wwPDB EM Validation Summary Report (i)

Mar 22, 2026 – 03:06 PM JST

PDB ID	:	9V7T / pdb_00009v7t
EMDB ID	:	EMD-64823
Title	:	PSI-LHCE supercomplex from Euglena gracilis.
Authors	:	Bai, T.Y.; Mao, Z.Y.; Tian, L.R.
Deposited on	:	2025-05-28
Resolution	:	2.23 Å(reported)

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

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

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

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

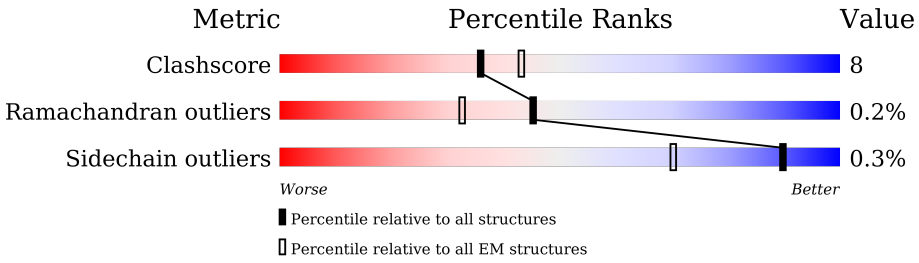
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.48.1

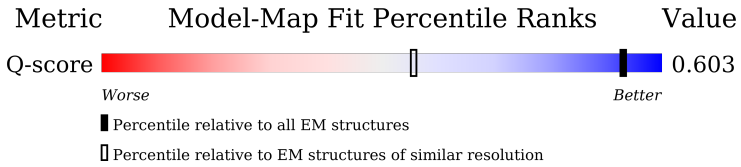
1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.23 Å.

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





Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	3335 (1.73 - 2.73)

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

Mol	Chain	Length	Quality of chain
1	A	751	83% 16%
2	B	734	84% 16%
3	C	81	6% 89% 10%
4	D	186	34% 86% 13%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
5	E	63	33% 84% 16%
6	F	168	17% 91% 9%
7	J	37	5% 95% 5%
8	M	31	16% 84% 16%
9	a	166	36% 90% 10%
10	b	169	62% 83% 17%
11	c	221	37% 90% 10%
12	d	220	23% 92% 8%
13	e	199	45% 87% 13%
14	h	174	21% 87% 12%
15	i	177	15% 84% 16%
16	j	183	9% 86% 14%
17	k	172	36% 89% 11%
18	l	167	53% 85% 15%
19	m	168	71% 85% 15%
20	f	174	100% 84% 16%
21	g	178	72% 90% 10%
22	n	184	100% 81% 18%
23	o	164	90% 83% 17%
24	p	148	100% 85% 15%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
25	CLA	A	752	X	-	-	-
25	CLA	A	753	X	-	-	-
25	CLA	A	755	X	-	-	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
25	CLA	A	757	X	-	-	-
25	CLA	A	758	X	-	-	-
25	CLA	A	759	X	-	-	-
25	CLA	A	760	X	-	-	-
25	CLA	A	761	X	-	-	-
25	CLA	A	762	X	-	-	-
25	CLA	A	763	X	-	-	-
25	CLA	A	764	X	-	-	-
25	CLA	A	765	X	-	-	-
25	CLA	A	766	X	-	-	-
25	CLA	A	767	X	-	-	-
25	CLA	A	768	X	-	-	-
25	CLA	A	769	X	-	-	-
25	CLA	A	770	X	-	-	-
25	CLA	A	771	X	-	-	-
25	CLA	A	772	X	-	-	-
25	CLA	A	773	X	-	-	-
25	CLA	A	774	X	-	-	-
25	CLA	A	775	X	-	-	-
25	CLA	A	776	X	-	-	-
25	CLA	A	777	X	-	-	-
25	CLA	A	778	X	-	-	-
25	CLA	A	779	X	-	-	-
25	CLA	A	780	X	-	-	-
25	CLA	A	781	X	-	-	-
25	CLA	A	782	X	-	-	-
25	CLA	A	783	X	-	-	-
25	CLA	A	784	X	-	-	-
25	CLA	A	791	X	-	-	-
25	CLA	A	793	X	-	-	-
25	CLA	A	794	X	-	-	-
25	CLA	A	797	X	-	-	-
25	CLA	A	798	X	-	-	-
25	CLA	A	799	X	-	-	-
25	CLA	A	800	X	-	-	-
25	CLA	A	801	X	-	-	-
25	CLA	A	802	X	-	-	-
25	CLA	A	803	X	-	-	-
25	CLA	A	804	X	-	-	-
25	CLA	A	805	X	-	-	-
25	CLA	A	806	X	-	-	-
25	CLA	A	807	X	-	-	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
25	CLA	A	808	X	-	-	-
25	CLA	B	736	X	-	-	-
25	CLA	B	737	X	-	-	-
25	CLA	B	738	X	-	-	-
25	CLA	B	739	X	-	-	-
25	CLA	B	740	X	-	-	-
25	CLA	B	741	X	-	-	-
25	CLA	B	742	X	-	-	-
25	CLA	B	743	X	-	-	-
25	CLA	B	744	X	-	-	-
25	CLA	B	745	X	-	-	-
25	CLA	B	746	X	-	-	-
25	CLA	B	747	X	-	-	-
25	CLA	B	748	X	-	-	-
25	CLA	B	749	X	-	-	-
25	CLA	B	750	X	-	-	-
25	CLA	B	751	X	-	-	-
25	CLA	B	752	X	-	-	-
25	CLA	B	753	X	-	-	-
25	CLA	B	754	X	-	-	-
25	CLA	B	755	X	-	-	-
25	CLA	B	756	X	-	-	-
25	CLA	B	757	X	-	-	-
25	CLA	B	758	X	-	-	-
25	CLA	B	759	X	-	-	-
25	CLA	B	760	X	-	-	-
25	CLA	B	768	X	-	-	-
25	CLA	B	770	X	-	-	-
25	CLA	B	771	X	-	-	-
25	CLA	B	772	X	-	-	-
25	CLA	B	773	X	-	-	-
25	CLA	B	774	X	-	-	-
25	CLA	B	775	X	-	-	-
25	CLA	B	776	X	-	-	-
25	CLA	B	777	X	-	-	-
25	CLA	B	778	X	-	-	-
25	CLA	B	779	X	-	-	-
25	CLA	B	780	X	-	-	-
25	CLA	B	781	X	-	-	-
25	CLA	B	782	X	-	-	-
25	CLA	B	783	X	-	-	-
25	CLA	B	784	X	-	-	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
25	CLA	B	785	X	-	-	-
25	CLA	J	101	X	-	-	-
25	CLA	a	601	X	-	-	-
25	CLA	a	602	X	-	-	-
25	CLA	a	603	X	-	-	-
25	CLA	a	604	X	-	-	-
25	CLA	a	608	X	-	-	-
25	CLA	a	609	X	-	-	-
25	CLA	a	610	X	-	-	-
25	CLA	a	611	X	-	-	-
25	CLA	a	612	X	-	-	-
25	CLA	a	613	X	-	-	-
25	CLA	a	619	X	-	-	-
25	CLA	b	601	X	-	-	-
25	CLA	b	602	X	-	-	-
25	CLA	b	603	X	-	-	-
25	CLA	b	604	X	-	-	-
25	CLA	b	605	X	-	-	-
25	CLA	b	608	X	-	-	-
25	CLA	b	609	X	-	-	-
25	CLA	b	610	X	-	-	-
25	CLA	b	611	X	-	-	-
25	CLA	b	612	X	-	-	-
25	CLA	b	613	X	-	-	-
25	CLA	c	601	X	-	-	-
25	CLA	c	602	X	-	-	-
25	CLA	c	603	X	-	-	-
25	CLA	c	604	X	-	-	-
25	CLA	c	606	X	-	-	-
25	CLA	c	608	X	-	-	-
25	CLA	c	609	X	-	-	-
25	CLA	c	610	X	-	-	-
25	CLA	c	611	X	-	-	-
25	CLA	c	612	X	-	-	-
25	CLA	c	613	X	-	-	-
25	CLA	c	614	X	-	-	-
25	CLA	c	616	X	-	-	-
25	CLA	c	619	X	-	-	-
25	CLA	d	601	X	-	-	-
25	CLA	d	602	X	-	-	-
25	CLA	d	603	X	-	-	-
25	CLA	d	604	X	-	-	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
25	CLA	d	609	X	-	-	-
25	CLA	d	610	X	-	-	-
25	CLA	d	611	X	-	-	-
25	CLA	d	612	X	-	-	-
25	CLA	d	613	X	-	-	-
25	CLA	d	614	X	-	-	-
25	CLA	e	601	X	-	-	-
25	CLA	e	602	X	-	-	-
25	CLA	e	603	X	-	-	-
25	CLA	e	604	X	-	-	-
25	CLA	e	605	X	-	-	-
25	CLA	e	607	X	-	-	-
25	CLA	e	608	X	-	-	-
25	CLA	e	609	X	-	-	-
25	CLA	e	610	X	-	-	-
25	CLA	e	611	X	-	-	-
25	CLA	e	612	X	-	-	-
25	CLA	e	613	X	-	-	-
25	CLA	e	614	X	-	-	-
25	CLA	f	601	X	-	-	-
25	CLA	f	602	X	-	-	-
25	CLA	f	603	X	-	-	-
25	CLA	f	604	X	-	-	-
25	CLA	f	608	X	-	-	-
25	CLA	f	609	X	-	-	-
25	CLA	f	610	X	-	-	-
25	CLA	f	611	X	-	-	-
25	CLA	f	612	X	-	-	-
25	CLA	f	613	X	-	-	-
25	CLA	f	614	X	-	-	-
25	CLA	f	615	X	-	-	-
25	CLA	g	601	X	-	-	-
25	CLA	g	602	X	-	-	-
25	CLA	g	603	X	-	-	-
25	CLA	g	604	X	-	-	-
25	CLA	g	608	X	-	-	-
25	CLA	g	609	X	-	-	-
25	CLA	g	610	X	-	-	-
25	CLA	g	611	X	-	-	-
25	CLA	g	612	X	-	-	-
25	CLA	g	613	X	-	-	-
25	CLA	g	614	X	-	-	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
25	CLA	g	615	X	-	-	-
25	CLA	g	618	X	-	-	-
25	CLA	h	601	X	-	-	-
25	CLA	h	602	X	-	-	-
25	CLA	h	603	X	-	-	-
25	CLA	h	604	X	-	-	-
25	CLA	h	608	X	-	-	-
25	CLA	h	609	X	-	-	-
25	CLA	h	610	X	-	-	-
25	CLA	h	611	X	-	-	-
25	CLA	h	612	X	-	-	-
25	CLA	h	613	X	-	-	-
25	CLA	h	614	X	-	-	-
25	CLA	h	615	X	-	-	-
25	CLA	h	618	X	-	-	-
25	CLA	i	601	X	-	-	-
25	CLA	i	602	X	-	-	-
25	CLA	i	603	X	-	-	-
25	CLA	i	604	X	-	-	-
25	CLA	i	608	X	-	-	-
25	CLA	i	609	X	-	-	-
25	CLA	i	610	X	-	-	-
25	CLA	i	611	X	-	-	-
25	CLA	i	612	X	-	-	-
25	CLA	i	613	X	-	-	-
25	CLA	i	614	X	-	-	-
25	CLA	i	615	X	-	-	-
25	CLA	j	601	X	-	-	-
25	CLA	j	602	X	-	-	-
25	CLA	j	603	X	-	-	-
25	CLA	j	604	X	-	-	-
25	CLA	j	608	X	-	-	-
25	CLA	j	609	X	-	-	-
25	CLA	j	610	X	-	-	-
25	CLA	j	611	X	-	-	-
25	CLA	j	612	X	-	-	-
25	CLA	j	613	X	-	-	-
25	CLA	j	614	X	-	-	-
25	CLA	j	615	X	-	-	-
25	CLA	j	618	X	-	-	-
25	CLA	k	601	X	-	-	-
25	CLA	k	602	X	-	-	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
25	CLA	k	603	X	-	-	-
25	CLA	k	604	X	-	-	-
25	CLA	k	608	X	-	-	-
25	CLA	k	609	X	-	-	-
25	CLA	k	610	X	-	-	-
25	CLA	k	611	X	-	-	-
25	CLA	k	612	X	-	-	-
25	CLA	k	613	X	-	-	-
25	CLA	k	614	X	-	-	-
25	CLA	k	615	X	-	-	-
25	CLA	k	618	X	-	-	-
25	CLA	l	601	X	-	-	-
25	CLA	l	602	X	-	-	-
25	CLA	l	603	X	-	-	-
25	CLA	l	604	X	-	-	-
25	CLA	l	608	X	-	-	-
25	CLA	l	609	X	-	-	-
25	CLA	l	610	X	-	-	-
25	CLA	l	611	X	-	-	-
25	CLA	l	612	X	-	-	-
25	CLA	l	613	X	-	-	-
25	CLA	l	614	X	-	-	-
25	CLA	l	617	X	-	-	-
25	CLA	m	601	X	-	-	-
25	CLA	m	602	X	-	-	-
25	CLA	m	603	X	-	-	-
25	CLA	m	604	X	-	-	-
25	CLA	m	608	X	-	-	-
25	CLA	m	609	X	-	-	-
25	CLA	m	610	X	-	-	-
25	CLA	m	611	X	-	-	-
25	CLA	m	612	X	-	-	-
25	CLA	m	613	X	-	-	-
25	CLA	n	602	X	-	-	-
25	CLA	n	603	X	-	-	-
25	CLA	n	604	X	-	-	-
25	CLA	n	605	X	-	-	-
25	CLA	n	606	X	-	-	-
25	CLA	n	607	X	-	-	-
25	CLA	n	608	X	-	-	-
25	CLA	n	609	X	-	-	-
25	CLA	n	610	X	-	-	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
25	CLA	n	612	X	-	-	-
25	CLA	n	613	X	-	-	-
25	CLA	o	601	X	-	-	-
25	CLA	o	602	X	-	-	-
25	CLA	o	603	X	-	-	-
25	CLA	o	604	X	-	-	-
25	CLA	o	608	X	-	-	-
25	CLA	o	609	X	-	-	-
25	CLA	o	610	X	-	-	-
25	CLA	o	612	X	-	-	-
25	CLA	o	613	X	-	-	-
25	CLA	o	614	X	-	-	-
25	CLA	p	601	X	-	-	-
25	CLA	p	602	X	-	-	-
25	CLA	p	603	X	-	-	-
25	CLA	p	604	X	-	-	-
25	CLA	p	608	X	-	-	-
25	CLA	p	609	X	-	-	-
25	CLA	p	610	X	-	-	-
25	CLA	p	612	X	-	-	-
25	CLA	p	613	X	-	-	-
35	CHL	c	607	X	-	-	-
35	CHL	d	605	X	-	-	-
35	CHL	d	606	X	-	-	-
35	CHL	d	607	X	-	-	-
35	CHL	d	608	X	-	-	-
35	CHL	e	606	X	-	-	-

2 Entry composition (i)

There are 35 unique types of molecules in this entry. The entry contains 55406 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	741	5878	3860	994	1003	21	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	731	5861	3855	984	1007	15	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	80	596	363	104	118	11	0	0

- Molecule 4 is a protein called PsaD.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	186	1393	892	235	262	4	0	0

- Molecule 5 is a protein called PsaE.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
5	E	63	481	311	81	89	0	0

- Molecule 6 is a protein called PsaF.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	F	168	1250	801	206	239	4	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
7	J	37	Total	C	N	O	S	0	0
			305	209	43	52	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
8	M	31	Total	C	N	O	S	0	0
			243	162	37	43	1		

- Molecule 9 is a protein called Chloroplast light-harvesting complex I protein.

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

- Molecule 10 is a protein called Chloroplast light-harvesting complex I protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	b	169	Total	C	N	O	S	0	0
			1302	842	213	243	4		

- Molecule 11 is a protein called LHCE 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	c	221	Total	C	N	O	S	0	0
			1676	1087	282	302	5		

- Molecule 12 is a protein called Light harvesting chlorophyll a /b binding protein of PSII.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	d	220	Total	C	N	O	S	0	0
			1669	1088	275	302	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
13	e	199	Total	C	N	O	S	0	0
			1517	981	256	275	5		

- Molecule 14 is a protein called LHCE 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	h	174	Total	C	N	O	S	0	0
			1350	865	233	247	5		

- Molecule 15 is a protein called LHCE 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	i	177	Total	C	N	O	S	0	0
			1355	865	242	244	4		

- Molecule 16 is a protein called Chloroplast light-harvesting complex I protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	j	183	Total	C	N	O	S	0	0
			1450	944	246	254	6		

- Molecule 17 is a protein called Chloroplast light-harvesting complex I protein.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
18	l	167	Total	C	N	O	S	0	0
			1256	811	214	227	4		

- Molecule 19 is a protein called Chloroplast light-harvesting complex I protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	m	168	Total	C	N	O	S	0	0
			1260	813	215	228	4		

- Molecule 20 is a protein called Chloroplast light-harvesting complex I protein, Lhca7_2.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	f	174	Total	C	N	O	S	0	0
			1332	851	236	241	4		

- Molecule 21 is a protein called Chloroplast light-harvesting complex I protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	g	178	Total	C	N	O	S	0	0
			1406	914	240	246	6		

- Molecule 22 is a protein called Chloroplast light-harvesting complex II protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	n	184	Total	C	N	O	S	0	0
			1411	921	232	254	4		

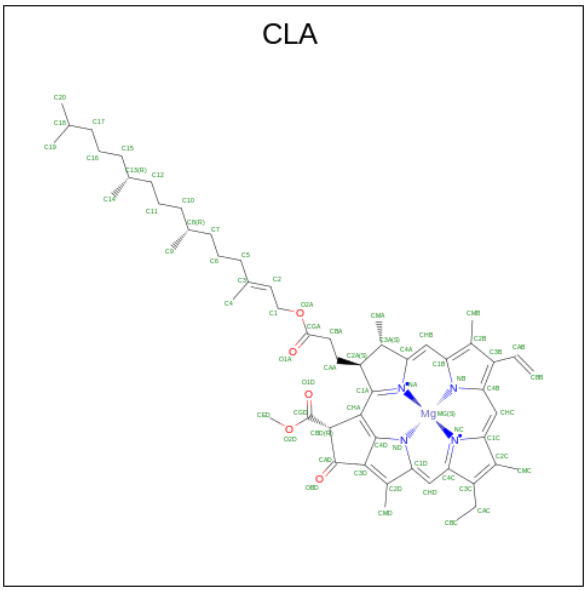
- Molecule 23 is a protein called Chloroplast light-harvesting complex I protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	o	164	Total	C	N	O	S	0	0
			1230	794	208	224	4		

- Molecule 24 is a protein called Chloroplast light-harvesting complex I protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	p	148	Total	C	N	O	S	0	0
			1126	727	188	207	4		

- Molecule 25 is CHLOROPHYLL A (CCD ID: CLA) (formula: $C_{55}H_{72}MgN_4O_5$).



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

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
25	A	1	Total	C	Mg	N	O	0
			63	53	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			58	48	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			59	49	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			58	48	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	A	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			57	47	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			64	55	1	4	4	
25	A	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			64	54	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			58	48	1	4	5	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
25	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	A	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	A	1	Total	C	Mg	N	O	0
			58	48	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			48	38	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			63	53	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	A	1	Total	C	Mg	N	O	0
			57	47	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			49	39	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			48	38	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	A	1	Total	C	Mg	N	O	0
			51	41	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			55	45	1	4	5	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
25	A	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			48	38	1	4	5	
25	A	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	B	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	B	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	B	1	Total	C	Mg	N	O	0
			63	53	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			64	54	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			49	40	1	4	4	
25	B	1	Total	C	Mg	N	O	0
			59	49	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			49	39	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
25	B	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	B	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	B	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	B	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			61	51	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			59	49	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			63	53	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			50	40	1	4	5	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
25	B	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	B	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
25	J	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	a	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	a	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
25	a	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	a	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
25	a	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	a	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	a	1	Total	C	Mg	N	O	0
			54	44	1	4	5	
25	a	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
25	a	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	a	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
25	a	1	Total	C	Mg	N	O	0
			63	53	1	4	5	
25	b	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	b	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	b	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	b	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
25	b	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
25	b	1	Total	C	Mg	N	O	0
			41	33	1	4	3	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
25	b	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
25	b	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	b	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	b	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
25	b	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	c	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	c	1	Total	C	Mg	N	O	0
			59	49	1	4	5	
25	c	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	c	1	Total	C	Mg	N	O	0
			48	38	1	4	5	
25	c	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	c	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	c	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
25	c	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
25	c	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	c	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	c	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	c	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	c	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
25	c	1	Total	C	Mg	N	O	0
			41	33	1	4	3	
25	d	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	d	1	Total	C	Mg	N	O	0
			57	47	1	4	5	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
25	d	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	d	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
25	d	1	Total	C	Mg	N	O	0
			49	39	1	4	5	
25	d	1	Total	C	Mg	N	O	0
			59	49	1	4	5	
25	d	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
25	d	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	d	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	d	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	e	1	Total	C	Mg	N	O	0
			41	33	1	4	3	
25	e	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	e	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
25	e	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	e	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	e	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	e	1	Total	C	Mg	N	O	0
			48	38	1	4	5	
25	e	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
25	e	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
25	e	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	e	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	e	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
25	e	1	Total	C	Mg	N	O	0
			42	34	1	4	3	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
25	h	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	h	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
25	h	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	h	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
25	h	1	Total	C	Mg	N	O	0
			48	38	1	4	5	
25	h	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	h	1	Total	C	Mg	N	O	0
			54	44	1	4	5	
25	h	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	h	1	Total	C	Mg	N	O	0
			58	48	1	4	5	
25	h	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	h	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	h	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	h	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	i	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	i	1	Total	C	Mg	N	O	0
			64	54	1	4	5	
25	i	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	i	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	i	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
25	i	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	i	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
25	i	1	Total	C	Mg	N	O	0
			43	35	1	4	3	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
25	i	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	i	1	Total	C	Mg	N	O	0
			59	49	1	4	5	
25	i	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	i	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	j	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	j	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
25	j	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	j	1	Total	C	Mg	N	O	0
			57	47	1	4	5	
25	j	1	Total	C	Mg	N	O	0
			47	37	1	4	5	
25	j	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	j	1	Total	C	Mg	N	O	0
			64	54	1	4	5	
25	j	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	j	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
25	j	1	Total	C	Mg	N	O	0
			62	52	1	4	5	
25	j	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	j	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	j	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	k	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	k	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	k	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	k	1	Total	C	Mg	N	O	0
			65	55	1	4	5	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
25	k	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	k	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	k	1	Total	C	Mg	N	O	0
			57	47	1	4	5	
25	k	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	k	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	k	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
25	k	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	k	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	k	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	l	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	l	1	Total	C	Mg	N	O	0
			59	49	1	4	5	
25	l	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	l	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	l	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	l	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
25	l	1	Total	C	Mg	N	O	0
			54	44	1	4	5	
25	l	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	l	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	l	1	Total	C	Mg	N	O	0
			48	38	1	4	5	
25	l	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	l	1	Total	C	Mg	N	O	0
			42	34	1	4	3	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
25	m	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	m	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
25	m	1	Total	C	Mg	N	O	0
			54	44	1	4	5	
25	m	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	m	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	m	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	m	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	m	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	m	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	m	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	f	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	f	1	Total	C	Mg	N	O	0
			59	49	1	4	5	
25	f	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	f	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	f	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	f	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	f	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
25	f	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	f	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	f	1	Total	C	Mg	N	O	0
			59	49	1	4	5	
25	f	1	Total	C	Mg	N	O	0
			42	34	1	4	3	

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms					AltConf
25	f	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	g	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	g	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
25	g	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	g	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	g	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
25	g	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
25	g	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
25	g	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	g	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	g	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
25	g	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	g	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	g	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
25	n	1	Total	C	Mg	N	O	0
			59	49	1	4	5	
25	n	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
25	n	1	Total	C	Mg	N	O	0
			48	38	1	4	5	
25	n	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	n	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	n	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
25	n	1	Total	C	Mg	N	O	0
			41	33	1	4	3	

Continued on next page...

Continued from previous page...

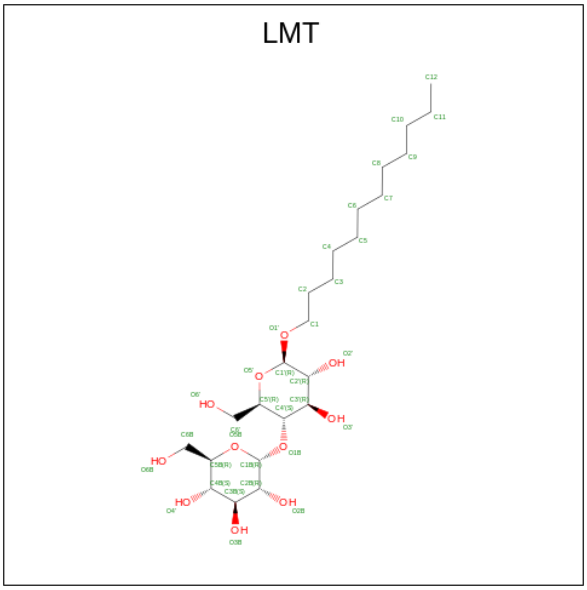
Mol	Chain	Residues	Atoms	AltConf
25	n	1	Total C Mg N O 45 35 1 4 5	0
25	n	1	Total C Mg N O 41 33 1 4 3	0
25	n	1	Total C Mg N O 42 34 1 4 3	0
25	n	1	Total C Mg N O 42 34 1 4 3	0
25	o	1	Total C Mg N O 41 33 1 4 3	0
25	o	1	Total C Mg N O 47 37 1 4 5	0
25	o	1	Total C Mg N O 43 35 1 4 3	0
25	o	1	Total C Mg N O 42 34 1 4 3	0
25	o	1	Total C Mg N O 43 35 1 4 3	0
25	o	1	Total C Mg N O 45 35 1 4 5	0
25	o	1	Total C Mg N O 41 33 1 4 3	0
25	o	1	Total C Mg N O 42 35 1 4 2	0
25	o	1	Total C Mg N O 42 34 1 4 3	0
25	o	1	Total C Mg N O 43 35 1 4 3	0
25	p	1	Total C Mg N O 42 34 1 4 3	0
25	p	1	Total C Mg N O 43 35 1 4 3	0
25	p	1	Total C Mg N O 42 34 1 4 3	0
25	p	1	Total C Mg N O 43 35 1 4 3	0
25	p	1	Total C Mg N O 42 34 1 4 3	0
25	p	1	Total C Mg N O 50 40 1 4 5	0
25	p	1	Total C Mg N O 45 35 1 4 5	0

Continued on next page...

Continued from previous page...

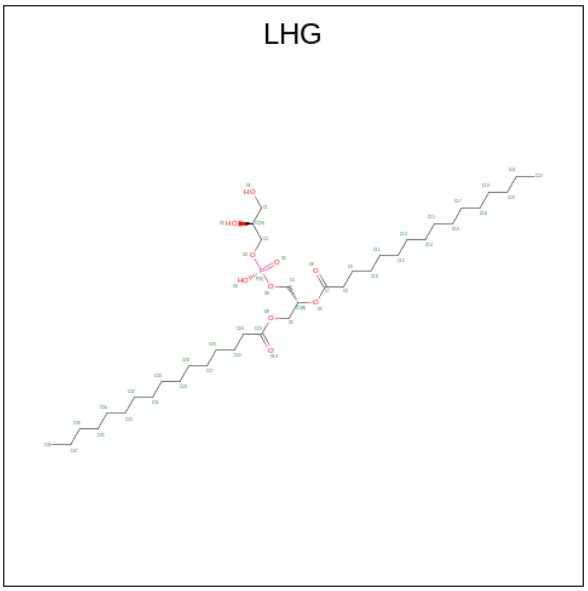
Mol	Chain	Residues	Atoms					AltConf
25	p	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
25	p	1	Total	C	Mg	N	O	0
			43	35	1	4	3	

- Molecule 26 is DODECYL-BETA-D-MALTOSIDE (CCD ID: LMT) (formula: $C_{24}H_{46}O_{11}$).



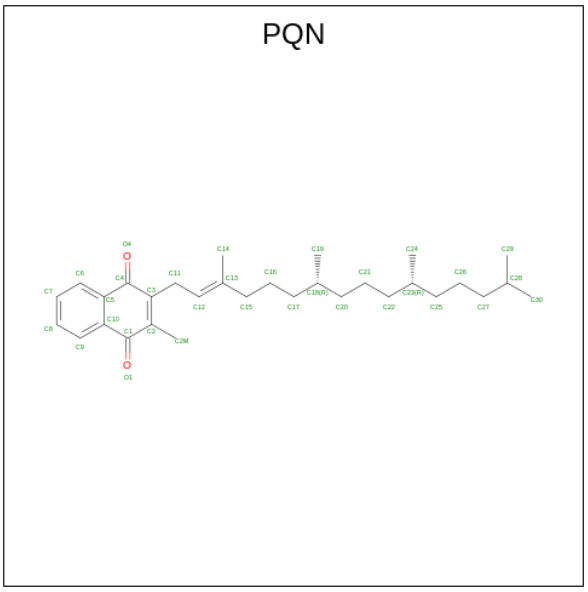
Mol	Chain	Residues	Atoms			AltConf
26	A	1	Total	C	O	0
			35	24	11	

- Molecule 27 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (CCD ID: LHG) (formula: $C_{38}H_{75}O_{10}P$).



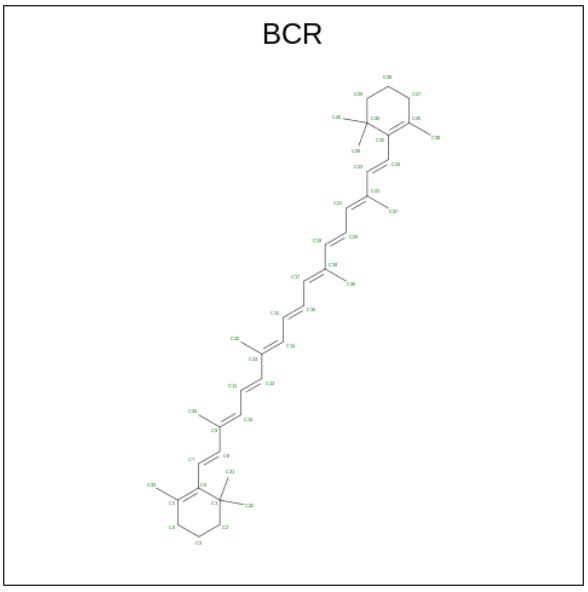
Mol	Chain	Residues	Atoms				AltConf
27	A	1	Total	C	O	P	0
			38	27	10	1	
27	A	1	Total	C	O	P	0
			49	38	10	1	
27	a	1	Total	C	O	P	0
			26	15	10	1	
27	b	1	Total	C	O	P	0
			31	20	10	1	
27	c	1	Total	C	O	P	0
			30	19	10	1	
27	d	1	Total	C	O	P	0
			29	18	10	1	
27	h	1	Total	C	O	P	0
			30	19	10	1	
27	h	1	Total	C	O	P	0
			31	20	10	1	
27	i	1	Total	C	O	P	0
			36	25	10	1	
27	j	1	Total	C	O	P	0
			37	26	10	1	
27	m	1	Total	C	O	P	0
			32	21	10	1	
27	g	1	Total	C	O	P	0
			35	24	10	1	

- Molecule 28 is PHYLLOQUINONE (CCD ID: PQN) (formula: $C_{31}H_{46}O_2$).



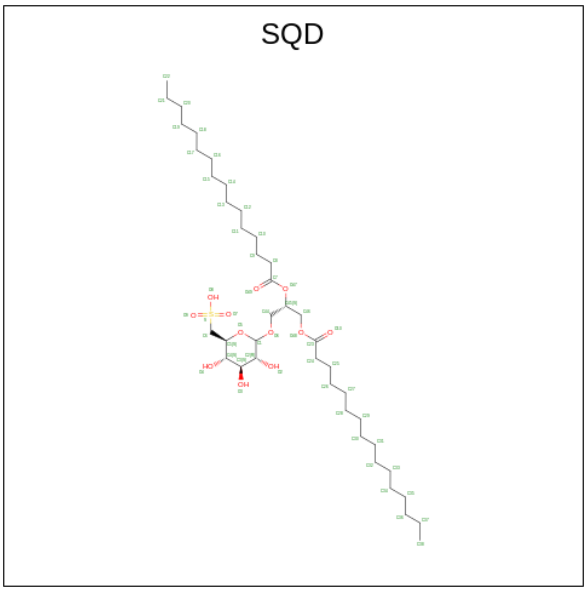
Mol	Chain	Residues	Atoms	AltConf
28	A	1	Total C O 33 31 2	0
28	B	1	Total C O 33 31 2	0
28	B	1	Total C O 27 25 2	0
28	d	1	Total C O 26 24 2	0

- Molecule 29 is BETA-CAROTENE (CCD ID: BCR) (formula: $C_{40}H_{56}$).



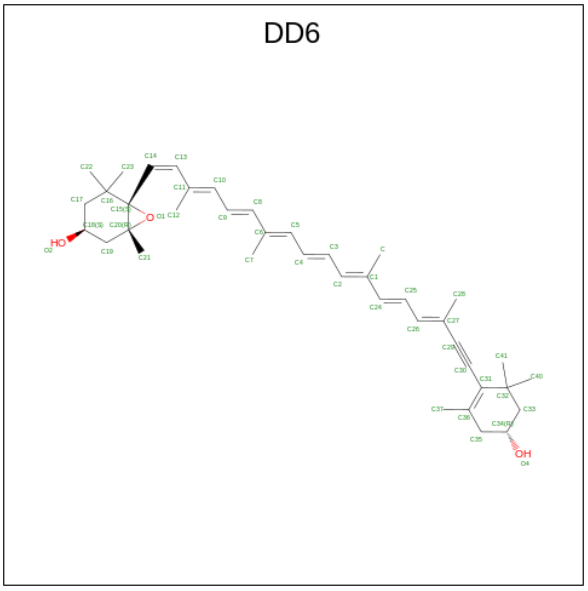
Mol	Chain	Residues	Atoms	AltConf
29	A	1	Total C 40 40	0
29	A	1	Total C 40 40	0
29	A	1	Total C 40 40	0
29	A	1	Total C 40 40	0
29	A	1	Total C 40 40	0
29	A	1	Total C 40 40	0
29	B	1	Total C 40 40	0
29	B	1	Total C 40 40	0
29	B	1	Total C 40 40	0
29	B	1	Total C 40 40	0
29	B	1	Total C 40 40	0
29	B	1	Total C 40 40	0
29	M	1	Total C 40 40	0

- Molecule 30 is 1,2-DI-O-ACYL-3-O-[6-DEOXY-6-SULFO-ALPHA-D-GLUCOPYRANOSYL]-SN-GLYCEROL (CCD ID: SQD) (formula: $C_{41}H_{78}O_{12}S$).



Mol	Chain	Residues	Atoms				AltConf
30	A	1	Total	C	O	S	0
			27	14	12	1	
30	c	1	Total	C	O	S	0
			39	26	12	1	
30	j	1	Total	C	O	S	0
			36	23	12	1	
30	g	1	Total	C	O	S	0
			32	19	12	1	

- Molecule 31 is (3S,3'R,5R,6S,7cis)-7',8'-didehydro-5,6-dihydro-5,6-epoxy-beta,beta-carotene -3,3'-diol (CCD ID: DD6) (formula: $C_{40}H_{54}O_3$).



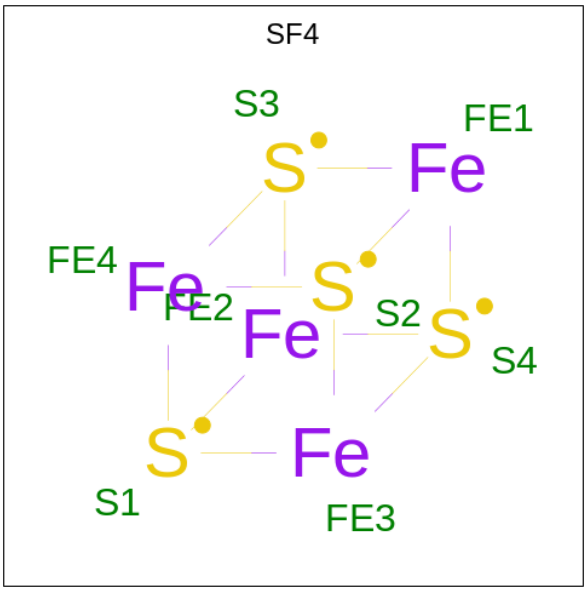
Mol	Chain	Residues	Atoms			AltConf
31	A	1	Total	C	O	0
			43	40	3	
31	A	1	Total	C	O	0
			43	40	3	
31	F	1	Total	C	O	0
			43	40	3	
31	J	1	Total	C	O	0
			43	40	3	
31	a	1	Total	C	O	0
			43	40	3	
31	a	1	Total	C	O	0
			43	40	3	
31	b	1	Total	C	O	0
			43	40	3	
31	b	1	Total	C	O	0
			43	40	3	
31	c	1	Total	C	O	0
			43	40	3	
31	c	1	Total	C	O	0
			43	40	3	
31	c	1	Total	C	O	0
			43	40	3	
31	c	1	Total	C	O	0
			43	40	3	
31	d	1	Total	C	O	0
			43	40	3	
31	d	1	Total	C	O	0
			43	40	3	
31	d	1	Total	C	O	0
			43	40	3	
31	e	1	Total	C	O	0
			43	40	3	
31	e	1	Total	C	O	0
			43	40	3	
31	e	1	Total	C	O	0
			43	40	3	
31	h	1	Total	C	O	0
			43	40	3	
31	h	1	Total	C	O	0
			43	40	3	
31	i	1	Total	C	O	0
			43	40	3	
31	i	1	Total	C	O	0
			43	40	3	

Continued on next page...

Continued from previous page...

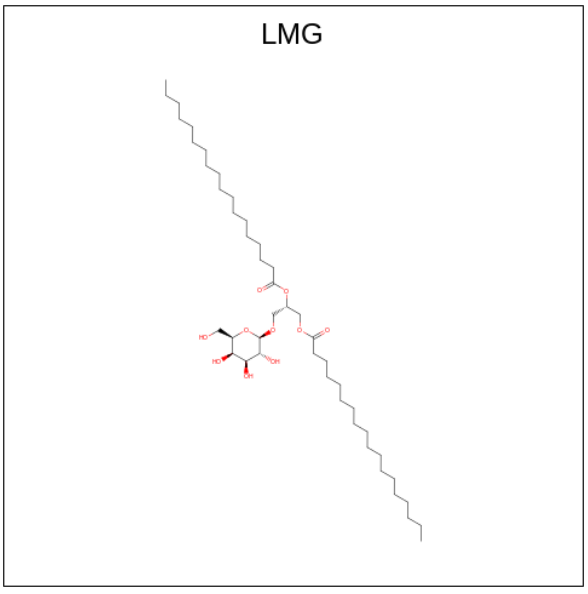
Mol	Chain	Residues	Atoms	AltConf
31	i	1	Total C O 43 40 3	0
31	j	1	Total C O 43 40 3	0
31	j	1	Total C O 43 40 3	0
31	k	1	Total C O 43 40 3	0
31	k	1	Total C O 43 40 3	0
31	l	1	Total C O 43 40 3	0
31	l	1	Total C O 43 40 3	0
31	m	1	Total C O 43 40 3	0
31	m	1	Total C O 43 40 3	0
31	f	1	Total C O 43 40 3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

- Molecule 32 is IRON/SULFUR CLUSTER (CCD ID: SF4) (formula: Fe_4S_4).



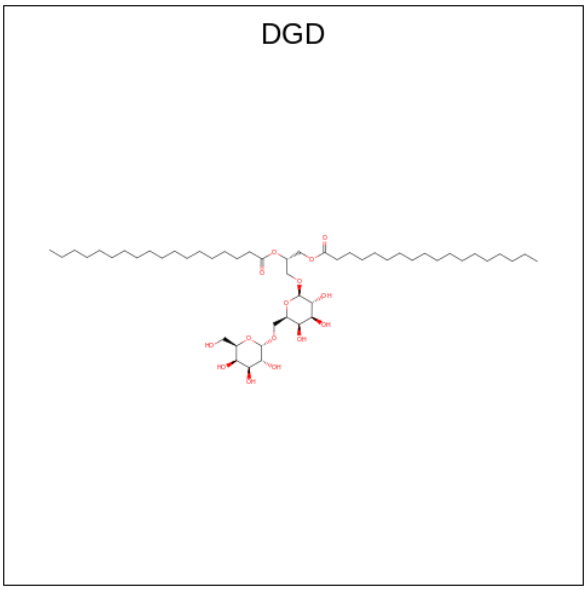
Mol	Chain	Residues	Atoms	AltConf
32	B	1	Total Fe S 8 4 4	0
32	C	1	Total Fe S 8 4 4	0
32	C	1	Total Fe S 8 4 4	0

- Molecule 33 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (CCD ID: LMG) (formula: $C_{45}H_{86}O_{10}$).



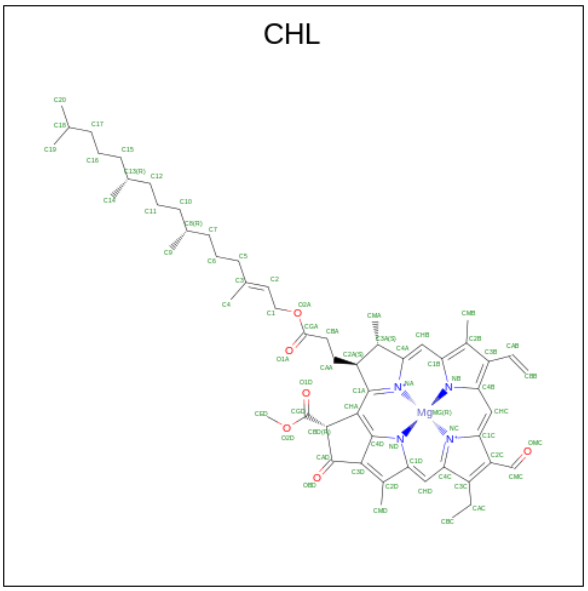
Mol	Chain	Residues	Atoms			AltConf
33	B	1	Total 52	C 42	O 10	0
33	a	1	Total 43	C 33	O 10	0
33	i	1	Total 44	C 34	O 10	0
33	k	1	Total 36	C 26	O 10	0

- Molecule 34 is DIGALACTOSYL DIACYL GLYCEROL (DGDG) (CCD ID: DGD) (formula: $C_{51}H_{96}O_{15}$).



Mol	Chain	Residues	Atoms			AltConf
34	B	1	Total 54	C 39	O 15	0
34	b	1	Total 48	C 33	O 15	0
34	e	1	Total 36	C 21	O 15	0

- Molecule 35 is CHLOROPHYLL B (CCD ID: CHL) (formula: $C_{55}H_{70}MgN_4O_6$).



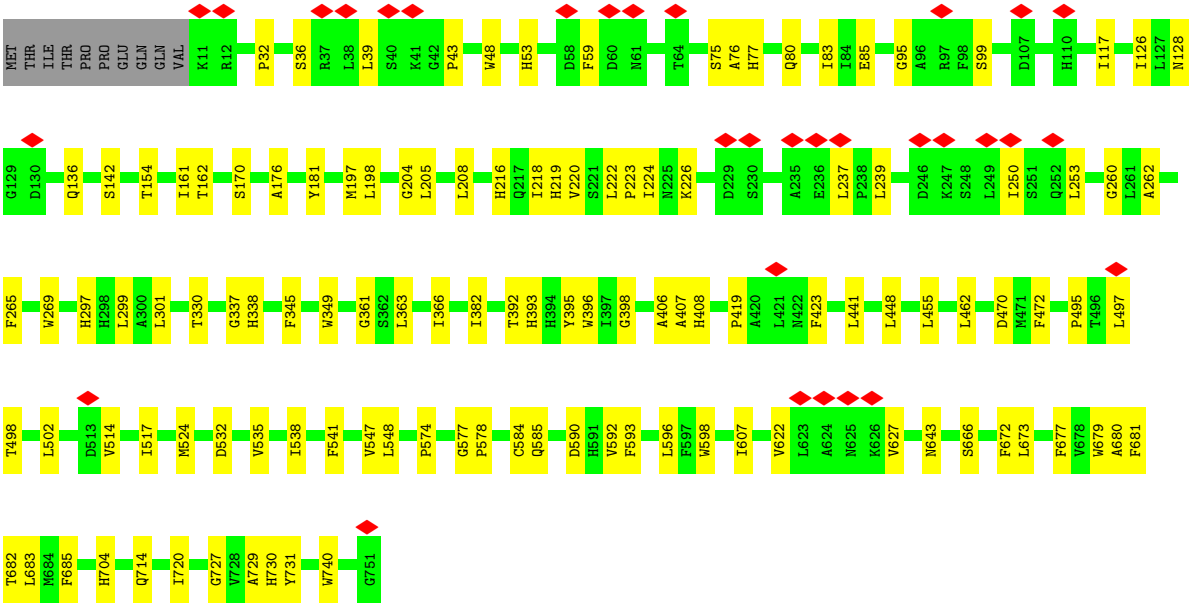
Mol	Chain	Residues	Atoms					AltConf
35	c	1	Total	C	Mg	N	O	0
			49	38	1	4	6	
35	d	1	Total	C	Mg	N	O	0
			51	40	1	4	6	
35	d	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
35	d	1	Total	C	Mg	N	O	0
			43	34	1	4	4	
35	d	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
35	e	1	Total	C	Mg	N	O	0
			46	35	1	4	6	

3 Residue-property plots (i)

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

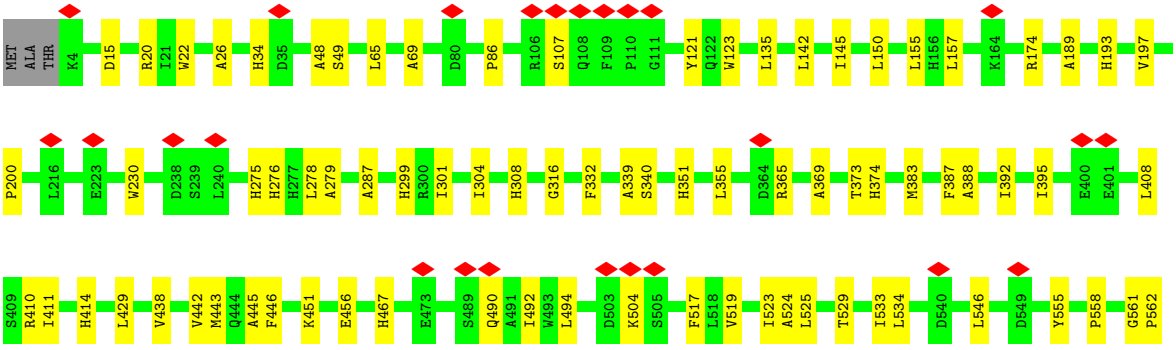
• Molecule 1: Photosystem I P700 chlorophyll a apoprotein A1

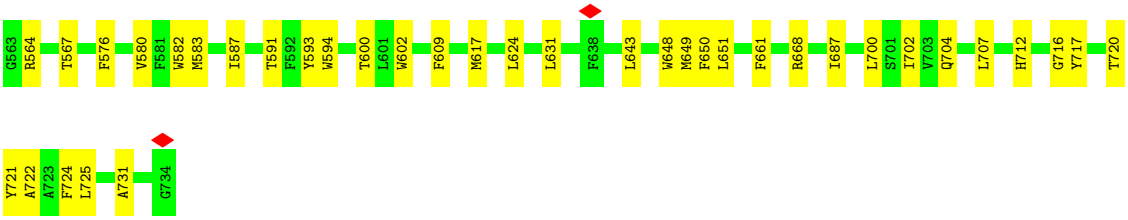
Chain A:



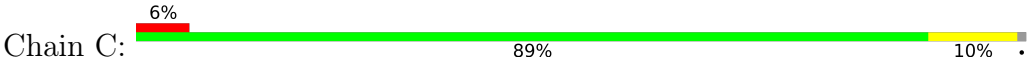
• Molecule 2: Photosystem I P700 chlorophyll a apoprotein A2

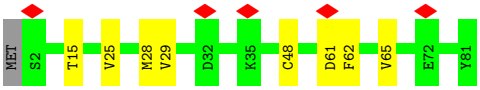
Chain B:



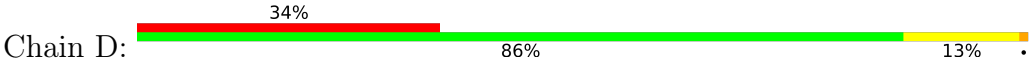


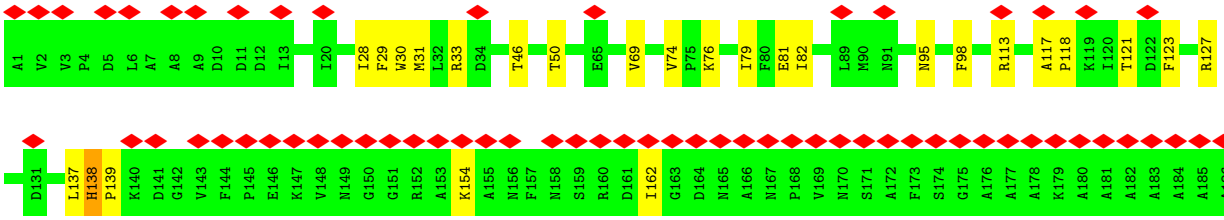
• Molecule 3: Photosystem I iron-sulfur center



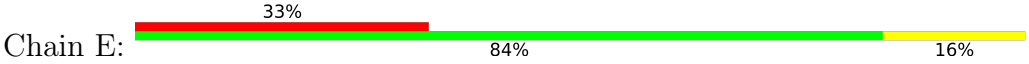


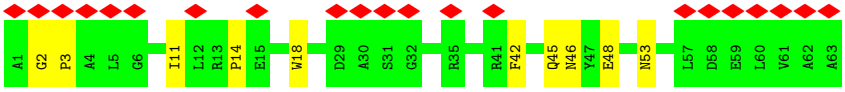
• Molecule 4: PsaD



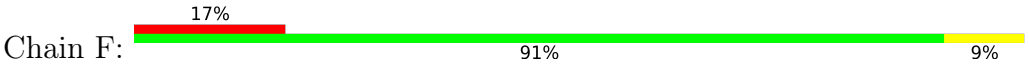


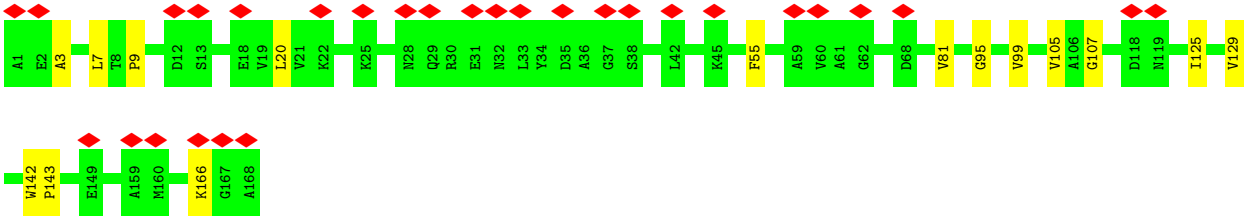
• Molecule 5: PsaE



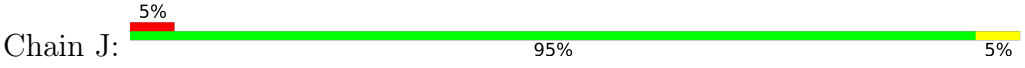


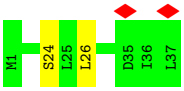
• Molecule 6: PsaF





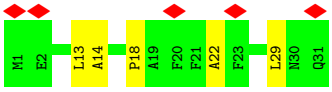
• Molecule 7: Photosystem I reaction center subunit IX





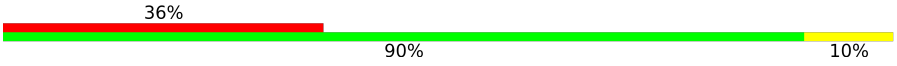
• Molecule 8: Photosystem I reaction center subunit XII

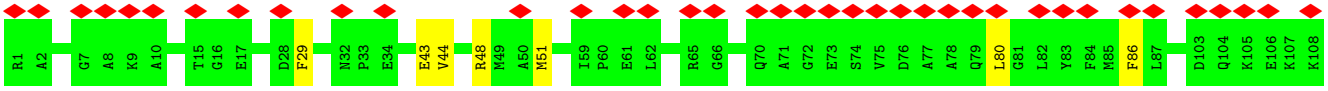
Chain M:



• Molecule 9: Chloroplast light-harvesting complex I protein

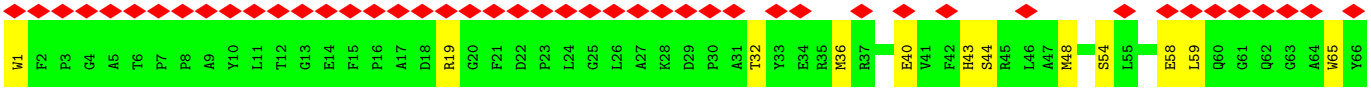
Chain a:

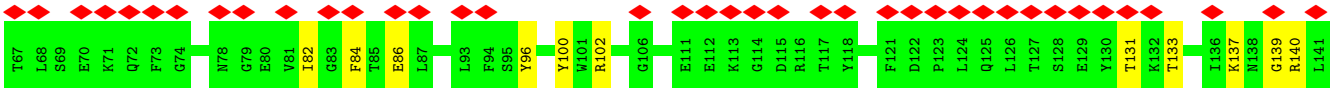


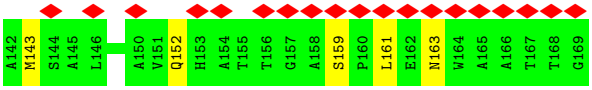


• Molecule 10: Chloroplast light-harvesting complex I protein

Chain b:

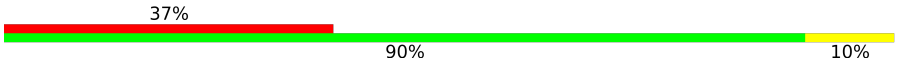


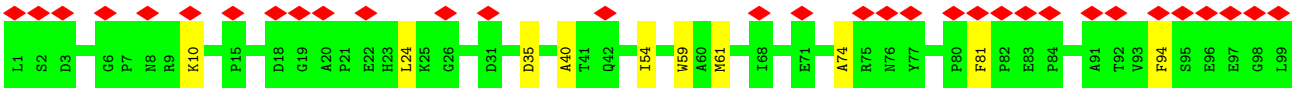


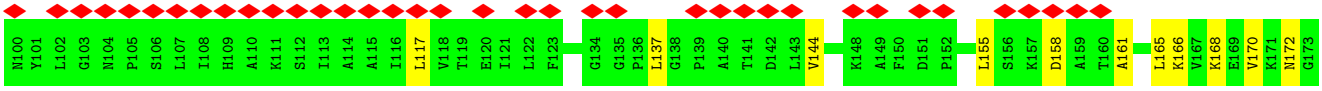


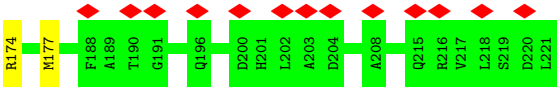
• Molecule 11: LHCE 3

Chain c:



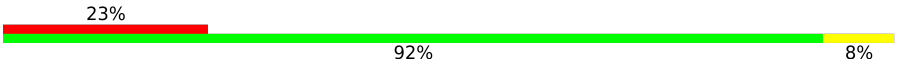


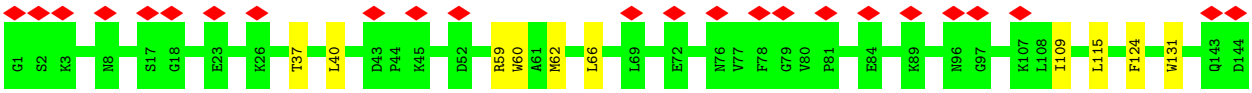


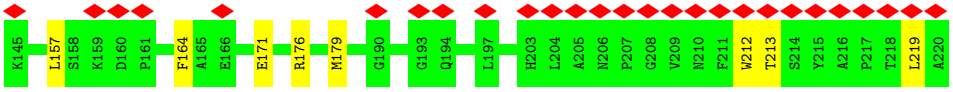


• Molecule 12: Light harvesting chlorophyll a /b binding protein of PSII

Chain d:

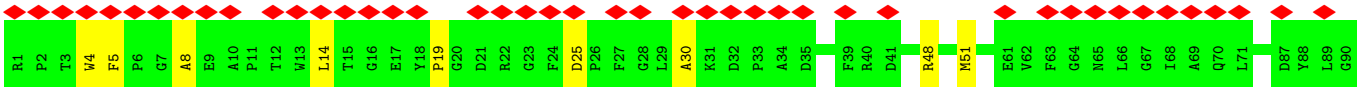


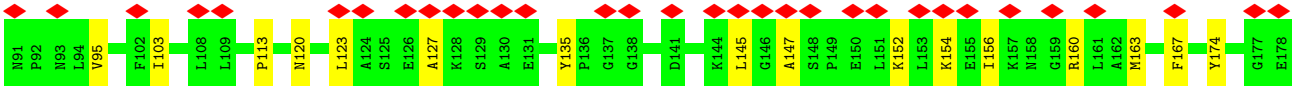


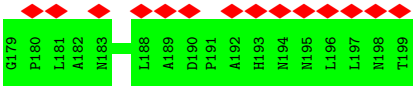


• Molecule 13: Chloroplast light-harvesting complex II protein

Chain e:

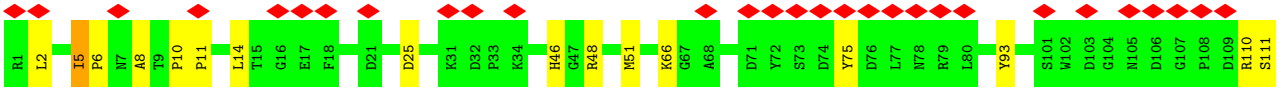






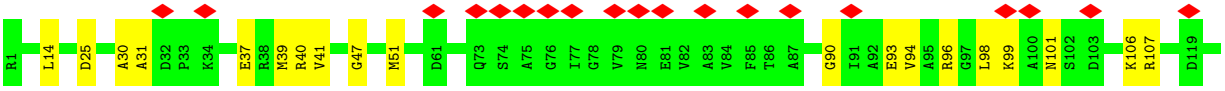
• Molecule 14: LHCE 8

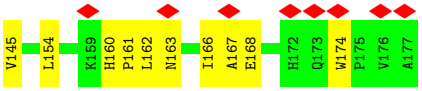
Chain h:



• Molecule 15: LHCE 9

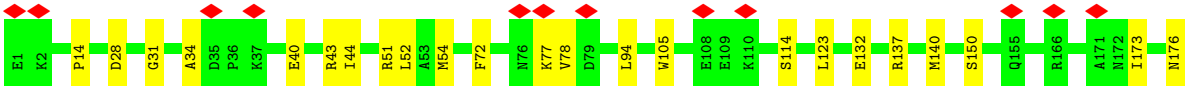
Chain i:

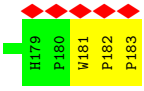




• Molecule 16: Chloroplast light-harvesting complex I protein

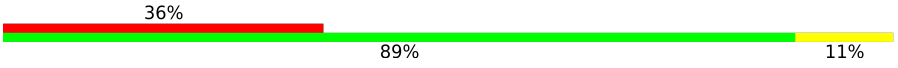
Chain j:

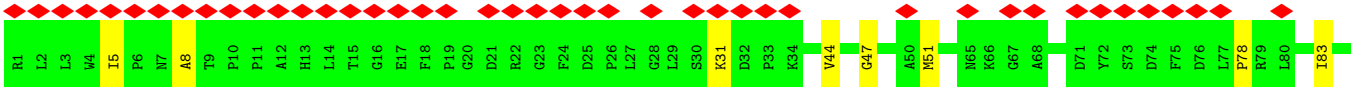


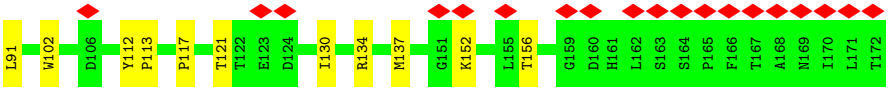


• Molecule 17: Chloroplast light-harvesting complex I protein

Chain k:

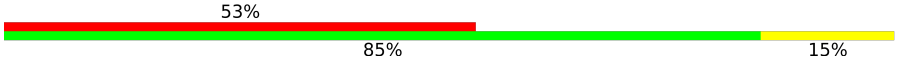


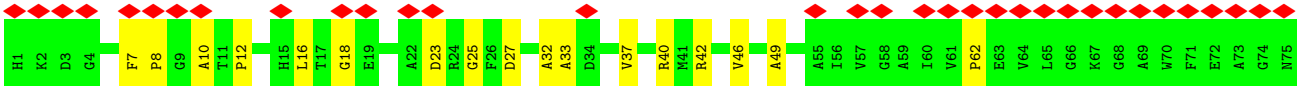


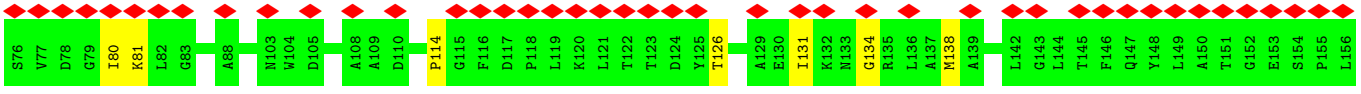


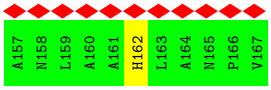
• Molecule 18: Chloroplast light-harvesting complex I protein

Chain l:



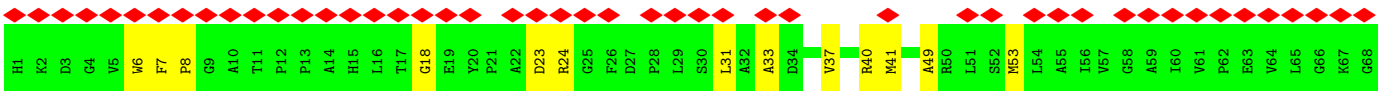


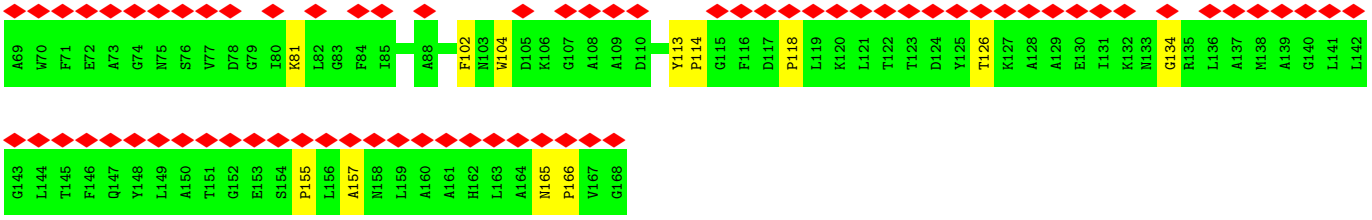




• Molecule 19: Chloroplast light-harvesting complex I protein

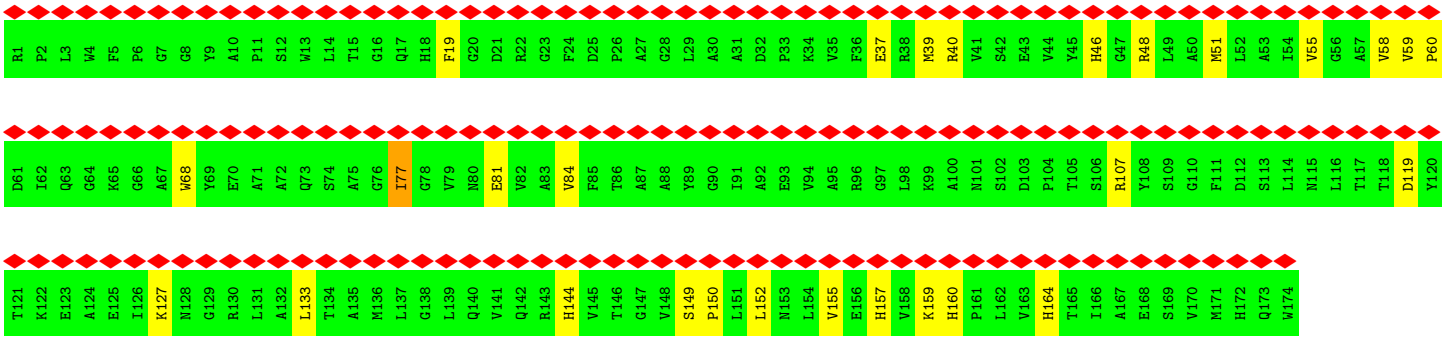
Chain m:





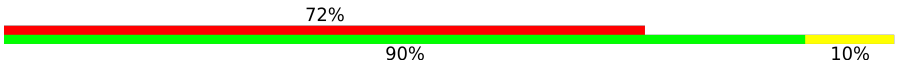
• Molecule 20: Chloroplast light-harvesting complex I protein, Lhca7_2

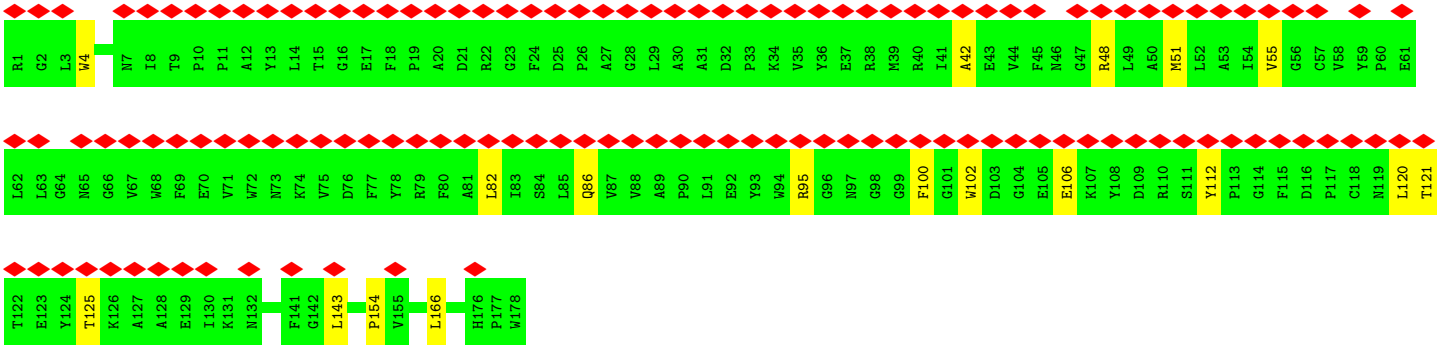
Chain f:



• Molecule 21: Chloroplast light-harvesting complex I protein

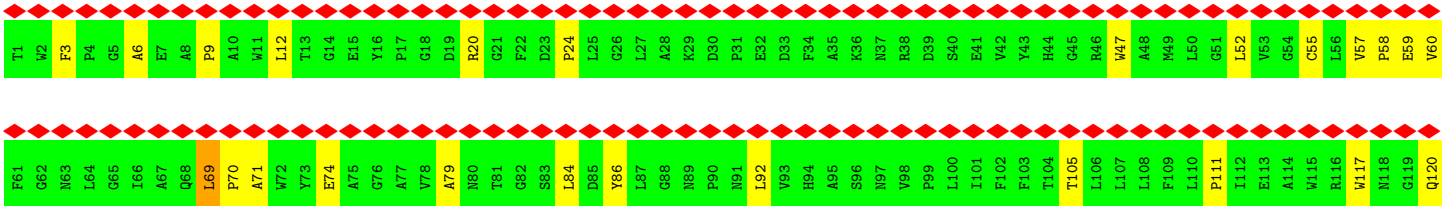
Chain g:





• Molecule 22: Chloroplast light-harvesting complex II protein

Chain n:

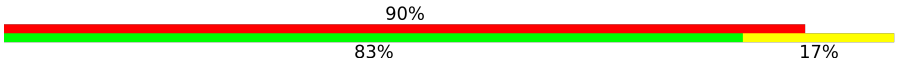


I121 A122 P123 E124 A125 K126 S127 A128 E129 R130 T131 T132 Y133 P134 G135 G136 P137 F138 D139 P140 L141 K142 L143 G144 A145 S146 P147 E148 L149 K150 L151 K152 E153 I154 K155 N156 G157 R158 L159 A160 M161 V162 G163 M164 F165 G166 F167 W168 A169 Q170 S171 Y172 V173 T174 G175 E176 G177 P178 L179 A180

N181 L182 A183 A184

• Molecule 23: Chloroplast light-harvesting complex I protein

Chain o:



D1 G2 V3 W4 F5 P6 G7 A8 T9 P10 P11 A12 H13 L14 T15 G16 E17 Y18 P19 A20 D21 R22 G23 F24 D25 P26 L27 S28 L29 A30 A31 D32 P33 T34 V35 Y36 A37 R38 M39 R40 E43 V44 F45 H46 A47 R48 L49 S50 M51 L52 A53 I54 V55 G56 A57 I58 V59 P60 E61

V62 L63 G64 K65 G66 A67 W68 F69 E70 A71 G72 N73 S74 V75 D76 G77 I78 K79 L80 G81 F82 I83 A84 M85 A86 I87 A88 A89 P90 R95 G98 G99 F100 N101 W102 D103 K104 G105 A106 A107 D108 R109 S110 Y111 P112 G113 F114 D115 P116 L117 K118 L119 T120 T121 D122 Y123 T124 K125

A126 A127 E128 I129 K130 N131 G132 R133 L134 A135 M136 A137 G138 L139 L140 G141 L142 T143 F144 Q145 Y146 L147 A148 T149 G150 E151 S152 P153 L154 A155 N156 L157 A158 A159 H160 L161 A162 N163 P164

• Molecule 24: Chloroplast light-harvesting complex I protein

Chain p:

P7 P8 A9 H10 L11 T12 G13 E14 Y15 P16 A17 D18 R19 G20 F21 D22 P23 L24 S25 L26 A27 A28 D29 P30 T31 V32 Y33 A34 R35 M36 R37 V38 S39 E40 V41 F42 H43 A44 R45 L46 S47 M48 L49 A50 I51 V52 G53 S54 I55 V56 P57 E58 L59 L60 G61 K62 G63 A64 W65 F66

E67 V68 G69 N70 S71 V72 D73 G74 I75 K76 L77 G78 F79 I80 L81 M82 A83 I84 A85 A86 P87 T88 E89 Y90 W91 R92 G93 N94 G95 G96 F97 N98 W99 D100 K101 G102 T103 A104 D105 R106 S107 Y108 P109 G110 F111 D112 P113 L114 K115 L116 T117 T118 D119 Y120 T121 K122 A123 A124 E125 I126

K127 N128 G129 R130 L131 A132 M133 T134 G135 L136 L137 G138 L139 T140 F141 Q142 Y143 L144 A145 T146 G147 E148 S149 P150 L151 A152 N153 L154

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	562173	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI POLARA 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	60	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.741	Depositor
Minimum map value	-0.575	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.032	Depositor
Recommended contour level	0.5	Depositor
Map size (Å)	532.48, 532.48, 532.48	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.04, 1.04, 1.04	Depositor

5 Model quality

5.1 Standard geometry

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
1	A	0.17	0/6079	0.28	0/8287
2	B	0.17	0/6071	0.28	0/8277
3	C	0.16	0/606	0.30	0/819
4	D	0.13	0/1426	0.27	0/1941
5	E	0.13	0/491	0.25	0/669
6	F	0.14	0/1275	0.26	0/1739
7	J	0.14	0/314	0.24	0/429
8	M	0.16	0/247	0.24	0/332
9	a	0.14	0/1311	0.25	0/1772
10	b	0.13	0/1344	0.28	0/1829
11	c	0.14	0/1719	0.25	0/2336
12	d	0.15	0/1719	0.27	0/2343
13	e	0.13	0/1566	0.25	0/2141
14	h	0.14	0/1388	0.28	0/1886
15	i	0.16	0/1391	0.30	0/1894
16	j	0.16	0/1499	0.27	0/2045
17	k	0.14	0/1377	0.26	0/1871
18	l	0.13	0/1293	0.26	0/1763
19	m	0.14	0/1297	0.30	0/1768
20	f	0.10	0/1367	0.26	0/1861
21	g	0.12	0/1452	0.25	0/1980
22	n	0.11	0/1458	0.26	0/1993
23	o	0.12	0/1266	0.28	0/1727
24	p	0.11	0/1156	0.26	0/1572
All	All	0.15	0/39112	0.27	0/53274

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	D	0	1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	D	138	HIS	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	5878	0	5745	99	0
2	B	5861	0	5659	102	0
3	C	596	0	571	6	0
4	D	1393	0	1371	17	0
5	E	481	0	479	9	0
6	F	1250	0	1259	13	0
7	J	305	0	317	2	0
8	M	243	0	258	4	0
9	a	1274	0	1235	13	0
10	b	1302	0	1244	19	0
11	c	1676	0	1689	16	0
12	d	1669	0	1650	16	0
13	e	1517	0	1468	19	0
14	h	1350	0	1324	18	0
15	i	1355	0	1336	24	0
16	j	1450	0	1401	20	0
17	k	1338	0	1314	13	0
18	l	1256	0	1234	20	0
19	m	1260	0	1236	24	0
20	f	1332	0	1312	16	0
21	g	1406	0	1358	15	0
22	n	1411	0	1372	24	0
23	o	1230	0	1205	23	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
24	p	1126	0	1115	13	0
25	A	2588	0	2466	120	0
25	B	2333	0	2201	117	0
25	J	50	0	39	2	0
25	a	571	0	488	24	0
25	b	492	0	373	14	0
25	c	679	0	556	22	0
25	d	480	0	389	11	0
25	e	623	0	506	16	0
25	f	553	0	448	10	0
25	g	598	0	467	22	0
25	h	642	0	533	27	0
25	i	603	0	527	15	0
25	j	667	0	568	19	0
25	k	631	0	520	14	0
25	l	562	0	459	17	0
25	m	461	0	369	15	0
25	n	499	0	389	14	0
25	o	429	0	320	12	0
25	p	393	0	297	9	0
26	A	35	0	46	0	0
27	A	87	0	123	7	0
27	a	26	0	22	1	0
27	b	31	0	32	3	0
27	c	30	0	29	3	0
27	d	29	0	28	3	0
27	g	35	0	40	0	0
27	h	61	0	62	3	0
27	i	36	0	42	2	0
27	j	37	0	44	4	0
27	m	32	0	34	2	0
28	A	33	0	46	5	0
28	B	60	0	78	2	0
28	d	26	0	29	0	0
29	A	240	0	336	14	0
29	B	240	0	336	24	0
29	M	40	0	56	2	0
30	A	27	0	18	0	0
30	c	39	0	42	0	0
30	g	32	0	28	2	0
30	j	36	0	36	0	0
31	A	86	0	0	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
31	F	43	0	0	0	0
31	J	43	0	0	0	0
31	a	86	0	0	1	0
31	b	86	0	0	0	0
31	c	172	0	0	0	0
31	d	129	0	0	1	0
31	e	129	0	0	0	0
31	f	86	0	0	0	0
31	g	86	0	0	0	0
31	h	86	0	0	0	0
31	i	129	0	0	1	0
31	j	86	0	0	0	0
31	k	86	0	0	0	0
31	l	86	0	0	0	0
31	m	86	0	0	2	0
31	n	129	0	0	1	0
31	o	86	0	0	0	0
31	p	43	0	0	0	0
32	B	8	0	0	0	0
32	C	16	0	0	0	0
33	B	52	0	77	5	0
33	a	43	0	56	0	0
33	i	44	0	61	0	0
33	k	36	0	42	3	0
34	B	54	0	66	2	0
34	b	48	0	54	3	0
34	e	36	0	30	2	0
35	c	49	0	34	3	0
35	d	186	0	128	7	0
35	e	46	0	31	0	0
All	All	55406	0	51153	806	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 8.

The worst 5 of 806 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:m:7:PHE:HA	25:m:601:CLA:NB	1.93	0.82
13:e:30:ALA:HB2	25:e:602:CLA:HBA1	1.63	0.81
23:o:47:ALA:HB1	23:o:132:GLY:HA3	1.64	0.78

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:A:775:CLA:HBA1	25:A:775:CLA:HBD	1.67	0.76
1:A:740:TRP:HB2	25:A:775:CLA:HBB1	1.69	0.74

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	739/751 (98%)	713 (96%)	24 (3%)	2 (0%)	37 39
2	B	729/734 (99%)	705 (97%)	23 (3%)	1 (0%)	48 55
3	C	78/81 (96%)	74 (95%)	4 (5%)	0	100 100
4	D	184/186 (99%)	173 (94%)	10 (5%)	1 (0%)	25 24
5	E	61/63 (97%)	57 (93%)	4 (7%)	0	100 100
6	F	166/168 (99%)	163 (98%)	3 (2%)	0	100 100
7	J	35/37 (95%)	34 (97%)	1 (3%)	0	100 100
8	M	29/31 (94%)	29 (100%)	0	0	100 100
9	a	164/166 (99%)	158 (96%)	6 (4%)	0	100 100
10	b	167/169 (99%)	158 (95%)	9 (5%)	0	100 100
11	c	219/221 (99%)	208 (95%)	11 (5%)	0	100 100
12	d	218/220 (99%)	207 (95%)	10 (5%)	1 (0%)	25 24
13	e	197/199 (99%)	190 (96%)	6 (3%)	1 (0%)	25 24
14	h	172/174 (99%)	166 (96%)	6 (4%)	0	100 100
15	i	175/177 (99%)	166 (95%)	9 (5%)	0	100 100
16	j	181/183 (99%)	179 (99%)	2 (1%)	0	100 100
17	k	170/172 (99%)	162 (95%)	8 (5%)	0	100 100
18	l	165/167 (99%)	162 (98%)	3 (2%)	0	100 100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
19	m	166/168 (99%)	155 (93%)	11 (7%)	0	100 100
20	f	172/174 (99%)	151 (88%)	20 (12%)	1 (1%)	22 20
21	g	176/178 (99%)	173 (98%)	3 (2%)	0	100 100
22	n	182/184 (99%)	155 (85%)	25 (14%)	2 (1%)	12 8
23	o	162/164 (99%)	150 (93%)	11 (7%)	1 (1%)	22 20
24	p	146/148 (99%)	131 (90%)	14 (10%)	1 (1%)	19 17
All	All	4853/4915 (99%)	4619 (95%)	223 (5%)	11 (0%)	45 49

5 of 11 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
20	f	77	ILE
1	A	205	LEU
1	A	497	LEU
2	B	107	SER
13	e	95	VAL

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	621/632 (98%)	619 (100%)	2 (0%)	91 94
2	B	607/609 (100%)	607 (100%)	0	100 100
3	C	69/70 (99%)	68 (99%)	1 (1%)	62 71
4	D	140/140 (100%)	139 (99%)	1 (1%)	81 87
5	E	49/49 (100%)	49 (100%)	0	100 100
6	F	127/127 (100%)	127 (100%)	0	100 100
7	J	34/34 (100%)	34 (100%)	0	100 100
8	M	26/26 (100%)	26 (100%)	0	100 100
9	a	125/125 (100%)	125 (100%)	0	100 100
10	b	130/130 (100%)	129 (99%)	1 (1%)	79 85

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
11	c	172/172 (100%)	172 (100%)	0	100 100
12	d	167/167 (100%)	167 (100%)	0	100 100
13	e	152/152 (100%)	152 (100%)	0	100 100
14	h	142/142 (100%)	140 (99%)	2 (1%)	62 71
15	i	137/137 (100%)	137 (100%)	0	100 100
16	j	145/145 (100%)	145 (100%)	0	100 100
17	k	141/141 (100%)	140 (99%)	1 (1%)	81 87
18	l	122/122 (100%)	122 (100%)	0	100 100
19	m	122/122 (100%)	122 (100%)	0	100 100
20	f	135/135 (100%)	134 (99%)	1 (1%)	81 87
21	g	140/140 (100%)	140 (100%)	0	100 100
22	n	140/140 (100%)	140 (100%)	0	100 100
23	o	119/119 (100%)	118 (99%)	1 (1%)	79 85
24	p	114/114 (100%)	111 (97%)	3 (3%)	41 47
All	All	3876/3890 (100%)	3863 (100%)	13 (0%)	90 94

5 of 13 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
17	k	31	LYS
20	f	127	LYS
24	p	134	THR
24	p	115	LYS
24	p	127	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 37 such sidechains are listed below:

Mol	Chain	Res	Type
16	j	89	GLN
22	n	63	ASN
16	j	179	HIS
20	f	164	HIS
5	E	21	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

