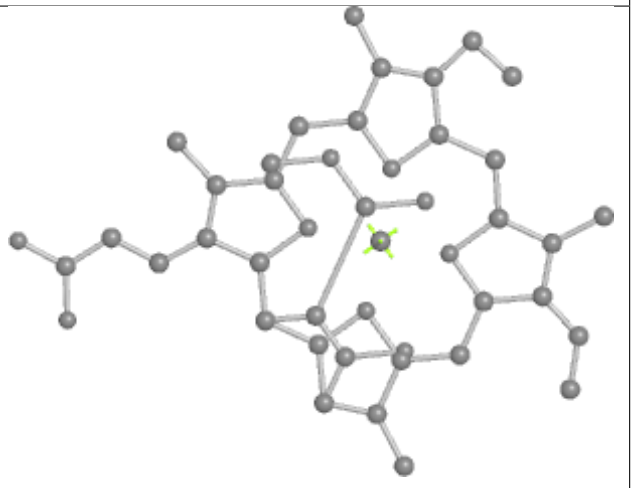
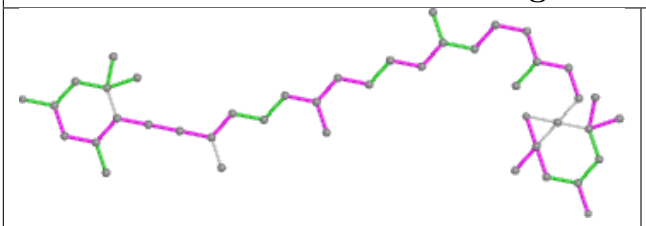
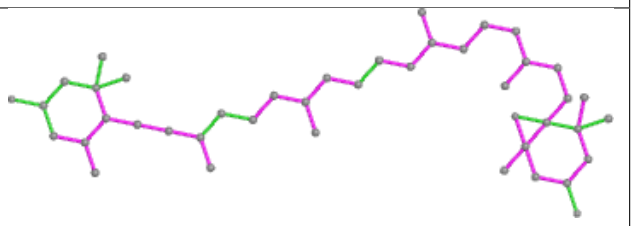


Rings

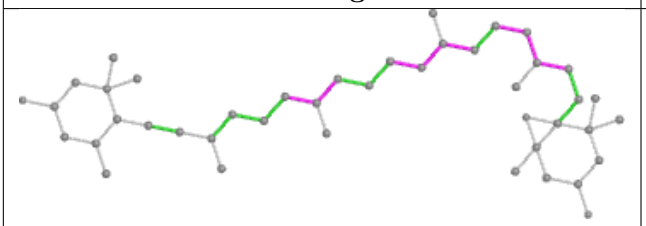
Ligand DD6 6 315



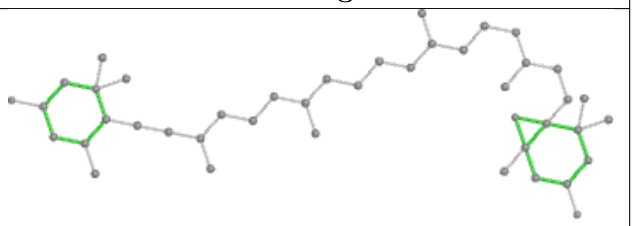
Bond lengths



Bond angles

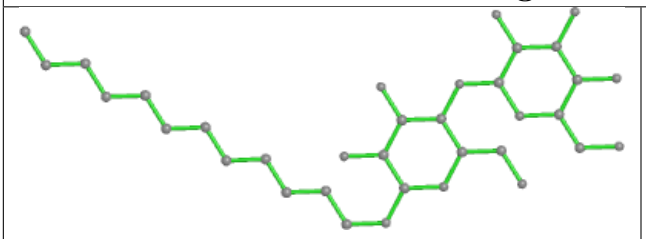


Torsions



Rings

Ligand LMT 16 315



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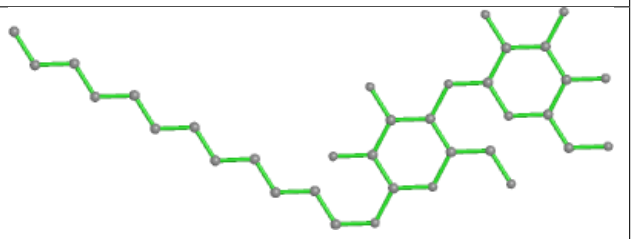

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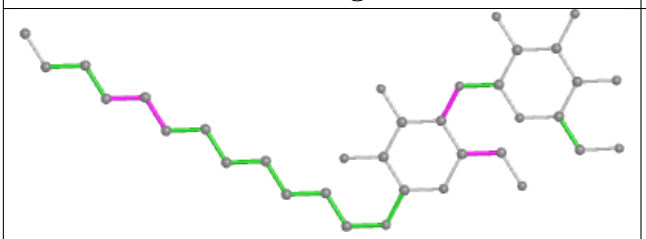

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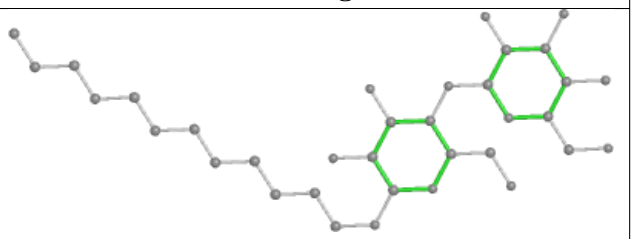
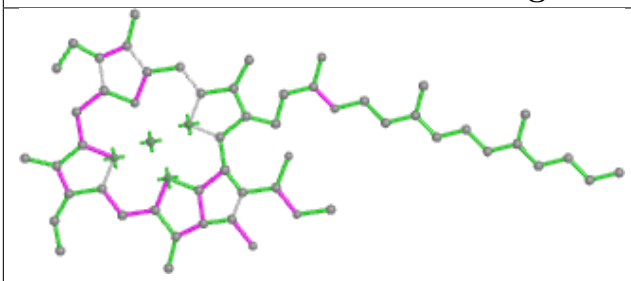


Rings

Ligand CLA 8 304



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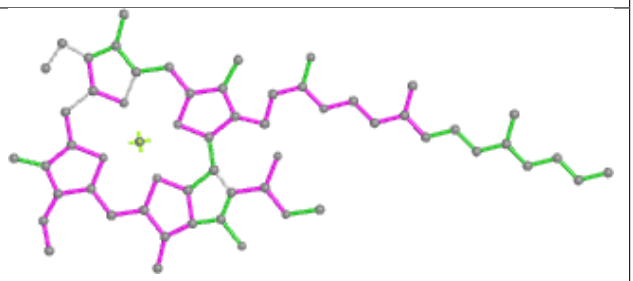

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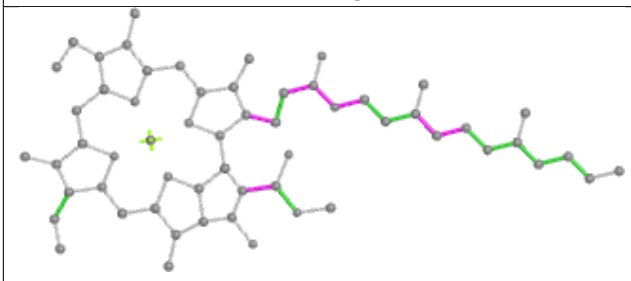

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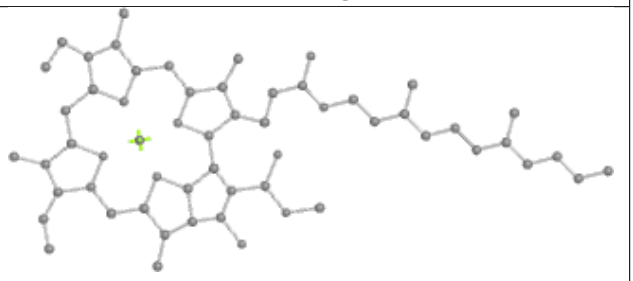
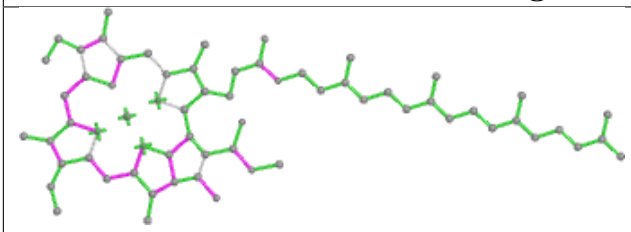


Rings

Ligand CLA 7 306



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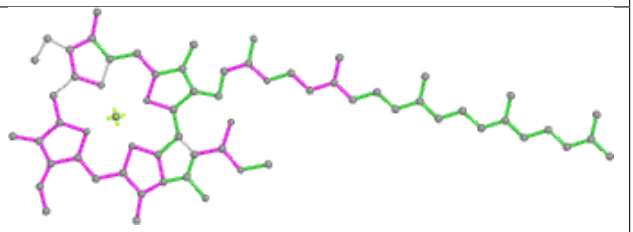

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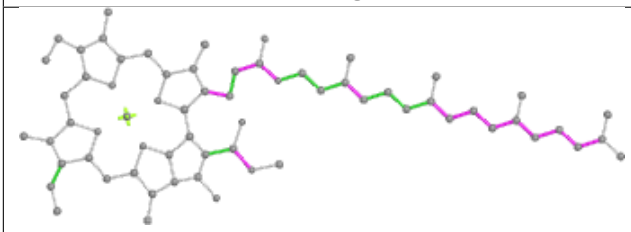

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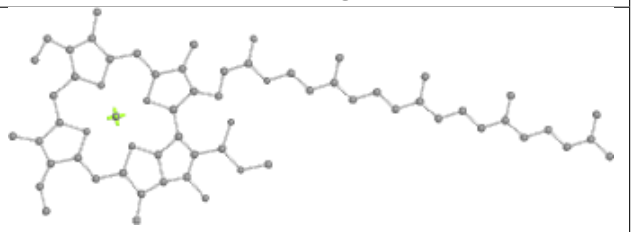
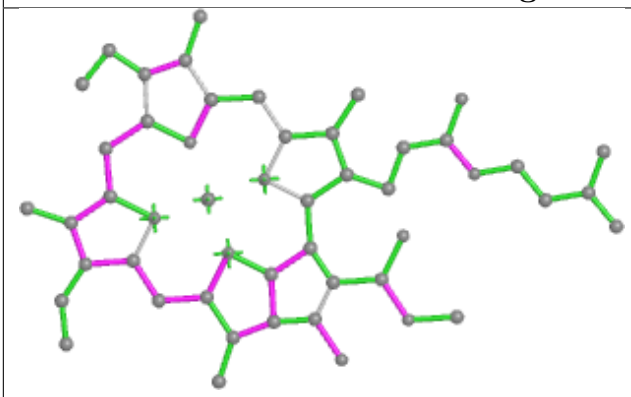


Rings

Ligand CLA 14 310



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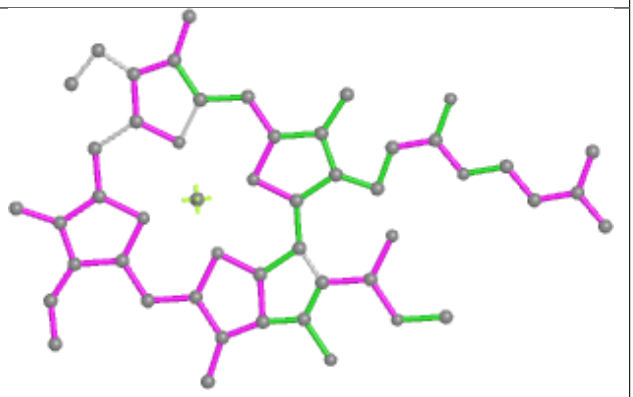

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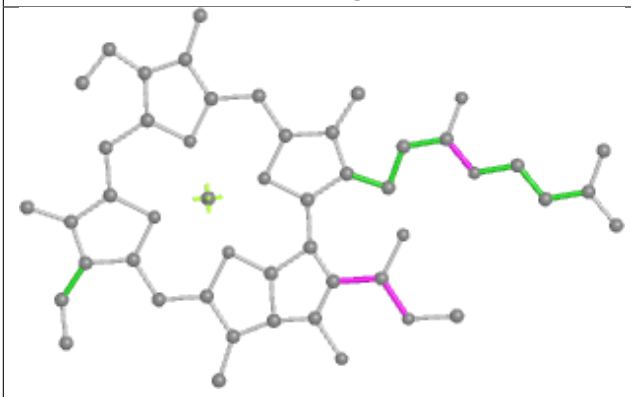

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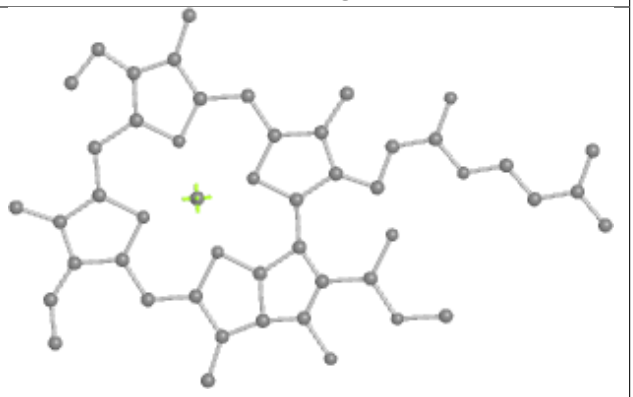
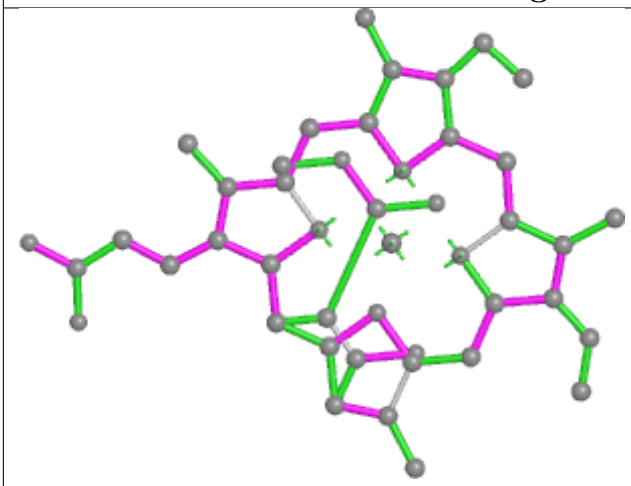


Rings

Ligand KC1 6 308



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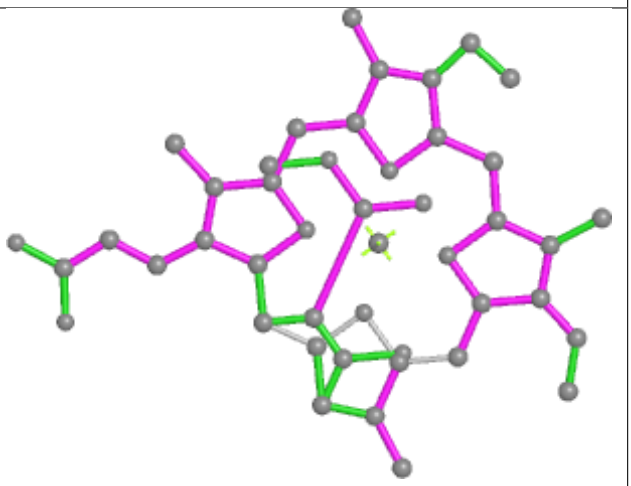

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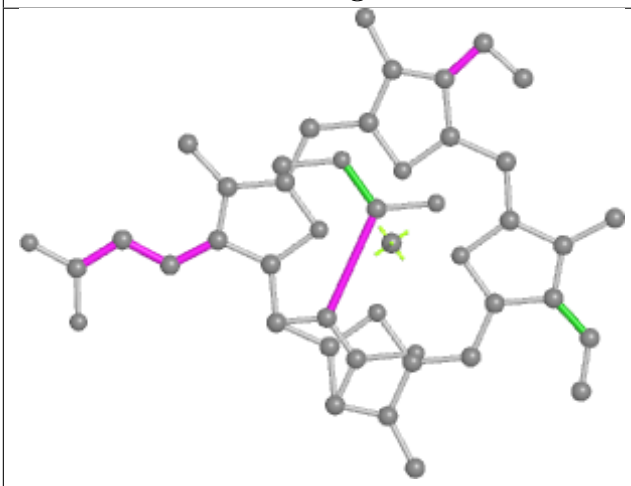

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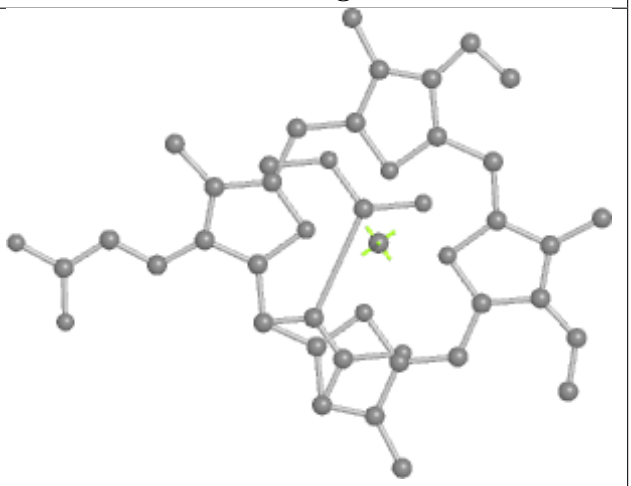
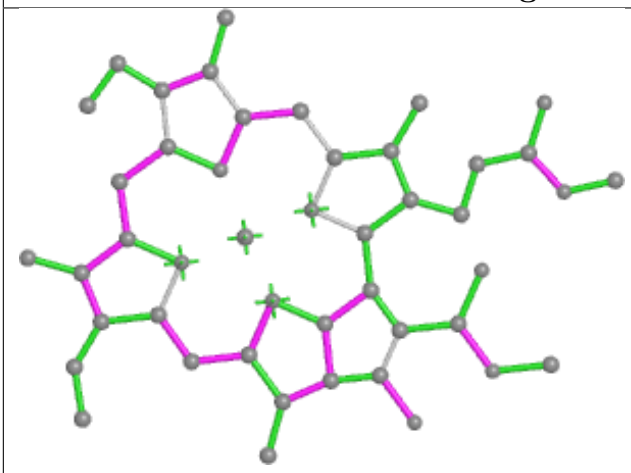


Rings

Ligand CLA 12 307



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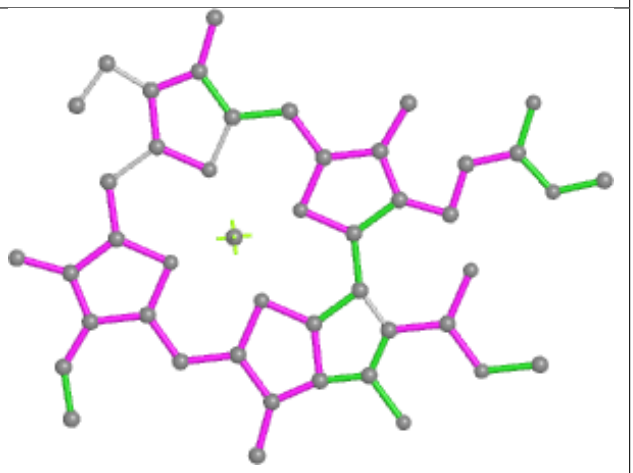