367 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	$\#\|Z\| > 2$
27	LHG	c	243	-	29,29,48	1.76	2 (6%)	32,35,54	1.37	5 (15%)
25	CLA	a	608	-	53,61,73	1.46	7 (13%)	61,98,113	1.83	11 (18%)
25	CLA	f	611	-	42,50,73	1.59	7 (16%)	48,85,113	2.05	6 (12%)
25	CLA	c	601	-	42,50,73	1.56	7 (16%)	48,85,113	1.85	8 (16%)
31	DD6	e	621	-	39,45,45	1.41	5 (12%)	52,67,67	2.14	14 (26%)
25	CLA	B	737	-	55,63,73	1.41	6 (10%)	64,101,113	2.03	11 (17%)
25	CLA	B	773	-	61,69,73	1.39	7 (11%)	71,108,113	1.81	12 (16%)
25	CLA	i	612	-	43,51,73	1.55	7 (16%)	49,86,113	1.96	8 (16%)
25	CLA	l	604	-	43,51,73	1.57	7 (16%)	49,86,113	1.83	7 (14%)
25	CLA	g	614	-	42,50,73	1.58	7 (16%)	48,85,113	1.99	7 (14%)
25	CLA	d	604	-	52,60,73	1.52	7 (13%)	60,97,113	1.82	7 (11%)
25	CLA	o	614	-	43,51,73	1.58	7 (16%)	49,86,113	1.93	9 (18%)
25	CLA	b	601	-	42,50,73	1.59	7 (16%)	48,85,113	1.97	7 (14%)
27	LHG	A	786	-	48,48,48	1.35	2 (4%)	51,54,54	1.18	5 (9%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
25	CLA	B	771	-	53,61,73	1.48	7 (13%)	61,98,113	1.83	11 (18%)
25	CLA	k	614	-	42,50,73	1.57	7 (16%)	48,85,113	1.92	6 (12%)
25	CLA	B	768	-	55,63,73	1.46	7 (12%)	64,101,113	1.83	10 (15%)
27	LHG	A	756	-	37,37,48	1.49	2 (5%)	40,43,54	1.24	5 (12%)
25	CLA	b	602	-	53,61,73	1.47	7 (13%)	61,98,113	1.85	10 (16%)
25	CLA	k	601	-	43,51,73	1.56	7 (16%)	49,86,113	1.88	8 (16%)
25	CLA	B	747	-	49,57,73	1.56	7 (14%)	56,93,113	1.84	11 (19%)
35	CHL	d	605	-	51,59,74	1.66	9 (17%)	55,96,114	2.15	15 (27%)
31	DD6	n	620	-	39,45,45	1.29	4 (10%)	52,67,67	2.54	16 (30%)
31	DD6	d	623	-	39,45,45	1.32	4 (10%)	52,67,67	2.40	19 (36%)
28	PQN	A	785	-	34,34,34	1.02	3 (8%)	42,45,45	1.80	10 (23%)
25	CLA	a	619	-	63,71,73	1.37	7 (11%)	73,110,113	1.78	12 (16%)
25	CLA	c	602	-	59,67,73	1.37	8 (13%)	68,105,113	1.78	12 (17%)
25	CLA	A	777	-	65,73,73	1.35	7 (10%)	76,113,113	1.81	9 (11%)
25	CLA	h	613	-	53,61,73	1.47	6 (11%)	61,98,113	1.85	12 (19%)
25	CLA	h	603	-	43,51,73	1.53	7 (16%)	49,86,113	2.02	8 (16%)
29	BCR	B	766	-	41,41,41	1.67	8 (19%)	56,56,56	1.40	9 (16%)
31	DD6	f	620	-	39,45,45	1.27	4 (10%)	52,67,67	2.31	15 (28%)
25	CLA	e	607	-	43,51,73	1.56	7 (16%)	49,86,113	1.98	7 (14%)
25	CLA	a	601	-	50,58,73	1.53	7 (14%)	58,95,113	1.77	9 (15%)
27	LHG	j	198	-	36,36,48	1.55	2 (5%)	39,42,54	1.28	5 (12%)
25	CLA	c	608	-	50,58,73	1.51	7 (14%)	58,95,113	1.80	9 (15%)
25	CLA	n	607	-	42,50,73	1.59	7 (16%)	48,85,113	1.93	6 (12%)
25	CLA	c	603	-	53,61,73	1.46	7 (13%)	61,98,113	1.85	10 (16%)
29	BCR	A	796	-	41,41,41	0.71	0	56,56,56	1.24	7 (12%)
25	CLA	f	615	-	43,51,73	1.57	7 (16%)	49,86,113	1.96	8 (16%)
25	CLA	B	751	-	50,58,73	1.53	6 (12%)	58,95,113	1.81	9 (15%)
25	CLA	g	613	-	55,63,73	1.45	7 (12%)	64,101,113	1.85	11 (17%)
25	CLA	c	612	-	43,51,73	1.55	7 (16%)	49,86,113	1.94	9 (18%)
25	CLA	A	805	-	55,63,73	1.42	6 (10%)	64,101,113	1.74	10 (15%)
32	SF4	C	82	-	0,12,12	-	-	-		
25	CLA	A	780	-	58,66,73	1.43	7 (12%)	67,104,113	1.74	9 (13%)
25	CLA	B	757	-	60,68,73	1.38	6 (10%)	70,107,113	1.65	12 (17%)
25	CLA	B	770	-	53,61,73	1.47	7 (13%)	61,98,113	1.80	9 (14%)
25	CLA	m	612	-	43,51,73	1.54	7 (16%)	49,86,113	1.95	8 (16%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
25	CLA	f	614	-	42,50,73	1.58	7 (16%)	48,85,113	1.87	9 (18%)
25	CLA	k	603	-	42,50,73	1.55	7 (16%)	48,85,113	2.13	6 (12%)
29	BCR	A	789	-	41,41,41	0.78	1 (2%)	56,56,56	1.06	4 (7%)
25	CLA	g	608	-	45,53,73	1.60	7 (15%)	52,89,113	1.94	7 (13%)
25	CLA	B	736	-	65,73,73	1.32	7 (10%)	76,113,113	1.63	11 (14%)
25	CLA	A	775	-	58,66,73	1.41	7 (12%)	67,104,113	1.78	10 (14%)
31	DD6	l	621	-	39,45,45	1.41	5 (12%)	52,67,67	2.10	18 (34%)
31	DD6	c	624	-	39,45,45	1.54	8 (20%)	52,67,67	1.53	9 (17%)
35	CHL	d	606	-	46,54,74	1.69	9 (19%)	49,90,114	2.22	10 (20%)
25	CLA	B	782	-	50,58,73	1.46	7 (14%)	58,95,113	2.05	11 (18%)
25	CLA	j	601	-	50,58,73	1.51	7 (14%)	58,95,113	1.82	11 (18%)
29	BCR	B	764	-	41,41,41	0.77	2 (4%)	56,56,56	1.01	3 (5%)
30	SQD	c	245	-	38,39,54	1.73	8 (21%)	47,50,65	1.54	7 (14%)
31	DD6	i	625	-	39,45,45	1.32	4 (10%)	52,67,67	2.17	16 (30%)
25	CLA	A	766	-	58,66,73	1.37	7 (12%)	67,104,113	1.94	11 (16%)
25	CLA	h	610	-	54,62,73	1.40	5 (9%)	62,99,113	1.92	8 (12%)
31	DD6	e	620	-	39,45,45	1.52	8 (20%)	52,67,67	1.49	9 (17%)
25	CLA	e	614	-	42,50,73	1.54	7 (16%)	48,85,113	1.93	6 (12%)
31	DD6	A	4008	-	39,45,45	1.35	4 (10%)	52,67,67	2.35	20 (38%)
25	CLA	l	610	-	54,62,73	1.46	6 (11%)	62,99,113	1.79	9 (14%)
25	CLA	A	764	-	58,66,73	1.42	7 (12%)	67,104,113	1.77	10 (14%)
25	CLA	A	801	-	65,73,73	1.32	7 (10%)	76,113,113	1.75	12 (15%)
25	CLA	B	753	-	65,73,73	1.34	7 (10%)	76,113,113	1.57	8 (10%)
25	CLA	B	739	-	65,73,73	1.30	7 (10%)	76,113,113	1.75	13 (17%)
25	CLA	b	608	-	41,49,73	1.59	7 (17%)	47,84,113	2.00	9 (19%)
25	CLA	A	774	-	64,72,73	1.31	7 (10%)	74,111,113	1.88	9 (12%)
25	CLA	j	612	-	55,63,73	1.42	7 (12%)	64,101,113	1.85	10 (15%)
31	DD6	h	621	-	39,45,45	1.38	4 (10%)	52,67,67	2.10	14 (26%)
25	CLA	d	609	-	49,57,73	1.51	7 (14%)	55,93,113	1.96	8 (14%)
25	CLA	m	613	-	42,50,73	1.57	7 (16%)	48,85,113	1.92	7 (14%)
25	CLA	h	614	-	43,51,73	1.55	7 (16%)	49,86,113	1.82	6 (12%)
25	CLA	a	602	-	60,68,73	1.37	6 (10%)	70,107,113	1.66	15 (21%)
25	CLA	p	604	-	43,51,73	1.58	7 (16%)	49,86,113	1.98	8 (16%)
25	CLA	j	615	-	43,51,73	1.53	7 (16%)	49,86,113	1.98	6 (12%)
25	CLA	d	611	-	45,53,73	1.57	7 (15%)	52,89,113	1.91	9 (17%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
25	CLA	i	615	-	50,58,73	1.51	7 (14%)	58,95,113	1.89	9 (15%)
25	CLA	A	779	-	43,51,73	1.55	7 (16%)	49,86,113	1.98	9 (18%)
31	DD6	g	620	-	39,45,45	1.31	4 (10%)	52,67,67	2.28	16 (30%)
25	CLA	j	603	-	42,50,73	1.57	7 (16%)	48,85,113	1.97	7 (14%)
25	CLA	i	604	-	43,51,73	1.54	7 (16%)	49,86,113	1.88	5 (10%)
25	CLA	j	602	-	55,63,73	1.39	6 (10%)	64,101,113	1.84	11 (17%)
31	DD6	o	620	-	39,45,45	1.30	4 (10%)	52,67,67	2.13	15 (28%)
31	DD6	n	623	-	39,45,45	1.63	7 (17%)	52,67,67	1.72	10 (19%)
25	CLA	B	785	-	45,53,73	1.56	7 (15%)	52,89,113	1.87	8 (15%)
25	CLA	j	609	-	50,58,73	1.52	7 (14%)	58,95,113	1.92	9 (15%)
25	CLA	B	752	-	65,73,73	1.34	7 (10%)	76,113,113	1.68	11 (14%)
25	CLA	m	602	-	60,68,73	1.39	6 (10%)	70,107,113	1.58	10 (14%)
25	CLA	B	750	-	60,68,73	1.35	6 (10%)	70,107,113	1.82	14 (20%)
25	CLA	m	609	-	50,58,73	1.52	7 (14%)	58,95,113	1.90	9 (15%)
25	CLA	h	611	-	43,51,73	1.54	7 (16%)	49,86,113	1.92	8 (16%)
25	CLA	g	610	-	55,63,73	1.43	7 (12%)	64,101,113	1.77	9 (14%)
25	CLA	A	773	-	53,61,73	1.47	7 (13%)	61,98,113	1.85	10 (16%)
25	CLA	e	613	-	55,63,73	1.46	7 (12%)	64,101,113	1.78	8 (12%)
29	BCR	A	788	-	41,41,41	1.65	10 (24%)	56,56,56	1.50	12 (21%)
30	SQD	g	190	-	31,32,54	1.85	7 (22%)	40,43,65	1.58	6 (15%)
25	CLA	o	609	-	45,53,73	1.56	7 (15%)	52,89,113	1.96	9 (17%)
25	CLA	m	603	-	54,62,73	1.46	7 (12%)	62,99,113	1.80	11 (17%)
25	CLA	A	762	-	50,58,73	1.53	7 (14%)	58,95,113	1.92	12 (20%)
25	CLA	d	603	-	42,50,73	1.54	7 (16%)	48,85,113	2.04	7 (14%)
25	CLA	l	602	-	59,67,73	1.40	7 (11%)	68,105,113	1.75	11 (16%)
25	CLA	j	614	-	42,50,73	1.56	7 (16%)	48,85,113	1.98	9 (18%)
25	CLA	B	749	-	49,57,73	1.50	7 (14%)	55,93,113	1.81	10 (18%)
25	CLA	d	612	-	42,50,73	1.56	7 (16%)	48,85,113	2.02	6 (12%)
25	CLA	A	802	-	43,51,73	1.55	6 (13%)	49,86,113	1.79	5 (10%)
25	CLA	B	783	-	50,58,73	1.51	7 (14%)	58,95,113	1.89	8 (13%)
31	DD6	c	620	-	39,45,45	1.46	5 (12%)	52,67,67	2.14	18 (34%)
25	CLA	B	784	-	65,73,73	1.30	7 (10%)	76,113,113	1.75	11 (14%)
25	CLA	k	609	-	50,58,73	1.51	7 (14%)	58,95,113	1.86	8 (13%)
33	LMG	a	182	-	43,43,55	0.89	1 (2%)	51,51,63	1.18	2 (3%)
25	CLA	A	757	-	45,53,73	1.52	7 (15%)	52,89,113	1.99	9 (17%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
25	CLA	A	793	-	42,50,73	1.57	7 (16%)	48,85,113	2.02	6 (12%)
33	LMG	i	195	-	44,44,55	0.86	1 (2%)	52,52,63	1.08	2 (3%)
31	DD6	k	620	-	39,45,45	1.37	4 (10%)	52,67,67	2.12	14 (26%)
25	CLA	p	613	-	43,51,73	1.60	7 (16%)	49,86,113	2.00	10 (20%)
25	CLA	d	602	-	57,65,73	1.40	6 (10%)	66,103,113	1.83	11 (16%)
25	CLA	B	772	-	50,58,73	1.51	7 (14%)	58,95,113	1.91	8 (13%)
29	BCR	A	790	-	41,41,41	0.74	0	56,56,56	1.03	4 (7%)
25	CLA	c	611	-	43,51,73	1.55	7 (16%)	49,86,113	1.89	8 (16%)
25	CLA	A	778	-	43,51,73	1.56	7 (16%)	49,86,113	1.96	9 (18%)
29	BCR	M	201	-	41,41,41	0.78	0	56,56,56	1.16	5 (8%)
25	CLA	c	616	-	47,55,73	1.51	7 (14%)	54,91,113	1.84	9 (16%)
32	SF4	B	735	-	0,12,12	-	-	-		
25	CLA	h	604	-	60,68,73	1.40	7 (11%)	70,107,113	1.79	9 (12%)
25	CLA	B	744	-	43,51,73	1.55	7 (16%)	49,86,113	1.90	7 (14%)
25	CLA	A	798	-	52,60,73	1.47	7 (13%)	60,97,113	1.99	10 (16%)
28	PQN	B	769	-	28,28,34	1.04	2 (7%)	34,37,45	2.00	10 (29%)
31	DD6	j	621	-	39,45,45	1.42	5 (12%)	52,67,67	2.15	15 (28%)
25	CLA	k	611	-	42,50,73	1.58	7 (16%)	48,85,113	1.93	7 (14%)
25	CLA	n	610	-	41,49,73	1.63	7 (17%)	47,84,113	1.89	10 (21%)
25	CLA	j	618	-	50,58,73	1.52	7 (14%)	58,95,113	1.91	9 (15%)
25	CLA	A	781	-	52,60,73	1.49	6 (11%)	60,97,113	1.79	13 (21%)
25	CLA	g	618	-	45,53,73	1.56	7 (15%)	52,89,113	1.89	8 (15%)
25	CLA	a	610	-	54,62,73	1.44	6 (11%)	62,99,113	1.92	10 (16%)
33	LMG	k	179	-	36,36,55	0.96	1 (2%)	44,44,63	1.12	3 (6%)
25	CLA	a	609	-	50,58,73	1.53	7 (14%)	58,95,113	1.91	9 (15%)
25	CLA	g	603	-	42,50,73	1.59	7 (16%)	48,85,113	1.86	5 (10%)
25	CLA	B	775	-	50,58,73	1.51	7 (14%)	58,95,113	1.72	11 (18%)
25	CLA	f	613	-	59,67,73	1.40	7 (11%)	68,105,113	1.77	11 (16%)
25	CLA	o	603	-	43,51,73	1.58	7 (16%)	49,86,113	1.92	6 (12%)
25	CLA	g	612	-	42,50,73	1.58	7 (16%)	48,85,113	2.00	5 (10%)
25	CLA	A	782	-	48,56,73	1.53	7 (14%)	55,92,113	1.89	8 (14%)
31	DD6	g	621	-	39,45,45	1.37	5 (12%)	52,67,67	2.21	14 (26%)
25	CLA	a	612	-	43,51,73	1.56	7 (16%)	49,86,113	1.98	6 (12%)
25	CLA	l	608	-	43,51,73	1.54	7 (16%)	49,86,113	1.92	6 (12%)
25	CLA	A	763	-	65,73,73	1.32	6 (9%)	76,113,113	1.69	9 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
31	DD6	o	621	-	39,45,45	1.34	4 (10%)	52,67,67	2.13	16 (30%)
31	DD6	A	4002	-	39,45,45	1.36	4 (10%)	52,67,67	2.35	17 (32%)
26	LMT	A	754	-	36,36,36	0.55	0	47,47,47	0.66	0
25	CLA	g	615	-	42,50,73	1.58	7 (16%)	48,85,113	1.98	6 (12%)
25	CLA	e	608	-	48,56,73	1.51	7 (14%)	55,92,113	1.82	8 (14%)
30	SQD	j	200	-	35,36,54	1.75	7 (20%)	44,47,65	1.75	10 (22%)
31	DD6	n	621	-	39,45,45	1.52	8 (20%)	52,67,67	1.48	9 (17%)
25	CLA	A	797	-	49,57,73	1.50	6 (12%)	55,93,113	1.91	8 (14%)
25	CLA	A	808	-	53,61,73	1.44	7 (13%)	61,98,113	1.99	12 (19%)
25	CLA	b	612	-	52,60,73	1.49	7 (13%)	60,97,113	1.91	10 (16%)
27	LHG	d	237	-	28,28,48	1.76	2 (7%)	31,34,54	1.33	5 (16%)
25	CLA	A	776	-	65,73,73	1.35	7 (10%)	76,113,113	1.67	11 (14%)
25	CLA	j	611	-	50,58,73	1.51	7 (14%)	58,95,113	1.90	9 (15%)
27	LHG	a	181	-	25,25,48	1.86	2 (8%)	28,31,54	1.42	5 (17%)
27	LHG	i	194	-	35,35,48	1.55	2 (5%)	38,41,54	1.29	5 (13%)
31	DD6	k	621	-	39,45,45	1.36	4 (10%)	52,67,67	2.10	16 (30%)
25	CLA	f	609	-	42,50,73	1.60	7 (16%)	48,85,113	1.92	8 (16%)
25	CLA	k	618	-	50,58,73	1.50	7 (14%)	58,95,113	1.87	9 (15%)
25	CLA	m	610	-	42,50,73	1.56	7 (16%)	48,85,113	1.86	7 (14%)
25	CLA	p	602	-	43,51,73	1.59	8 (18%)	49,86,113	2.06	8 (16%)
25	CLA	e	610	-	55,63,73	1.42	7 (12%)	64,101,113	1.79	11 (17%)
25	CLA	k	612	-	43,51,73	1.55	7 (16%)	49,86,113	1.94	8 (16%)
25	CLA	B	755	-	60,68,73	1.38	7 (11%)	70,107,113	1.80	12 (17%)
35	CHL	e	606	-	46,54,74	1.69	10 (21%)	49,90,114	2.24	10 (20%)
31	DD6	d	621	-	39,45,45	1.47	5 (12%)	52,67,67	2.19	16 (30%)
25	CLA	a	611	-	45,53,73	1.57	7 (15%)	52,89,113	1.93	9 (17%)
25	CLA	n	608	-	41,49,73	1.61	8 (19%)	47,84,113	1.99	11 (23%)
25	CLA	B	780	-	53,61,73	1.48	7 (13%)	61,98,113	1.92	9 (14%)
25	CLA	i	602	-	64,72,73	1.36	7 (10%)	74,111,113	1.72	11 (14%)
25	CLA	B	779	-	65,73,73	1.36	7 (10%)	76,113,113	1.79	15 (19%)
25	CLA	p	608	-	42,50,73	1.56	7 (16%)	48,85,113	1.97	8 (16%)
25	CLA	l	612	-	43,51,73	1.55	7 (16%)	49,86,113	1.95	8 (16%)
27	LHG	h	189	-	29,29,48	1.74	2 (6%)	32,35,54	1.10	2 (6%)
25	CLA	h	609	-	50,58,73	1.51	7 (14%)	58,95,113	1.87	9 (15%)
25	CLA	e	604	-	50,58,73	1.54	7 (14%)	58,95,113	1.84	10 (17%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
31	DD6	p	621	-	39,45,45	1.29	4 (10%)	52,67,67	2.28	17 (32%)
25	CLA	e	605	-	42,50,73	1.58	7 (16%)	48,85,113	2.01	7 (14%)
25	CLA	c	619	-	41,49,73	1.62	8 (19%)	47,84,113	2.14	9 (19%)
25	CLA	B	748	-	59,67,73	1.41	7 (11%)	68,105,113	1.81	11 (16%)
27	LHG	b	181	-	30,30,48	1.77	2 (6%)	33,36,54	1.35	5 (15%)
25	CLA	A	758	-	65,73,73	1.31	7 (10%)	76,113,113	1.73	10 (13%)
25	CLA	d	610	-	59,67,73	1.38	7 (11%)	68,105,113	1.86	10 (14%)
25	CLA	p	601	-	42,50,73	1.57	7 (16%)	48,85,113	1.79	8 (16%)
25	CLA	g	609	-	50,58,73	1.53	7 (14%)	58,95,113	1.86	8 (13%)
25	CLA	l	614	-	42,50,73	1.61	7 (16%)	48,85,113	2.01	7 (14%)
25	CLA	A	804	-	50,58,73	1.50	7 (14%)	58,95,113	1.86	11 (18%)
25	CLA	A	800	-	48,56,73	1.52	7 (14%)	55,92,113	1.85	9 (16%)
25	CLA	n	609	-	45,53,73	1.57	7 (15%)	52,89,113	1.99	7 (13%)
31	DD6	e	623	-	39,45,45	1.58	8 (20%)	52,67,67	1.69	9 (17%)
31	DD6	a	620	-	39,45,45	1.38	4 (10%)	52,67,67	2.22	15 (28%)
25	CLA	A	765	-	59,67,73	1.40	7 (11%)	68,105,113	1.84	12 (17%)
25	CLA	B	778	-	63,71,73	1.33	7 (11%)	73,110,113	1.68	11 (15%)
31	DD6	d	620	-	39,45,45	1.38	4 (10%)	52,67,67	2.14	15 (28%)
25	CLA	f	608	-	42,50,73	1.57	7 (16%)	48,85,113	2.03	6 (12%)
25	CLA	n	613	-	42,50,73	1.57	7 (16%)	48,85,113	1.84	6 (12%)
29	BCR	A	787	-	41,41,41	0.83	1 (2%)	56,56,56	1.10	4 (7%)
25	CLA	h	601	-	50,58,73	1.53	7 (14%)	58,95,113	1.89	11 (18%)
25	CLA	A	799	-	60,68,73	1.40	7 (11%)	70,107,113	1.83	13 (18%)
25	CLA	f	601	-	42,50,73	1.58	7 (16%)	48,85,113	1.89	7 (14%)
25	CLA	c	614	-	42,50,73	1.57	7 (16%)	48,85,113	1.89	8 (16%)
25	CLA	B	756	-	60,68,73	1.36	7 (11%)	70,107,113	1.81	12 (17%)
25	CLA	J	101	-	50,58,73	1.52	7 (14%)	58,95,113	1.89	10 (17%)
25	CLA	i	609	-	43,51,73	1.54	7 (16%)	49,86,113	1.98	5 (10%)
25	CLA	c	610	-	55,63,73	1.42	7 (12%)	64,101,113	1.87	9 (14%)
25	CLA	n	604	-	48,56,73	1.54	7 (14%)	55,92,113	1.91	9 (16%)
25	CLA	l	601	-	42,50,73	1.58	7 (16%)	48,85,113	1.85	6 (12%)
31	DD6	f	621	-	39,45,45	1.28	4 (10%)	52,67,67	2.47	19 (36%)
32	SF4	C	83	-	0,12,12	-	-	-		
25	CLA	e	603	-	45,53,73	1.57	7 (15%)	52,89,113	1.93	8 (15%)
25	CLA	b	604	-	45,53,73	1.54	7 (15%)	52,89,113	1.97	7 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
25	CLA	A	769	-	65,73,73	1.35	7 (10%)	76,113,113	1.65	13 (17%)
25	CLA	b	609	-	45,53,73	1.56	7 (15%)	52,89,113	1.91	10 (19%)
25	CLA	j	613	-	62,70,73	1.36	6 (9%)	72,109,113	1.75	11 (15%)
25	CLA	e	601	-	41,49,73	1.60	7 (17%)	47,84,113	1.97	9 (19%)
29	BCR	B	762	-	41,41,41	0.78	1 (2%)	56,56,56	1.18	6 (10%)
25	CLA	k	602	-	53,61,73	1.47	7 (13%)	61,98,113	1.82	11 (18%)
31	DD6	i	620	-	39,45,45	1.42	5 (12%)	52,67,67	2.13	14 (26%)
25	CLA	o	604	-	42,50,73	1.59	7 (16%)	48,85,113	1.93	8 (16%)
25	CLA	g	611	-	42,50,73	1.57	7 (16%)	48,85,113	1.99	8 (16%)
25	CLA	A	760	-	65,73,73	1.30	7 (10%)	76,113,113	1.73	10 (13%)
25	CLA	n	606	-	42,50,73	1.57	7 (16%)	48,85,113	1.96	6 (12%)
25	CLA	e	612	-	43,51,73	1.55	7 (16%)	49,86,113	2.00	8 (16%)
25	CLA	A	771	-	57,65,73	1.41	7 (12%)	66,103,113	1.86	11 (16%)
25	CLA	h	602	-	55,63,73	1.46	7 (12%)	64,101,113	1.83	12 (18%)
31	DD6	l	620	-	39,45,45	1.35	4 (10%)	52,67,67	2.14	16 (30%)
25	CLA	k	610	-	57,65,73	1.38	7 (12%)	66,103,113	1.82	10 (15%)
28	PQN	B	761	-	34,34,34	1.13	4 (11%)	42,45,45	1.87	10 (23%)
29	BCR	B	763	-	41,41,41	0.75	0	56,56,56	1.08	4 (7%)
31	DD6	m	620	-	39,45,45	1.32	4 (10%)	52,67,67	2.14	14 (26%)
25	CLA	m	604	-	43,51,73	1.56	7 (16%)	49,86,113	2.04	6 (12%)
25	CLA	A	806	-	45,53,73	1.54	7 (15%)	52,89,113	1.93	10 (19%)
25	CLA	h	608	-	48,56,73	1.53	7 (14%)	55,92,113	1.91	7 (12%)
25	CLA	h	618	-	43,51,73	1.55	7 (16%)	49,86,113	1.89	7 (14%)
28	PQN	d	223	-	27,27,34	1.04	2 (7%)	33,36,45	1.99	9 (27%)
25	CLA	A	803	-	51,59,73	1.49	7 (13%)	59,96,113	1.93	10 (16%)
31	DD6	F	4002	-	39,45,45	1.53	7 (17%)	52,67,67	1.51	11 (21%)
25	CLA	o	601	-	41,49,73	1.65	8 (19%)	47,84,113	1.86	11 (23%)
34	DGD	e	205	-	37,37,67	1.23	1 (2%)	51,51,81	1.10	1 (1%)
25	CLA	h	612	-	58,66,73	1.41	7 (12%)	67,104,113	1.79	8 (11%)
25	CLA	i	611	-	43,51,73	1.55	7 (16%)	49,86,113	1.98	7 (14%)
25	CLA	g	601	-	42,50,73	1.56	7 (16%)	48,85,113	1.95	8 (16%)
25	CLA	B	758	-	65,73,73	1.32	7 (10%)	76,113,113	1.68	11 (14%)
25	CLA	B	741	-	65,73,73	1.33	7 (10%)	76,113,113	1.73	10 (13%)
31	DD6	a	621	-	39,45,45	1.42	5 (12%)	52,67,67	2.10	16 (30%)
25	CLA	h	615	-	42,50,73	1.55	7 (16%)	48,85,113	2.04	7 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
27	LHG	h	190	-	30,30,48	1.69	2 (6%)	33,36,54	1.38	5 (15%)
25	CLA	A	784	-	65,73,73	1.31	7 (10%)	76,113,113	1.59	13 (17%)
25	CLA	o	612	-	43,50,73	1.69	9 (20%)	44,84,113	2.17	8 (18%)
25	CLA	B	759	-	43,51,73	1.53	7 (16%)	49,86,113	1.73	7 (14%)
25	CLA	k	604	-	65,73,73	1.34	7 (10%)	76,113,113	1.69	10 (13%)
25	CLA	b	611	-	42,50,73	1.58	7 (16%)	48,85,113	1.97	6 (12%)
25	CLA	B	745	-	63,71,73	1.33	7 (11%)	73,110,113	1.80	10 (13%)
25	CLA	A	772	-	64,72,73	1.33	7 (10%)	74,111,113	1.72	12 (16%)
27	LHG	g	189	-	34,34,48	1.60	2 (5%)	37,40,54	1.31	5 (13%)
25	CLA	f	604	-	42,50,73	1.59	7 (16%)	48,85,113	1.93	6 (12%)
25	CLA	A	761	-	65,73,73	1.31	7 (10%)	76,113,113	1.77	12 (15%)
25	CLA	i	603	-	43,51,73	1.53	7 (16%)	49,86,113	1.89	9 (18%)
25	CLA	a	603	-	53,61,73	1.47	7 (13%)	61,98,113	1.84	10 (16%)
31	DD6	i	621	-	39,45,45	1.46	5 (12%)	52,67,67	2.12	15 (28%)
25	CLA	B	776	-	59,67,73	1.42	7 (11%)	68,105,113	1.83	10 (14%)
25	CLA	a	604	-	45,53,73	1.57	7 (15%)	52,89,113	1.86	8 (15%)
35	CHL	c	607	-	49,57,74	1.63	9 (18%)	52,93,114	2.19	13 (25%)
25	CLA	c	606	-	43,51,73	1.56	7 (16%)	49,86,113	1.92	8 (16%)
29	BCR	B	765	-	41,41,41	1.66	8 (19%)	56,56,56	1.42	10 (17%)
25	CLA	l	617	-	42,50,73	1.59	7 (16%)	48,85,113	2.11	6 (12%)
25	CLA	n	605	-	42,50,73	1.59	7 (16%)	48,85,113	1.94	8 (16%)
31	DD6	b	620	-	39,45,45	1.34	4 (10%)	52,67,67	2.25	16 (30%)
25	CLA	b	603	-	43,51,73	1.54	7 (16%)	49,86,113	1.96	7 (14%)
25	CLA	d	614	-	42,50,73	1.54	7 (16%)	48,85,113	1.89	7 (14%)
25	CLA	c	613	-	53,61,73	1.46	7 (13%)	61,98,113	1.83	11 (18%)
25	CLA	j	610	-	64,72,73	1.33	6 (9%)	74,111,113	1.63	11 (14%)
25	CLA	B	760	-	43,51,73	1.54	7 (16%)	49,86,113	1.93	6 (12%)
33	LMG	B	786	-	52,52,55	0.81	2 (3%)	60,60,63	1.07	3 (5%)
25	CLA	i	614	-	42,50,73	1.57	7 (16%)	48,85,113	1.86	8 (16%)
31	DD6	J	4002	-	39,45,45	1.42	4 (10%)	52,67,67	2.22	15 (28%)
25	CLA	A	755	-	60,68,73	1.41	7 (11%)	70,107,113	1.81	9 (12%)
25	CLA	A	791	-	63,71,73	1.35	7 (11%)	73,110,113	1.70	11 (15%)
25	CLA	o	613	-	42,50,73	1.58	7 (16%)	48,85,113	1.97	6 (12%)
25	CLA	m	611	-	43,51,73	1.56	7 (16%)	49,86,113	1.86	7 (14%)
25	CLA	c	604	-	48,56,73	1.53	7 (14%)	55,92,113	1.88	9 (16%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
25	CLA	k	615	-	42,50,73	1.57	7 (16%)	48,85,113	2.03	7 (14%)
25	CLA	B	743	-	42,50,73	1.55	7 (16%)	48,85,113	1.96	7 (14%)
25	CLA	B	754	-	43,51,73	1.54	7 (16%)	49,86,113	1.93	7 (14%)
29	BCR	B	767	-	41,41,41	0.80	1 (2%)	56,56,56	1.12	4 (7%)
30	SQD	A	795	-	26,27,54	1.81	7 (26%)	35,38,65	1.69	8 (22%)
25	CLA	l	603	-	43,51,73	1.55	7 (16%)	49,86,113	2.01	8 (16%)
25	CLA	B	777	-	53,61,73	1.47	7 (13%)	61,98,113	1.74	11 (18%)
25	CLA	B	781	-	65,73,73	1.32	7 (10%)	76,113,113	1.76	11 (14%)
25	CLA	B	738	-	65,73,73	1.30	7 (10%)	76,113,113	1.77	9 (11%)
25	CLA	A	753	-	63,71,73	1.33	6 (9%)	73,110,113	1.73	11 (15%)
25	CLA	B	746	-	64,72,73	1.37	7 (10%)	74,111,113	1.75	10 (13%)
25	CLA	A	767	-	43,51,73	1.54	7 (16%)	49,86,113	1.93	7 (14%)
35	CHL	d	607	-	43,51,74	1.62	8 (18%)	45,86,114	2.21	10 (22%)
25	CLA	i	608	-	65,73,73	1.33	7 (10%)	76,113,113	1.74	11 (14%)
25	CLA	j	608	-	47,55,73	1.54	7 (14%)	54,91,113	1.97	8 (14%)
25	CLA	l	609	-	60,68,73	1.39	7 (11%)	70,107,113	1.82	10 (14%)
31	DD6	c	623	-	39,45,45	1.32	4 (10%)	52,67,67	2.38	19 (36%)
25	CLA	p	609	-	50,58,73	1.57	7 (14%)	58,95,113	1.87	8 (13%)
25	CLA	l	613	-	48,56,73	1.52	7 (14%)	55,92,113	1.85	8 (14%)
31	DD6	m	621	-	39,45,45	1.36	5 (12%)	52,67,67	2.12	17 (32%)
25	CLA	e	602	-	65,73,73	1.32	7 (10%)	76,113,113	1.65	12 (15%)
25	CLA	k	608	-	50,58,73	1.52	7 (14%)	58,95,113	1.93	10 (17%)
29	BCR	A	792	-	41,41,41	1.71	8 (19%)	56,56,56	1.58	11 (19%)
25	CLA	e	609	-	52,60,73	1.48	7 (13%)	60,97,113	1.88	9 (15%)
25	CLA	n	602	-	59,67,73	1.38	6 (10%)	68,105,113	1.87	11 (16%)
25	CLA	m	601	-	42,50,73	1.59	7 (16%)	48,85,113	1.76	7 (14%)
27	LHG	m	182	-	31,31,48	1.73	2 (6%)	34,37,54	1.34	5 (14%)
25	CLA	A	752	-	65,73,73	1.32	7 (10%)	76,113,113	1.81	15 (19%)
25	CLA	k	613	-	52,60,73	1.47	7 (13%)	60,97,113	1.90	10 (16%)
25	CLA	m	608	-	42,50,73	1.57	7 (16%)	48,85,113	1.98	5 (10%)
34	DGD	b	182	-	49,49,67	1.23	6 (12%)	63,63,81	1.08	4 (6%)
25	CLA	A	768	-	56,64,73	1.42	8 (14%)	65,102,113	1.77	9 (13%)
35	CHL	d	608	-	46,54,74	1.69	10 (21%)	49,90,114	2.13	12 (24%)
25	CLA	f	602	-	59,67,73	1.41	7 (11%)	68,105,113	1.76	12 (17%)
25	CLA	p	610	-	45,53,73	1.61	8 (17%)	52,89,113	1.82	8 (15%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
25	CLA	i	613	-	59,67,73	1.40	7 (11%)	68,105,113	1.80	10 (14%)
25	CLA	n	603	-	55,63,73	1.47	7 (12%)	64,101,113	1.82	8 (12%)
31	DD6	h	620	-	39,45,45	1.39	4 (10%)	52,67,67	2.11	16 (30%)
25	CLA	i	610	-	55,63,73	1.40	6 (10%)	64,101,113	1.85	9 (14%)
25	CLA	A	759	-	60,68,73	1.36	7 (11%)	70,107,113	1.83	11 (15%)
25	CLA	A	807	-	48,56,73	1.50	7 (14%)	55,92,113	2.02	10 (18%)
25	CLA	n	612	-	42,50,73	1.57	7 (16%)	48,85,113	2.03	6 (12%)
25	CLA	a	613	-	55,63,73	1.45	6 (10%)	64,101,113	1.83	9 (14%)
25	CLA	g	602	-	53,61,73	1.47	7 (13%)	61,98,113	1.76	8 (13%)
25	CLA	j	604	-	57,65,73	1.43	7 (12%)	66,103,113	1.84	10 (15%)
25	CLA	o	602	-	47,55,73	1.53	7 (14%)	54,91,113	1.92	9 (16%)
25	CLA	l	611	-	43,51,73	1.56	7 (16%)	49,86,113	1.96	8 (16%)
25	CLA	d	613	-	42,50,73	1.55	7 (16%)	48,85,113	1.94	6 (12%)
25	CLA	f	610	-	55,63,73	1.48	7 (12%)	64,101,113	1.82	11 (17%)
34	DGD	B	787	-	55,55,67	1.10	0	69,69,81	1.04	2 (2%)
25	CLA	f	603	-	43,51,73	1.58	7 (16%)	49,86,113	1.95	7 (14%)
25	CLA	b	610	-	42,50,73	1.56	7 (16%)	48,85,113	1.95	8 (16%)
25	CLA	B	740	-	42,50,73	1.56	7 (16%)	48,85,113	1.95	8 (16%)
25	CLA	g	604	-	43,51,73	1.55	7 (16%)	49,86,113	1.81	5 (10%)
25	CLA	b	605	-	45,53,73	1.56	7 (15%)	52,89,113	1.96	8 (15%)
25	CLA	f	612	-	42,50,73	1.62	7 (16%)	48,85,113	1.73	7 (14%)
25	CLA	c	609	-	60,68,73	1.39	7 (11%)	70,107,113	1.82	10 (14%)
31	DD6	b	621	-	39,45,45	1.38	4 (10%)	52,67,67	2.13	16 (30%)
25	CLA	e	611	-	42,50,73	1.58	7 (16%)	48,85,113	1.84	8 (16%)
25	CLA	o	610	-	41,49,73	1.63	7 (17%)	47,84,113	1.89	10 (21%)
25	CLA	o	608	-	43,51,73	1.55	7 (16%)	49,86,113	1.93	8 (16%)
25	CLA	B	774	-	60,68,73	1.41	7 (11%)	70,107,113	1.83	11 (15%)
25	CLA	d	601	-	50,58,73	1.50	7 (14%)	58,95,113	1.98	12 (20%)
31	DD6	j	620	-	39,45,45	1.44	5 (12%)	52,67,67	2.13	15 (28%)
31	DD6	c	621	-	39,45,45	1.42	5 (12%)	52,67,67	2.12	16 (30%)
25	CLA	A	770	-	65,73,73	1.31	7 (10%)	76,113,113	1.66	13 (17%)
25	CLA	b	613	-	42,50,73	1.57	7 (16%)	48,85,113	1.95	8 (16%)
25	CLA	A	783	-	65,73,73	1.32	7 (10%)	76,113,113	1.64	11 (14%)
25	CLA	B	742	-	43,51,73	1.58	7 (16%)	49,86,113	1.91	5 (10%)
25	CLA	p	603	-	42,50,73	1.65	7 (16%)	48,85,113	1.74	6 (12%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
25	CLA	p	612	-	43,51,73	1.55	7 (16%)	49,86,113	1.75	8 (16%)
25	CLA	i	601	-	53,61,73	1.46	7 (13%)	61,98,113	1.85	10 (16%)
25	CLA	A	794	-	57,65,73	1.40	7 (12%)	66,103,113	1.78	10 (15%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
27	LHG	c	243	-	-	11/34/34/53	-
25	CLA	a	608	-	1/1/12/20	11/23/101/115	-
25	CLA	f	611	-	1/1/10/20	2/10/88/115	-
25	CLA	c	601	-	1/1/10/20	6/10/88/115	-
31	DD6	e	621	-	-	5/26/80/80	0/3/3/3
25	CLA	B	737	-	1/1/13/20	7/25/103/115	-
25	CLA	B	773	-	1/1/14/20	6/33/111/115	-
25	CLA	i	612	-	1/1/10/20	5/11/89/115	-
25	CLA	l	604	-	1/1/10/20	4/11/89/115	-
25	CLA	g	614	-	1/1/10/20	3/10/88/115	-
25	CLA	d	604	-	1/1/12/20	5/22/100/115	-
25	CLA	o	614	-	1/1/10/20	5/11/89/115	-
25	CLA	b	601	-	1/1/10/20	4/10/88/115	-
27	LHG	A	786	-	-	22/53/53/53	-
25	CLA	B	771	-	1/1/12/20	7/23/101/115	-
25	CLA	k	614	-	1/1/10/20	4/10/88/115	-
25	CLA	B	768	-	1/1/13/20	6/25/103/115	-
27	LHG	A	756	-	-	19/42/42/53	-
25	CLA	b	602	-	1/1/12/20	9/23/101/115	-
25	CLA	k	601	-	1/1/10/20	3/11/89/115	-
25	CLA	B	747	-	1/1/11/20	3/17/95/115	-
35	CHL	d	605	-	3/3/17/26	8/21/119/137	-
31	DD6	n	620	-	-	5/26/80/80	0/3/3/3
31	DD6	d	623	-	-	4/26/80/80	0/3/3/3
28	PQN	A	785	-	-	8/23/43/43	0/2/2/2
25	CLA	a	619	-	1/1/14/20	12/35/113/115	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	CLA	c	602	-	1/1/13/20	12/30/108/115	-
25	CLA	A	777	-	1/1/15/20	11/37/115/115	-
25	CLA	h	613	-	1/1/12/20	10/23/101/115	-
25	CLA	h	603	-	1/1/10/20	5/11/89/115	-
29	BCR	B	766	-	-	14/29/63/63	0/2/2/2
31	DD6	f	620	-	-	5/26/80/80	0/3/3/3
25	CLA	e	607	-	1/1/10/20	5/11/89/115	-
25	CLA	a	601	-	1/1/12/20	6/19/97/115	-
27	LHG	j	198	-	-	24/41/41/53	-
25	CLA	c	608	-	1/1/12/20	11/19/97/115	-
25	CLA	n	607	-	1/1/10/20	3/10/88/115	-
25	CLA	c	603	-	1/1/12/20	6/23/101/115	-
29	BCR	A	796	-	-	9/29/63/63	0/2/2/2
25	CLA	f	615	-	1/1/10/20	7/11/89/115	-
25	CLA	B	751	-	1/1/12/20	6/19/97/115	-
25	CLA	g	613	-	1/1/13/20	12/25/103/115	-
25	CLA	c	612	-	1/1/10/20	4/11/89/115	-
25	CLA	A	805	-	1/1/13/20	6/25/103/115	-
32	SF4	C	82	-	-	-	0/6/5/5
25	CLA	A	780	-	1/1/13/20	14/29/107/115	-
25	CLA	B	757	-	1/1/14/20	9/31/109/115	-
25	CLA	B	770	-	1/1/12/20	8/23/101/115	-
25	CLA	m	612	-	1/1/10/20	3/11/89/115	-
25	CLA	f	614	-	1/1/10/20	6/10/88/115	-
25	CLA	k	603	-	1/1/10/20	5/10/88/115	-
29	BCR	A	789	-	-	5/29/63/63	0/2/2/2
25	CLA	g	608	-	1/1/11/20	7/13/91/115	-
25	CLA	B	736	-	1/1/15/20	8/37/115/115	-
25	CLA	A	775	-	1/1/13/20	14/29/107/115	-
31	DD6	l	621	-	-	3/26/80/80	0/3/3/3
31	DD6	c	624	-	-	15/26/80/80	0/3/3/3
35	CHL	d	606	-	3/3/16/26	6/15/113/137	-
25	CLA	B	782	-	1/1/12/20	4/19/97/115	-
25	CLA	j	601	-	1/1/12/20	6/19/97/115	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
29	BCR	B	764	-	-	7/29/63/63	0/2/2/2
30	SQD	c	245	-	-	21/34/54/69	0/1/1/1
31	DD6	i	625	-	-	1/26/80/80	0/3/3/3
25	CLA	A	766	-	1/1/13/20	16/29/107/115	-
25	CLA	h	610	-	1/1/12/20	10/24/102/115	-
31	DD6	e	620	-	-	9/26/80/80	0/3/3/3
25	CLA	e	614	-	1/1/10/20	4/10/88/115	-
31	DD6	A	4008	-	-	9/26/80/80	0/3/3/3
25	CLA	l	610	-	1/1/12/20	12/24/102/115	-
25	CLA	A	764	-	1/1/13/20	9/29/107/115	-
25	CLA	A	801	-	1/1/15/20	18/37/115/115	-
25	CLA	B	753	-	1/1/15/20	13/37/115/115	-
25	CLA	B	739	-	1/1/15/20	13/37/115/115	-
25	CLA	b	608	-	1/1/10/20	0/8/86/115	-
25	CLA	A	774	-	1/1/14/20	14/36/114/115	-
25	CLA	j	612	-	1/1/13/20	9/25/103/115	-
31	DD6	h	621	-	-	0/26/80/80	0/3/3/3
25	CLA	d	609	-	1/1/11/20	5/18/96/115	-
25	CLA	m	613	-	1/1/10/20	5/10/88/115	-
25	CLA	h	614	-	1/1/10/20	2/11/89/115	-
25	CLA	a	602	-	1/1/14/20	15/31/109/115	-
25	CLA	p	604	-	1/1/10/20	5/11/89/115	-
25	CLA	j	615	-	1/1/10/20	3/11/89/115	-
25	CLA	d	611	-	1/1/11/20	5/13/91/115	-
25	CLA	i	615	-	1/1/12/20	4/19/97/115	-
25	CLA	A	779	-	1/1/10/20	5/11/89/115	-
31	DD6	g	620	-	-	4/26/80/80	0/3/3/3
25	CLA	j	603	-	1/1/10/20	2/10/88/115	-
25	CLA	i	604	-	1/1/10/20	1/11/89/115	-
25	CLA	j	602	-	1/1/13/20	2/25/103/115	-
31	DD6	o	620	-	-	5/26/80/80	0/3/3/3
31	DD6	n	623	-	-	8/26/80/80	0/3/3/3
25	CLA	B	785	-	1/1/11/20	9/13/91/115	-
25	CLA	j	609	-	1/1/12/20	5/19/97/115	-
25	CLA	B	752	-	1/1/15/20	13/37/115/115	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	CLA	m	602	-	1/1/14/20	16/31/109/115	-
25	CLA	B	750	-	1/1/14/20	8/31/109/115	-
25	CLA	m	609	-	1/1/12/20	4/19/97/115	-
25	CLA	h	611	-	1/1/10/20	3/11/89/115	-
25	CLA	g	610	-	1/1/13/20	8/25/103/115	-
25	CLA	A	773	-	1/1/12/20	6/23/101/115	-
25	CLA	e	613	-	1/1/13/20	4/25/103/115	-
29	BCR	A	788	-	-	11/29/63/63	0/2/2/2
30	SQD	g	190	-	-	13/27/47/69	0/1/1/1
25	CLA	o	609	-	1/1/11/20	5/13/91/115	-
25	CLA	m	603	-	1/1/12/20	10/24/102/115	-
25	CLA	A	762	-	1/1/12/20	2/19/97/115	-
25	CLA	d	603	-	1/1/10/20	5/10/88/115	-
25	CLA	l	602	-	1/1/13/20	12/30/108/115	-
25	CLA	j	614	-	1/1/10/20	1/10/88/115	-
25	CLA	B	749	-	1/1/11/20	8/18/96/115	-
25	CLA	d	612	-	1/1/10/20	3/10/88/115	-
25	CLA	A	802	-	1/1/10/20	4/11/89/115	-
25	CLA	B	783	-	1/1/12/20	3/19/97/115	-
31	DD6	c	620	-	-	4/26/80/80	0/3/3/3
25	CLA	B	784	-	1/1/15/20	18/37/115/115	-
25	CLA	k	609	-	1/1/12/20	2/19/97/115	-
33	LMG	a	182	-	-	18/38/58/70	0/1/1/1
25	CLA	A	757	-	1/1/11/20	5/13/91/115	-
25	CLA	A	793	-	1/1/10/20	0/10/88/115	-
33	LMG	i	195	-	-	11/39/59/70	0/1/1/1
31	DD6	k	620	-	-	2/26/80/80	0/3/3/3
25	CLA	p	613	-	1/1/10/20	5/11/89/115	-
25	CLA	d	602	-	1/1/13/20	3/28/106/115	-
25	CLA	B	772	-	1/1/12/20	10/19/97/115	-
29	BCR	A	790	-	-	12/29/63/63	0/2/2/2
25	CLA	c	611	-	1/1/10/20	1/11/89/115	-
25	CLA	A	778	-	1/1/10/20	3/11/89/115	-
29	BCR	M	201	-	-	6/29/63/63	0/2/2/2
25	CLA	c	616	-	1/1/11/20	5/16/94/115	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	SF4	B	735	-	-	-	0/6/5/5
25	CLA	h	604	-	1/1/14/20	8/31/109/115	-
25	CLA	B	744	-	1/1/10/20	3/11/89/115	-
25	CLA	A	798	-	1/1/12/20	10/22/100/115	-
28	PQN	B	769	-	-	5/16/36/43	0/2/2/2
31	DD6	j	621	-	-	3/26/80/80	0/3/3/3
25	CLA	k	611	-	1/1/10/20	5/10/88/115	-
25	CLA	n	610	-	1/1/10/20	1/8/86/115	-
25	CLA	j	618	-	1/1/12/20	6/19/97/115	-
25	CLA	A	781	-	1/1/12/20	8/22/100/115	-
25	CLA	g	618	-	1/1/11/20	2/13/91/115	-
25	CLA	a	610	-	1/1/12/20	8/24/102/115	-
33	LMG	k	179	-	-	16/31/51/70	0/1/1/1
25	CLA	a	609	-	1/1/12/20	5/19/97/115	-
25	CLA	g	603	-	1/1/10/20	4/10/88/115	-
25	CLA	B	775	-	1/1/12/20	8/19/97/115	-
25	CLA	f	613	-	1/1/13/20	14/30/108/115	-
25	CLA	o	603	-	1/1/10/20	6/11/89/115	-
25	CLA	g	612	-	1/1/10/20	4/10/88/115	-
25	CLA	A	782	-	1/1/11/20	4/17/95/115	-
31	DD6	g	621	-	-	4/26/80/80	0/3/3/3
25	CLA	a	612	-	1/1/10/20	5/11/89/115	-
25	CLA	l	608	-	1/1/10/20	4/11/89/115	-
25	CLA	A	763	-	1/1/15/20	14/37/115/115	-
31	DD6	o	621	-	-	3/26/80/80	0/3/3/3
31	DD6	A	4002	-	-	3/26/80/80	0/3/3/3
26	LMT	A	754	-	-	7/21/61/61	0/2/2/2
25	CLA	g	615	-	1/1/10/20	0/10/88/115	-
25	CLA	e	608	-	1/1/11/20	6/17/95/115	-
30	SQD	j	200	-	-	12/31/51/69	0/1/1/1
31	DD6	n	621	-	-	13/26/80/80	0/3/3/3
25	CLA	A	797	-	1/1/11/20	7/18/96/115	-
25	CLA	A	808	-	1/1/12/20	10/23/101/115	-
25	CLA	b	612	-	1/1/12/20	11/22/100/115	-
27	LHG	d	237	-	-	14/33/33/53	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	CLA	A	776	-	1/1/15/20	8/37/115/115	-
25	CLA	j	611	-	1/1/12/20	6/19/97/115	-
27	LHG	a	181	-	-	9/30/30/53	-
27	LHG	i	194	-	-	19/40/40/53	-
31	DD6	k	621	-	-	3/26/80/80	0/3/3/3
25	CLA	f	609	-	1/1/10/20	4/10/88/115	-
25	CLA	k	618	-	1/1/12/20	3/19/97/115	-
25	CLA	m	610	-	1/1/10/20	4/10/88/115	-
25	CLA	p	602	-	1/1/10/20	7/11/89/115	-
25	CLA	e	610	-	1/1/13/20	6/25/103/115	-
25	CLA	k	612	-	1/1/10/20	2/11/89/115	-
25	CLA	B	755	-	1/1/14/20	15/31/109/115	-
35	CHL	e	606	-	3/3/16/26	8/15/113/137	-
31	DD6	d	621	-	-	3/26/80/80	0/3/3/3
25	CLA	a	611	-	1/1/11/20	6/13/91/115	-
25	CLA	n	608	-	1/1/10/20	2/8/86/115	-
25	CLA	B	780	-	1/1/12/20	7/23/101/115	-
25	CLA	i	602	-	1/1/14/20	11/36/114/115	-
25	CLA	B	779	-	1/1/15/20	15/37/115/115	-
25	CLA	p	608	-	1/1/10/20	4/10/88/115	-
25	CLA	l	612	-	1/1/10/20	6/11/89/115	-
27	LHG	h	189	-	-	14/33/33/53	-
25	CLA	h	609	-	1/1/12/20	8/19/97/115	-
25	CLA	e	604	-	1/1/12/20	4/19/97/115	-
31	DD6	p	621	-	-	3/26/80/80	0/3/3/3
25	CLA	e	605	-	1/1/10/20	3/10/88/115	-
25	CLA	c	619	-	1/1/10/20	5/8/86/115	-
25	CLA	B	748	-	1/1/13/20	12/30/108/115	-
27	LHG	b	181	-	-	24/35/35/53	-
25	CLA	A	758	-	1/1/15/20	8/37/115/115	-
25	CLA	d	610	-	1/1/13/20	12/30/108/115	-
25	CLA	p	601	-	1/1/10/20	3/10/88/115	-
25	CLA	g	609	-	1/1/12/20	5/19/97/115	-
25	CLA	l	614	-	1/1/10/20	5/10/88/115	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	CLA	A	804	-	1/1/12/20	8/19/97/115	-
25	CLA	A	800	-	1/1/11/20	5/17/95/115	-
25	CLA	n	609	-	1/1/11/20	5/13/91/115	-
31	DD6	e	623	-	-	15/26/80/80	0/3/3/3
31	DD6	a	620	-	-	5/26/80/80	0/3/3/3
25	CLA	A	765	-	1/1/13/20	10/30/108/115	-
25	CLA	B	778	-	1/1/14/20	12/35/113/115	-
31	DD6	d	620	-	-	2/26/80/80	0/3/3/3
25	CLA	f	608	-	1/1/10/20	2/10/88/115	-
25	CLA	n	613	-	1/1/10/20	4/10/88/115	-
29	BCR	A	787	-	-	5/29/63/63	0/2/2/2
25	CLA	h	601	-	1/1/12/20	9/19/97/115	-
25	CLA	A	799	-	1/1/14/20	15/31/109/115	-
25	CLA	f	601	-	1/1/10/20	5/10/88/115	-
25	CLA	c	614	-	1/1/10/20	4/10/88/115	-
25	CLA	B	756	-	1/1/14/20	16/31/109/115	-
25	CLA	J	101	-	1/1/12/20	12/19/97/115	-
25	CLA	i	609	-	1/1/10/20	2/11/89/115	-
25	CLA	c	610	-	1/1/13/20	11/25/103/115	-
25	CLA	n	604	-	1/1/11/20	6/17/95/115	-
25	CLA	l	601	-	1/1/10/20	4/10/88/115	-
31	DD6	f	621	-	-	7/26/80/80	0/3/3/3
32	SF4	C	83	-	-	-	0/6/5/5
25	CLA	e	603	-	1/1/11/20	5/13/91/115	-
25	CLA	b	604	-	1/1/11/20	3/13/91/115	-
25	CLA	A	769	-	1/1/15/20	13/37/115/115	-
25	CLA	b	609	-	1/1/11/20	3/13/91/115	-
25	CLA	j	613	-	1/1/14/20	10/34/112/115	-
25	CLA	e	601	-	1/1/10/20	5/8/86/115	-
29	BCR	B	762	-	-	7/29/63/63	0/2/2/2
25	CLA	k	602	-	1/1/12/20	8/23/101/115	-
31	DD6	i	620	-	-	2/26/80/80	0/3/3/3
25	CLA	o	604	-	1/1/10/20	2/10/88/115	-
25	CLA	g	611	-	1/1/10/20	3/10/88/115	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	CLA	A	760	-	1/1/15/20	21/37/115/115	-
25	CLA	n	606	-	1/1/10/20	4/10/88/115	-
25	CLA	e	612	-	1/1/10/20	2/11/89/115	-
25	CLA	A	771	-	1/1/13/20	10/28/106/115	-
25	CLA	h	602	-	1/1/13/20	13/25/103/115	-
31	DD6	l	620	-	-	2/26/80/80	0/3/3/3
25	CLA	k	610	-	1/1/13/20	12/28/106/115	-
28	PQN	B	761	-	-	7/23/43/43	0/2/2/2
29	BCR	B	763	-	-	2/29/63/63	0/2/2/2
31	DD6	m	620	-	-	5/26/80/80	0/3/3/3
25	CLA	m	604	-	1/1/10/20	5/11/89/115	-
25	CLA	A	806	-	1/1/11/20	2/13/91/115	-
25	CLA	h	608	-	1/1/11/20	7/17/95/115	-
25	CLA	h	618	-	1/1/10/20	2/11/89/115	-
28	PQN	d	223	-	-	5/15/35/43	0/2/2/2
25	CLA	A	803	-	1/1/12/20	8/21/99/115	-
31	DD6	F	4002	-	-	18/26/80/80	0/3/3/3
25	CLA	o	601	-	1/1/10/20	2/8/86/115	-
34	DGD	e	205	-	-	6/24/64/95	0/2/2/2
25	CLA	h	612	-	1/1/13/20	8/29/107/115	-
25	CLA	i	611	-	1/1/10/20	4/11/89/115	-
25	CLA	g	601	-	1/1/10/20	4/10/88/115	-
25	CLA	B	758	-	1/1/15/20	20/37/115/115	-
25	CLA	B	741	-	1/1/15/20	15/37/115/115	-
31	DD6	a	621	-	-	0/26/80/80	0/3/3/3
25	CLA	h	615	-	1/1/10/20	4/10/88/115	-
27	LHG	h	190	-	-	11/35/35/53	-
25	CLA	A	784	-	1/1/15/20	15/37/115/115	-
25	CLA	o	612	-	1/1/9/20	4/11/85/115	-
25	CLA	B	759	-	1/1/10/20	4/11/89/115	-
25	CLA	k	604	-	1/1/15/20	18/37/115/115	-
25	CLA	b	611	-	1/1/10/20	4/10/88/115	-
25	CLA	B	745	-	1/1/14/20	19/35/113/115	-
25	CLA	A	772	-	1/1/14/20	11/35/113/115	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
27	LHG	g	189	-	-	25/39/39/53	-
25	CLA	f	604	-	1/1/10/20	5/10/88/115	-
25	CLA	A	761	-	1/1/15/20	12/37/115/115	-
25	CLA	i	603	-	1/1/10/20	6/11/89/115	-
25	CLA	a	603	-	1/1/12/20	8/23/101/115	-
31	DD6	i	621	-	-	3/26/80/80	0/3/3/3
25	CLA	B	776	-	1/1/13/20	10/30/108/115	-
25	CLA	a	604	-	1/1/11/20	7/13/91/115	-
35	CHL	c	607	-	3/3/16/26	6/19/117/137	-
25	CLA	c	606	-	1/1/10/20	4/11/89/115	-
29	BCR	B	765	-	-	11/29/63/63	0/2/2/2
25	CLA	l	617	-	1/1/10/20	6/10/88/115	-
25	CLA	n	605	-	1/1/10/20	6/10/88/115	-
31	DD6	b	620	-	-	5/26/80/80	0/3/3/3
25	CLA	b	603	-	1/1/10/20	6/11/89/115	-
25	CLA	d	614	-	1/1/10/20	4/10/88/115	-
25	CLA	c	613	-	1/1/12/20	8/23/101/115	-
25	CLA	j	610	-	1/1/14/20	18/36/114/115	-
25	CLA	B	760	-	1/1/10/20	4/11/89/115	-
33	LMG	B	786	-	-	19/47/67/70	0/1/1/1
25	CLA	i	614	-	1/1/10/20	3/10/88/115	-
31	DD6	J	4002	-	-	2/26/80/80	0/3/3/3
25	CLA	A	755	-	1/1/14/20	8/31/109/115	-
25	CLA	A	791	-	1/1/14/20	10/35/113/115	-
25	CLA	o	613	-	1/1/10/20	8/10/88/115	-
25	CLA	m	611	-	1/1/10/20	3/11/89/115	-
25	CLA	c	604	-	1/1/11/20	4/17/95/115	-
25	CLA	k	615	-	1/1/10/20	3/10/88/115	-
25	CLA	B	743	-	1/1/10/20	4/10/88/115	-
25	CLA	B	754	-	1/1/10/20	5/11/89/115	-
29	BCR	B	767	-	-	5/29/63/63	0/2/2/2
30	SQD	A	795	-	-	10/21/41/69	0/1/1/1
25	CLA	l	603	-	1/1/10/20	2/11/89/115	-
25	CLA	B	777	-	1/1/12/20	11/23/101/115	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	CLA	B	781	-	1/1/15/20	11/37/115/115	-
25	CLA	B	738	-	1/1/15/20	16/37/115/115	-
25	CLA	A	753	-	1/1/14/20	8/35/113/115	-
25	CLA	B	746	-	1/1/14/20	11/36/114/115	-
25	CLA	A	767	-	1/1/10/20	4/11/89/115	-
35	CHL	d	607	-	3/3/15/26	4/12/110/137	-
25	CLA	i	608	-	1/1/15/20	13/37/115/115	-
25	CLA	j	608	-	1/1/11/20	5/16/94/115	-
25	CLA	l	609	-	1/1/14/20	13/31/109/115	-
31	DD6	c	623	-	-	8/26/80/80	0/3/3/3
25	CLA	p	609	-	1/1/12/20	10/19/97/115	-
25	CLA	l	613	-	1/1/11/20	7/17/95/115	-
31	DD6	m	621	-	-	6/26/80/80	0/3/3/3
25	CLA	e	602	-	1/1/15/20	18/37/115/115	-
25	CLA	k	608	-	1/1/12/20	2/19/97/115	-
29	BCR	A	792	-	-	17/29/63/63	0/2/2/2
25	CLA	e	609	-	1/1/12/20	6/22/100/115	-
25	CLA	n	602	-	1/1/13/20	14/30/108/115	-
25	CLA	m	601	-	1/1/10/20	5/10/88/115	-
27	LHG	m	182	-	-	20/36/36/53	-
25	CLA	A	752	-	1/1/15/20	18/37/115/115	-
25	CLA	k	613	-	1/1/12/20	10/22/100/115	-
25	CLA	m	608	-	1/1/10/20	0/10/88/115	-
34	DGD	b	182	-	-	18/37/77/95	0/2/2/2
25	CLA	A	768	-	1/1/13/20	10/27/105/115	-
35	CHL	d	608	-	3/3/16/26	6/15/113/137	-
25	CLA	f	602	-	1/1/13/20	14/30/108/115	-
25	CLA	p	610	-	1/1/11/20	9/13/91/115	-
25	CLA	i	613	-	1/1/13/20	9/30/108/115	-
25	CLA	n	603	-	1/1/13/20	14/25/103/115	-
31	DD6	h	620	-	-	3/26/80/80	0/3/3/3
25	CLA	i	610	-	1/1/13/20	10/25/103/115	-
25	CLA	A	759	-	1/1/14/20	11/31/109/115	-
25	CLA	A	807	-	1/1/11/20	5/17/95/115	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	CLA	n	612	-	1/1/10/20	4/10/88/115	-
25	CLA	a	613	-	1/1/13/20	14/25/103/115	-
25	CLA	g	602	-	1/1/12/20	14/23/101/115	-
25	CLA	j	604	-	1/1/13/20	11/28/106/115	-
25	CLA	o	602	-	1/1/11/20	8/16/94/115	-
25	CLA	l	611	-	1/1/10/20	3/11/89/115	-
25	CLA	d	613	-	1/1/10/20	4/10/88/115	-
25	CLA	f	610	-	1/1/13/20	15/25/103/115	-
34	DGD	B	787	-	-	19/43/83/95	0/2/2/2
25	CLA	f	603	-	1/1/10/20	1/11/89/115	-
25	CLA	b	610	-	1/1/10/20	2/10/88/115	-
25	CLA	B	740	-	1/1/10/20	2/10/88/115	-
25	CLA	g	604	-	1/1/10/20	5/11/89/115	-
25	CLA	b	605	-	1/1/11/20	4/13/91/115	-
25	CLA	f	612	-	1/1/10/20	4/10/88/115	-
25	CLA	c	609	-	1/1/14/20	16/31/109/115	-
31	DD6	b	621	-	-	1/26/80/80	0/3/3/3
25	CLA	e	611	-	1/1/10/20	3/10/88/115	-
25	CLA	o	610	-	1/1/10/20	0/8/86/115	-
25	CLA	o	608	-	1/1/10/20	3/11/89/115	-
25	CLA	B	774	-	1/1/14/20	13/31/109/115	-
25	CLA	d	601	-	1/1/12/20	6/19/97/115	-
31	DD6	j	620	-	-	4/26/80/80	0/3/3/3
31	DD6	c	621	-	-	0/26/80/80	0/3/3/3
25	CLA	A	770	-	1/1/15/20	10/37/115/115	-
25	CLA	b	613	-	1/1/10/20	5/10/88/115	-
25	CLA	A	783	-	1/1/15/20	10/37/115/115	-
25	CLA	B	742	-	1/1/10/20	1/11/89/115	-
25	CLA	p	603	-	1/1/10/20	4/10/88/115	-
25	CLA	p	612	-	1/1/10/20	5/11/89/115	-
25	CLA	i	601	-	1/1/12/20	12/23/101/115	-
25	CLA	A	794	-	1/1/13/20	8/28/106/115	-

The worst 5 of 2286 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
27	b	181	LHG	P-O3	6.37	1.85	1.59
27	m	182	LHG	P-O3	6.32	1.84	1.59
27	c	243	LHG	P-O3	6.28	1.84	1.59
27	d	237	LHG	P-O3	6.22	1.84	1.59
27	h	189	LHG	P-O3	6.19	1.84	1.59

The worst 5 of 3391 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	A	774	CLA	C4A-NA-C1A	11.56	111.90	106.71
25	k	603	CLA	C4A-NA-C1A	11.50	111.88	106.71
25	B	737	CLA	C4A-NA-C1A	11.20	111.74	106.71
25	o	612	CLA	C4A-NA-C1A	11.17	111.73	106.71
25	A	777	CLA	C4A-NA-C1A	11.10	111.70	106.71

5 of 294 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
25	A	752	CLA	ND
25	A	753	CLA	ND
25	A	755	CLA	ND
25	A	757	CLA	ND
25	A	758	CLA	ND

5 of 2730 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
25	A	752	CLA	CHA-CBD-CGD-O2D
25	A	753	CLA	C1-C2-C3-C4
25	A	753	CLA	C1-C2-C3-C5
25	A	759	CLA	CHA-CBD-CGD-O2D
25	A	760	CLA	CHA-CBD-CGD-O1D

There are no ring outliers.

259 monomers are involved in 540 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
27	c	243	LHG	3	0
25	a	608	CLA	3	0
25	c	601	CLA	1	0
25	B	737	CLA	4	0
25	B	773	CLA	5	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	i	612	CLA	1	0
25	l	604	CLA	1	0
25	d	604	CLA	2	0
25	o	614	CLA	4	0
25	b	601	CLA	1	0
27	A	786	LHG	5	0
25	B	771	CLA	3	0
27	A	756	LHG	2	0
25	b	602	CLA	1	0
25	B	747	CLA	4	0
35	d	605	CHL	1	0
31	d	623	DD6	1	0
28	A	785	PQN	5	0
25	a	619	CLA	5	0
25	c	602	CLA	2	0
25	A	777	CLA	4	0
25	h	613	CLA	3	0
25	h	603	CLA	1	0
29	B	766	BCR	8	0
25	a	601	CLA	1	0
27	j	198	LHG	4	0
25	c	608	CLA	3	0
25	n	607	CLA	1	0
25	c	603	CLA	4	0
29	A	796	BCR	2	0
25	f	615	CLA	1	0
25	B	751	CLA	4	0
25	g	613	CLA	3	0
25	c	612	CLA	3	0
25	A	805	CLA	2	0
25	A	780	CLA	3	0
25	B	757	CLA	2	0
25	B	770	CLA	1	0
25	f	614	CLA	1	0
25	k	603	CLA	1	0
29	A	789	BCR	1	0
25	g	608	CLA	4	0
25	B	736	CLA	9	0
25	A	775	CLA	7	0
35	d	606	CHL	2	0
25	B	782	CLA	4	0
25	j	601	CLA	4	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
29	B	764	BCR	5	0
25	A	766	CLA	5	0
25	h	610	CLA	9	0
25	l	610	CLA	4	0
25	A	764	CLA	1	0
25	A	801	CLA	1	0
25	B	753	CLA	6	0
25	B	739	CLA	5	0
25	b	608	CLA	1	0
25	A	774	CLA	3	0
25	m	613	CLA	1	0
25	a	602	CLA	7	0
25	d	611	CLA	1	0
25	i	615	CLA	2	0
25	i	604	CLA	1	0
25	B	785	CLA	3	0
25	j	609	CLA	2	0
25	B	752	CLA	6	0
25	m	602	CLA	5	0
25	B	750	CLA	4	0
25	h	611	CLA	1	0
25	g	610	CLA	7	0
25	A	773	CLA	3	0
25	e	613	CLA	1	0
29	A	788	BCR	3	0
30	g	190	SQD	2	0
25	o	609	CLA	1	0
25	m	603	CLA	1	0
25	d	603	CLA	2	0
25	l	602	CLA	4	0
25	B	749	CLA	1	0
25	B	783	CLA	3	0
25	B	784	CLA	2	0
25	k	609	CLA	1	0
25	A	757	CLA	1	0
25	A	793	CLA	3	0
25	p	613	CLA	1	0
25	d	602	CLA	1	0
25	B	772	CLA	3	0
29	A	790	BCR	2	0
25	c	611	CLA	3	0
29	M	201	BCR	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	h	604	CLA	2	0
25	B	744	CLA	1	0
25	A	798	CLA	3	0
25	n	610	CLA	1	0
25	j	618	CLA	1	0
25	A	781	CLA	2	0
25	a	610	CLA	3	0
33	k	179	LMG	3	0
25	a	609	CLA	1	0
25	g	603	CLA	1	0
25	B	775	CLA	5	0
25	f	613	CLA	3	0
25	g	612	CLA	1	0
25	A	782	CLA	2	0
25	l	608	CLA	1	0
25	A	763	CLA	3	0
25	g	615	CLA	1	0
25	e	608	CLA	3	0
31	n	621	DD6	1	0
25	A	797	CLA	2	0
25	A	808	CLA	2	0
25	b	612	CLA	4	0
27	d	237	LHG	3	0
25	A	776	CLA	3	0
25	j	611	CLA	2	0
27	a	181	LHG	1	0
27	i	194	LHG	2	0
25	k	618	CLA	2	0
25	m	610	CLA	3	0
25	p	602	CLA	3	0
25	e	610	CLA	4	0
25	k	612	CLA	1	0
25	B	755	CLA	2	0
25	a	611	CLA	1	0
25	n	608	CLA	3	0
25	B	780	CLA	2	0
25	i	602	CLA	2	0
25	B	779	CLA	2	0
25	p	608	CLA	1	0
27	h	189	LHG	1	0
25	h	609	CLA	2	0
25	e	604	CLA	1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	e	605	CLA	1	0
25	B	748	CLA	1	0
27	b	181	LHG	3	0
25	A	758	CLA	6	0
25	d	610	CLA	4	0
25	g	609	CLA	3	0
25	l	614	CLA	3	0
25	A	804	CLA	2	0
25	A	800	CLA	2	0
25	n	609	CLA	1	0
25	A	765	CLA	3	0
25	B	778	CLA	7	0
25	f	608	CLA	1	0
29	A	787	BCR	3	0
25	h	601	CLA	3	0
25	A	799	CLA	5	0
25	c	614	CLA	1	0
25	B	756	CLA	4	0
25	J	101	CLA	2	0
25	i	609	CLA	1	0
25	c	610	CLA	3	0
25	n	604	CLA	2	0
25	e	603	CLA	1	0
25	b	604	CLA	3	0
25	A	769	CLA	5	0
25	b	609	CLA	2	0
25	j	613	CLA	4	0
29	B	762	BCR	2	0
25	k	602	CLA	1	0
25	A	760	CLA	6	0
25	n	606	CLA	2	0
25	e	612	CLA	3	0
25	A	771	CLA	2	0
25	h	602	CLA	1	0
25	k	610	CLA	4	0
28	B	761	PQN	2	0
29	B	763	BCR	2	0
31	m	620	DD6	1	0
25	h	608	CLA	3	0
25	o	601	CLA	1	0
34	e	205	DGD	2	0
25	h	612	CLA	2	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	g	601	CLA	2	0
25	B	758	CLA	5	0
25	B	741	CLA	3	0
31	a	621	DD6	1	0
25	h	615	CLA	2	0
27	h	190	LHG	2	0
25	A	784	CLA	7	0
25	o	612	CLA	1	0
25	B	759	CLA	1	0
25	k	604	CLA	1	0
25	B	745	CLA	3	0
25	A	772	CLA	4	0
25	f	604	CLA	1	0
25	A	761	CLA	3	0
25	i	603	CLA	2	0
25	a	603	CLA	1	0
31	i	621	DD6	1	0
25	B	776	CLA	4	0
25	a	604	CLA	1	0
35	c	607	CHL	3	0
25	c	606	CLA	1	0
29	B	765	BCR	4	0
25	l	617	CLA	1	0
25	d	614	CLA	1	0
25	c	613	CLA	2	0
25	j	610	CLA	3	0
25	B	760	CLA	3	0
33	B	786	LMG	5	0
25	i	614	CLA	1	0
25	A	755	CLA	2	0
25	A	791	CLA	6	0
29	B	767	BCR	3	0
25	l	603	CLA	1	0
25	B	777	CLA	5	0
25	B	781	CLA	9	0
25	B	738	CLA	3	0
25	A	753	CLA	7	0
25	B	746	CLA	3	0
25	A	767	CLA	3	0
35	d	607	CHL	2	0
25	i	608	CLA	2	0
25	j	608	CLA	1	0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	l	609	CLA	3	0
25	p	609	CLA	1	0
25	l	613	CLA	1	0
31	m	621	DD6	1	0
25	e	602	CLA	4	0
25	k	608	CLA	3	0
29	A	792	BCR	3	0
25	n	602	CLA	2	0
25	m	601	CLA	5	0
27	m	182	LHG	2	0
25	A	752	CLA	7	0
25	k	613	CLA	2	0
25	m	608	CLA	1	0
34	b	182	DGD	3	0
25	A	768	CLA	3	0
35	d	608	CHL	2	0
25	f	602	CLA	2	0
25	p	610	CLA	1	0
25	i	613	CLA	2	0
25	n	603	CLA	3	0
25	i	610	CLA	3	0
25	n	612	CLA	1	0
25	a	613	CLA	2	0
25	g	602	CLA	3	0
25	j	604	CLA	2	0
25	o	602	CLA	2	0
25	d	613	CLA	1	0
25	f	610	CLA	1	0
34	B	787	DGD	2	0
25	b	610	CLA	2	0
25	b	605	CLA	1	0
25	c	609	CLA	2	0
25	e	611	CLA	1	0
25	o	610	CLA	3	0
25	o	608	CLA	1	0
25	B	774	CLA	5	0
25	d	601	CLA	1	0
25	A	770	CLA	4	0
25	A	783	CLA	5	0
25	B	742	CLA	1	0
25	p	603	CLA	4	0
25	p	612	CLA	1	0

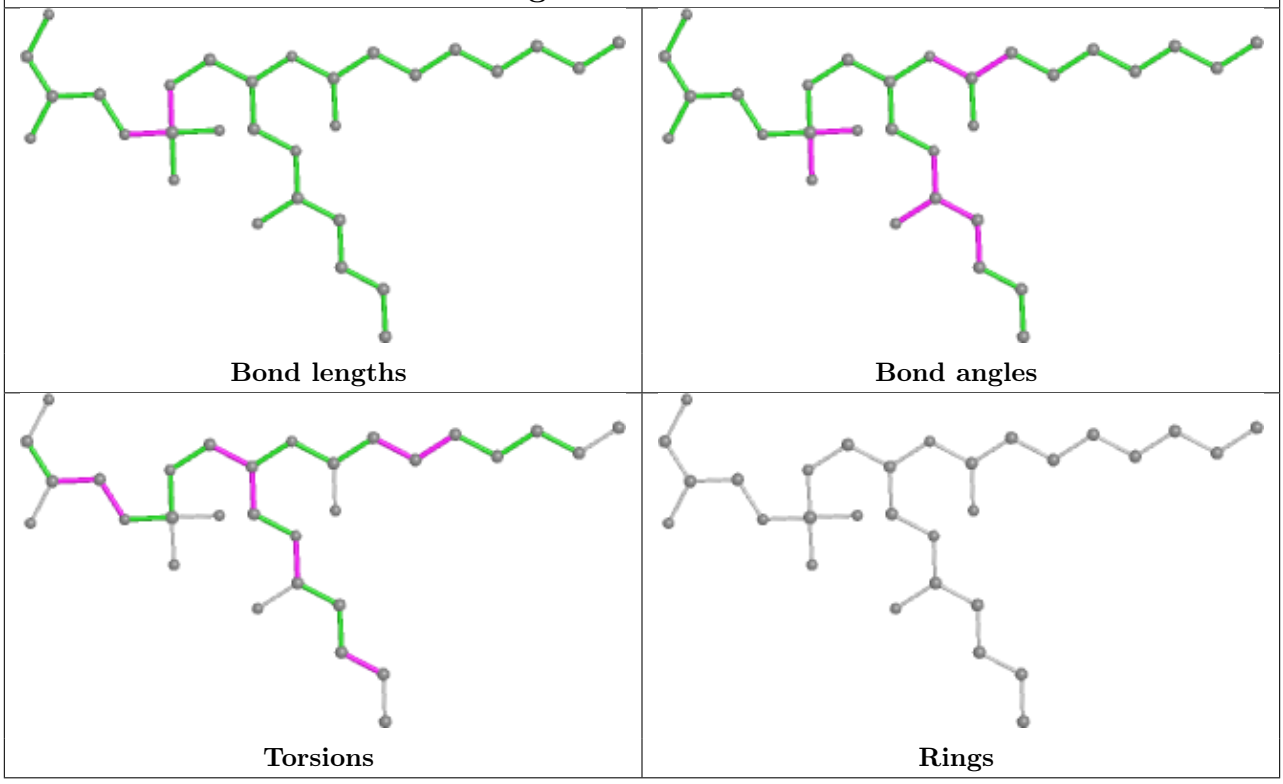
Continued on next page...

Continued from previous page...

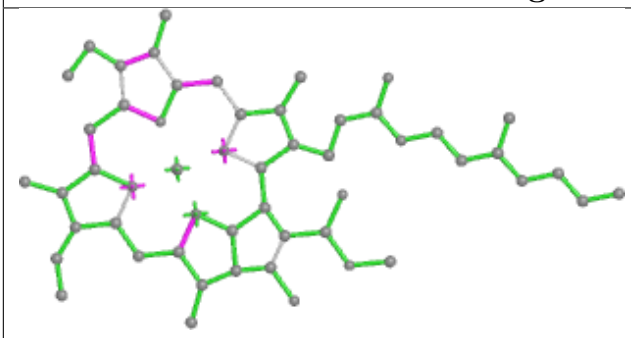
Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	i	601	CLA	2	0
25	A	794	CLA	3	0