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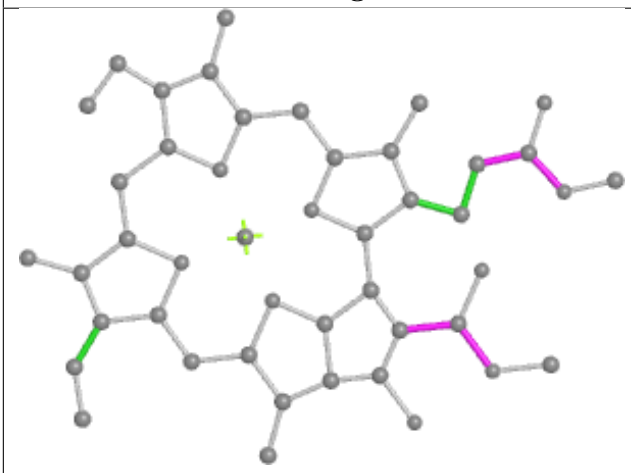

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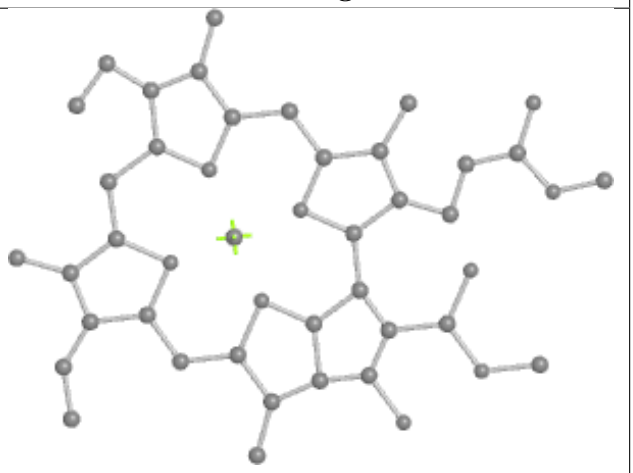

Rings

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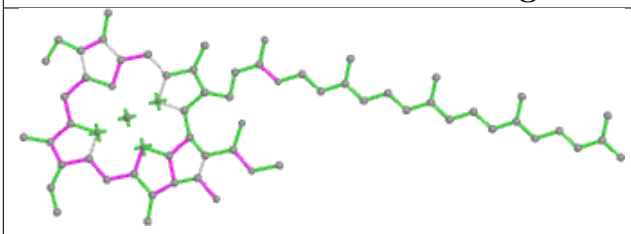

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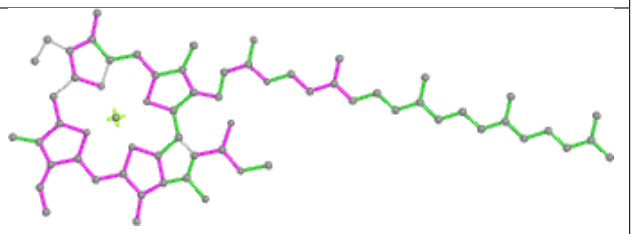

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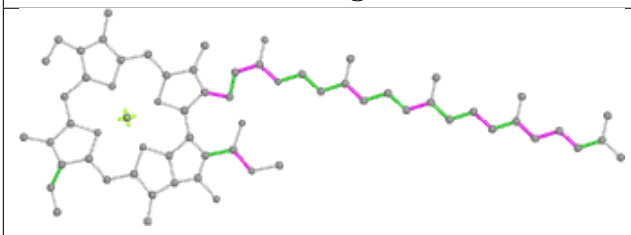

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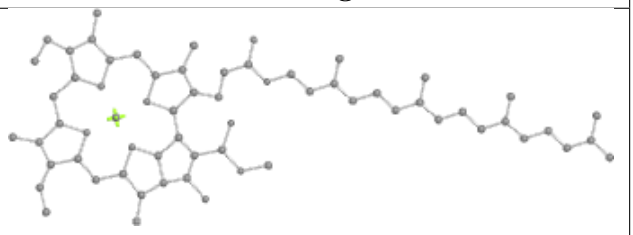
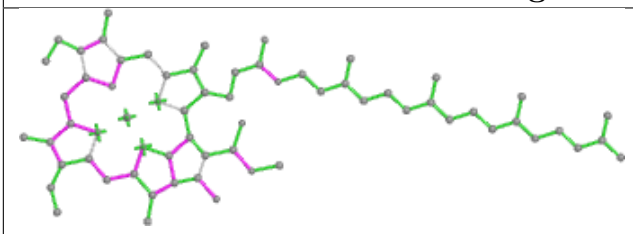


Rings

Ligand CLA 8 301



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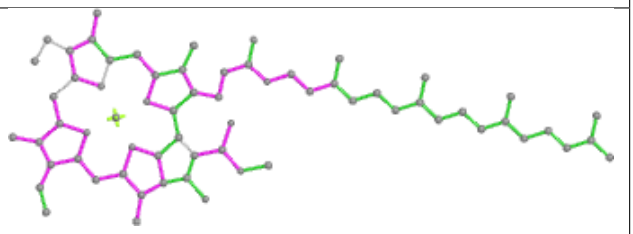

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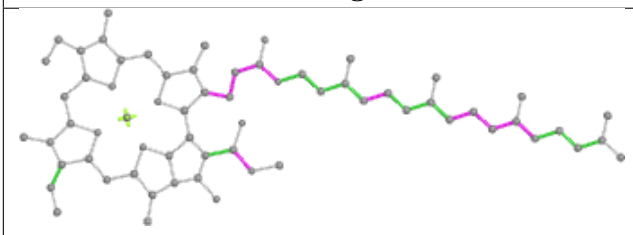

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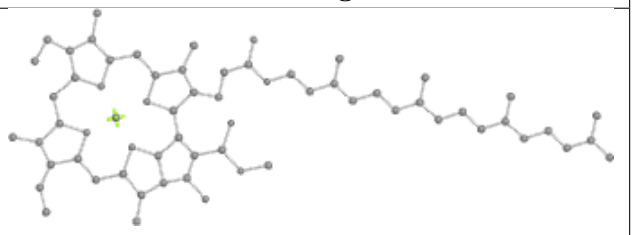
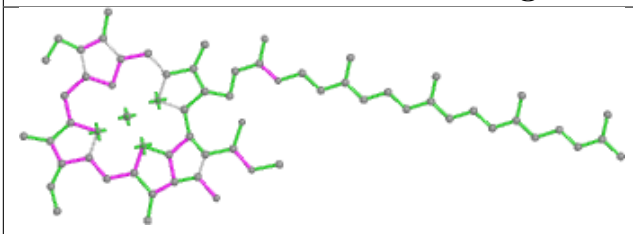


Rings

Ligand CLA 12 304



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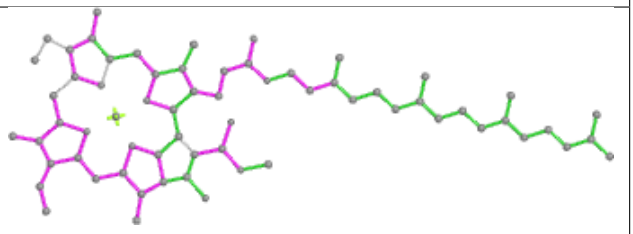

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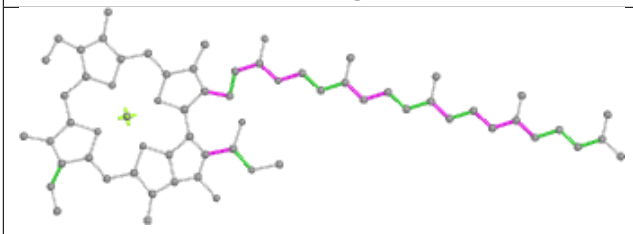

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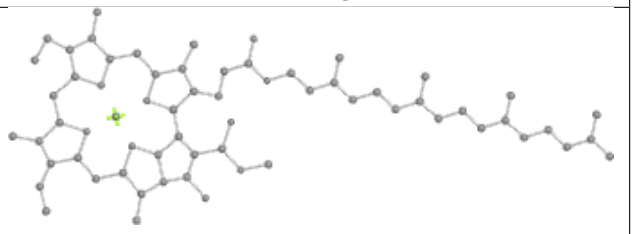
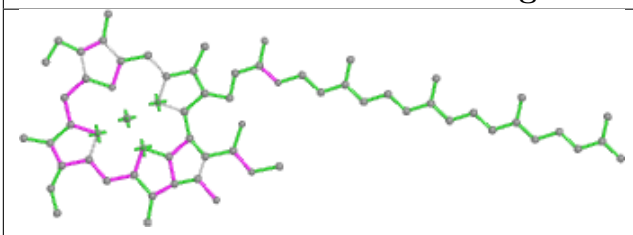


Rings

Ligand CLA 12 306



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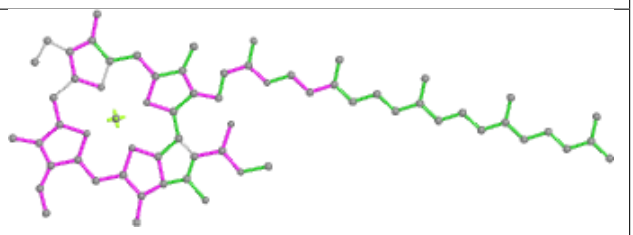

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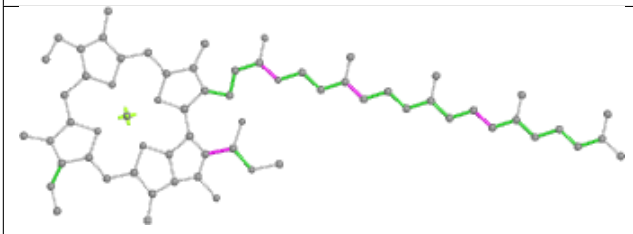

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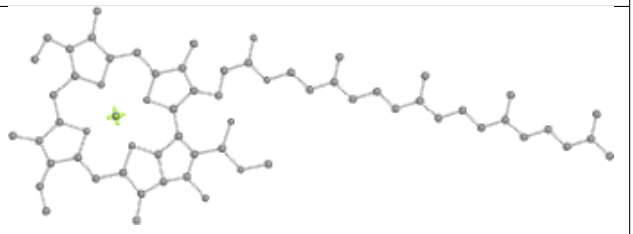
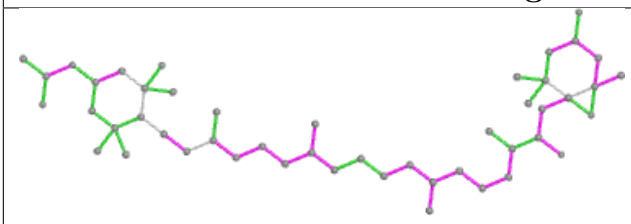


Rings

Ligand A86 15 317



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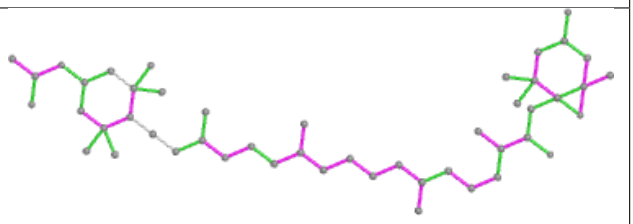

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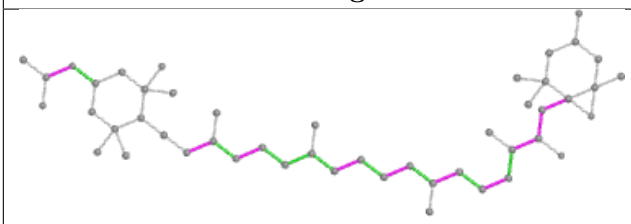

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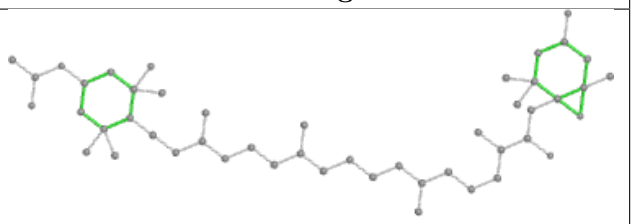
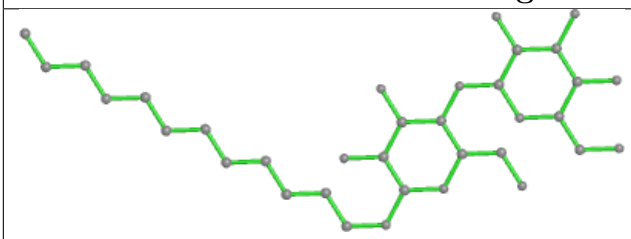


Rings

Ligand LMT 12 322



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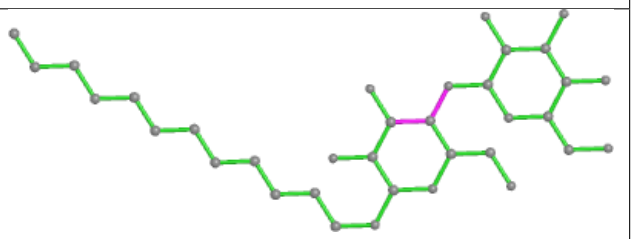
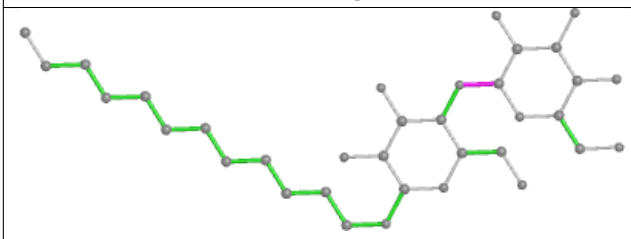


Bond angles



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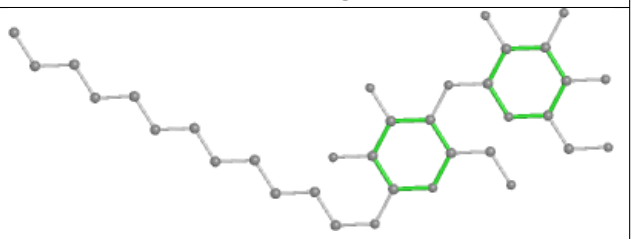
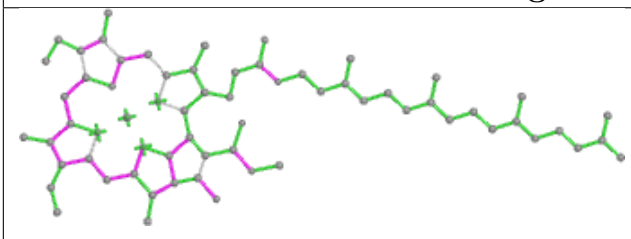
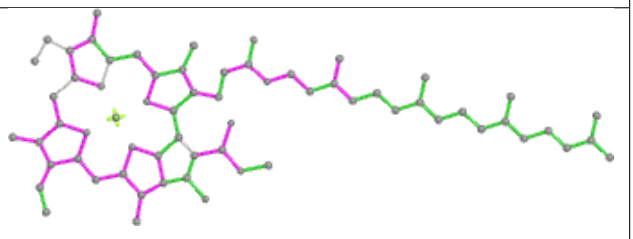


Rings

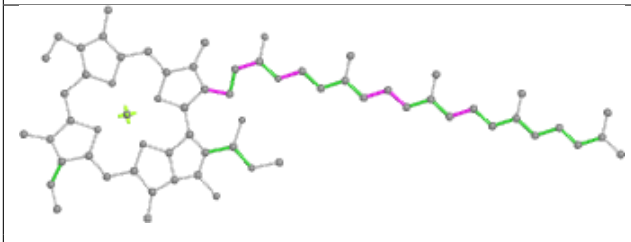
Ligand CLA 6 303



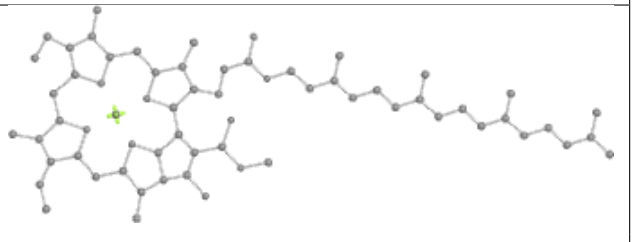
Bond lengths



Bond angles

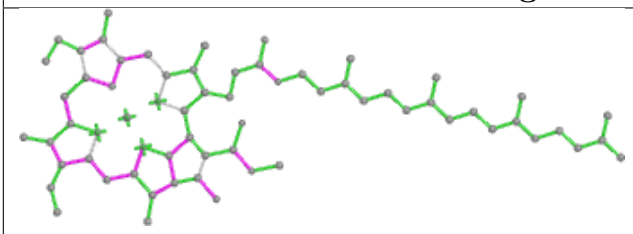


Torsions

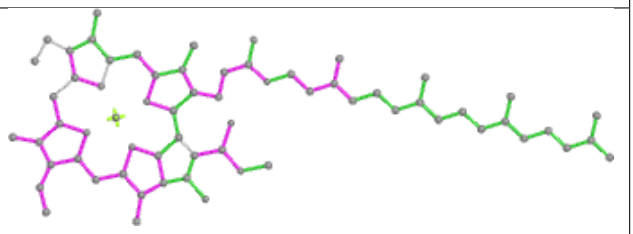


Rings

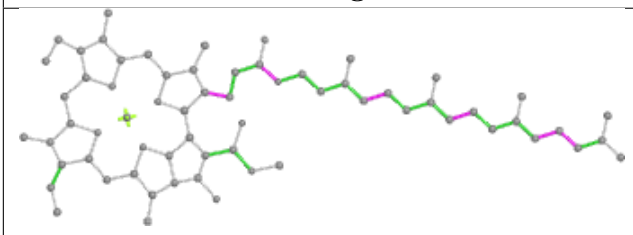
Ligand CLA 10 305



Bond lengths



Bond angles



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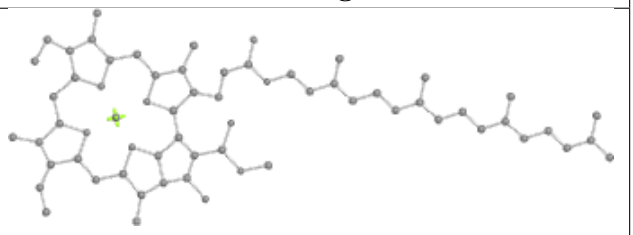
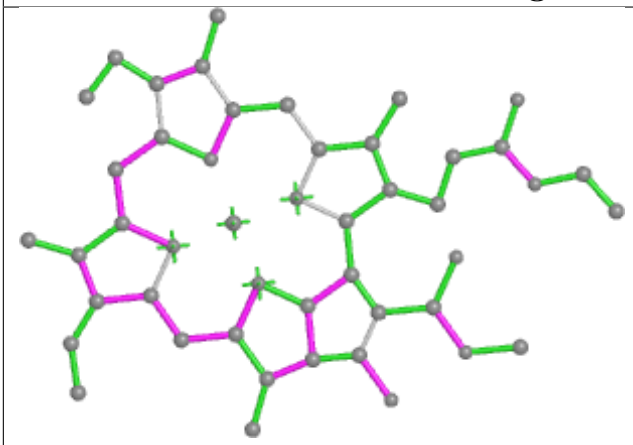
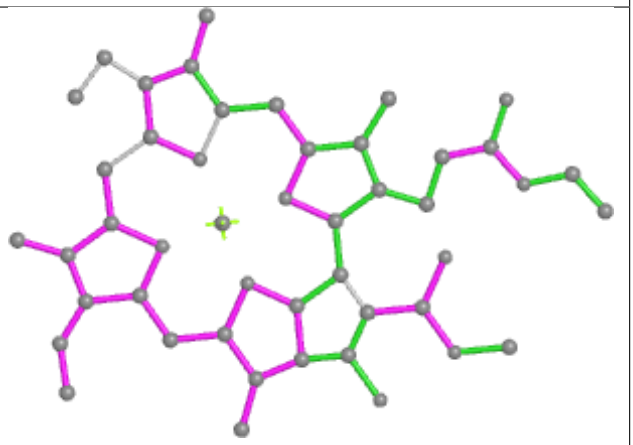


Rings

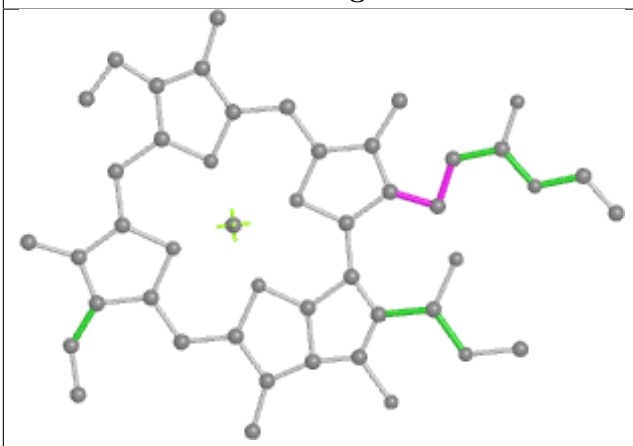
Ligand CLA 8 309



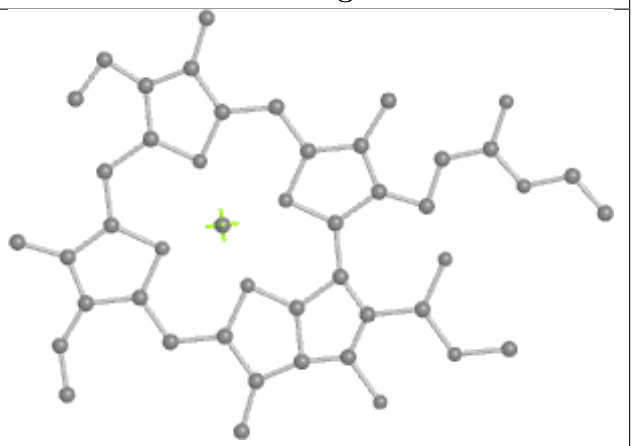
Bond lengths



Bond angles

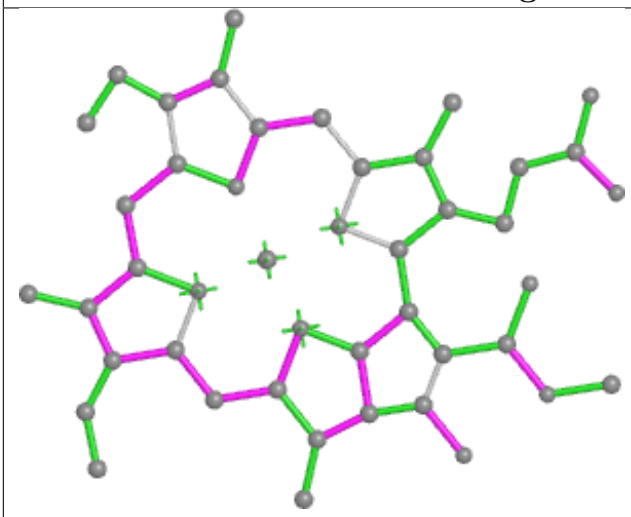


Torsions



Rings

Ligand CLA 15 305



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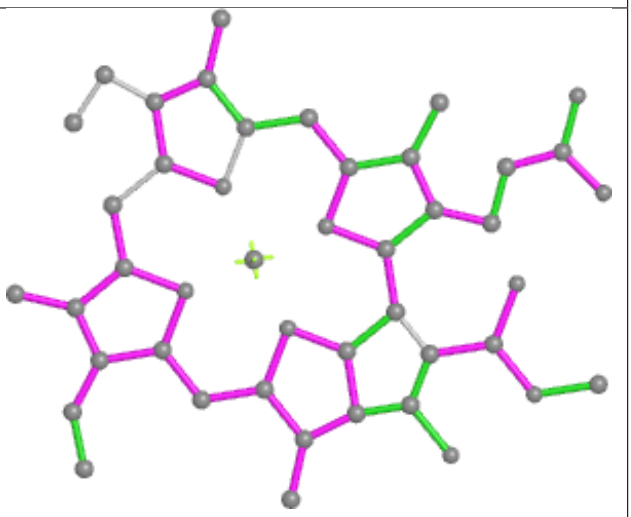

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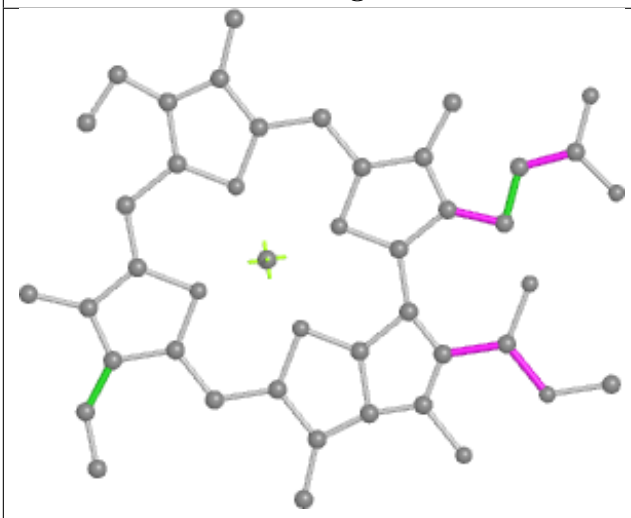

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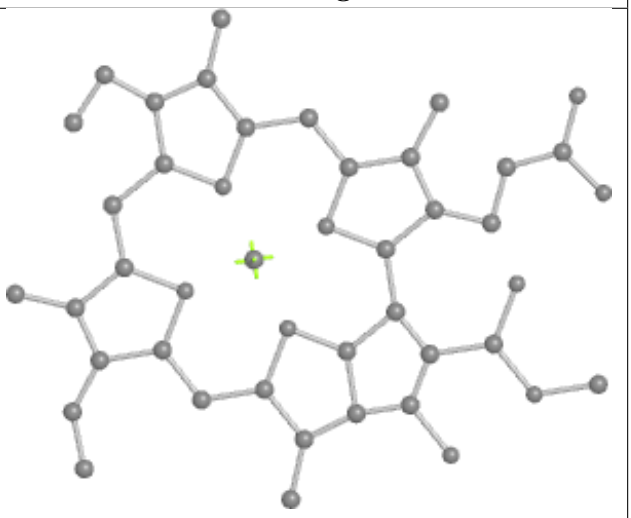
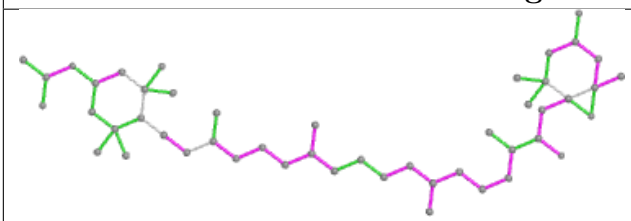


Rings

Ligand A86 14 301



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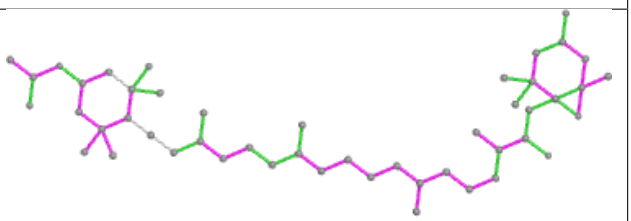

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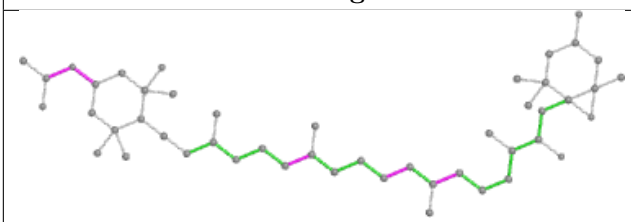

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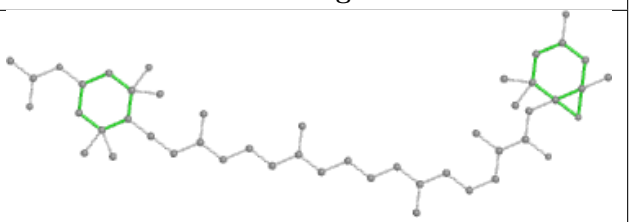
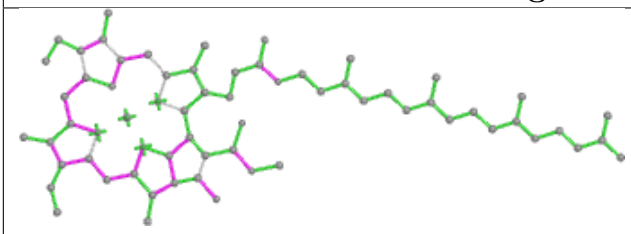


Rings

Ligand CLA 6 307



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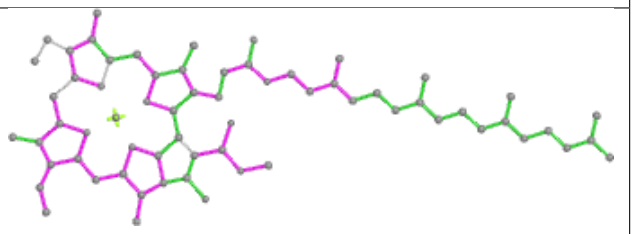

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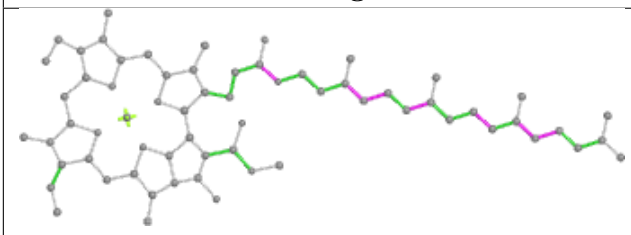

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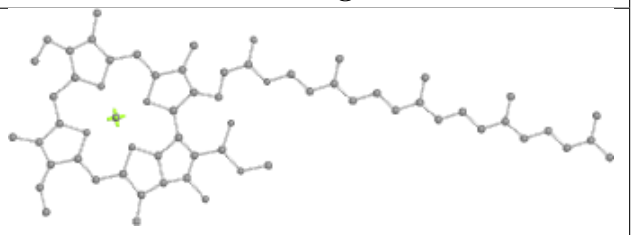
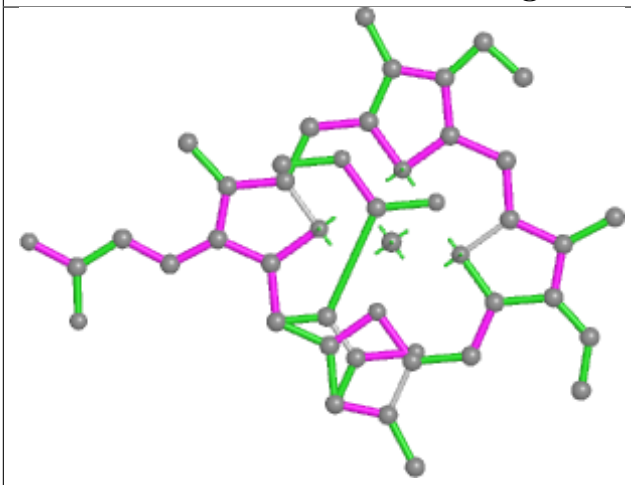


Rings

Ligand KC1 12 313



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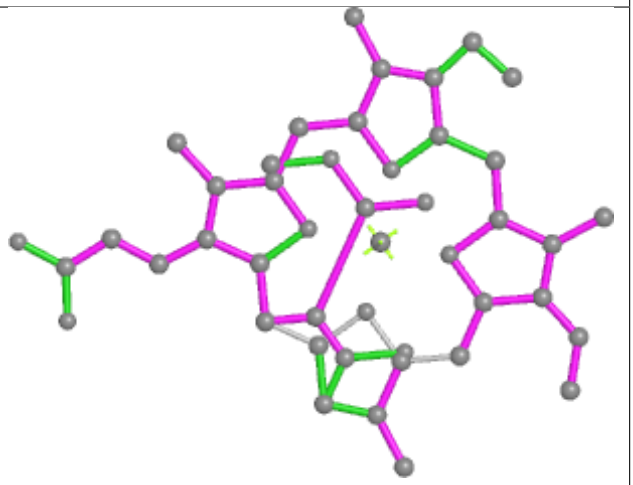

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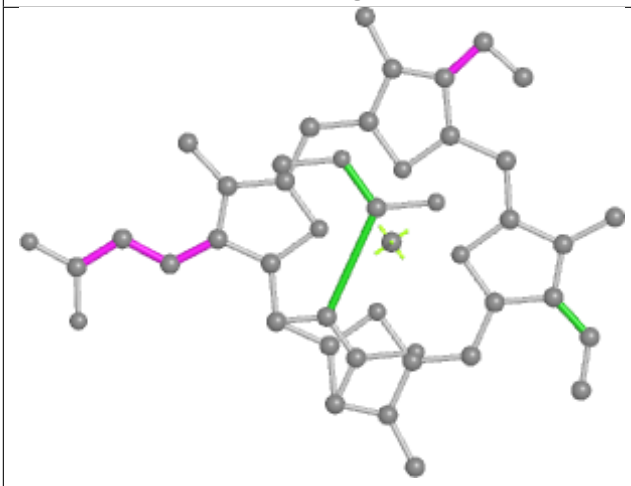

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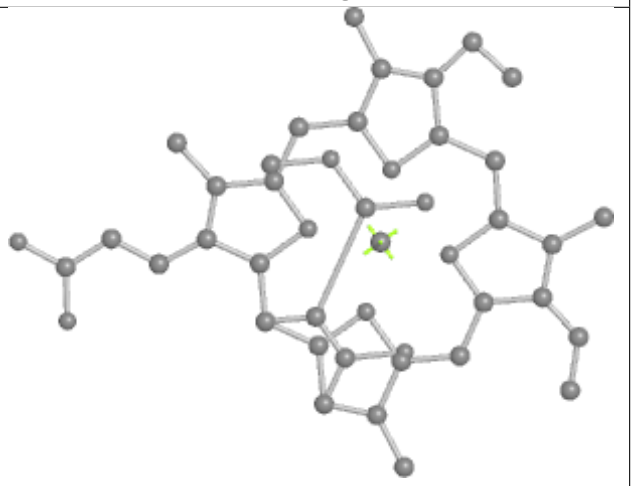
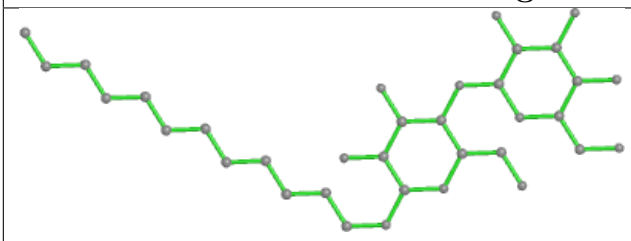


Rings

Ligand LMT 11 316



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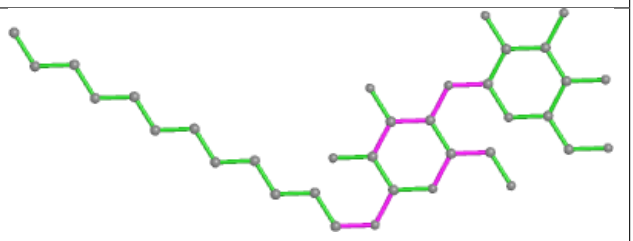

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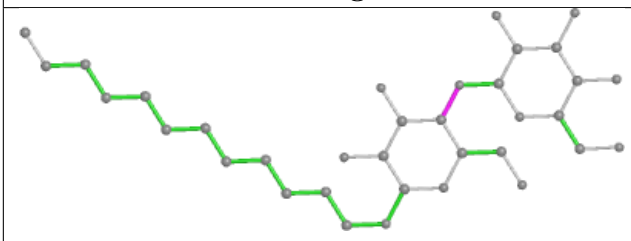

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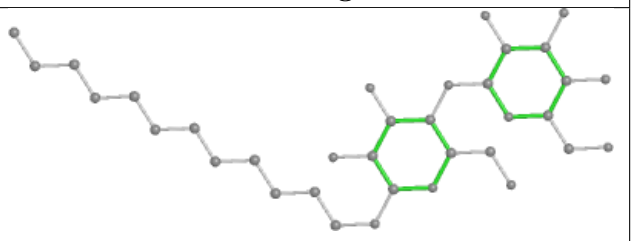
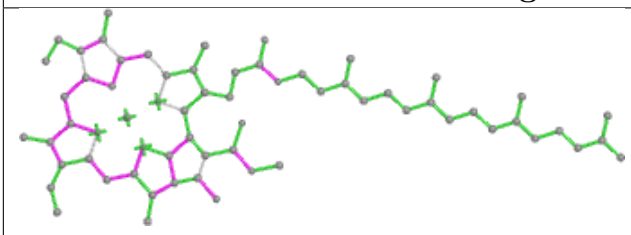


Rings

Ligand CLA 12 303



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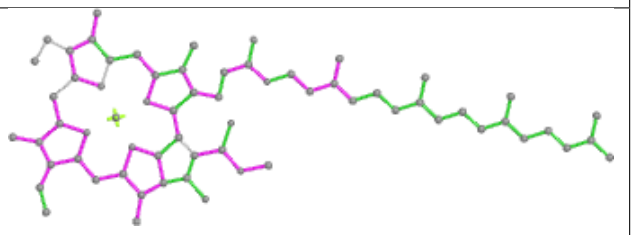

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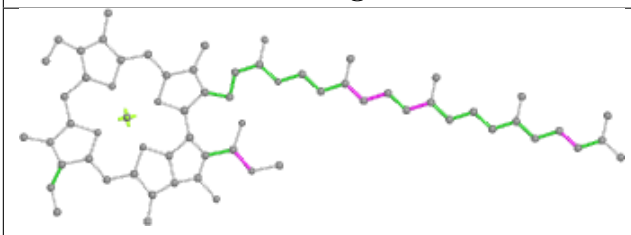