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

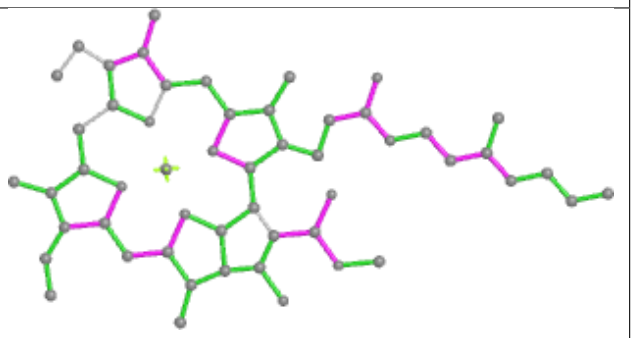
Ligand LHG c 243



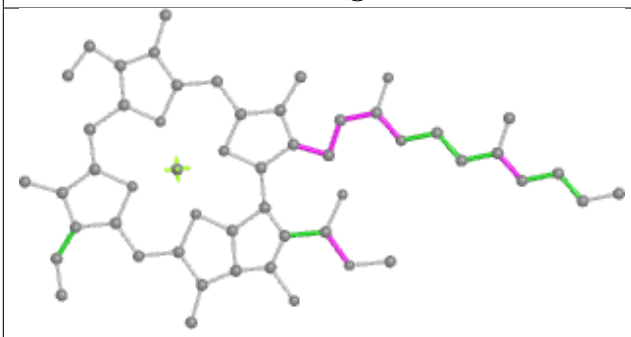
Ligand CLA a 608



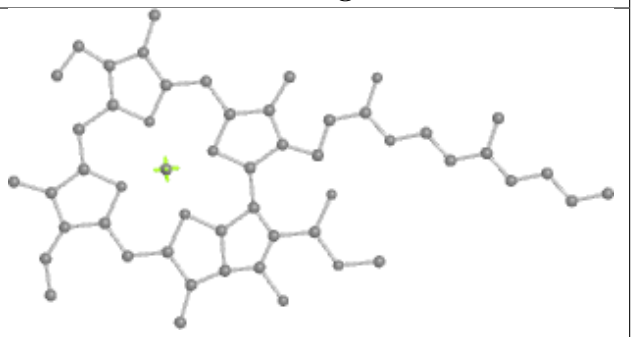
Bond lengths



Bond angles

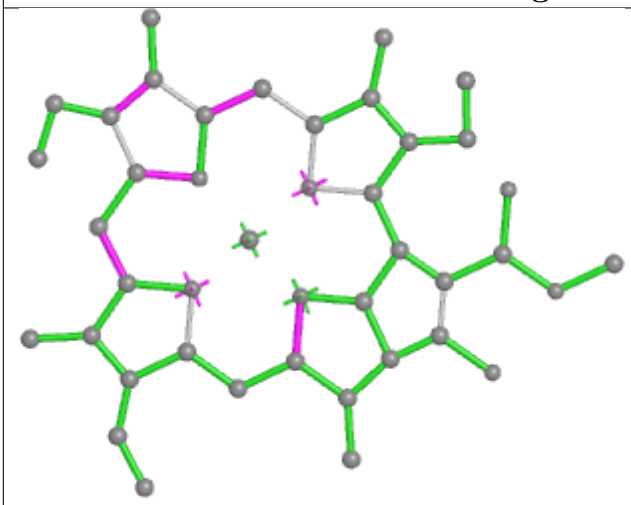


Torsions

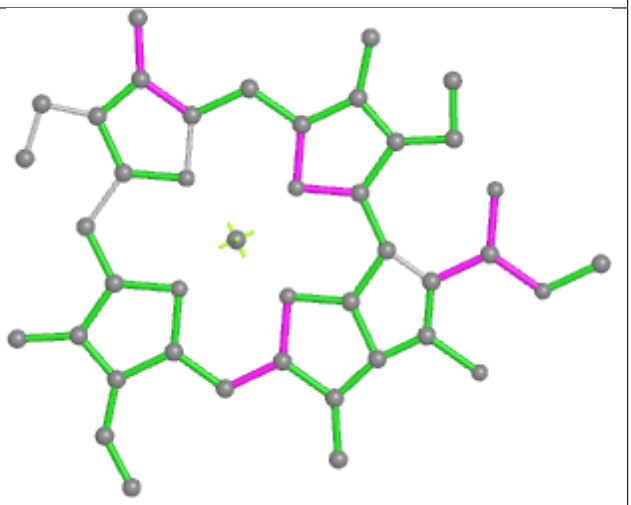


Rings

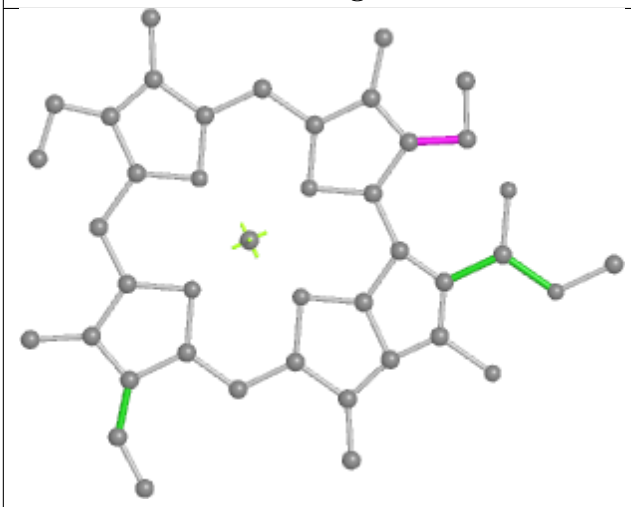
Ligand CLA f 611



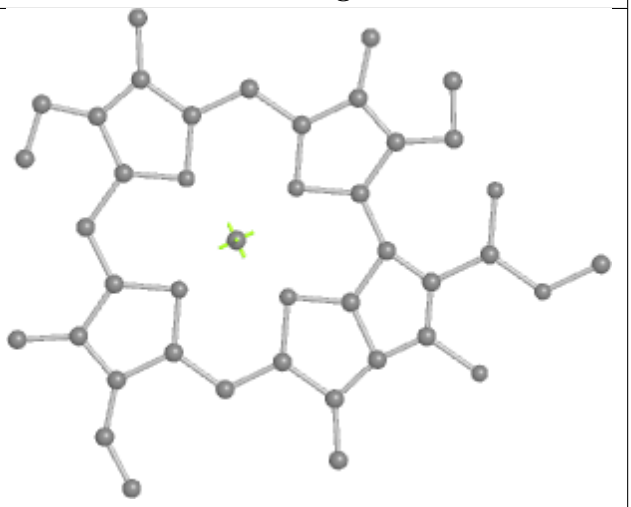
Bond lengths



Bond angles

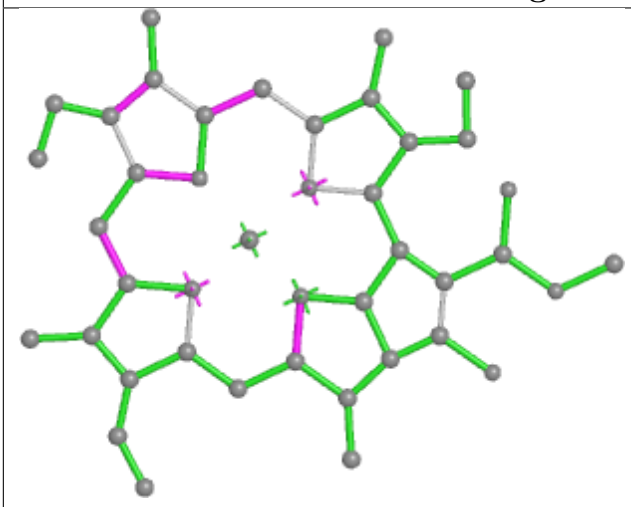


Torsions

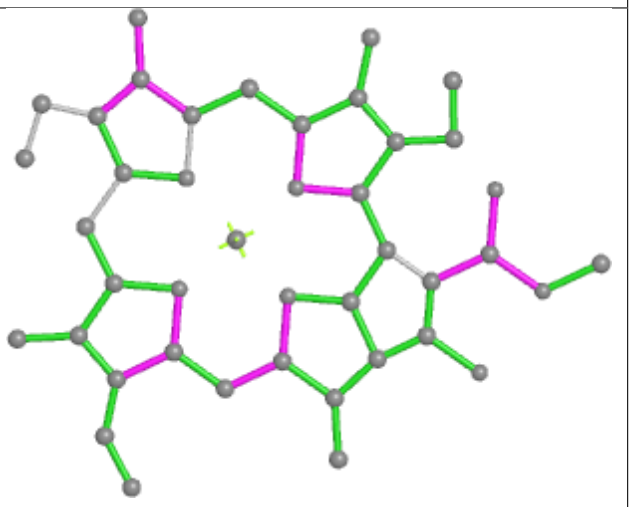


Rings

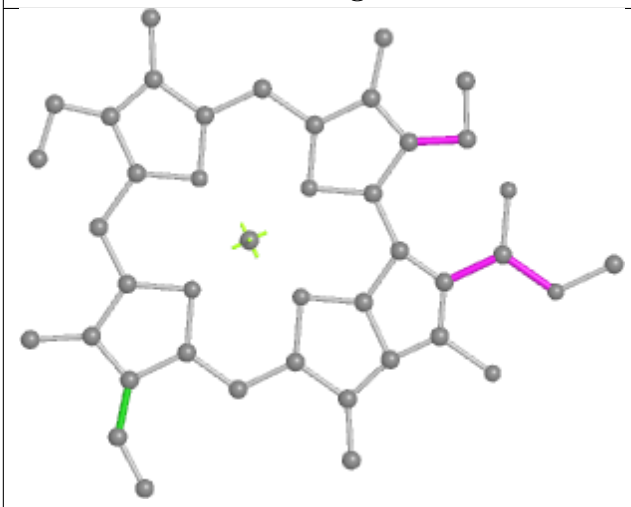
Ligand CLA c 601



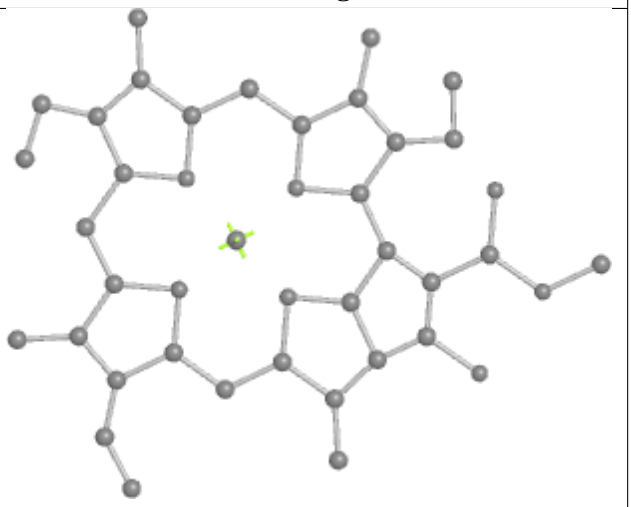
Bond lengths



Bond angles

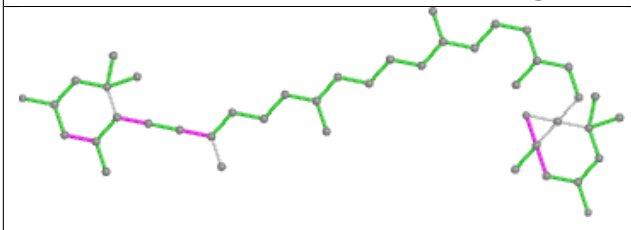


Torsions

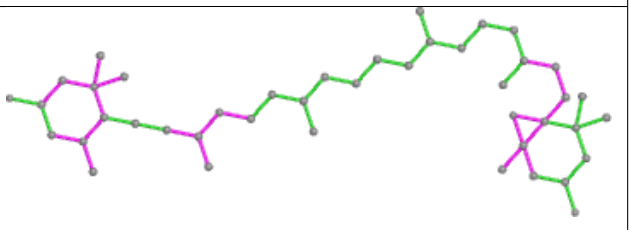


Rings

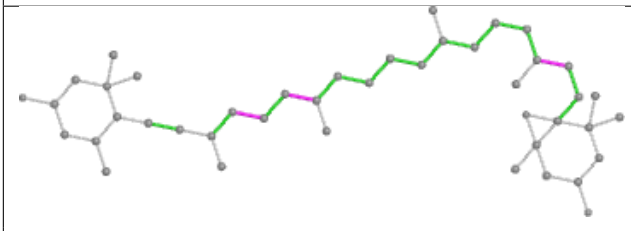
Ligand DD6 e 621



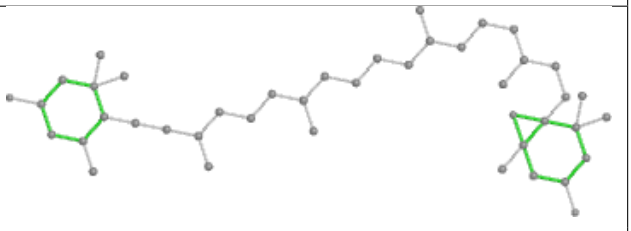
Bond lengths



Bond angles

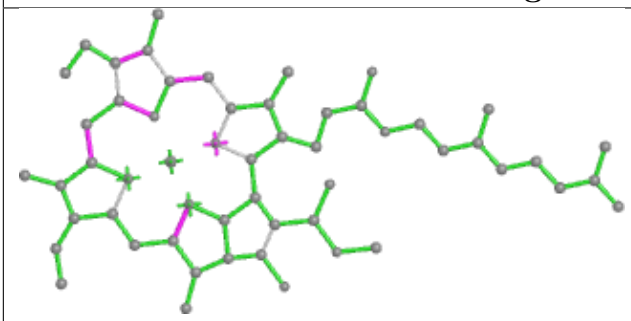


Torsions

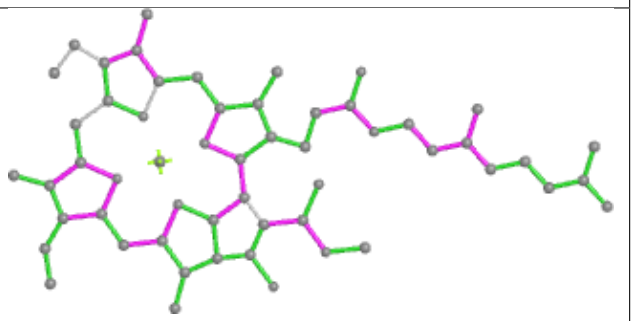


Rings

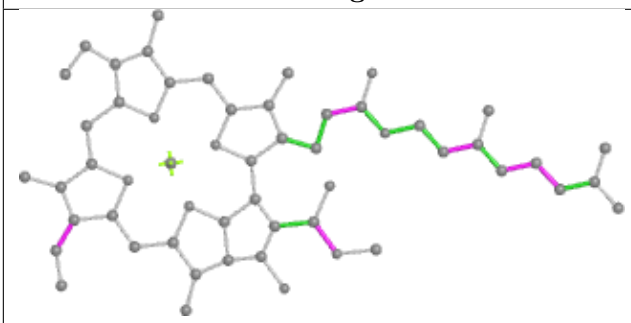
Ligand CLA B 737



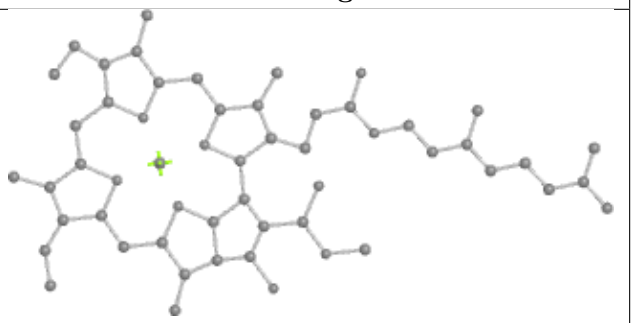
Bond lengths



Bond angles

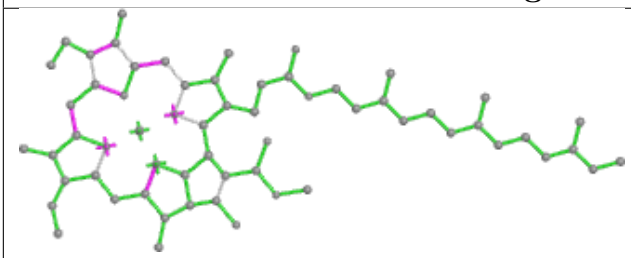


Torsions

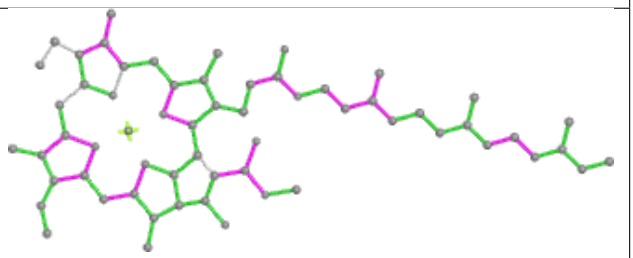


Rings

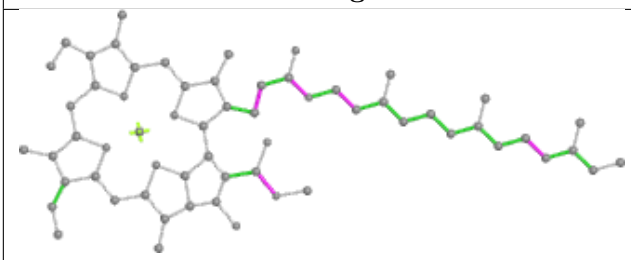
Ligand CLA B 773



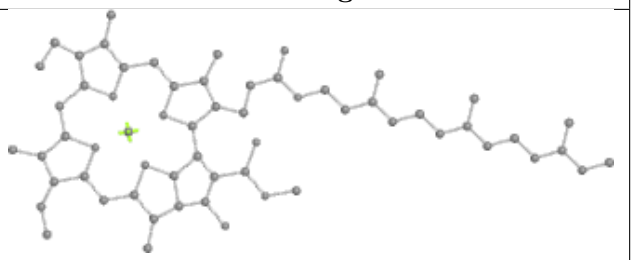
Bond lengths



Bond angles

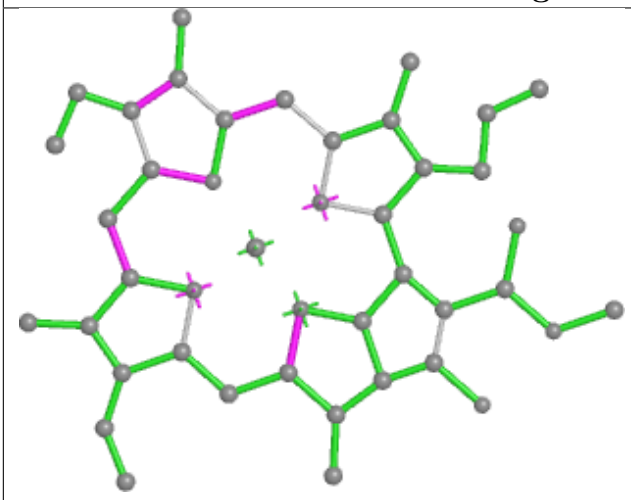


Torsions

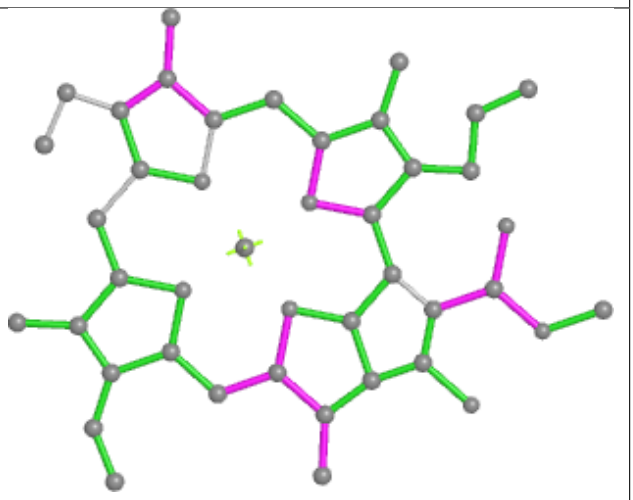


Rings

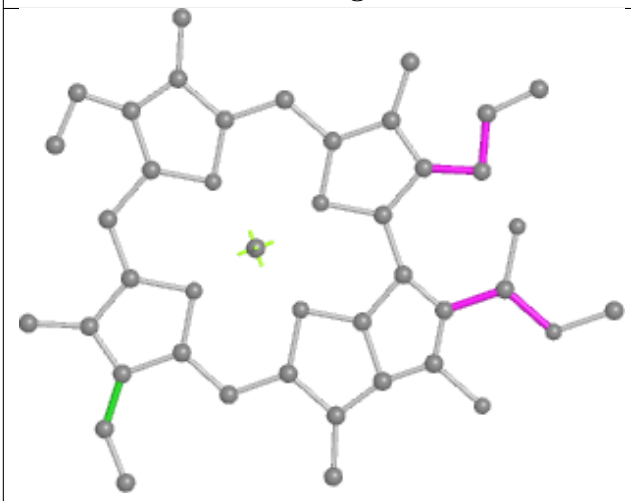
Ligand CLA i 612



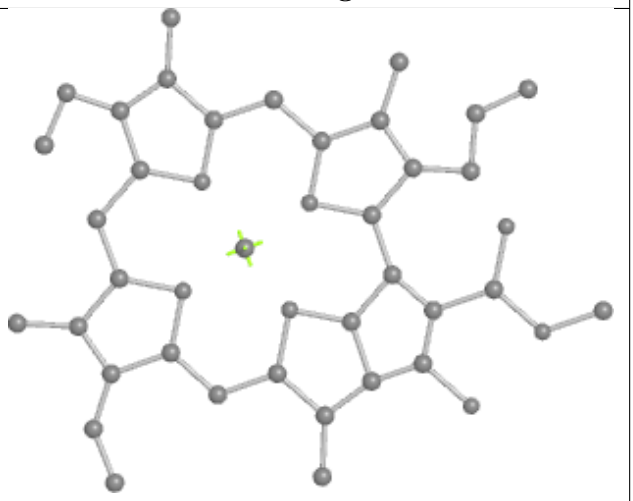
Bond lengths



Bond angles

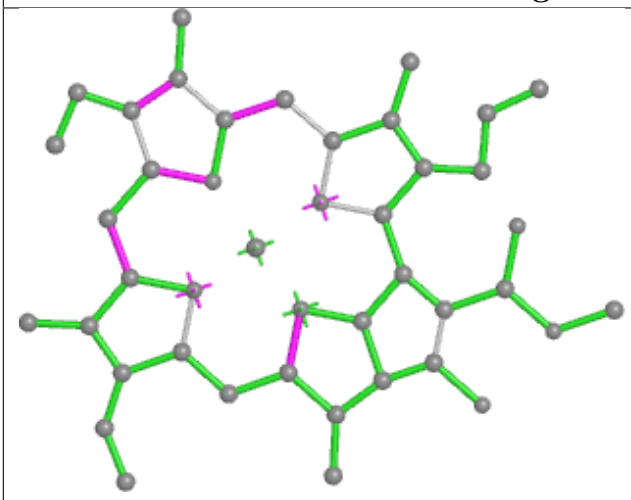


Torsions

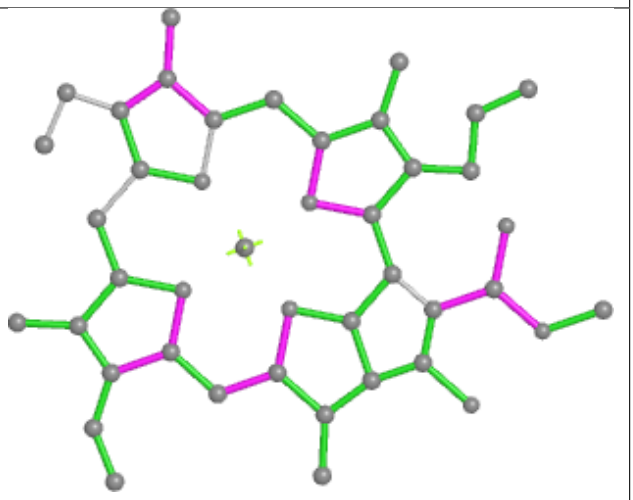


Rings

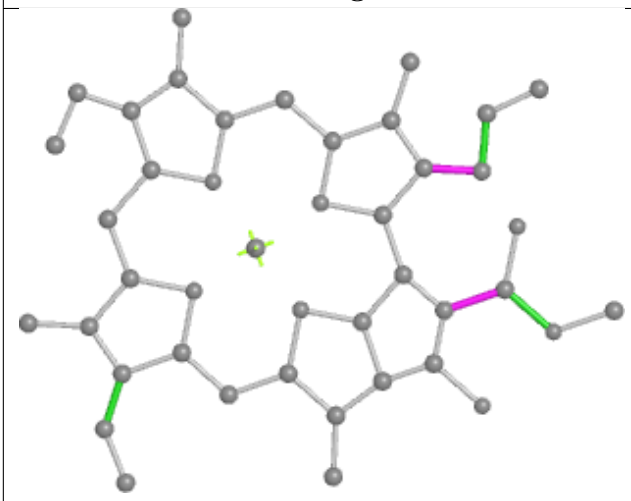
Ligand CLA l 604



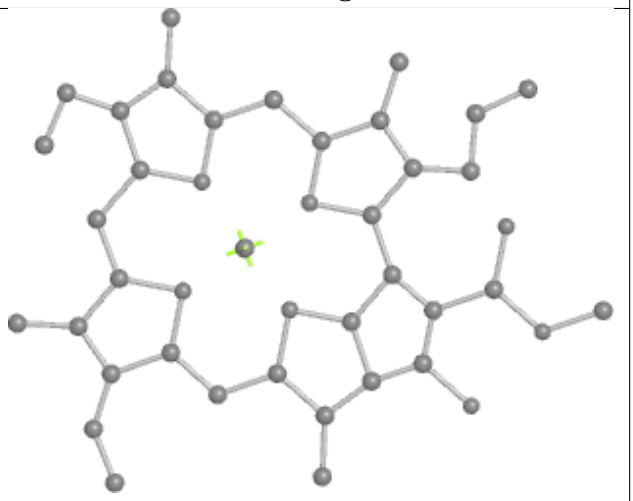
Bond lengths



Bond angles

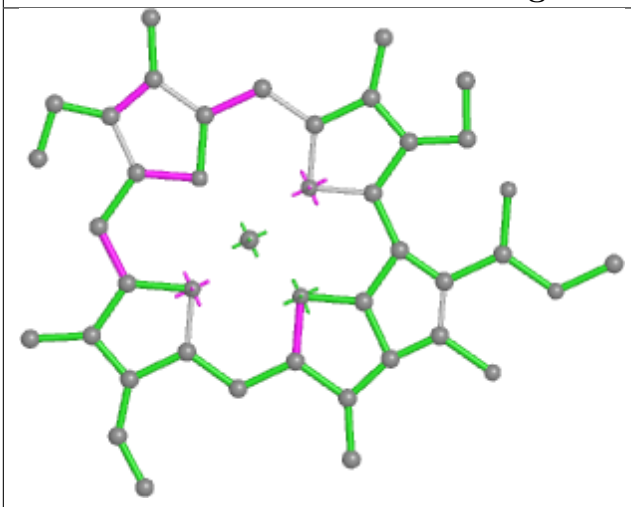


Torsions

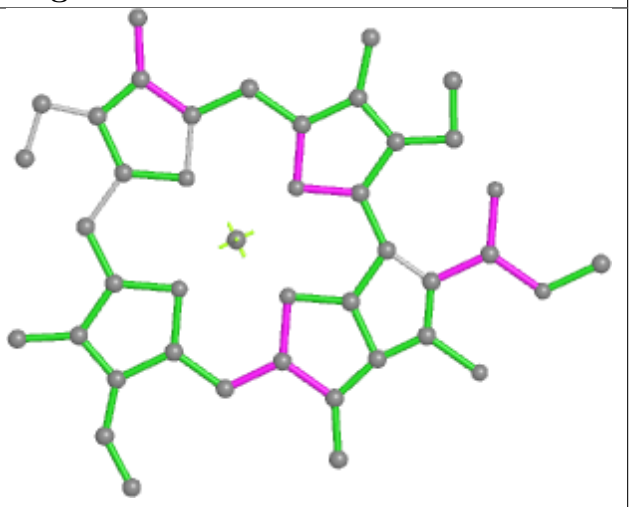


Rings

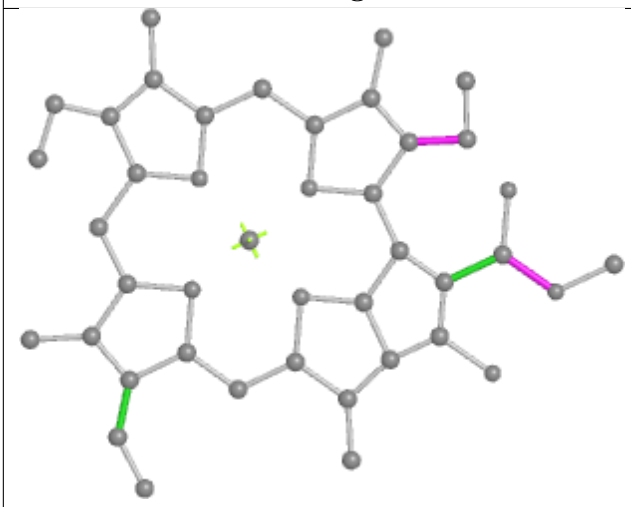
Ligand CLA g 614



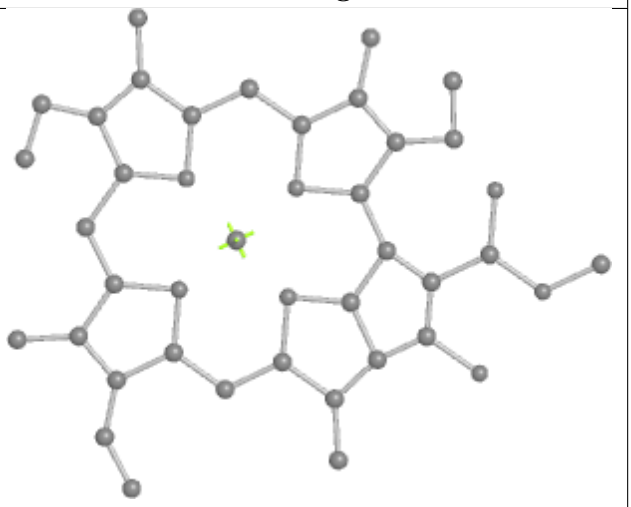
Bond lengths



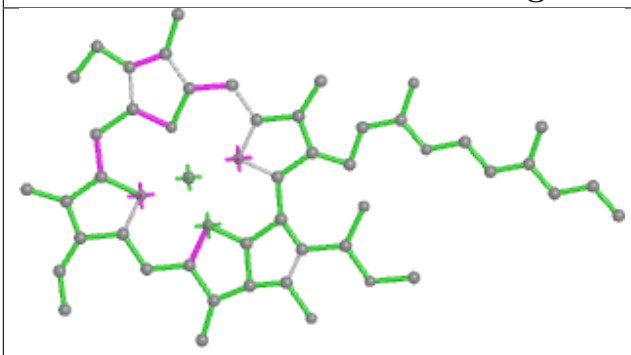
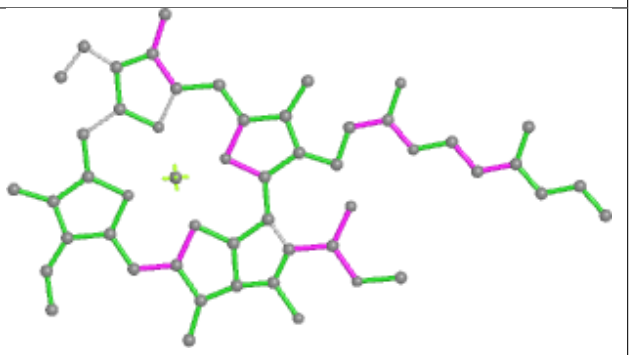
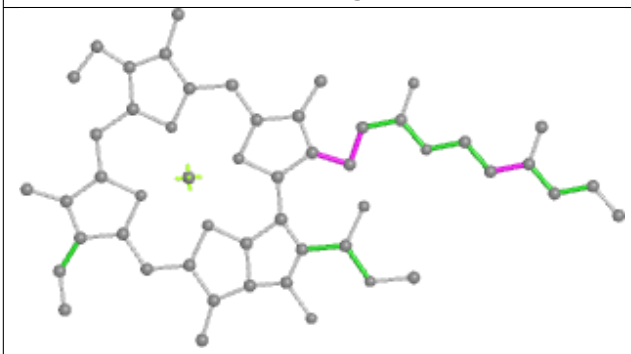
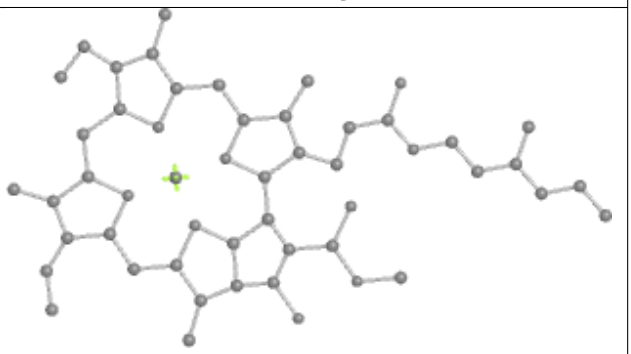
Bond angles



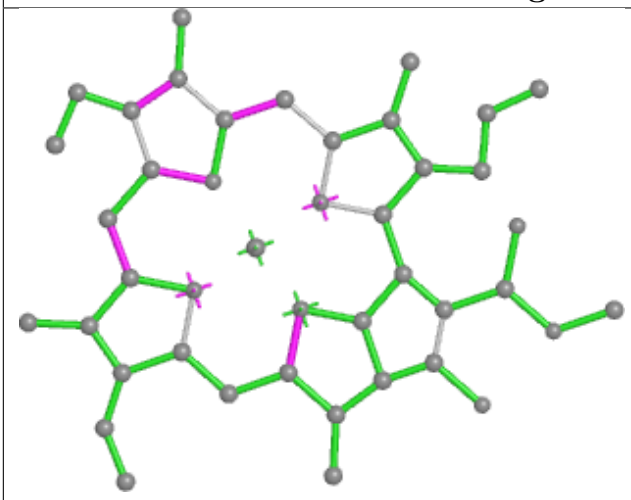
Torsions



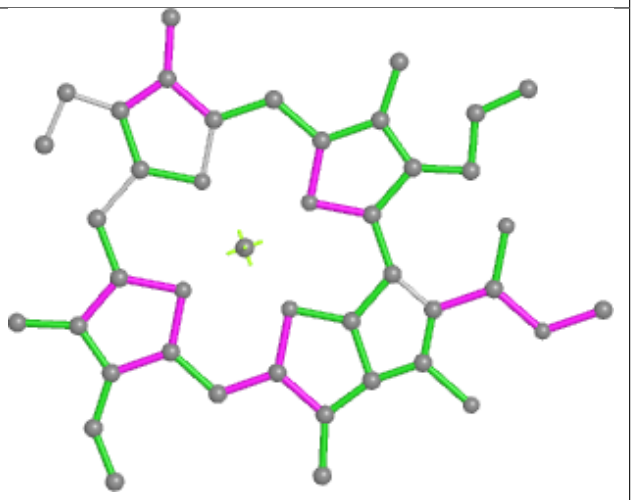
Rings

Ligand CLA d 604	
	
Bond lengths	**Bond angles**
	
Torsions	**Rings**

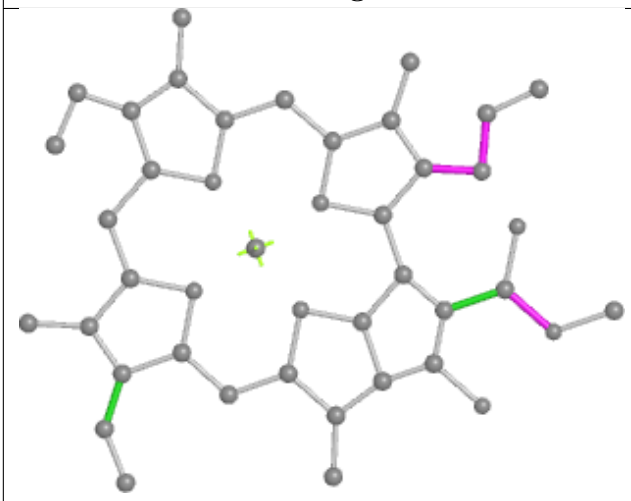
Ligand CLA o 614



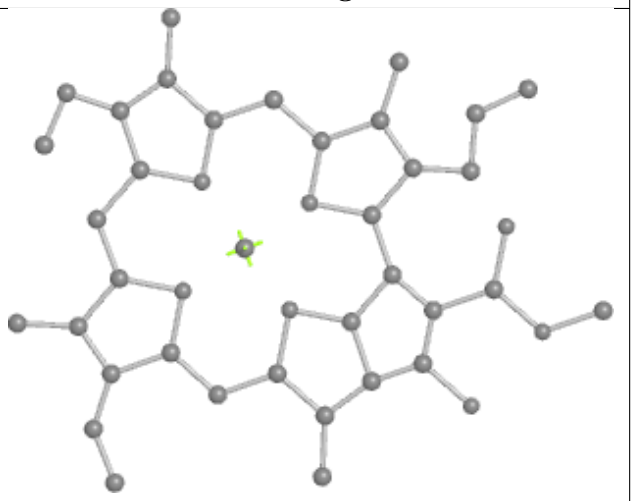
Bond lengths



Bond angles

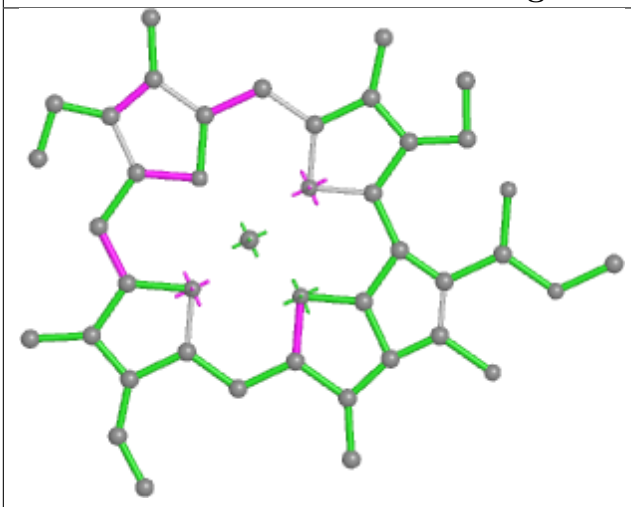


Torsions

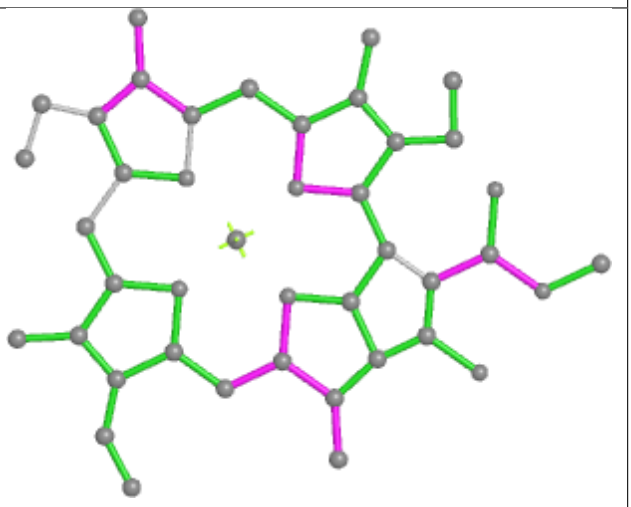


Rings

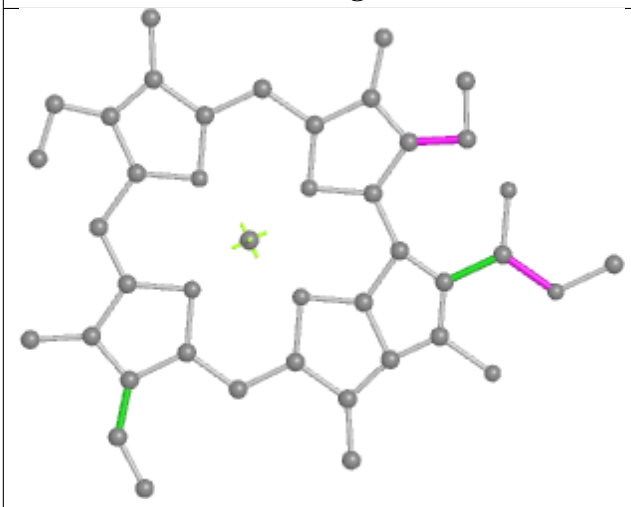
Ligand CLA b 601



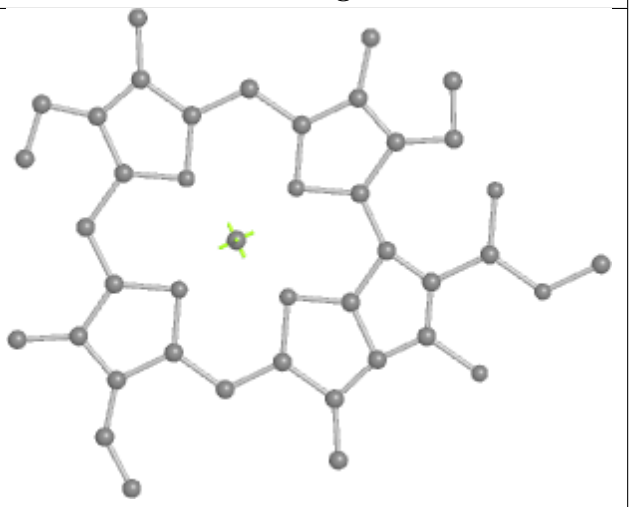
Bond lengths



Bond angles

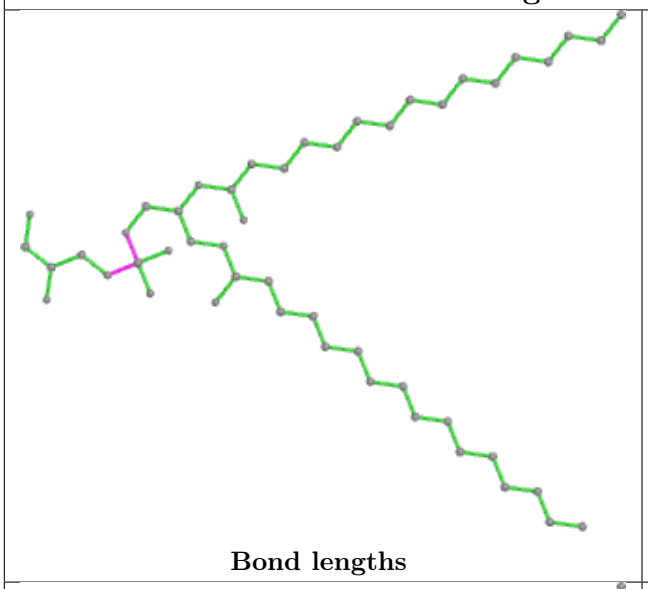


Torsions

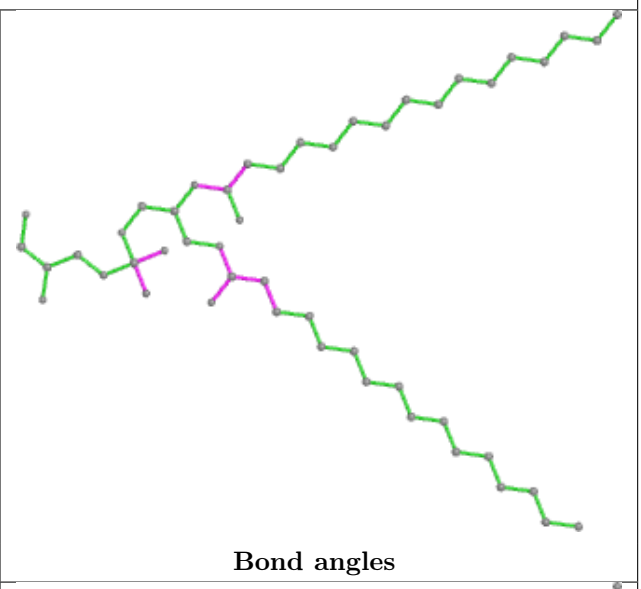


Rings

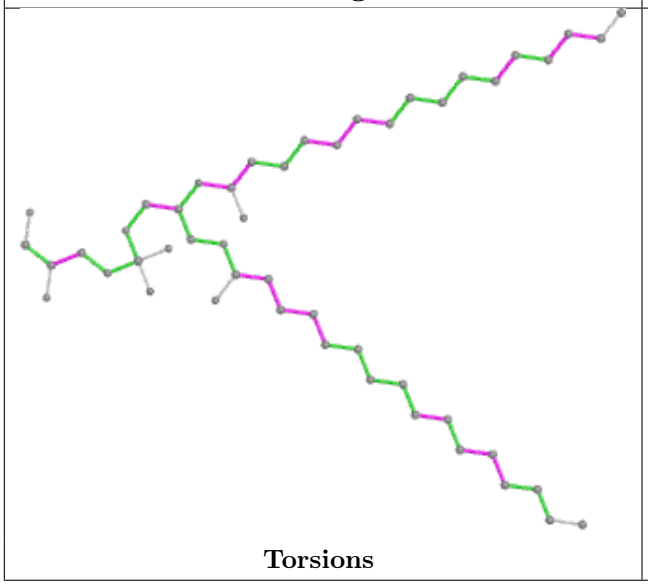
Ligand LHG A 786



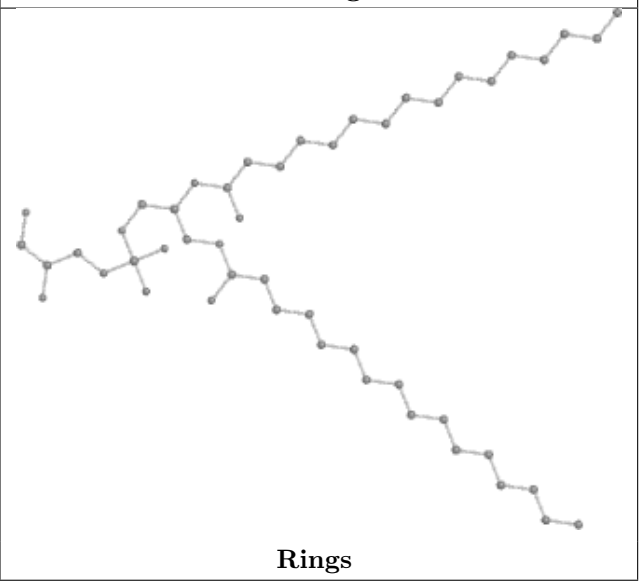
Bond lengths



Bond angles

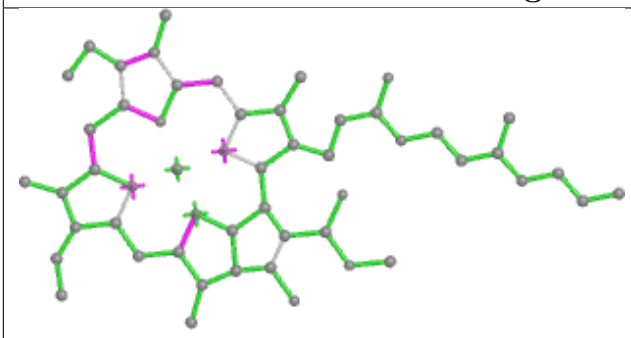


Torsions

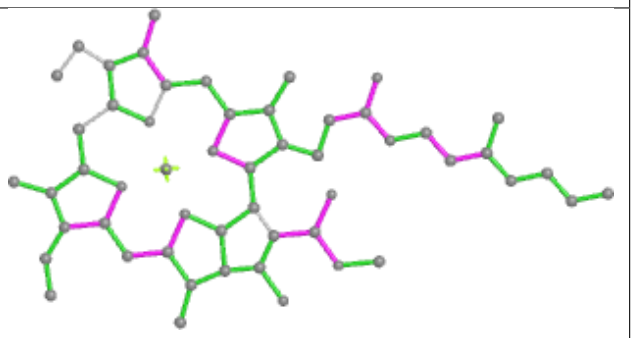


Rings

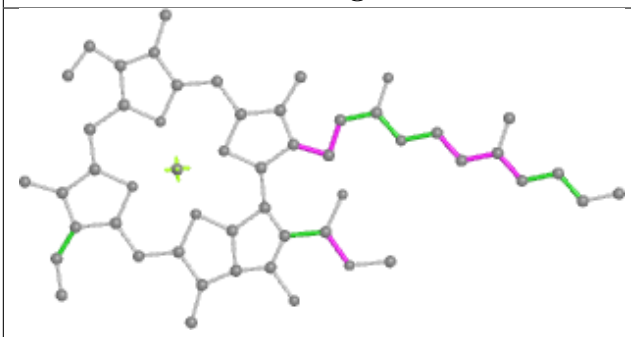
Ligand CLA B 771



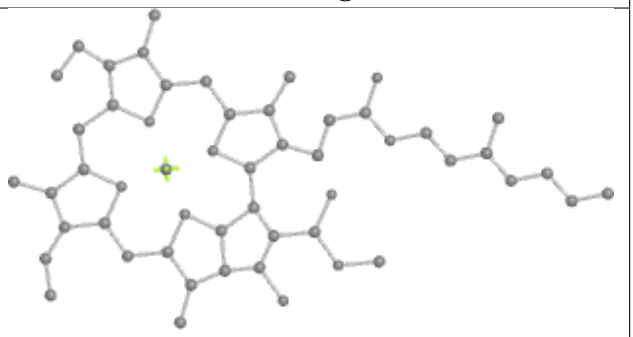
Bond lengths



Bond angles

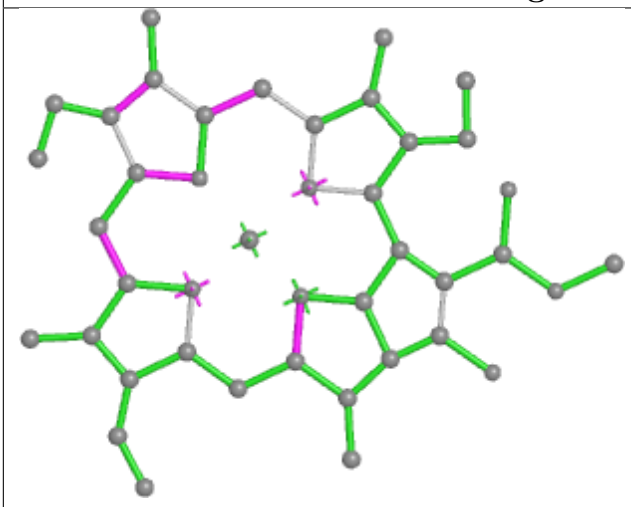


Torsions

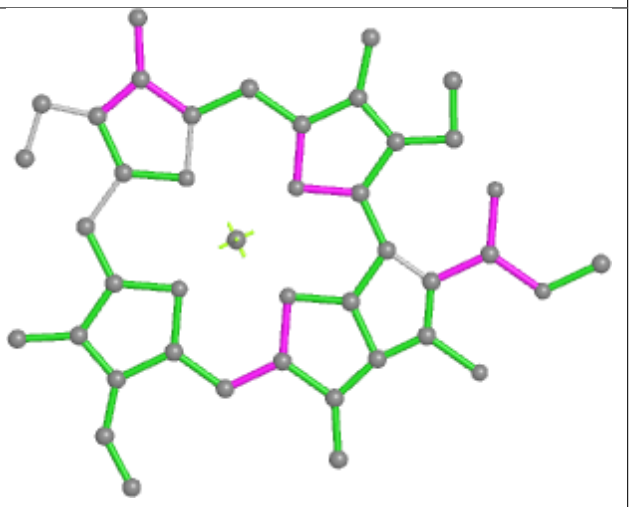


Rings

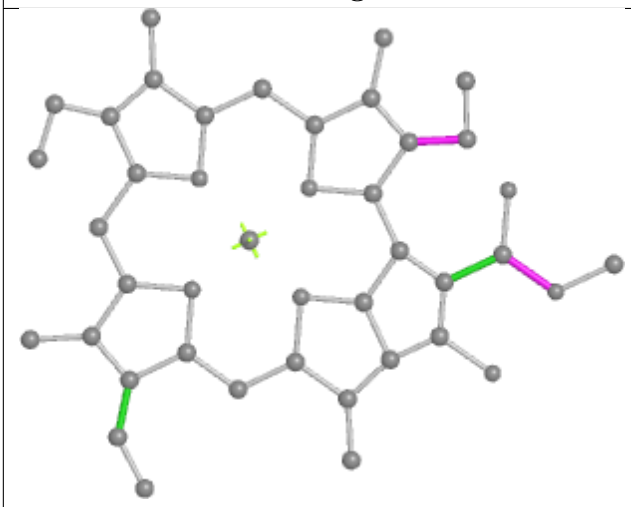
Ligand CLA k 614



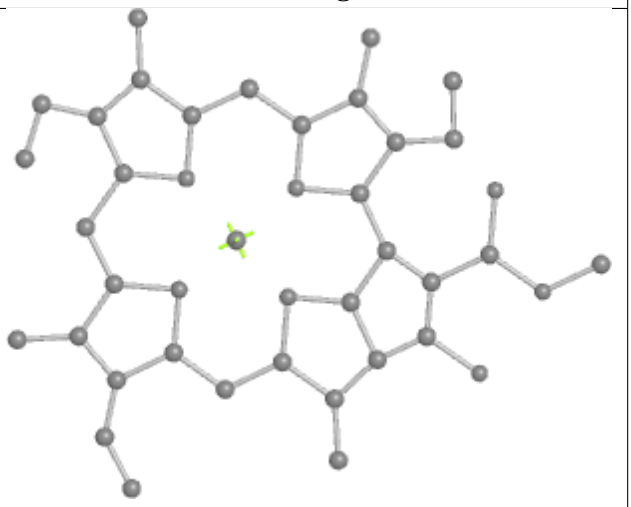
Bond lengths



Bond angles

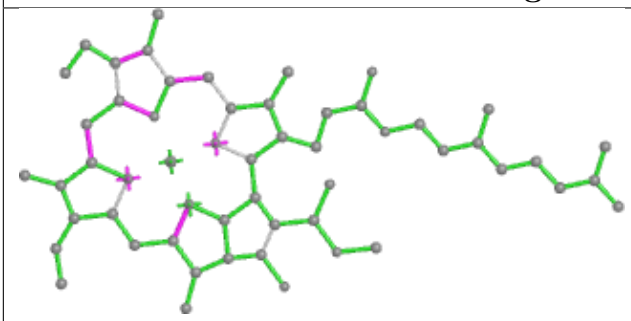


Torsions

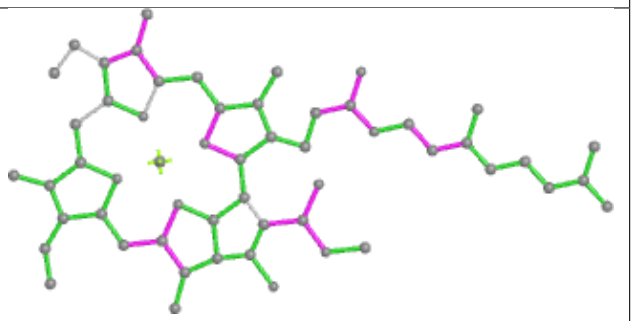


Rings

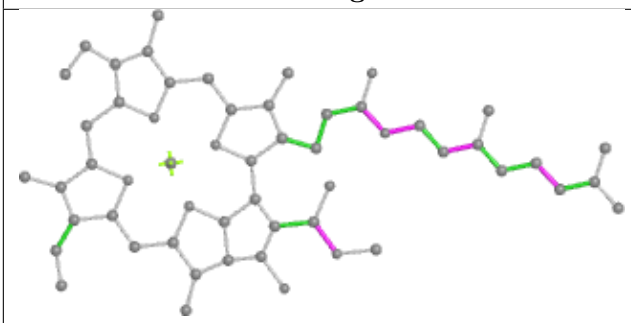
Ligand CLA B 768



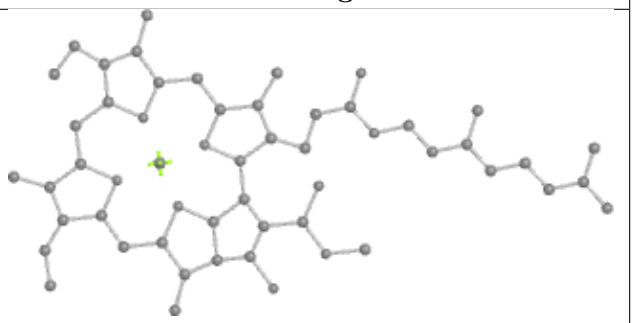
Bond lengths



Bond angles

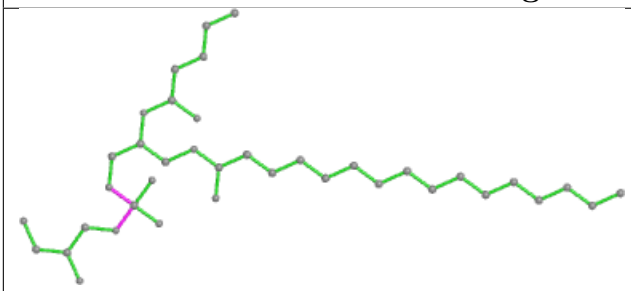


Torsions

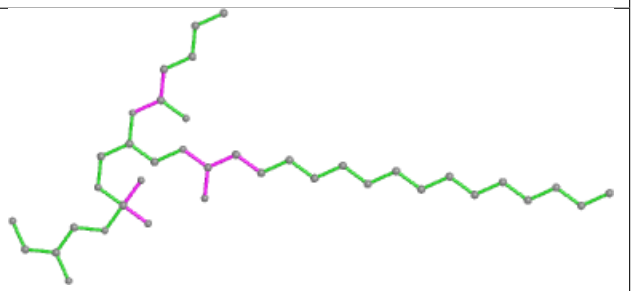


Rings

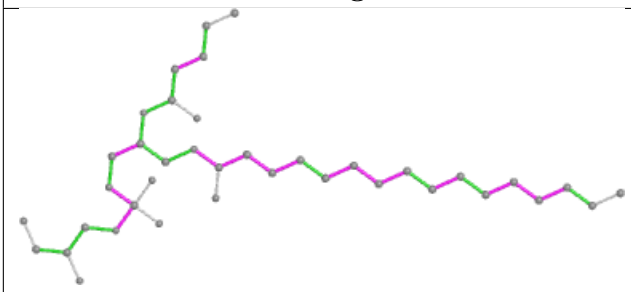
Ligand LHG A 756



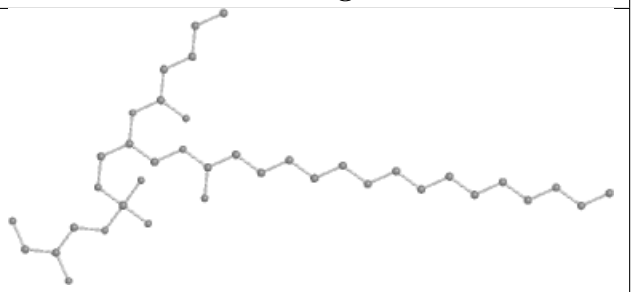
Bond lengths



Bond angles

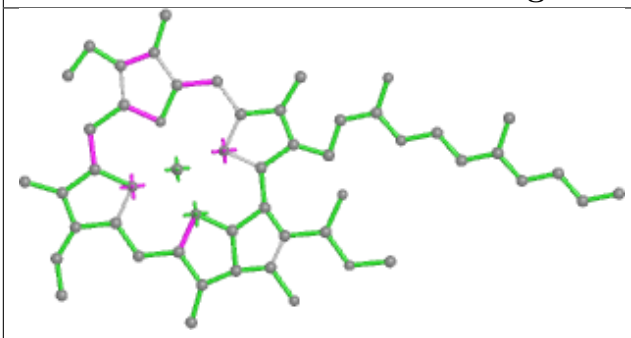


Torsions

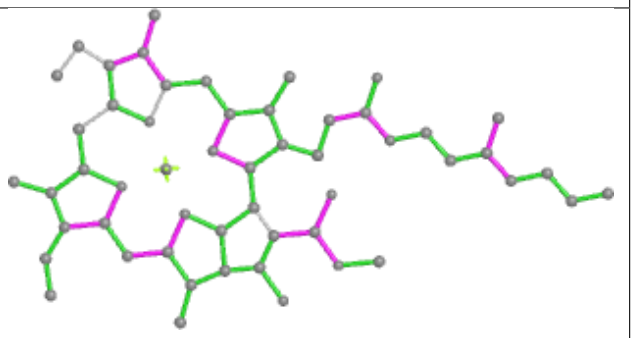


Rings

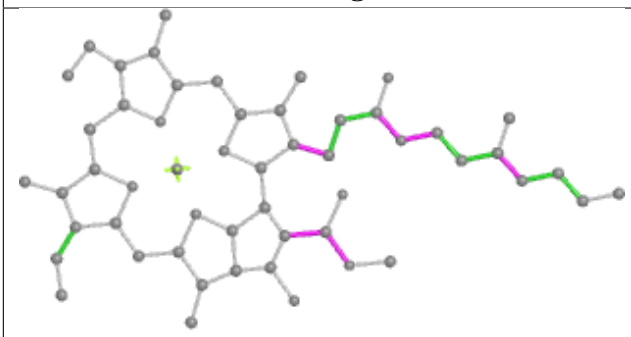
Ligand CLA b 602



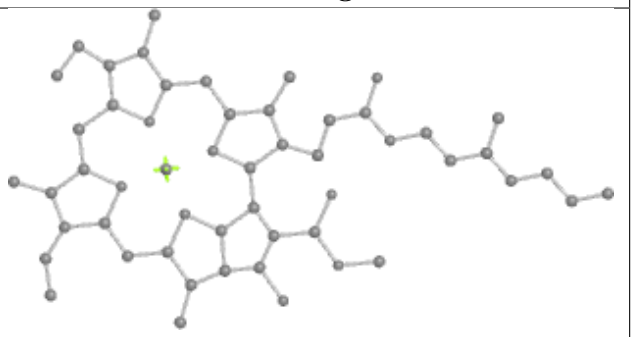
Bond lengths



Bond angles

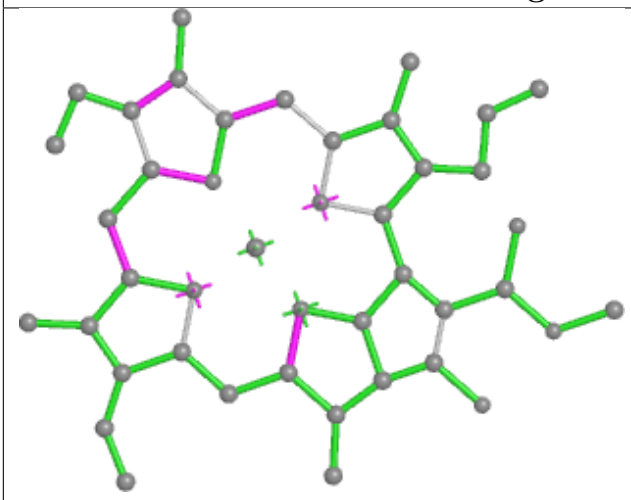


Torsions

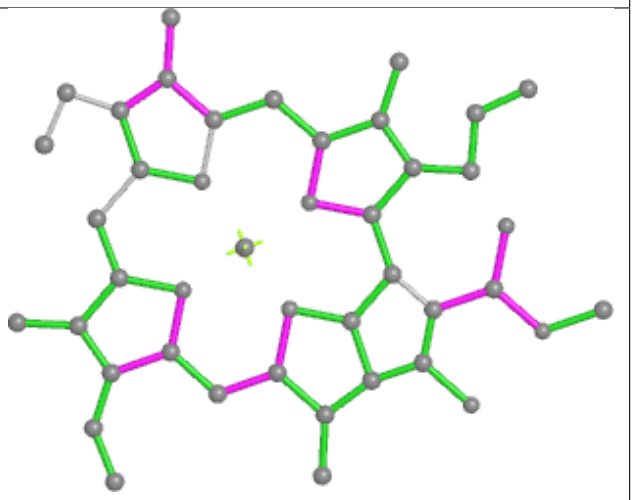


Rings

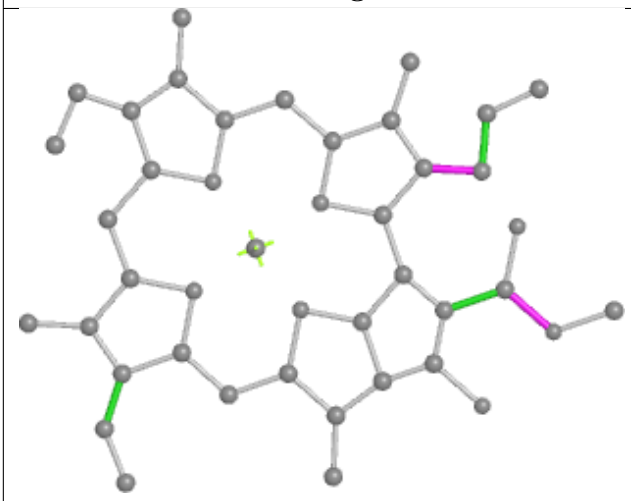
Ligand CLA k 601



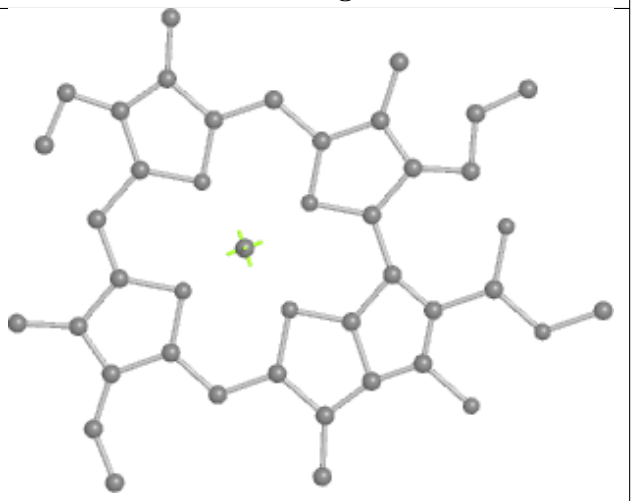
Bond lengths



Bond angles

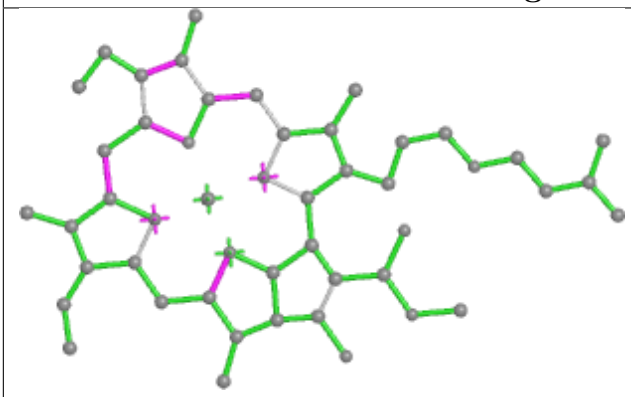


Torsions

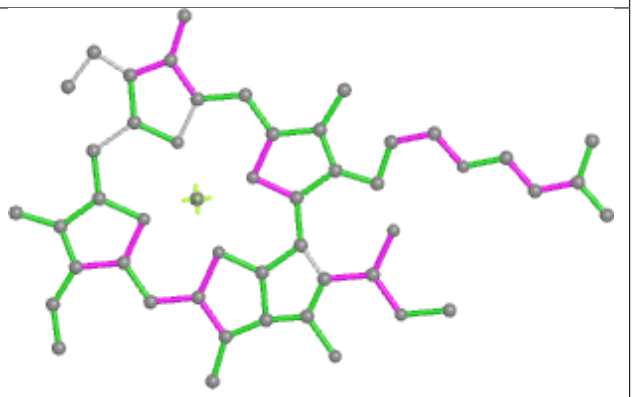


Rings

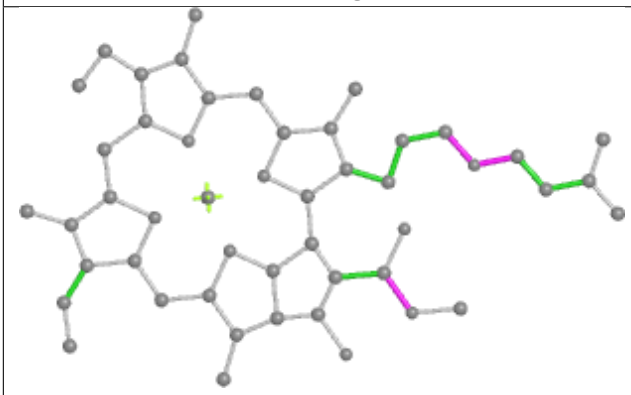
Ligand CLA B 747



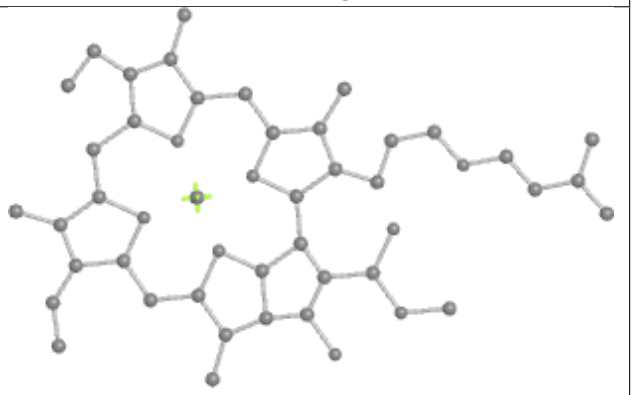
Bond lengths



Bond angles

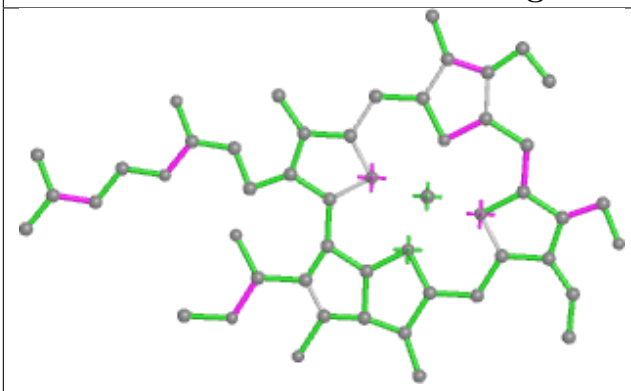


Torsions

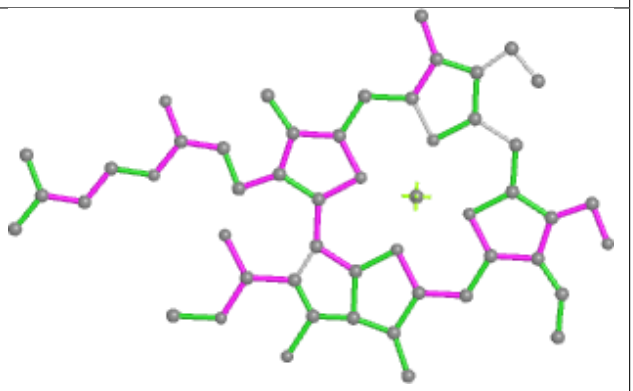


Rings

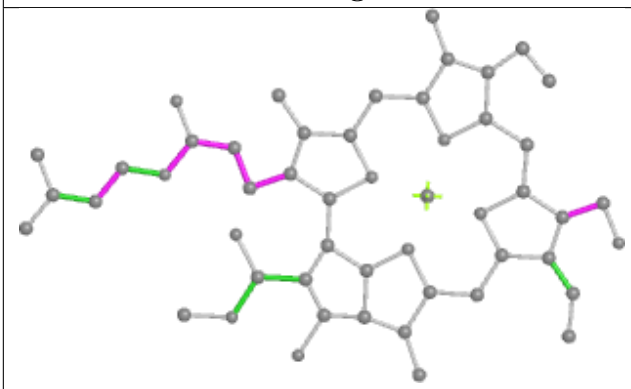
Ligand CHL d 605



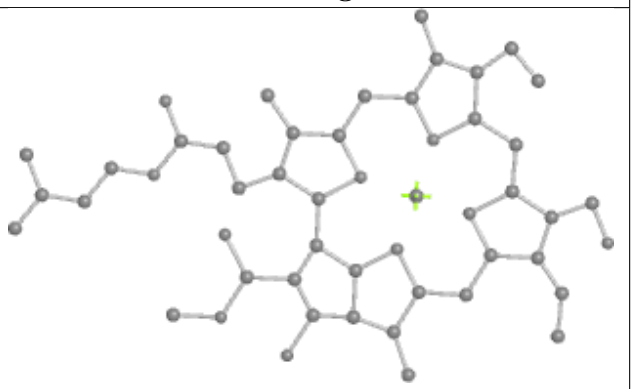
Bond lengths



Bond angles

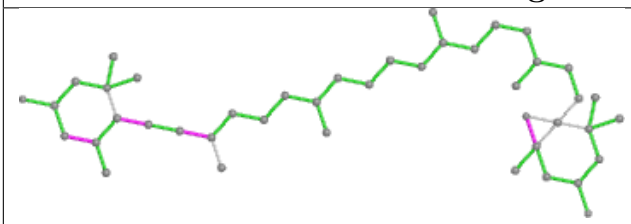


Torsions

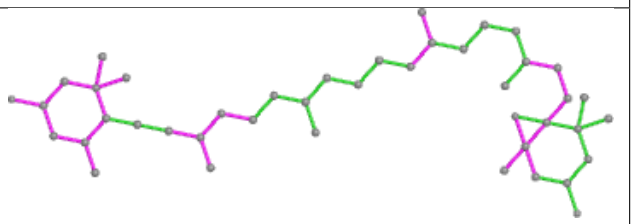


Rings

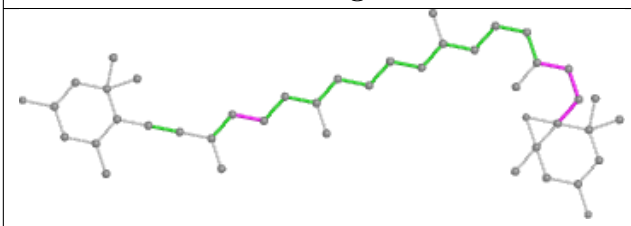
Ligand DD6 n 620



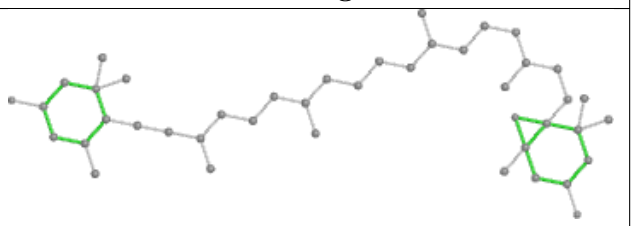
Bond lengths



Bond angles

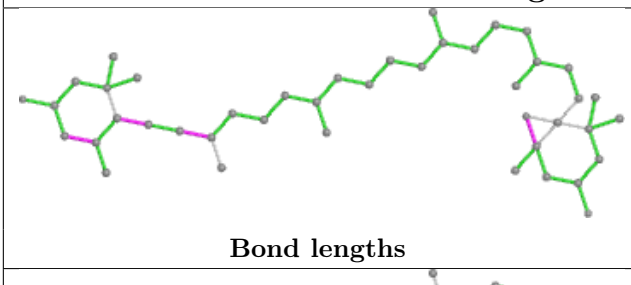


Torsions

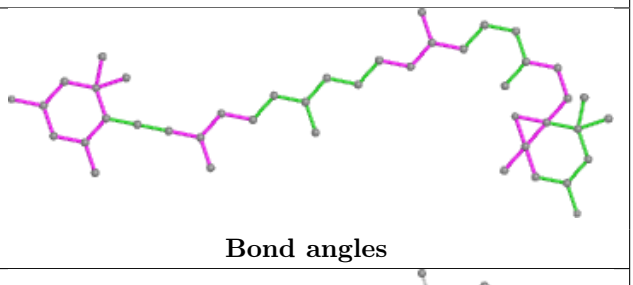


Rings

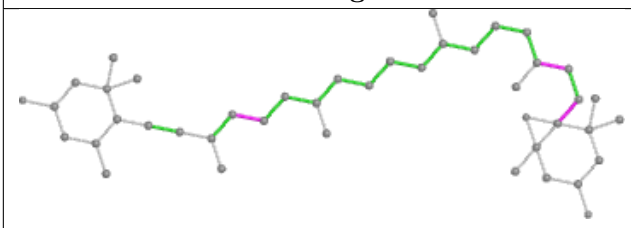
Ligand DD6 d 623



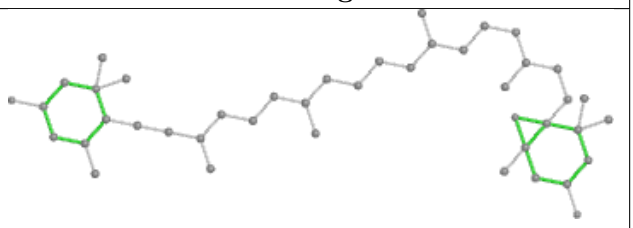
Bond lengths



Bond angles

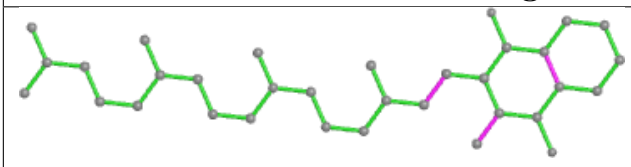


Torsions

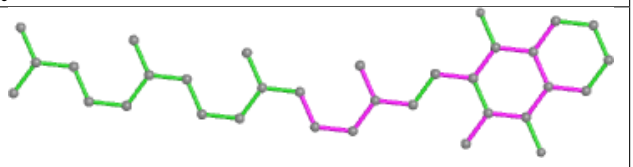


Rings

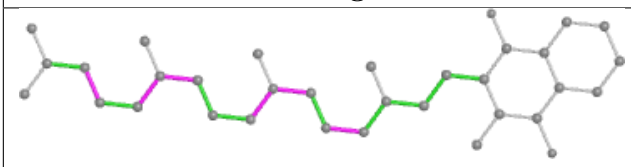
Ligand PQN A 785



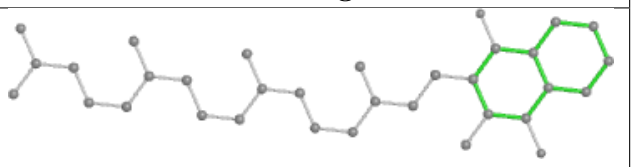
Bond lengths



Bond angles

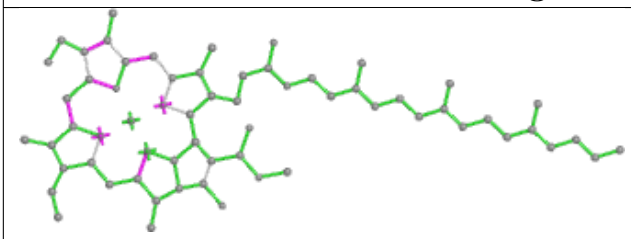


Torsions

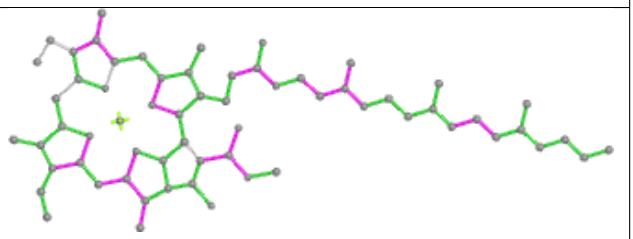


Rings

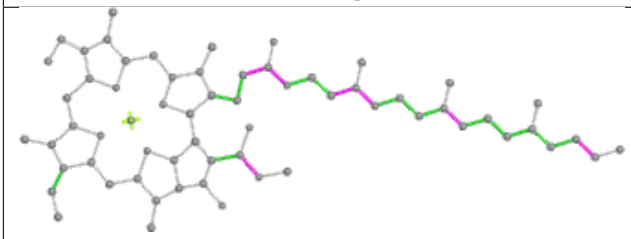
Ligand CLA a 619



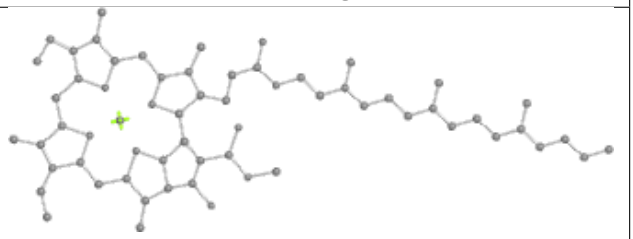
Bond lengths



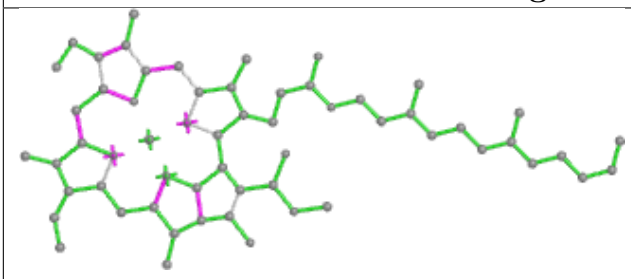
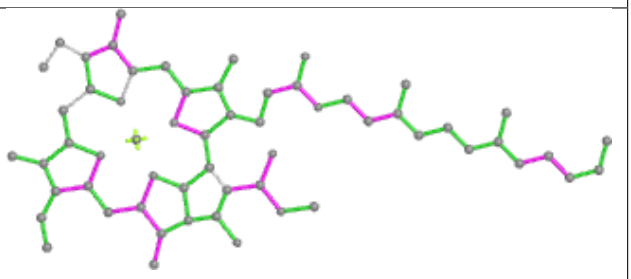
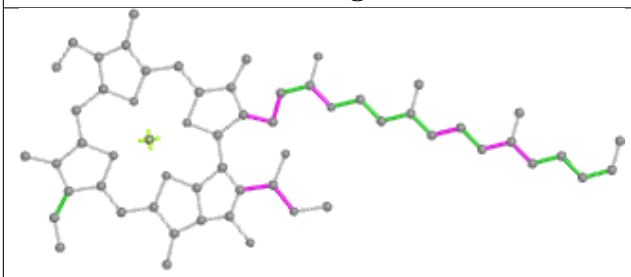
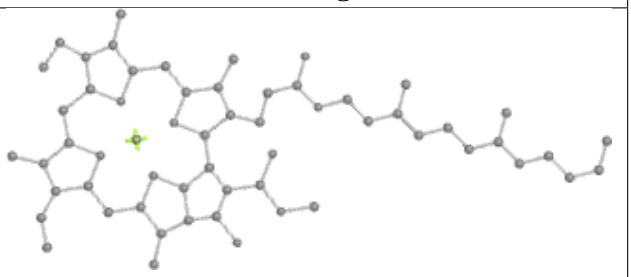
Bond angles

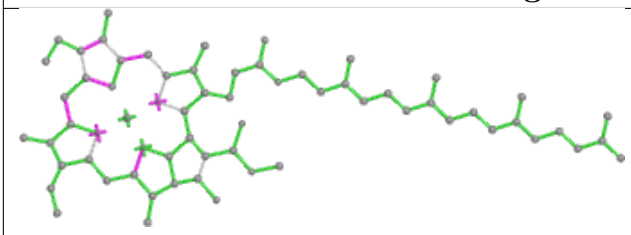
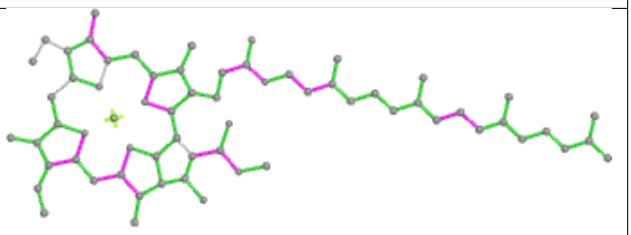
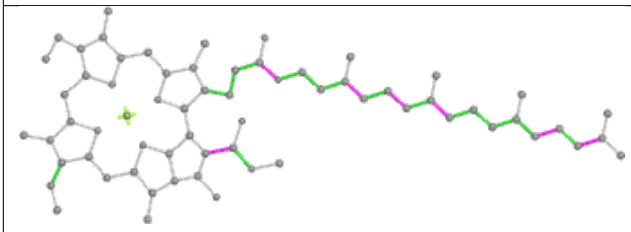
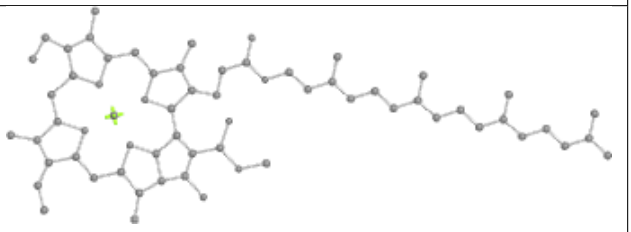


Torsions

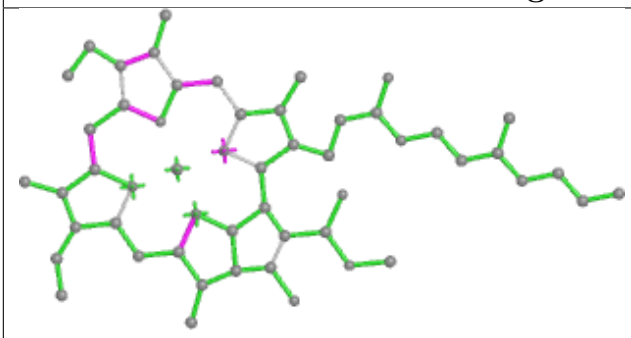


Rings

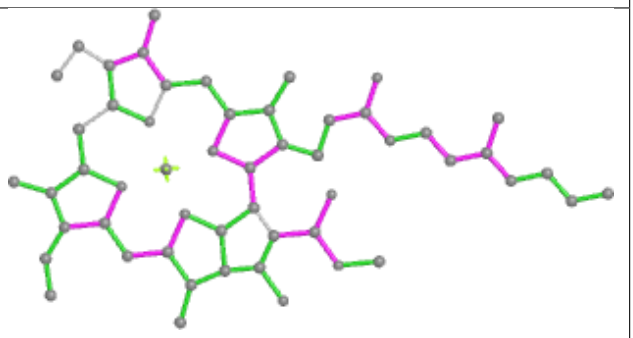
Ligand CLA c 602	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand CLA A 777	
	