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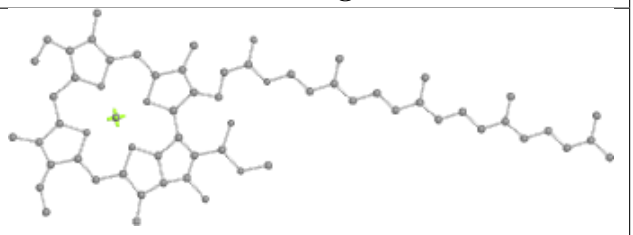
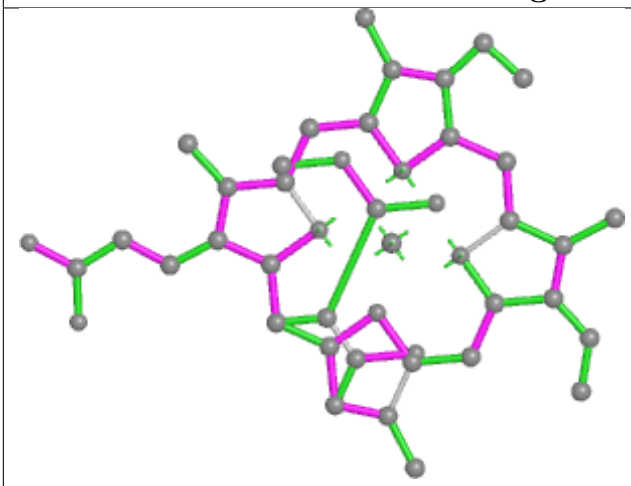


Rings

Ligand KC1 8 307



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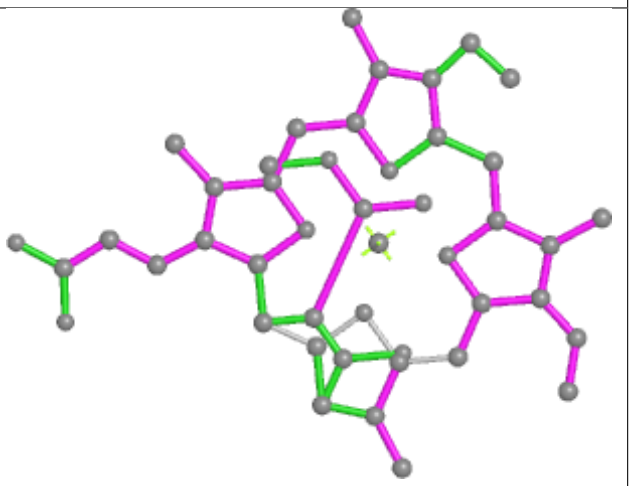

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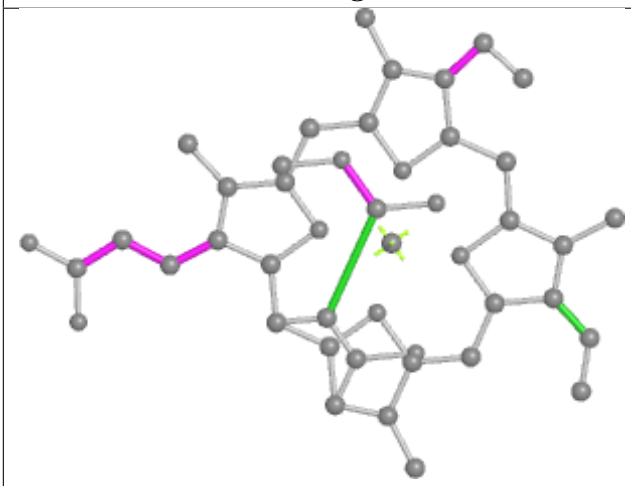

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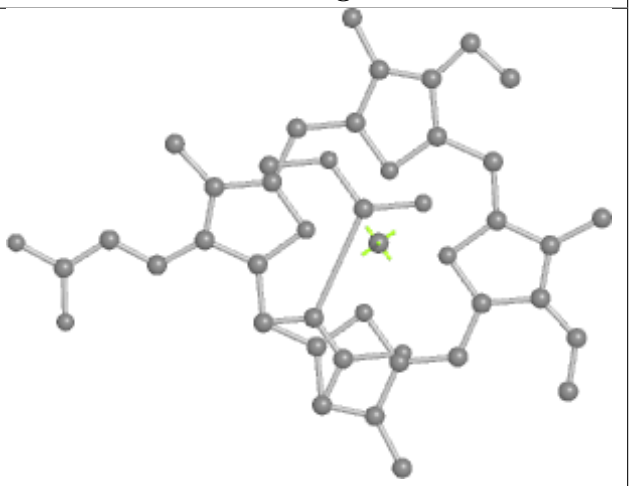
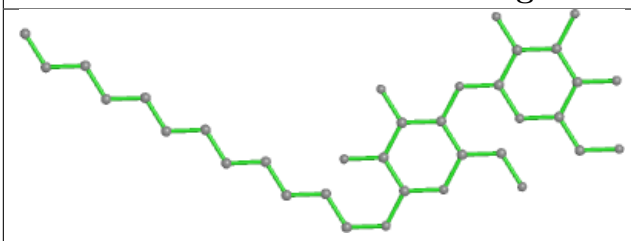


Rings

Ligand LMT 12 301



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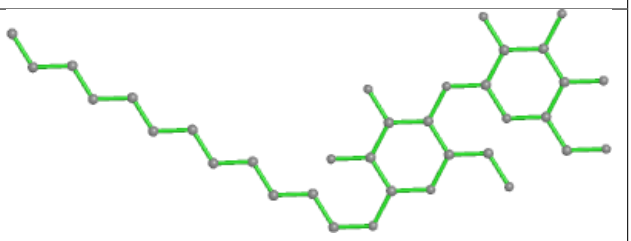

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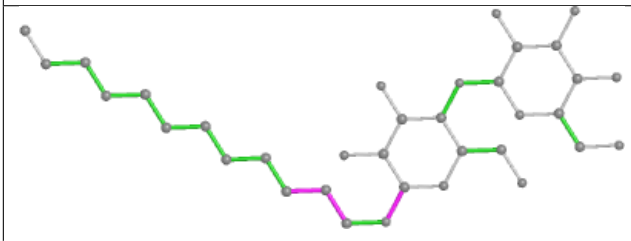

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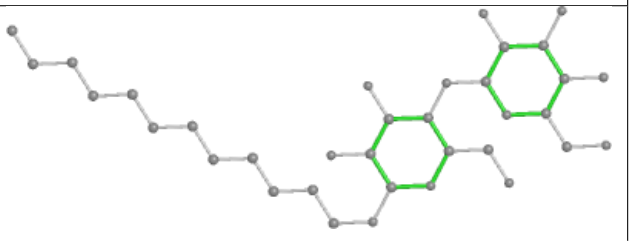
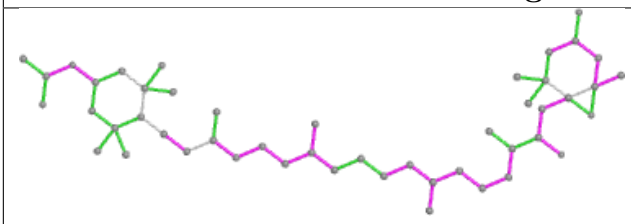


Rings

Ligand A86 14 315



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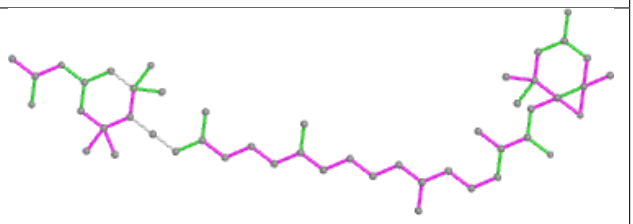

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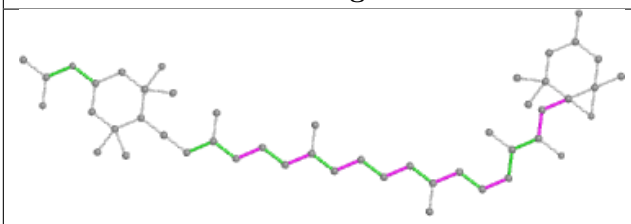

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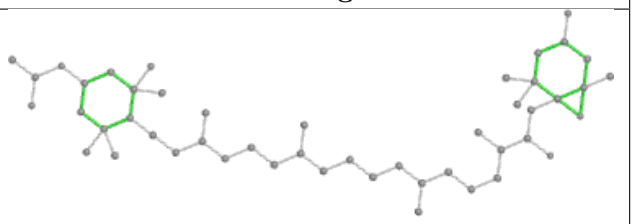
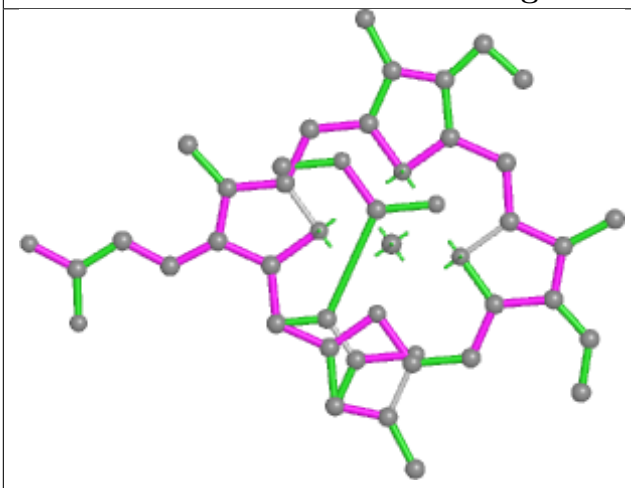


Rings

Ligand KC1 10 306



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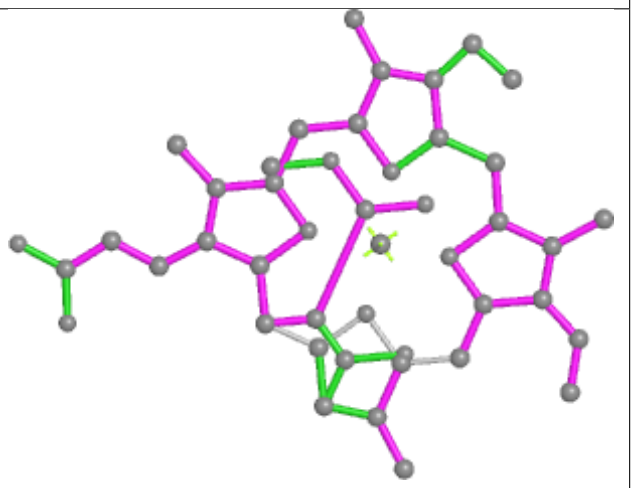

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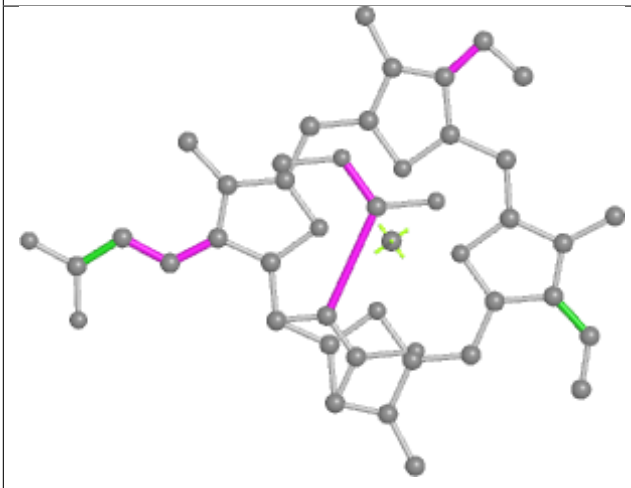

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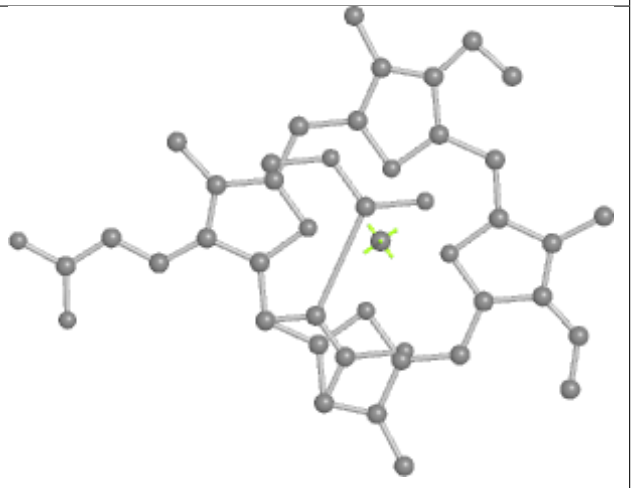
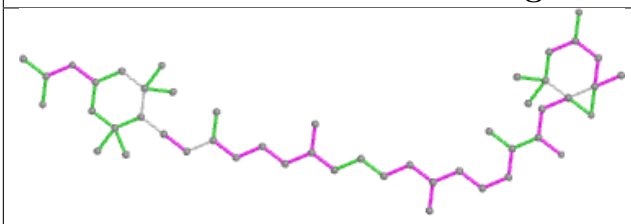


Rings

Ligand A86 10 301



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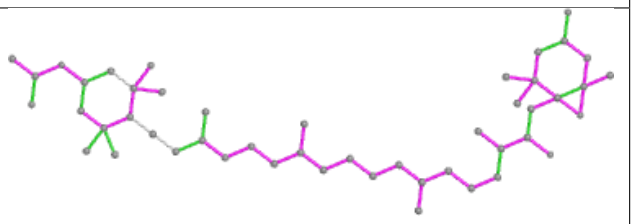

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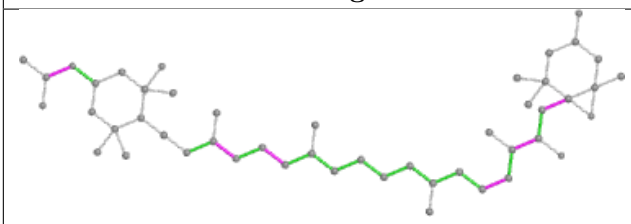

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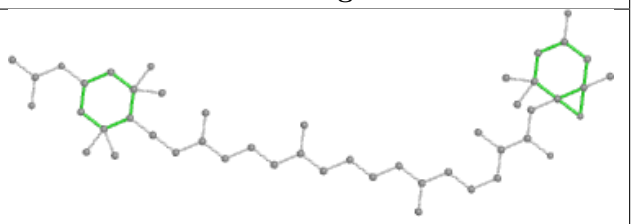
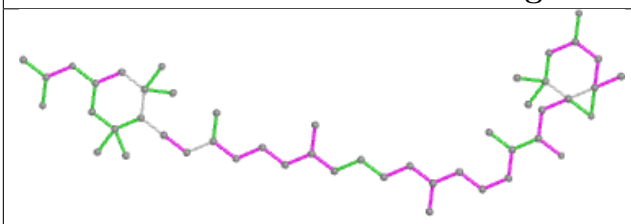


Rings

Ligand A86 14 316



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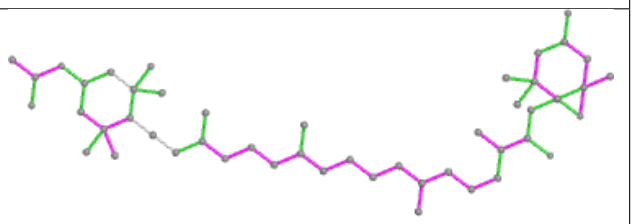

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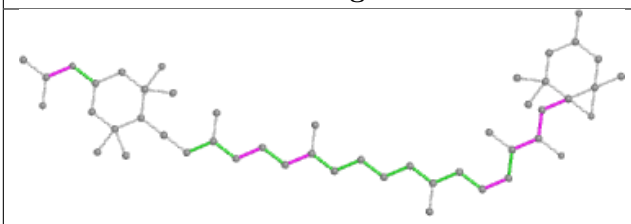
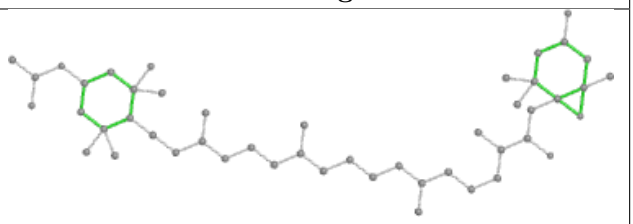
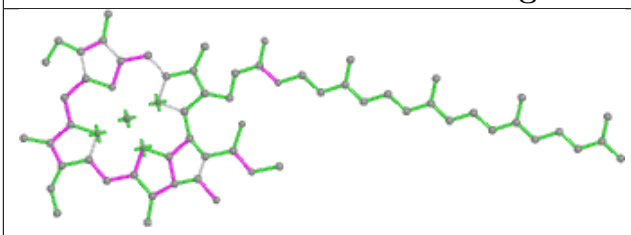


Torsions



Rings

Ligand CLA 11 303



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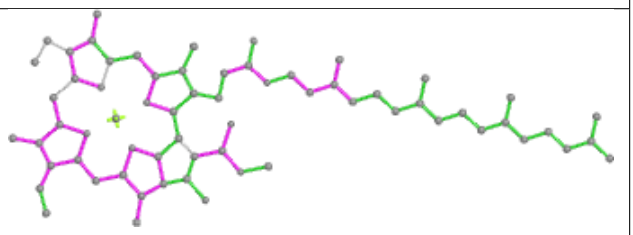
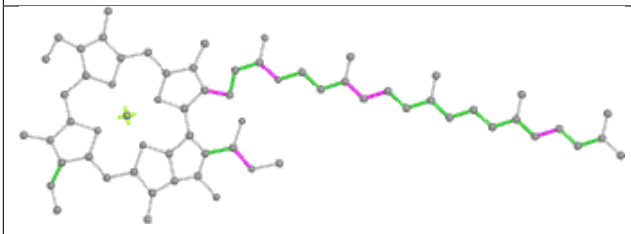