Bond lengths	Bond angles
	
Torsions	Rings

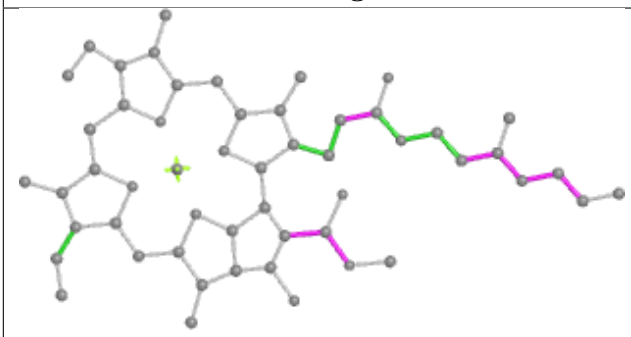
Ligand CLA h 613



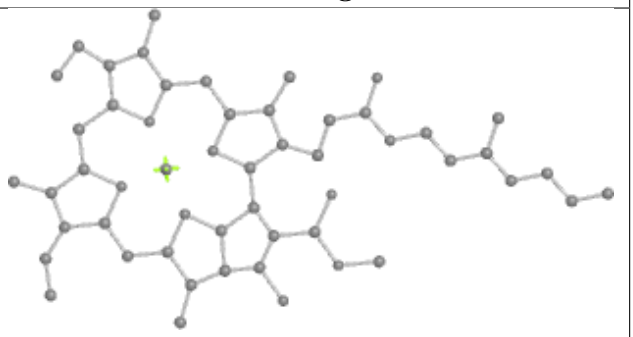
Bond lengths



Bond angles

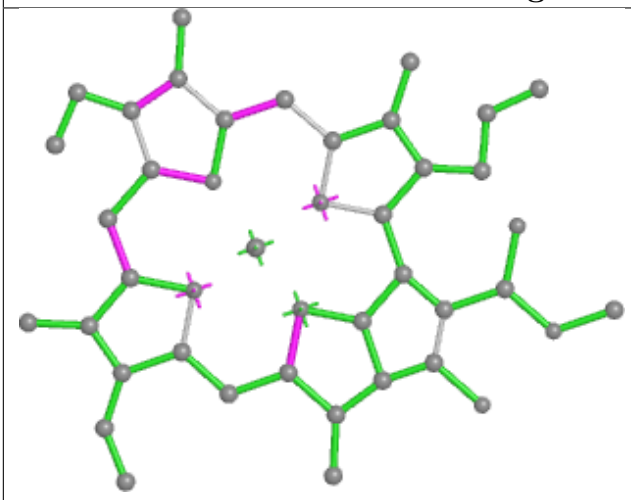


Torsions

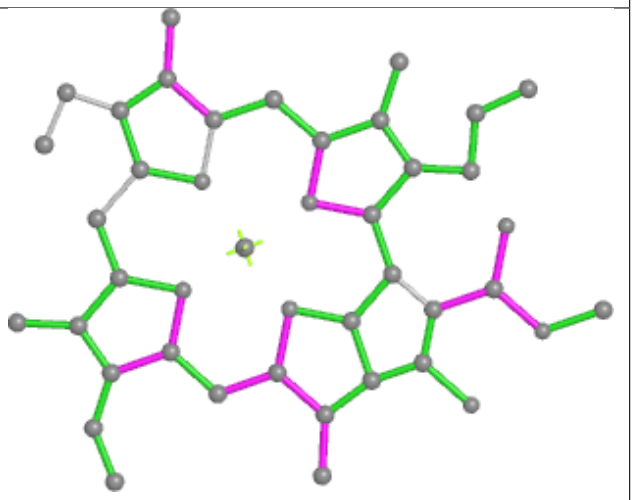


Rings

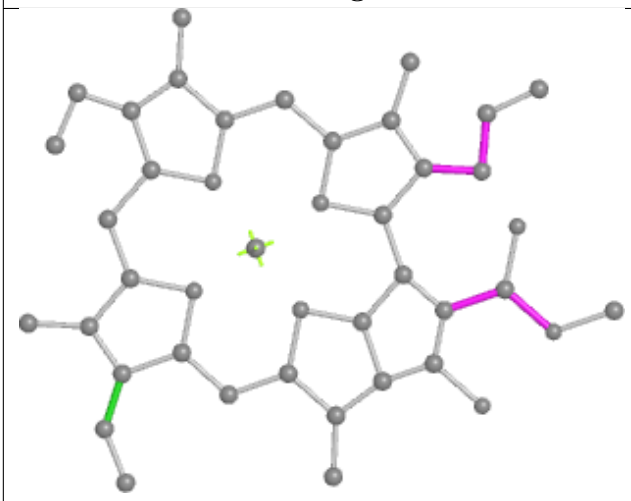
Ligand CLA h 603



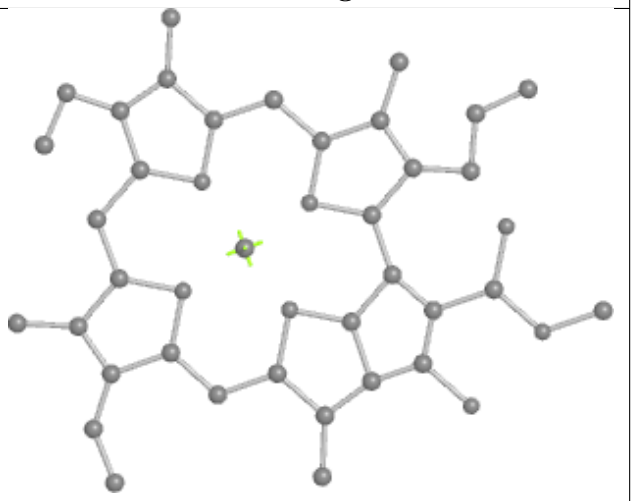
Bond lengths



Bond angles

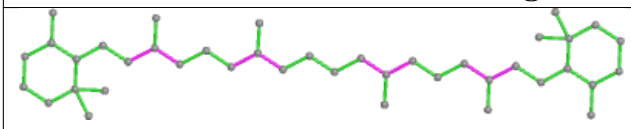


Torsions

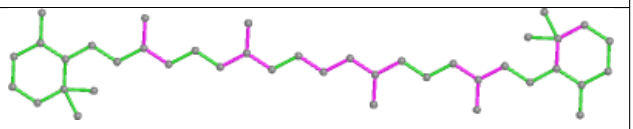


Rings

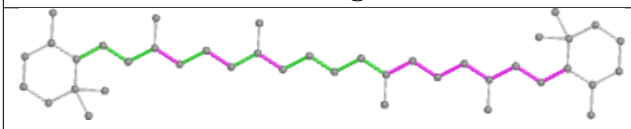
Ligand BCR B 766



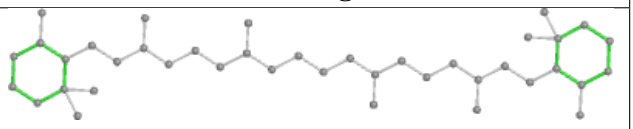
Bond lengths



Bond angles

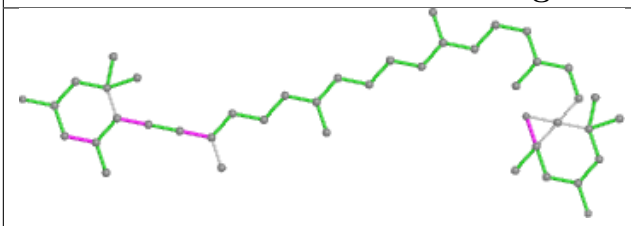


Torsions

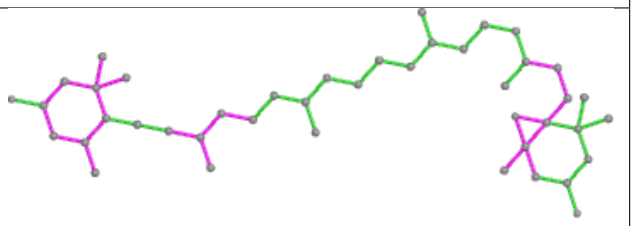


Rings

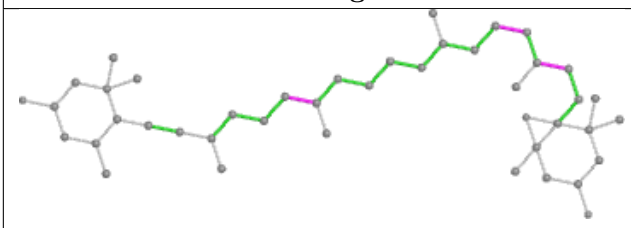
Ligand DD6 f 620



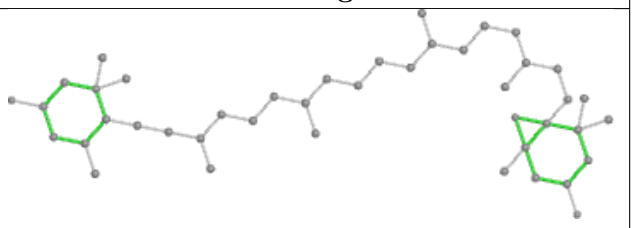
Bond lengths



Bond angles

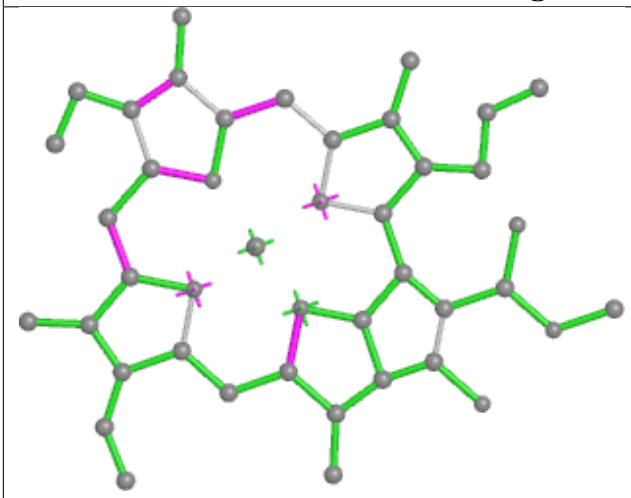


Torsions

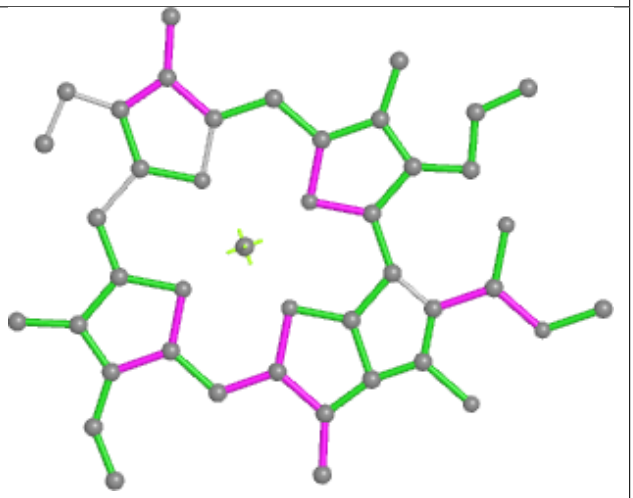


Rings

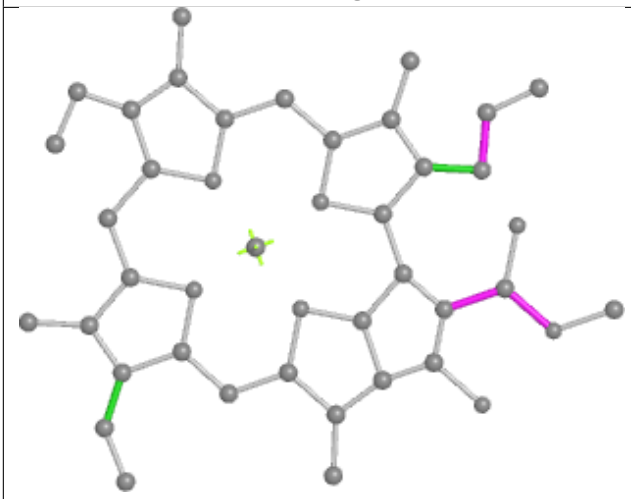
Ligand CLA e 607



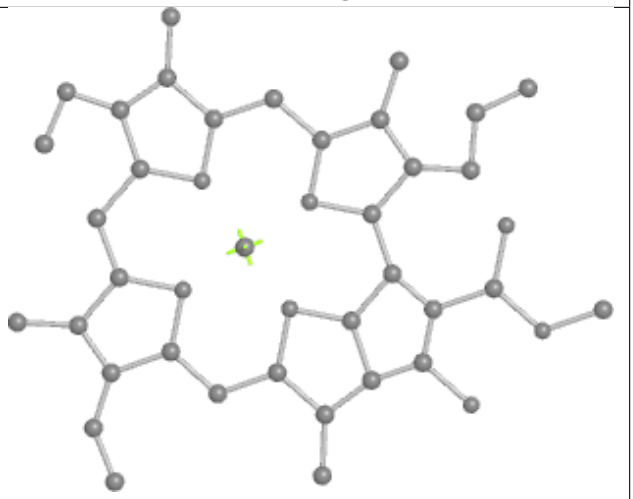
Bond lengths



Bond angles

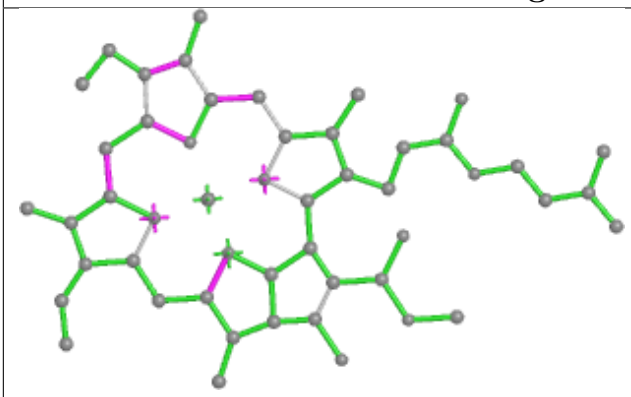


Torsions

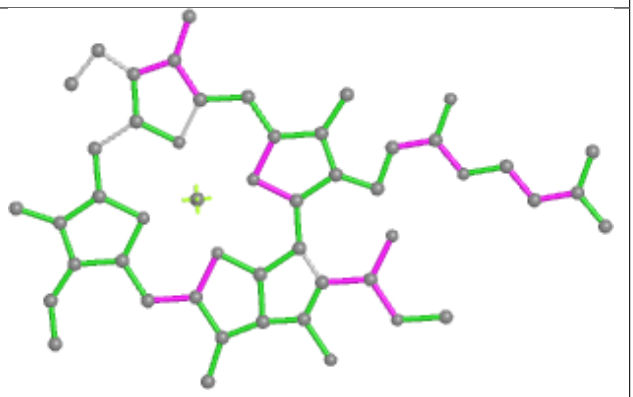


Rings

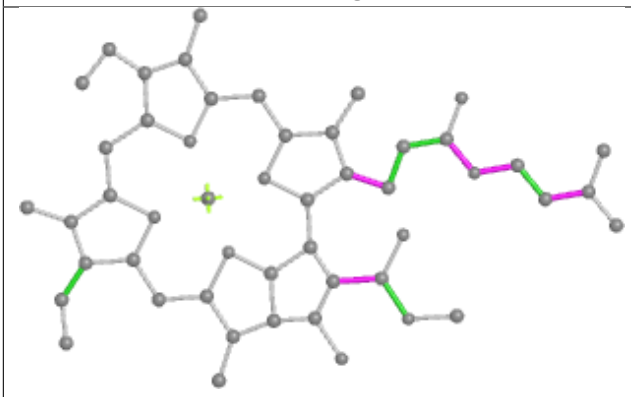
Ligand CLA a 601



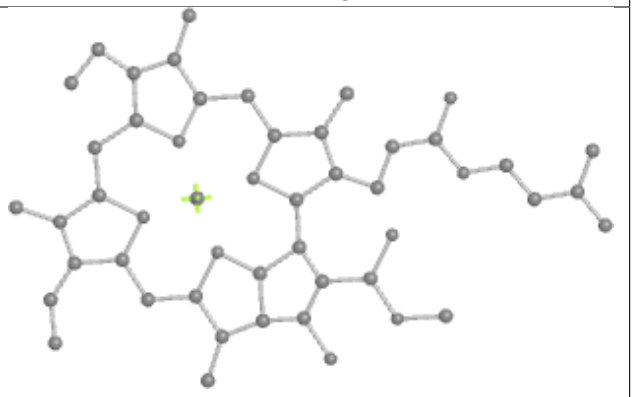
Bond lengths



Bond angles

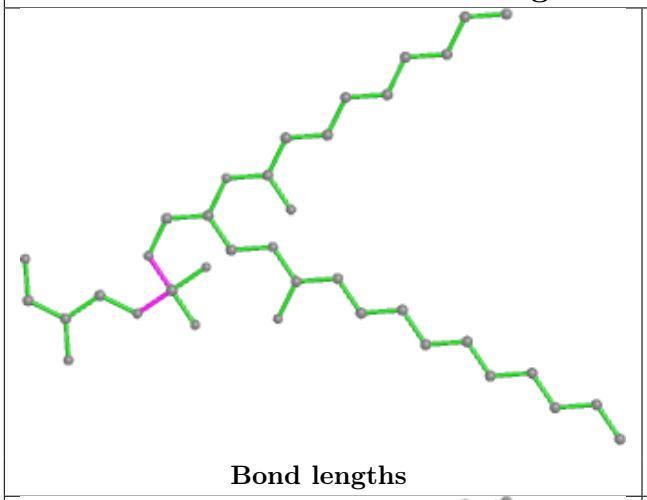


Torsions

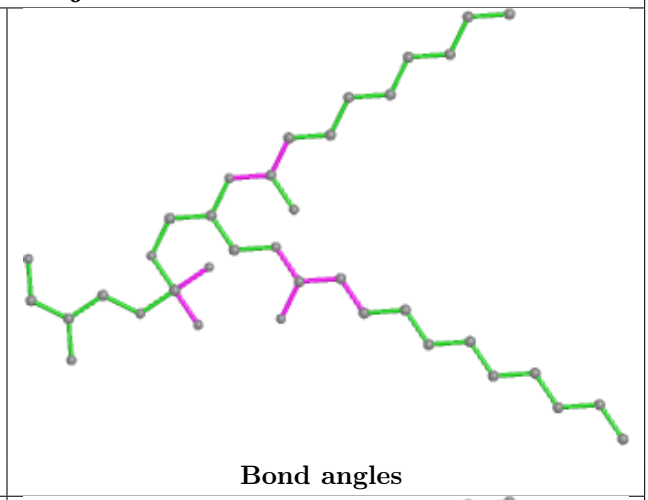


Rings

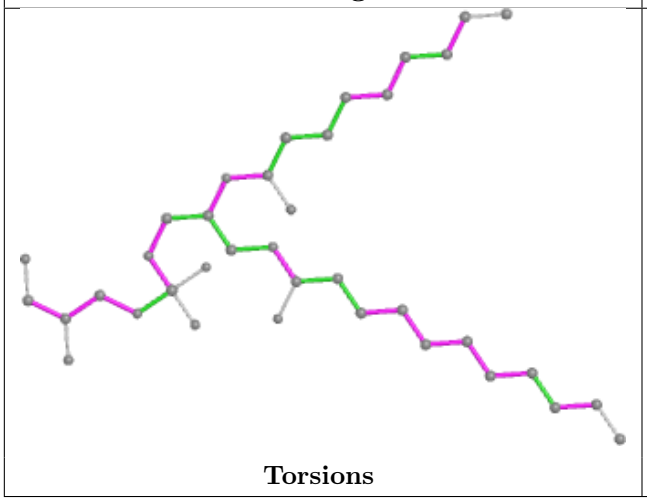
Ligand LHG j 198



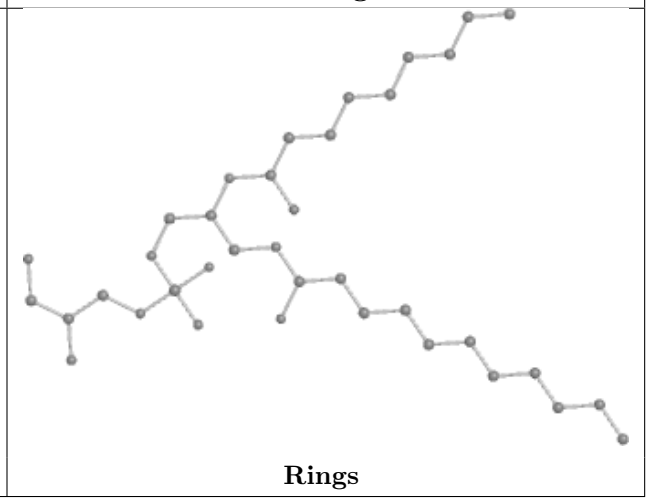
Bond lengths



Bond angles

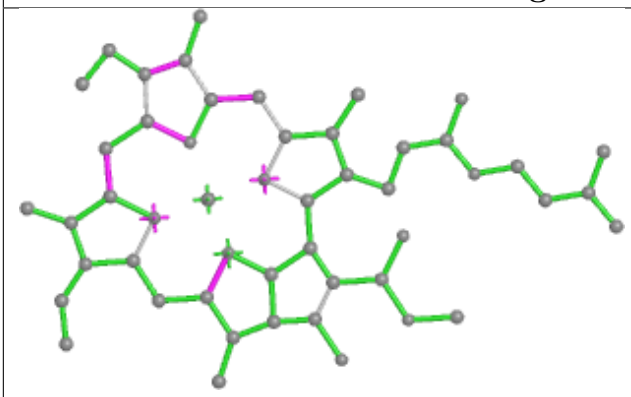


Torsions

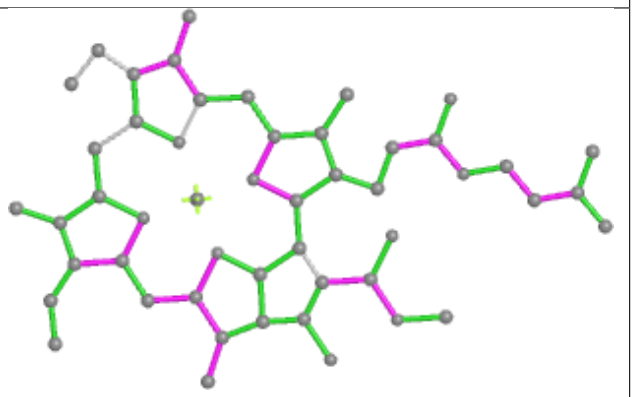


Rings

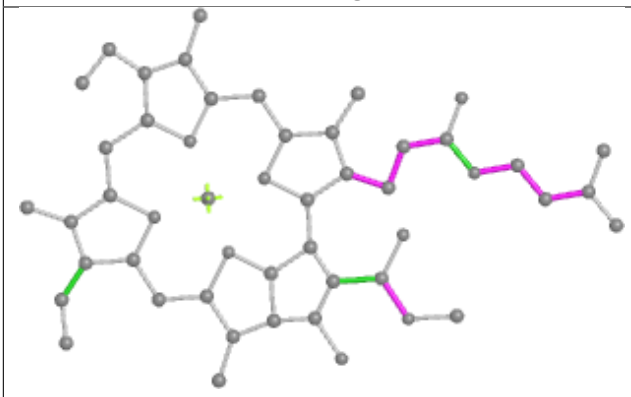
Ligand CLA c 608



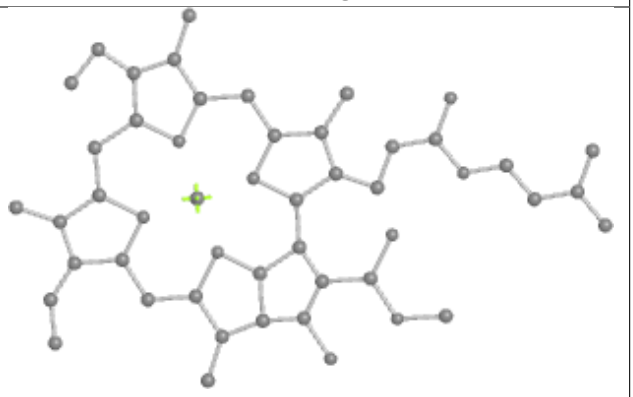
Bond lengths



Bond angles

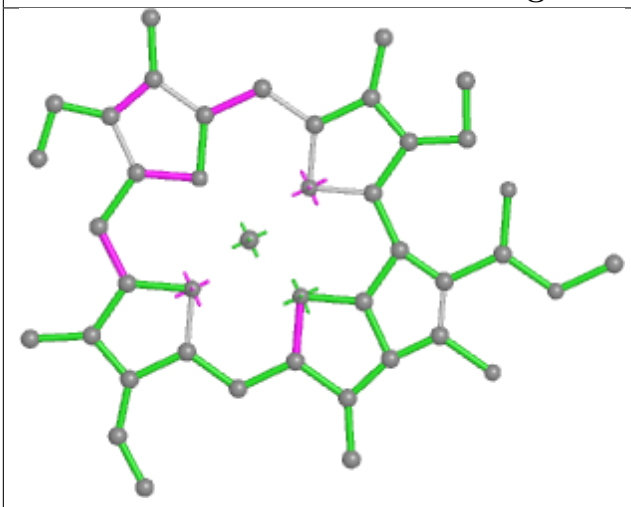


Torsions

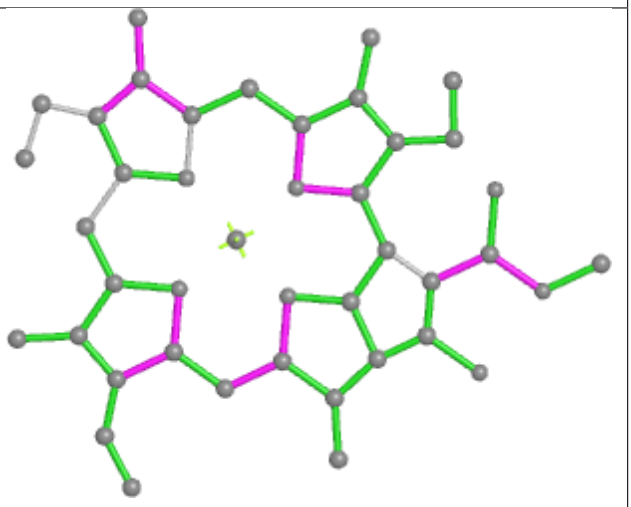


Rings

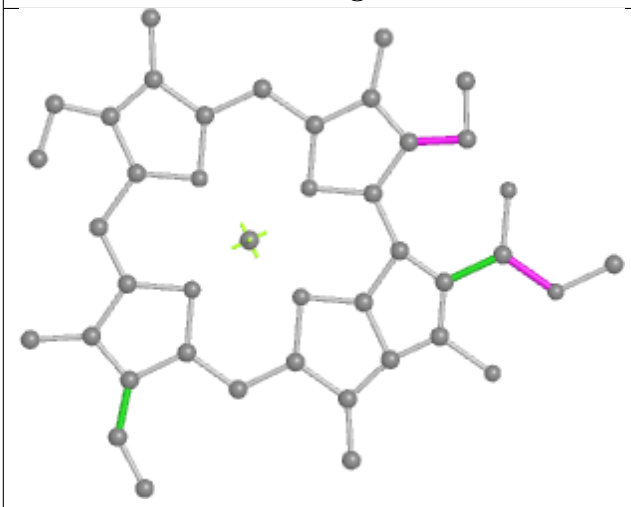
Ligand CLA n 607



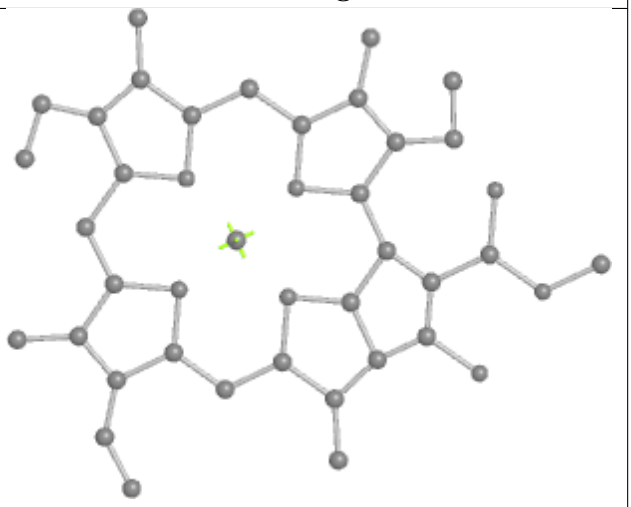
Bond lengths



Bond angles

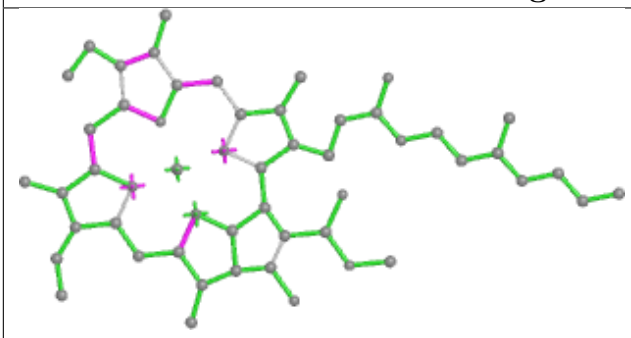


Torsions

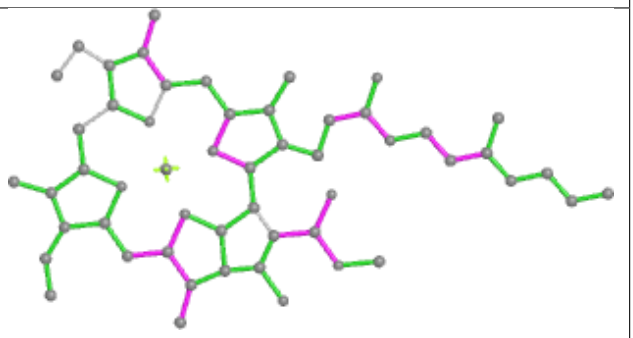


Rings

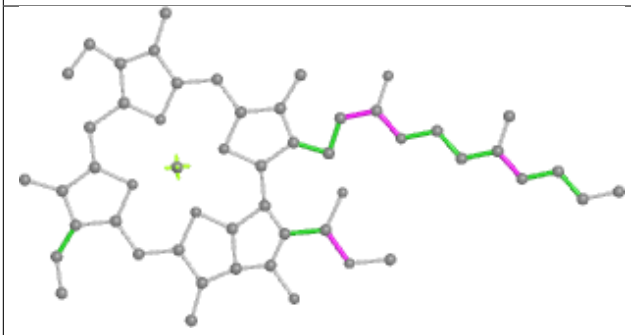
Ligand CLA c 603



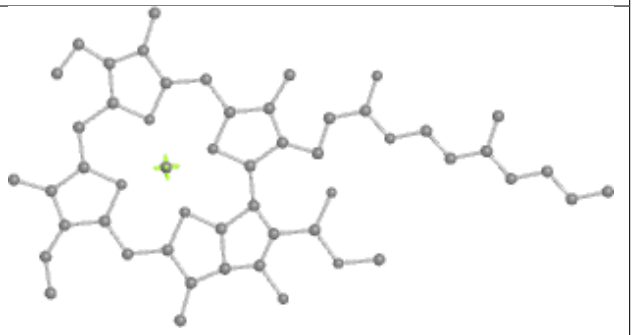
Bond lengths



Bond angles

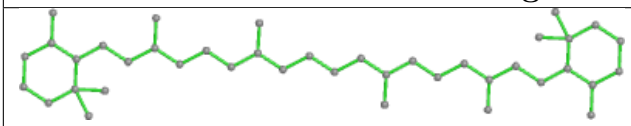


Torsions

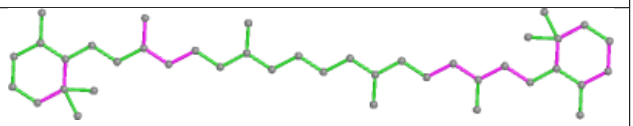


Rings

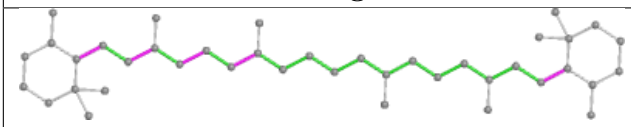
Ligand BCR A 796



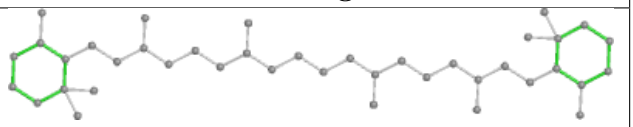
Bond lengths



Bond angles

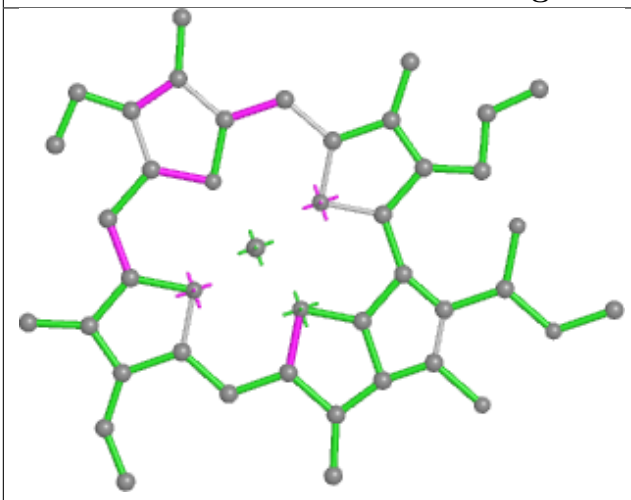


Torsions

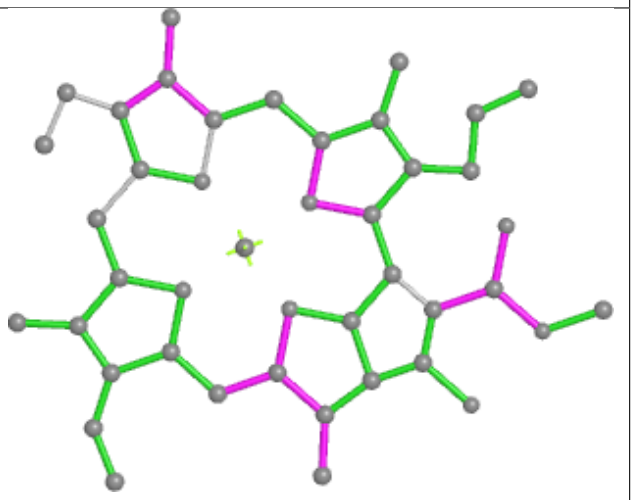


Rings

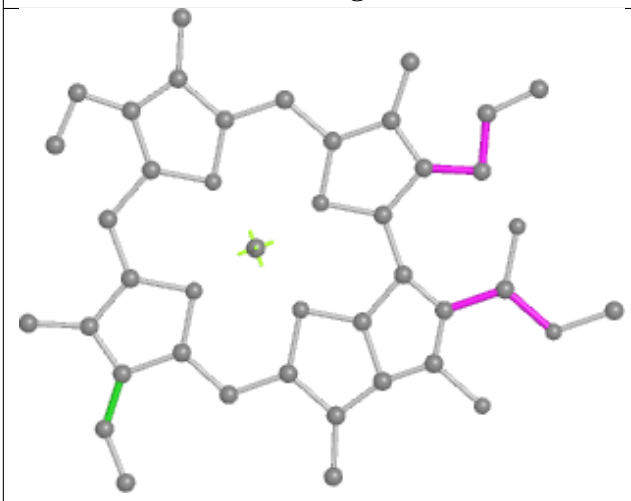
Ligand CLA f 615



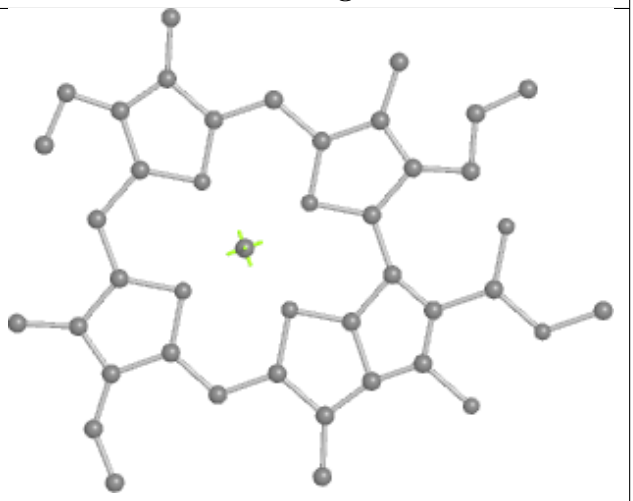
Bond lengths



Bond angles

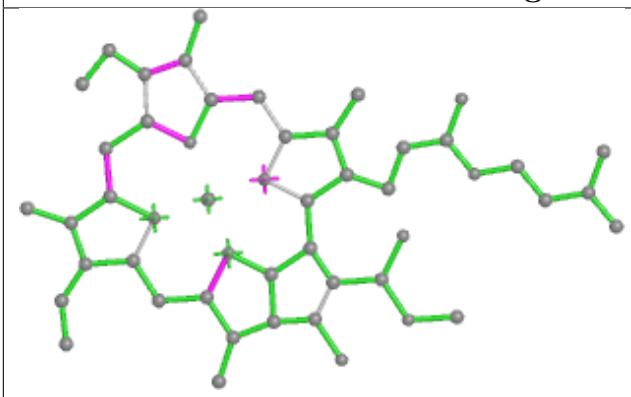


Torsions

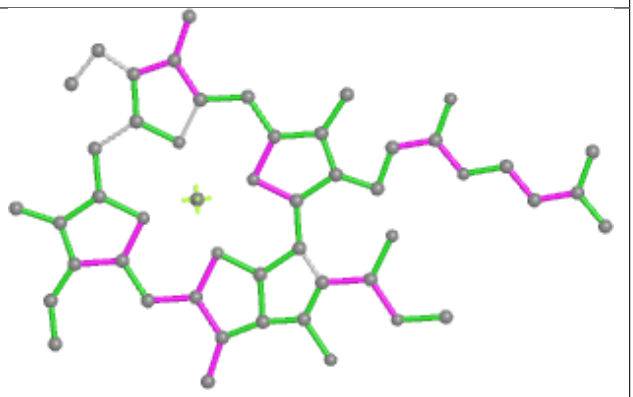


Rings

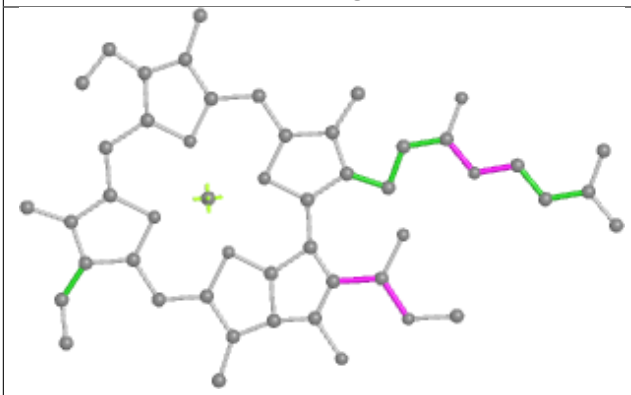
Ligand CLA B 751



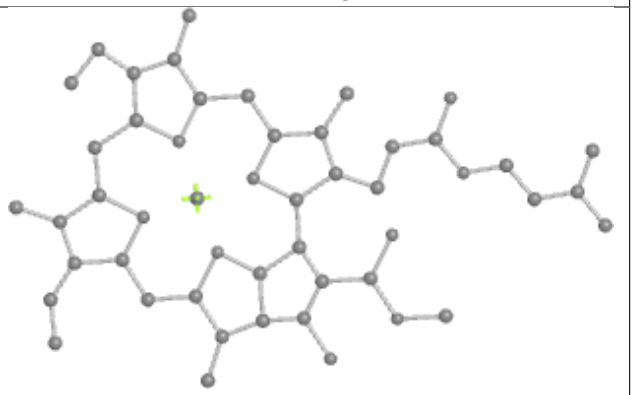
Bond lengths



Bond angles

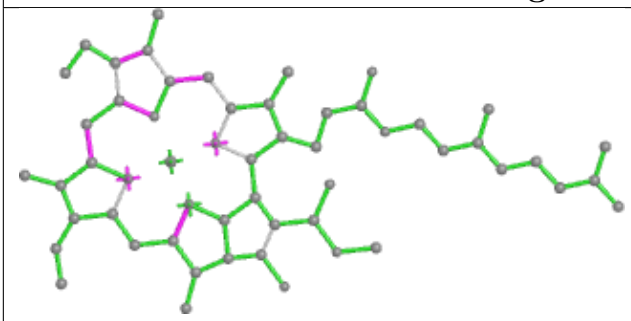


Torsions

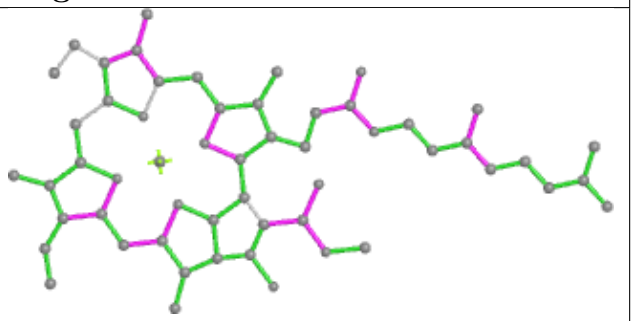


Rings

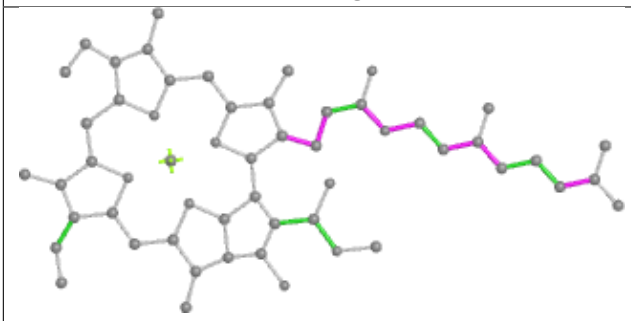
Ligand CLA g 613



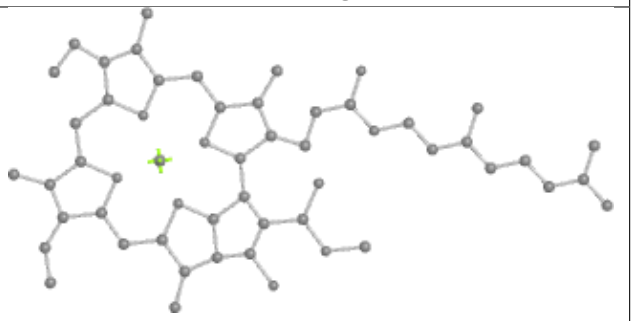
Bond lengths



Bond angles

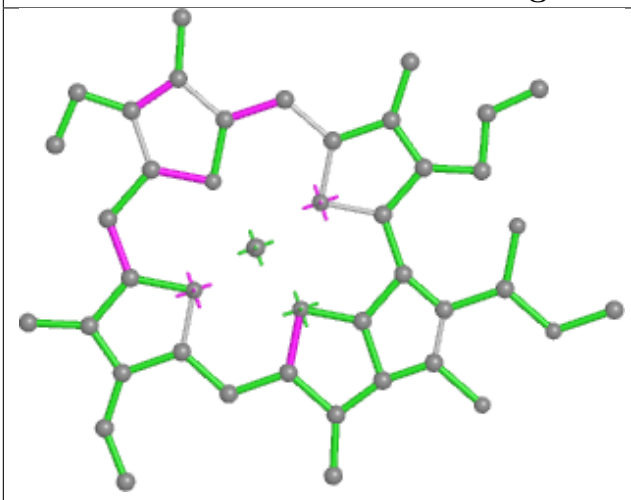


Torsions

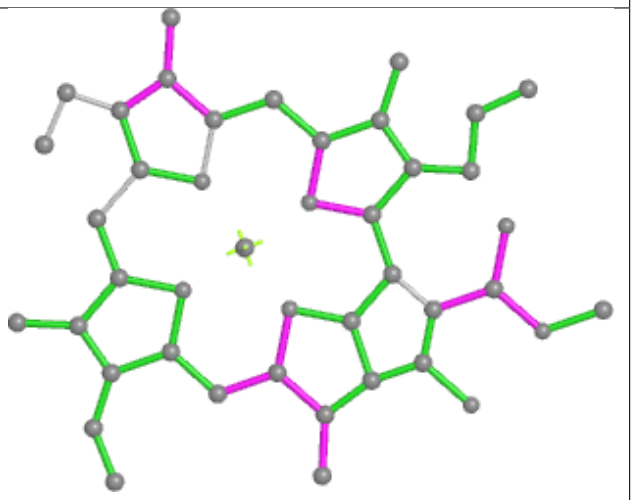


Rings

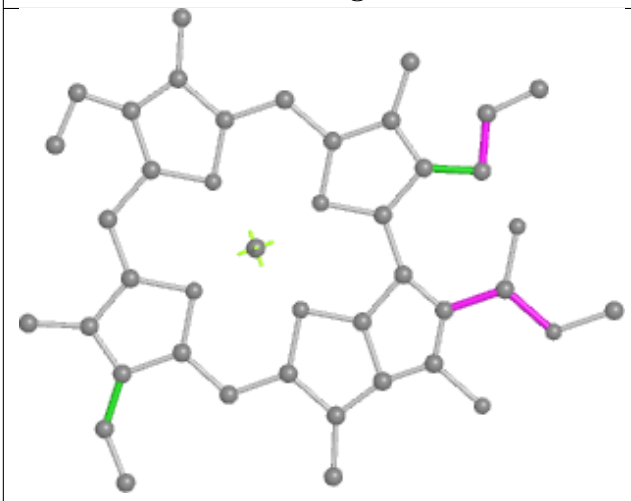
Ligand CLA c 612



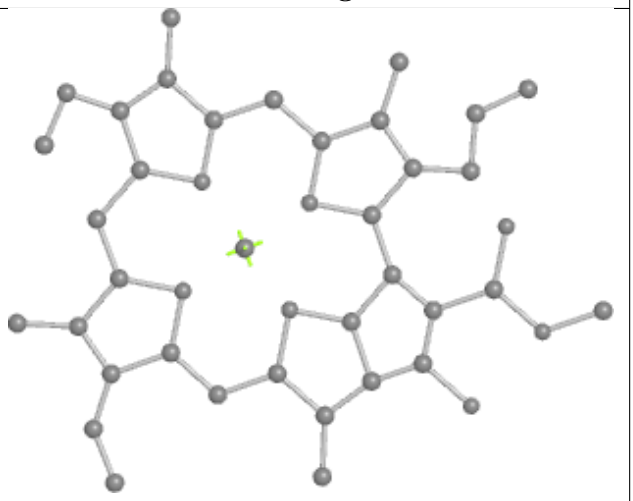
Bond lengths



Bond angles

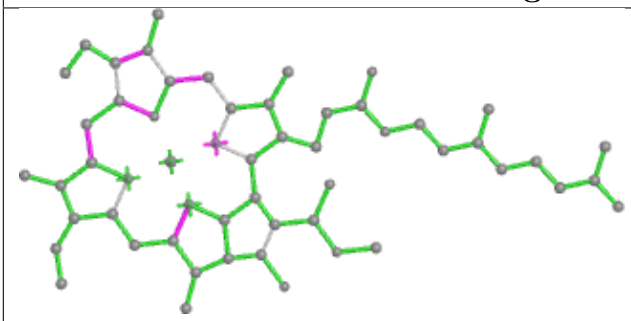


Torsions

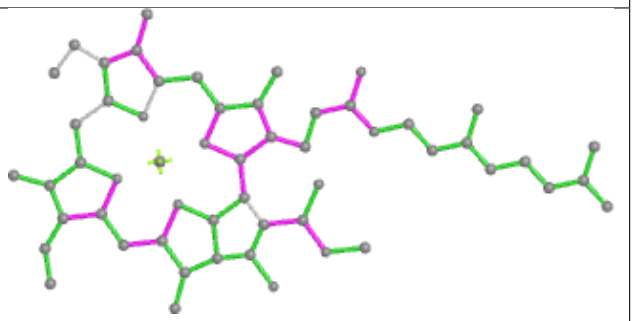


Rings

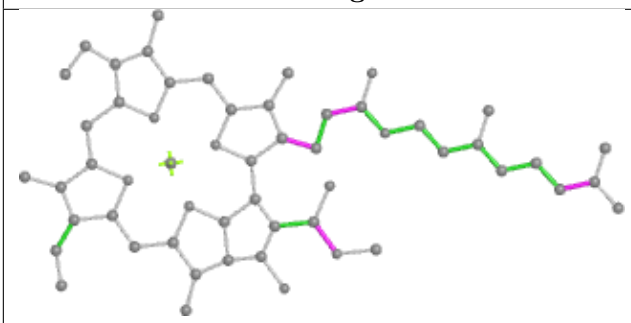
Ligand CLA A 805



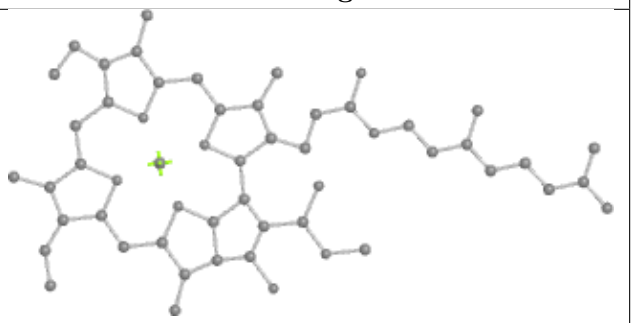
Bond lengths



Bond angles

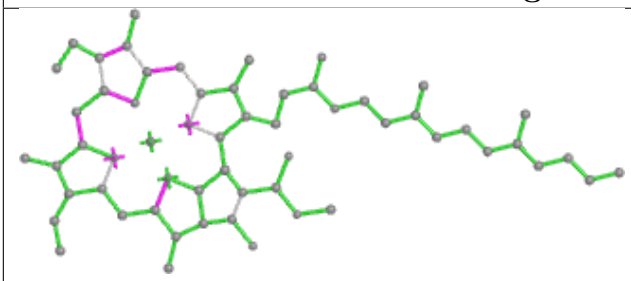


Torsions

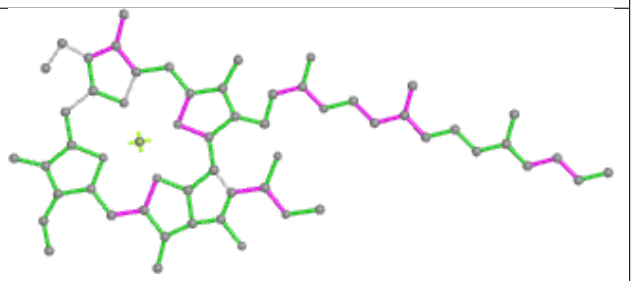


Rings

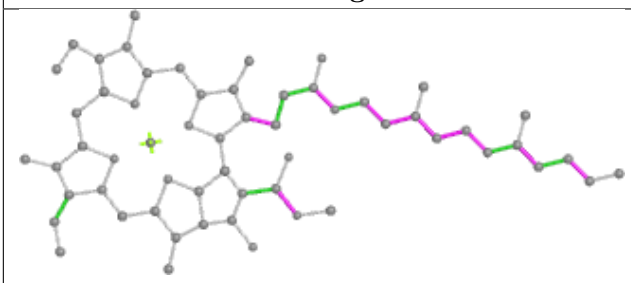
Ligand CLA A 780



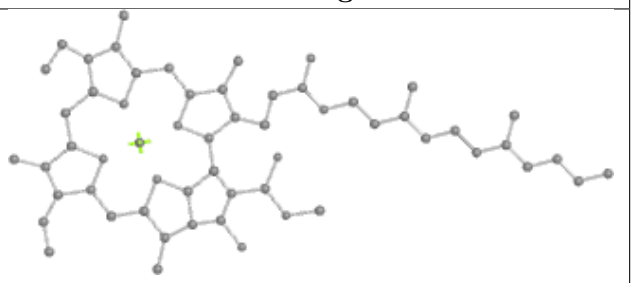
Bond lengths



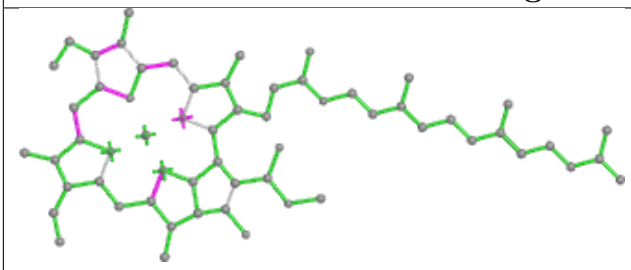
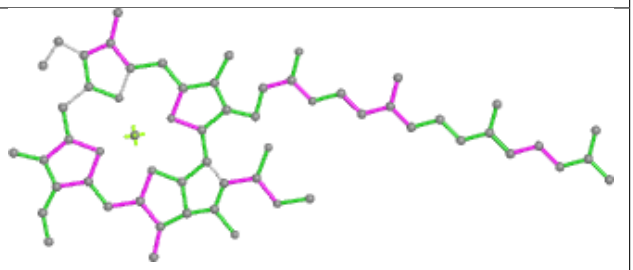
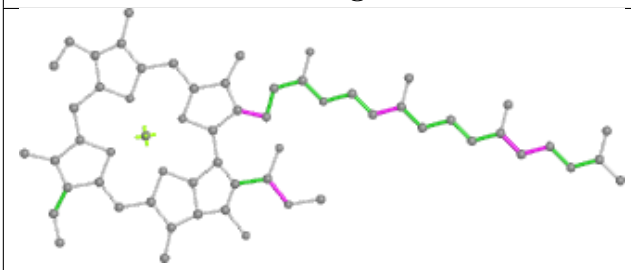
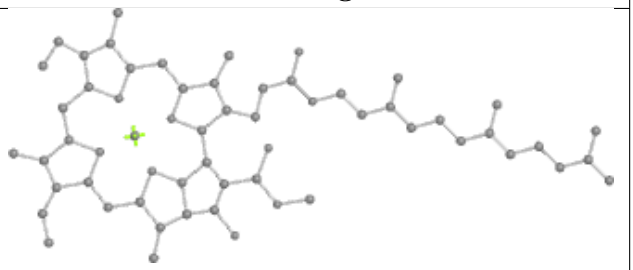
Bond angles

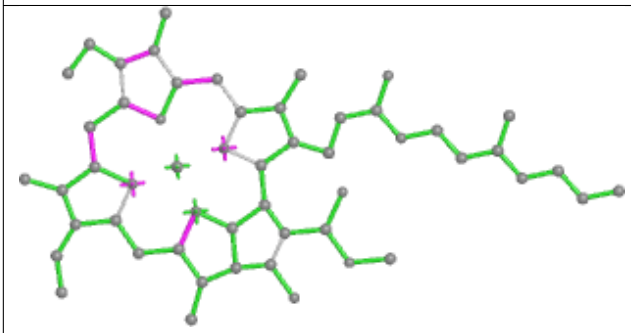
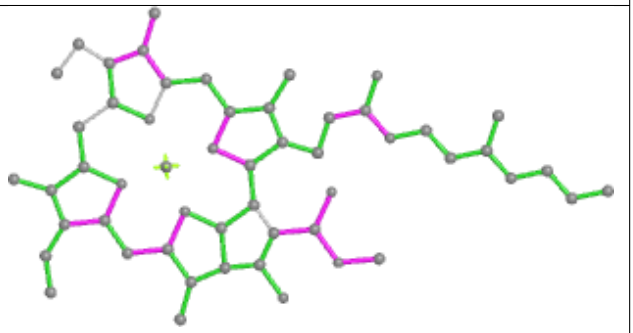
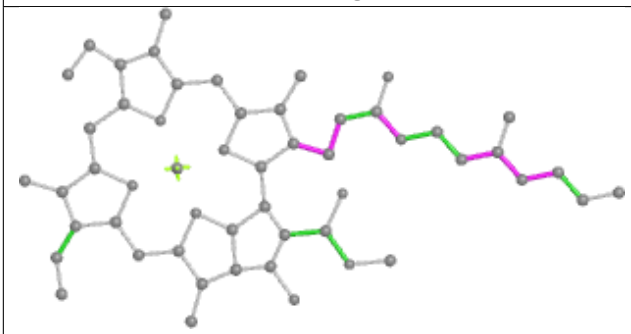
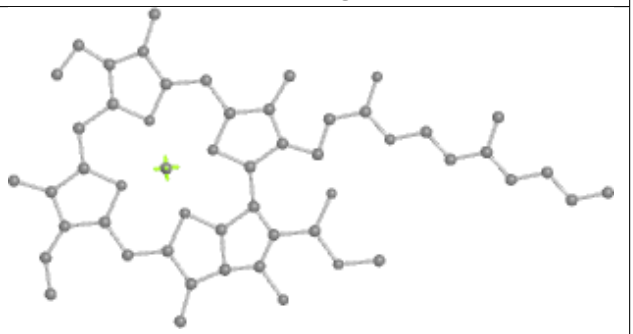


Torsions

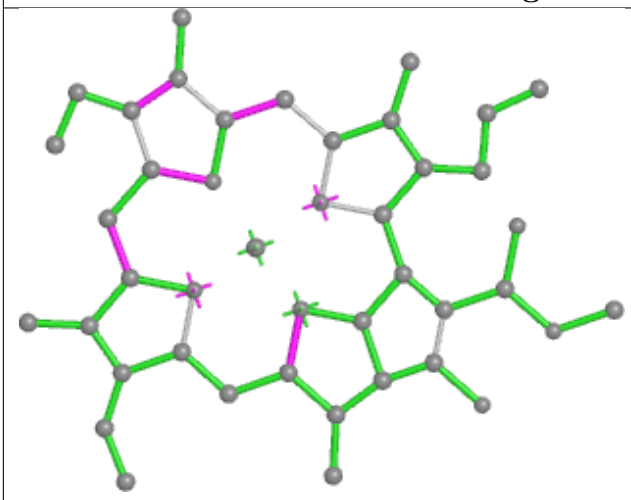


Rings

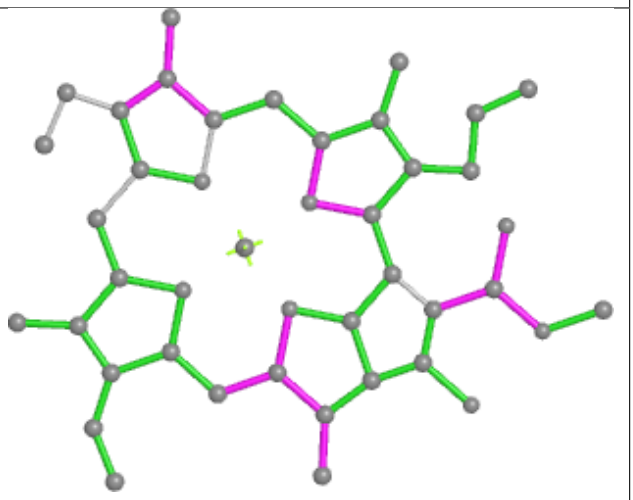
Ligand CLA B 757	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA B 770	
 Bond lengths	 Bond angles
 Torsions	 Rings

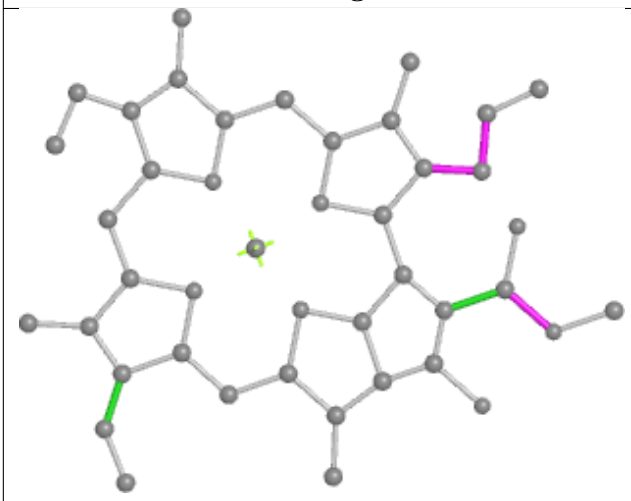
Ligand CLA m 612



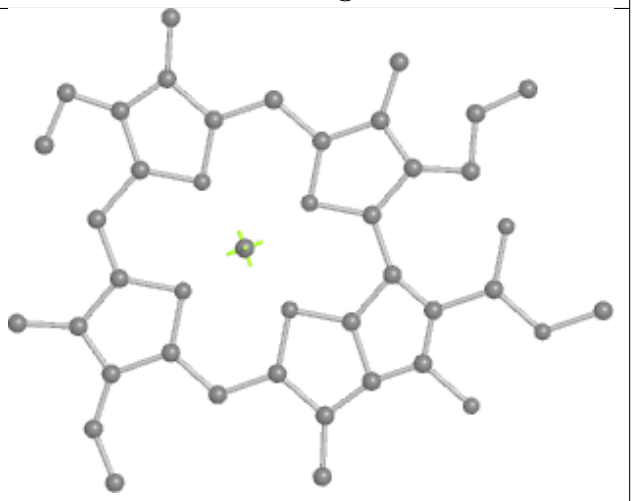
Bond lengths



Bond angles

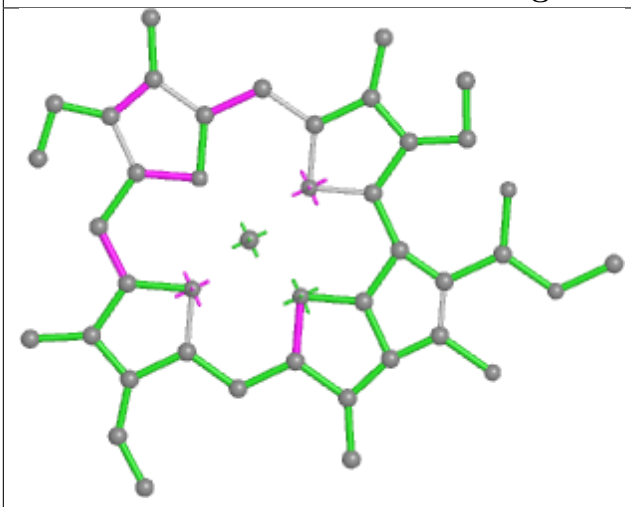


Torsions

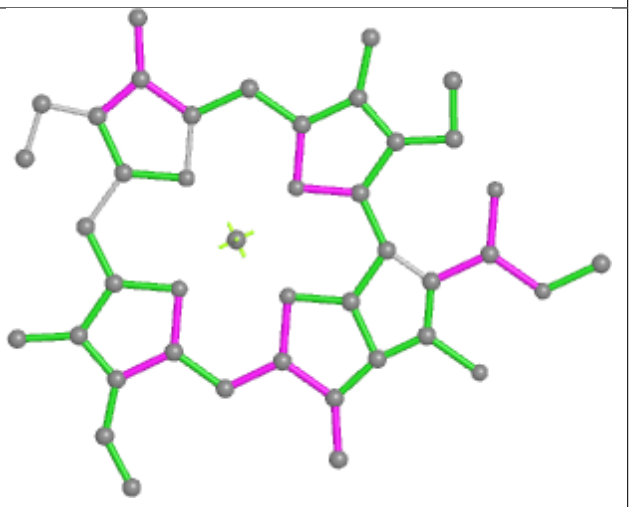


Rings

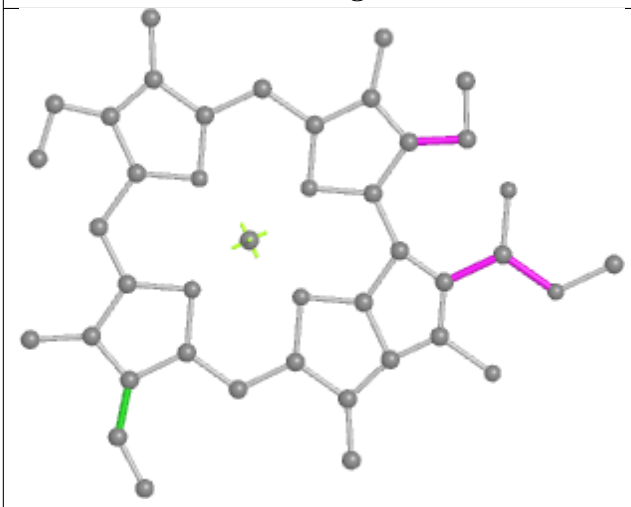
Ligand CLA f 614



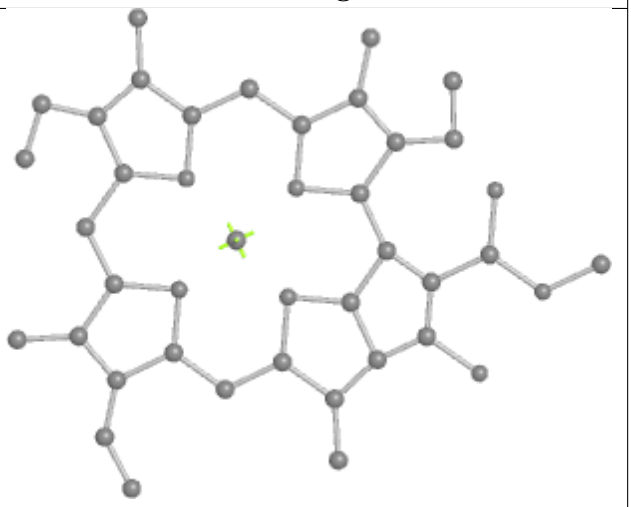
Bond lengths



Bond angles

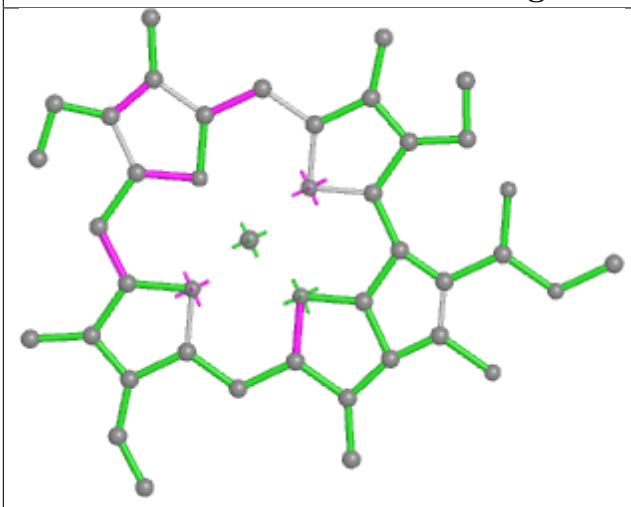


Torsions

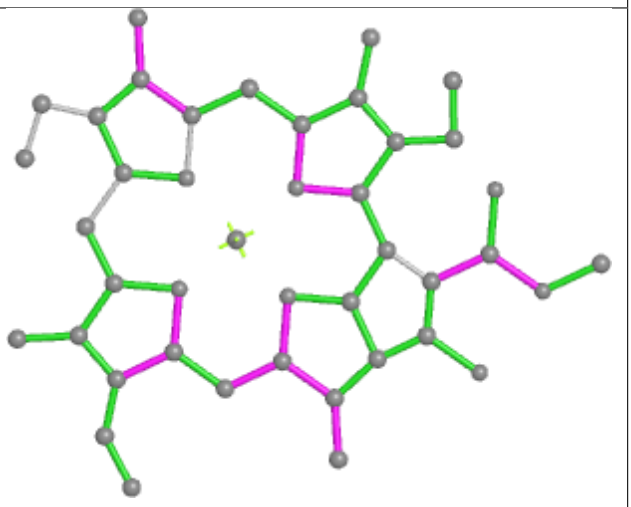


Rings

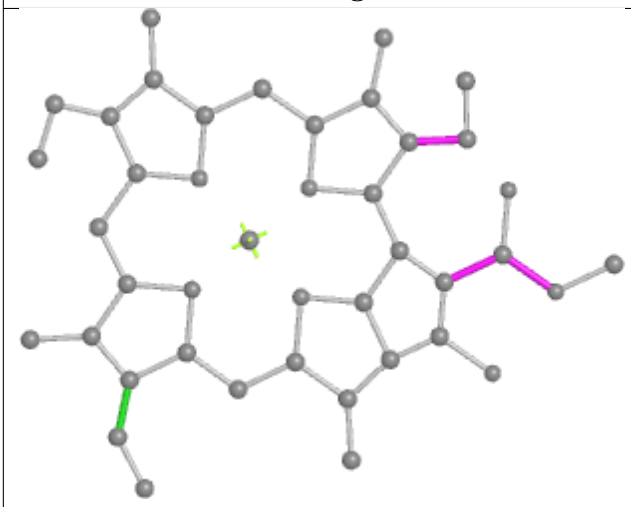
Ligand CLA k 603



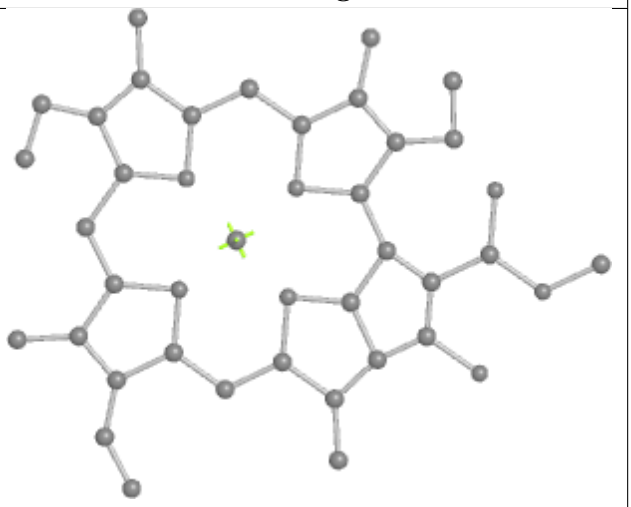
Bond lengths



Bond angles

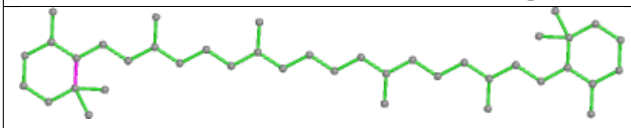


Torsions

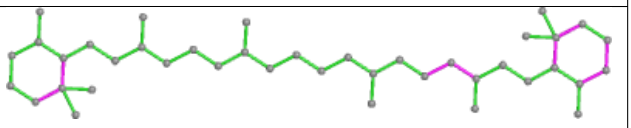


Rings

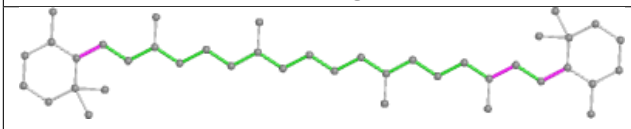
Ligand BCR A 789



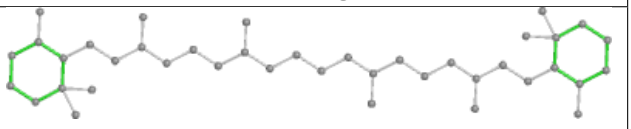
Bond lengths



Bond angles

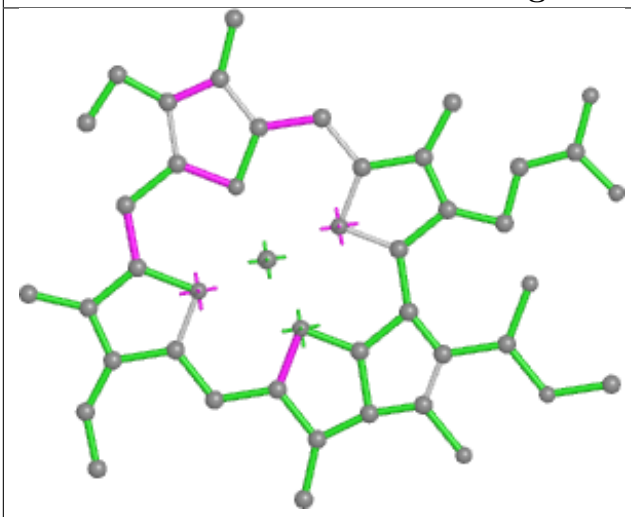


Torsions

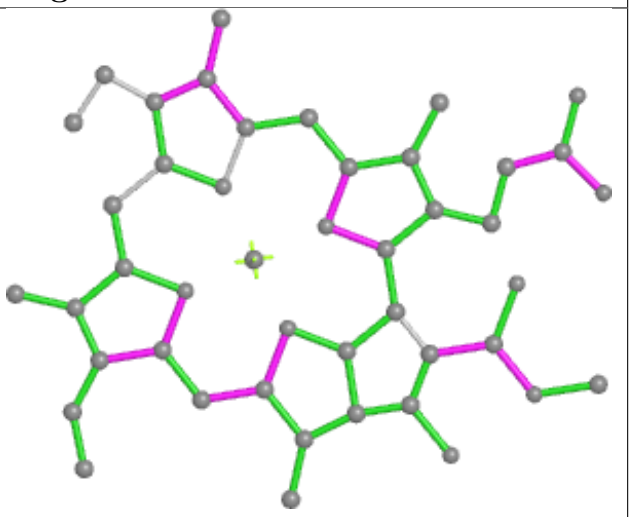


Rings

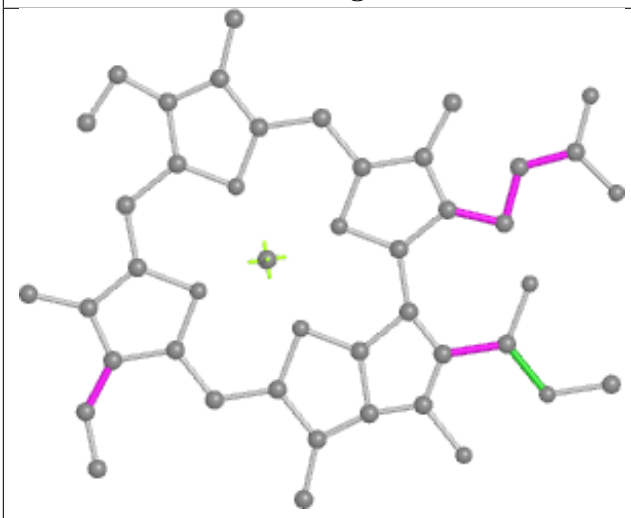
Ligand CLA g 608



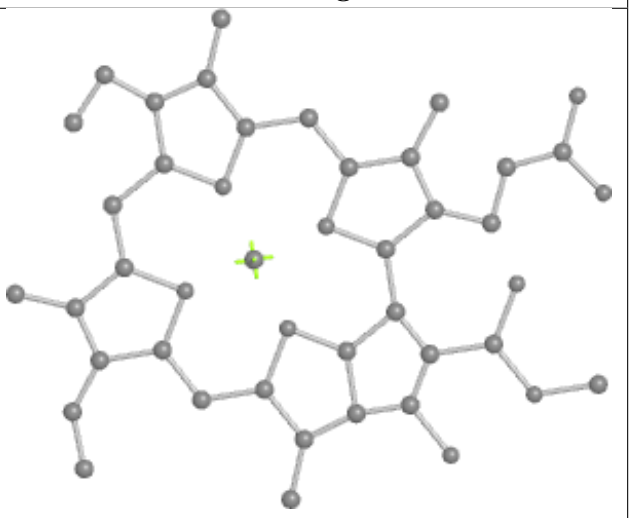
Bond lengths



Bond angles

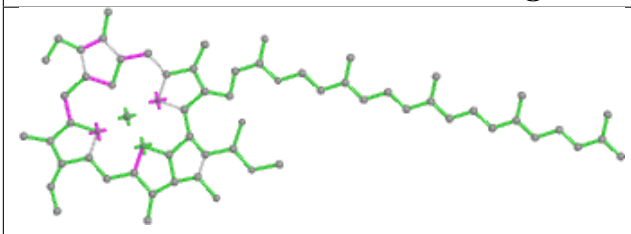


Torsions

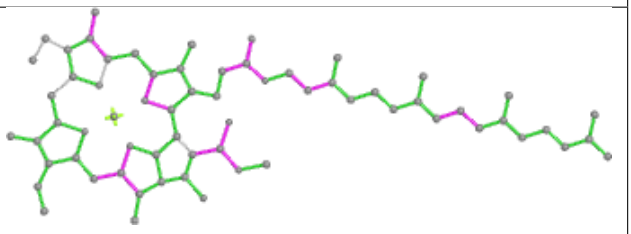


Rings

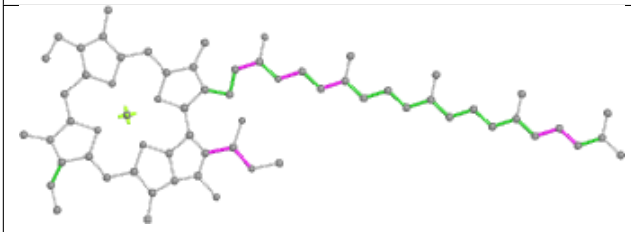
Ligand CLA B 736



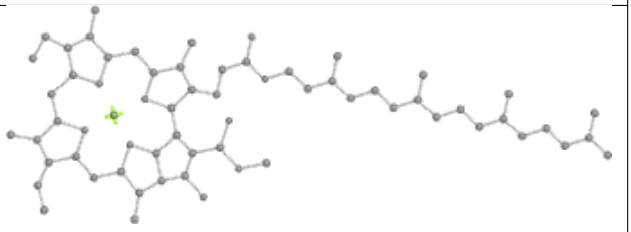
Bond lengths



Bond angles

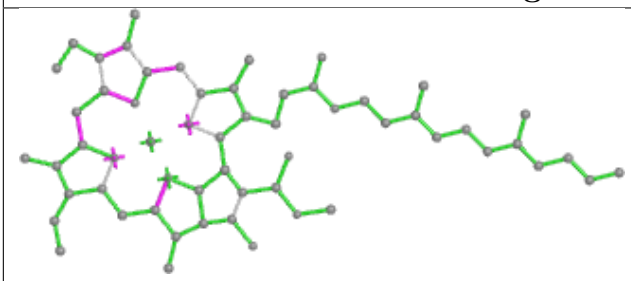


Torsions

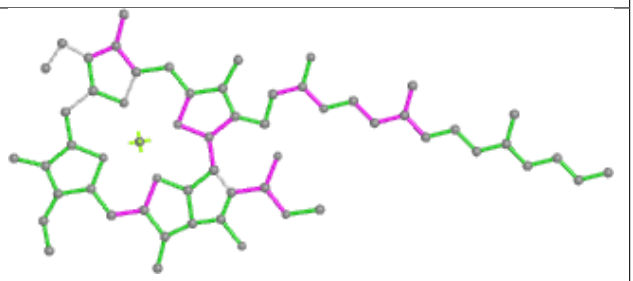


Rings

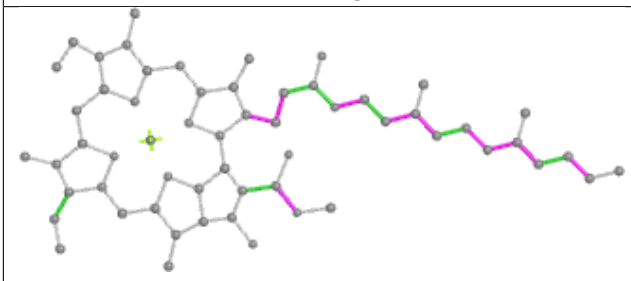
Ligand CLA A 775



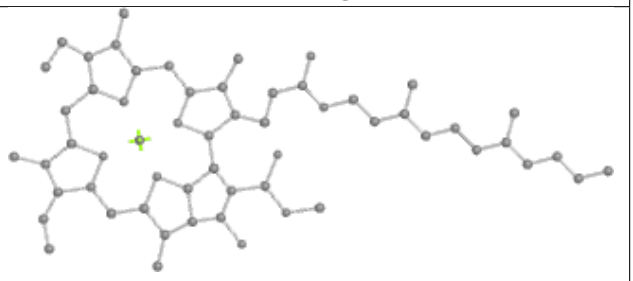
Bond lengths



Bond angles

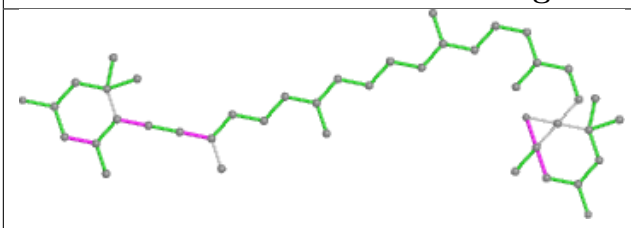


Torsions

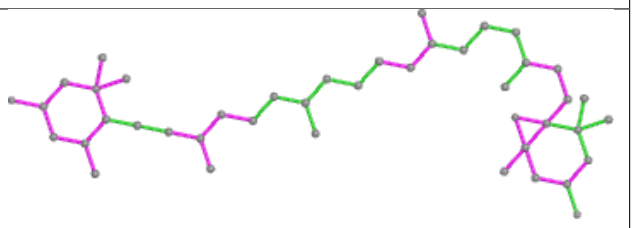


Rings

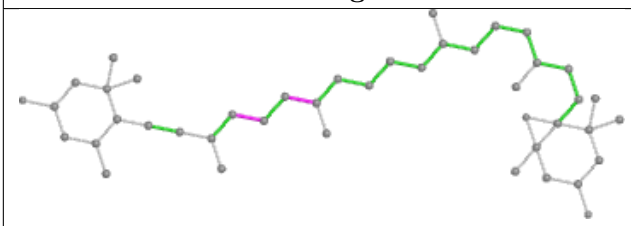
Ligand DD6 l 621



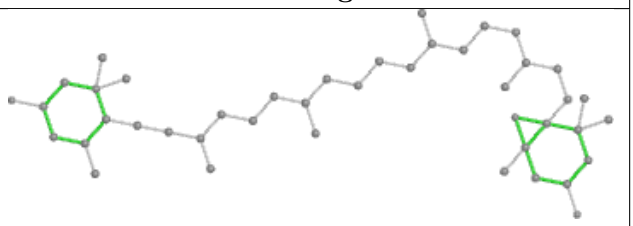
Bond lengths



Bond angles

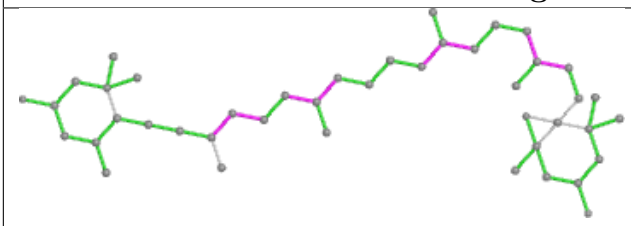


Torsions

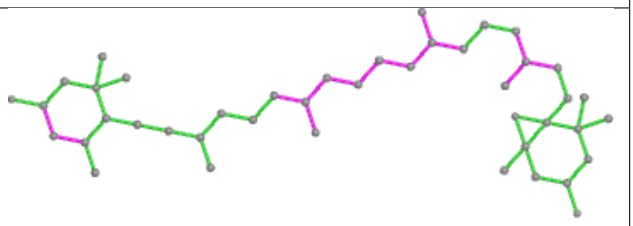


Rings

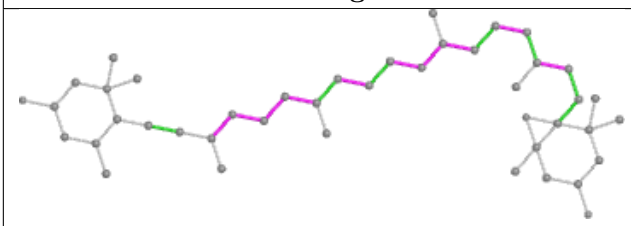
Ligand DD6 c 624



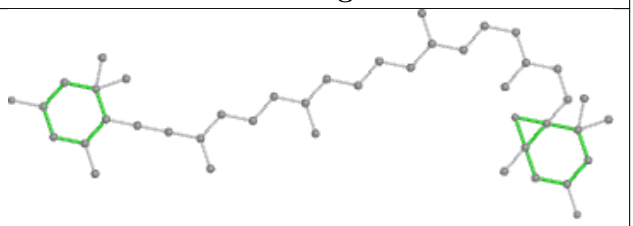
Bond lengths



Bond angles

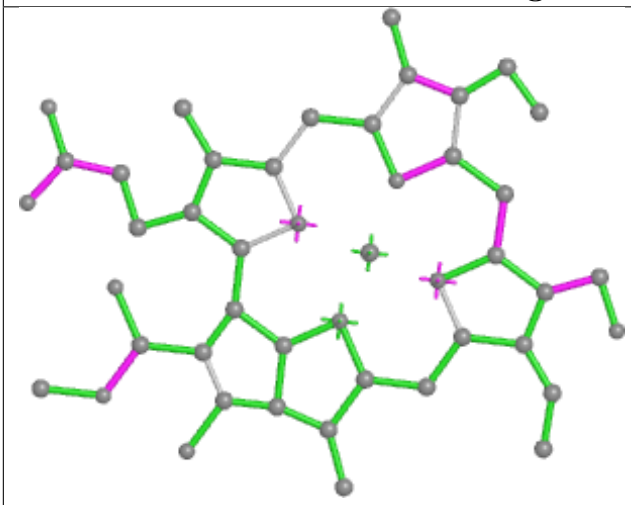


Torsions

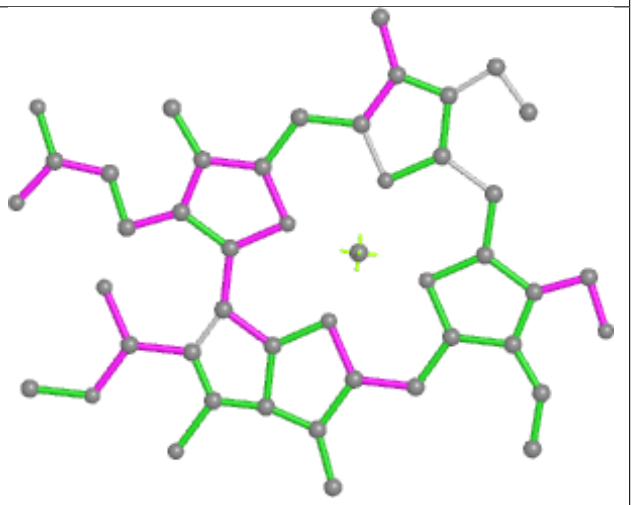


Rings

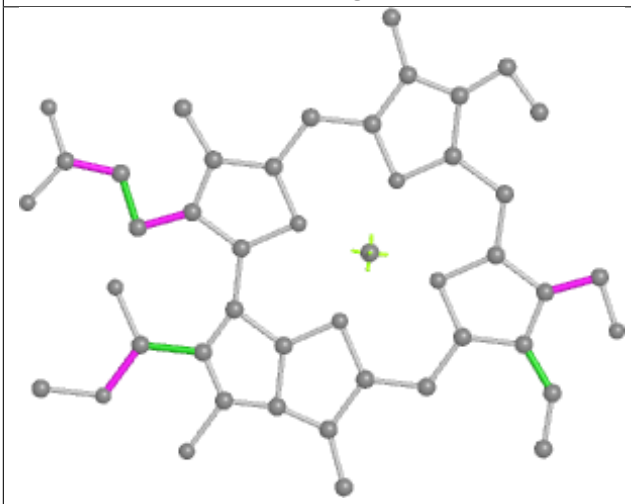
Ligand CHL d 606



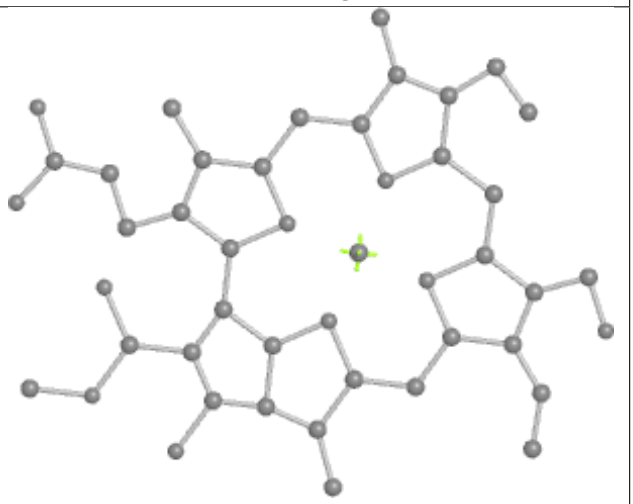
Bond lengths



Bond angles

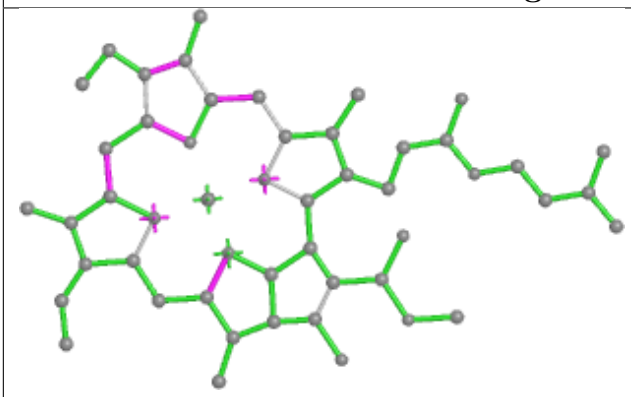


Torsions

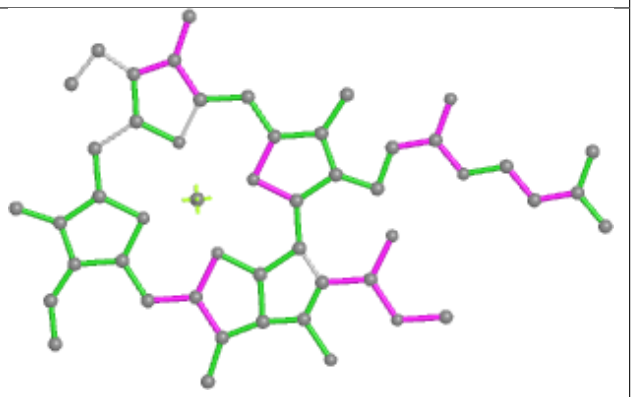


Rings

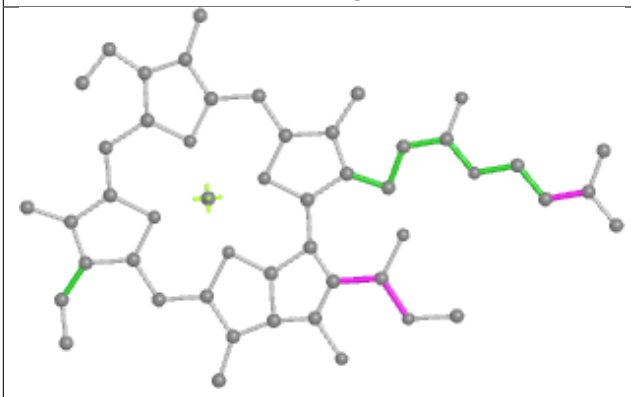
Ligand CLA B 782



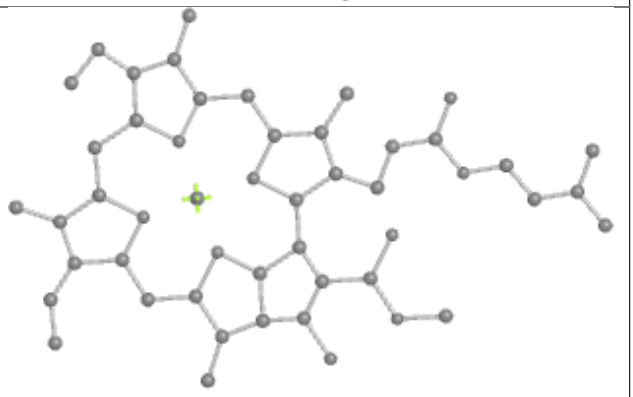
Bond lengths



Bond angles

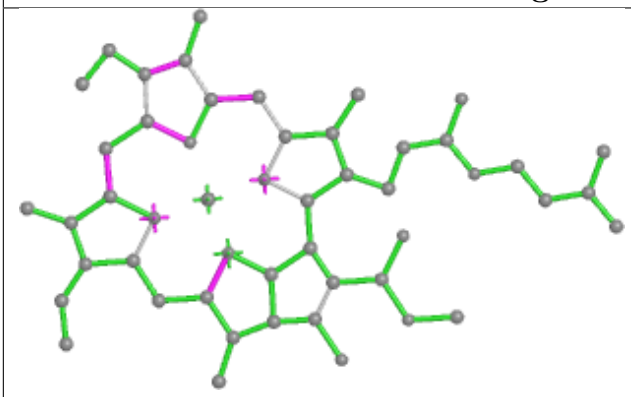


Torsions

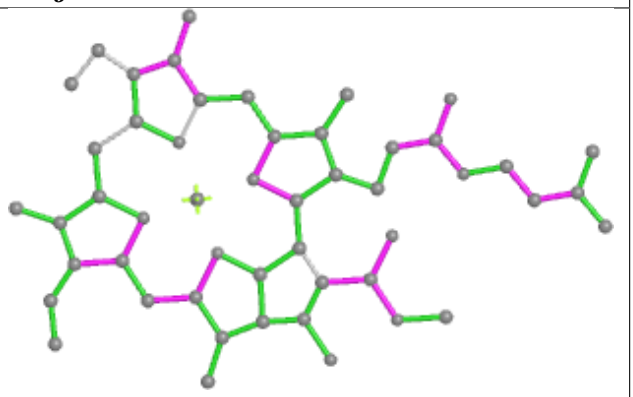


Rings

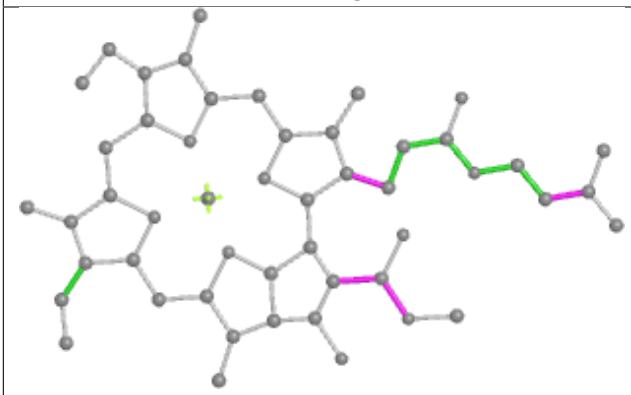
Ligand CLA j 601



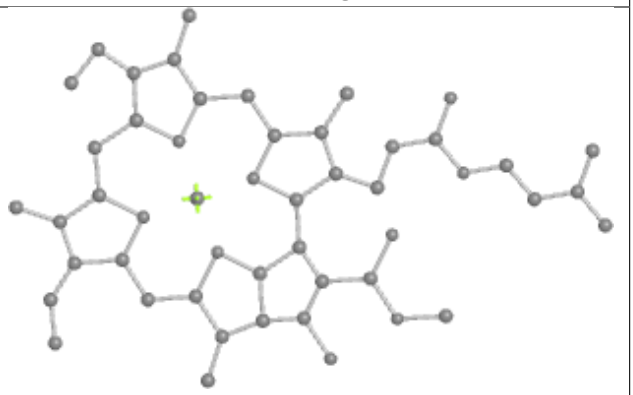
Bond lengths



Bond angles

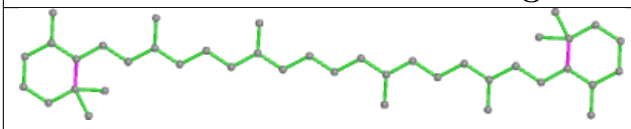


Torsions

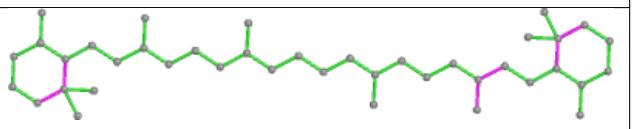


Rings

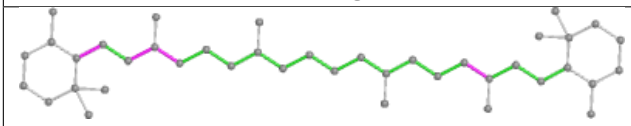
Ligand BCR B 764



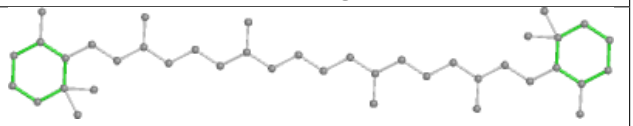
Bond lengths



Bond angles

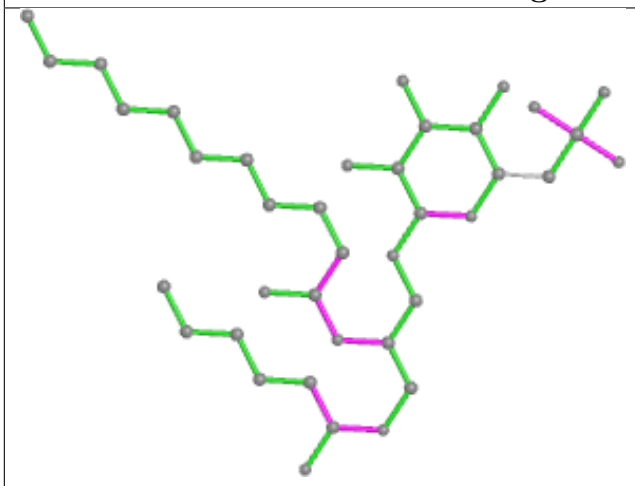


Torsions

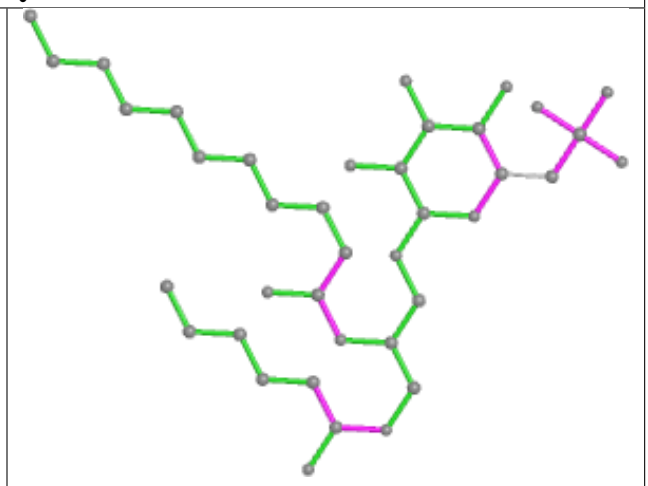


Rings

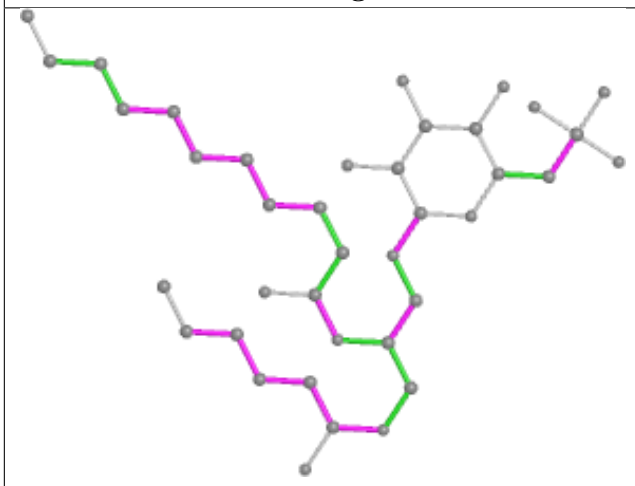
Ligand SQD c 245



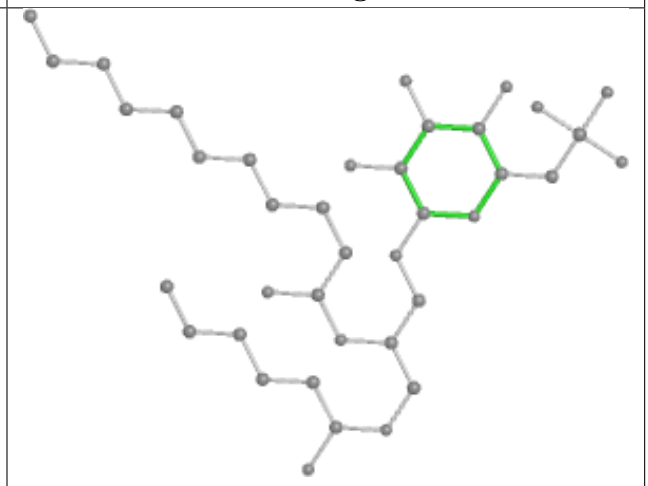
Bond lengths



Bond angles

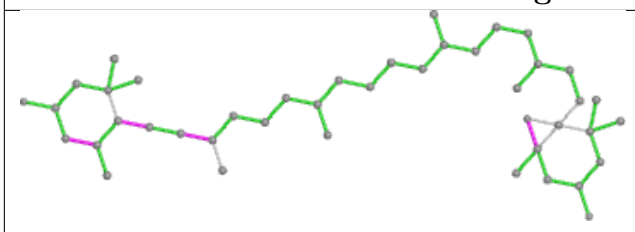


Torsions

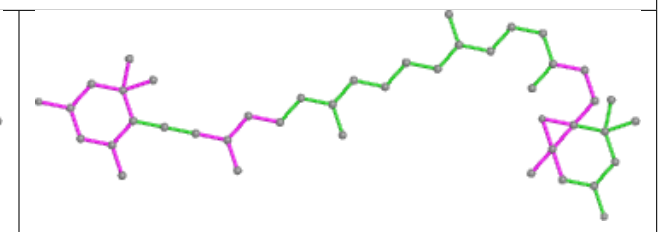


Rings

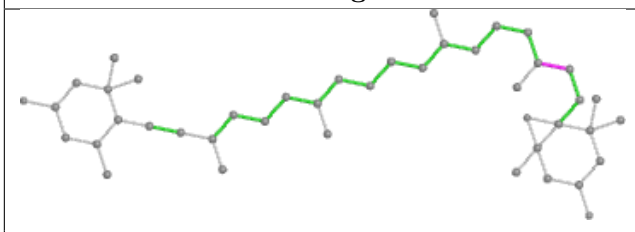
Ligand DD6 i 625



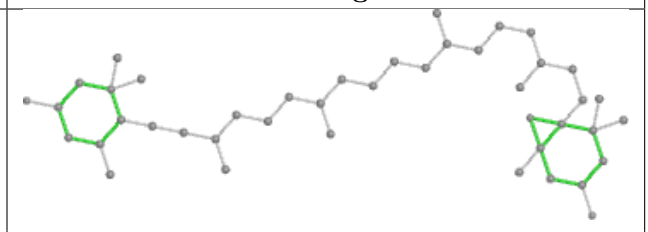
Bond lengths



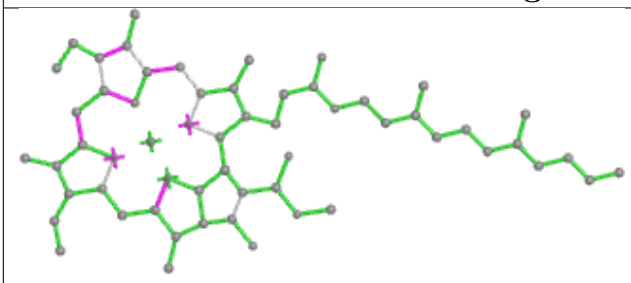
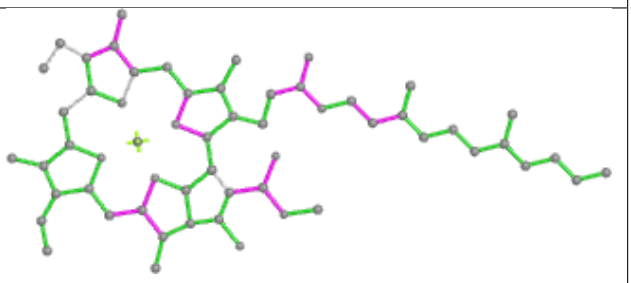
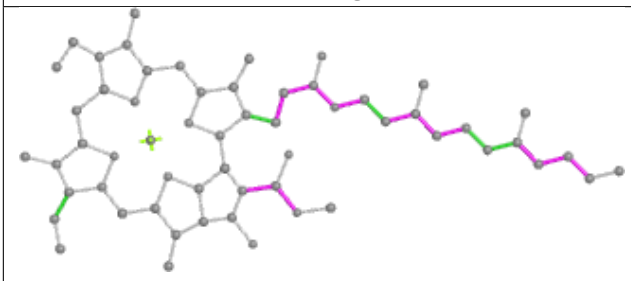
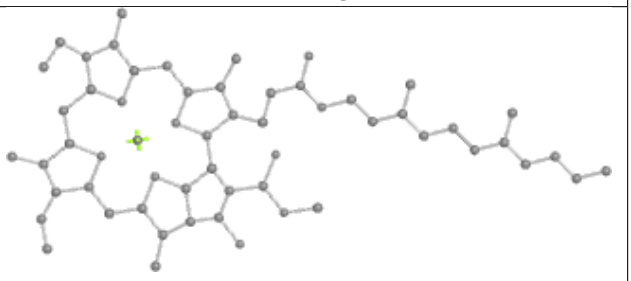
Bond angles

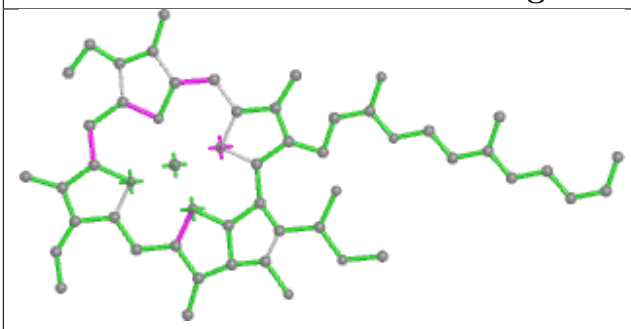
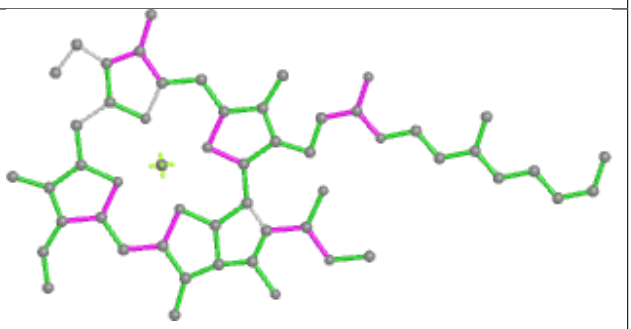
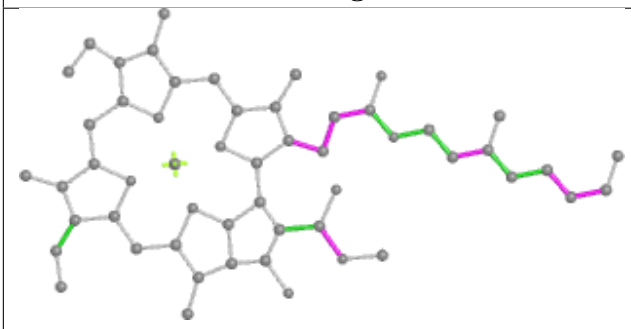
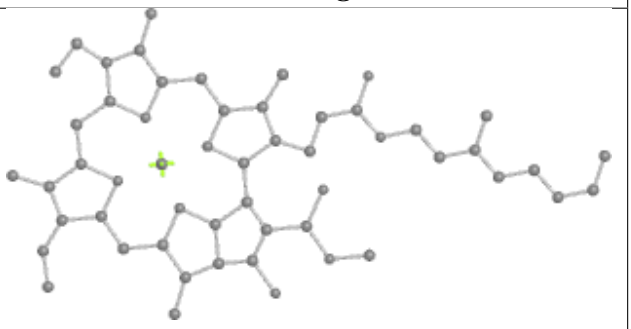


Torsions

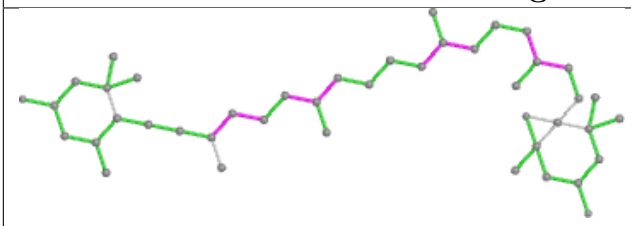


Rings

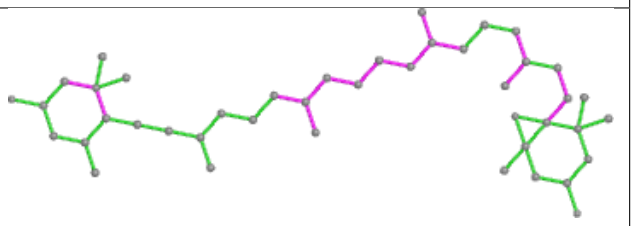
Ligand CLA A 766	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA h 610	
 Bond lengths	 Bond angles
 Torsions	 Rings