Bond angles



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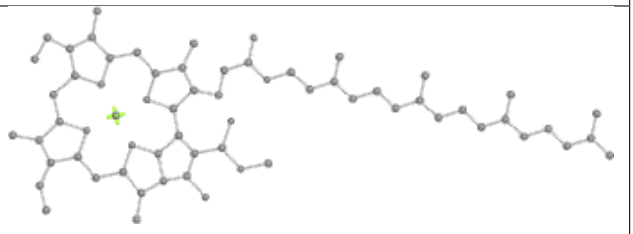
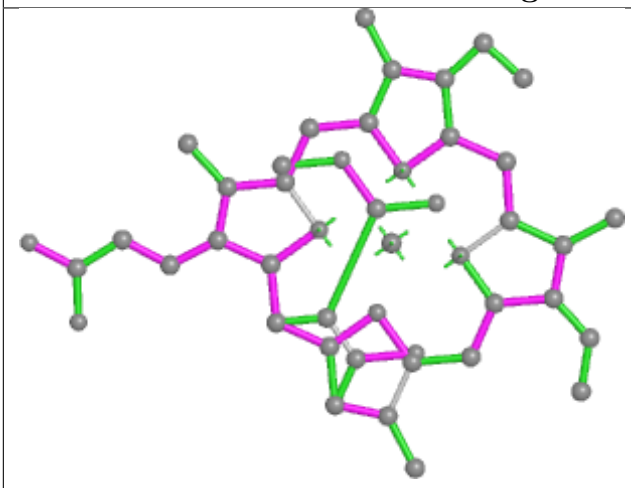
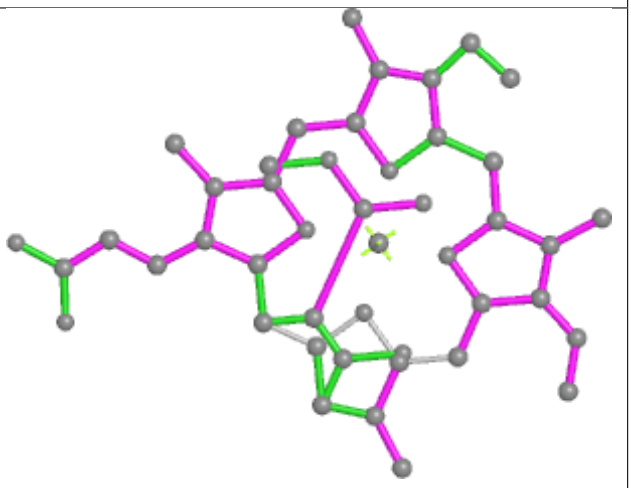


Rings

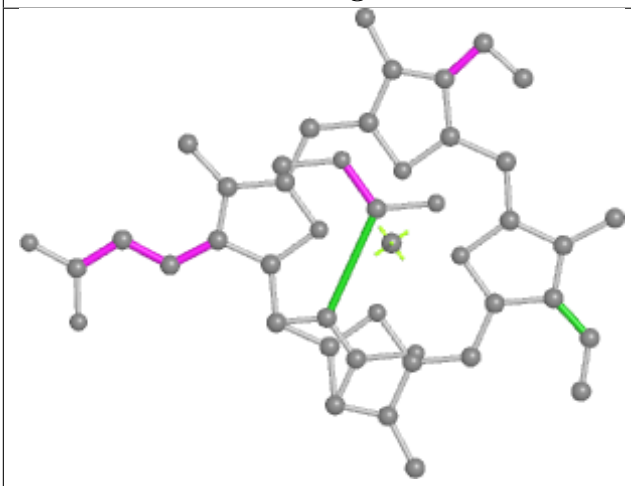
Ligand KC1 11 311



Bond lengths



Bond angles



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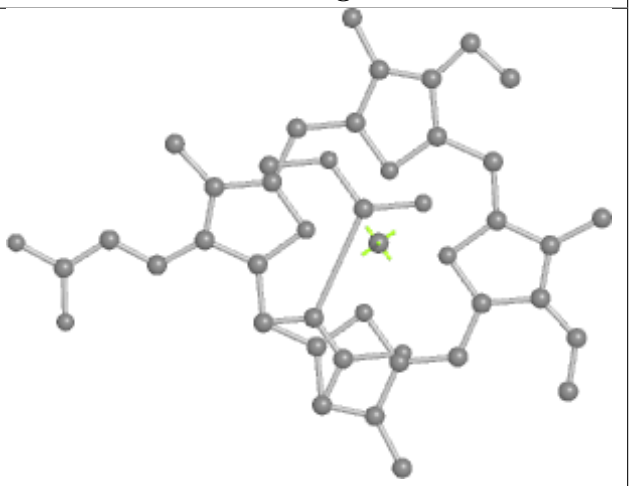
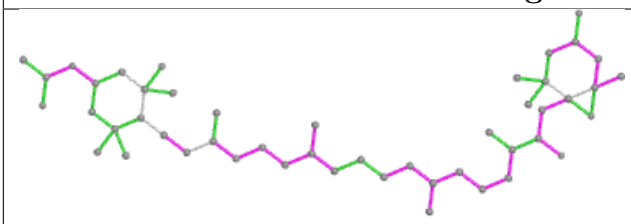
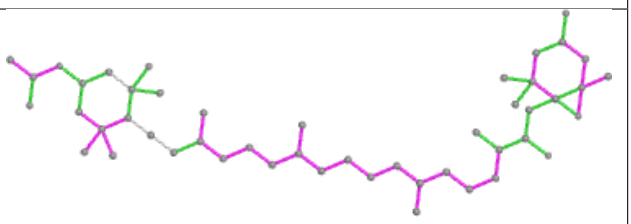


Rings

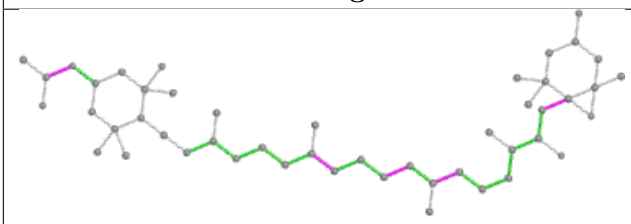
Ligand A86 14 320



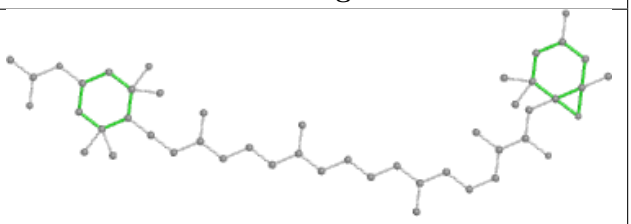
Bond lengths



Bond angles

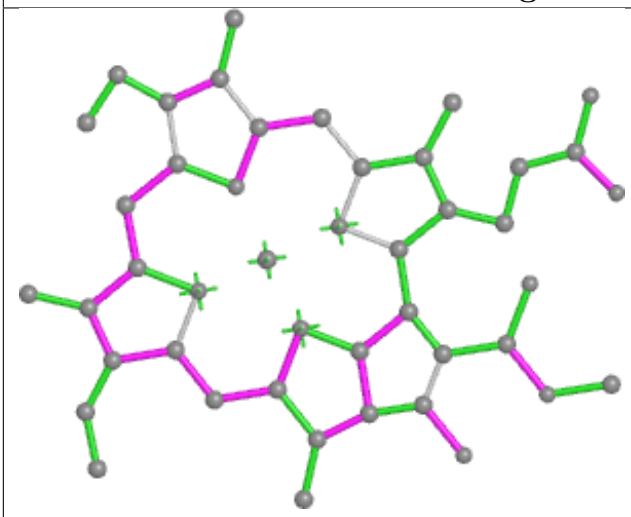


Torsions



Rings

Ligand CLA 16 309



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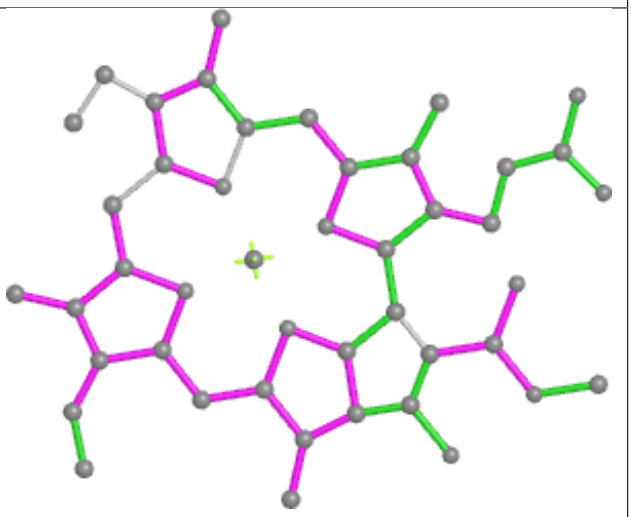

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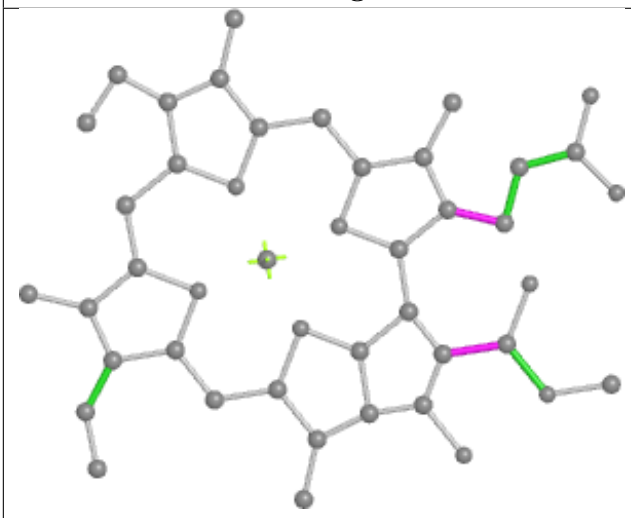

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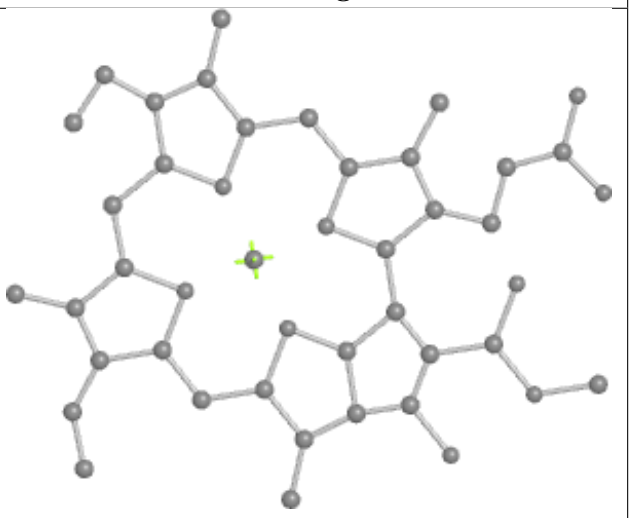
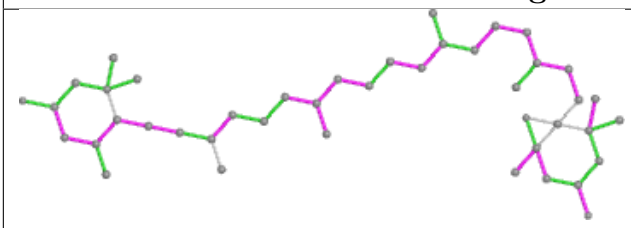


Rings

Ligand DD6 7 317



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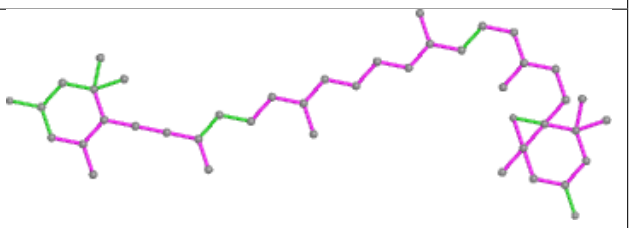

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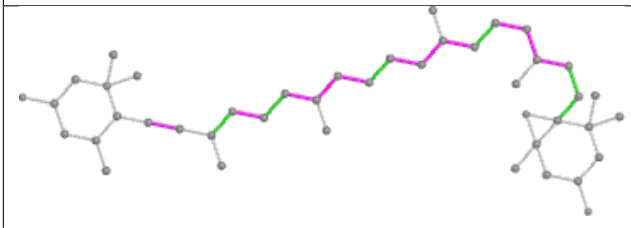

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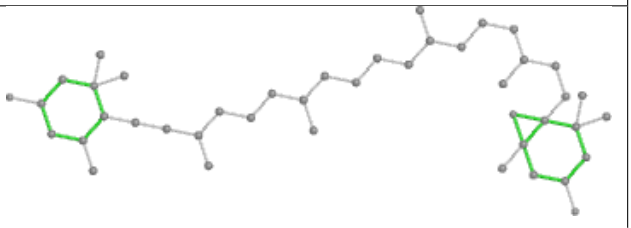
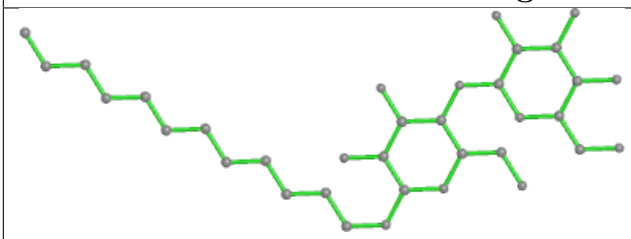


Rings

Ligand LMT 15 301



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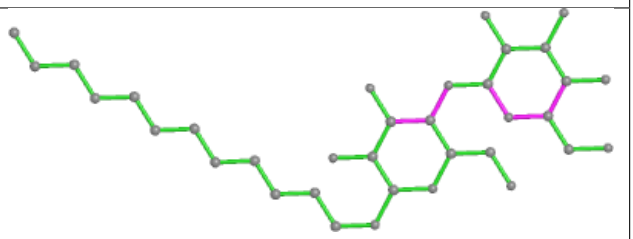
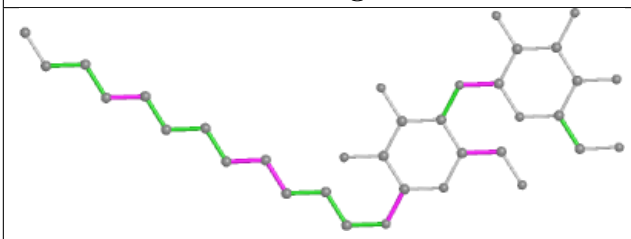


Bond angles



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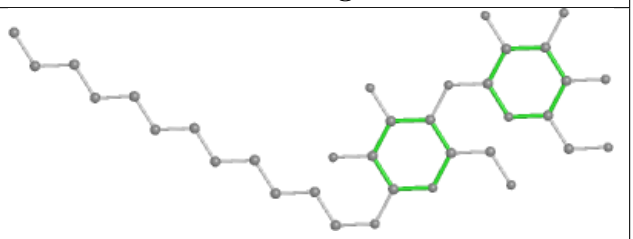
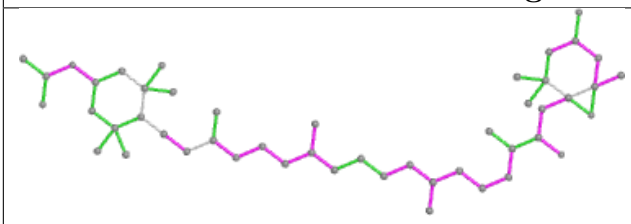


Rings

Ligand A86 11 301



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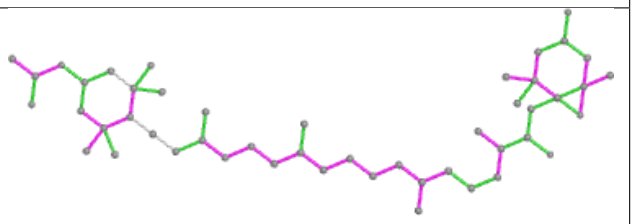
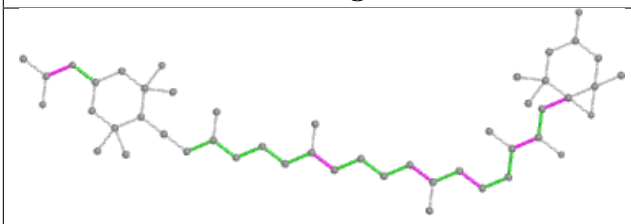


Bond angles



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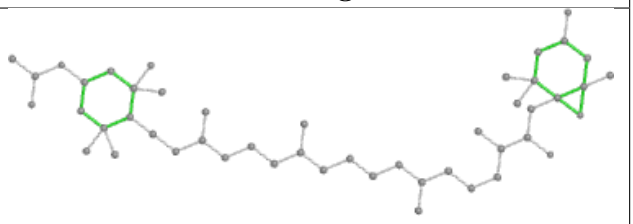
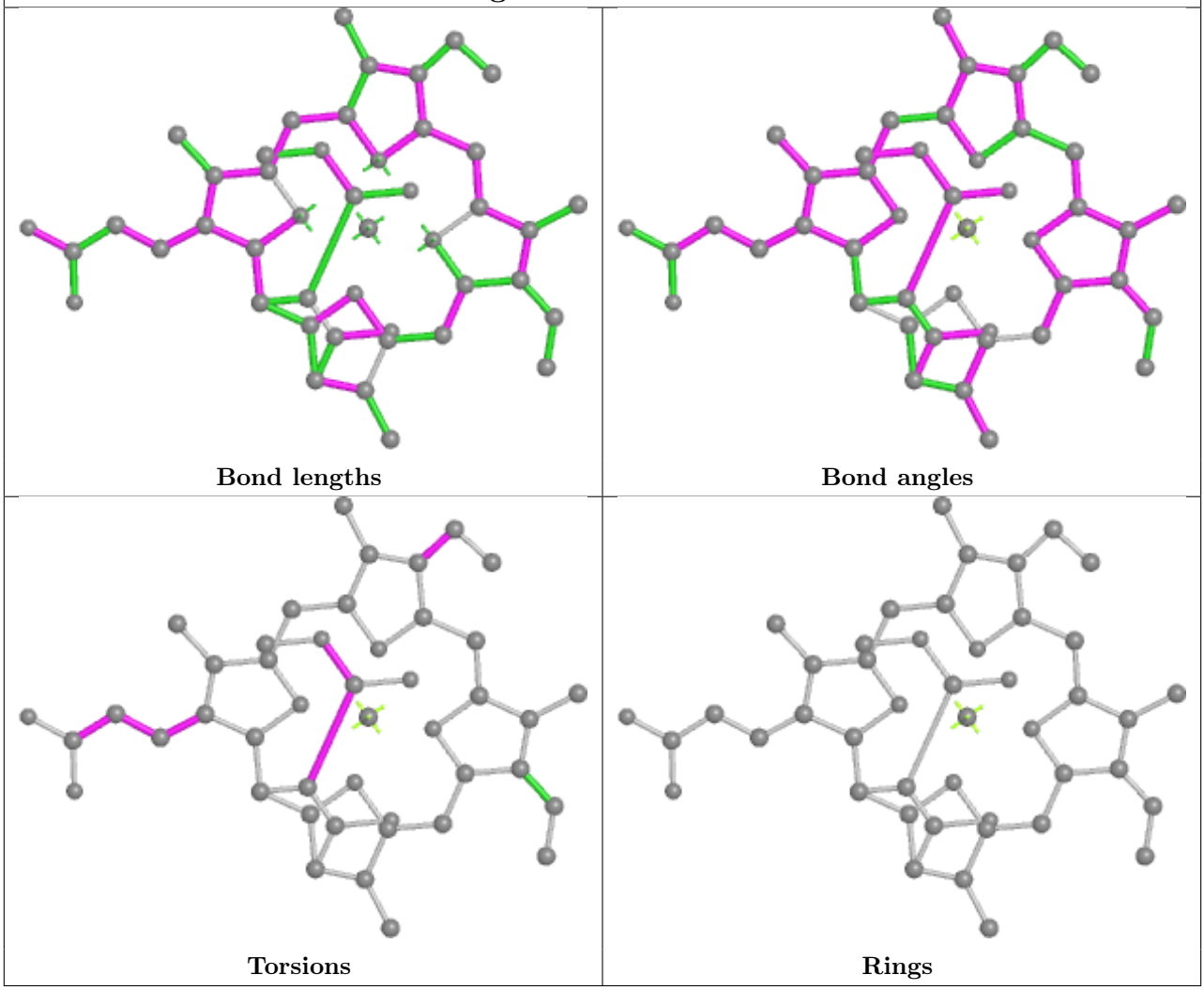


Rings

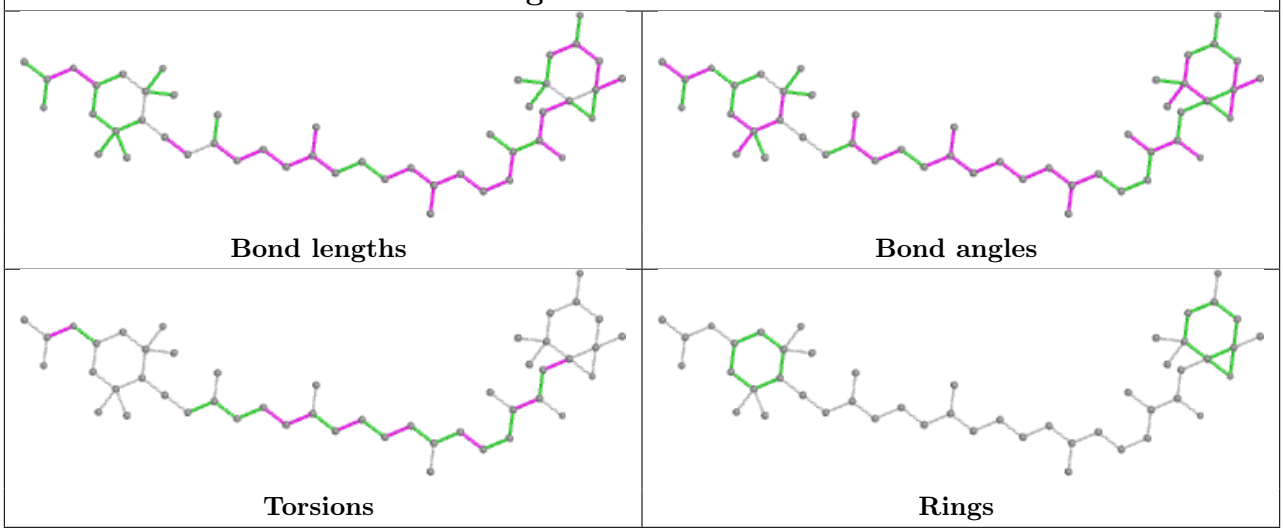
Ligand KC1 13 306



Bond lengths | Bond angles

Torsions | Rings

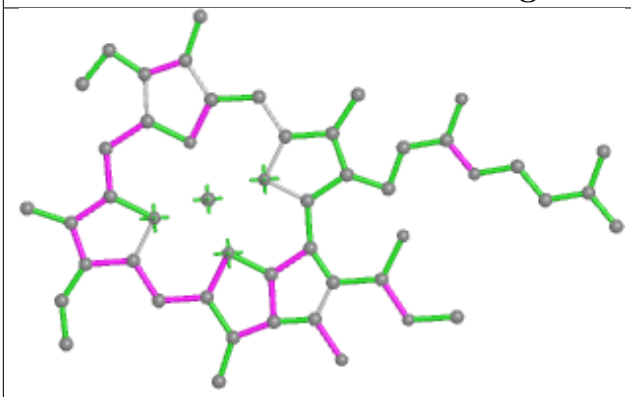
Ligand A86 10 302



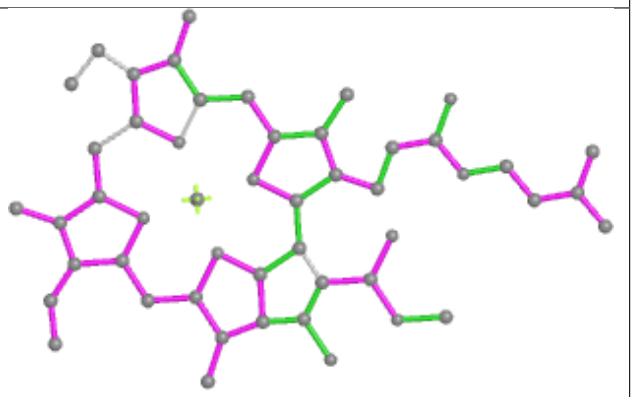
Bond lengths | Bond angles

Torsions | Rings

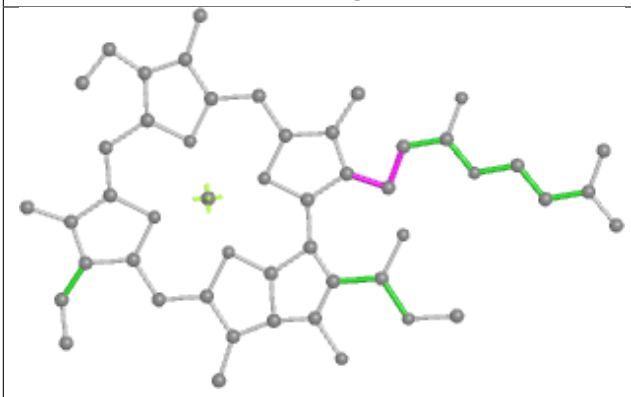
Ligand CLA 14 305



Bond lengths



Bond angles



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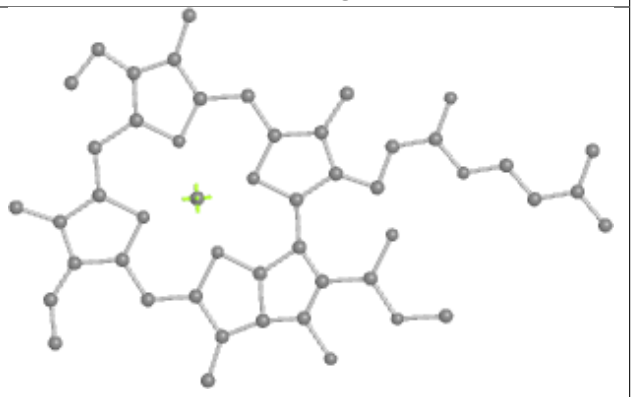
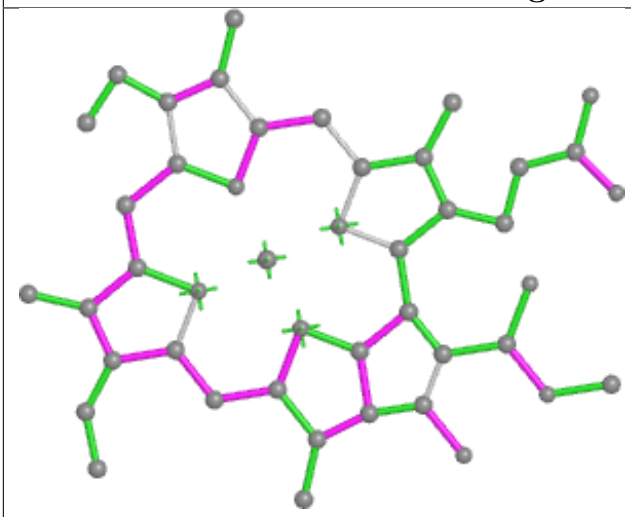
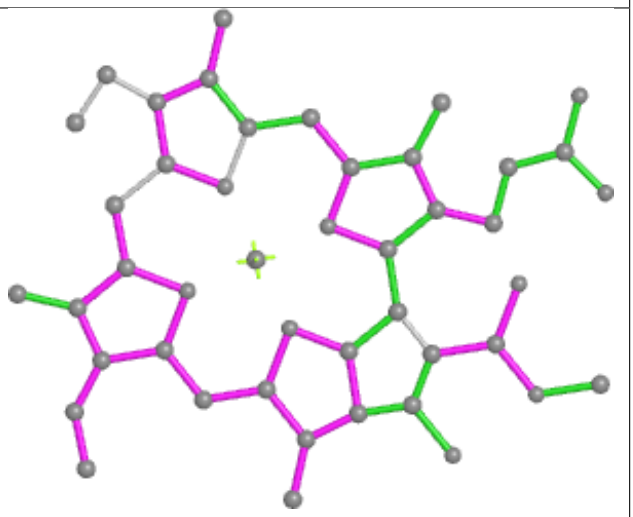