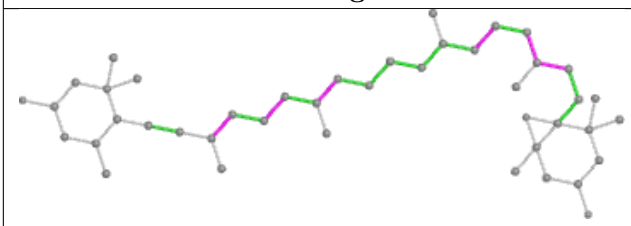
Ligand DD6 e 620



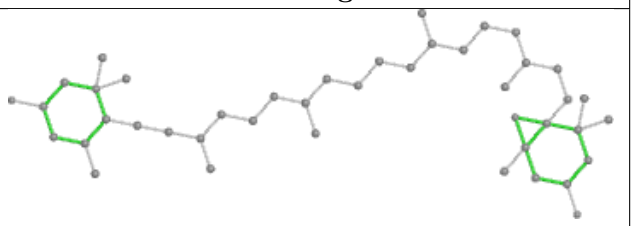
Bond lengths



Bond angles

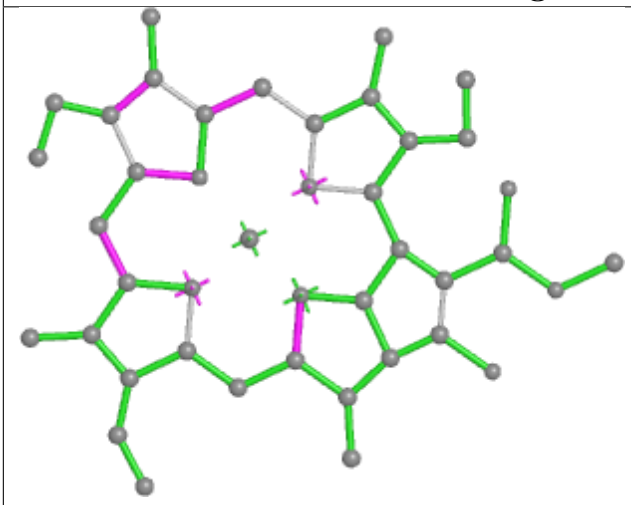


Torsions

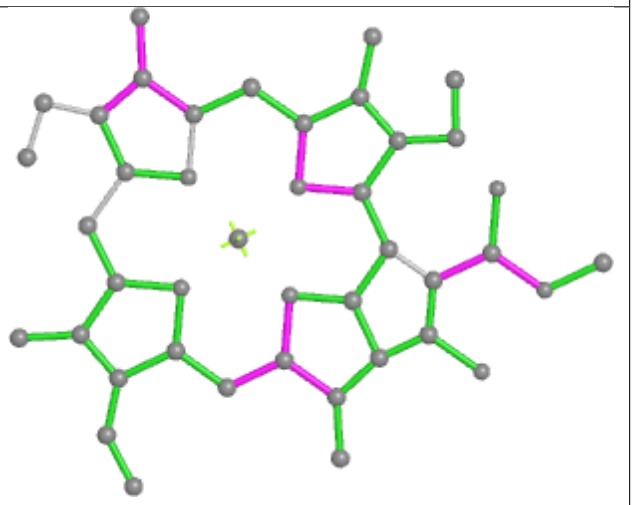


Rings

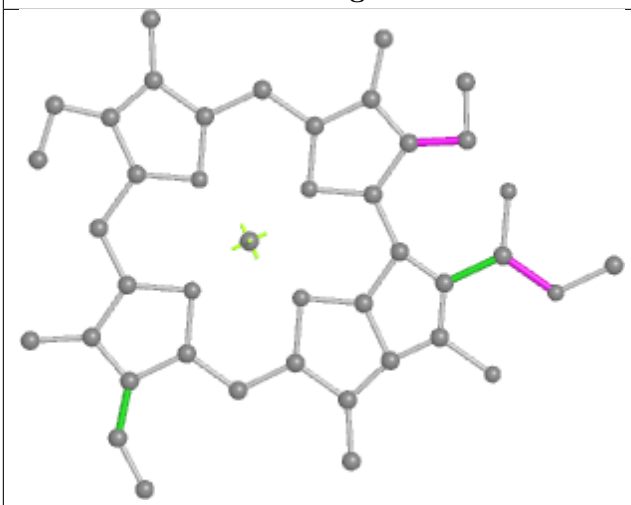
Ligand CLA e 614



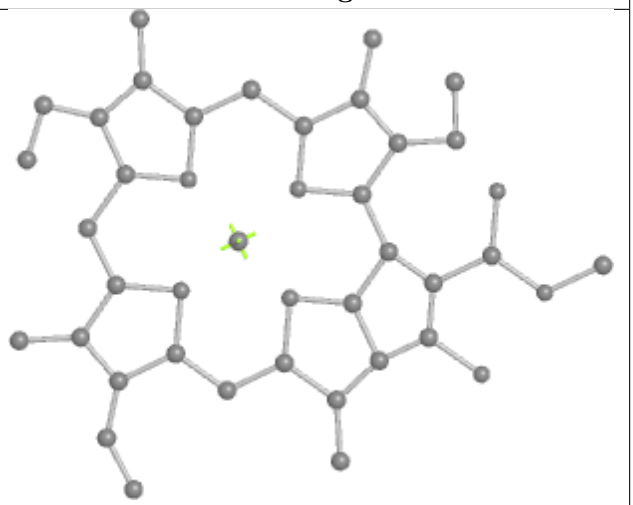
Bond lengths



Bond angles

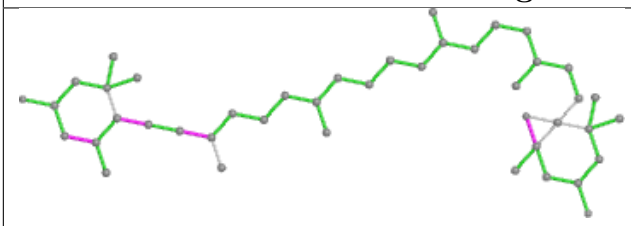


Torsions

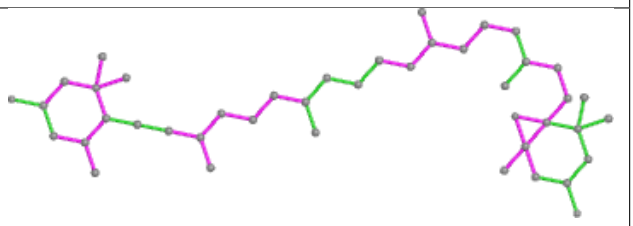


Rings

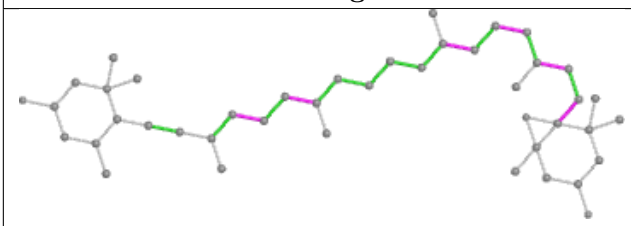
Ligand DD6 A 4008



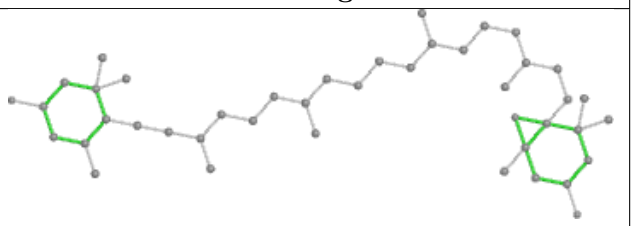
Bond lengths



Bond angles

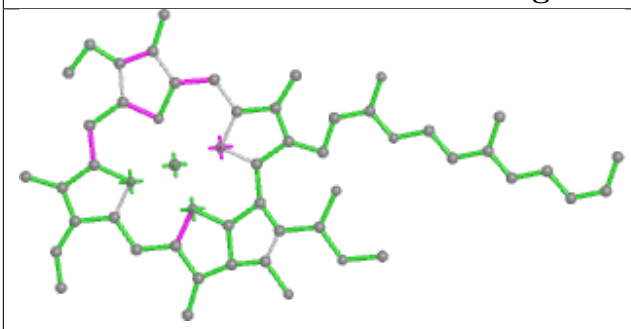


Torsions

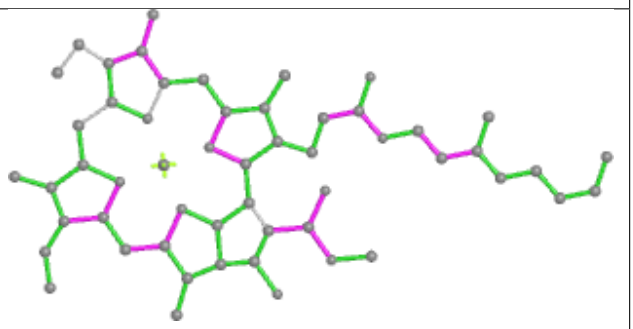


Rings

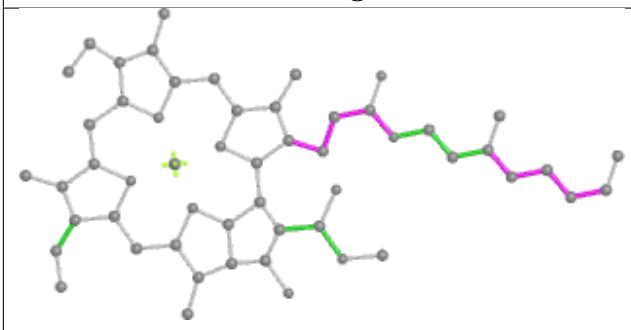
Ligand CLA l 610



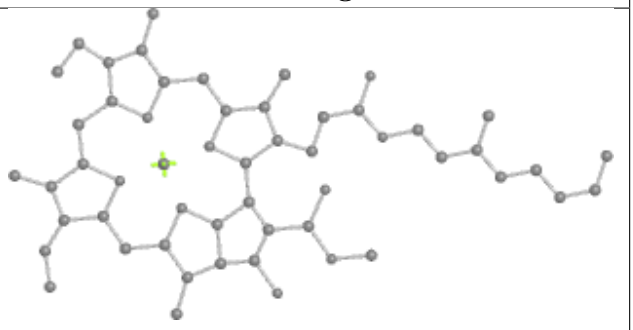
Bond lengths



Bond angles

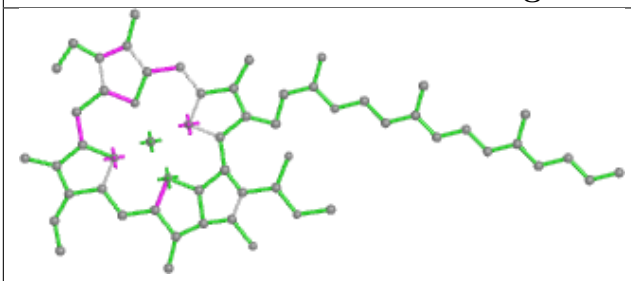


Torsions

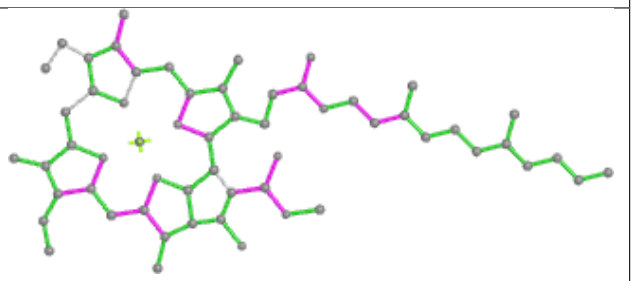


Rings

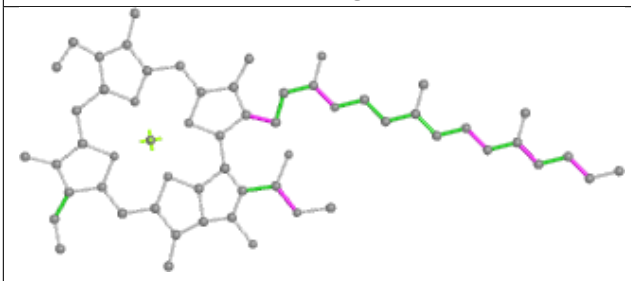
Ligand CLA A 764



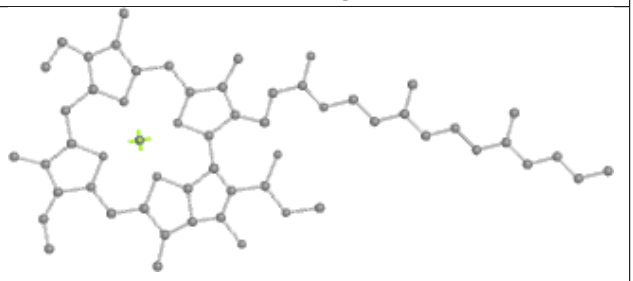
Bond lengths



Bond angles

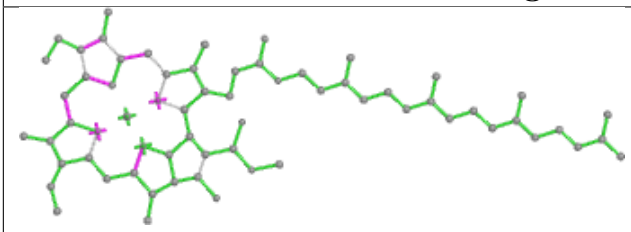


Torsions

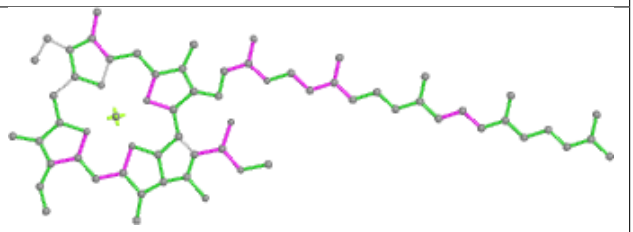


Rings

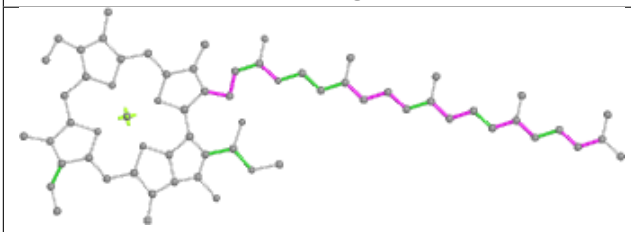
Ligand CLA A 801



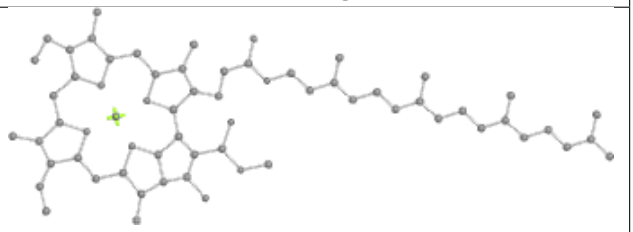
Bond lengths



Bond angles

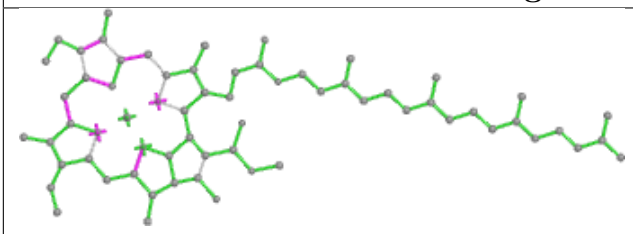


Torsions

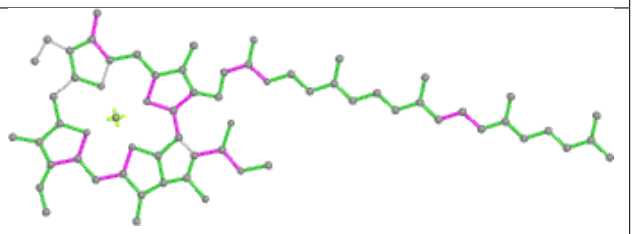


Rings

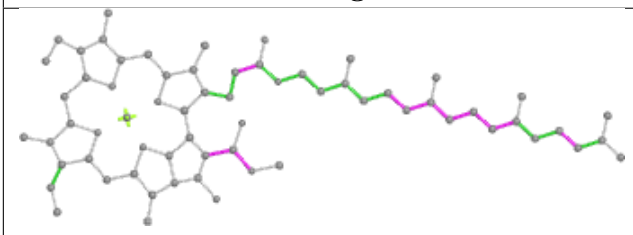
Ligand CLA B 753



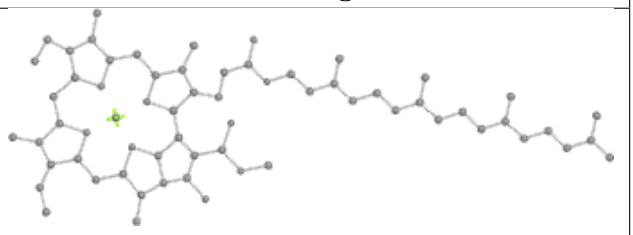
Bond lengths



Bond angles

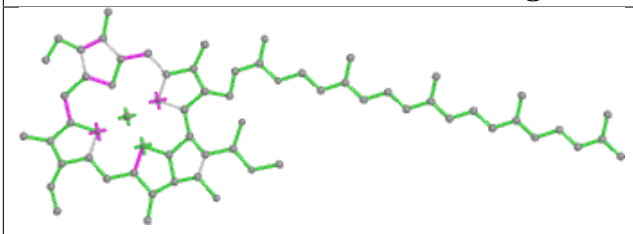


Torsions

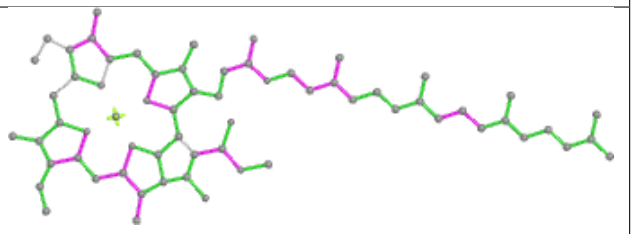


Rings

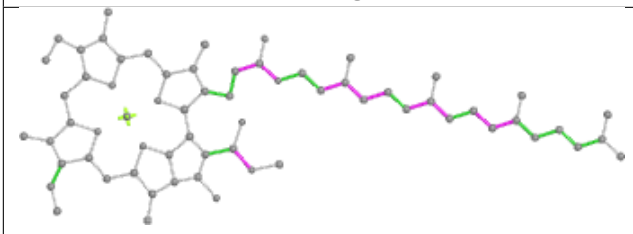
Ligand CLA B 739



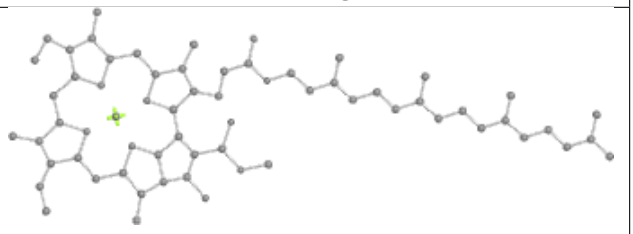
Bond lengths



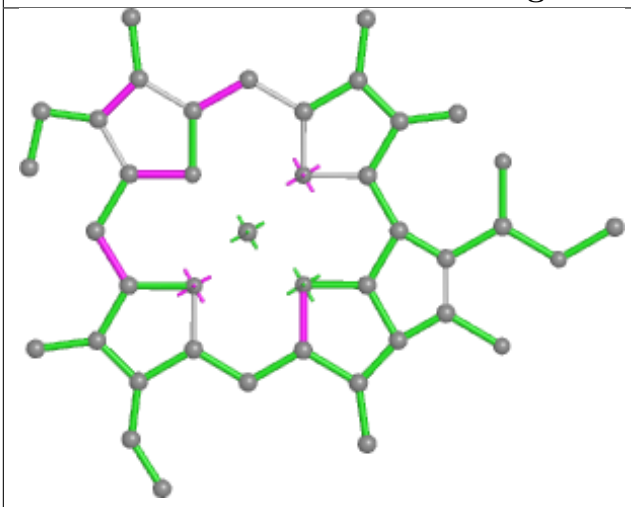
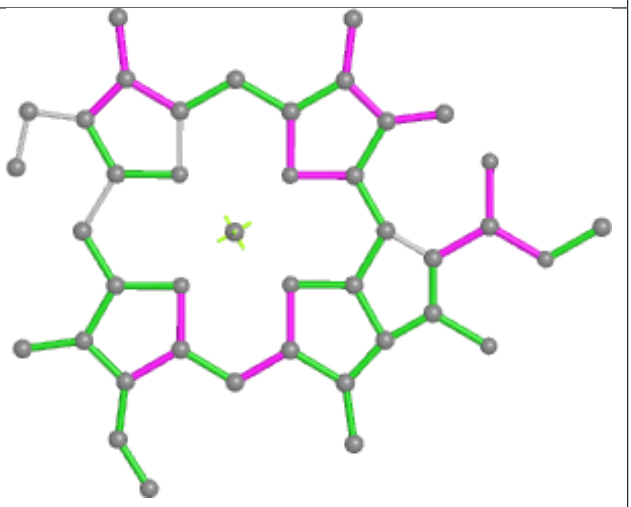
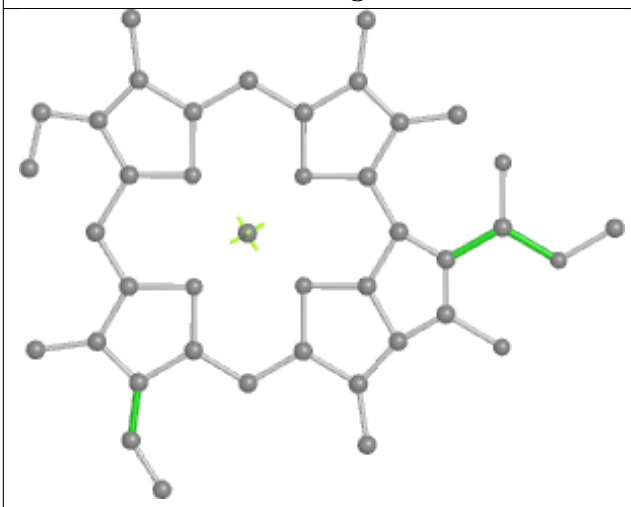
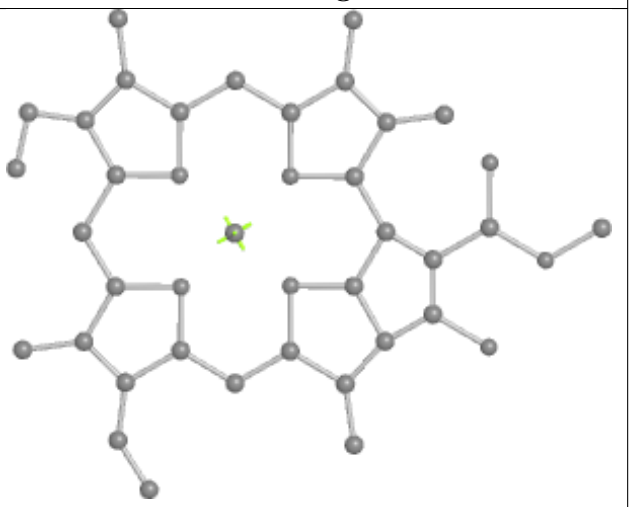
Bond angles

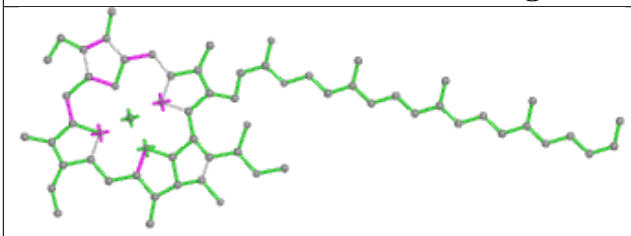
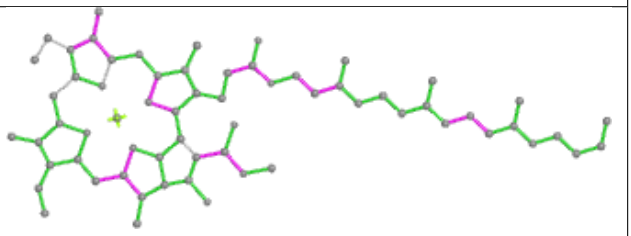
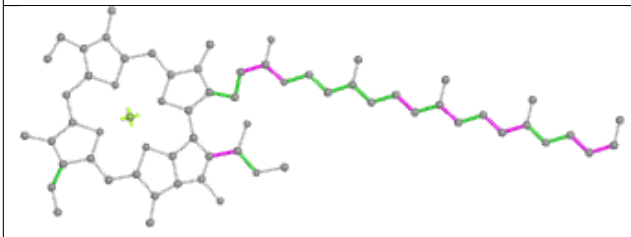
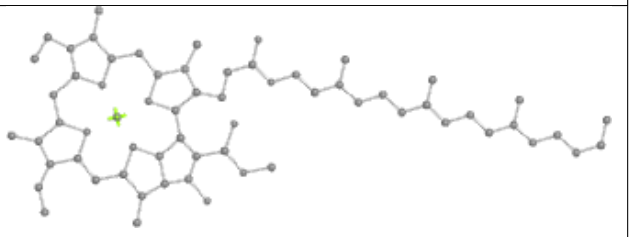


Torsions

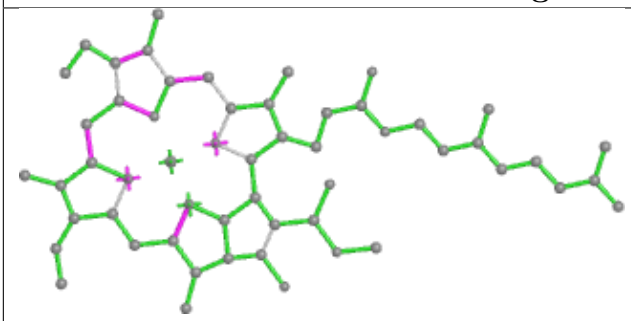


Rings

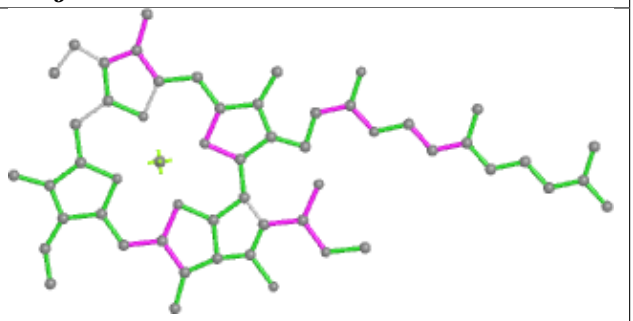
Ligand CLA b 608	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand CLA A 774	
	
Bond lengths	Bond angles
	
Torsions	Rings

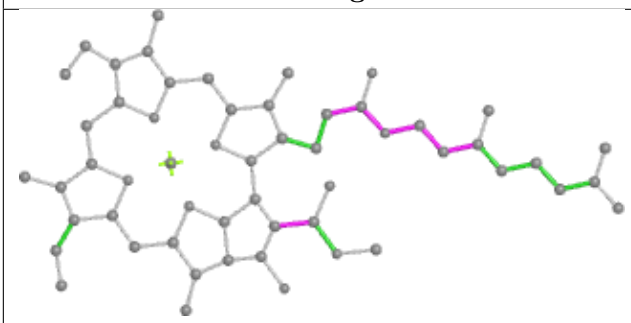
Ligand CLA j 612



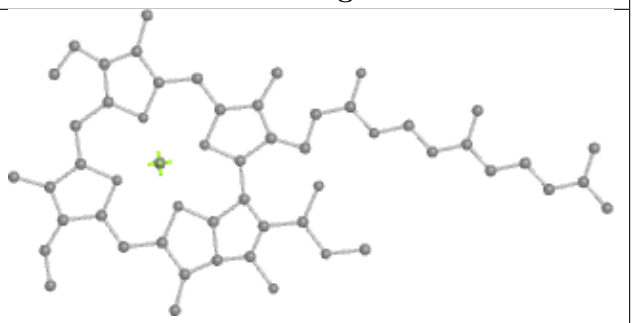
Bond lengths



Bond angles

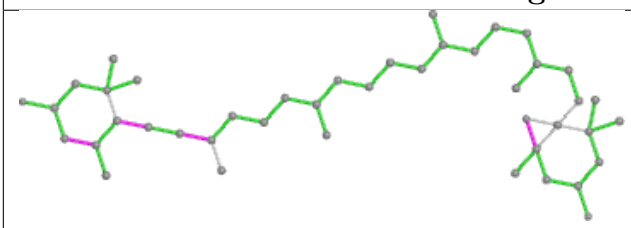


Torsions

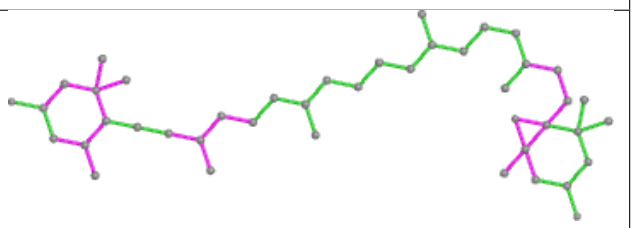


Rings

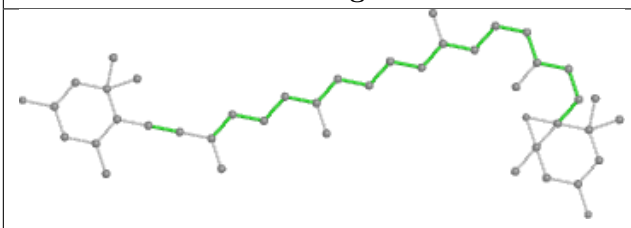
Ligand DD6 h 621



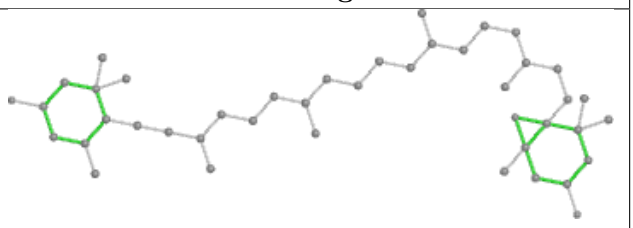
Bond lengths



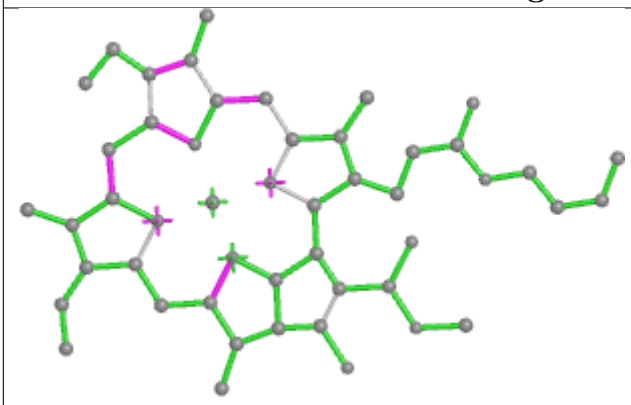
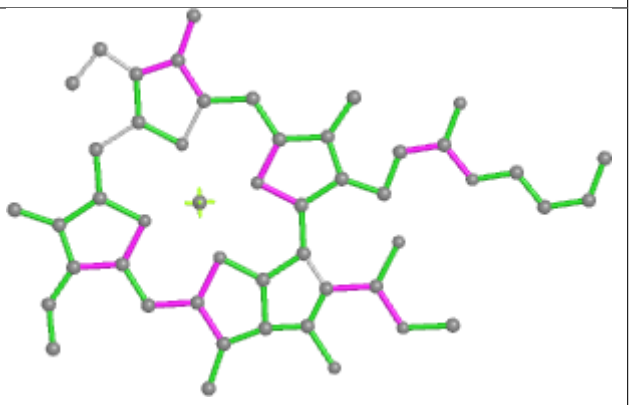
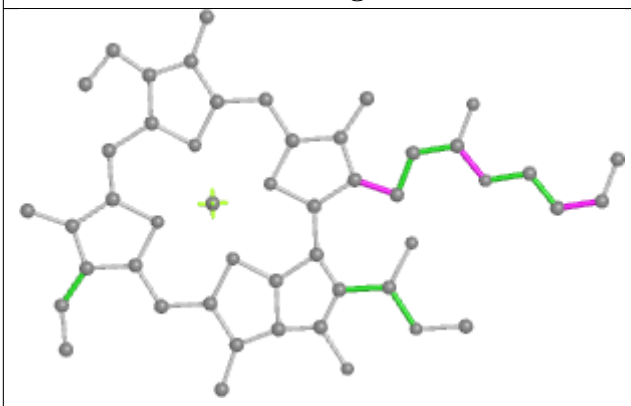
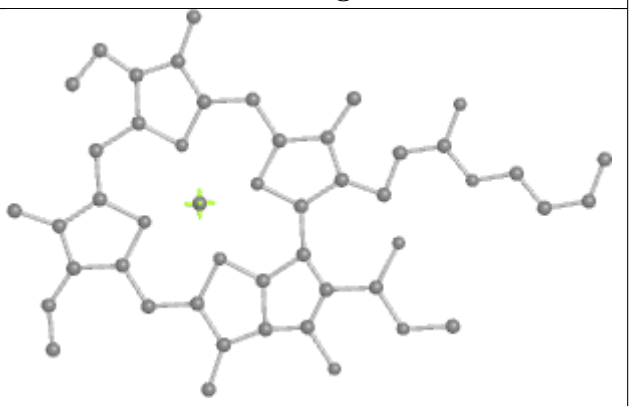
Bond angles



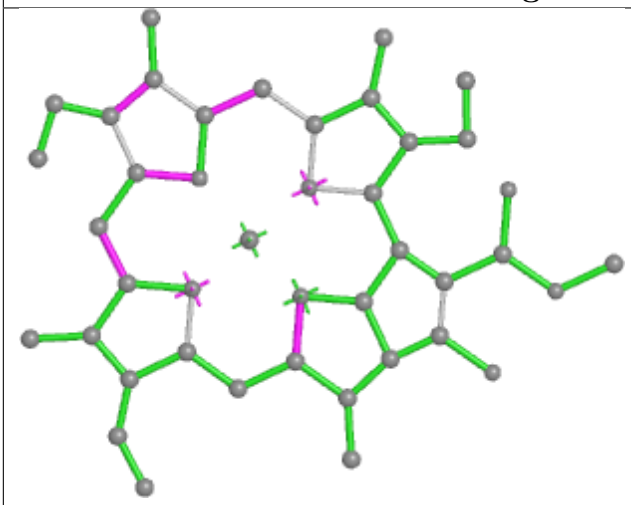
Torsions



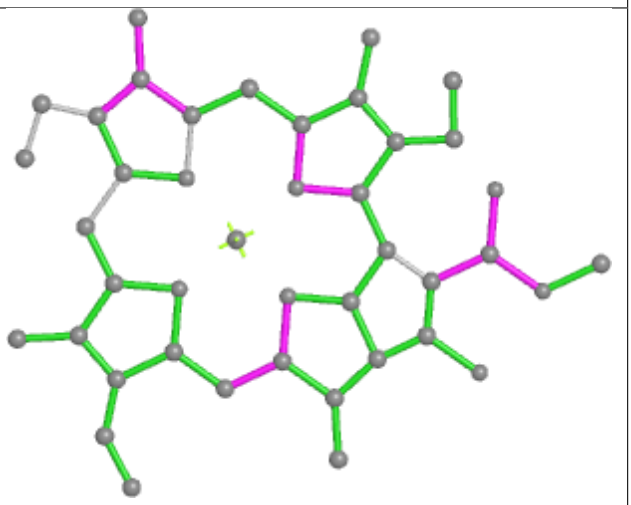
Rings

Ligand CLA d 609	
	
Bond lengths	**Bond angles**
	
Torsions	**Rings**

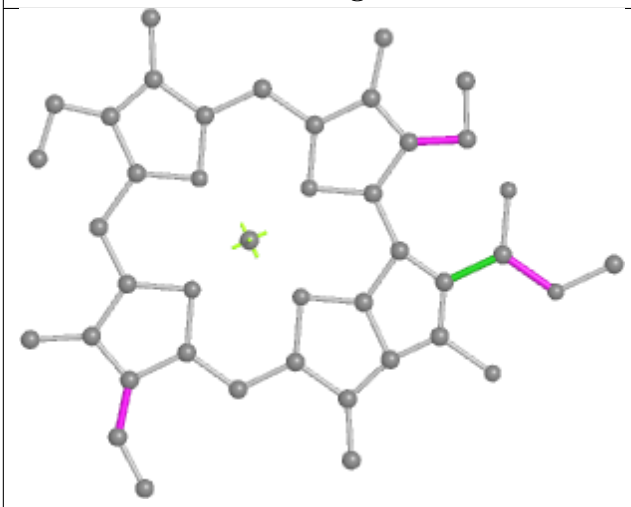
Ligand CLA m 613



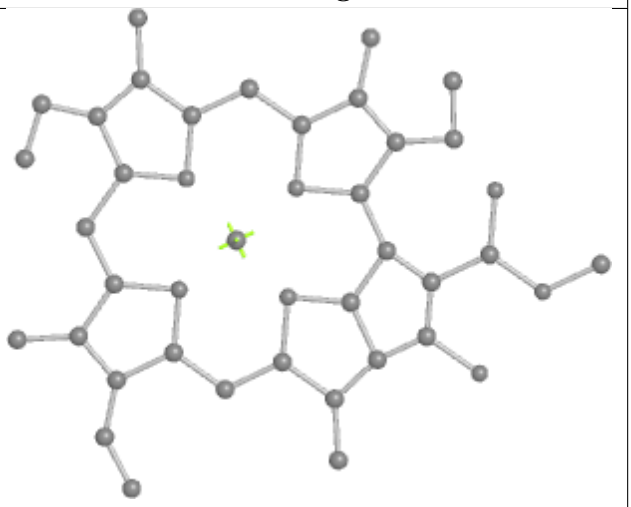
Bond lengths



Bond angles

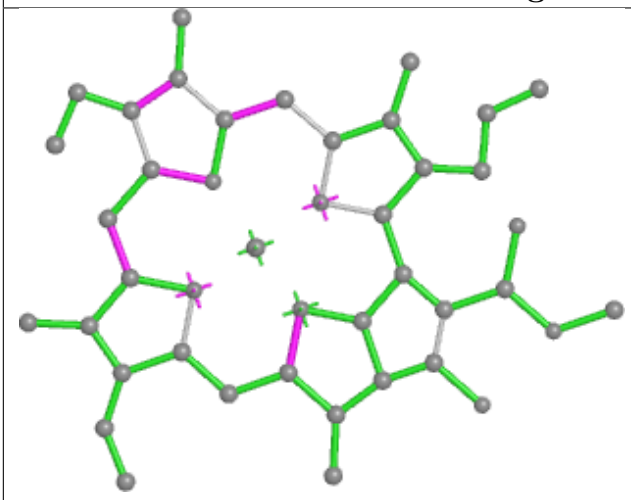


Torsions

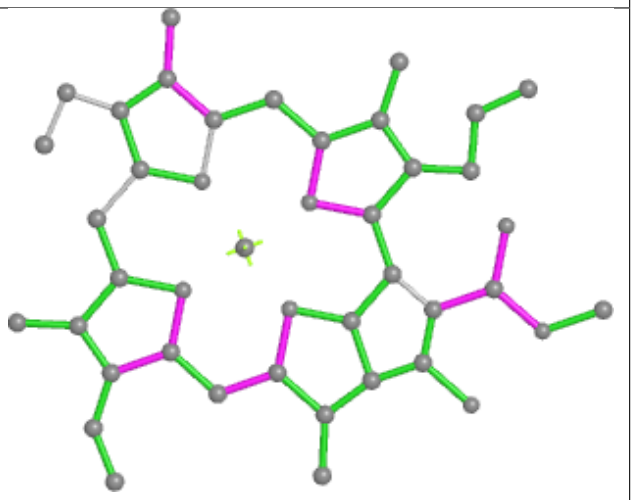


Rings

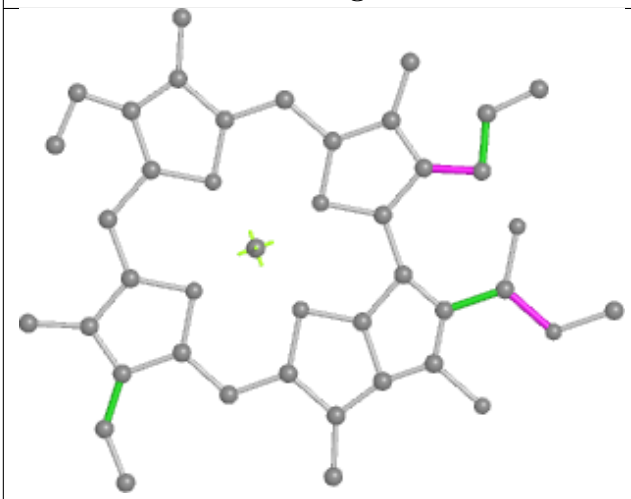
Ligand CLA h 614



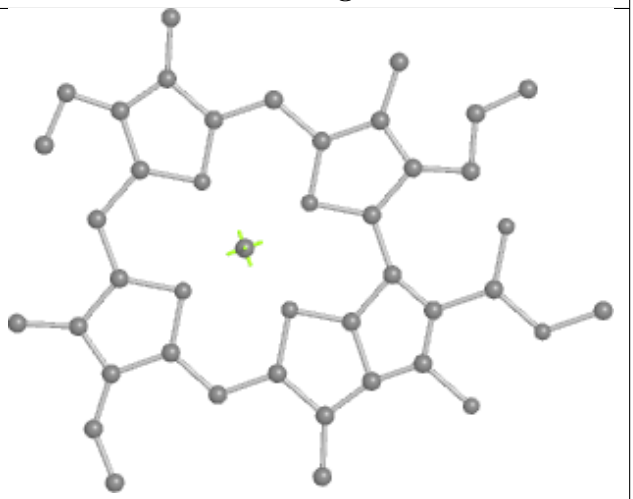
Bond lengths



Bond angles

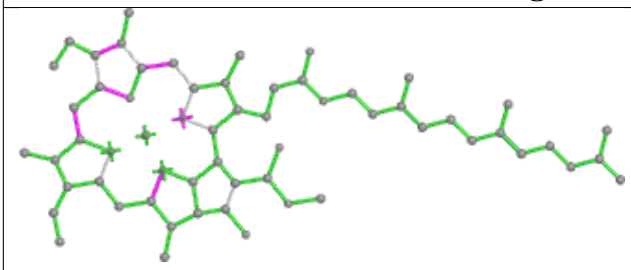


Torsions

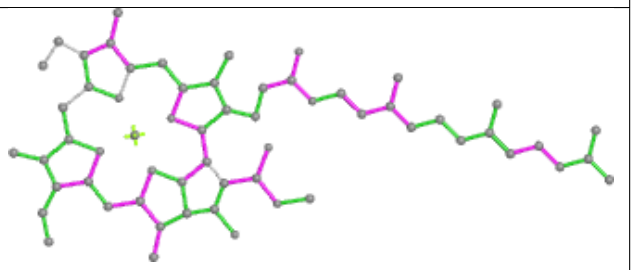


Rings

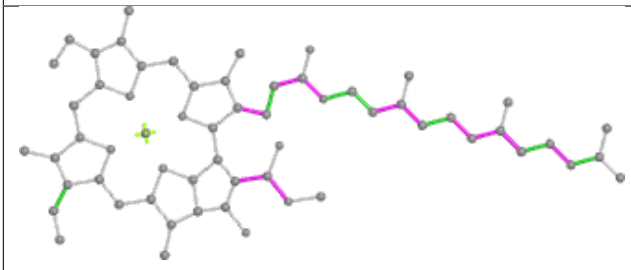
Ligand CLA a 602



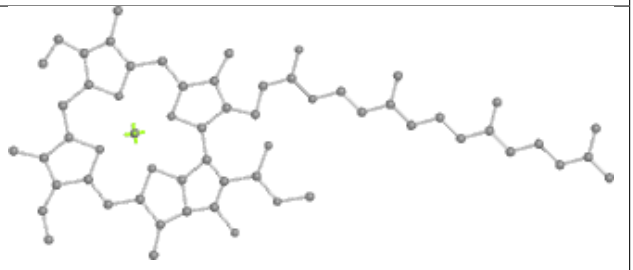
Bond lengths



Bond angles

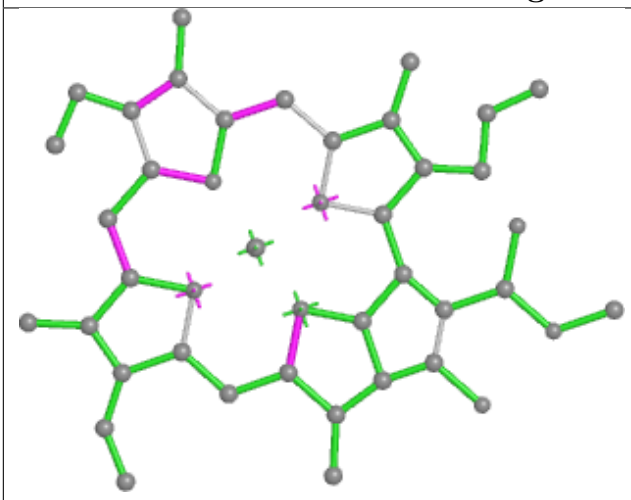


Torsions

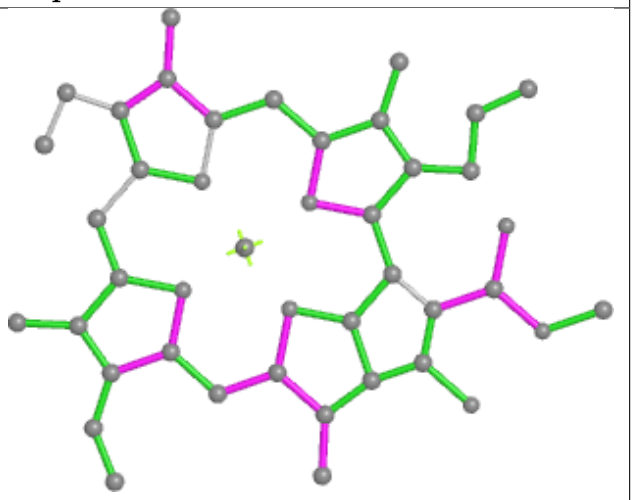


Rings

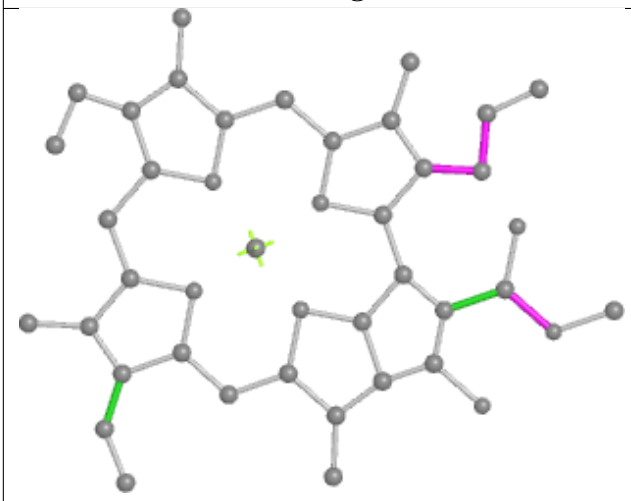
Ligand CLA p 604



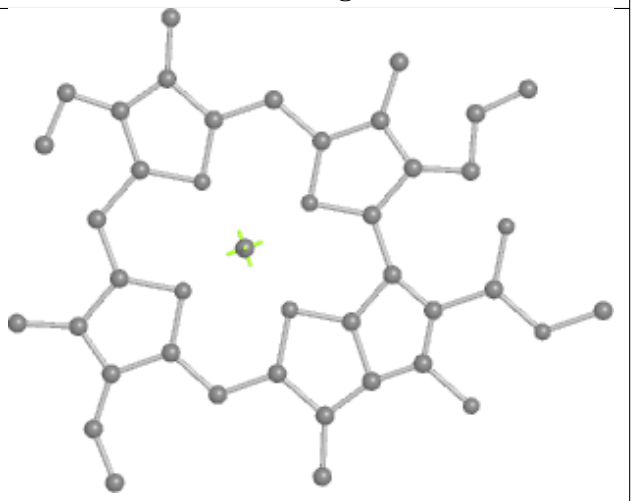
Bond lengths



Bond angles

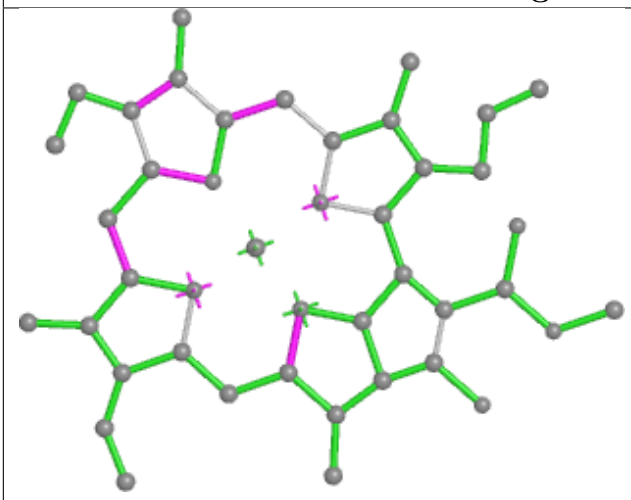


Torsions

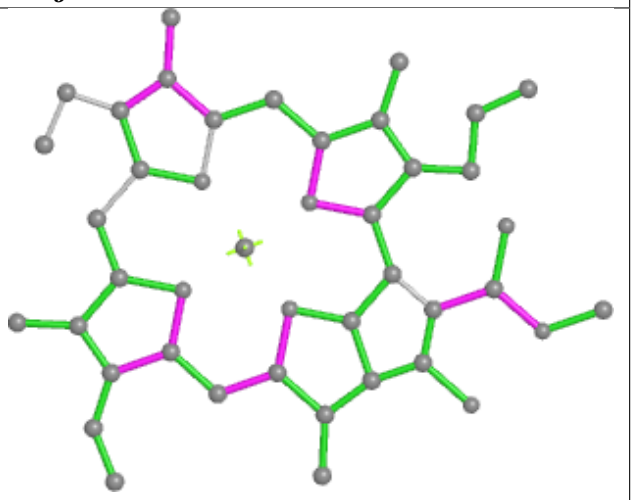


Rings

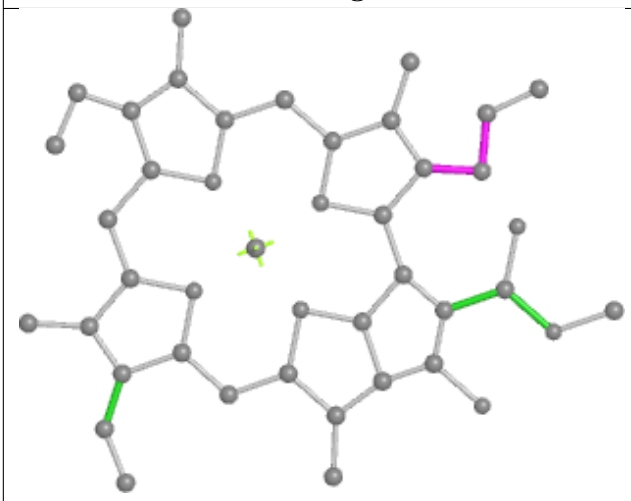
Ligand CLA j 615



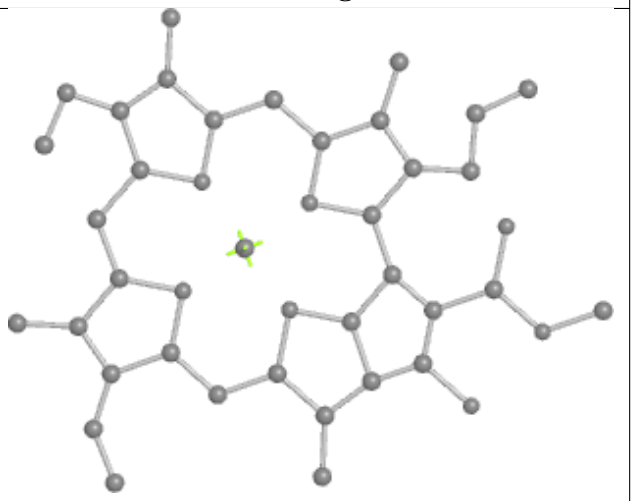
Bond lengths



Bond angles

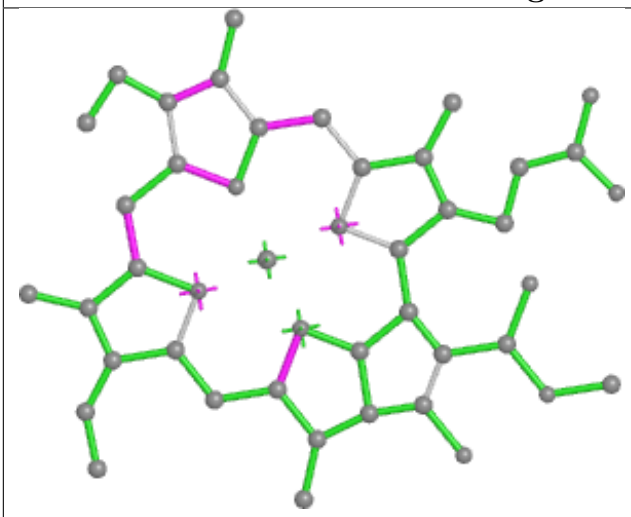


Torsions

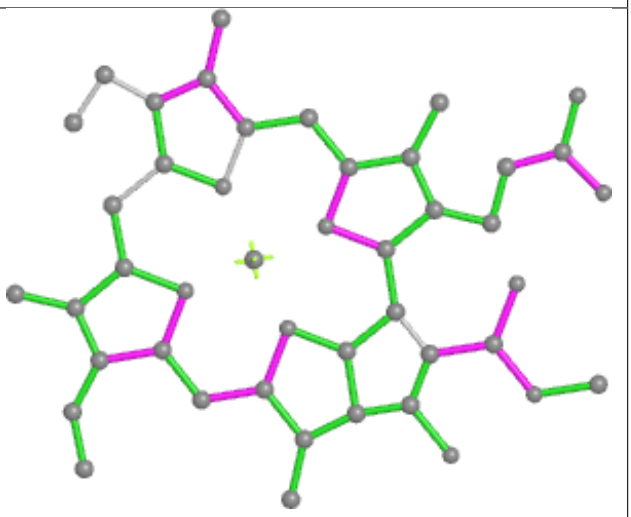


Rings

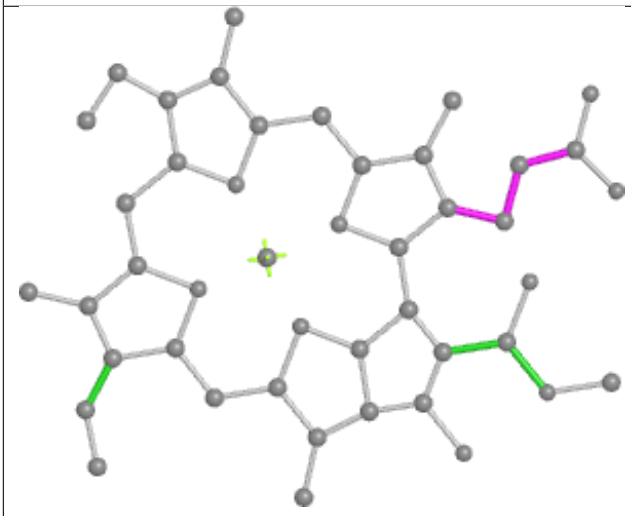
Ligand CLA d 611



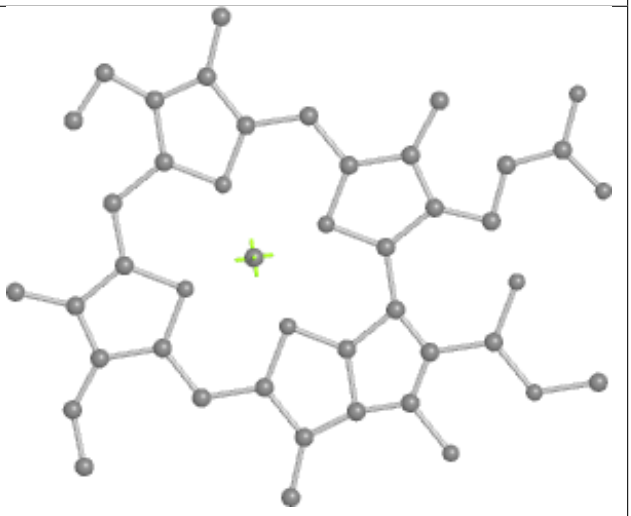
Bond lengths



Bond angles

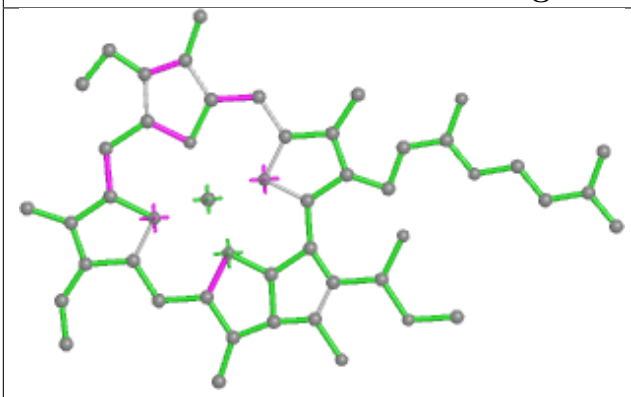


Torsions

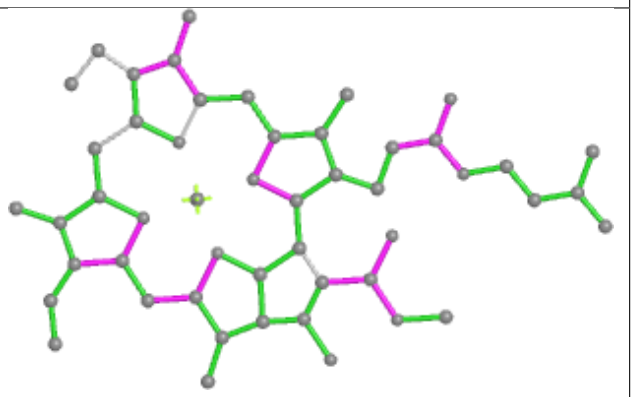


Rings

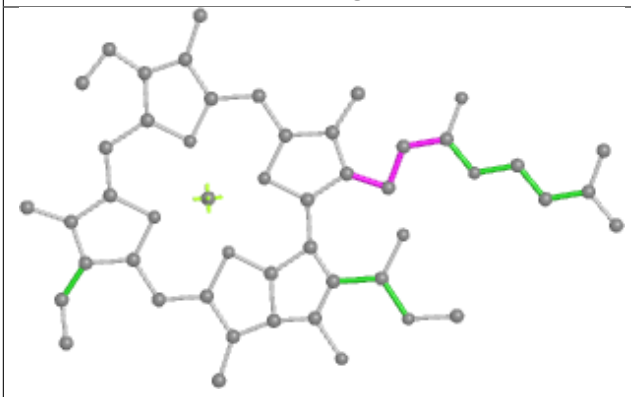
Ligand CLA i 615



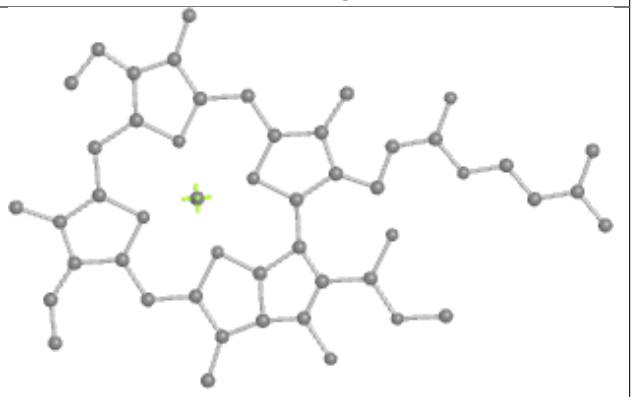
Bond lengths



Bond angles

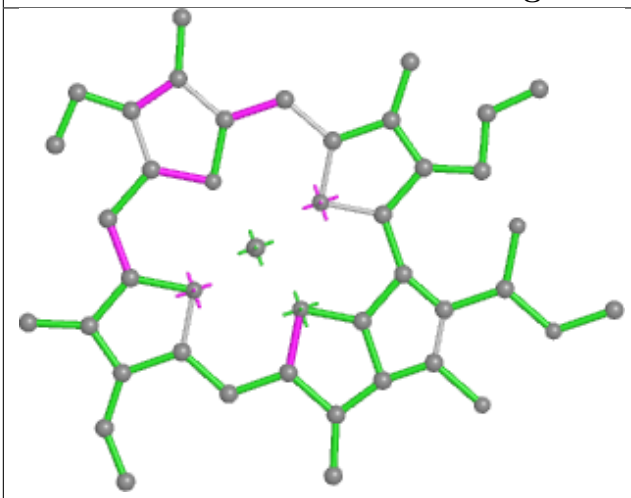


Torsions

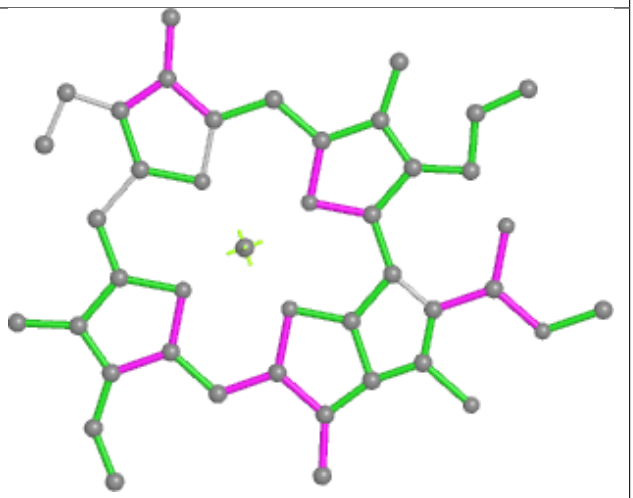


Rings

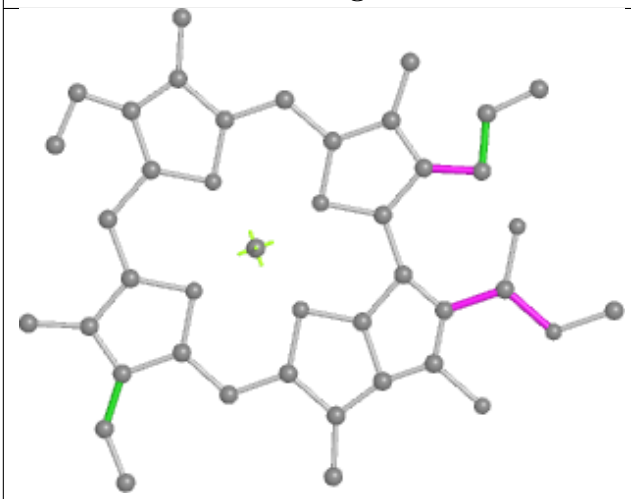
Ligand CLA A 779



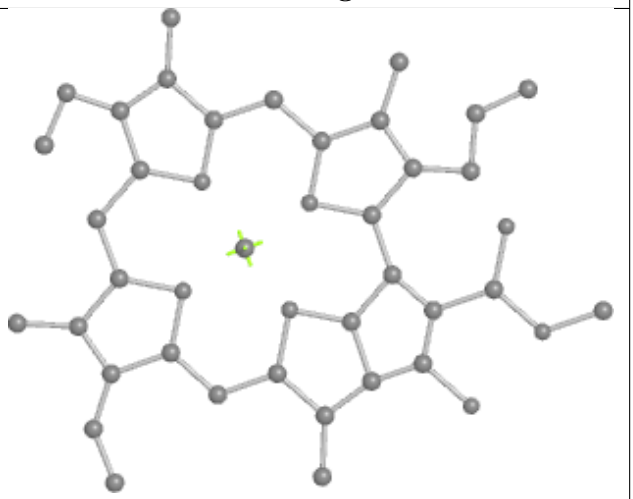
Bond lengths



Bond angles

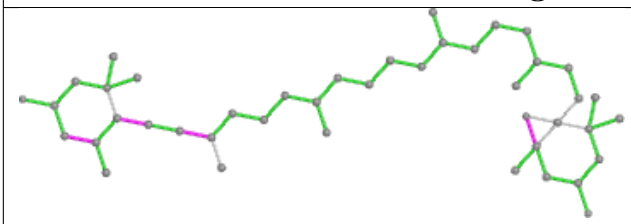


Torsions

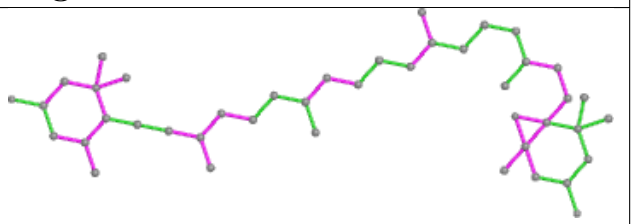


Rings

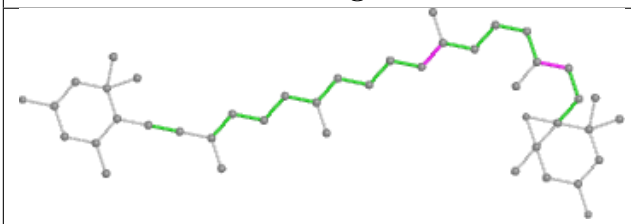
Ligand DD6 g 620



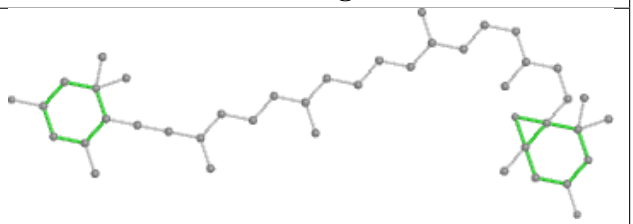
Bond lengths



Bond angles

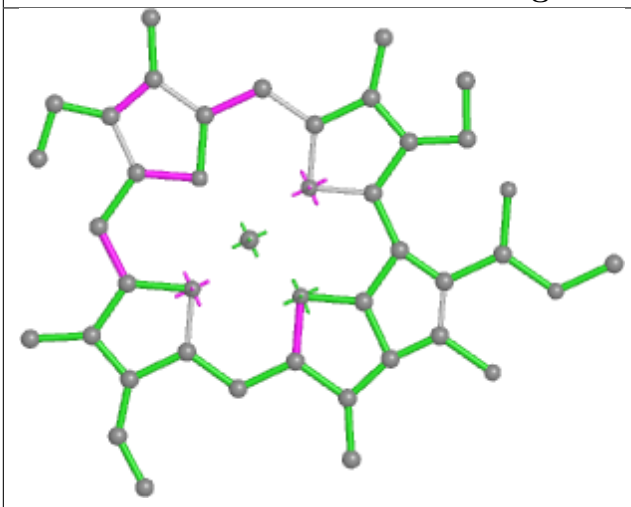


Torsions

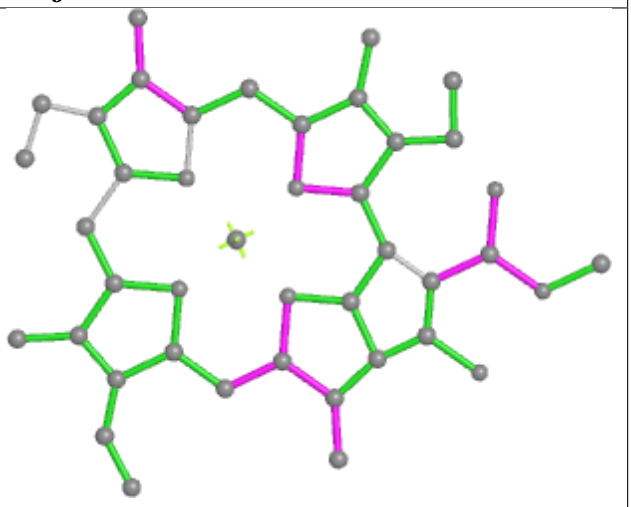


Rings

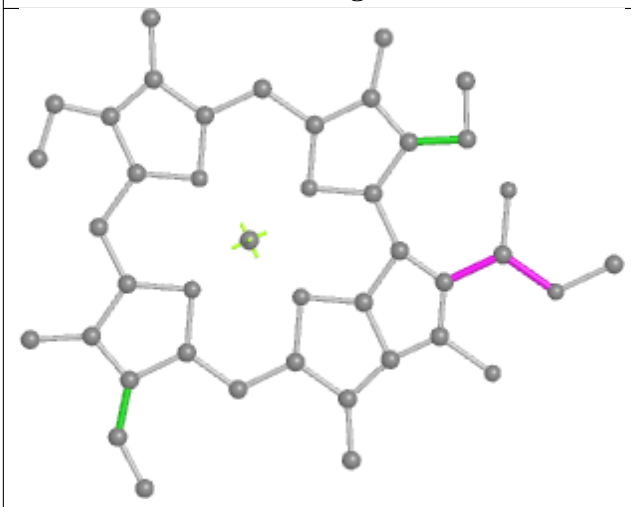
Ligand CLA j 603



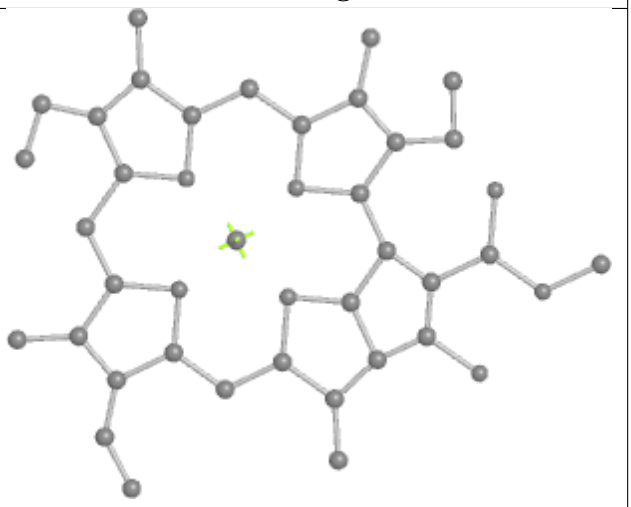
Bond lengths



Bond angles

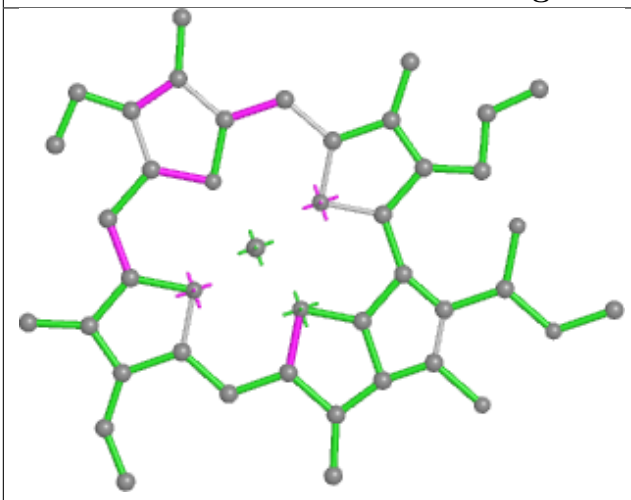


Torsions

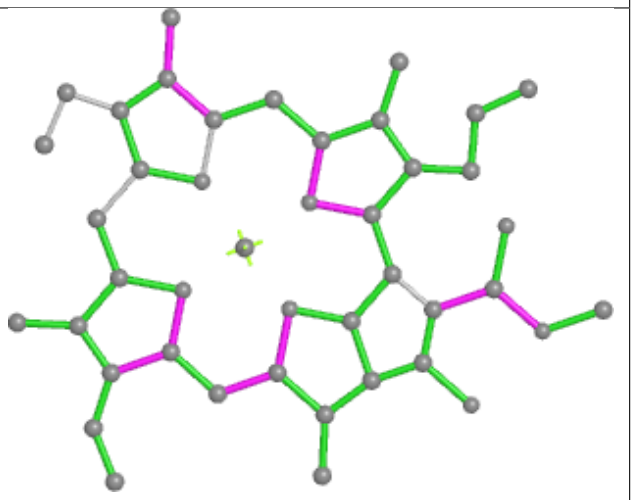


Rings

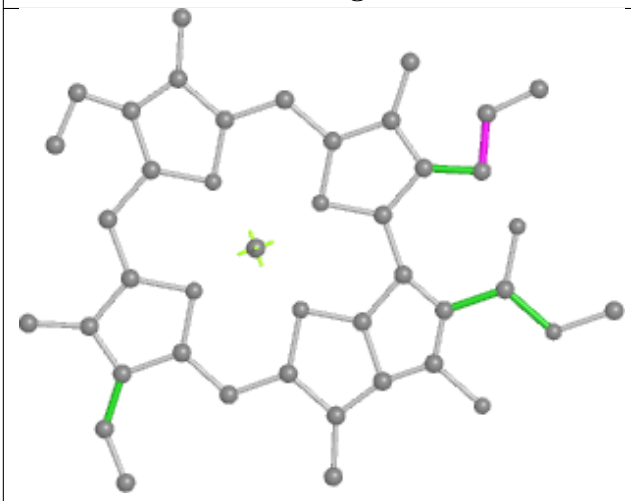
Ligand CLA i 604



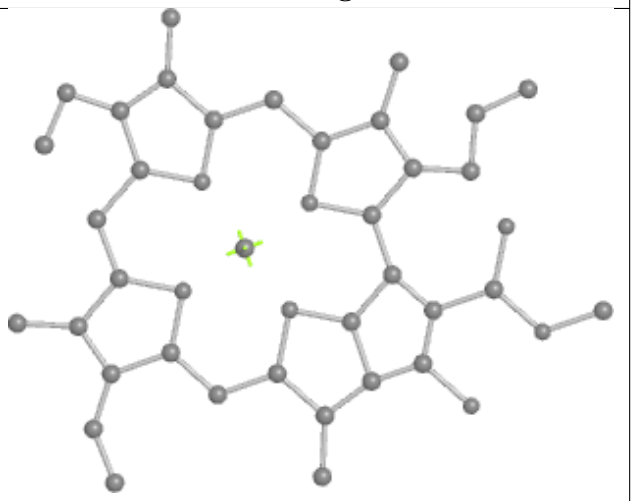
Bond lengths



Bond angles

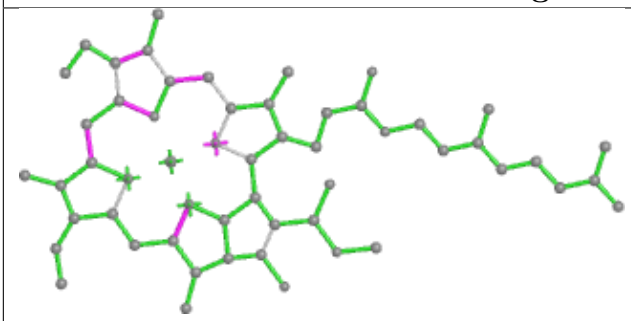


Torsions

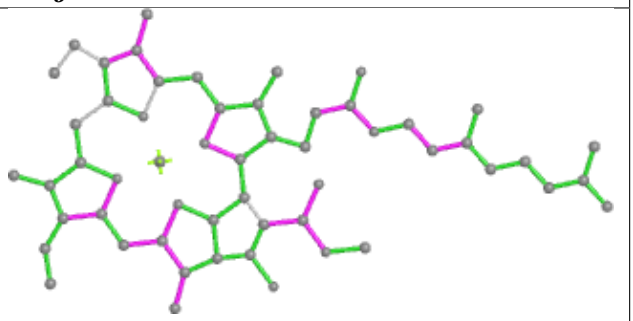


Rings

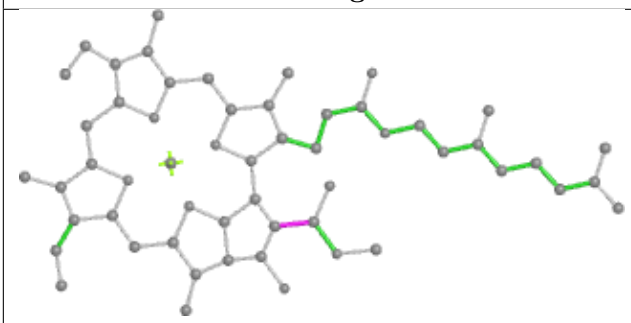
Ligand CLA j 602



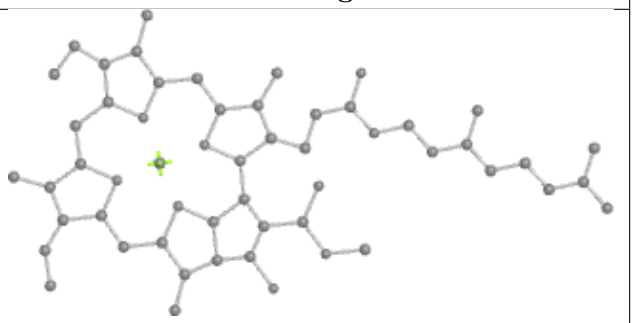
Bond lengths



Bond angles

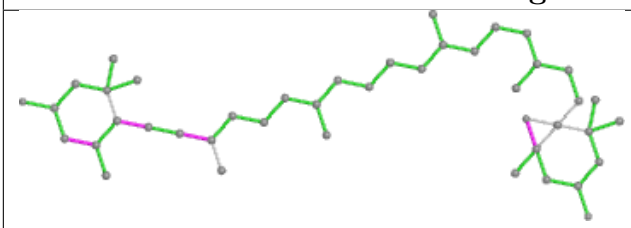


Torsions

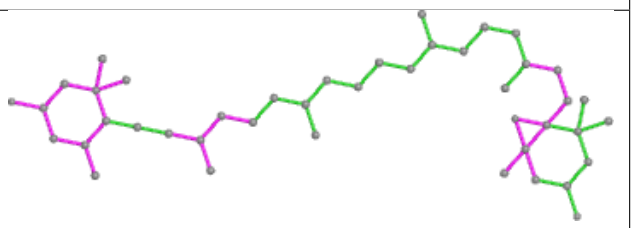


Rings

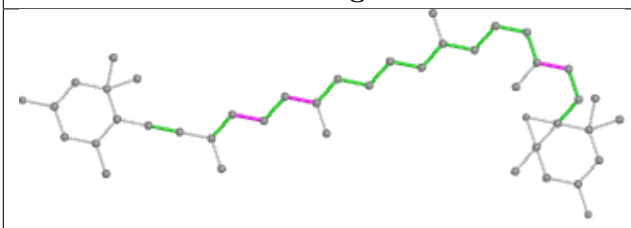
Ligand DD6 o 620



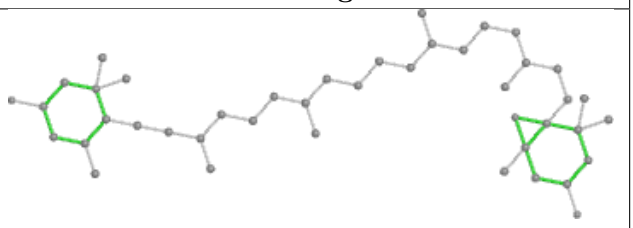
Bond lengths



Bond angles

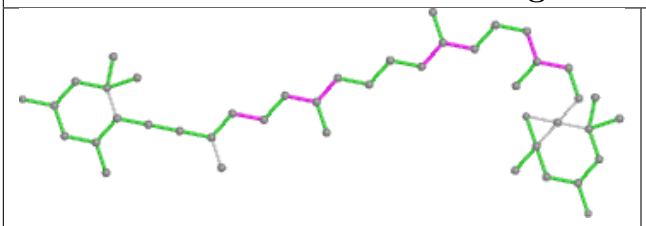


Torsions

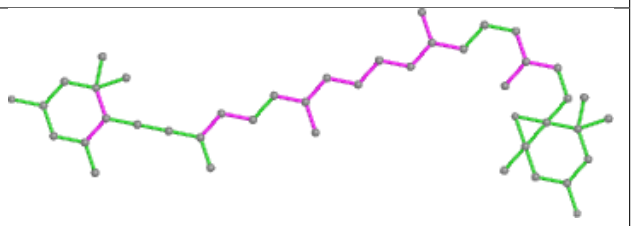


Rings

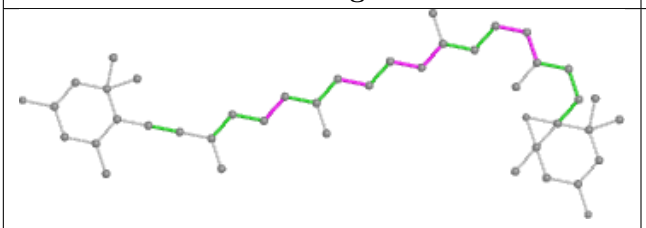
Ligand DD6 n 623



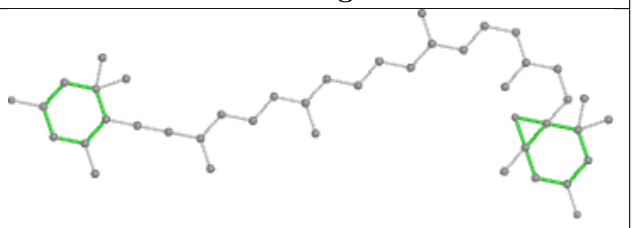
Bond lengths



Bond angles

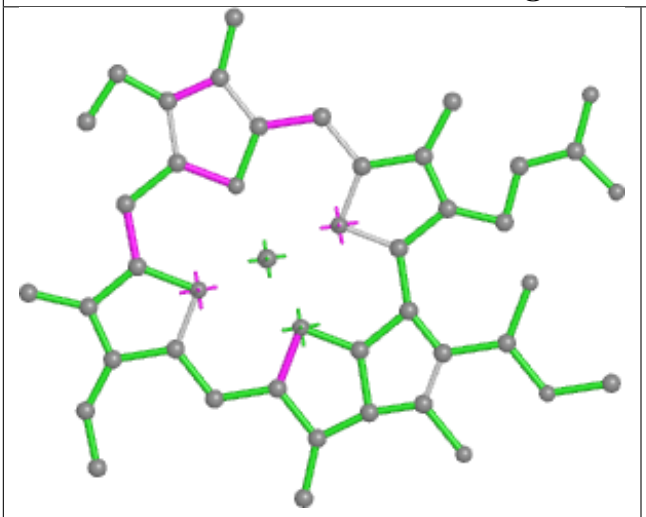


Torsions

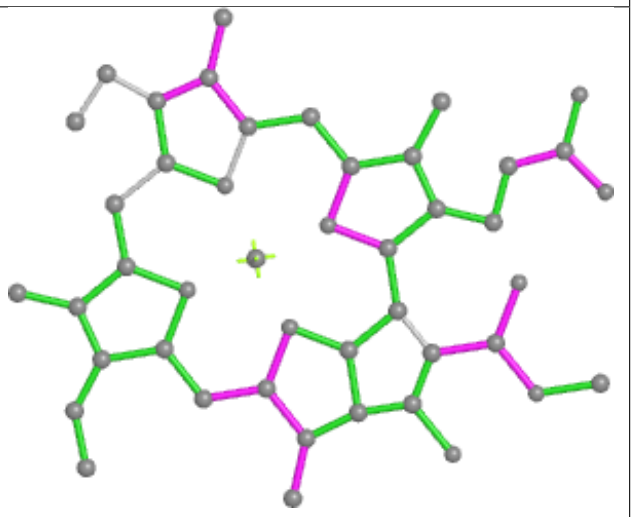


Rings

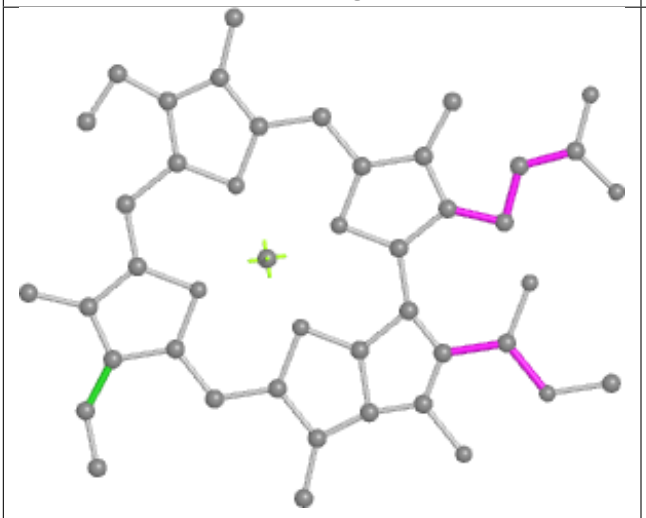
Ligand CLA B 785



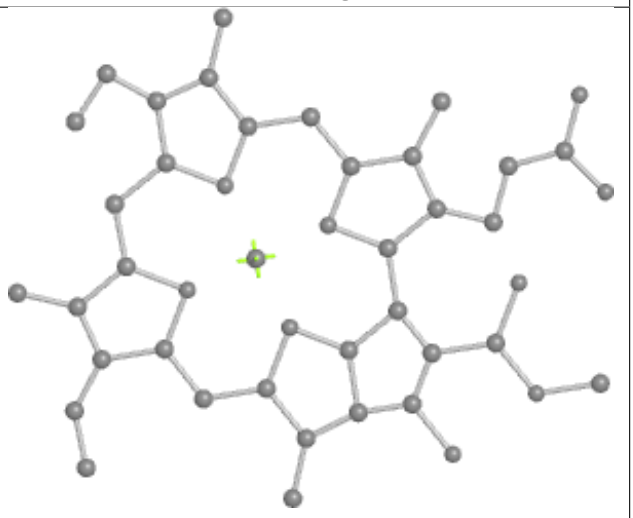
Bond lengths



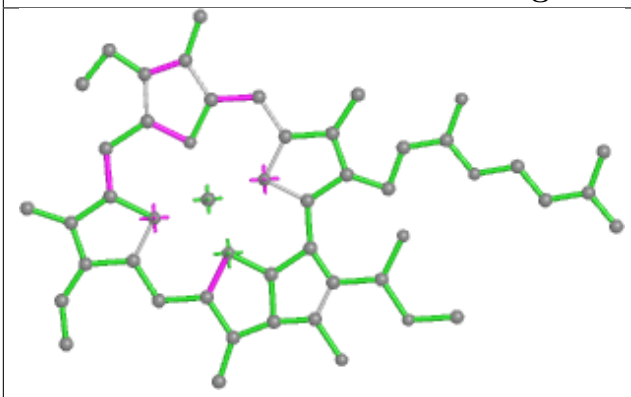
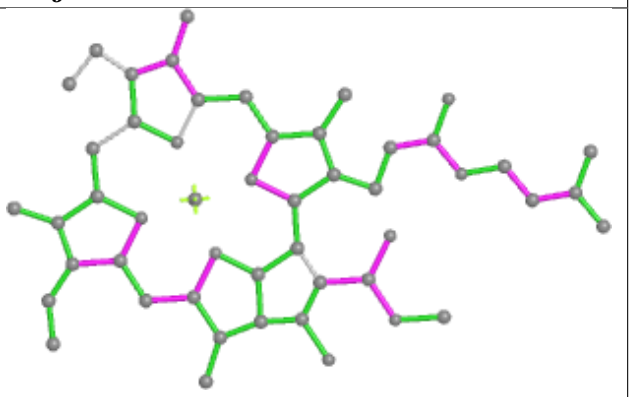
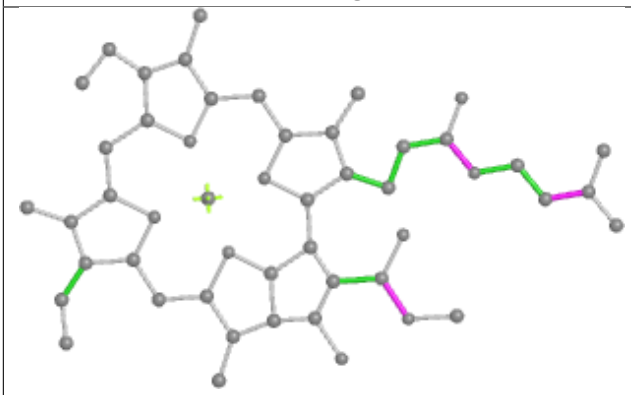
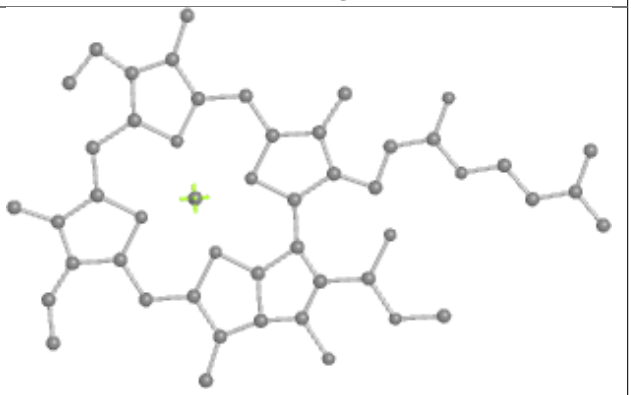
Bond angles

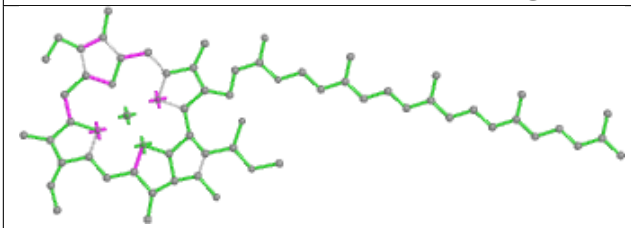
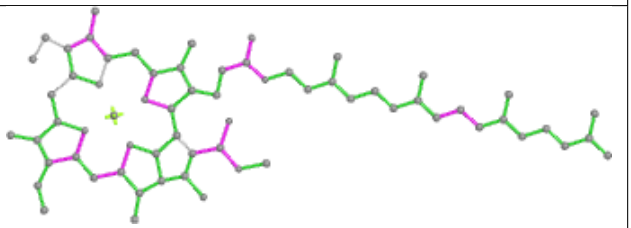
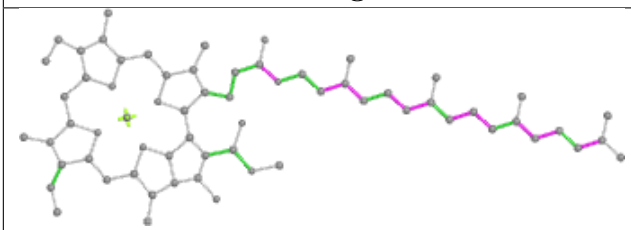
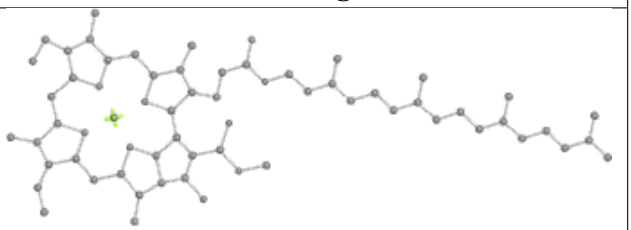


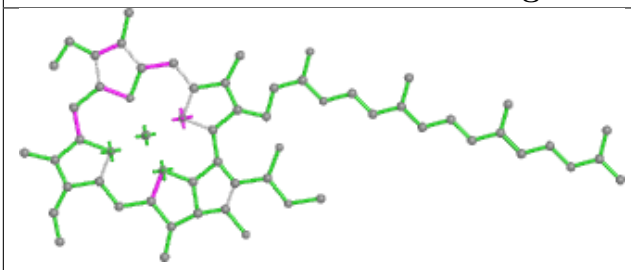
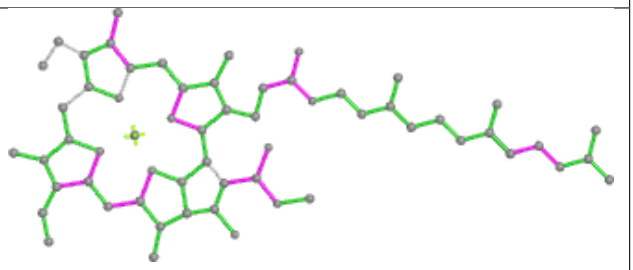
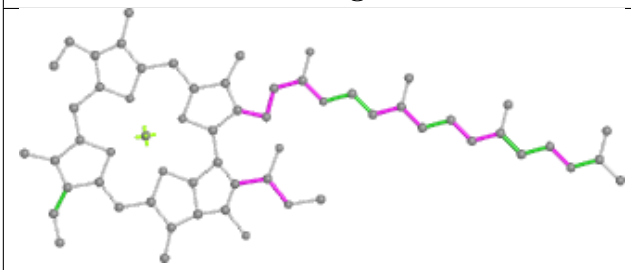
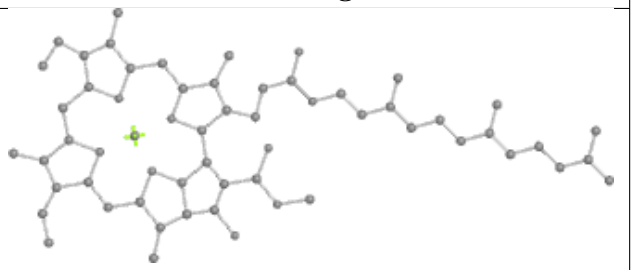
Torsions