Rings

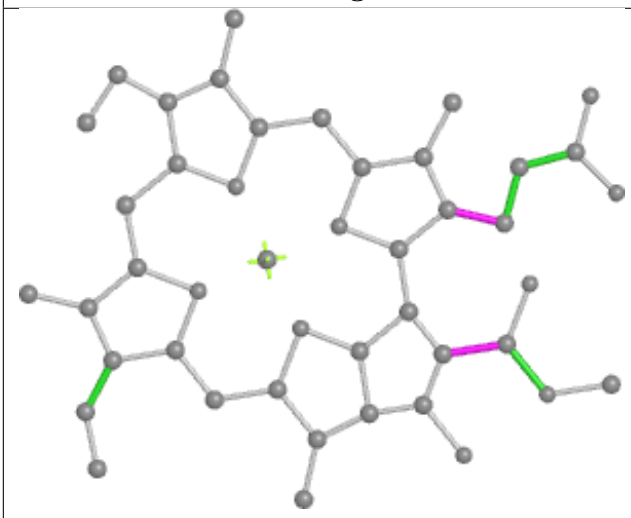
Ligand CLA 6 312



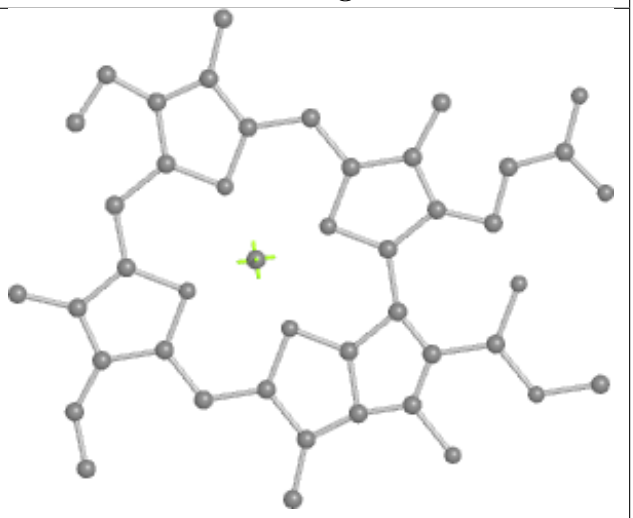
Bond lengths



Bond angles

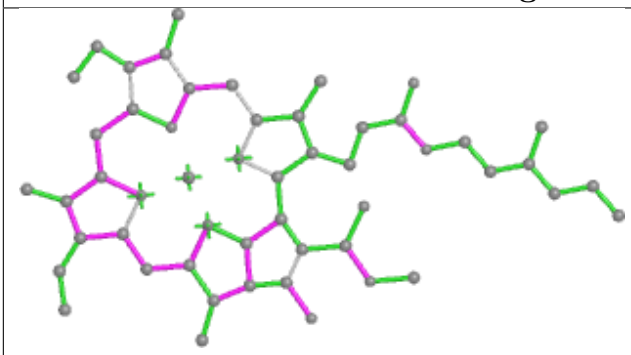


Torsions

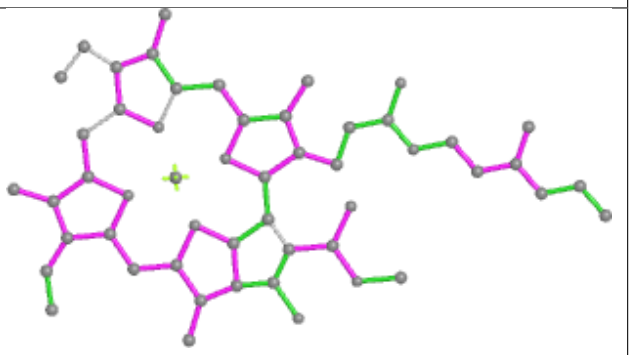


Rings

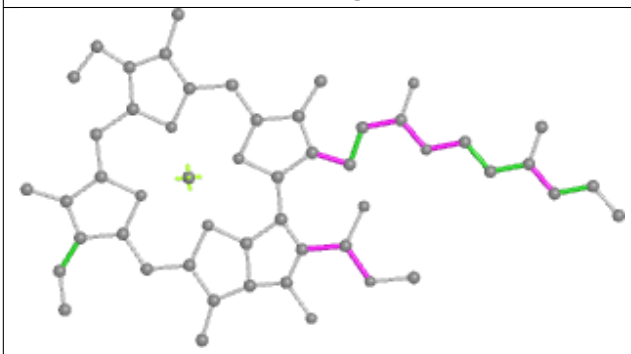
Ligand CLA 16 306



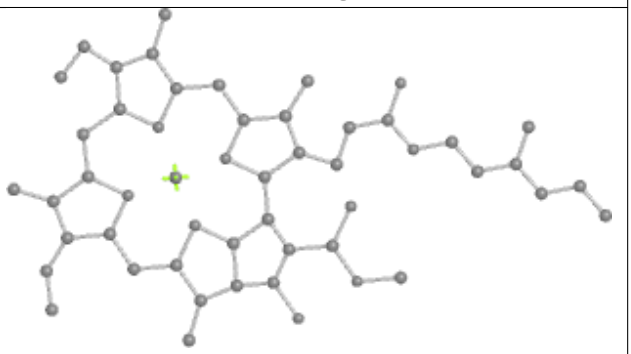
Bond lengths



Bond angles

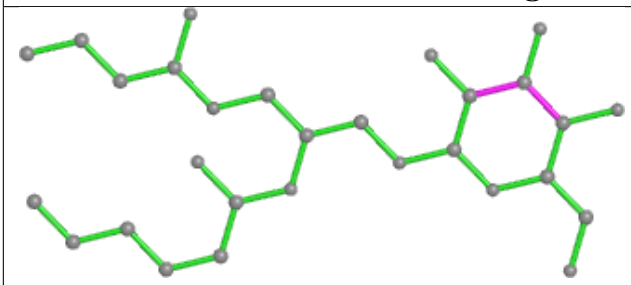


Torsions

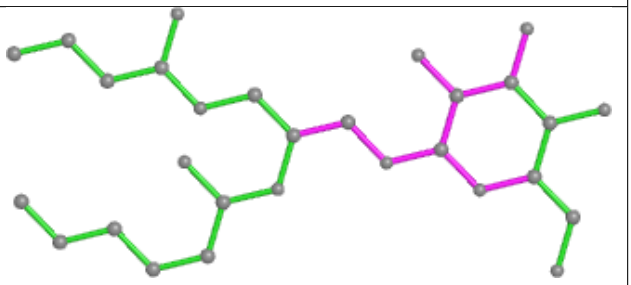


Rings

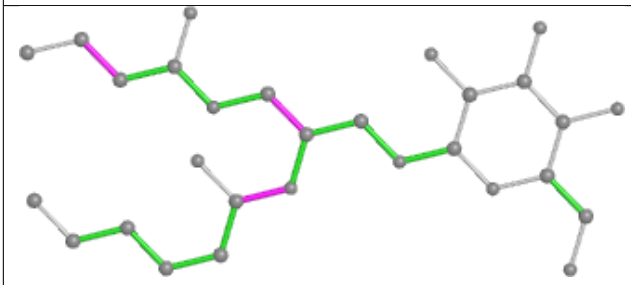
Ligand LMG 8 323



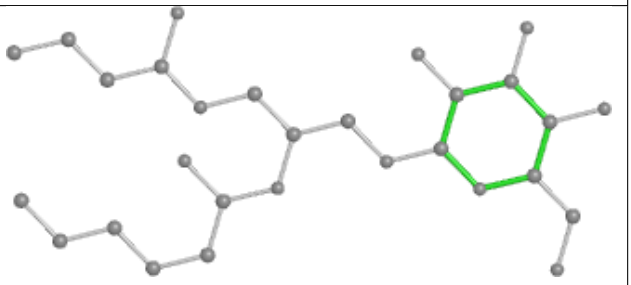
Bond lengths



Bond angles

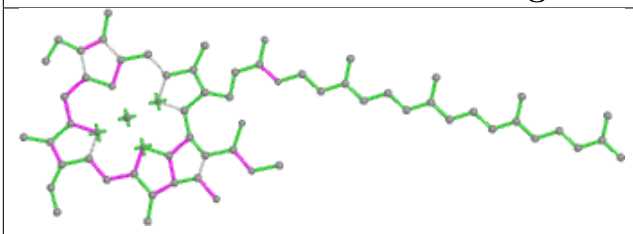


Torsions

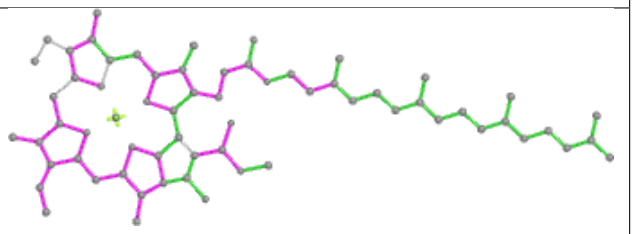


Rings

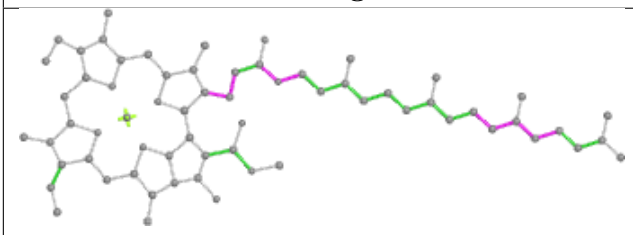
Ligand CLA 6 301



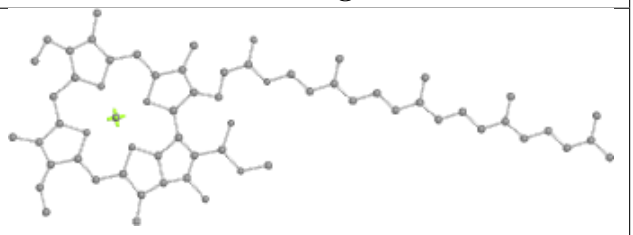
Bond lengths



Bond angles

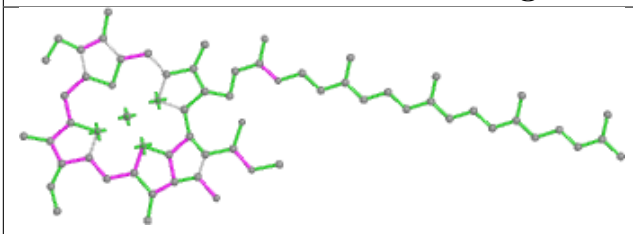


Torsions

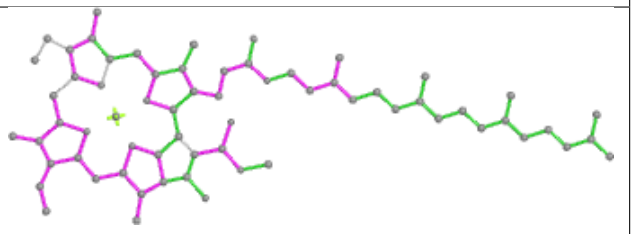


Rings

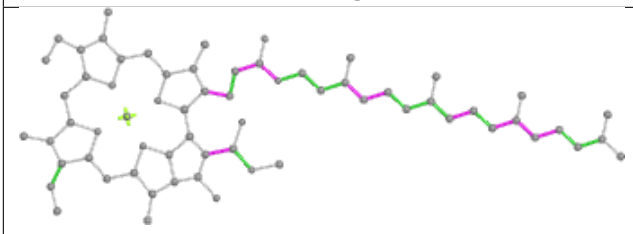
Ligand CLA 13 303



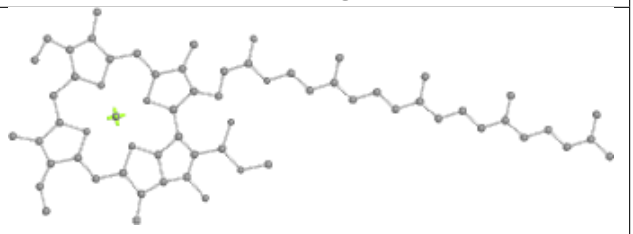
Bond lengths



Bond angles

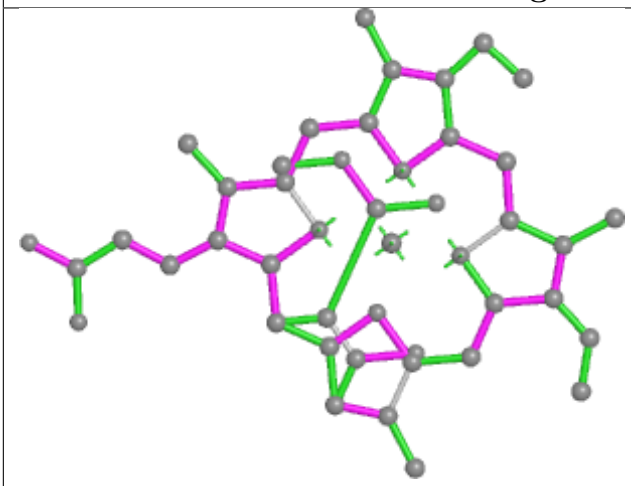


Torsions

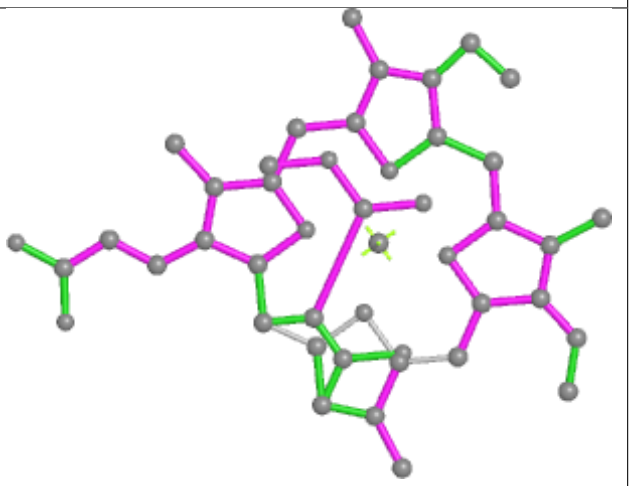


Rings

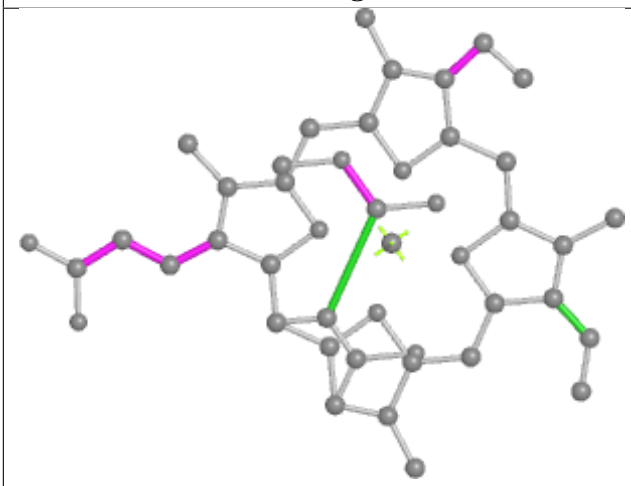
Ligand KC1 8 311



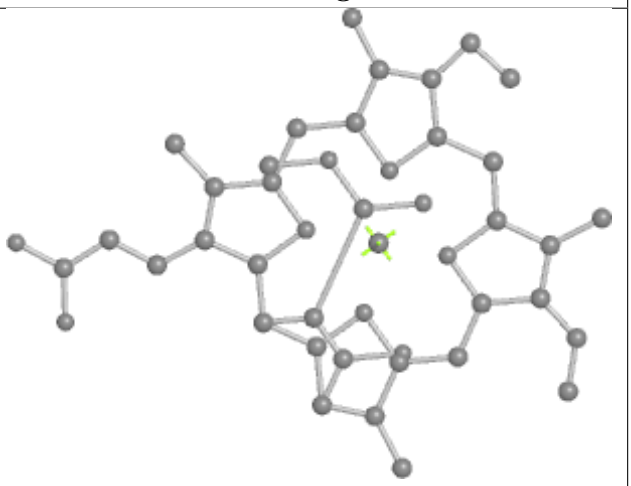
Bond lengths



Bond angles

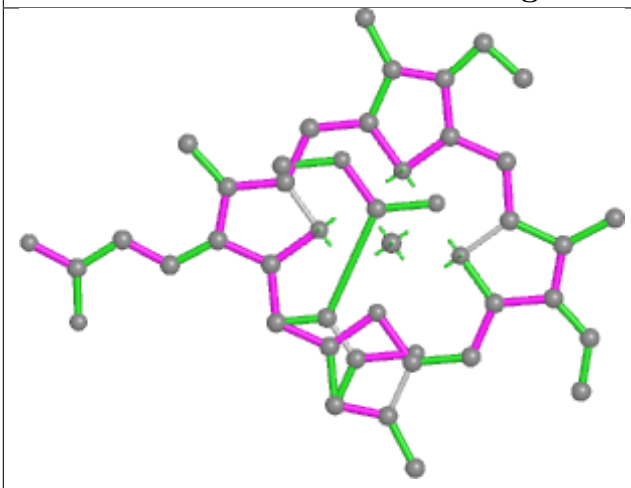


Torsions

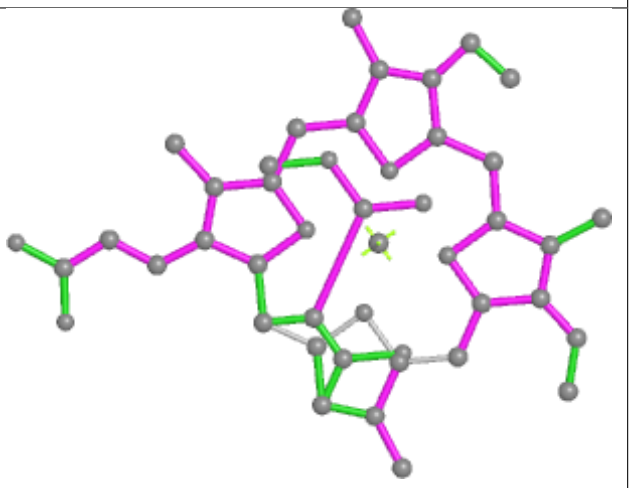


Rings

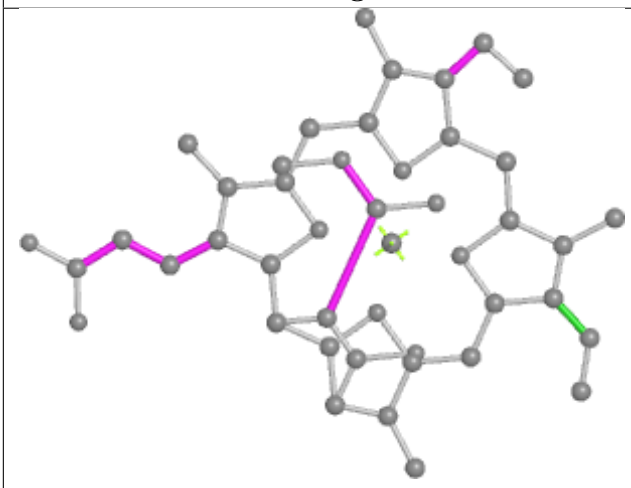
Ligand KC1 10 310



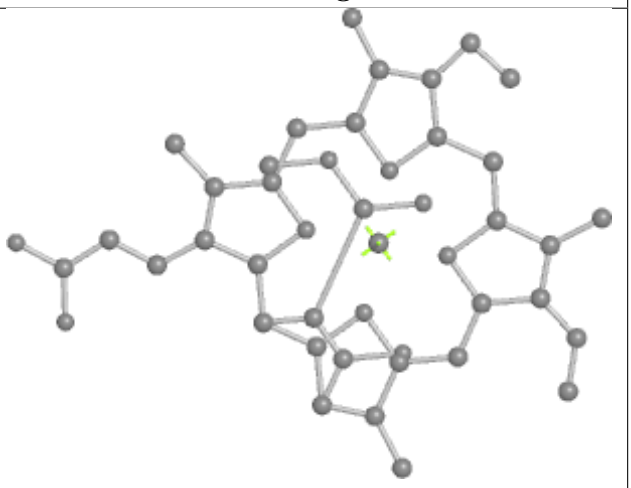
Bond lengths



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

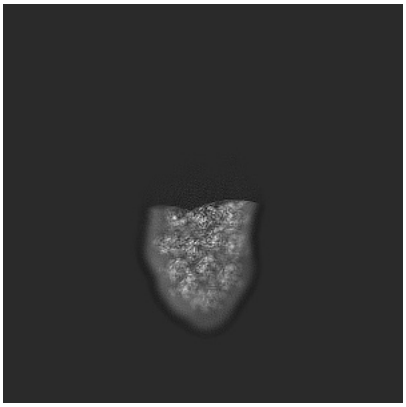
This section contains visualisations of the EMDB entry EMD-0834. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

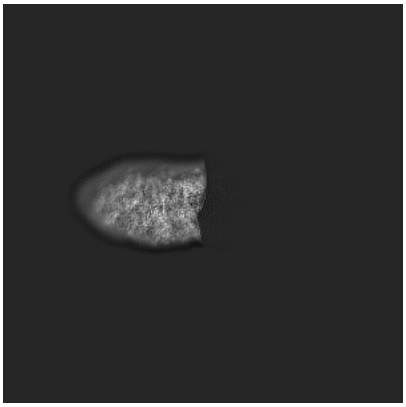
6.1 Orthogonal projections

6.1.1 Primary map

X



Y



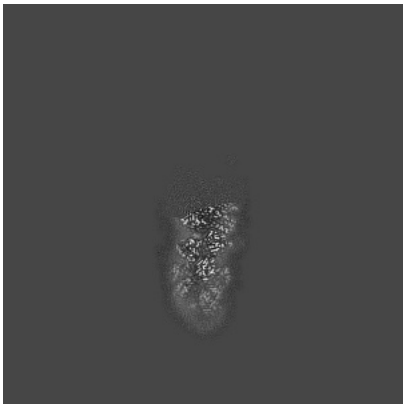
Z

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

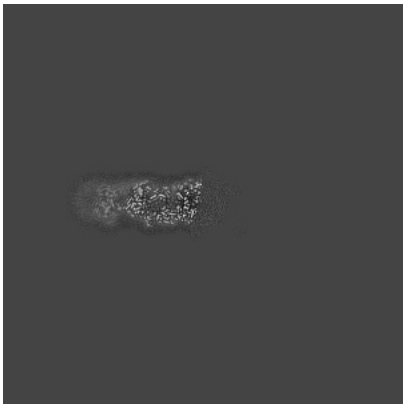
6.2 Central slices

6.2.1 Primary map

X Index: 252



Y Index: 252

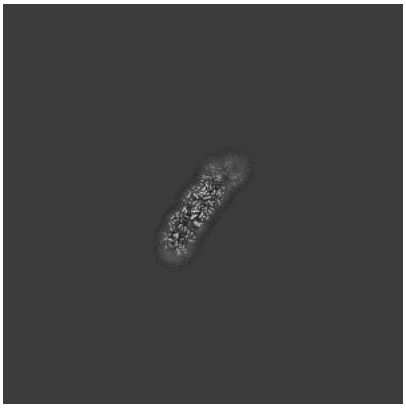


Z Index: 252

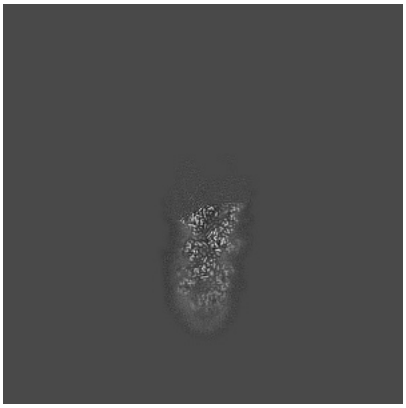
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

6.3.1 Primary map



X Index: 202



Y Index: 256

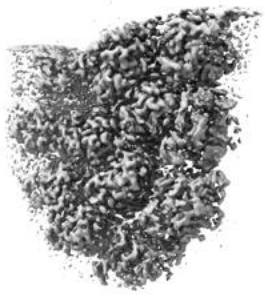
Z Index: 253

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

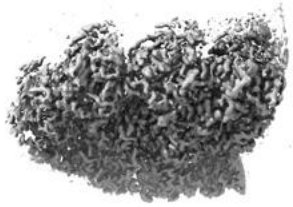
6.4 Orthogonal surface views (i)

6.4.1 Primary map

X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.045. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

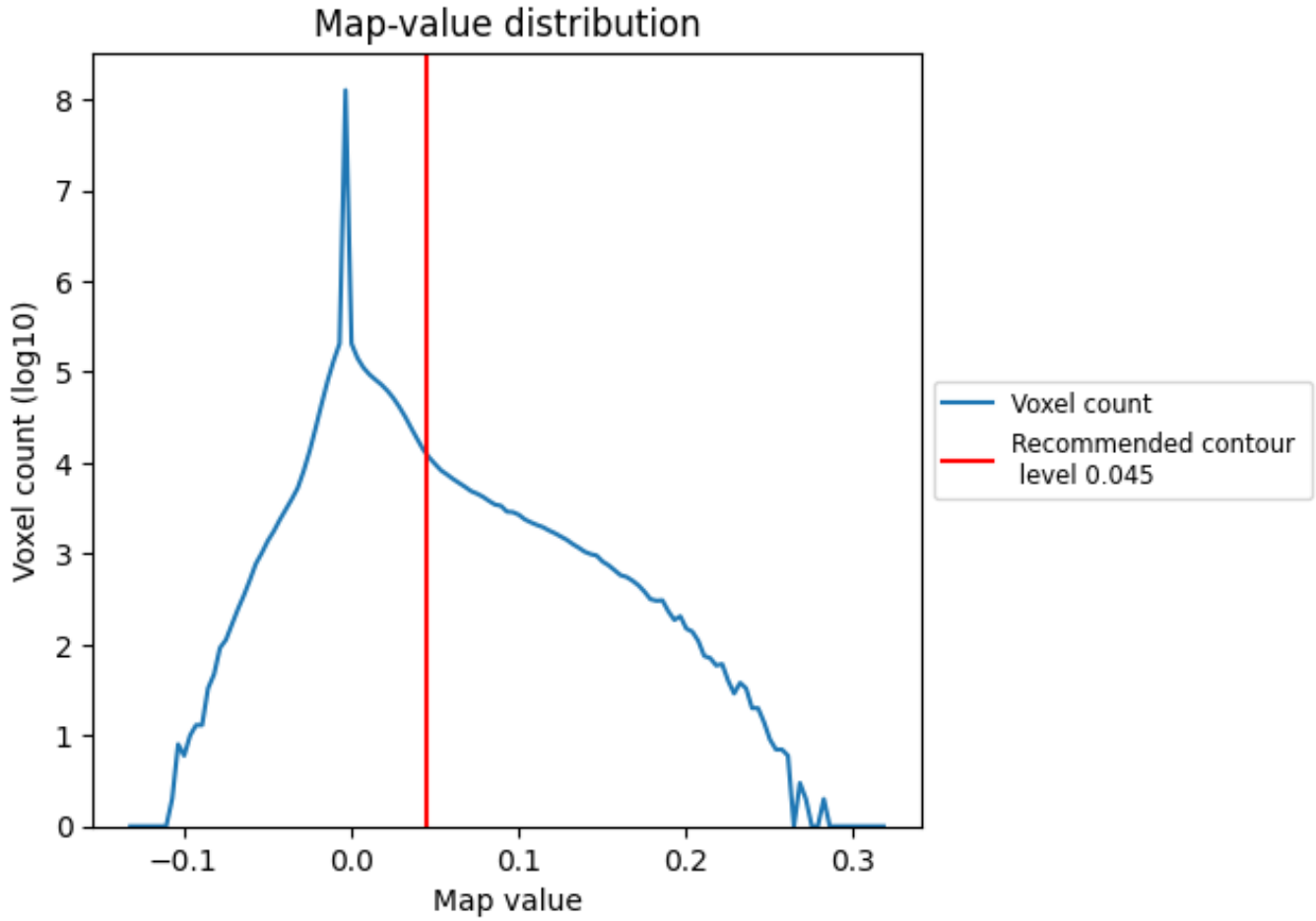
6.5 Mask visualisation (i)

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

7 Map analysis

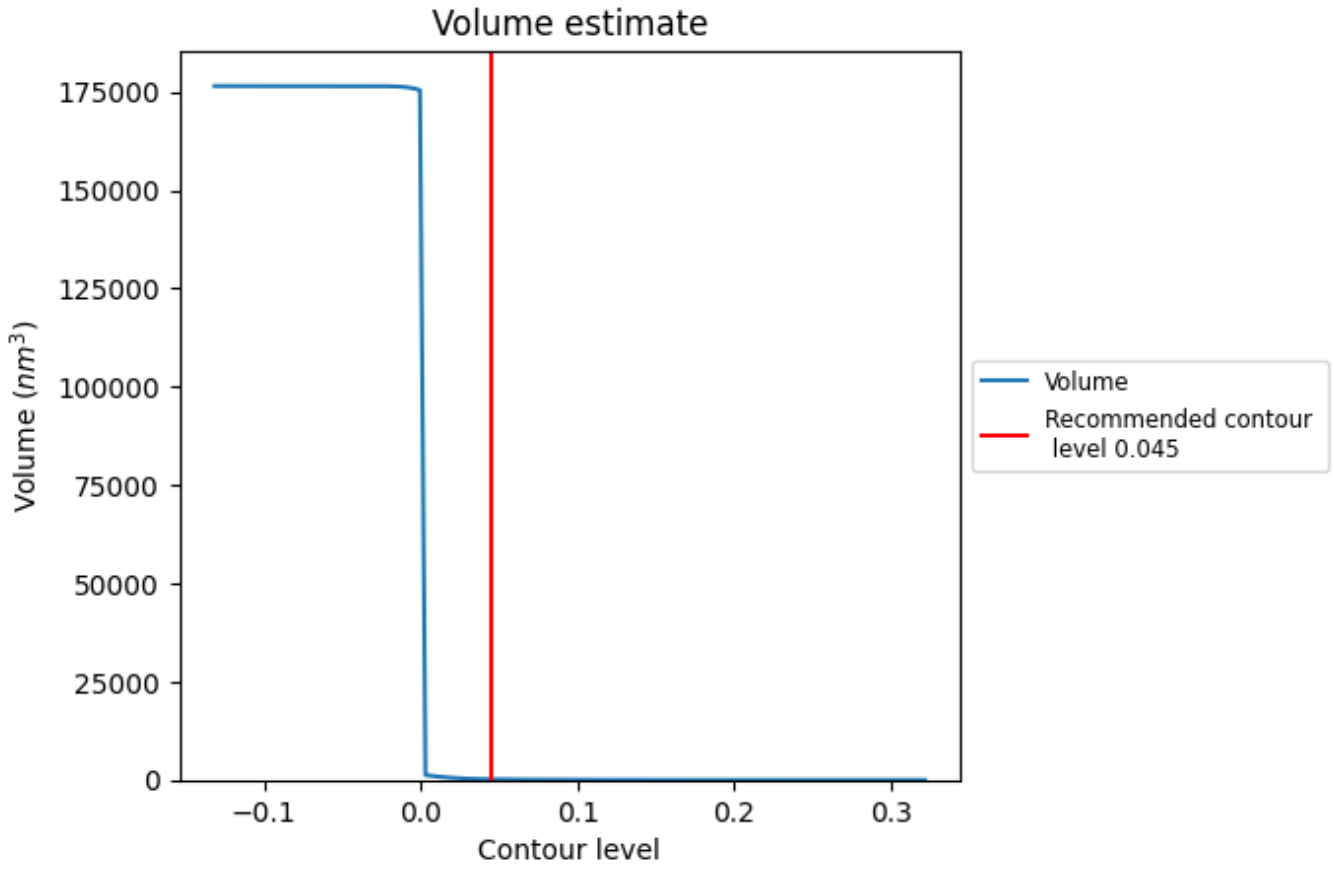
This section contains the results of statistical analysis of the map.

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.

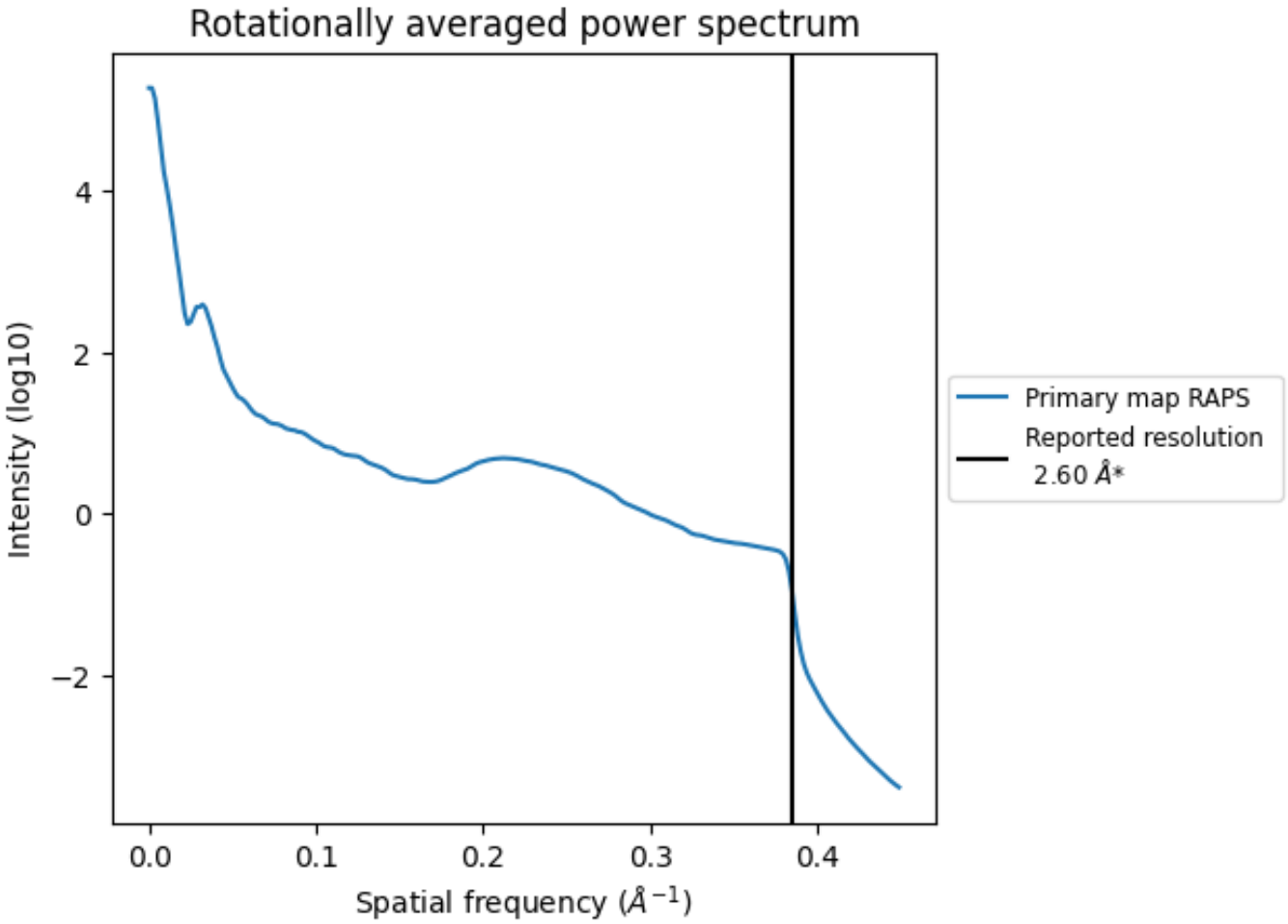
7.2 Volume estimate (i)



The volume at the recommended contour level is 169 nm^3; this corresponds to an approximate mass of 153 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)

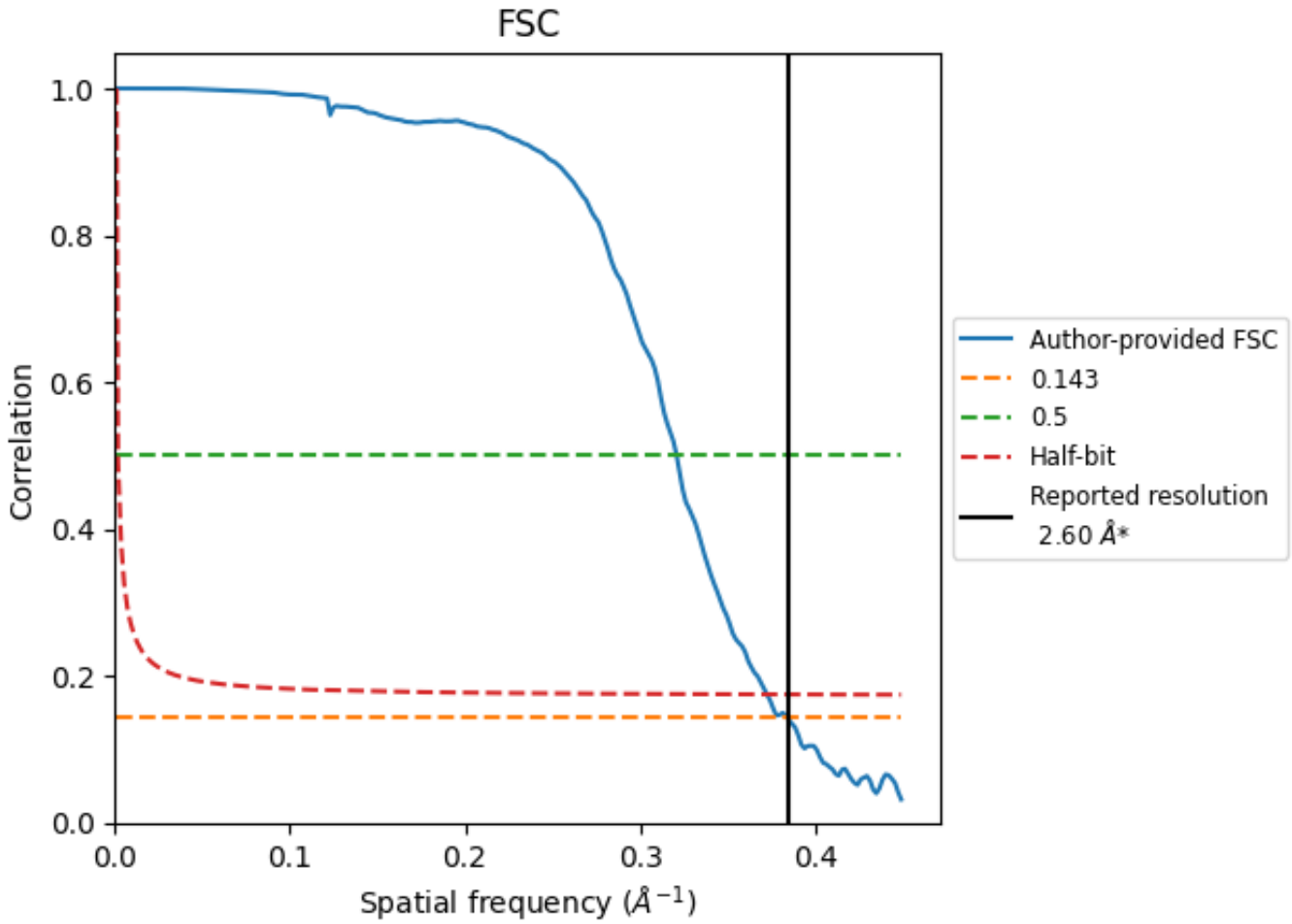


*Reported resolution corresponds to spatial frequency of 0.385 $Å^{-1}$

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 0.385 Å^{-1}

8.2 Resolution estimates (i)

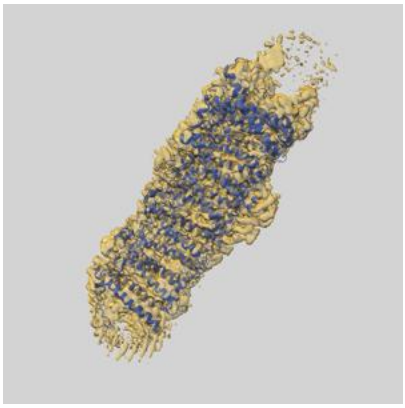
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.60	-	-
Author-provided FSC curve	2.60	3.12	2.68
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

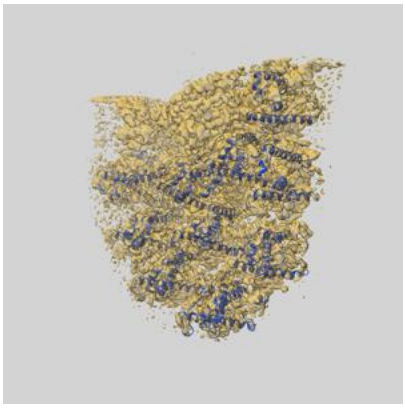
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-0834 and PDB model 6L4T. Per-residue inclusion information can be found in section 3 on page 20.

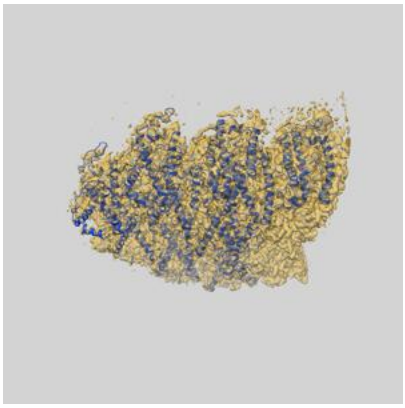
9.1 Map-model overlay



X



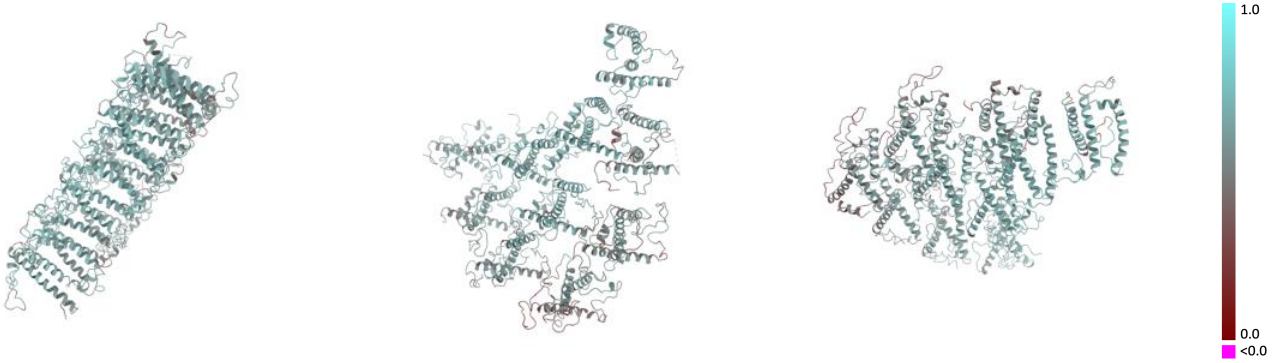
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.045 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.

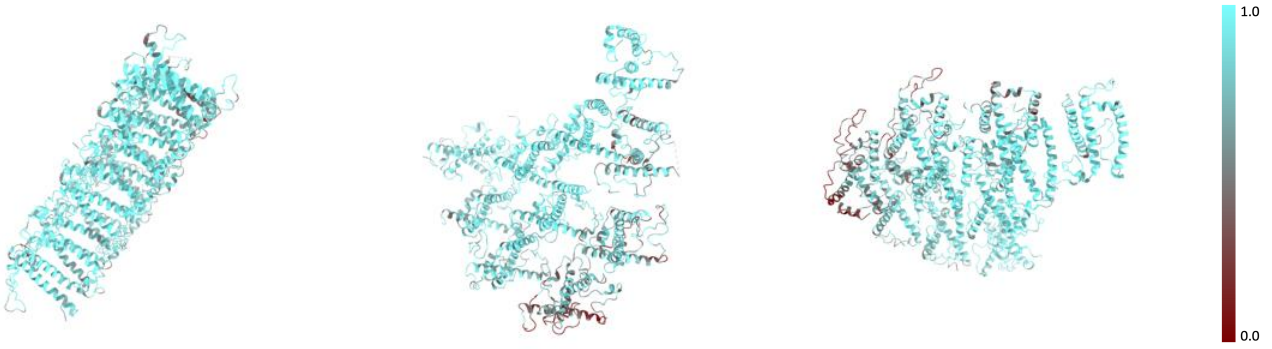
9.2 Q-score mapped to coordinate model



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.

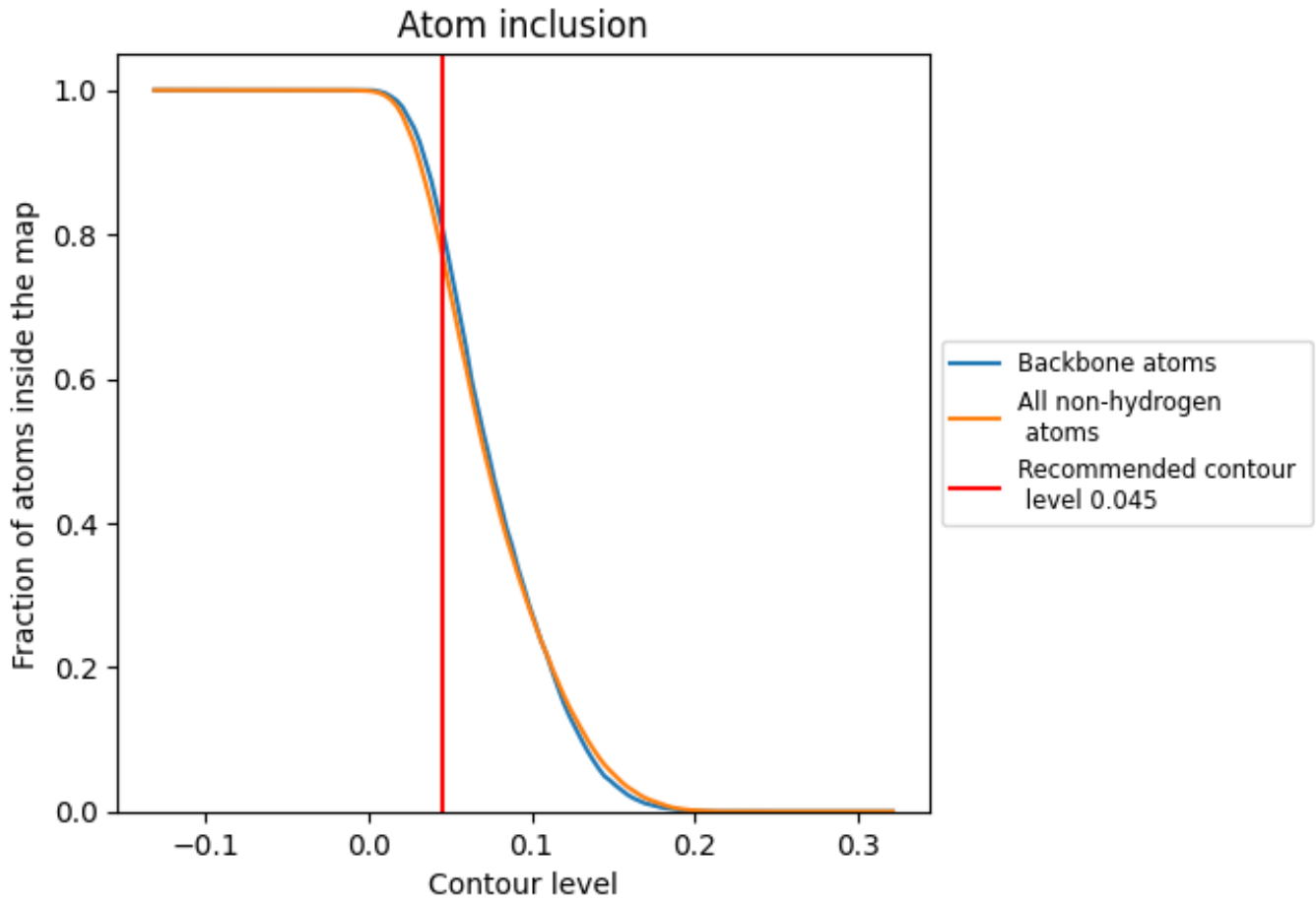
9.3 Atom inclusion mapped to coordinate model



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 (0.045).

9.4 Atom inclusion (i)



At the recommended contour level, 81% of all backbone atoms, 77% 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 (0.045) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7741	0.5630
10	0.8434	0.5780
11	0.8120	0.5720
12	0.8318	0.5990
13	0.6763	0.5130
14	0.6570	0.5180
15	0.4783	0.4670
16	0.7821	0.5480
6	0.8431	0.5800
7	0.8880	0.6240
8	0.9001	0.6310