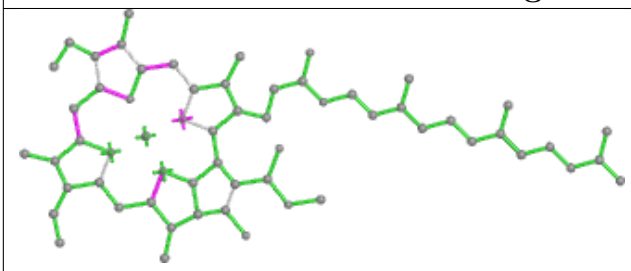
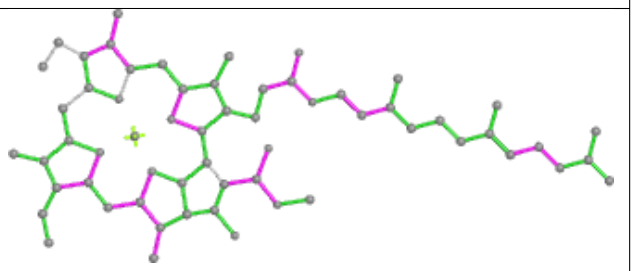
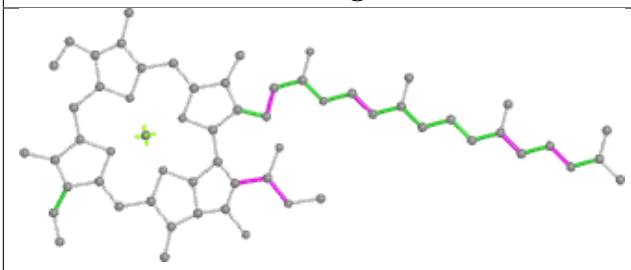
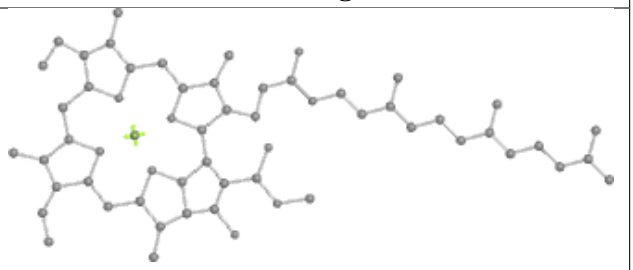


Rings

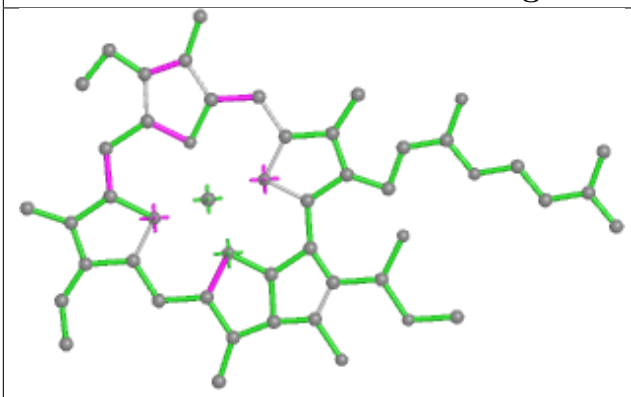
Ligand CLA j 609	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA B 752	
 Bond lengths	 Bond angles
 Torsions	 Rings

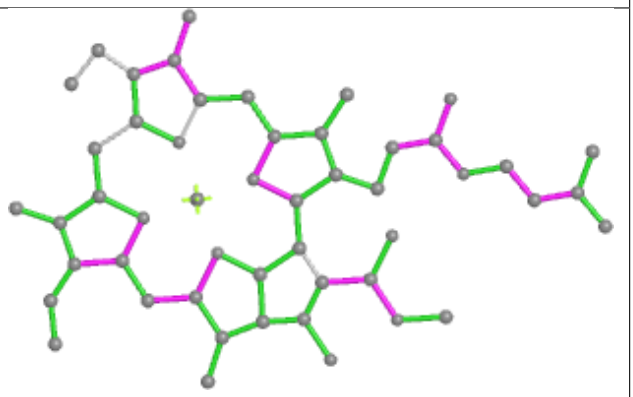
Ligand CLA m 602	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA B 750	
 Bond lengths	 Bond angles
 Torsions	 Rings

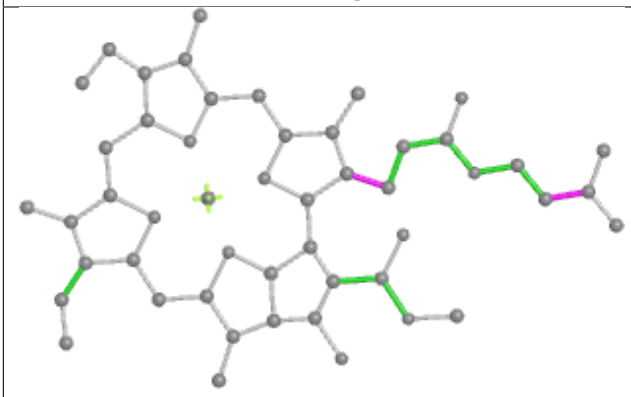
Ligand CLA m 609



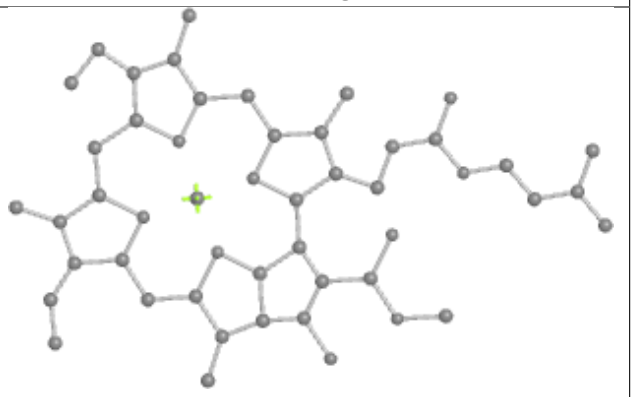
Bond lengths



Bond angles

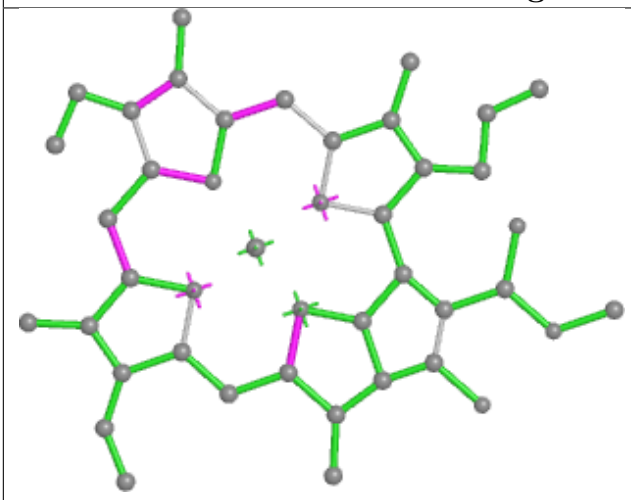


Torsions

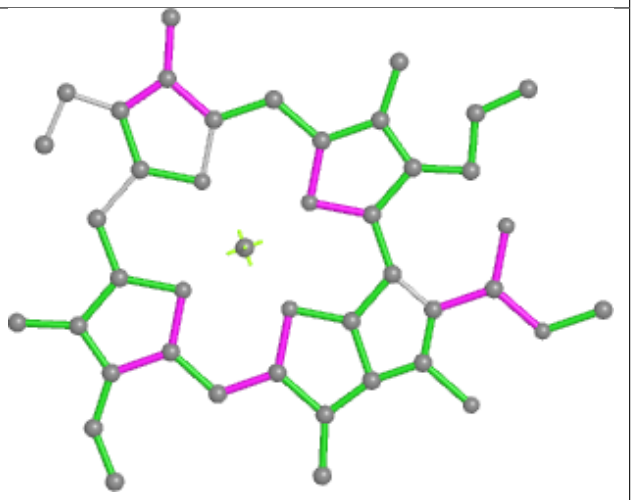


Rings

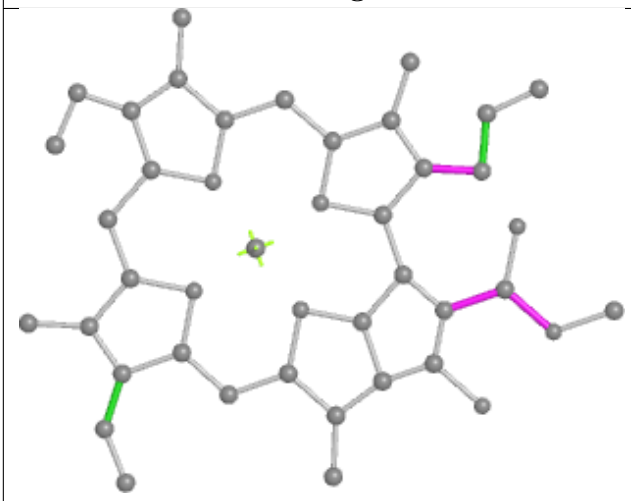
Ligand CLA h 611



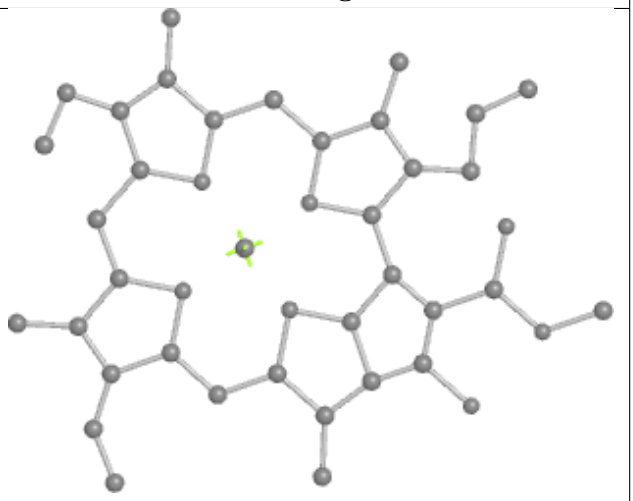
Bond lengths



Bond angles

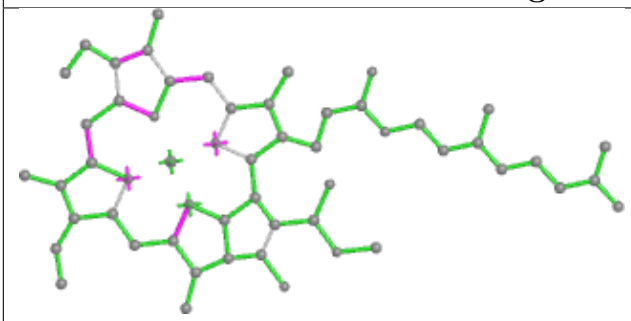


Torsions

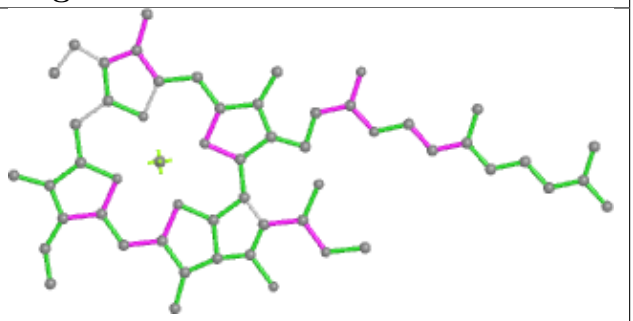


Rings

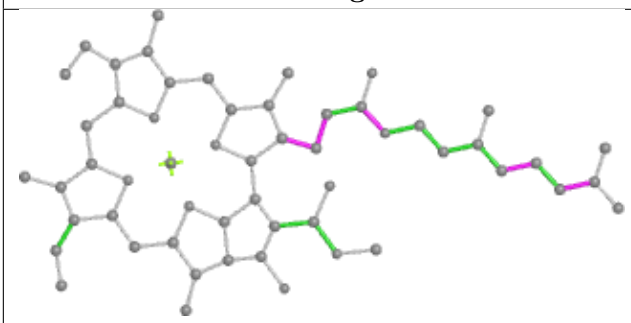
Ligand CLA g 610



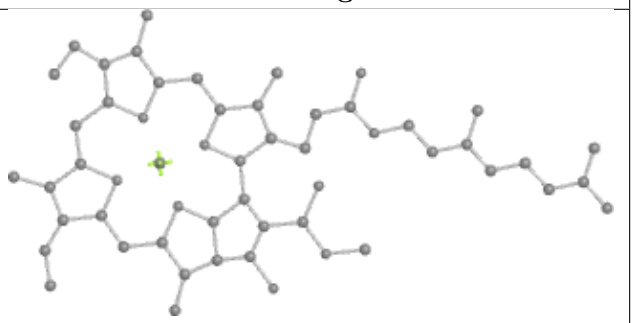
Bond lengths



Bond angles

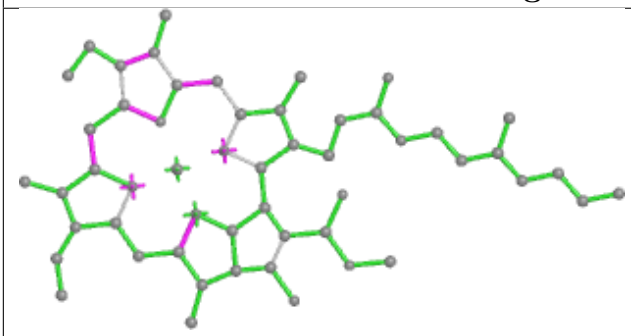


Torsions

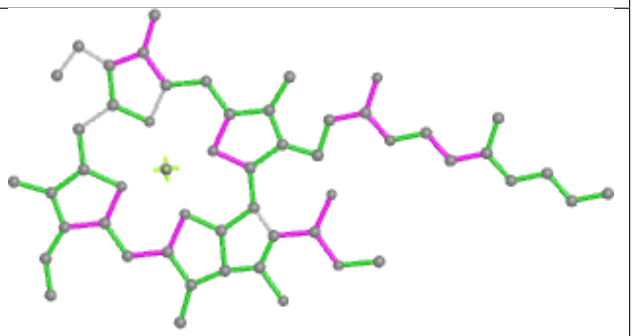


Rings

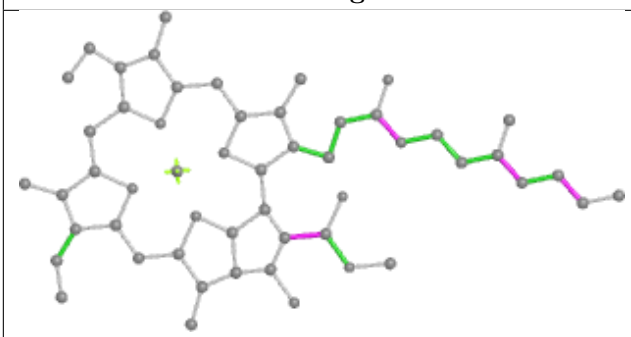
Ligand CLA A 773



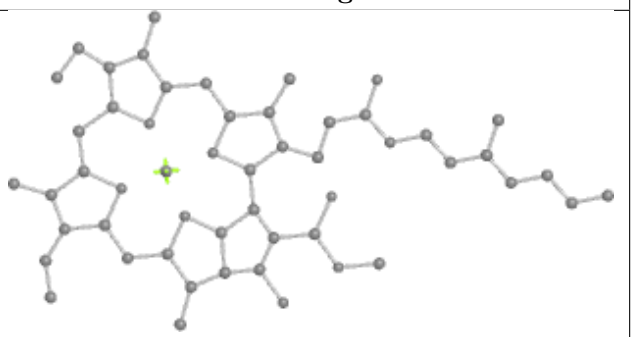
Bond lengths



Bond angles

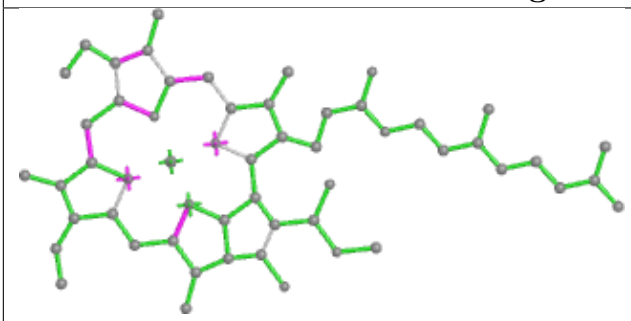


Torsions

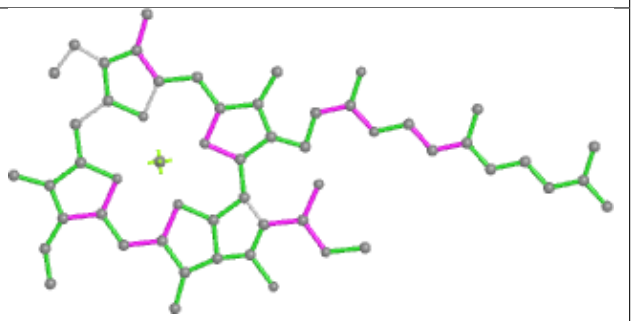


Rings

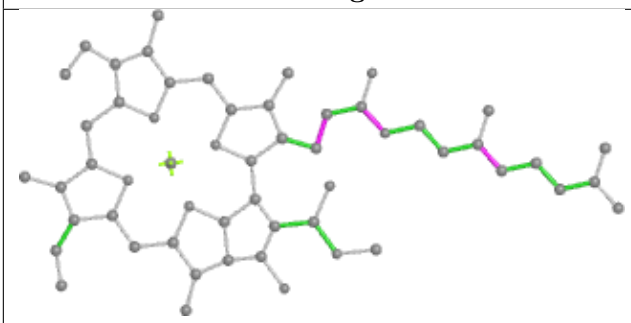
Ligand CLA e 613



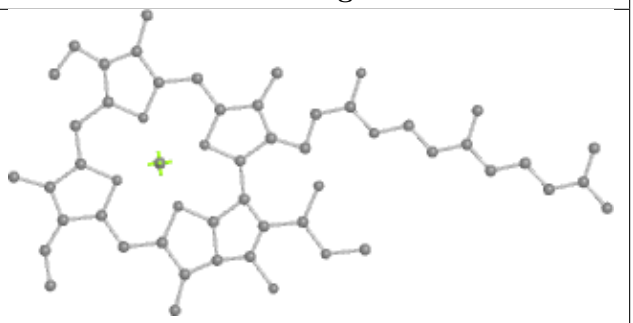
Bond lengths



Bond angles

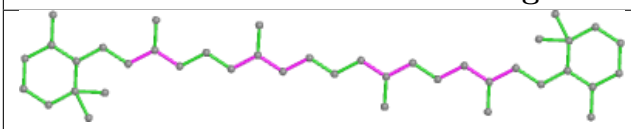


Torsions

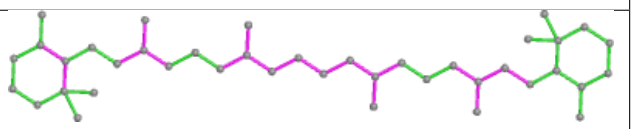


Rings

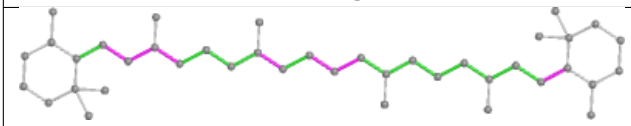
Ligand BCR A 788



Bond lengths



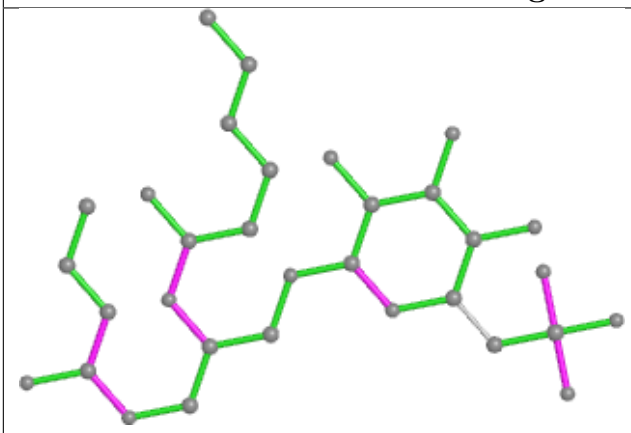
Bond angles



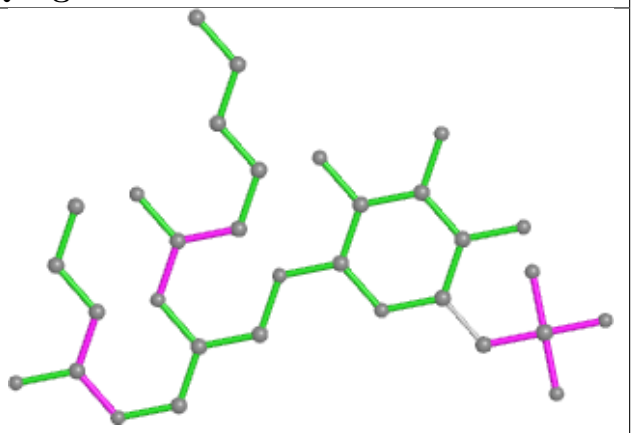
Torsions

Rings

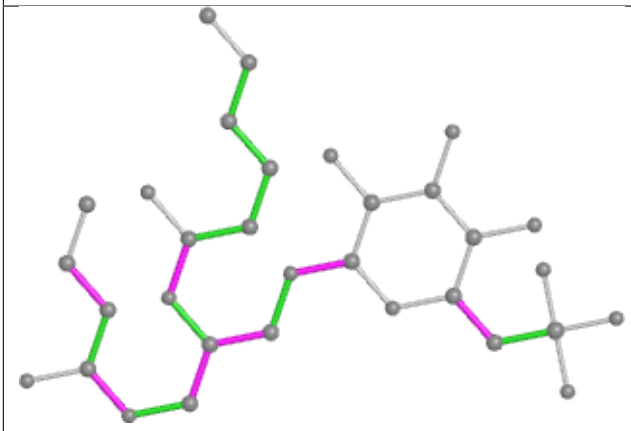
Ligand SQD g 190



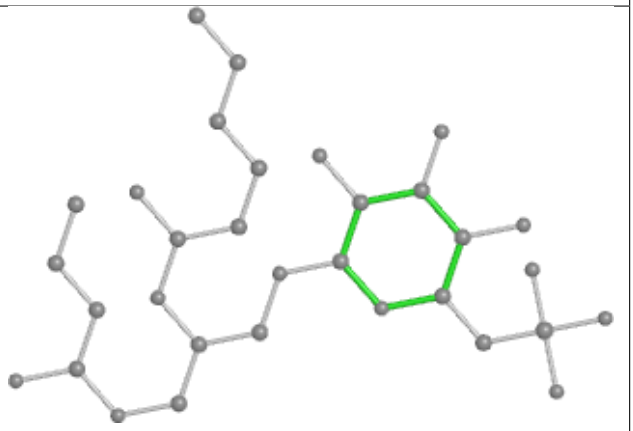
Bond lengths



Bond angles

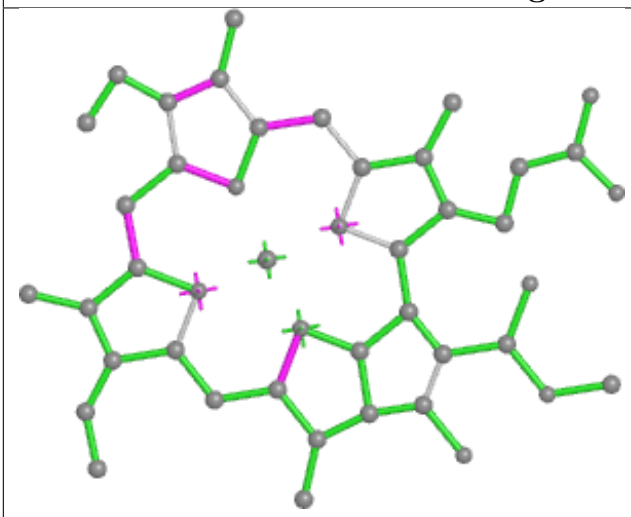


Torsions

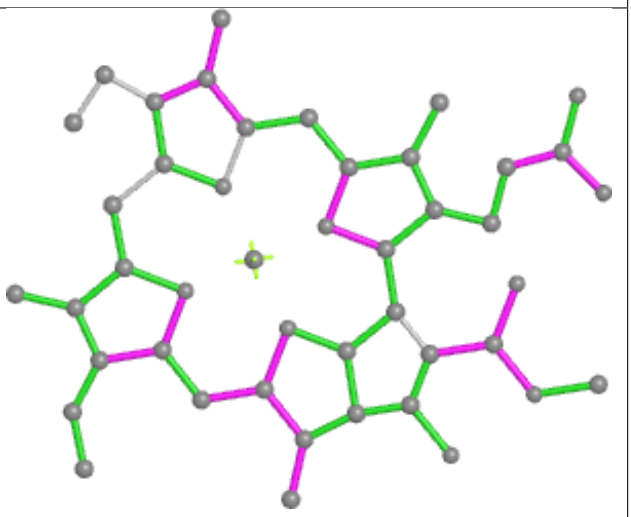


Rings

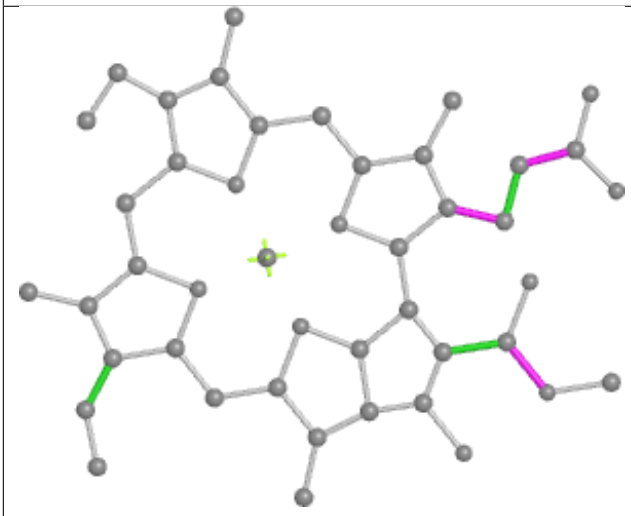
Ligand CLA o 609



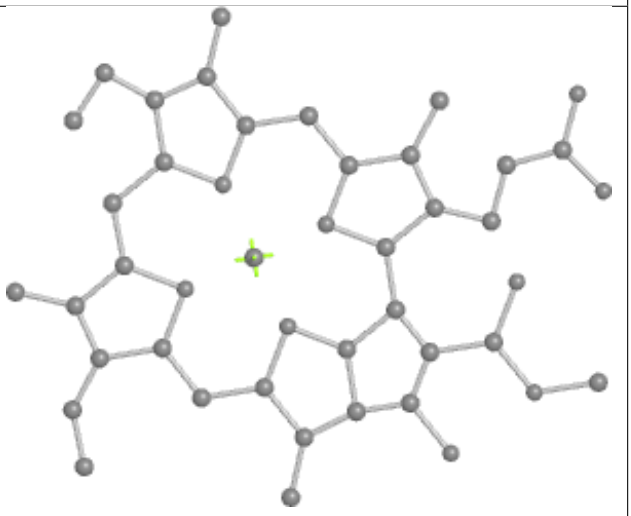
Bond lengths



Bond angles

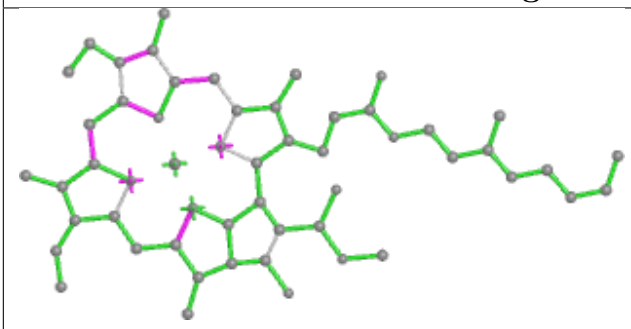


Torsions

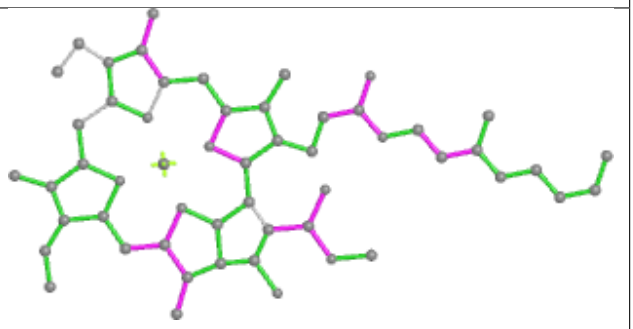


Rings

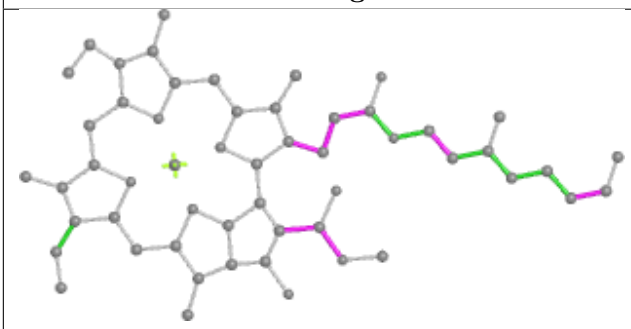
Ligand CLA m 603



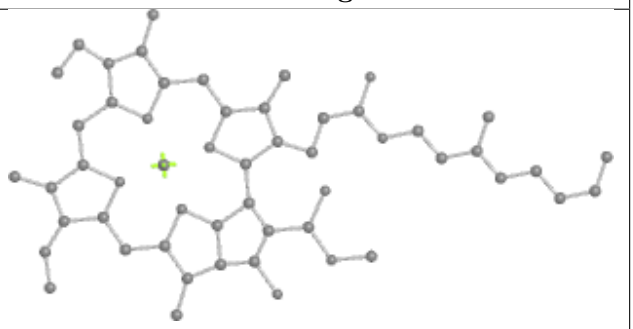
Bond lengths



Bond angles

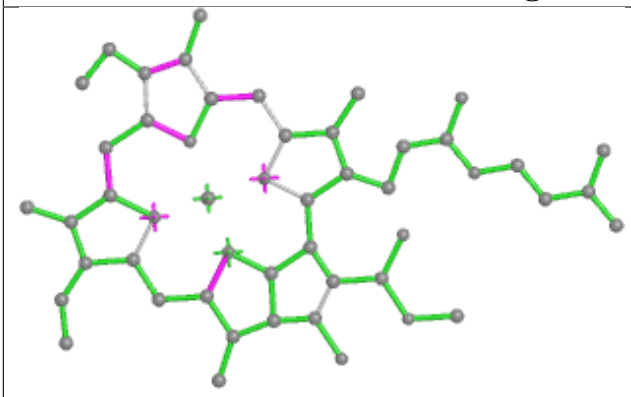


Torsions

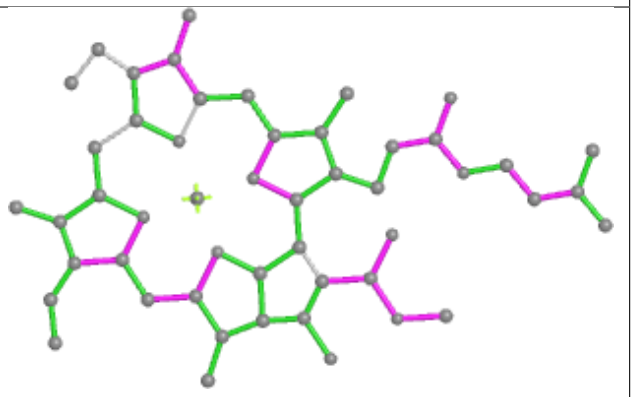


Rings

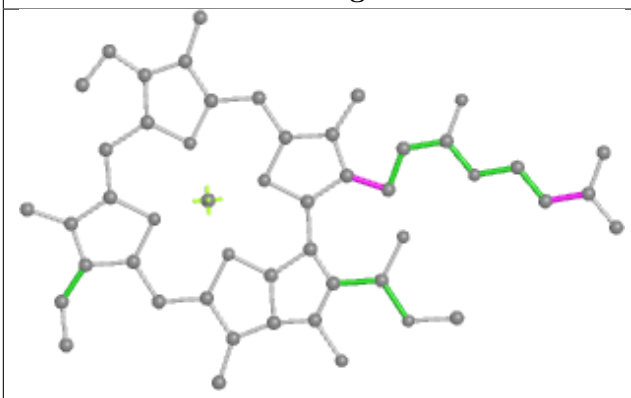
Ligand CLA A 762



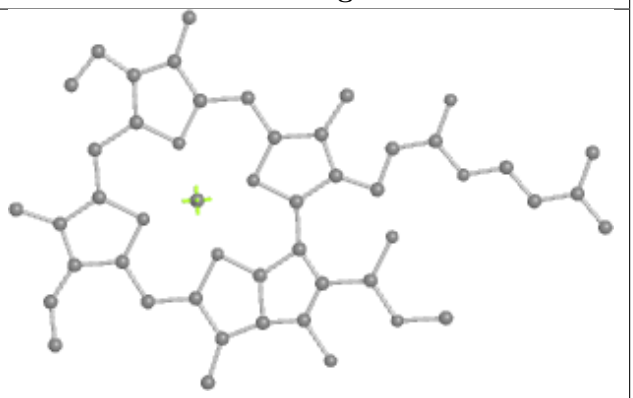
Bond lengths



Bond angles

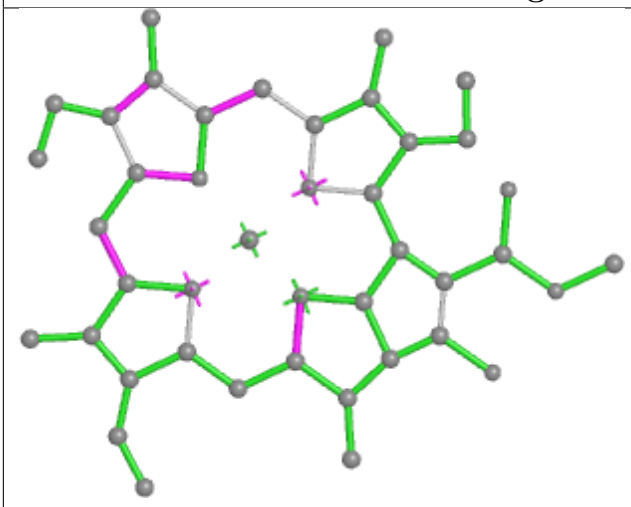


Torsions

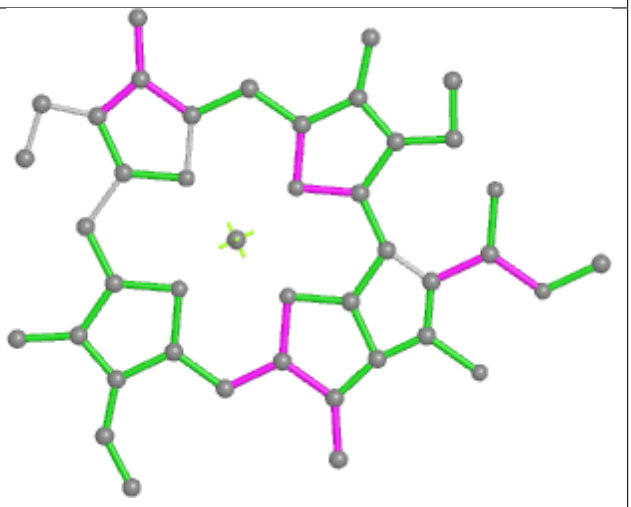


Rings

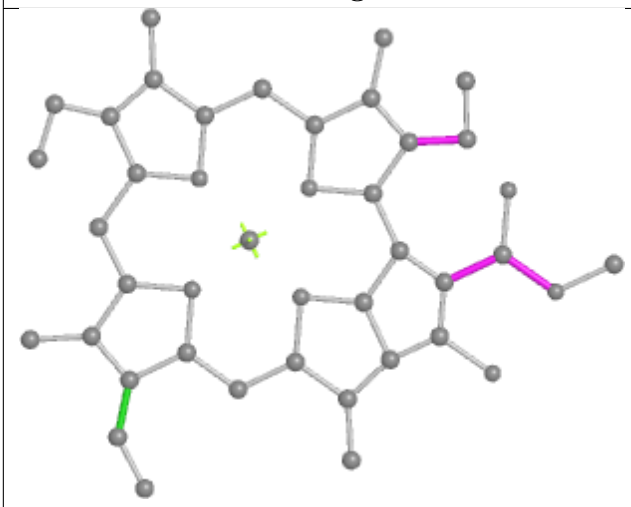
Ligand CLA d 603



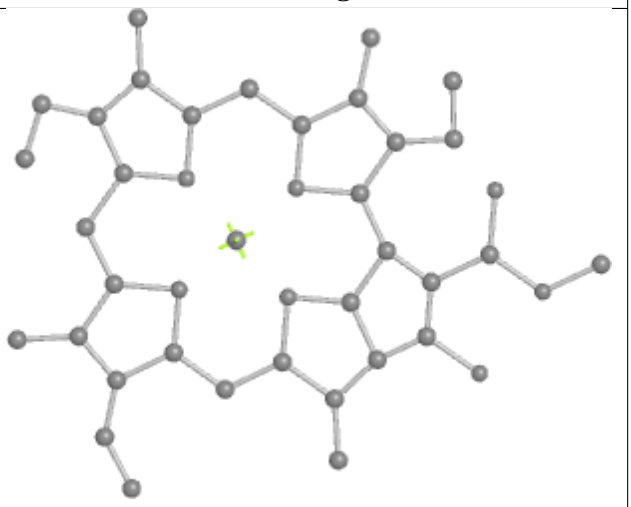
Bond lengths



Bond angles

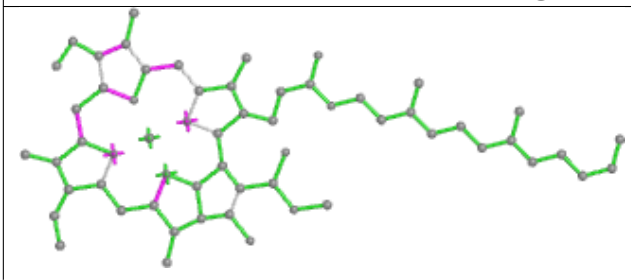


Torsions

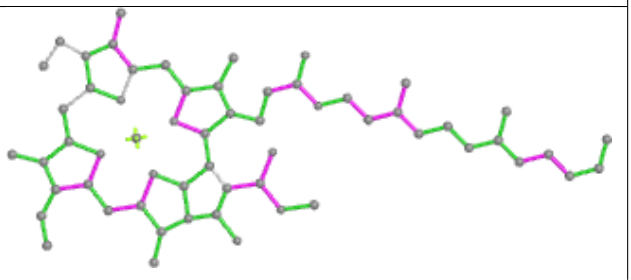


Rings

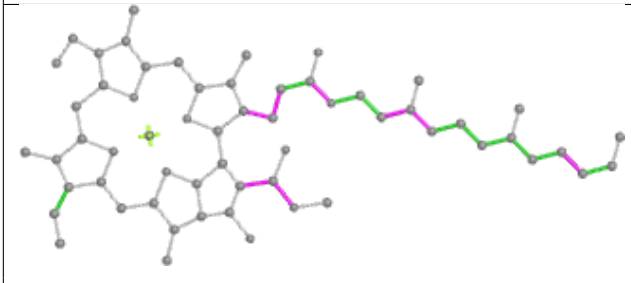
Ligand CLA l 602



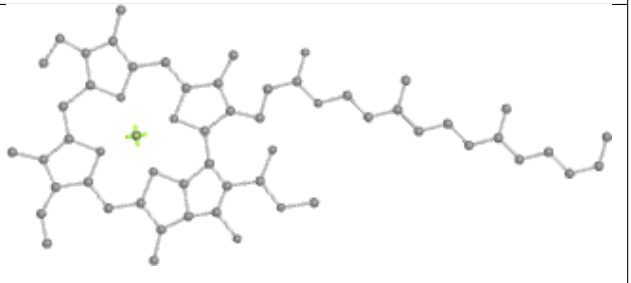
Bond lengths



Bond angles

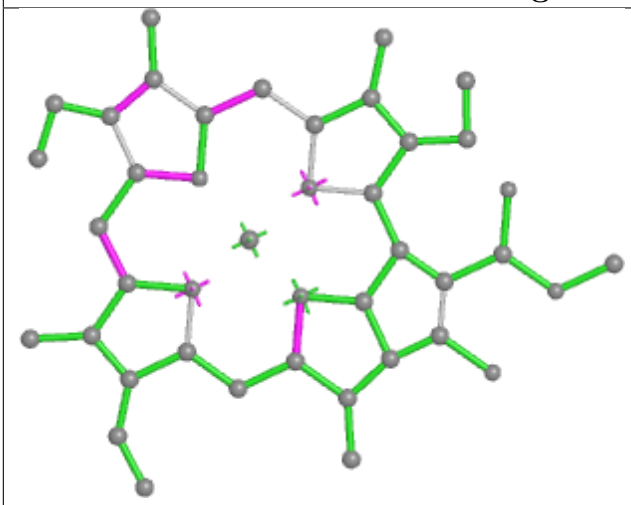


Torsions

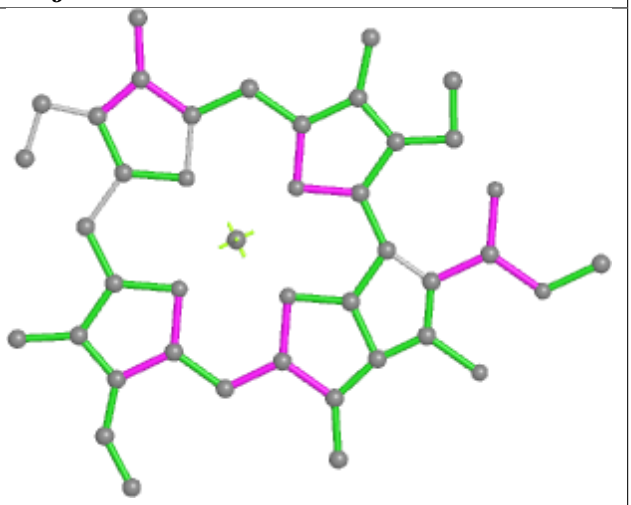


Rings

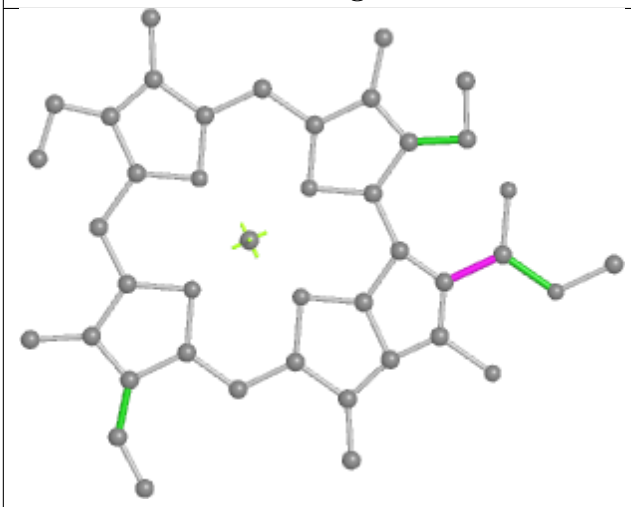
Ligand CLA j 614



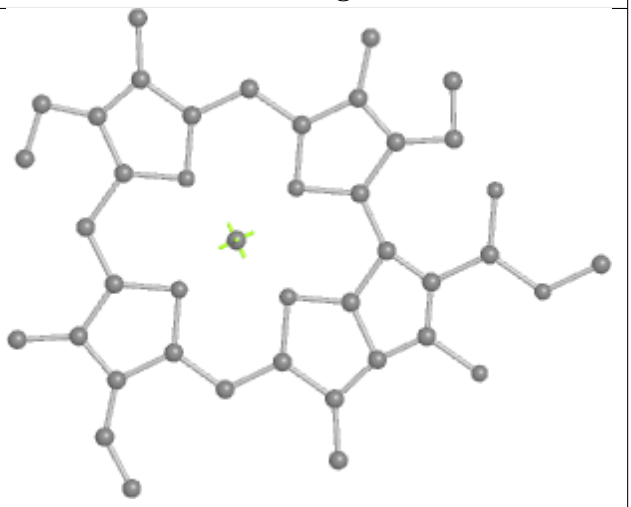
Bond lengths



Bond angles

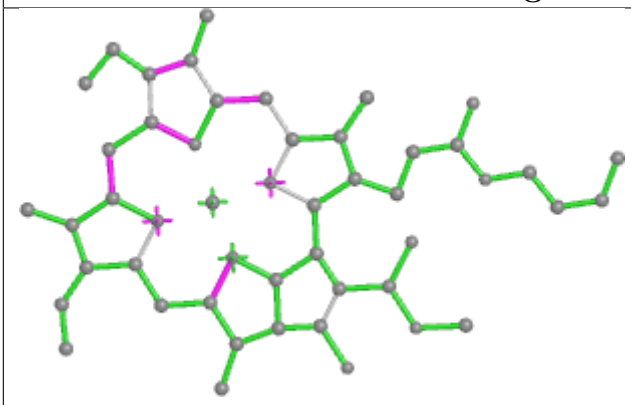


Torsions

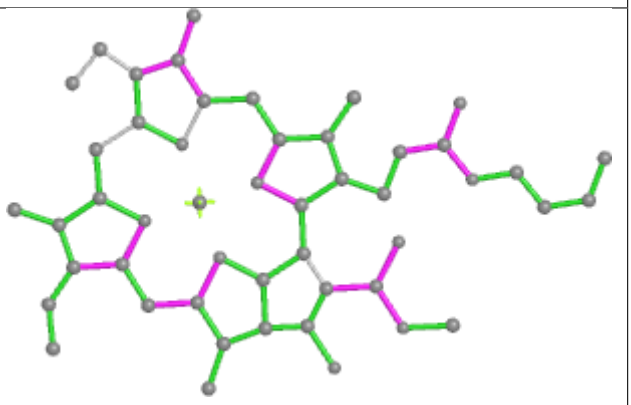


Rings

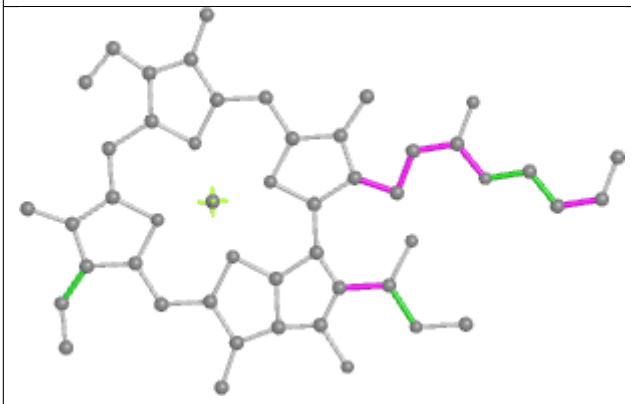
Ligand CLA B 749



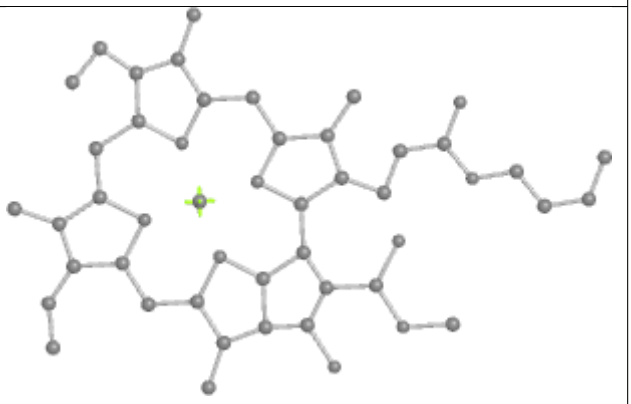
Bond lengths



Bond angles

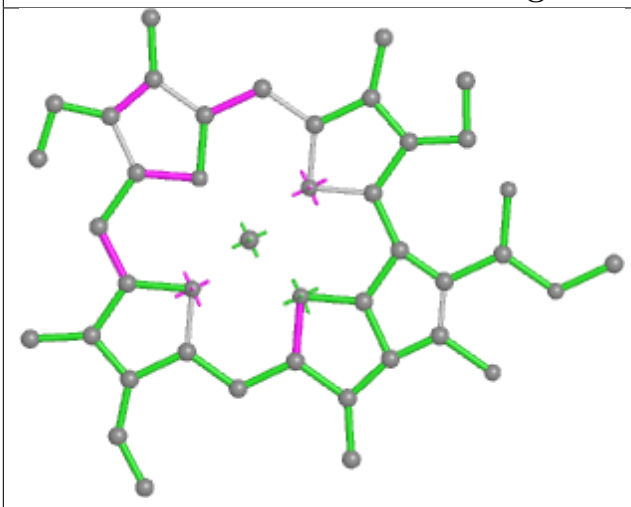


Torsions

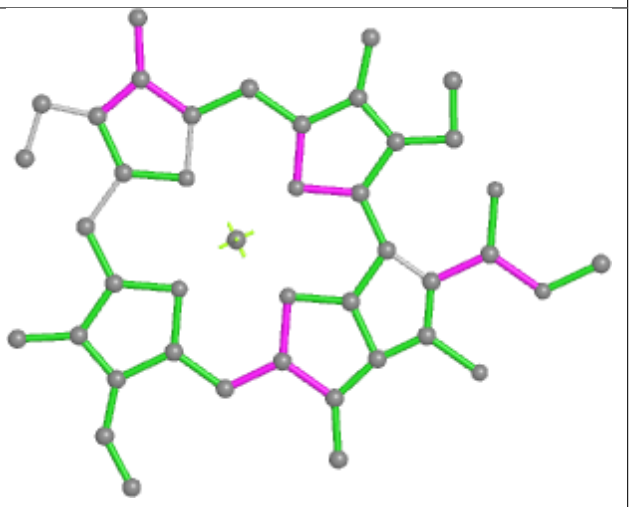


Rings

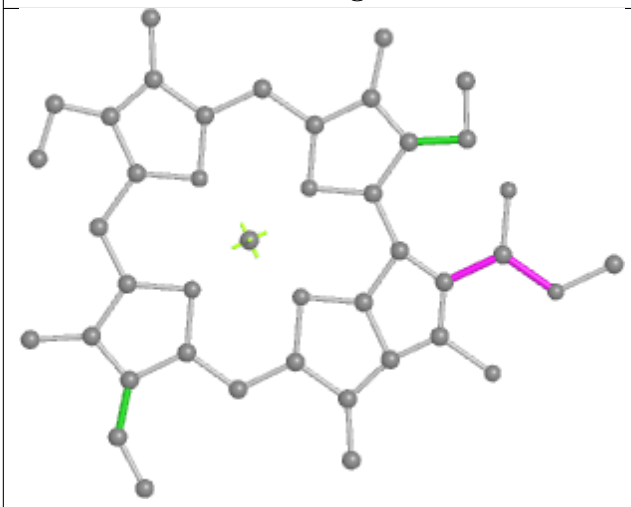
Ligand CLA d 612



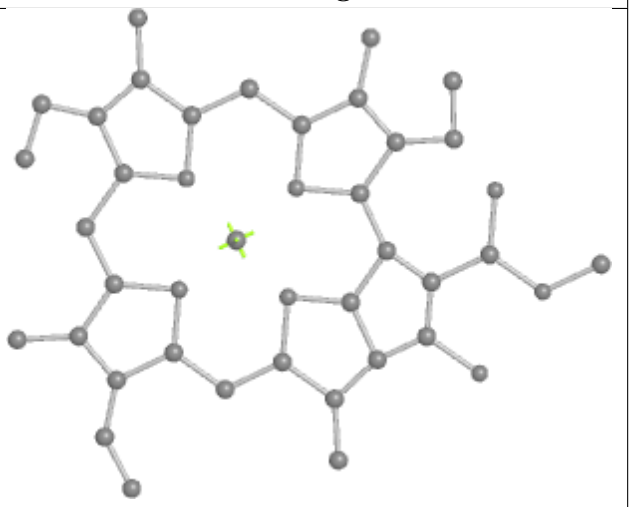
Bond lengths



Bond angles

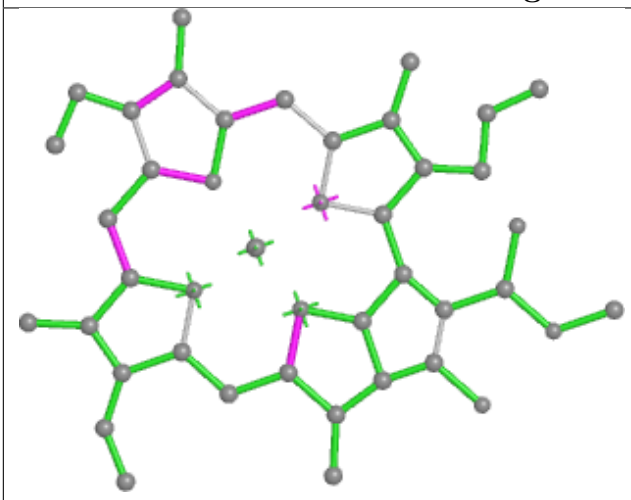


Torsions

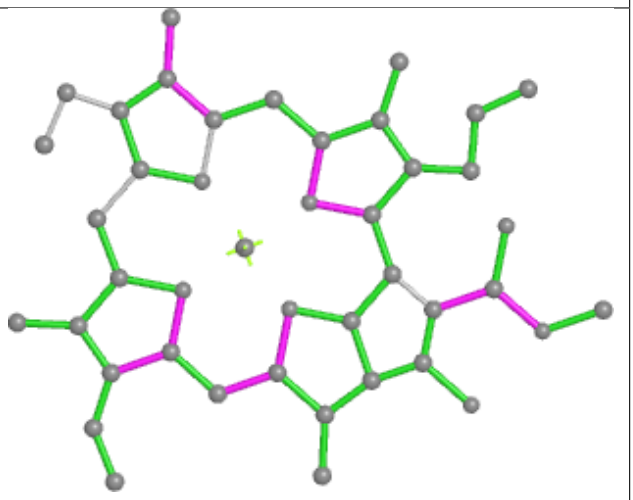


Rings

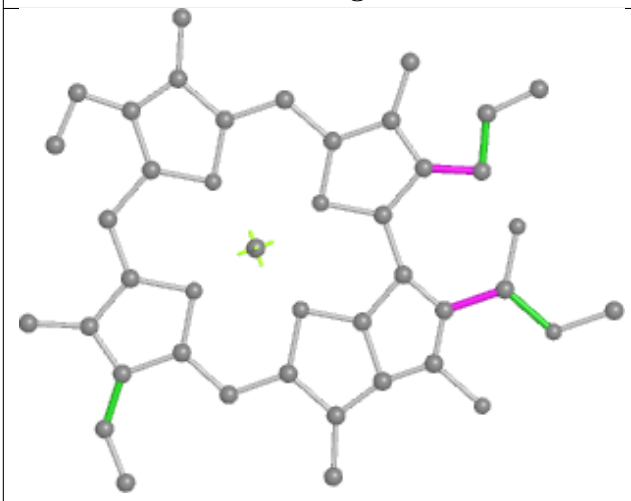
Ligand CLA A 802



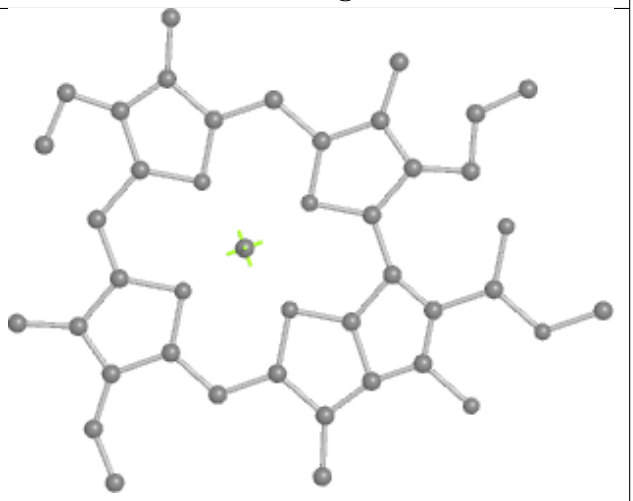
Bond lengths



Bond angles

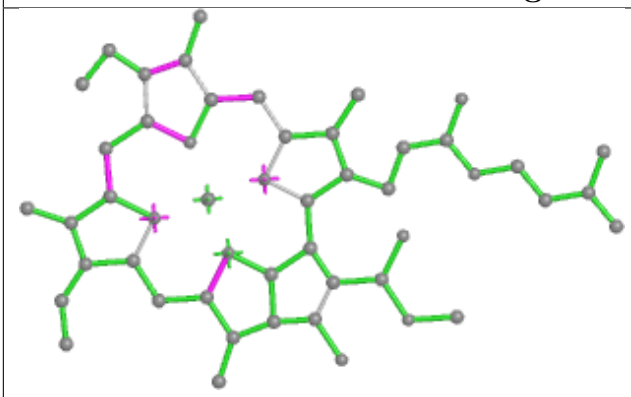


Torsions

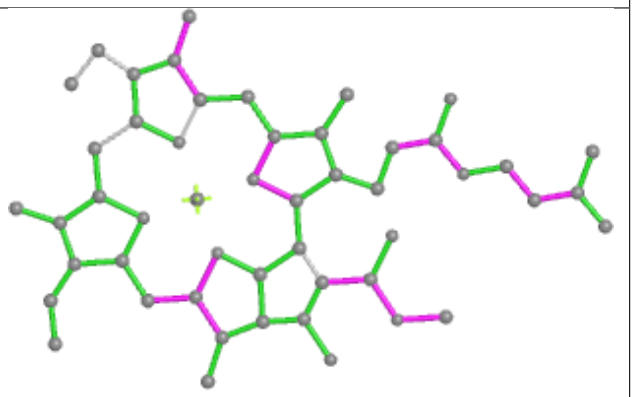


Rings

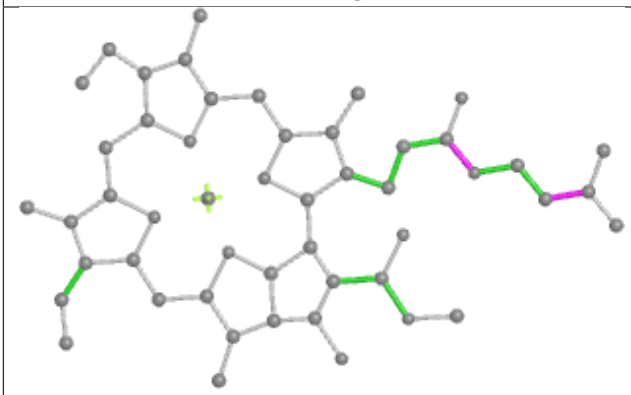
Ligand CLA B 783



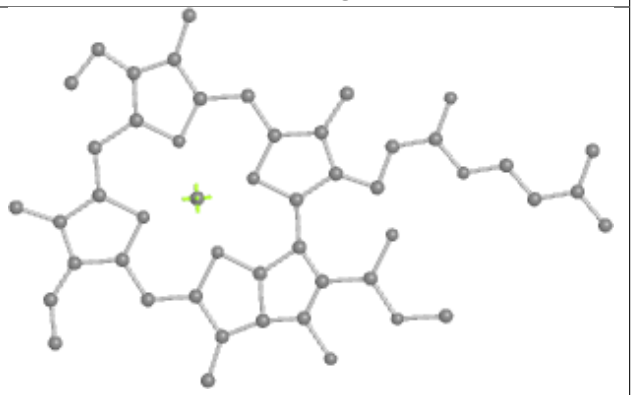
Bond lengths



Bond angles

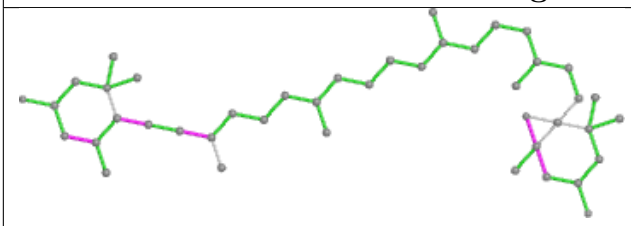


Torsions

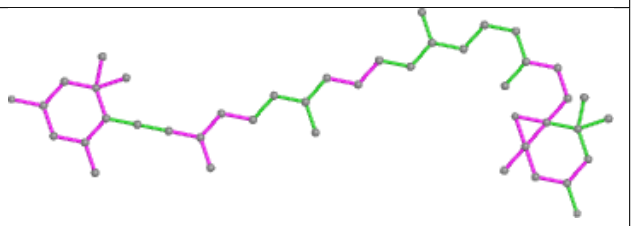


Rings

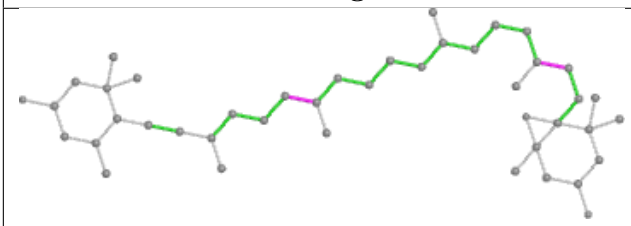
Ligand DD6 c 620



Bond lengths



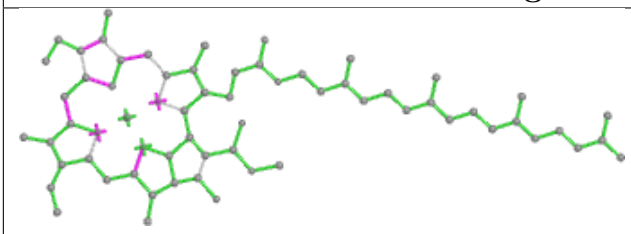
Bond angles



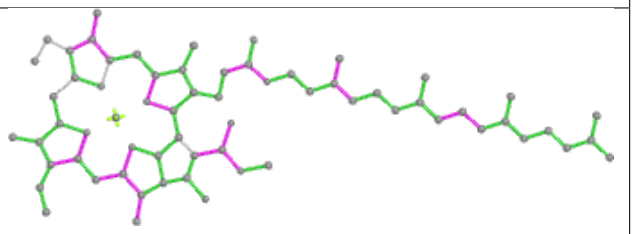
Torsions

Rings

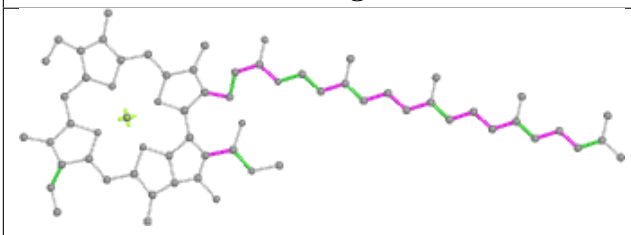
Ligand CLA B 784



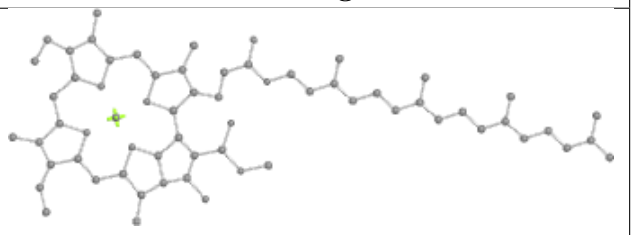
Bond lengths



Bond angles

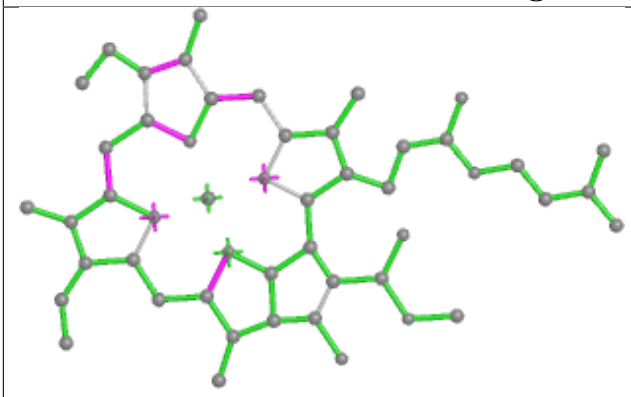


Torsions

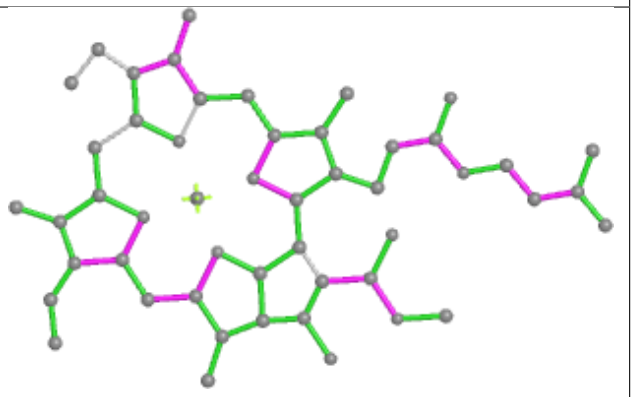


Rings

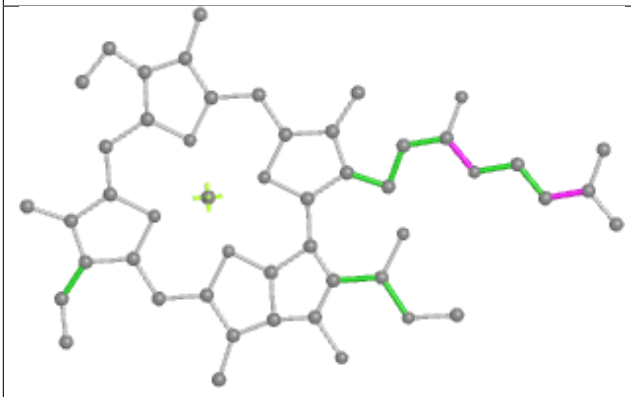
Ligand CLA k 609



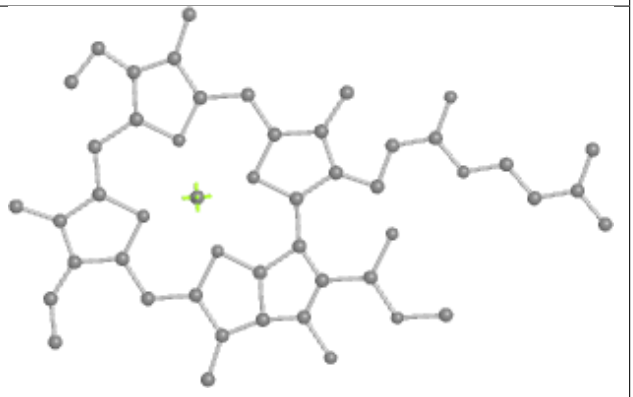
Bond lengths



Bond angles

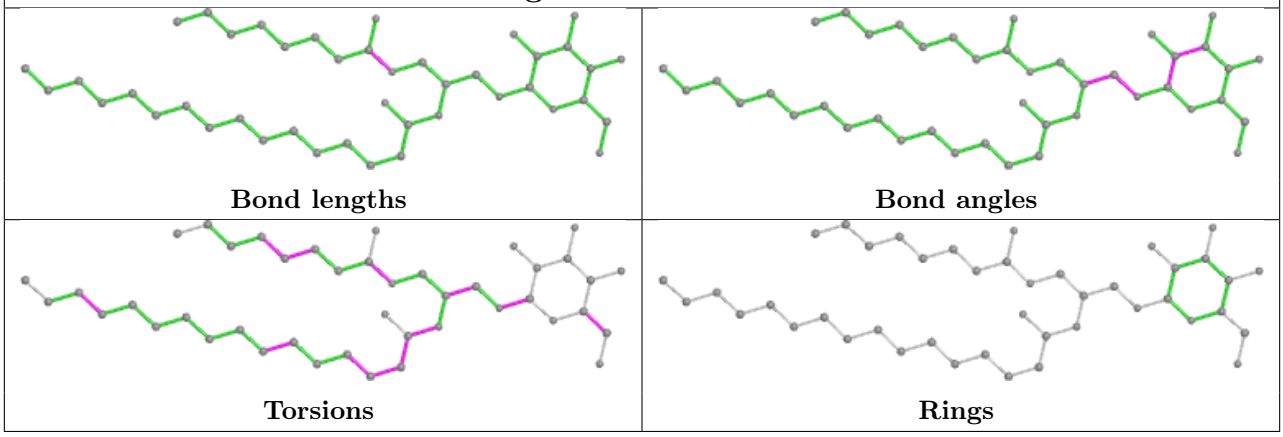


Torsions

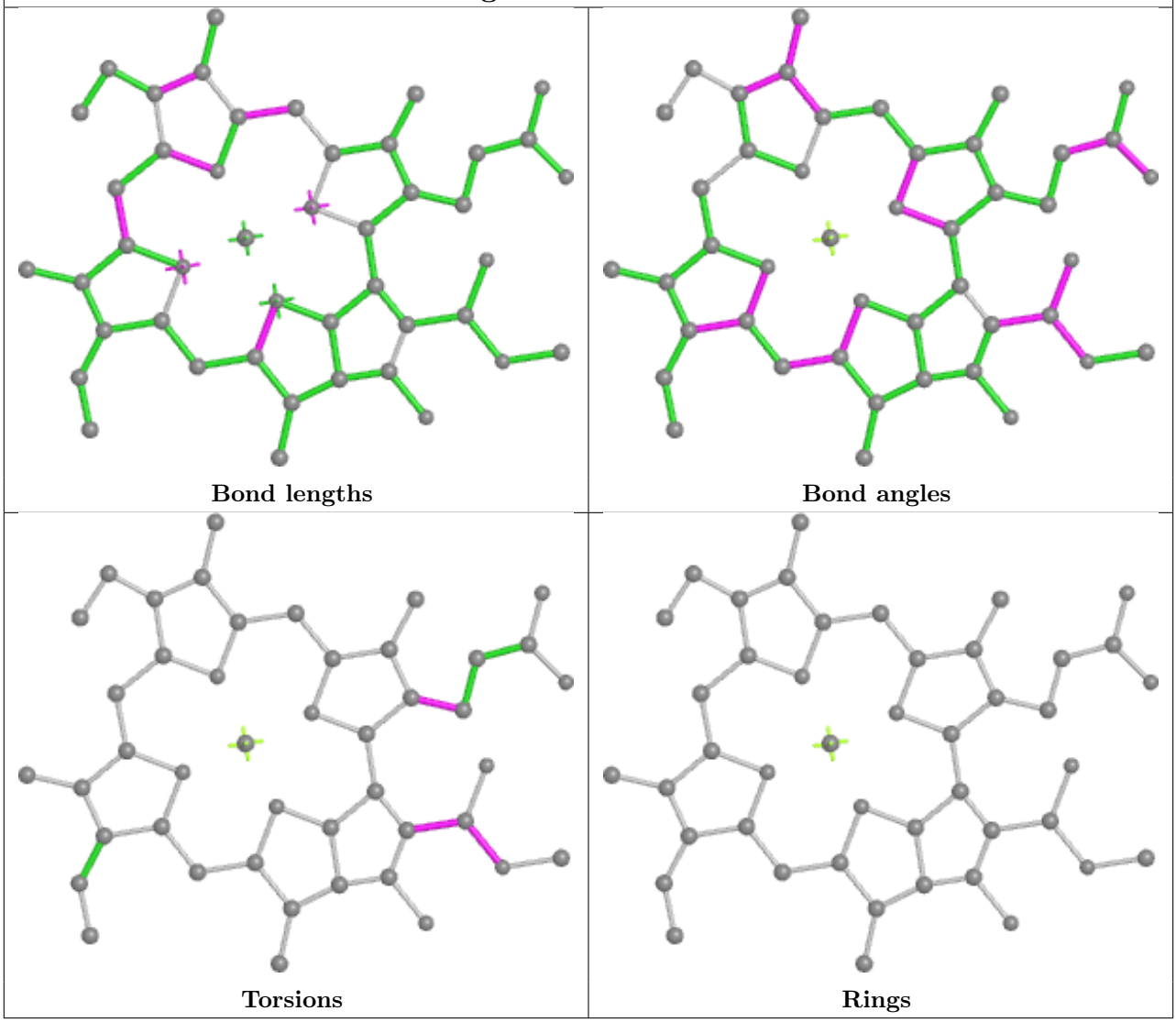


Rings

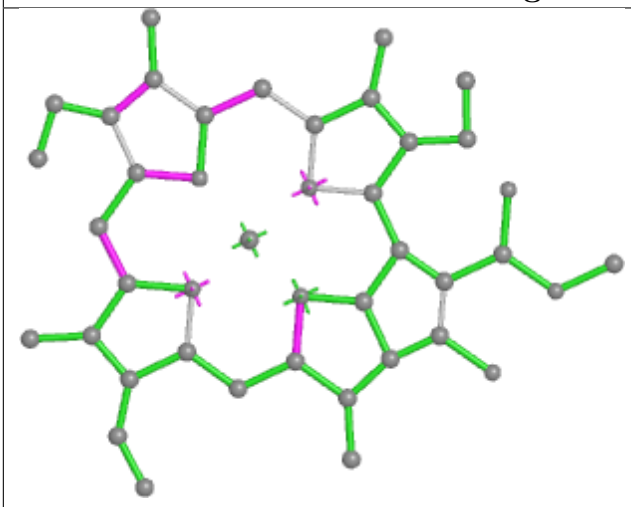
Ligand LMG a 182



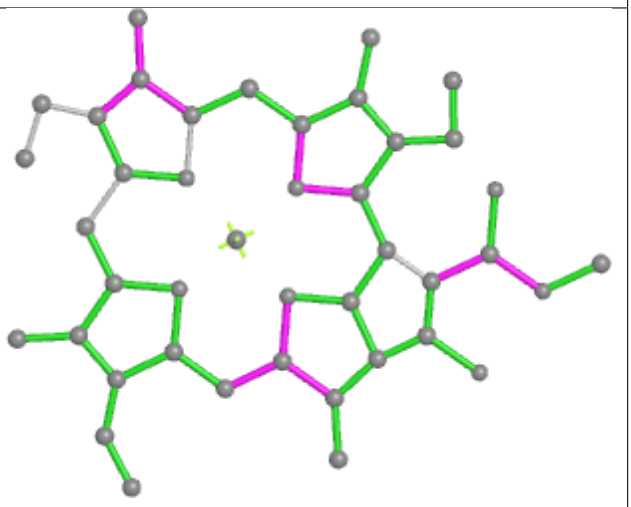
Ligand CLA A 757



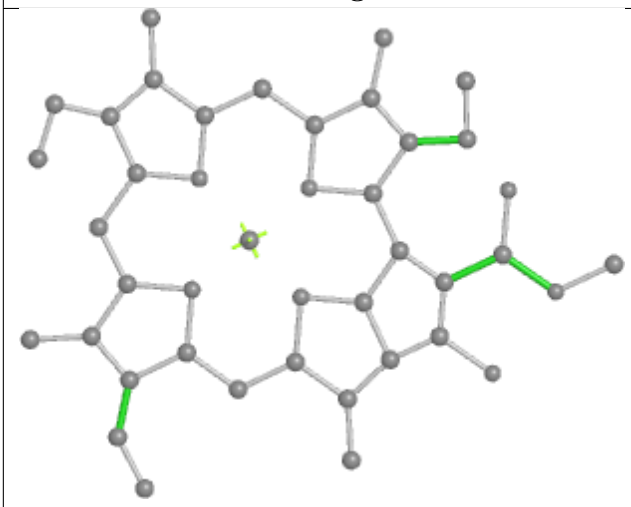
Ligand CLA A 793



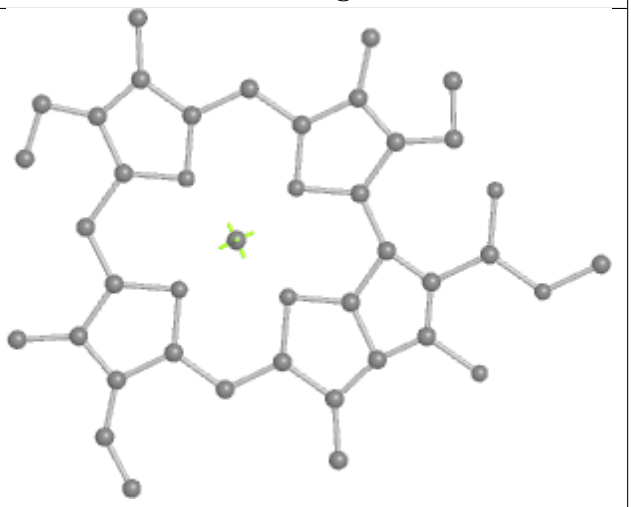
Bond lengths



Bond angles

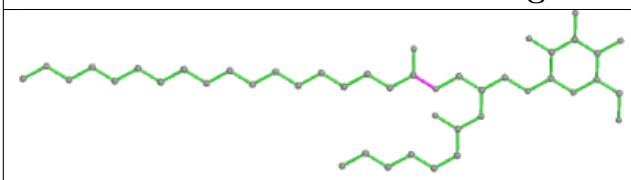


Torsions

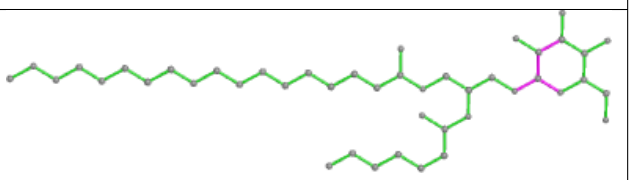


Rings

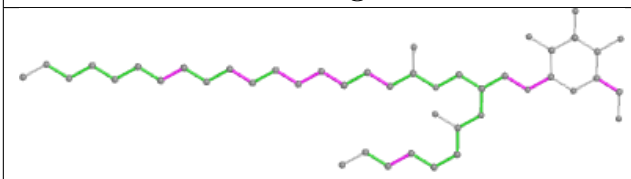
Ligand LMG i 195



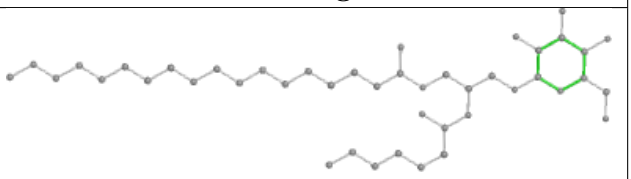
Bond lengths



Bond angles

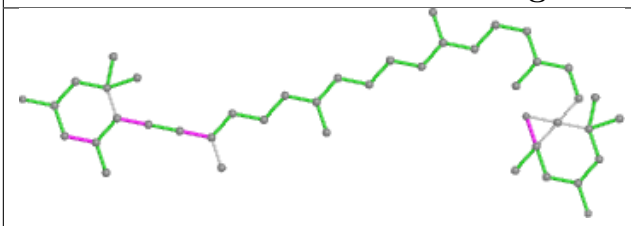


Torsions

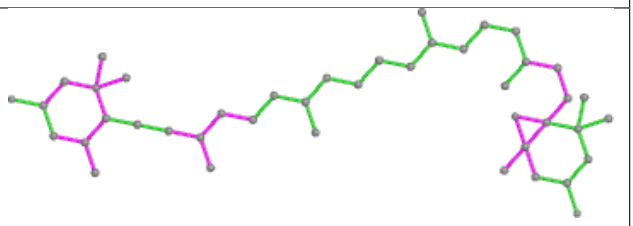


Rings

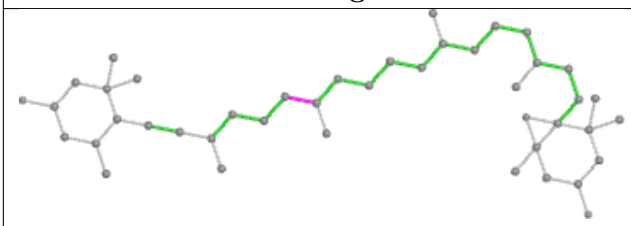
Ligand DD6 k 620



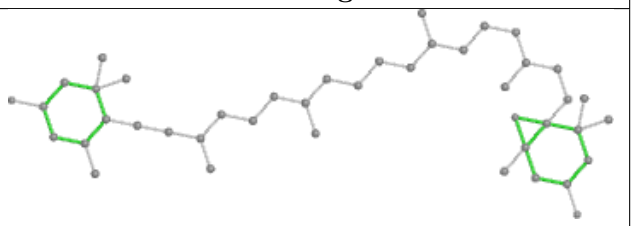
Bond lengths



Bond angles

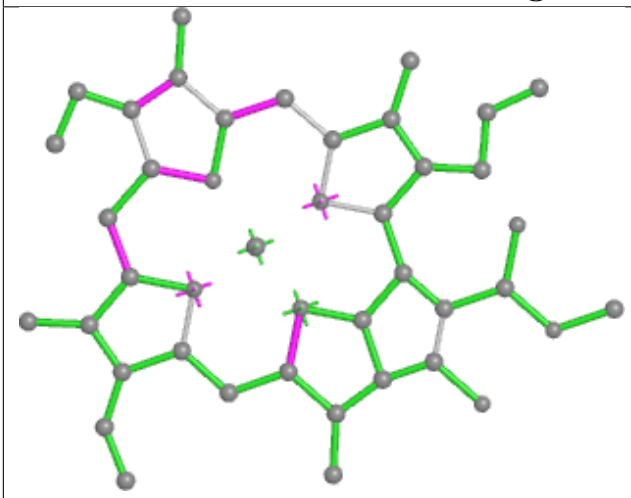


Torsions

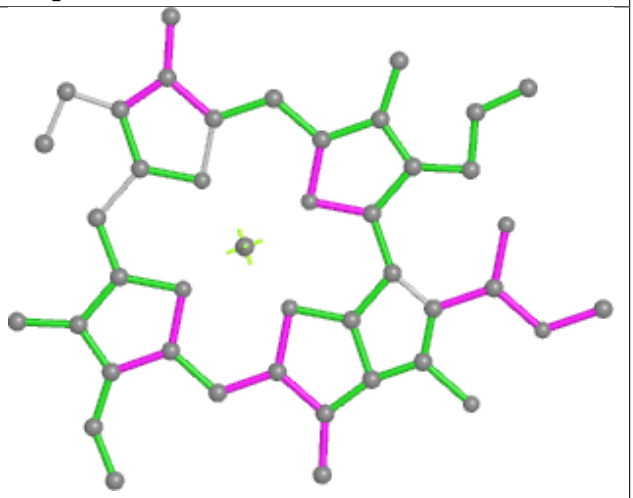


Rings

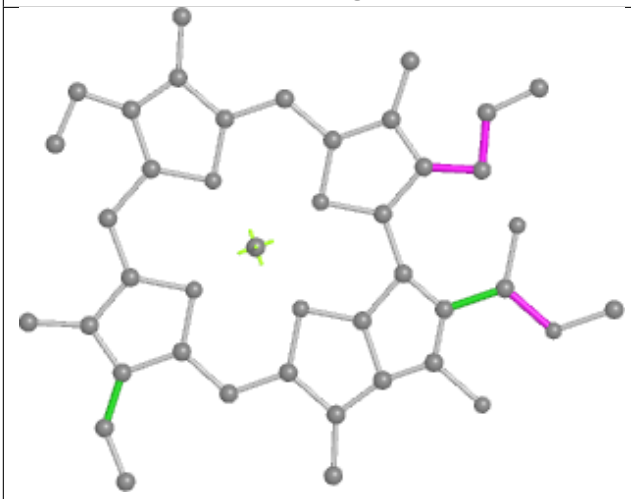
Ligand CLA p 613



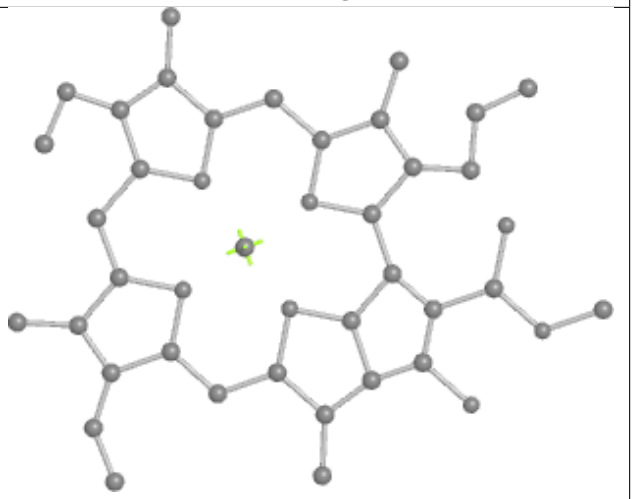
Bond lengths



Bond angles

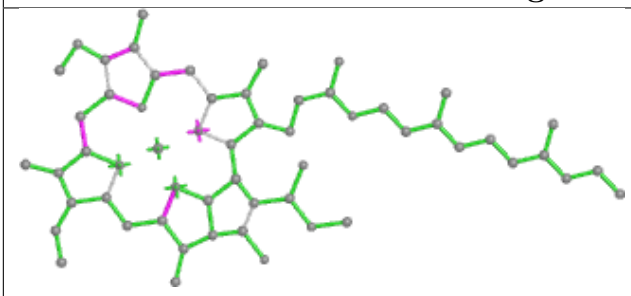


Torsions

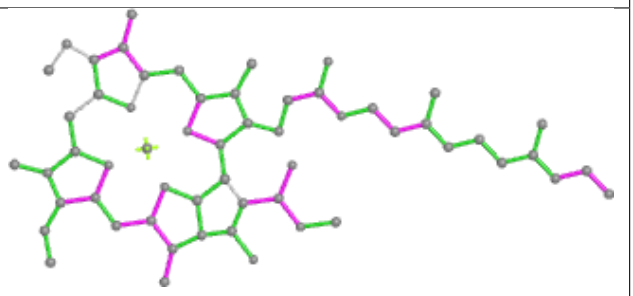


Rings

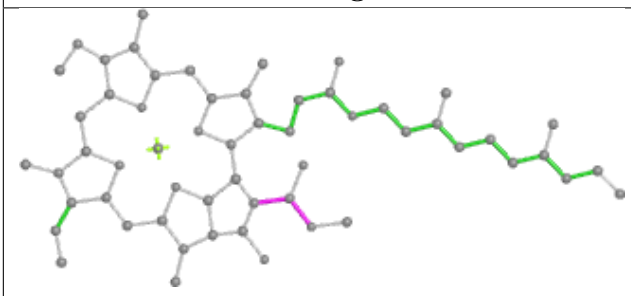
Ligand CLA d 602



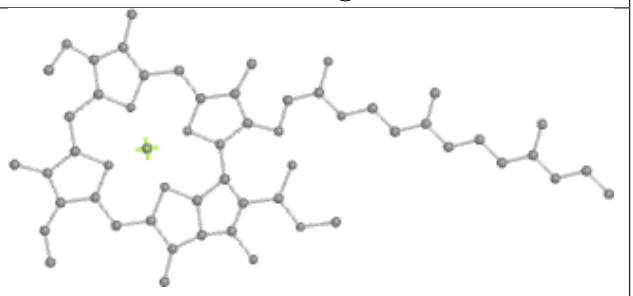
Bond lengths



Bond angles

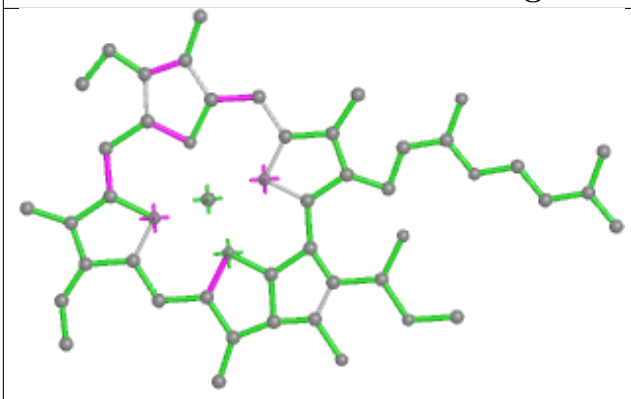


Torsions

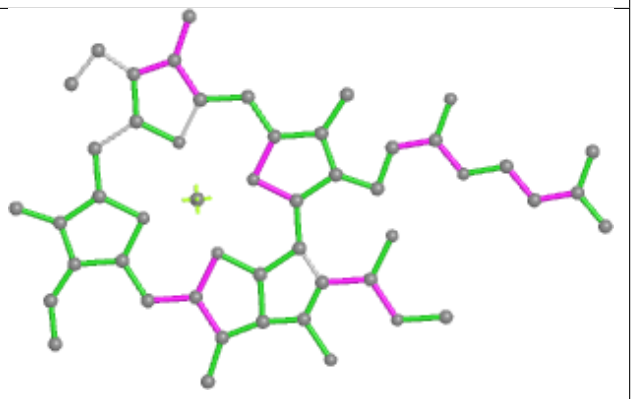


Rings

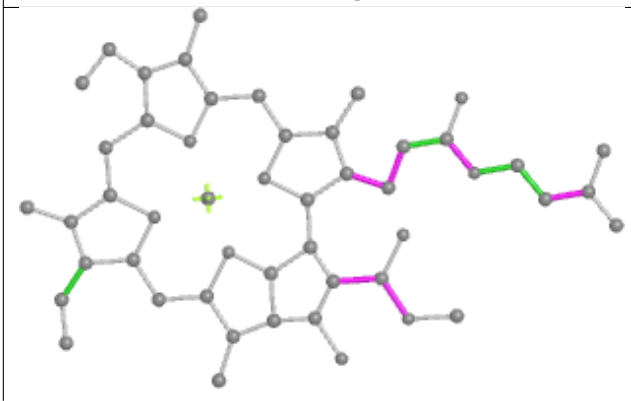
Ligand CLA B 772



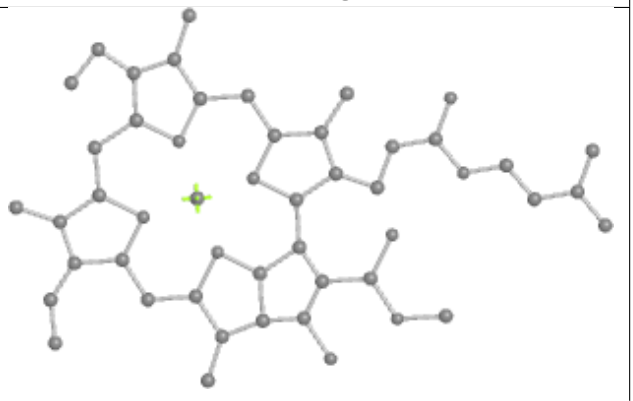
Bond lengths



Bond angles

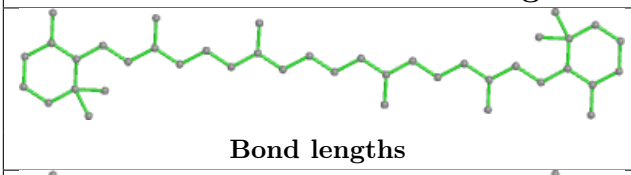


Torsions

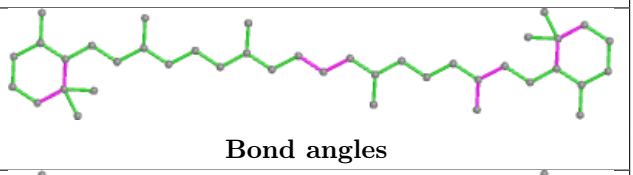


Rings

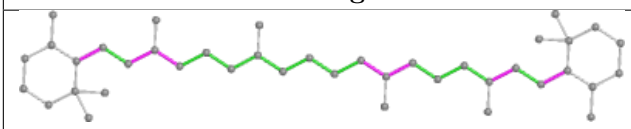
Ligand BCR A 790



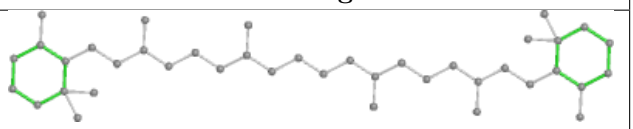
Bond lengths



Bond angles

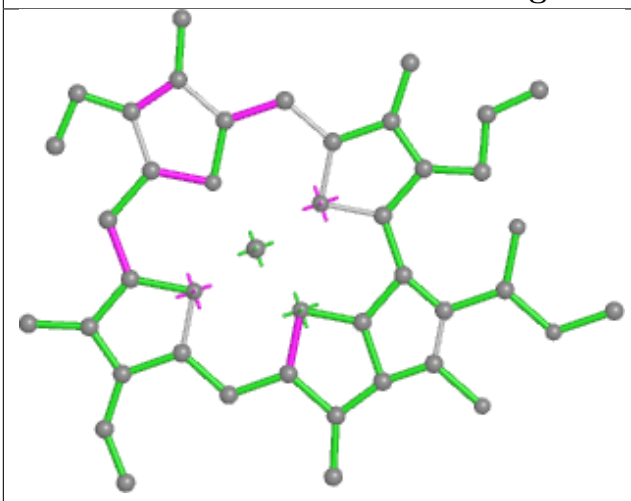


Torsions

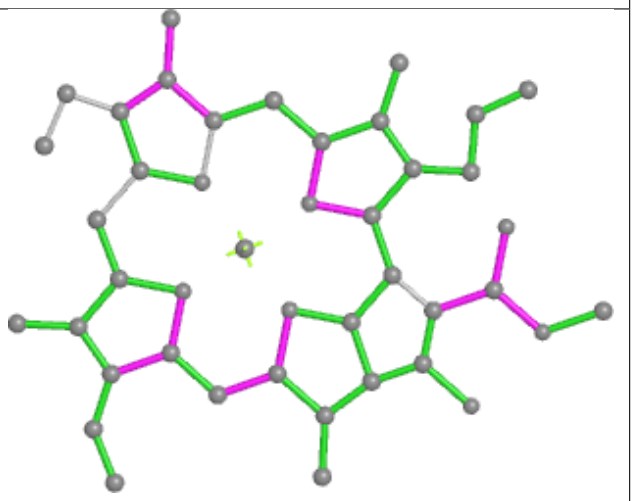


Rings

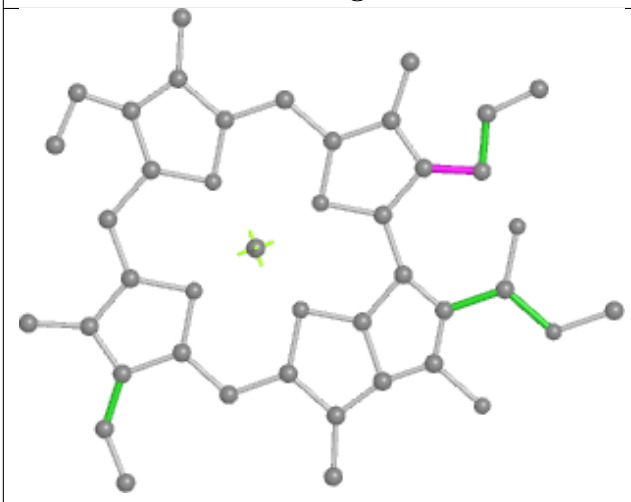
Ligand CLA c 611



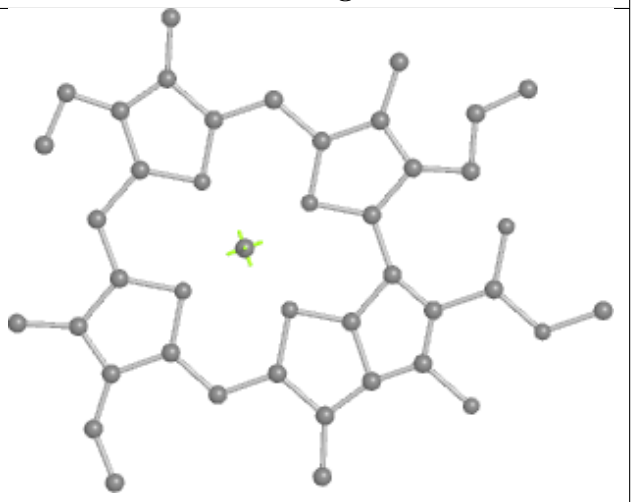
Bond lengths



Bond angles

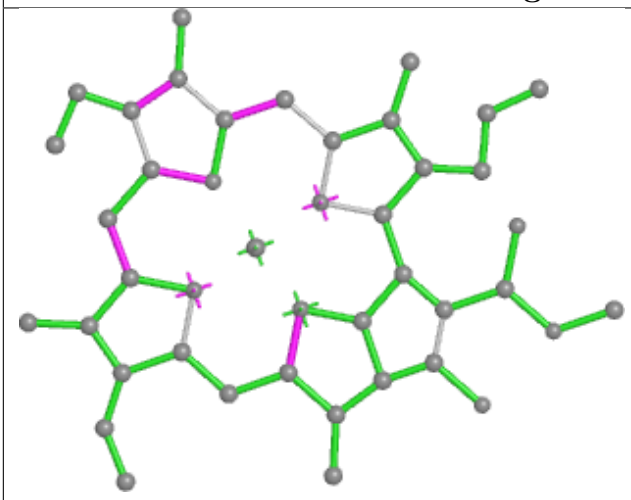


Torsions

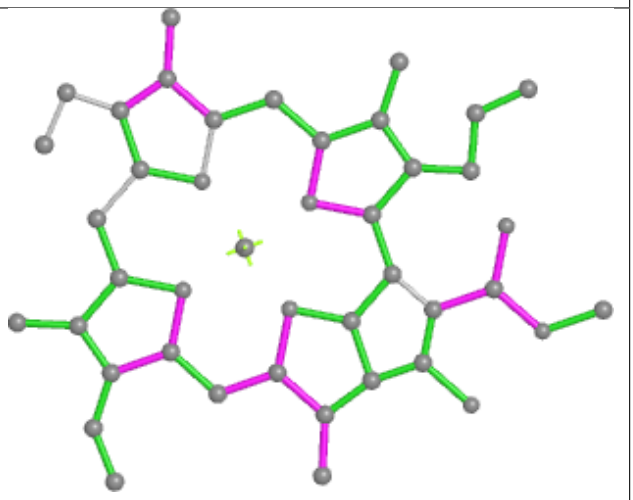


Rings

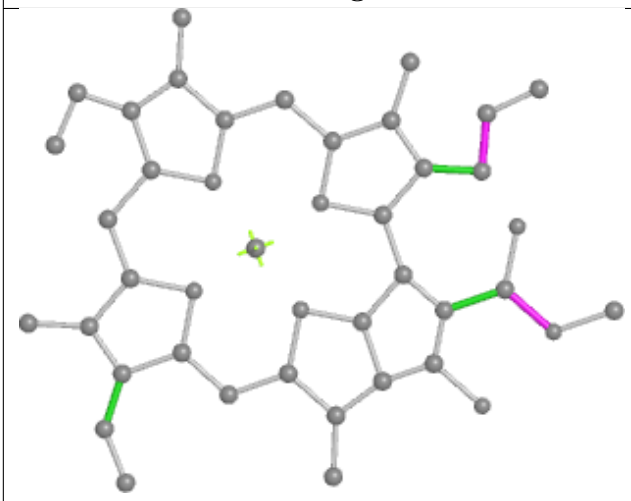
Ligand CLA A 778



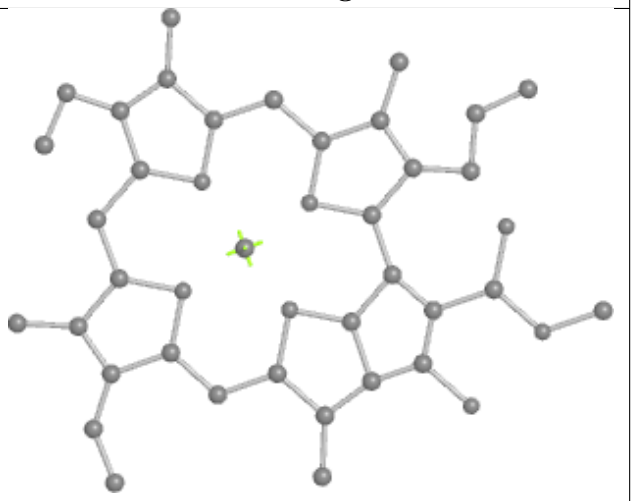
Bond lengths



Bond angles

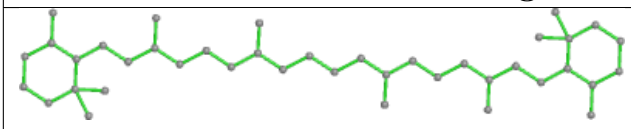


Torsions

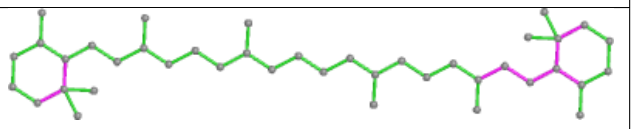


Rings

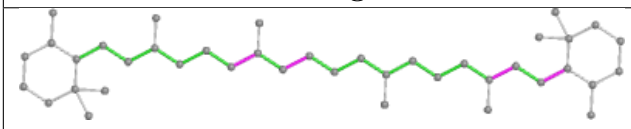
Ligand BCR M 201



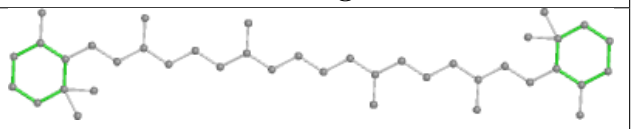
Bond lengths



Bond angles

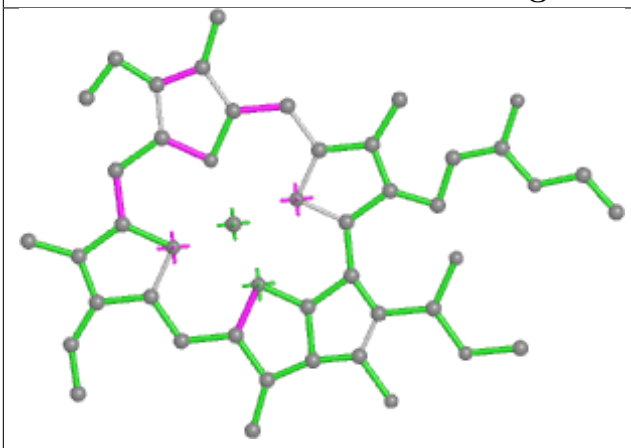


Torsions

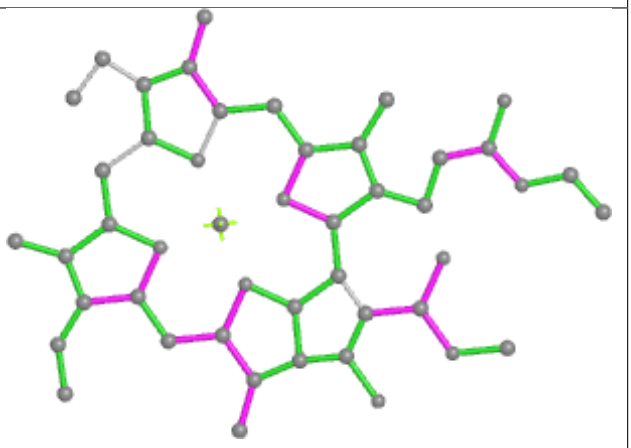


Rings

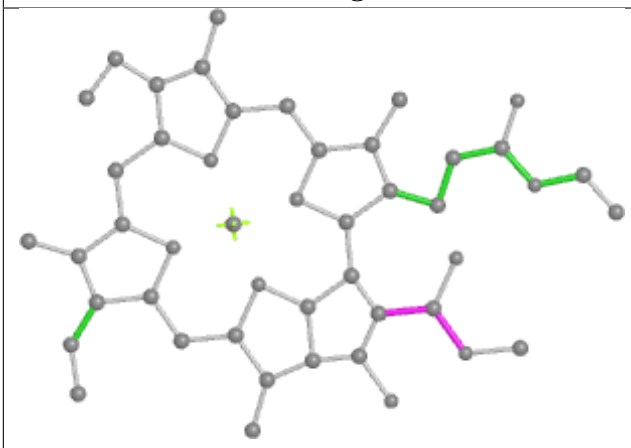
Ligand CLA c 616



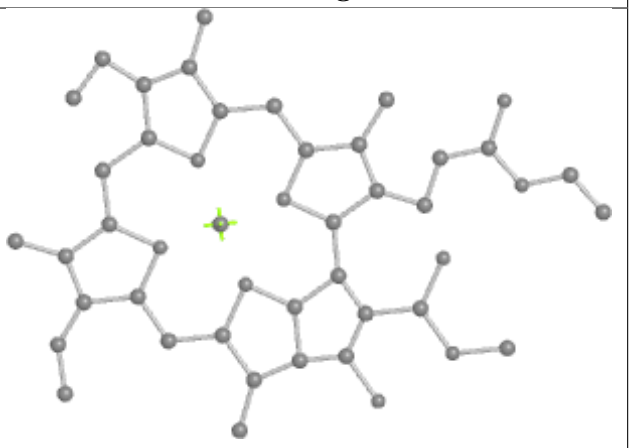
Bond lengths



Bond angles

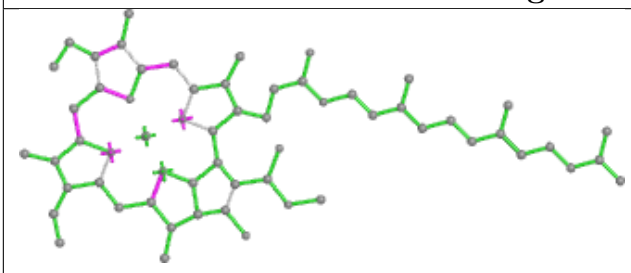


Torsions

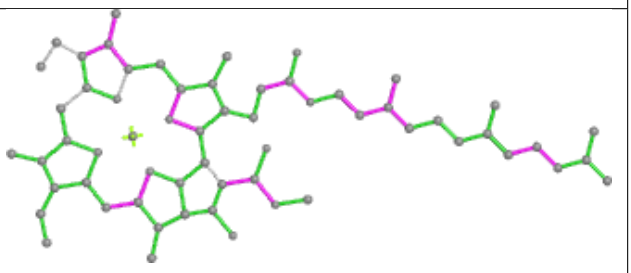


Rings

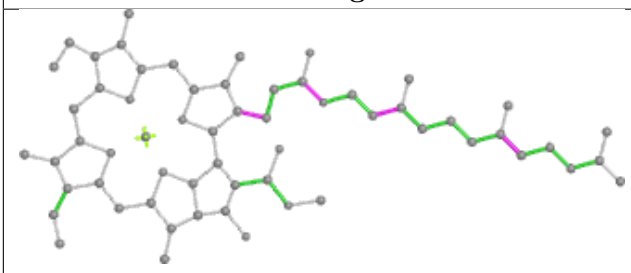
Ligand CLA h 604



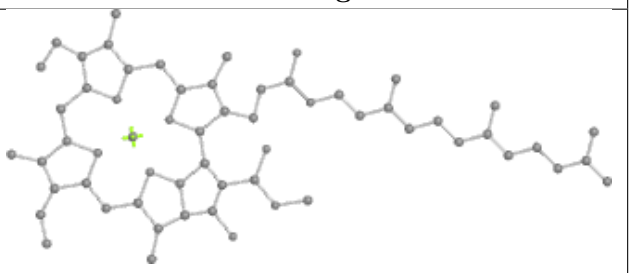
Bond lengths



Bond angles

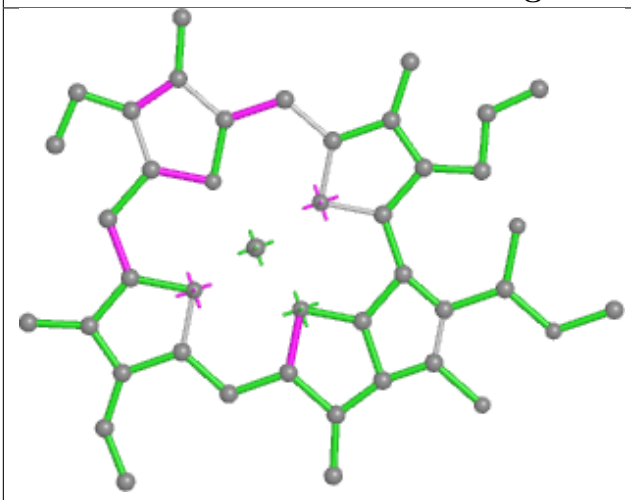


Torsions

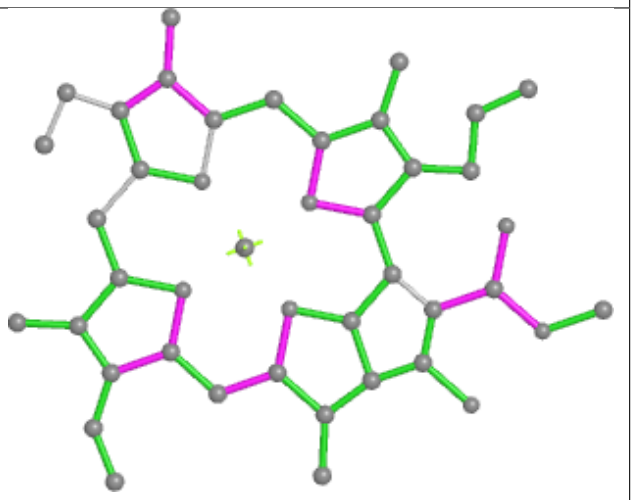


Rings

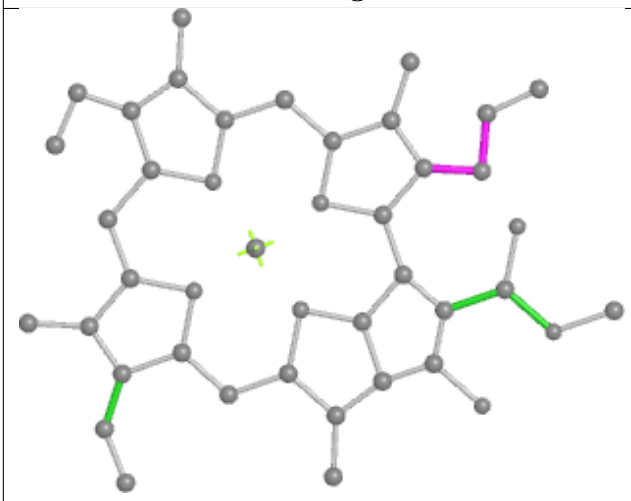
Ligand CLA B 744



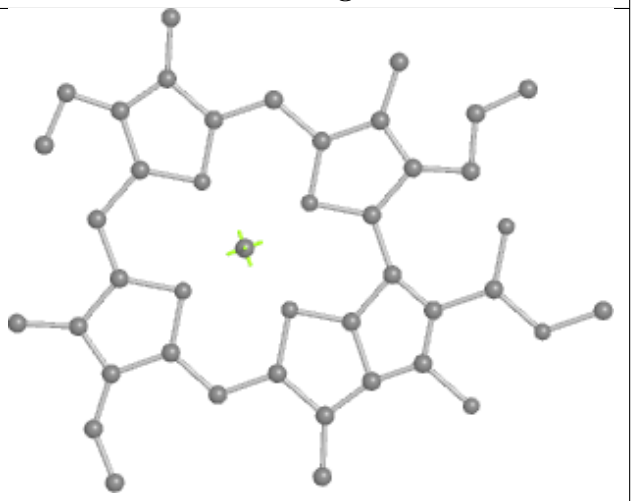
Bond lengths



Bond angles

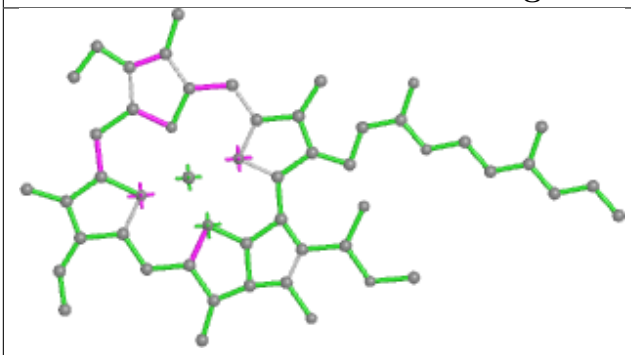


Torsions

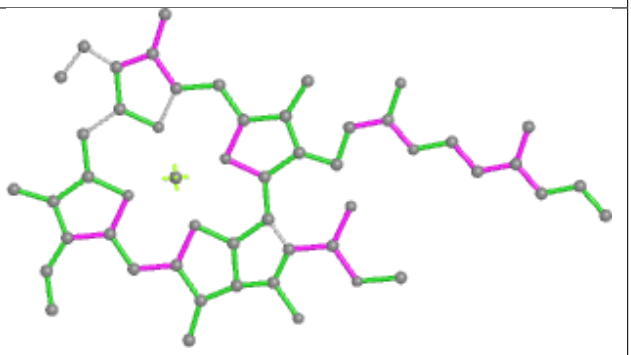


Rings

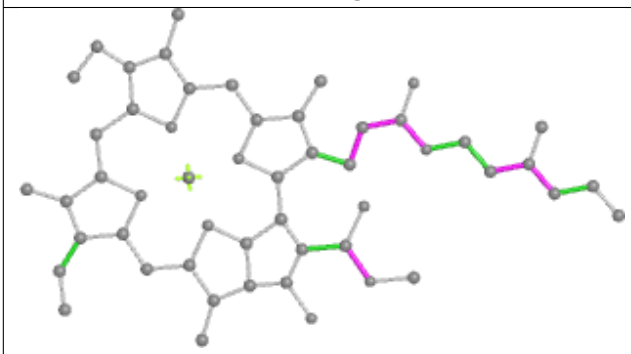
Ligand CLA A 798



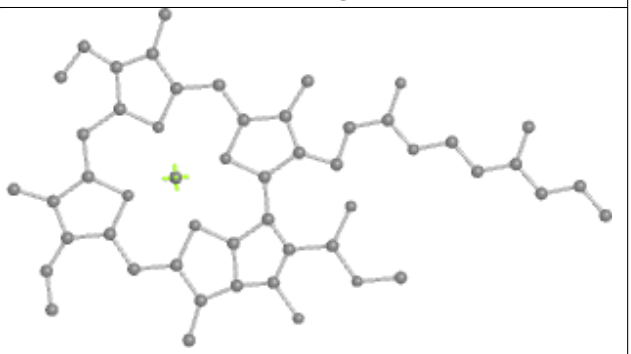
Bond lengths



Bond angles

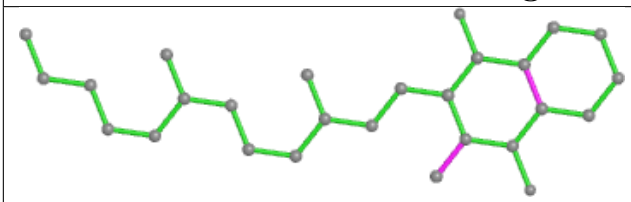


Torsions

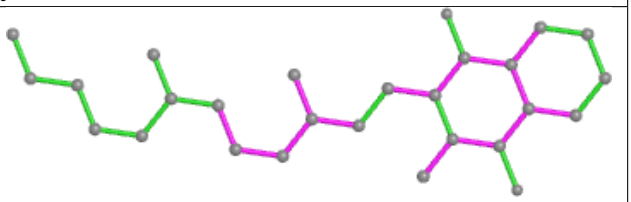


Rings

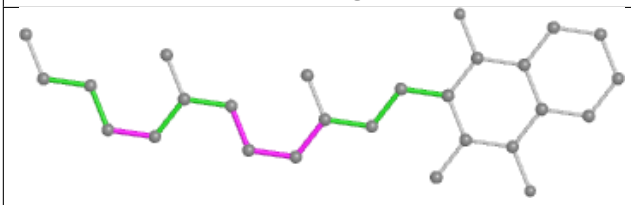
Ligand PQN B 769



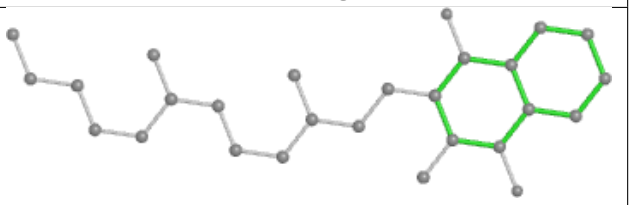
Bond lengths



Bond angles

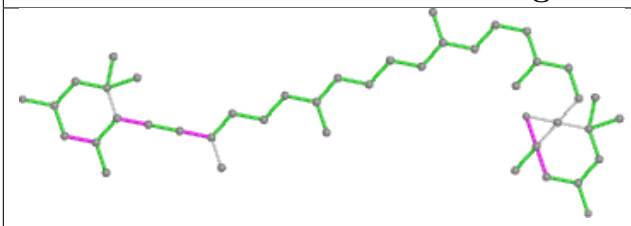


Torsions

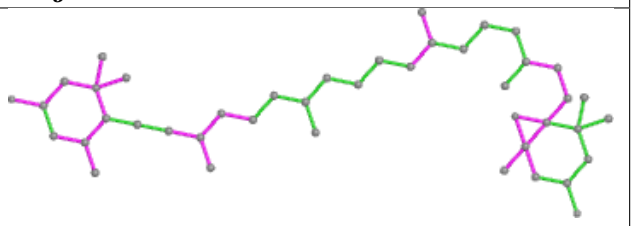


Rings

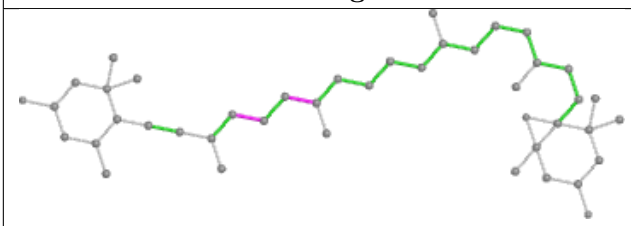
Ligand DD6 j 621



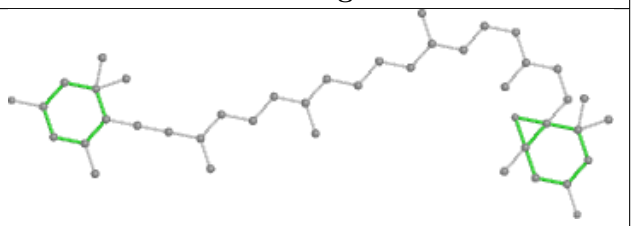
Bond lengths



Bond angles

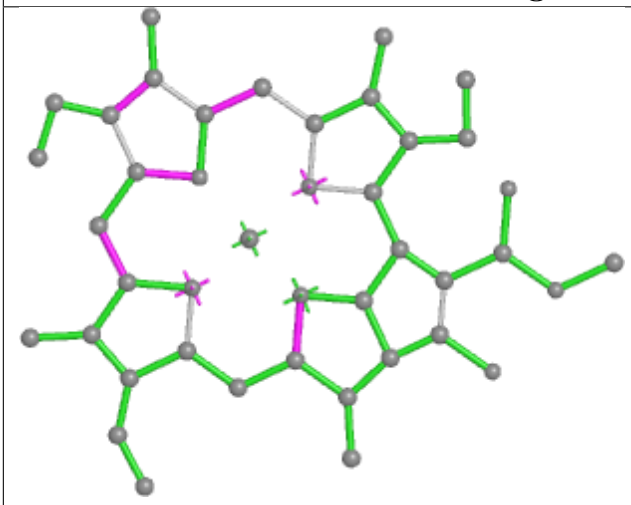


Torsions

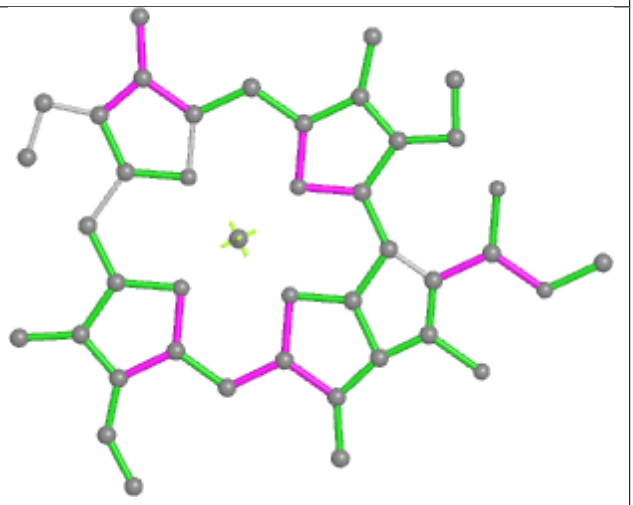


Rings

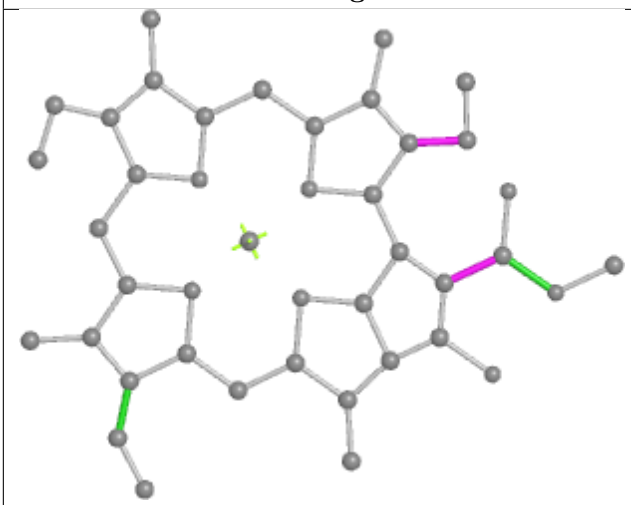
Ligand CLA k 611



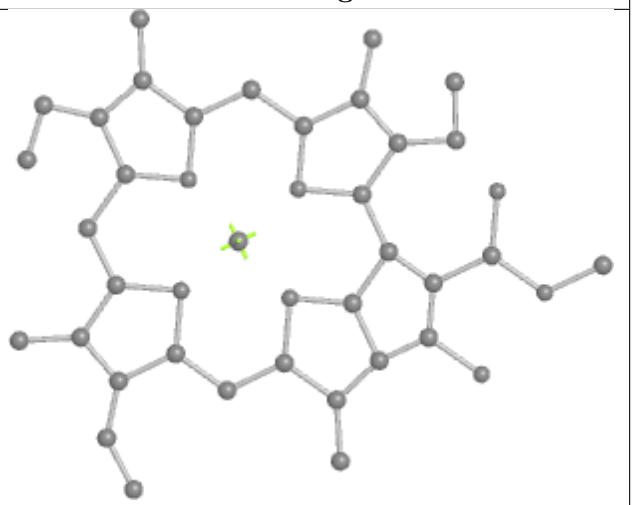
Bond lengths



Bond angles

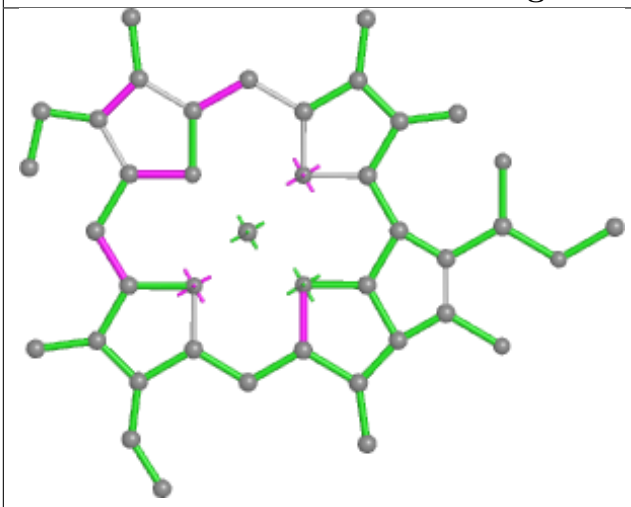


Torsions

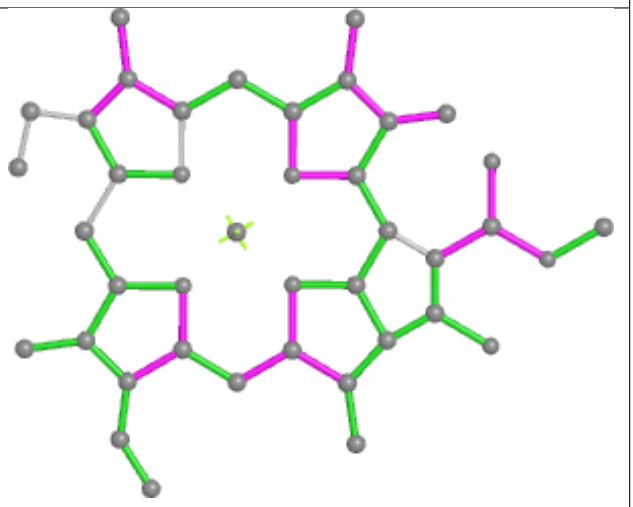


Rings

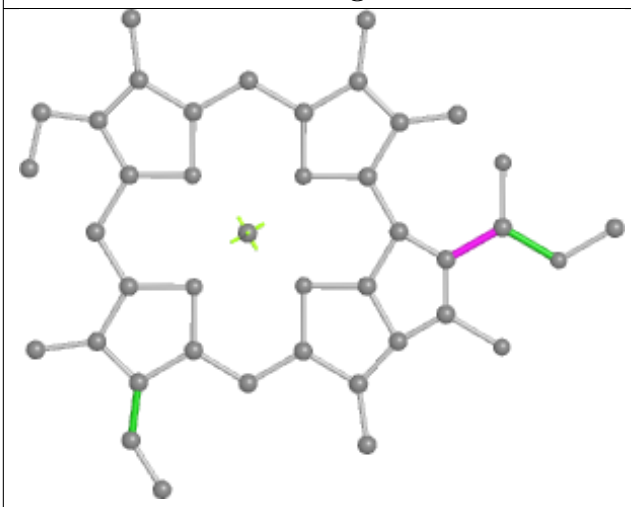
Ligand CLA n 610



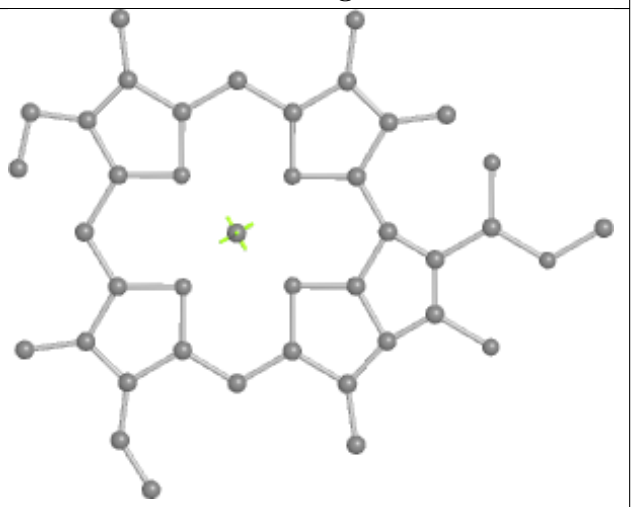
Bond lengths



Bond angles

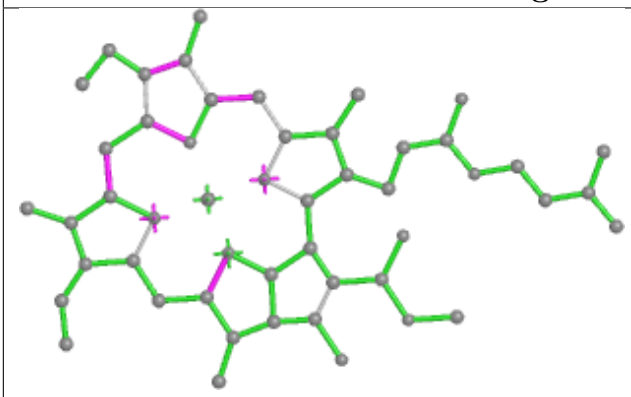


Torsions

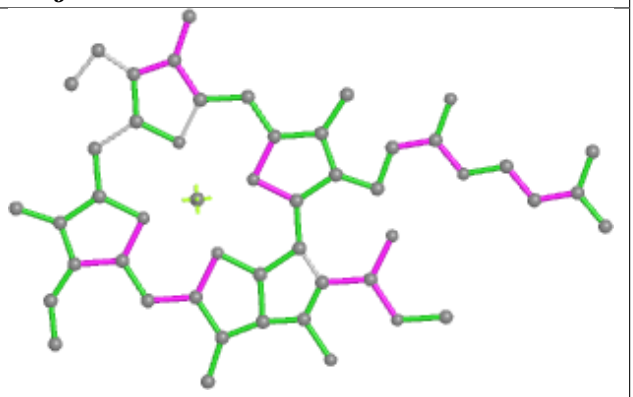


Rings

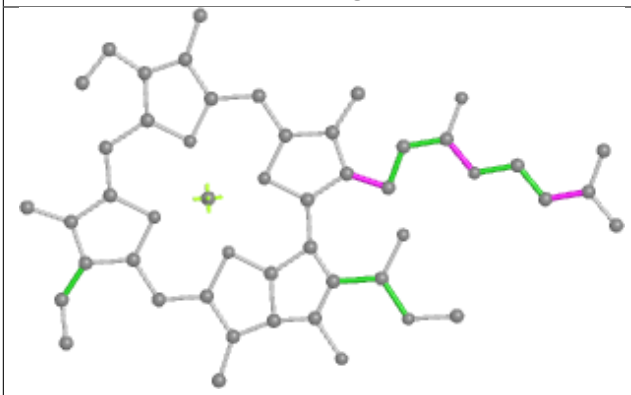
Ligand CLA j 618



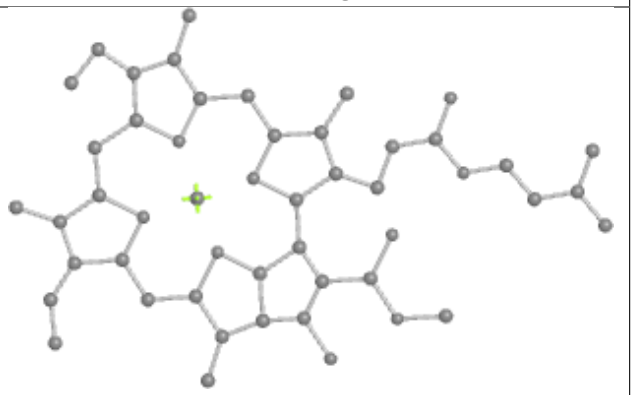
Bond lengths



Bond angles

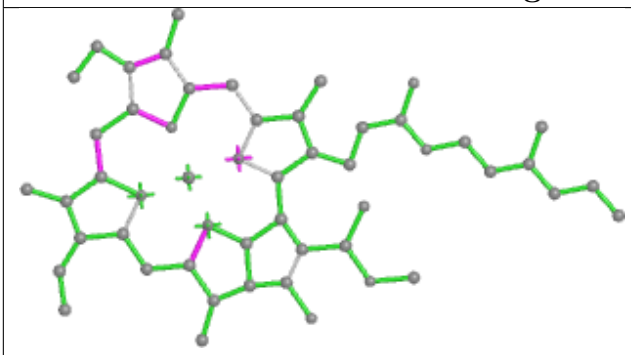


Torsions

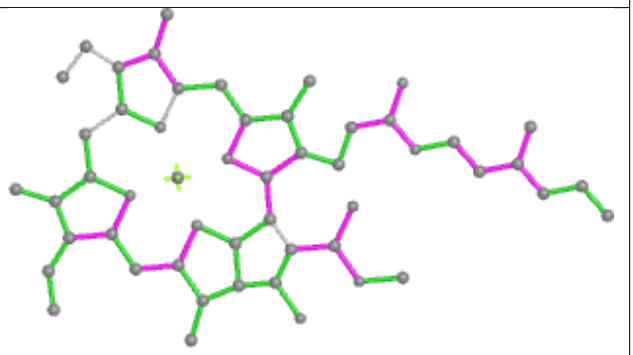


Rings

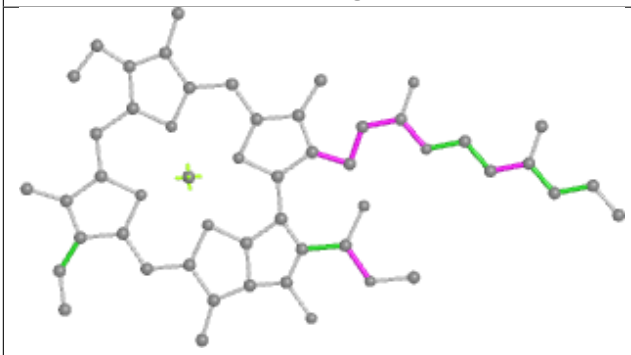
Ligand CLA A 781



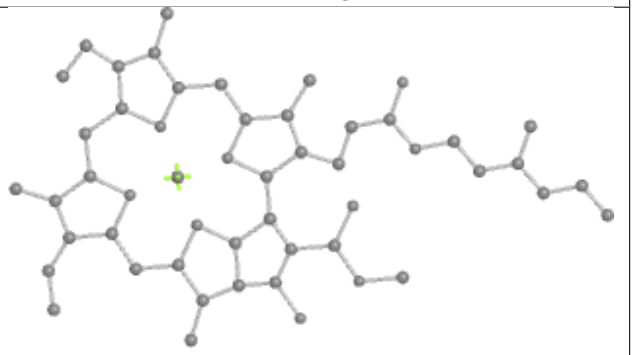
Bond lengths



Bond angles

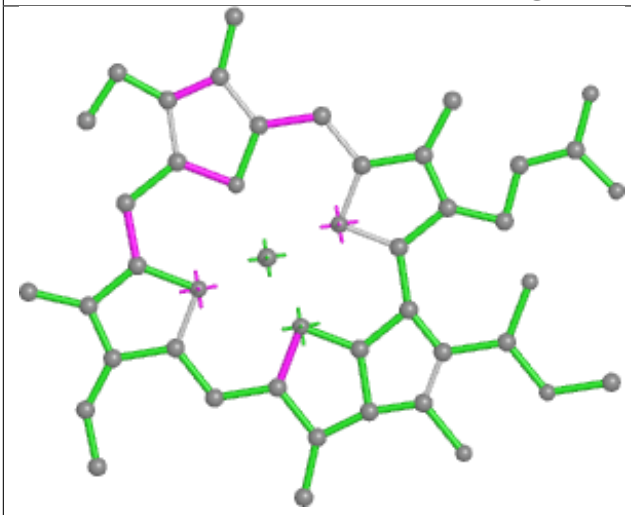


Torsions

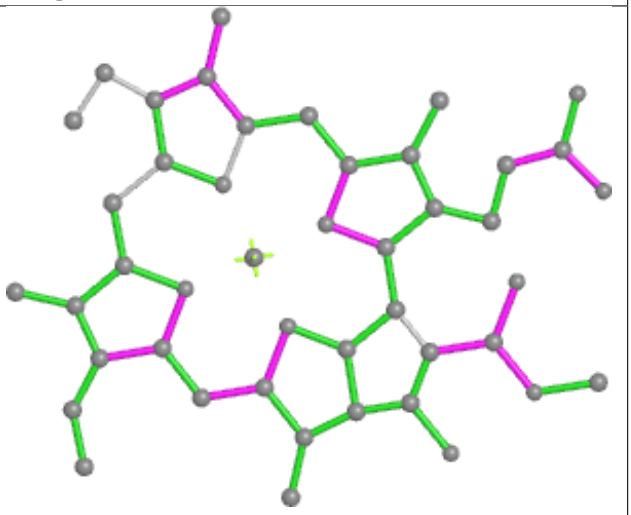


Rings

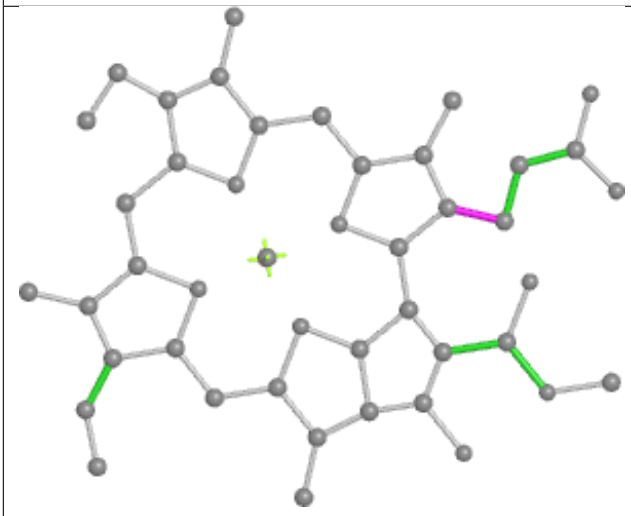
Ligand CLA g 618



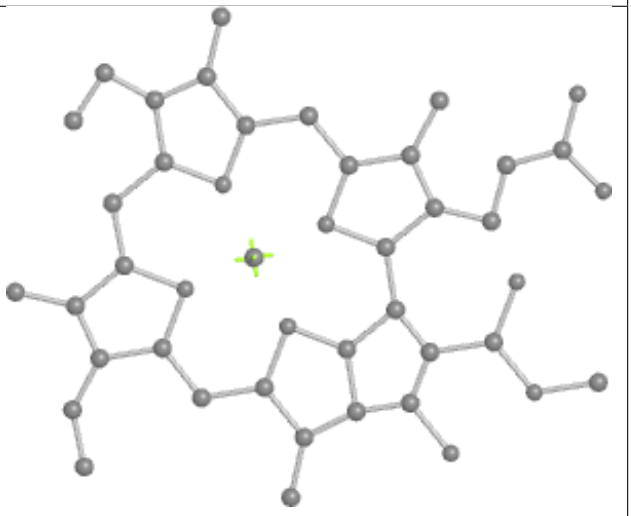
Bond lengths



Bond angles

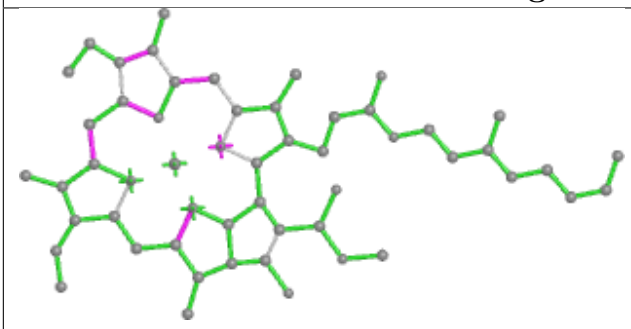


Torsions

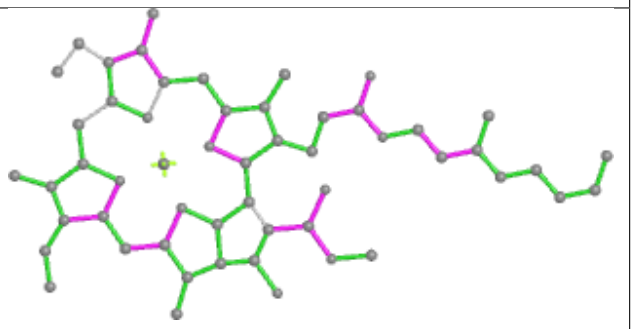


Rings

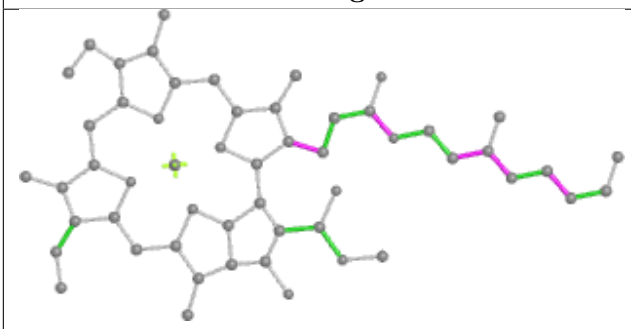
Ligand CLA a 610



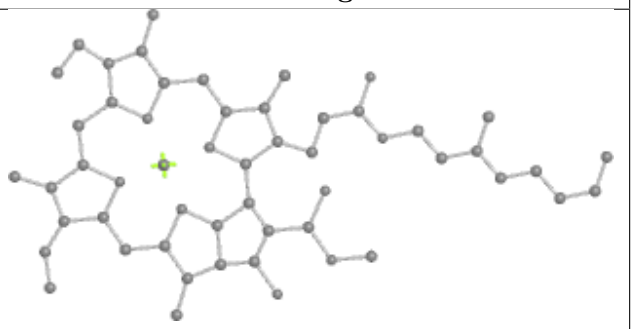
Bond lengths



Bond angles

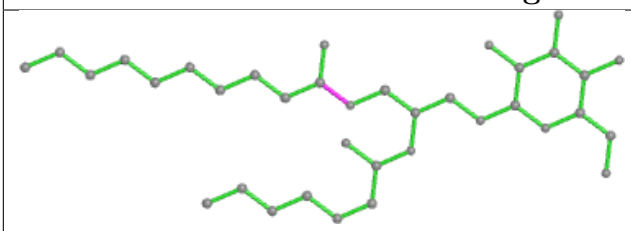


Torsions

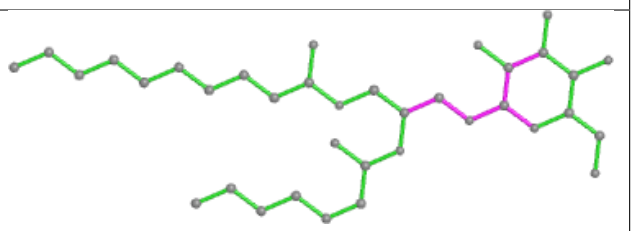


Rings

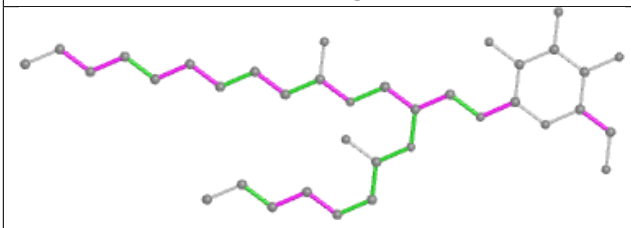
Ligand LMG k 179



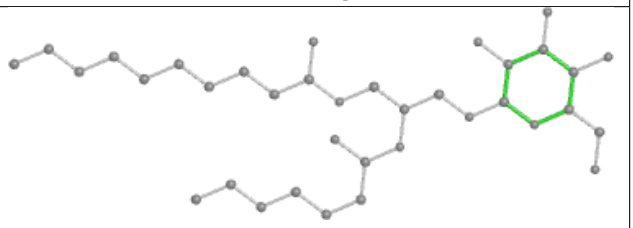
Bond lengths



Bond angles

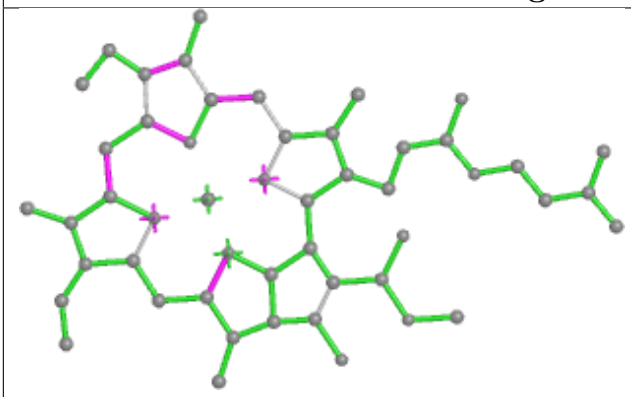


Torsions

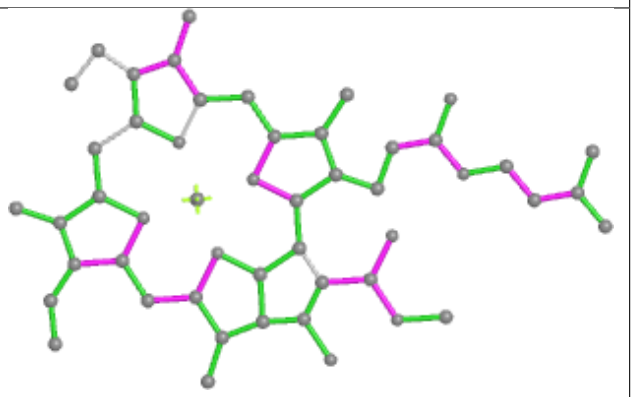


Rings

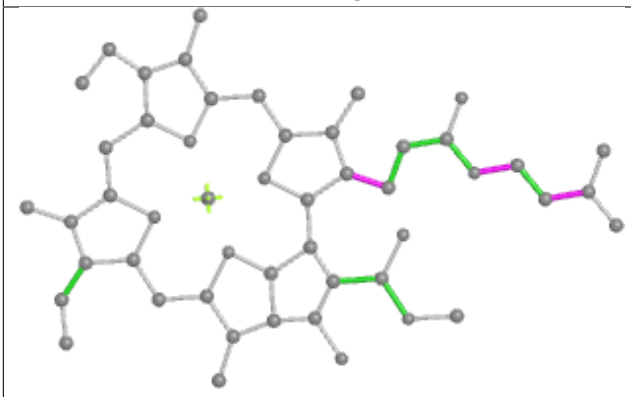
Ligand CLA a 609



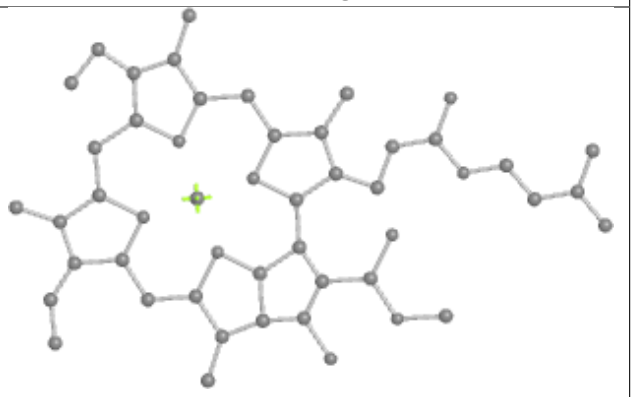
Bond lengths



Bond angles

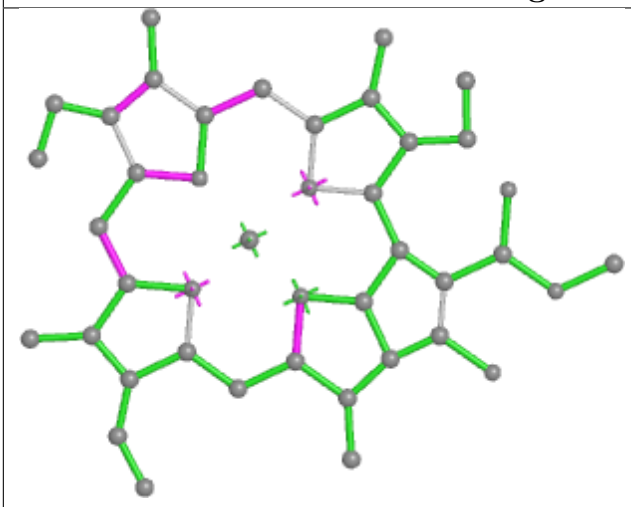


Torsions

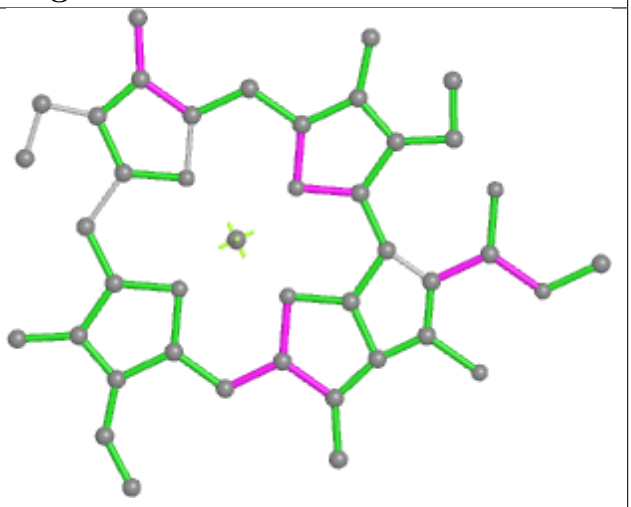


Rings

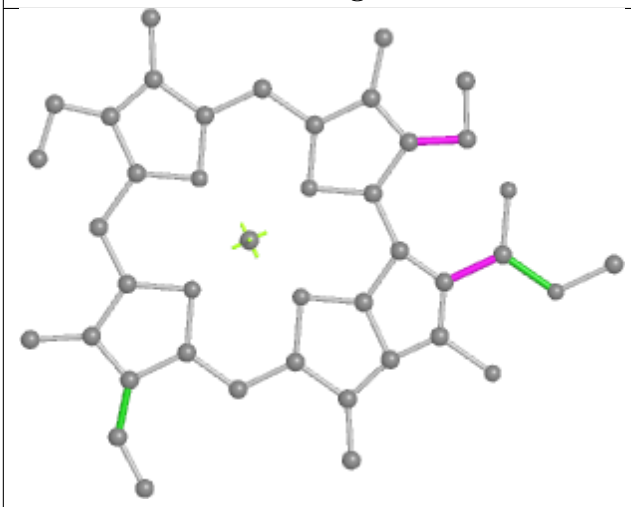
Ligand CLA g 603



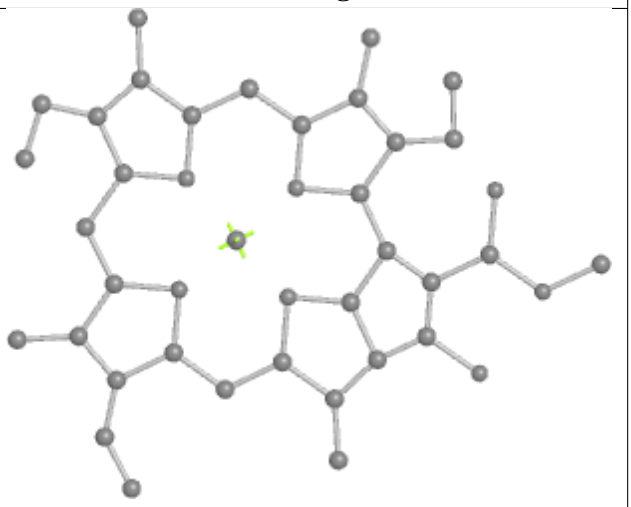
Bond lengths



Bond angles

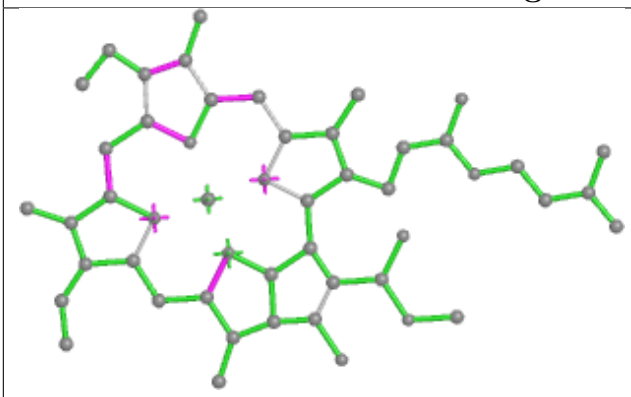


Torsions

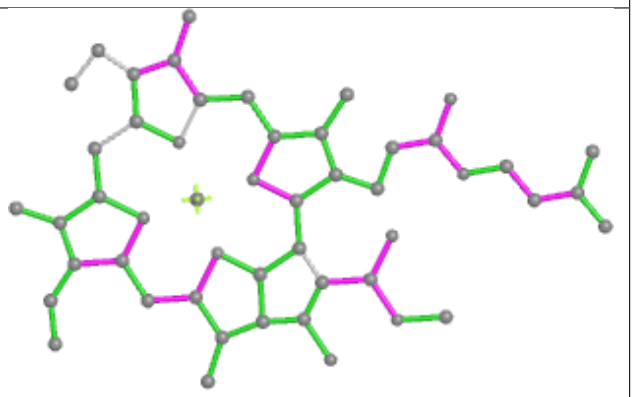


Rings

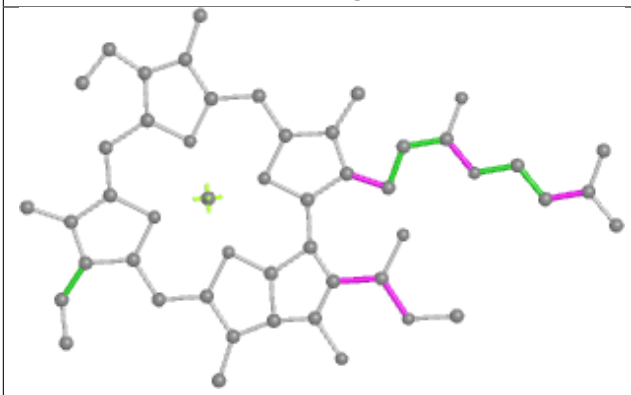
Ligand CLA B 775



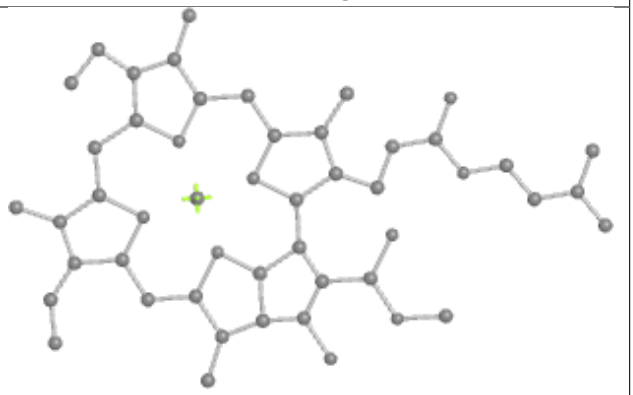
Bond lengths



Bond angles

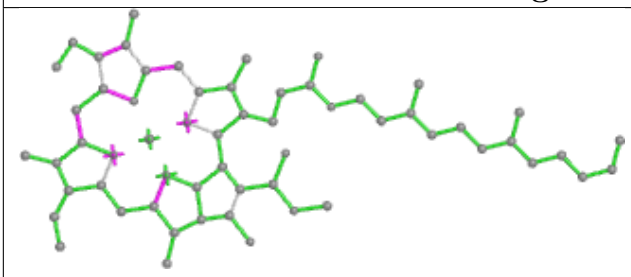


Torsions

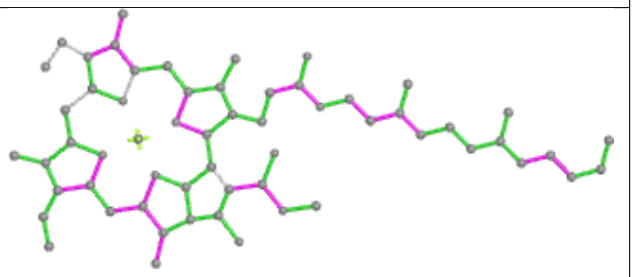


Rings

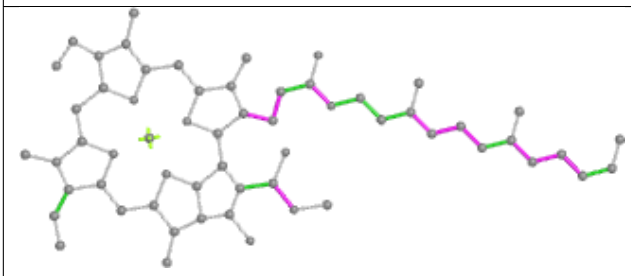
Ligand CLA f 613



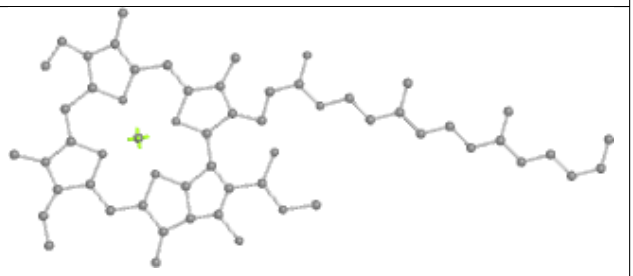
Bond lengths



Bond angles

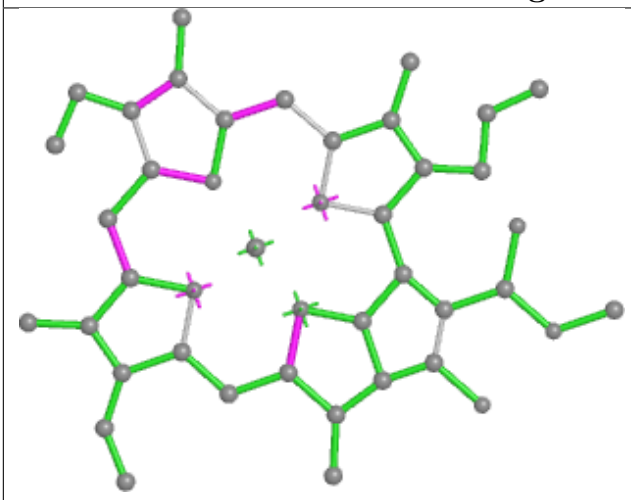


Torsions

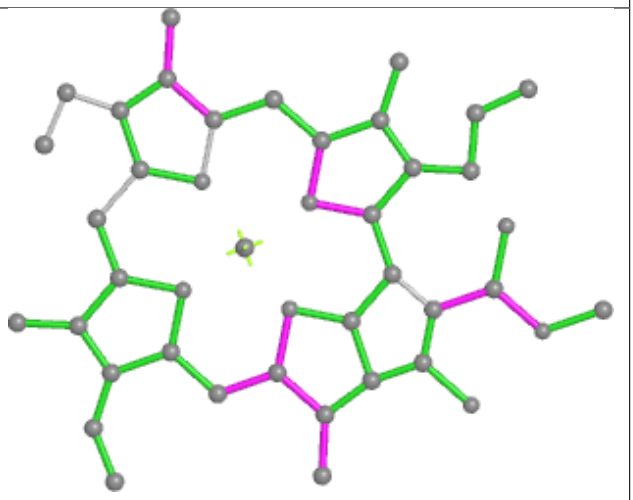


Rings

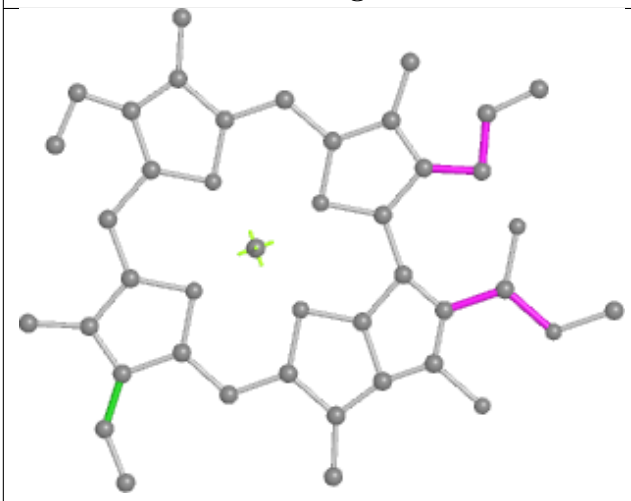
Ligand CLA o 603



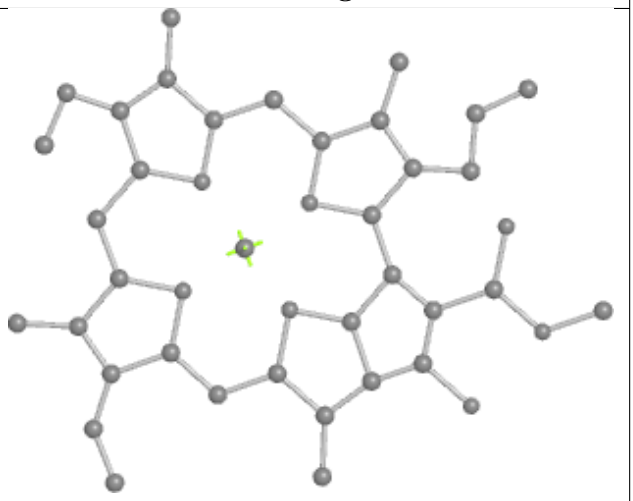
Bond lengths



Bond angles

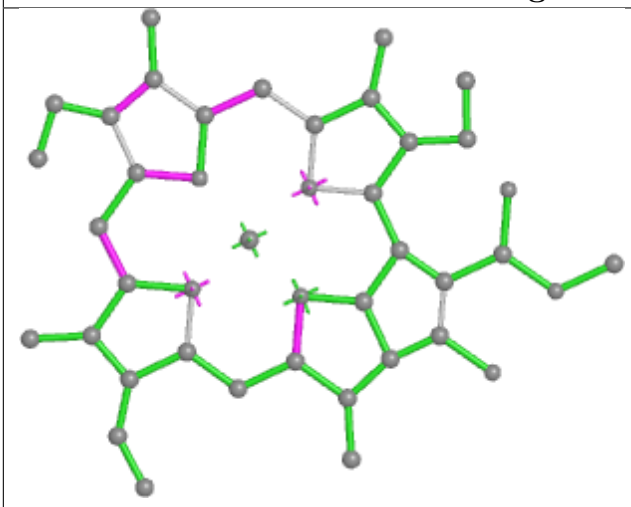


Torsions

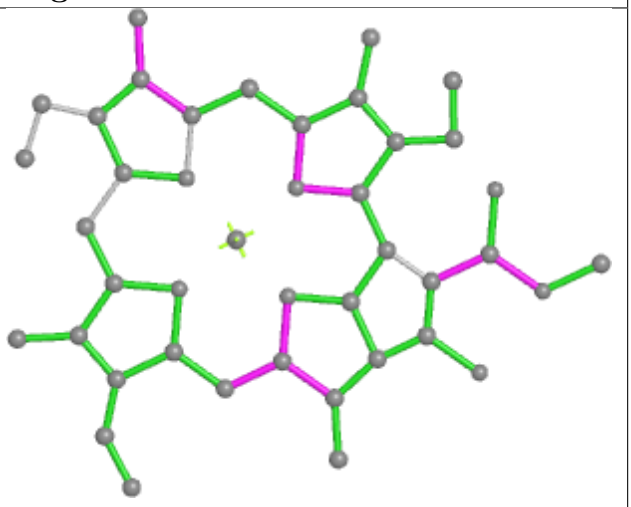


Rings

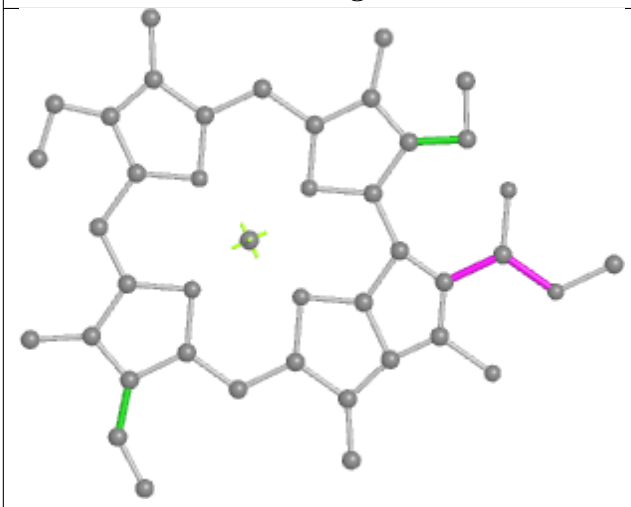
Ligand CLA g 612



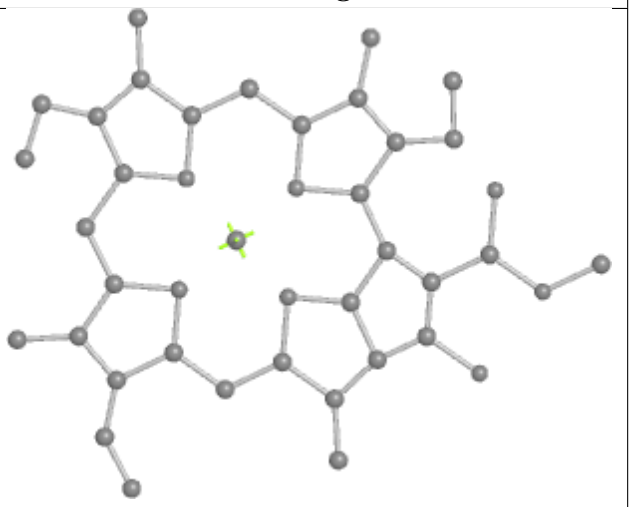
Bond lengths



Bond angles

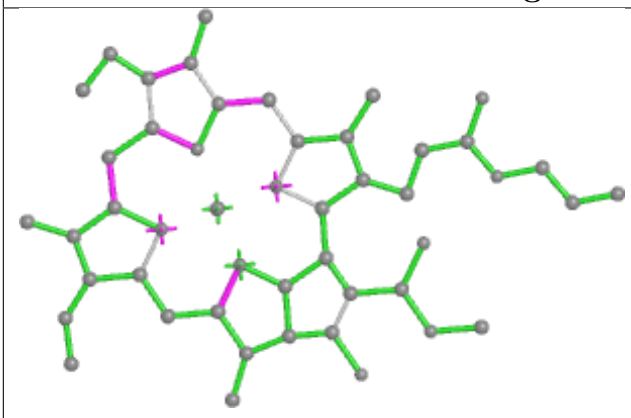


Torsions

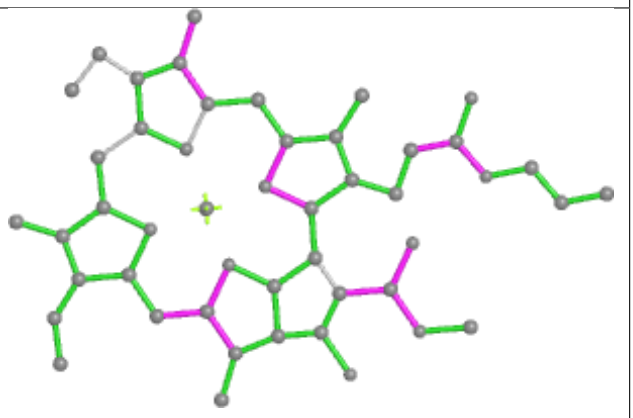


Rings

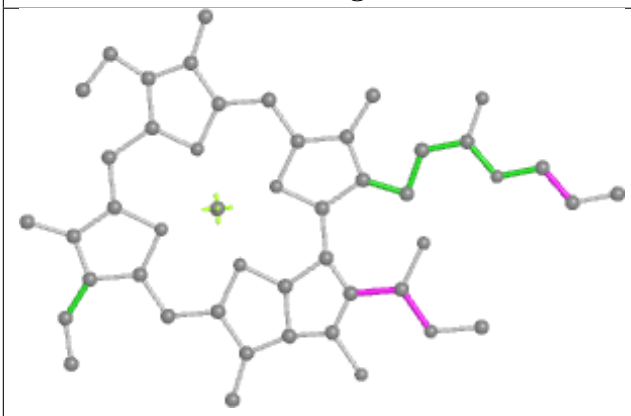
Ligand CLA A 782



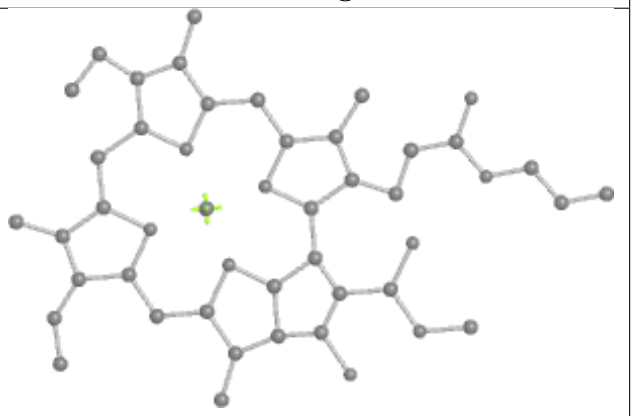
Bond lengths



Bond angles

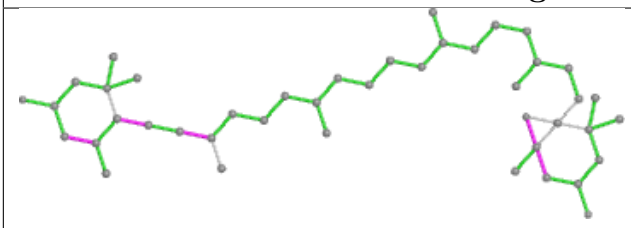


Torsions

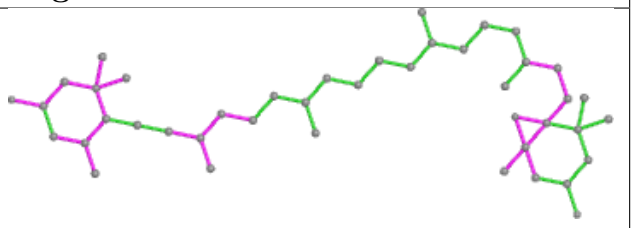


Rings

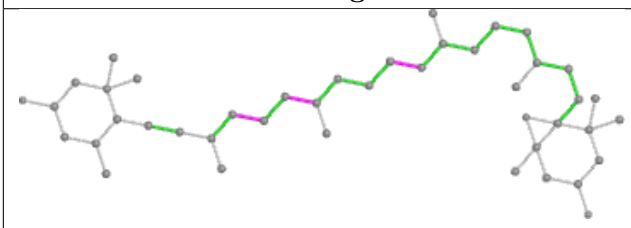
Ligand DD6 g 621



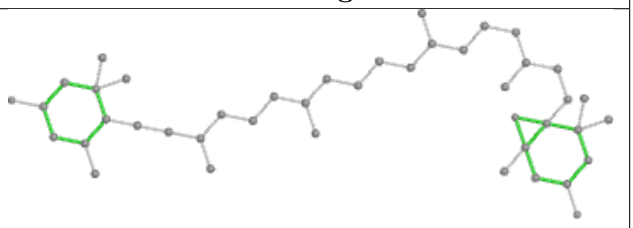
Bond lengths



Bond angles

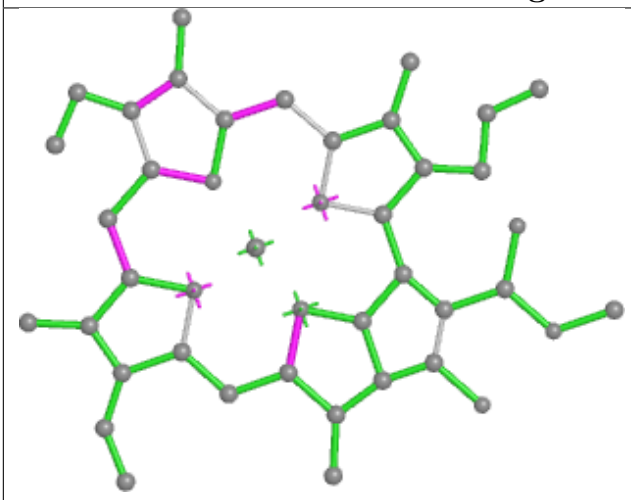


Torsions

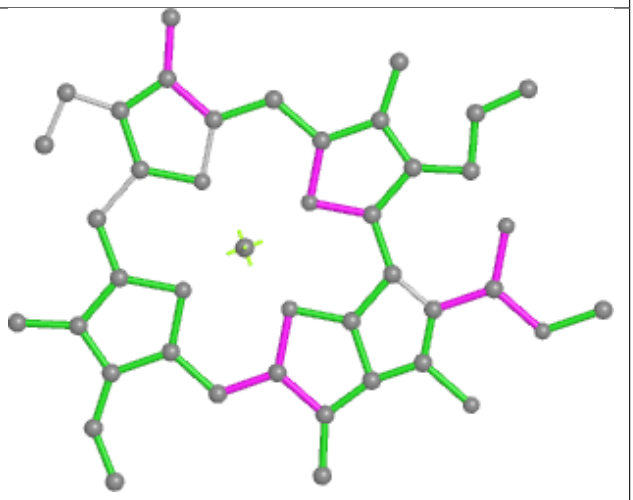


Rings

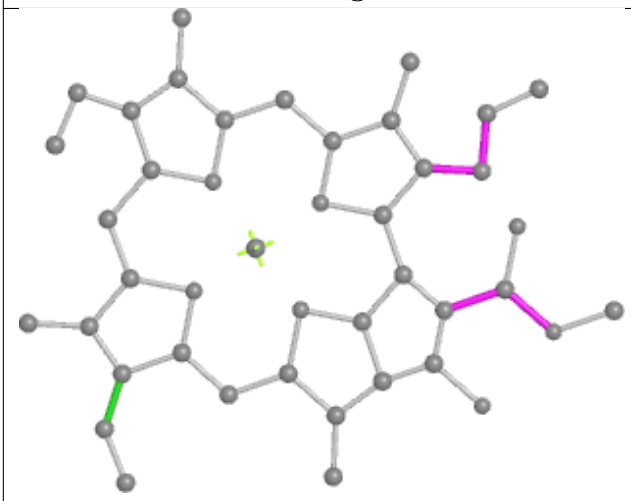
Ligand CLA a 612



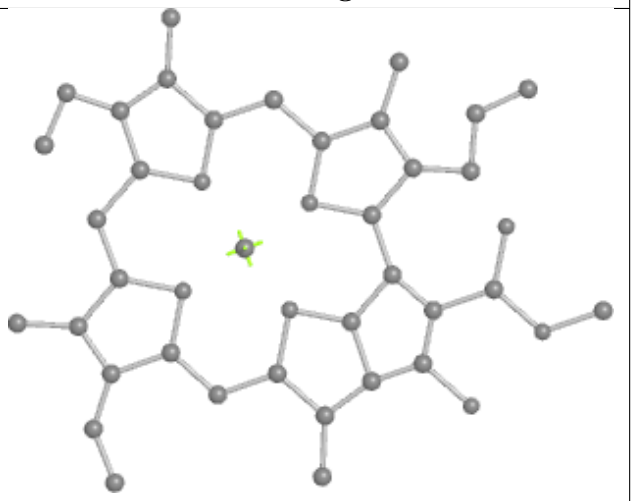
Bond lengths



Bond angles

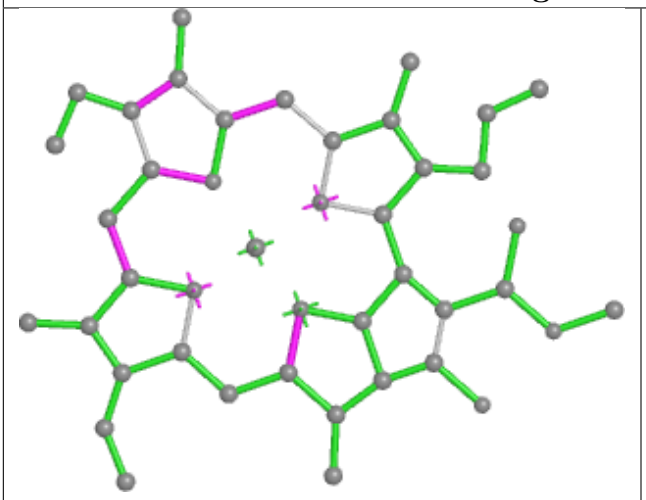


Torsions

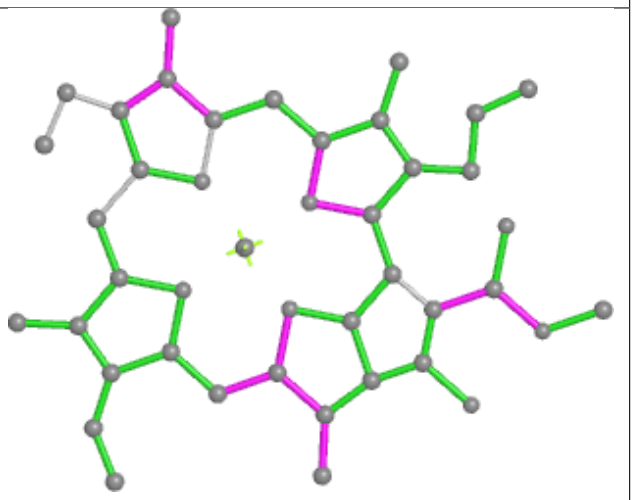


Rings

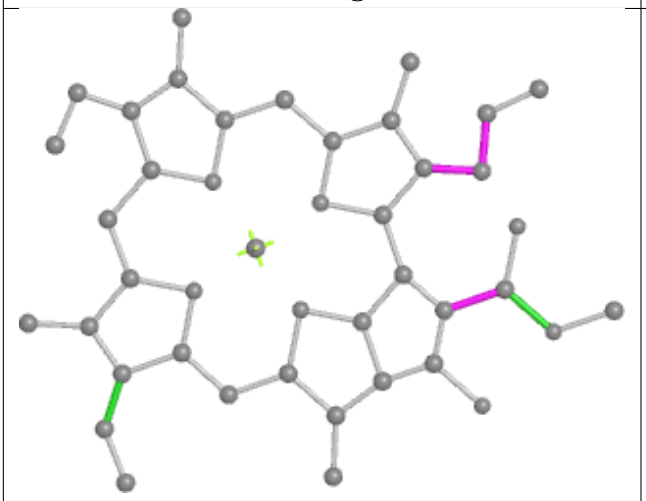
Ligand CLA l 608



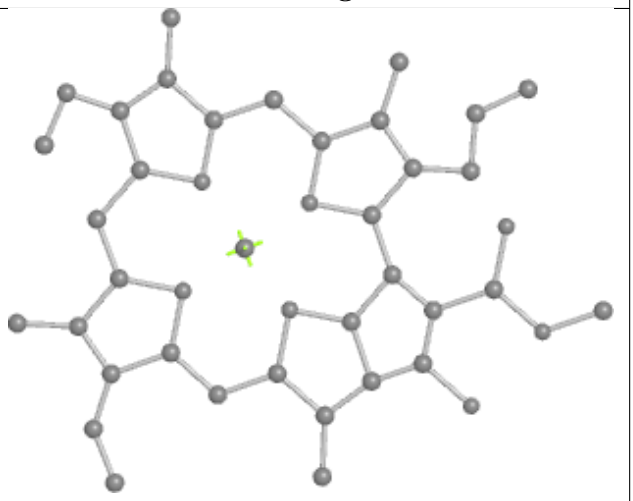
Bond lengths



Bond angles

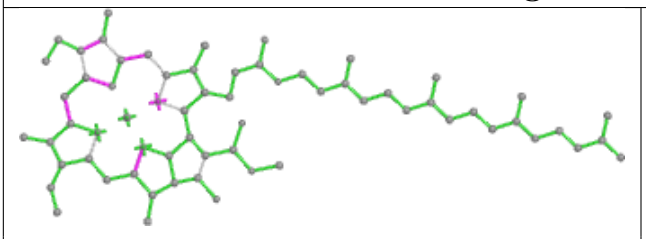


Torsions

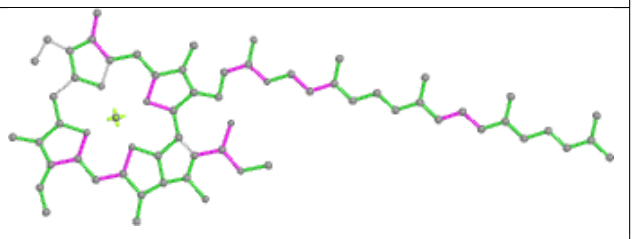


Rings

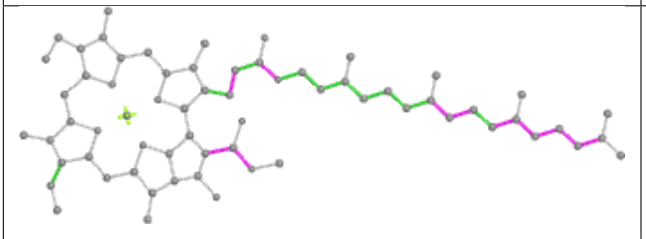
Ligand CLA A 763



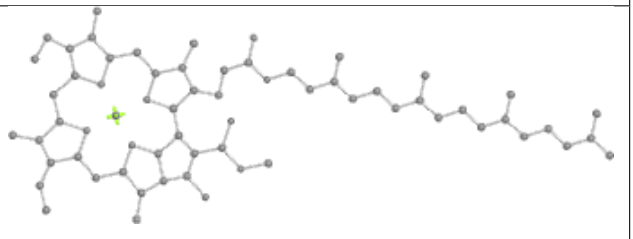
Bond lengths



Bond angles

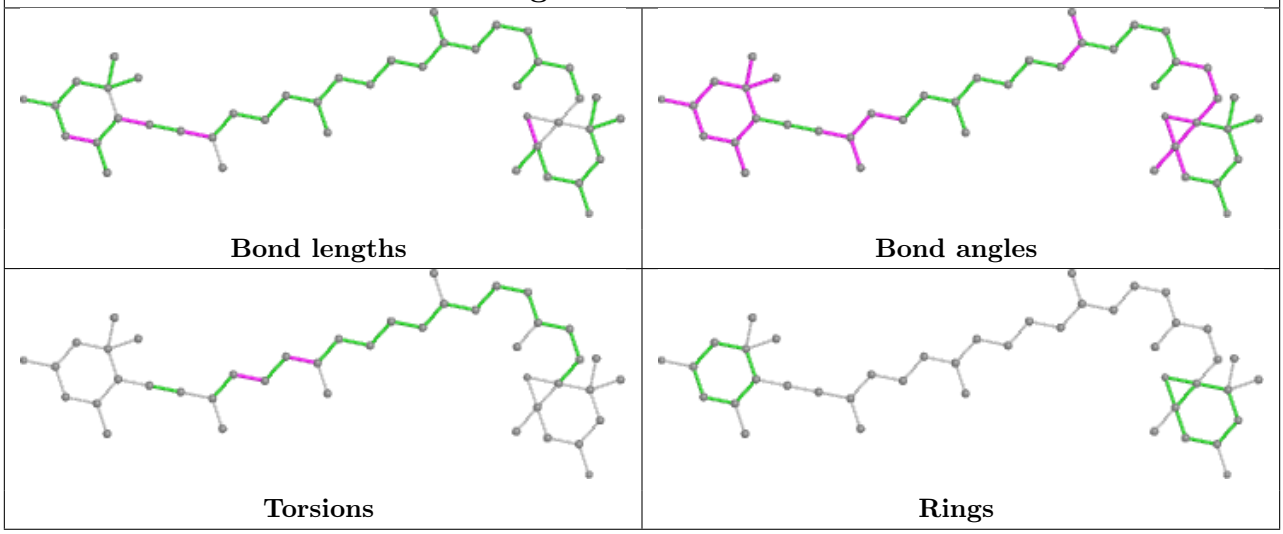


Torsions

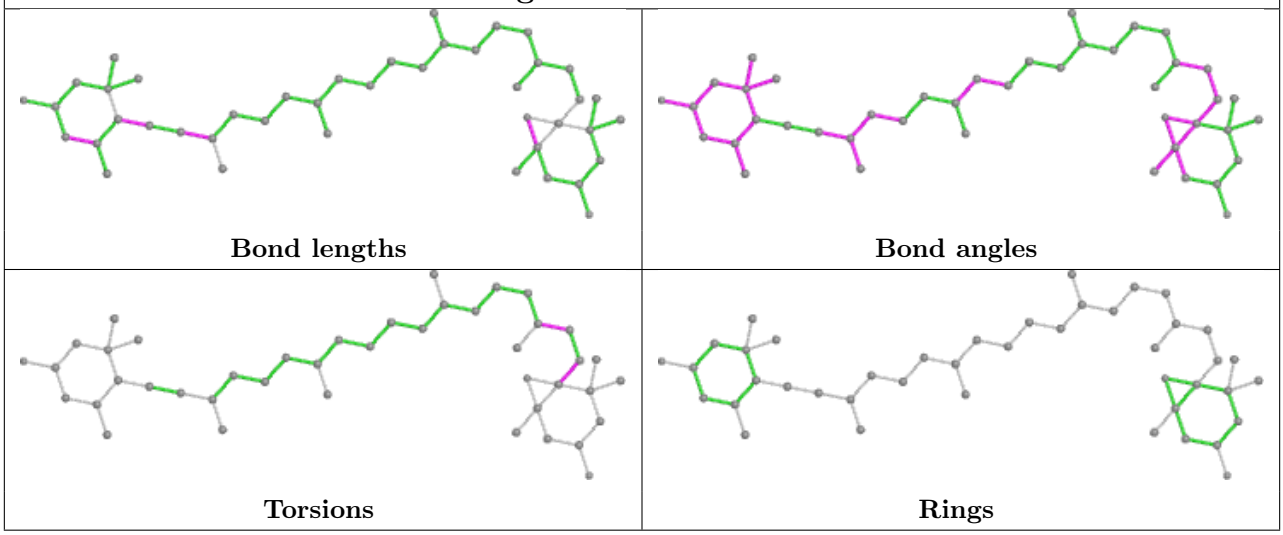


Rings

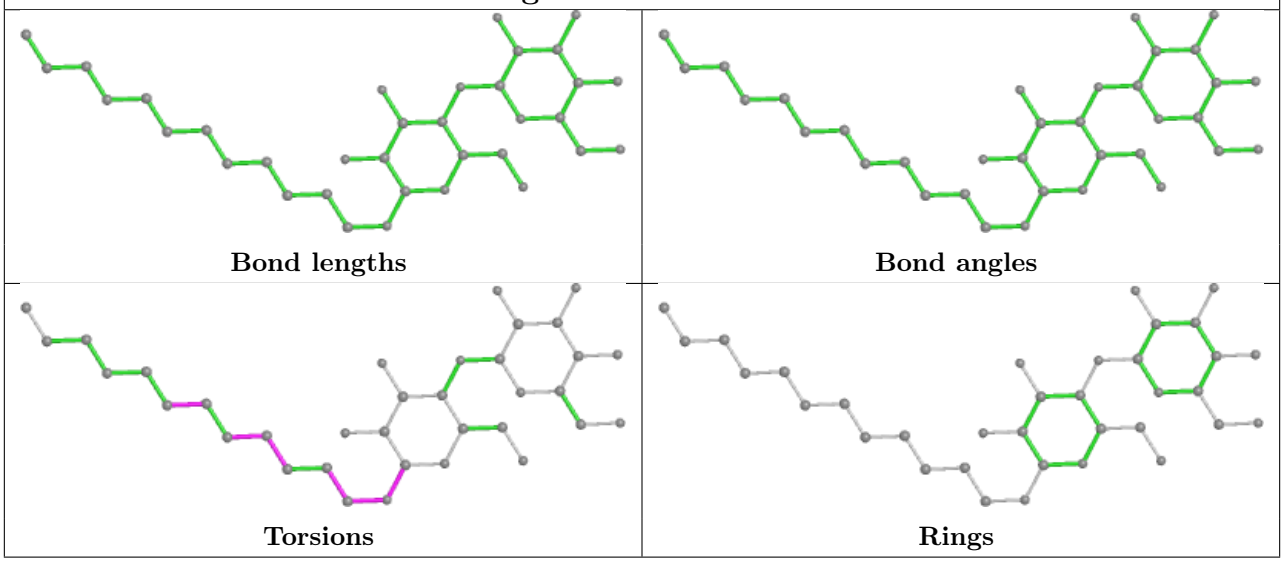
Ligand DD6 o 621



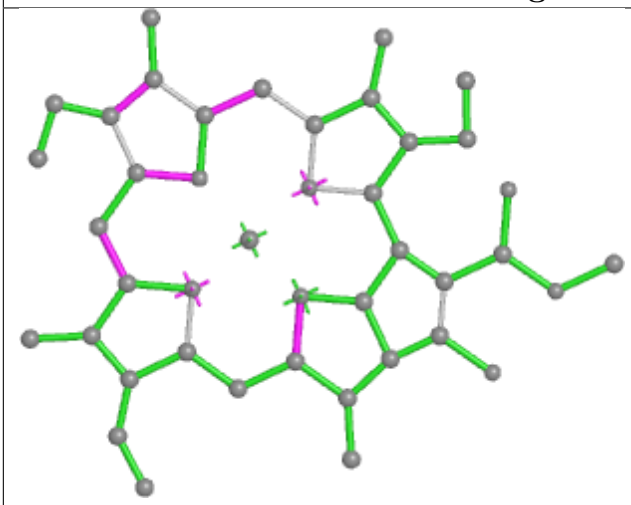
Ligand DD6 A 4002



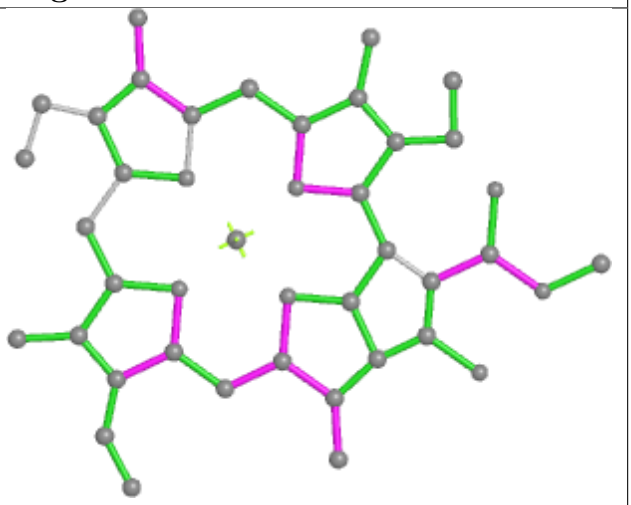
Ligand LMT A 754



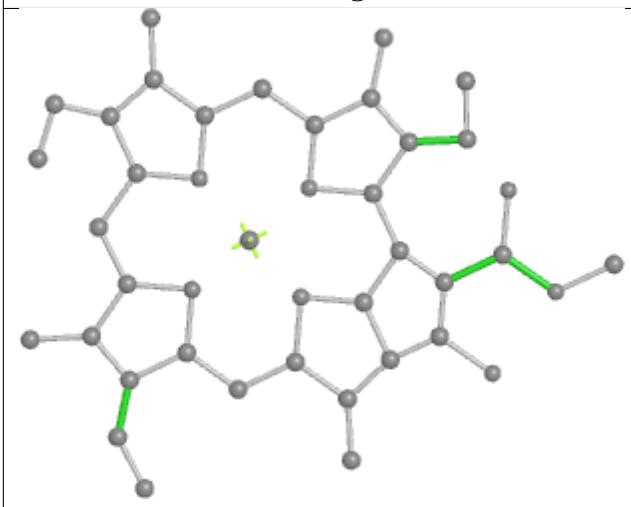
Ligand CLA g 615



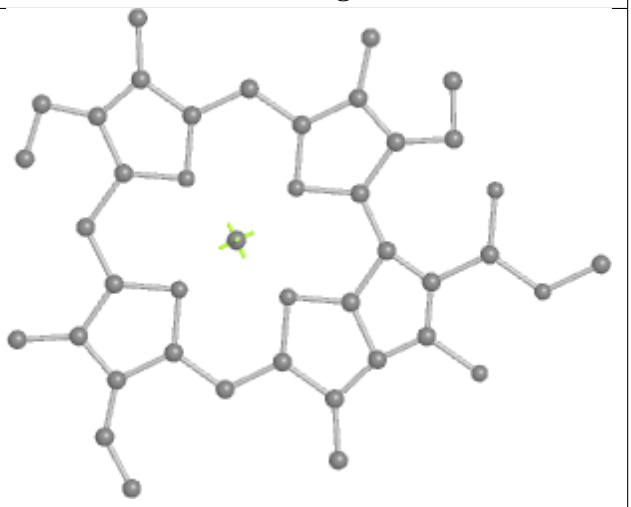
Bond lengths



Bond angles

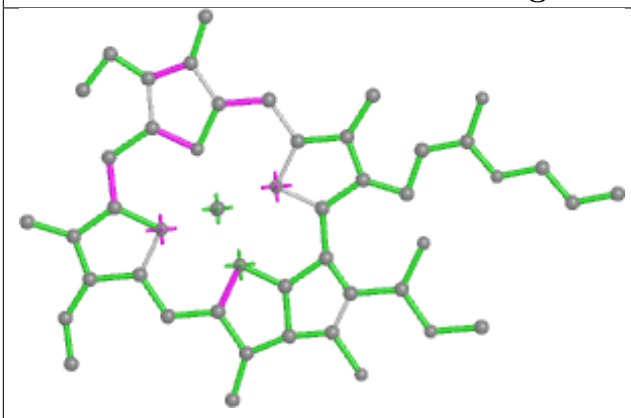


Torsions

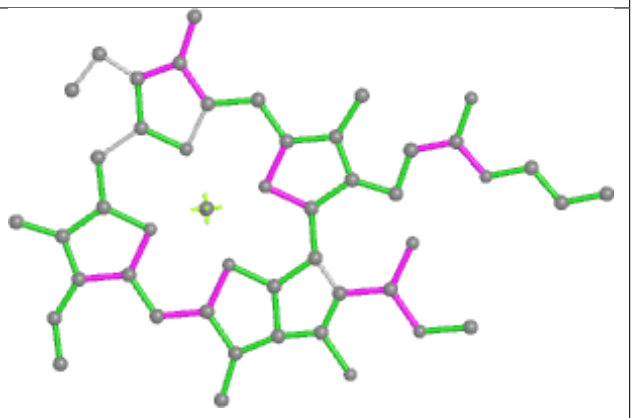


Rings

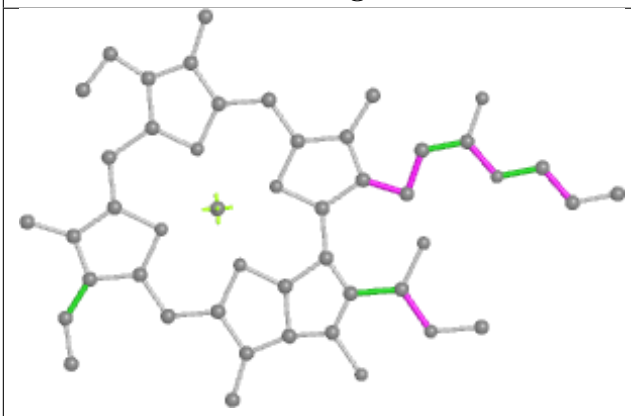
Ligand CLA e 608



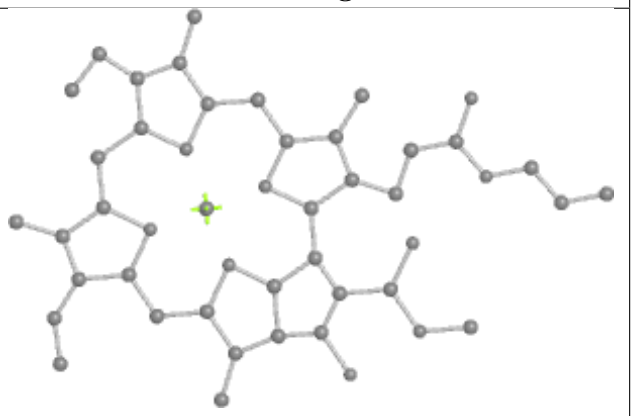
Bond lengths



Bond angles

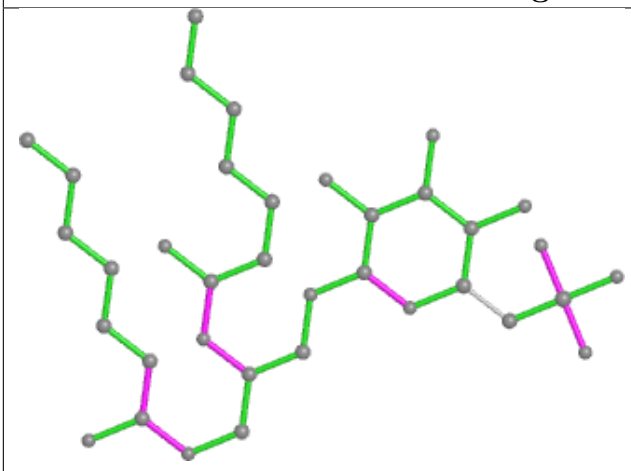


Torsions

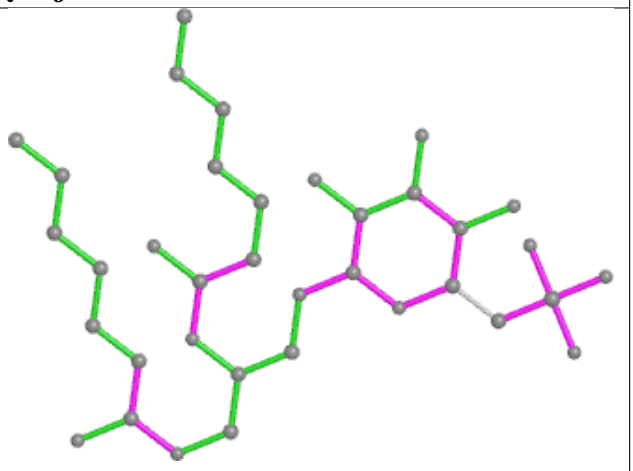


Rings

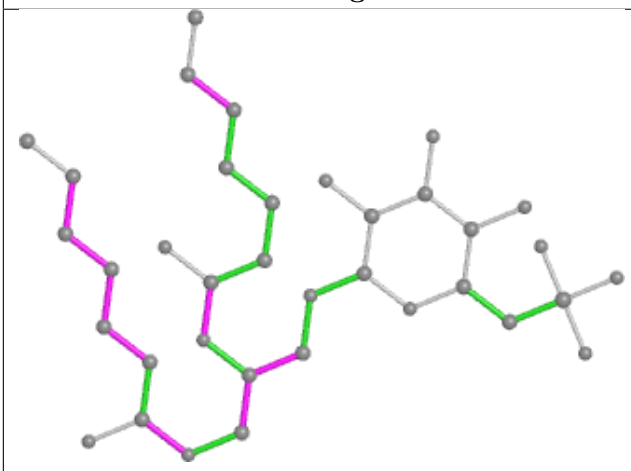
Ligand SQD j 200



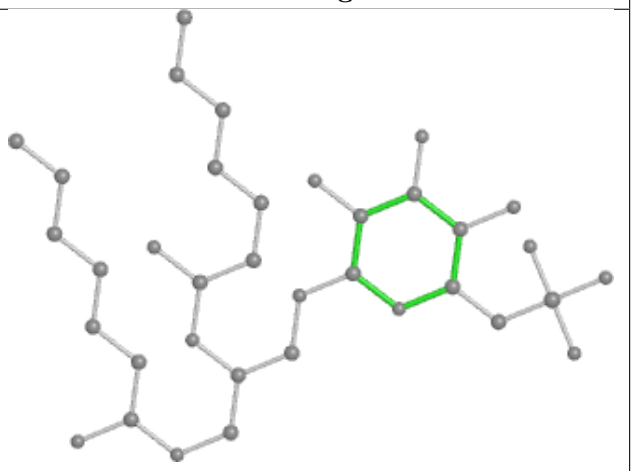
Bond lengths



Bond angles

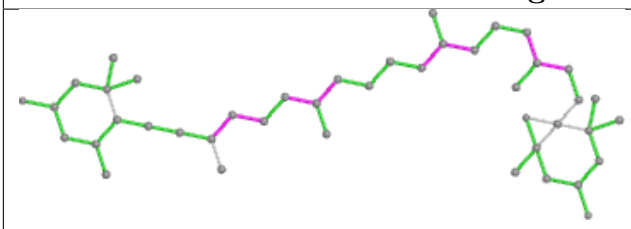


Torsions

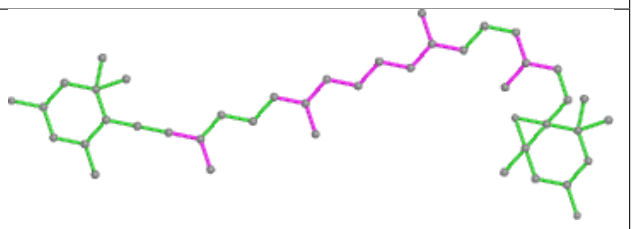


Rings

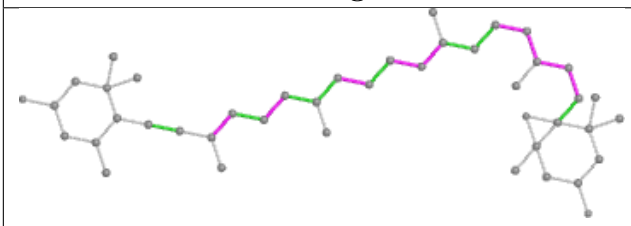
Ligand DD6 n 621



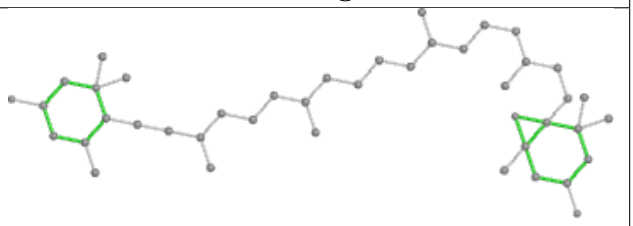
Bond lengths



Bond angles

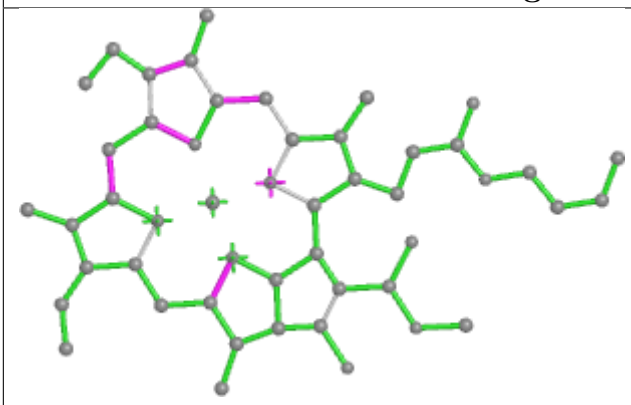


Torsions

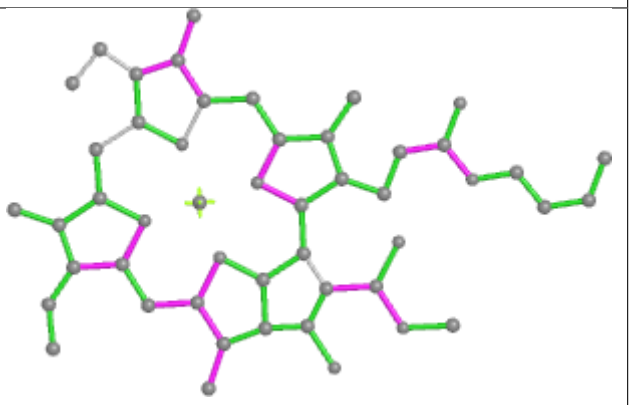


Rings

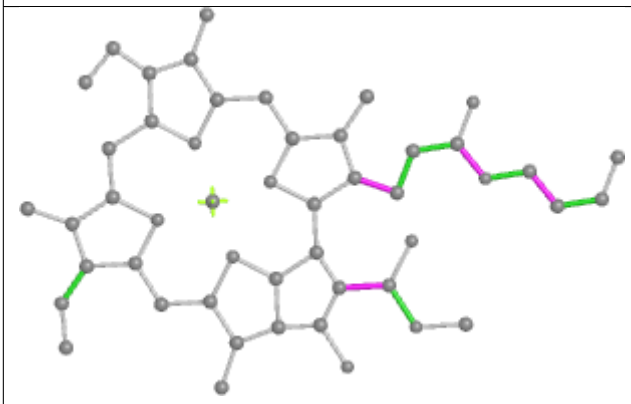
Ligand CLA A 797



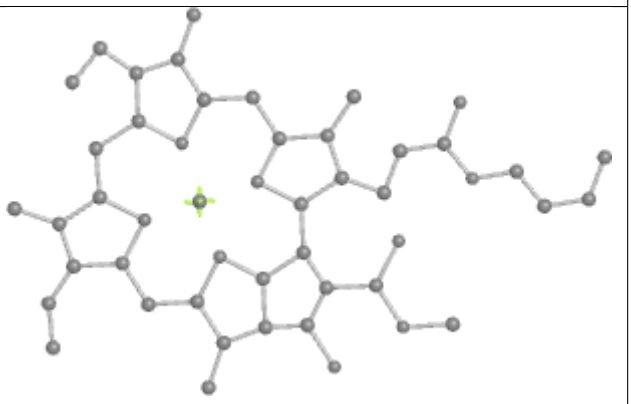
Bond lengths



Bond angles

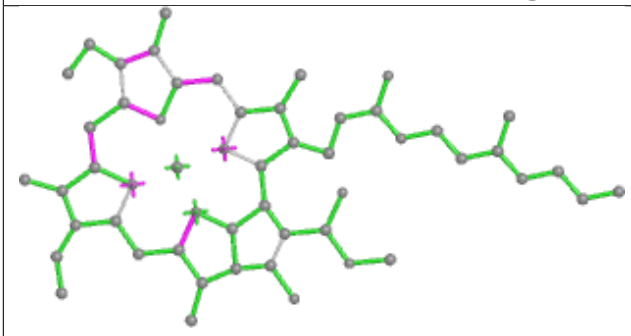


Torsions

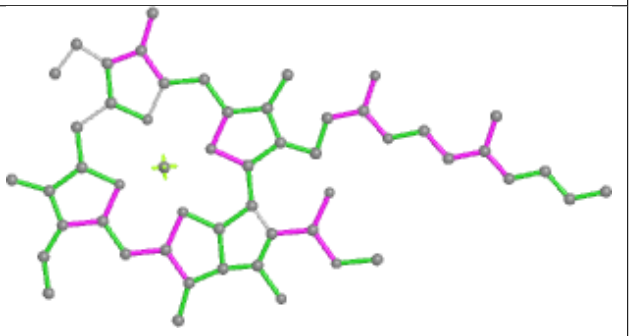


Rings

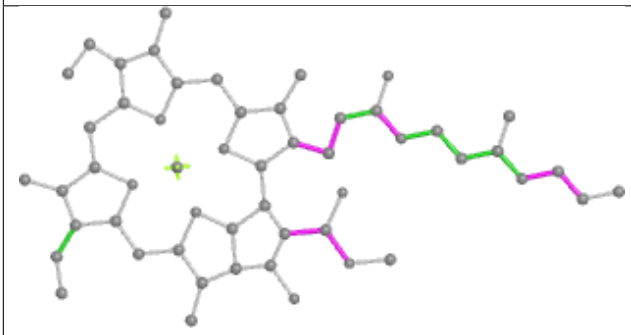
Ligand CLA A 808



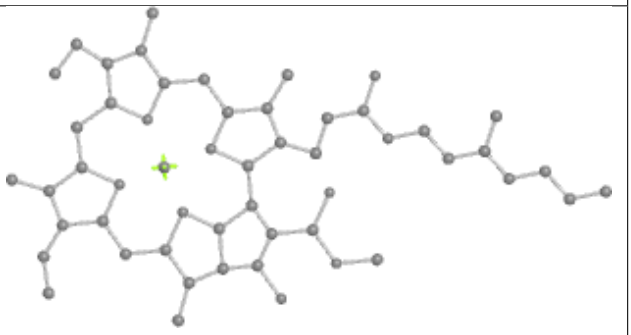
Bond lengths



Bond angles

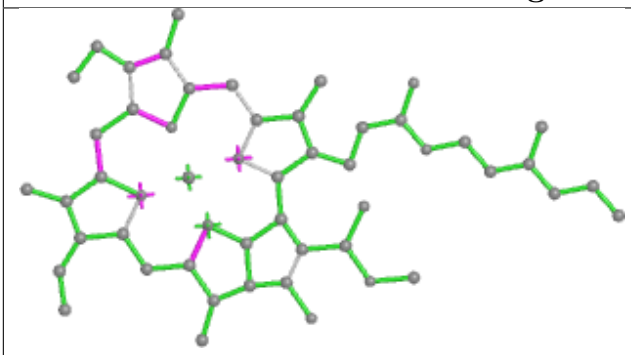


Torsions

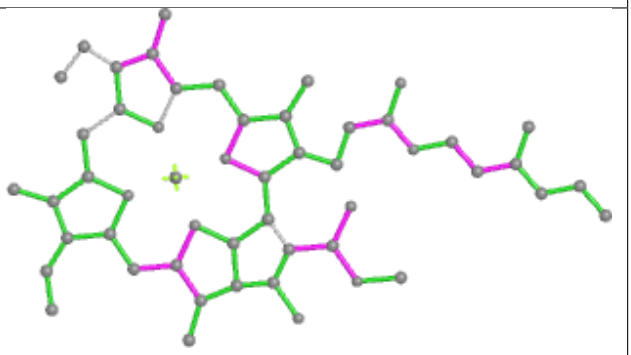


Rings

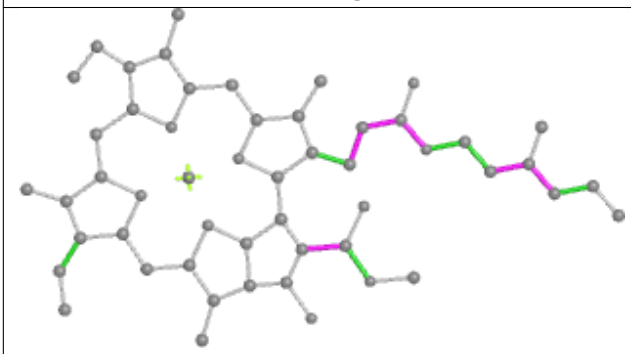
Ligand CLA b 612



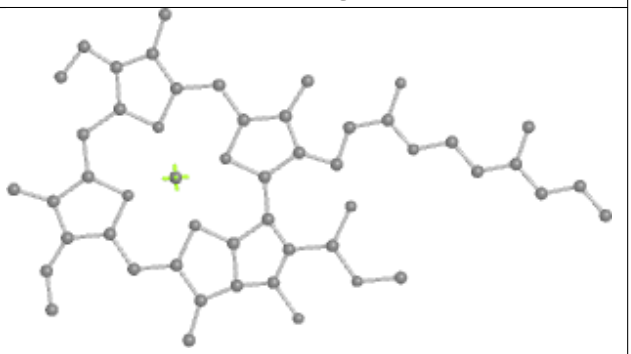
Bond lengths



Bond angles

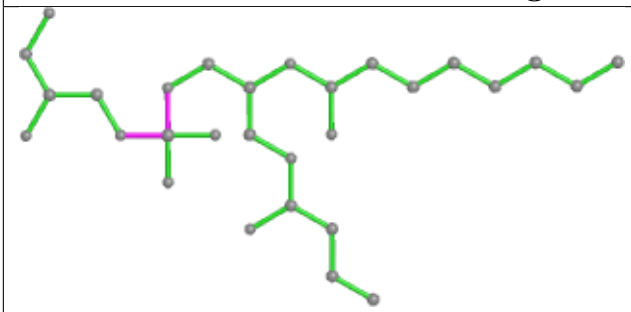


Torsions

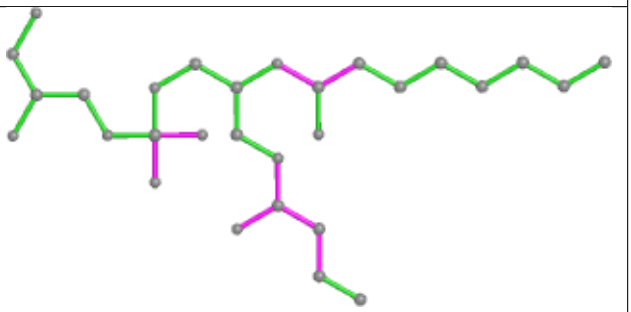


Rings

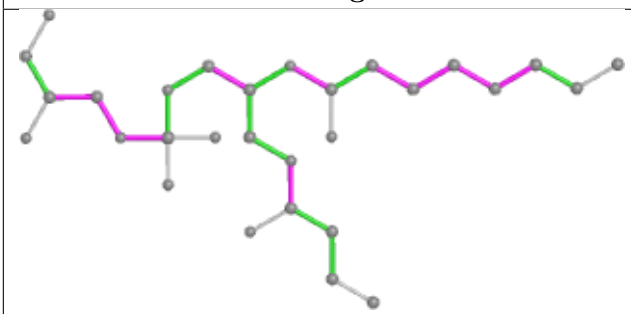
Ligand LHG d 237



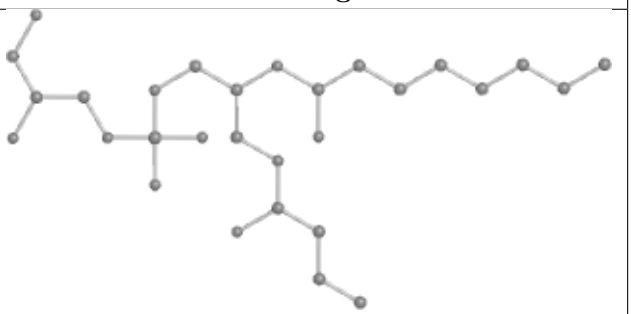
Bond lengths



Bond angles

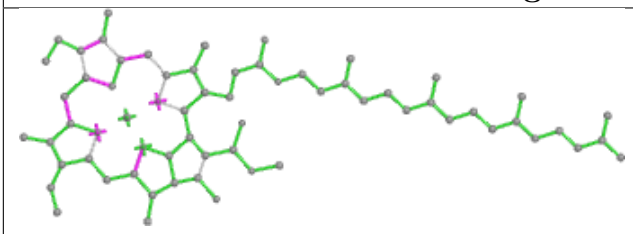


Torsions

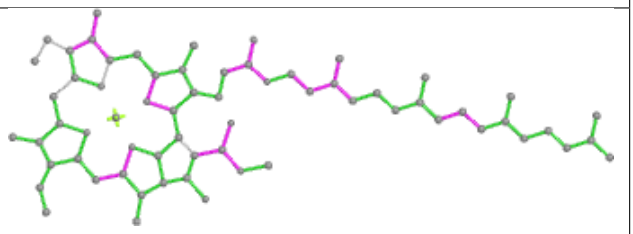


Rings

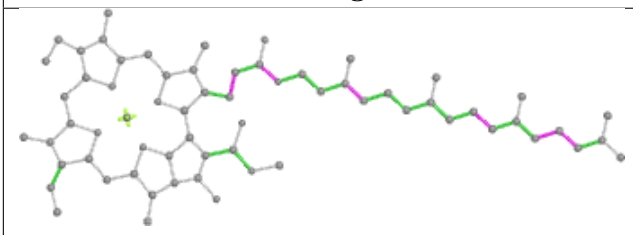
Ligand CLA A 776



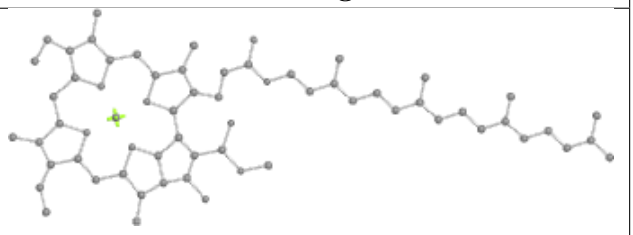
Bond lengths



Bond angles

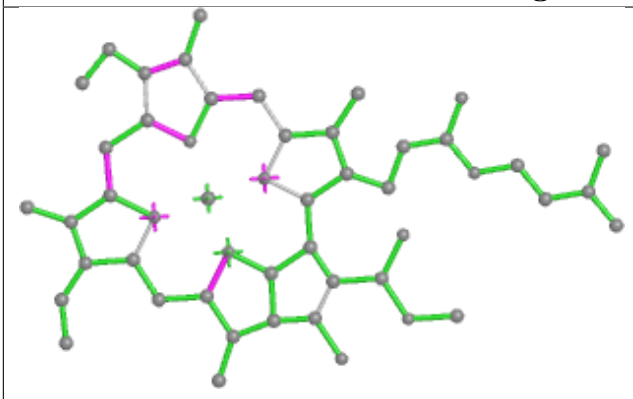


Torsions

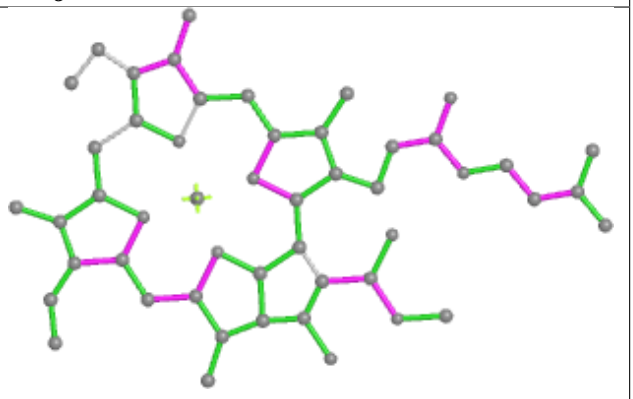


Rings

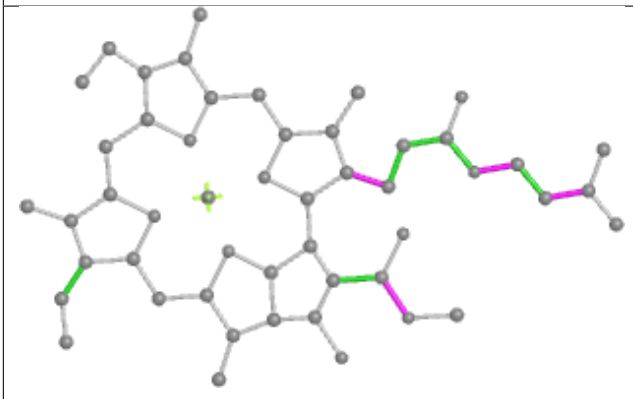
Ligand CLA j 611



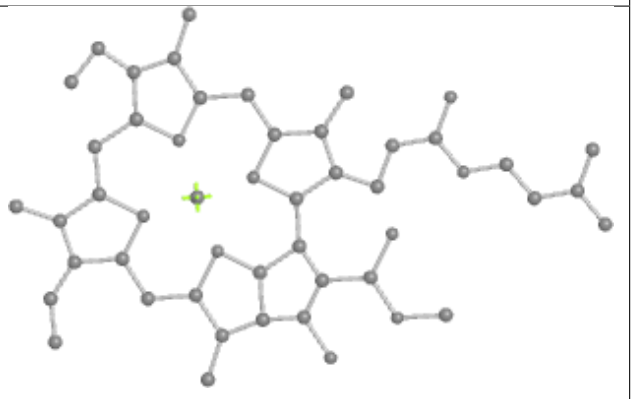
Bond lengths



Bond angles

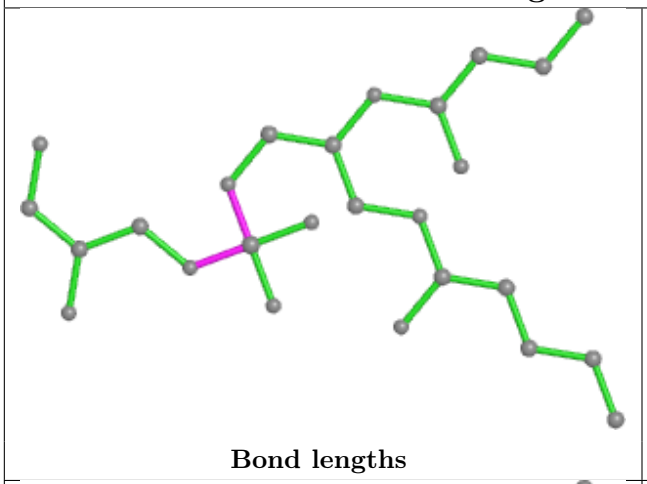


Torsions

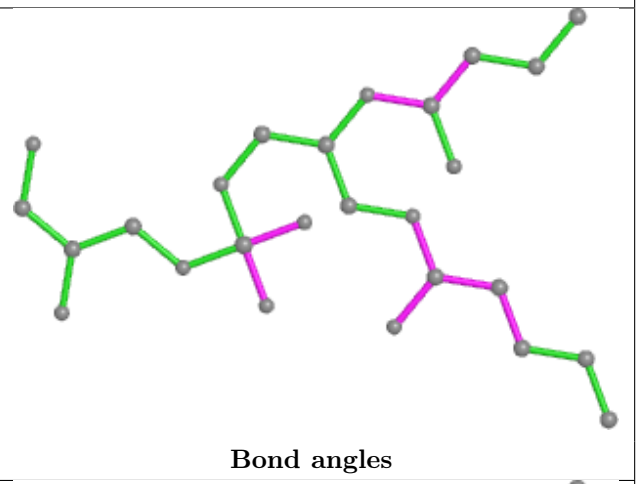


Rings

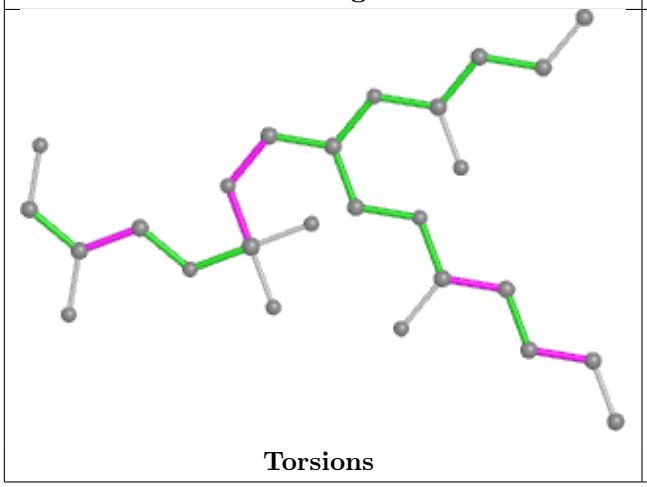
Ligand LHG a 181



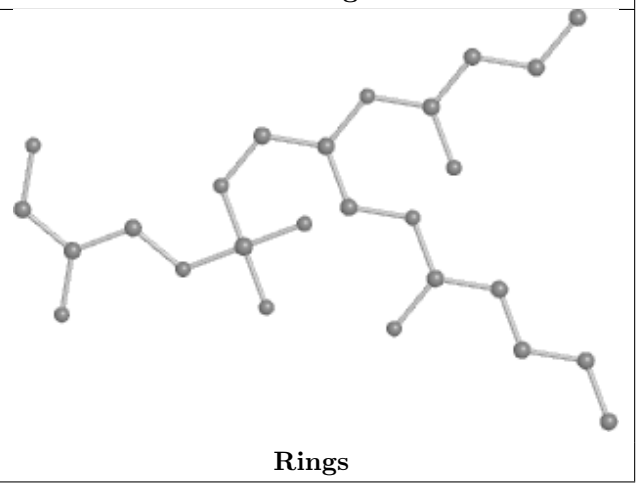
Bond lengths



Bond angles

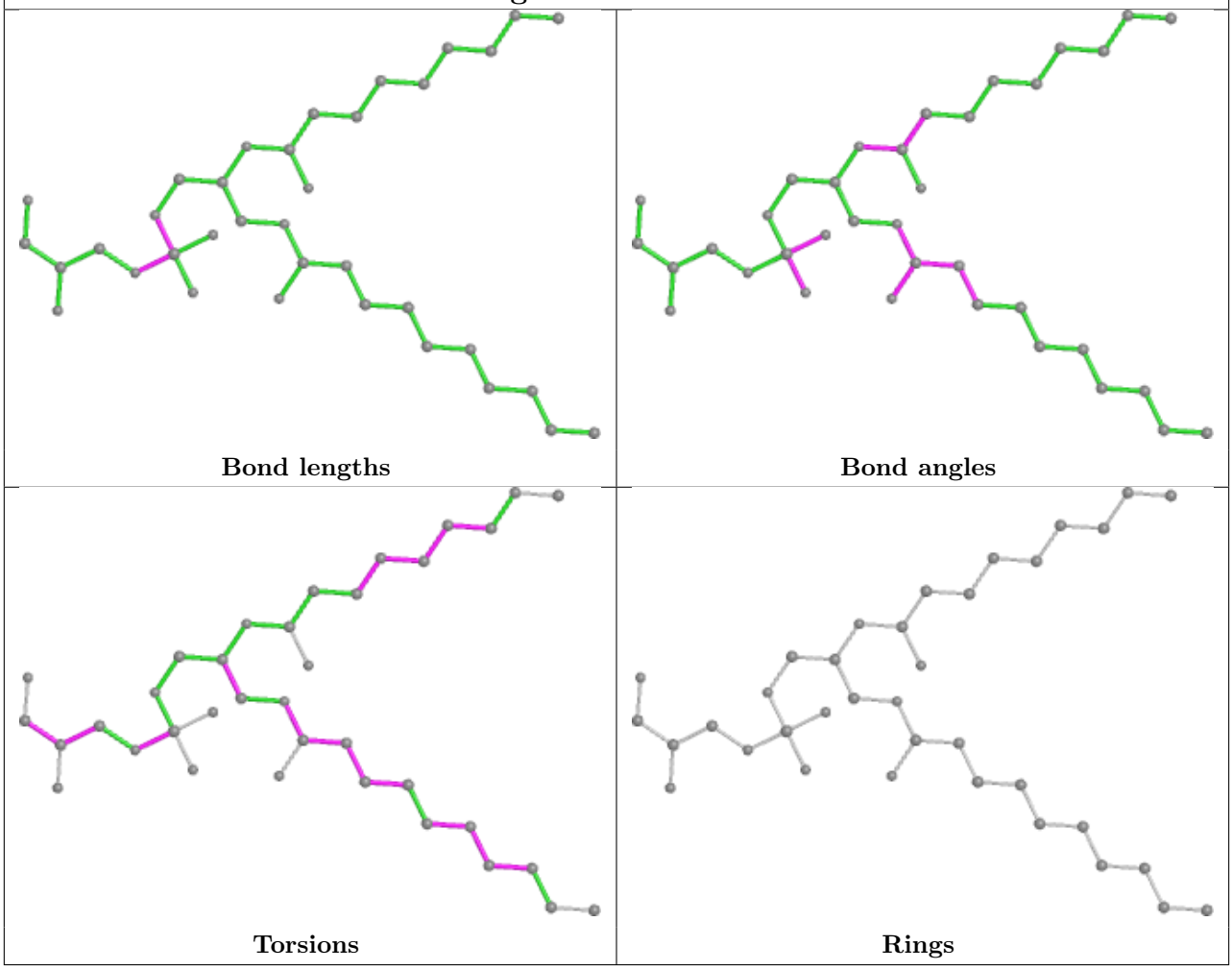


Torsions

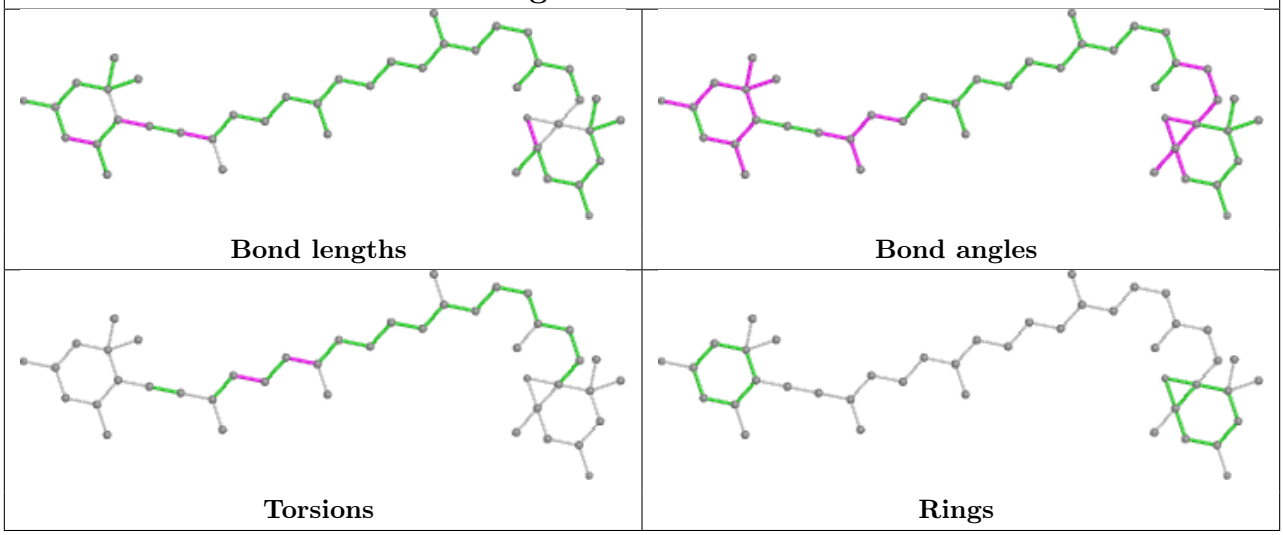


Rings

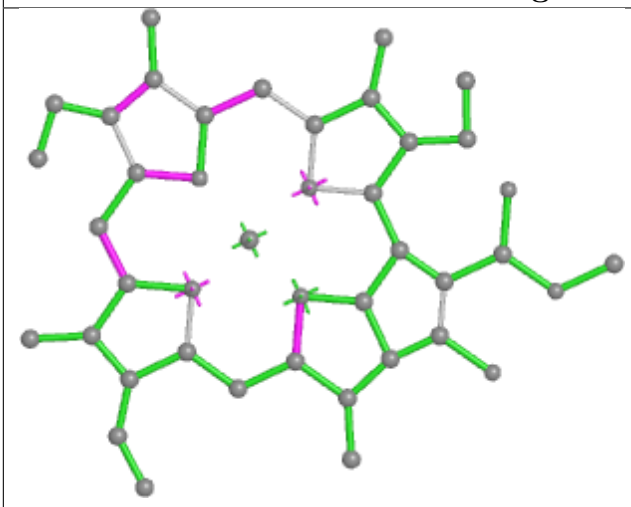
Ligand LHG i 194



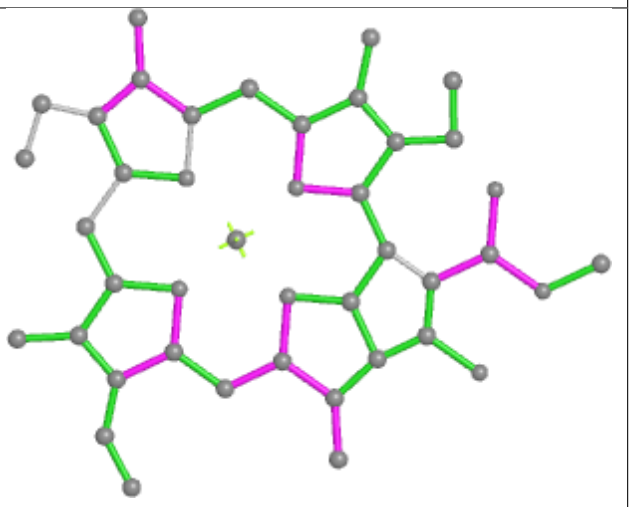
Ligand DD6 k 621



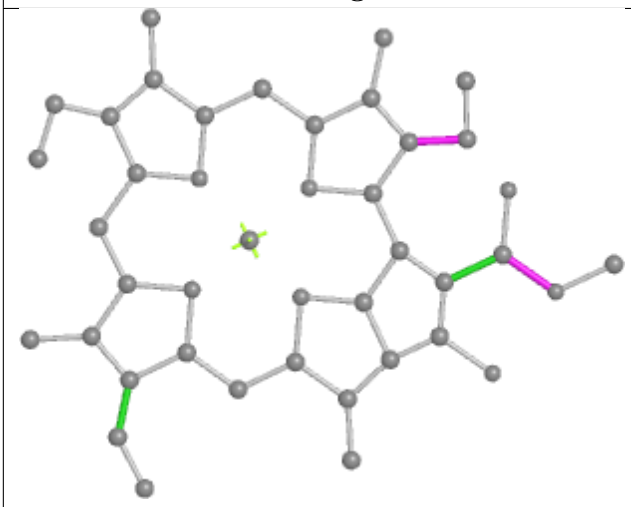
Ligand CLA f 609



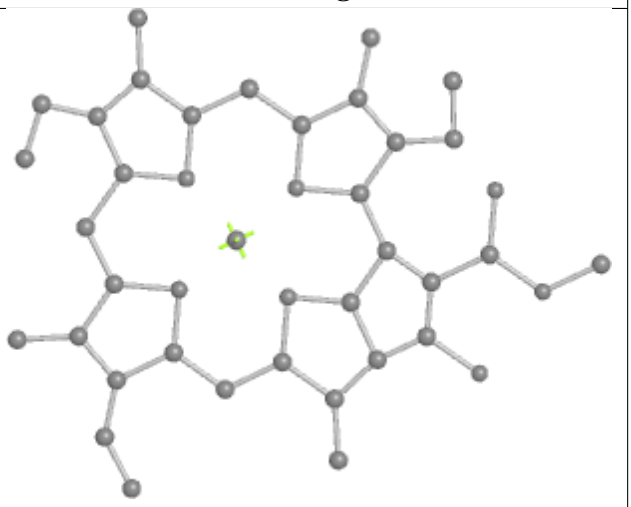
Bond lengths



Bond angles

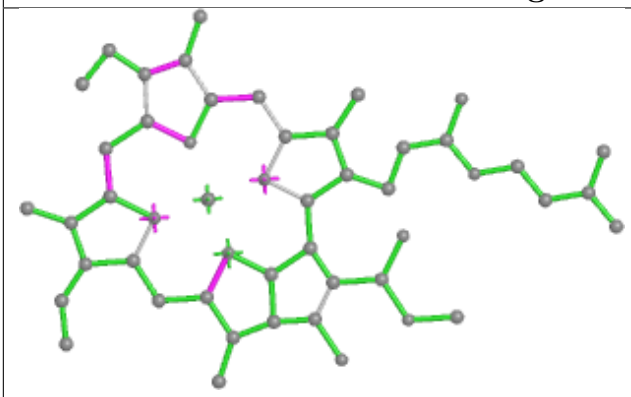


Torsions

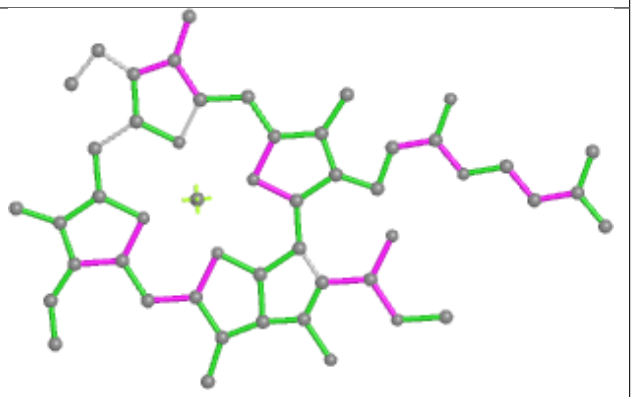


Rings

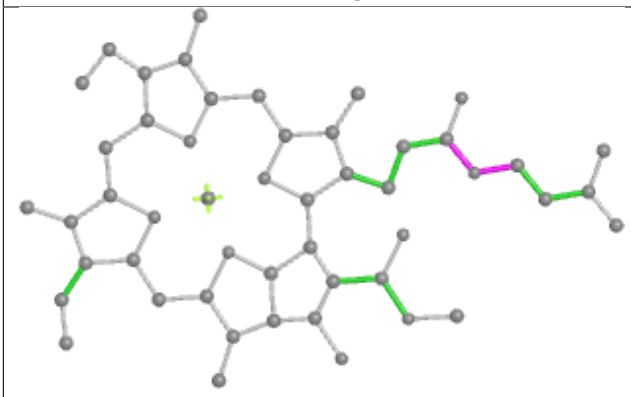
Ligand CLA k 618



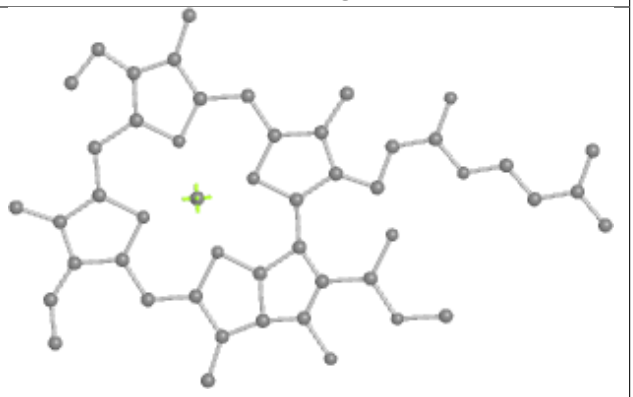
Bond lengths



Bond angles

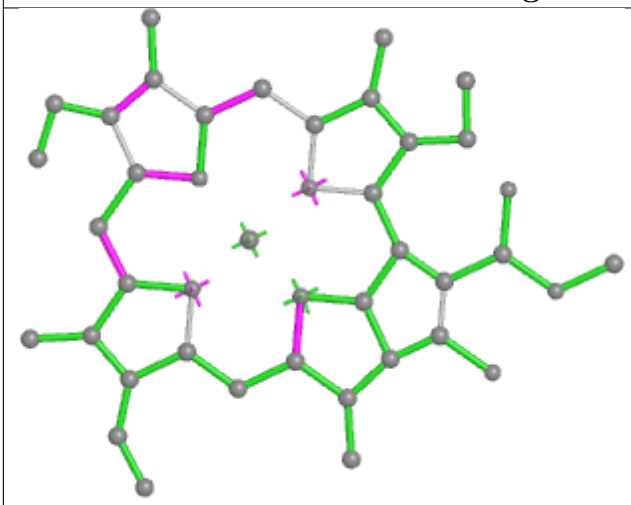


Torsions

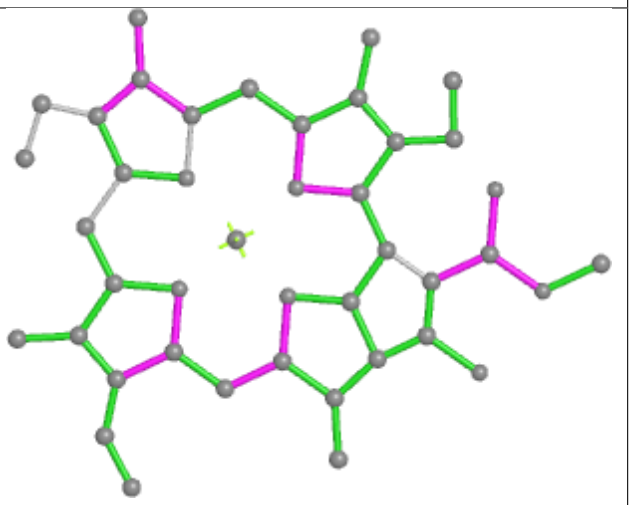


Rings

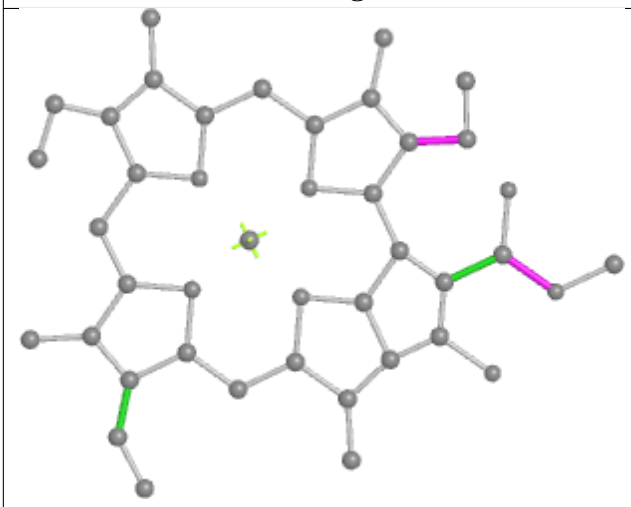
Ligand CLA m 610



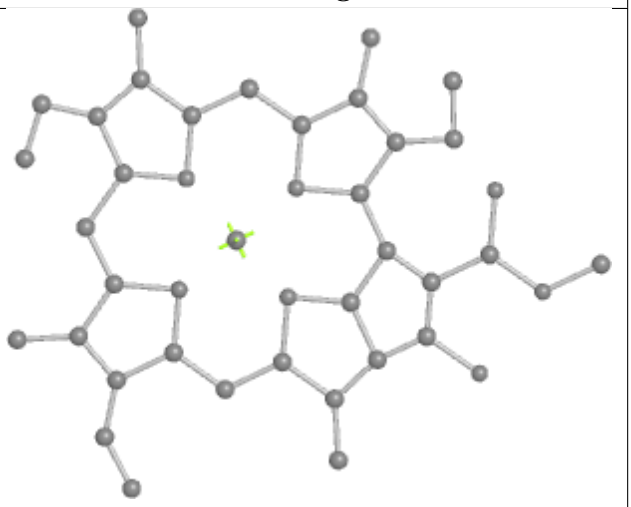
Bond lengths



Bond angles

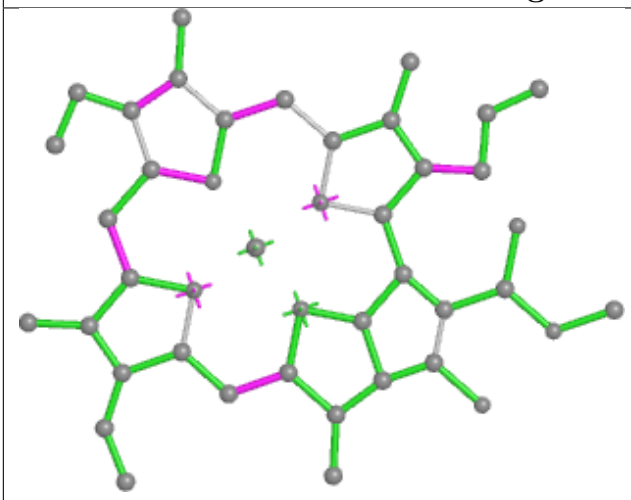


Torsions

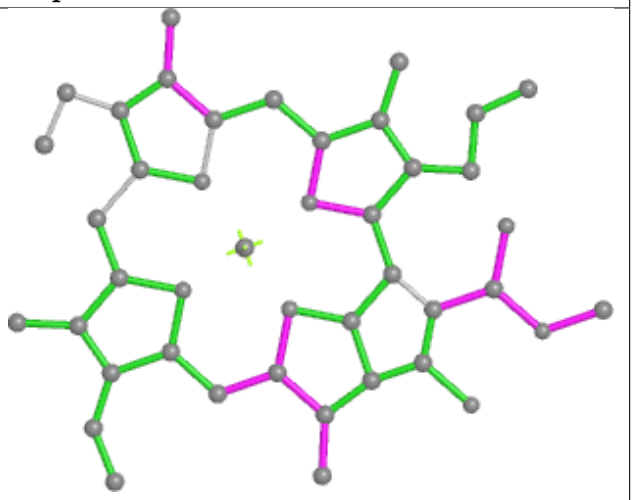


Rings

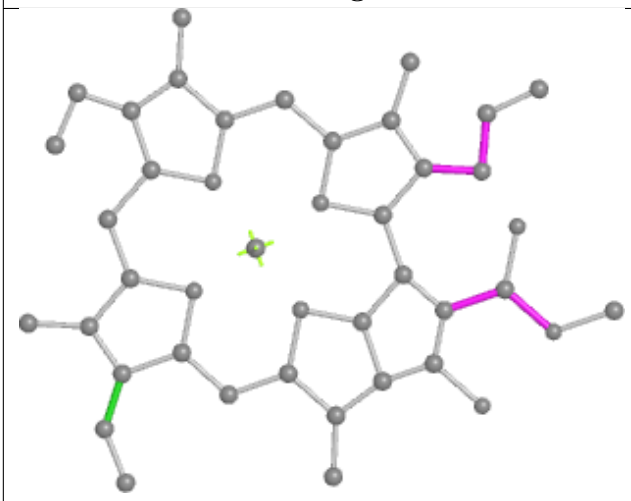
Ligand CLA p 602



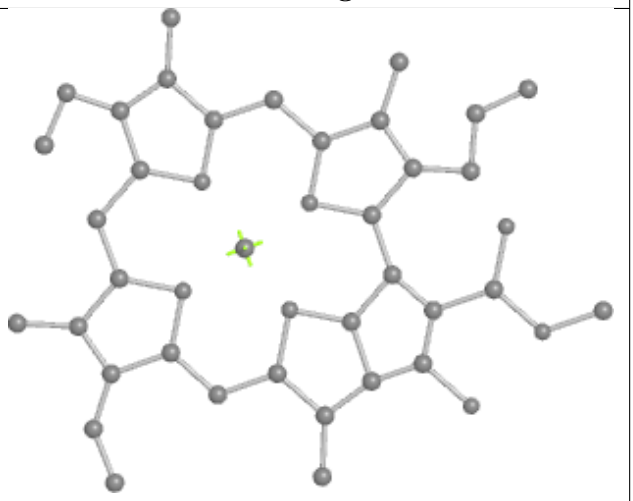
Bond lengths



Bond angles

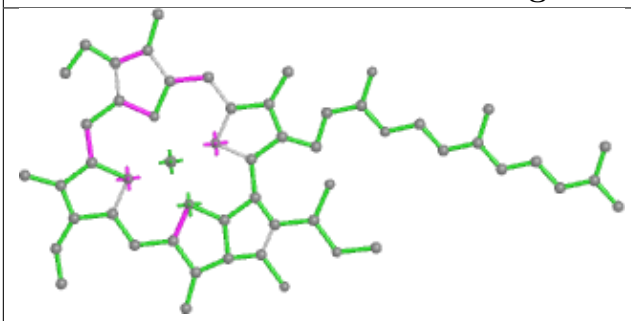


Torsions

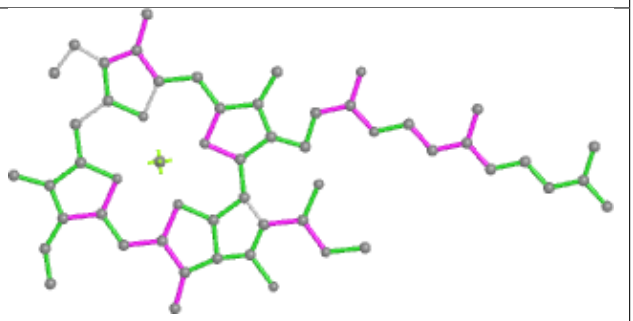


Rings

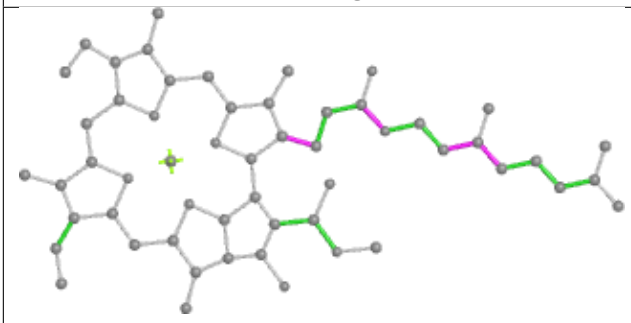
Ligand CLA e 610



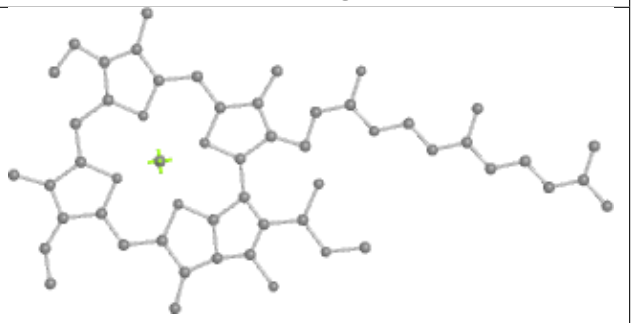
Bond lengths



Bond angles

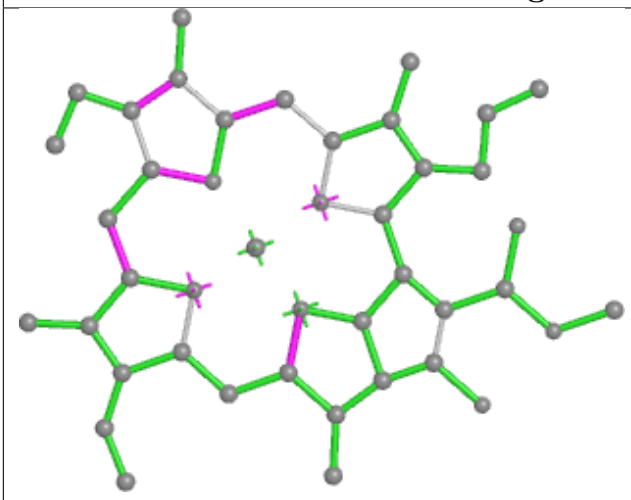


Torsions

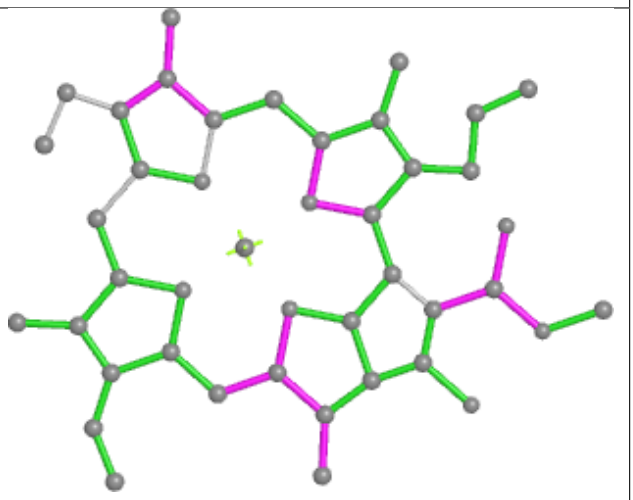


Rings

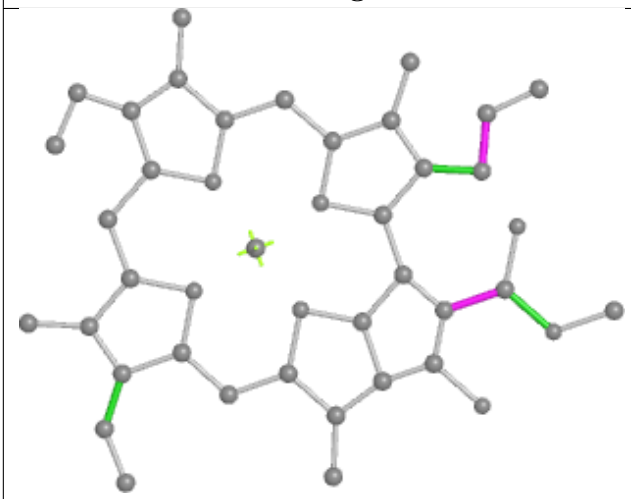
Ligand CLA k 612



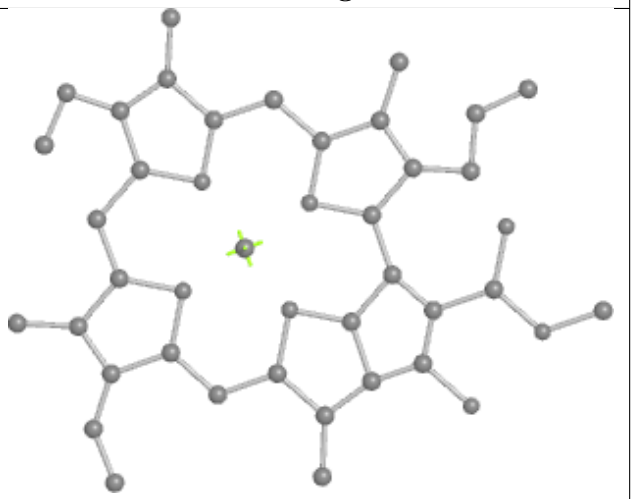
Bond lengths



Bond angles

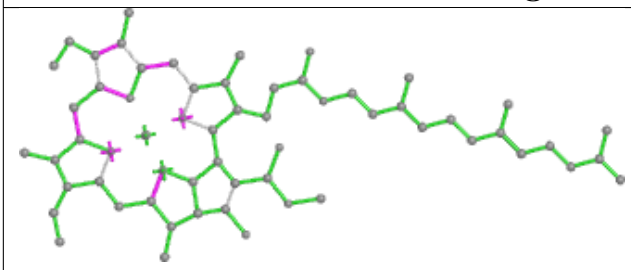


Torsions

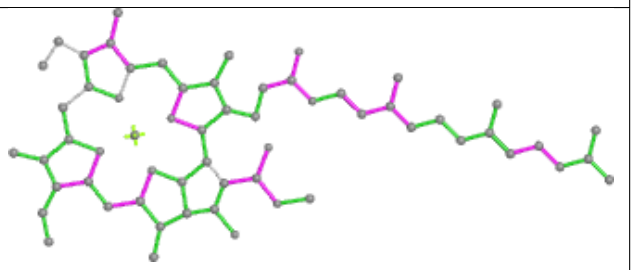


Rings

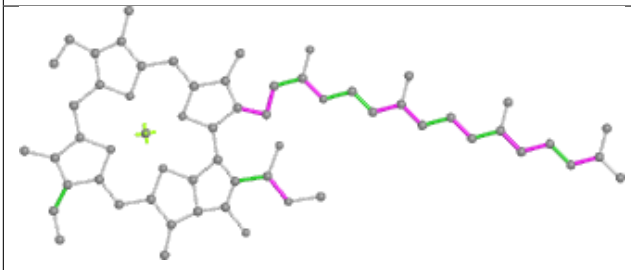
Ligand CLA B 755



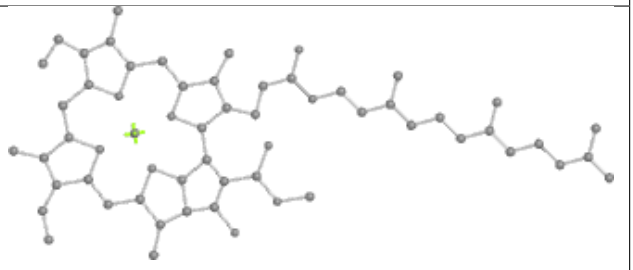
Bond lengths



Bond angles

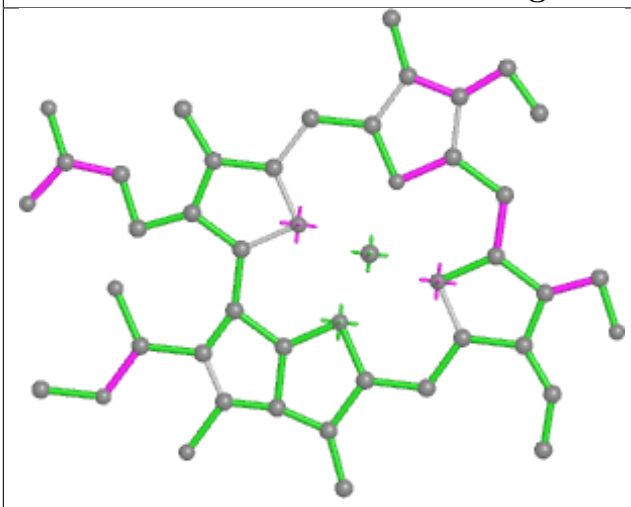


Torsions

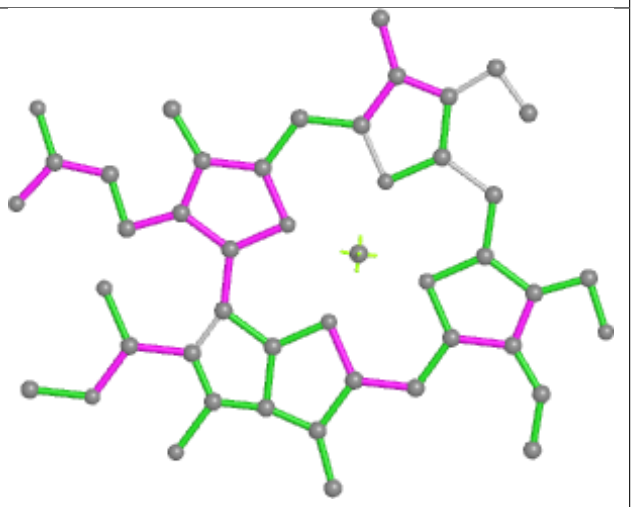


Rings

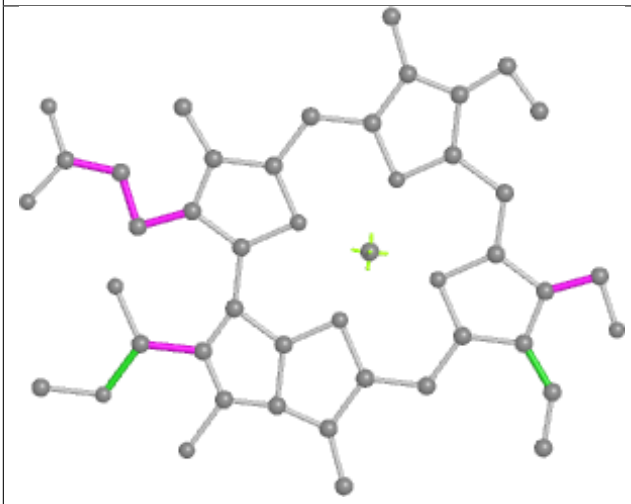
Ligand CHL e 606



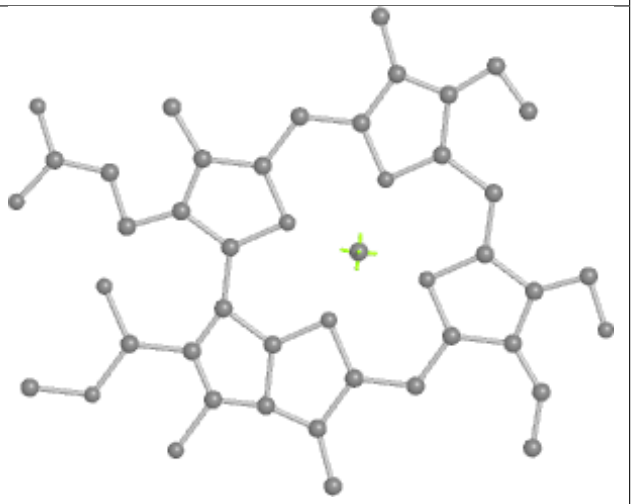
Bond lengths



Bond angles

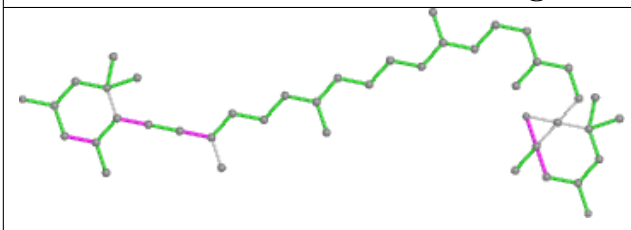


Torsions

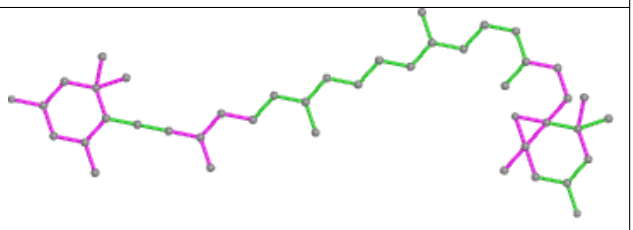


Rings

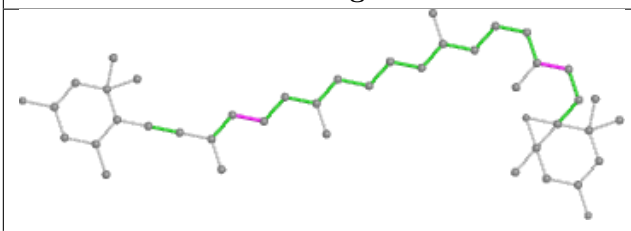
Ligand DD6 d 621



Bond lengths



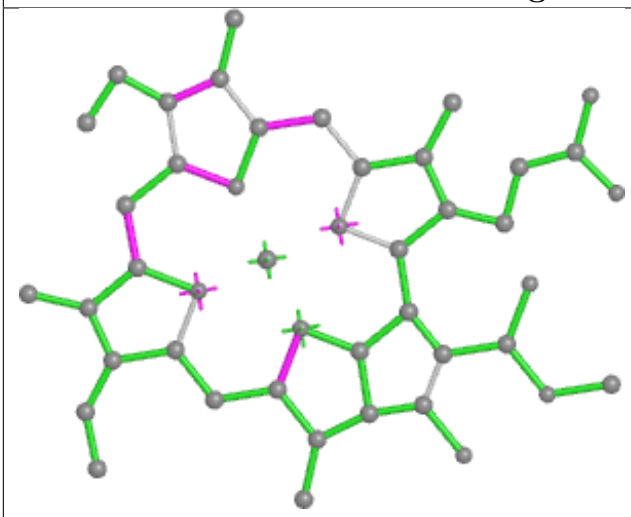
Bond angles



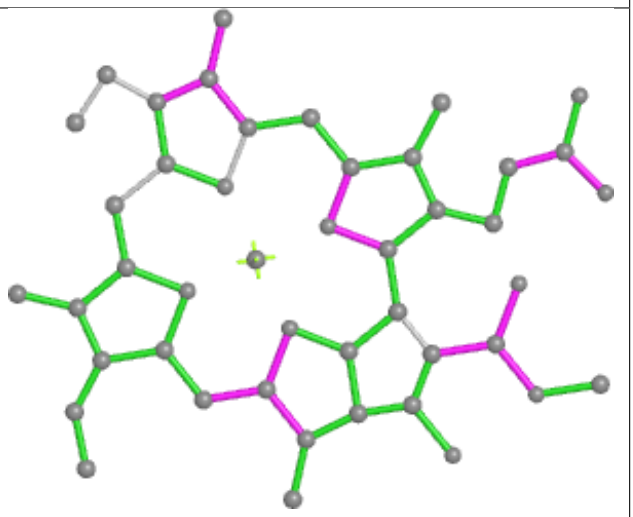
Torsions

Rings

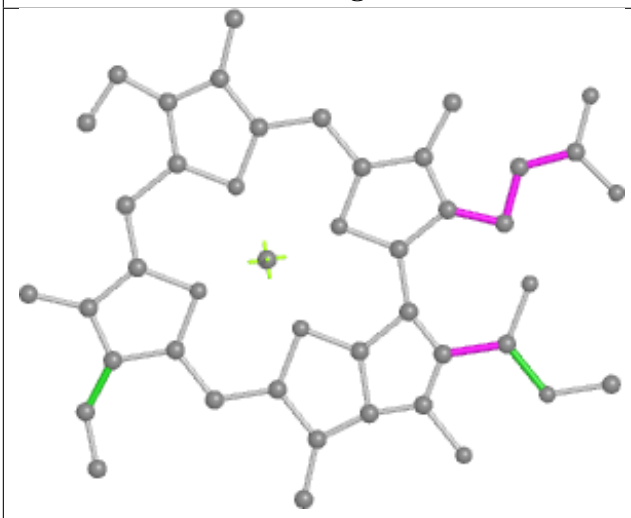
Ligand CLA a 611



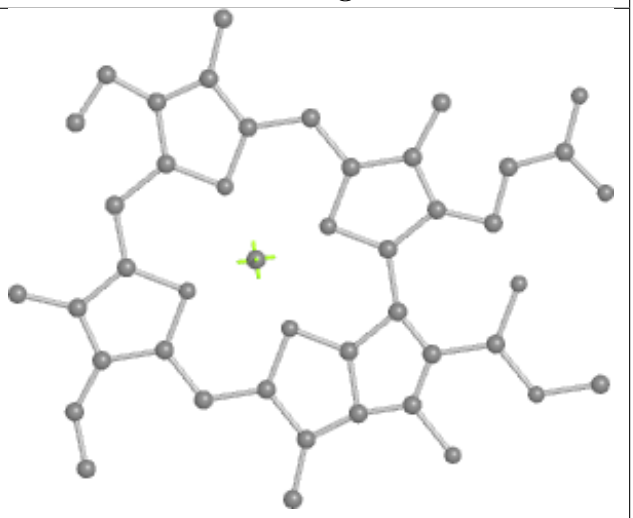
Bond lengths



Bond angles

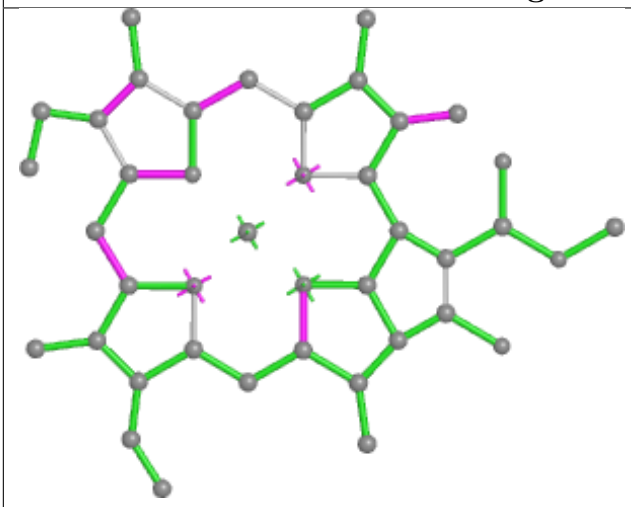


Torsions

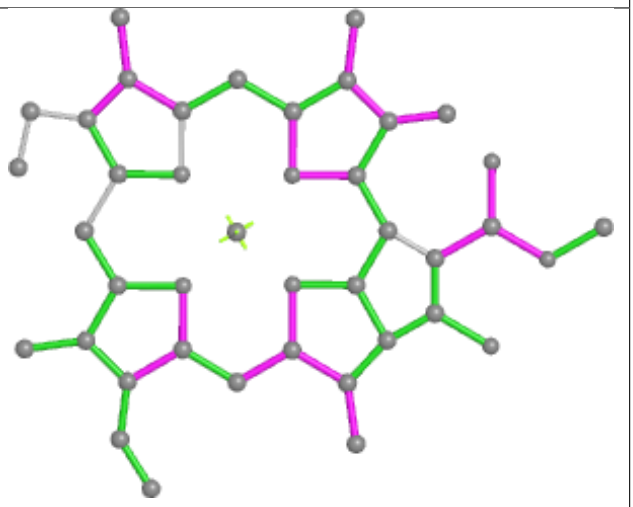


Rings

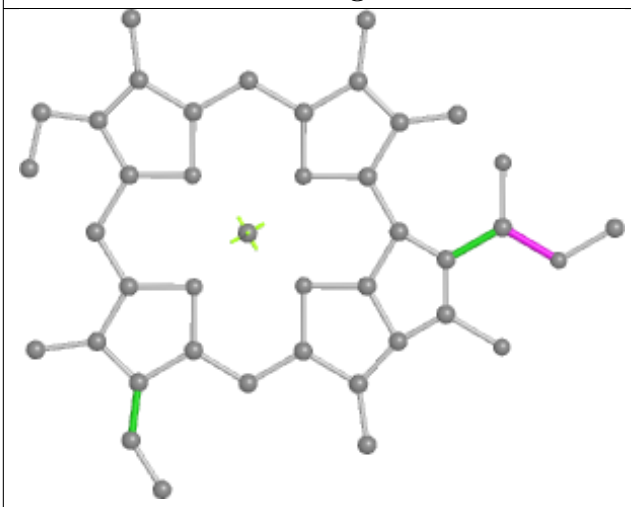
Ligand CLA n 608



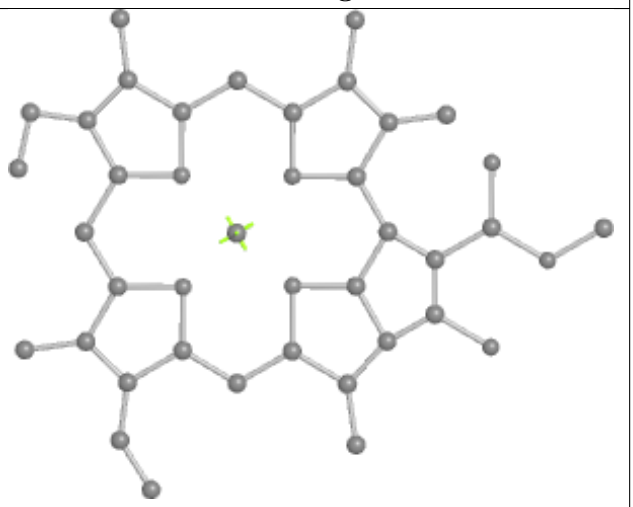
Bond lengths



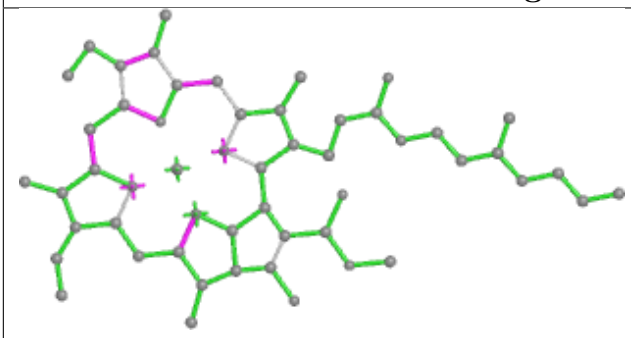
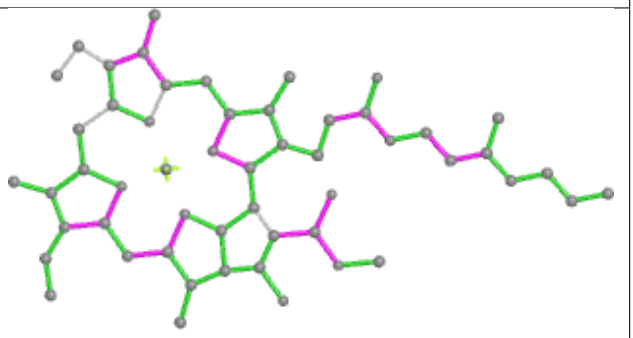
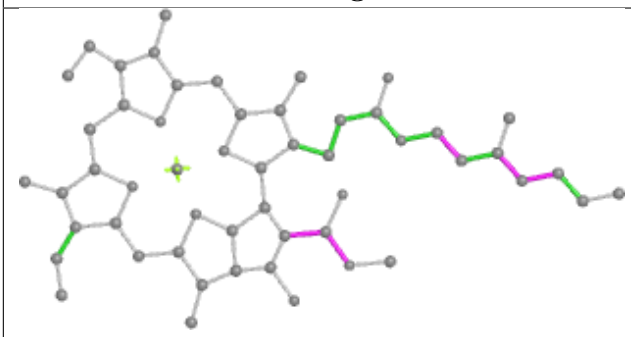
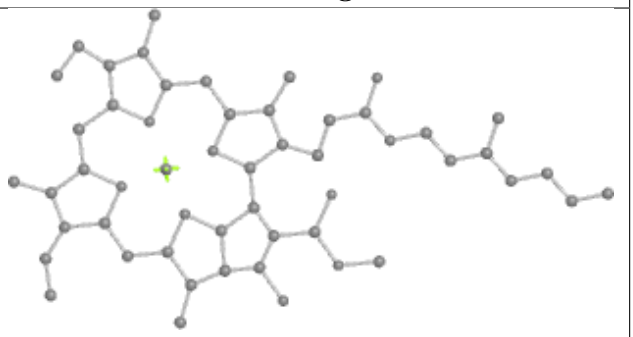
Bond angles

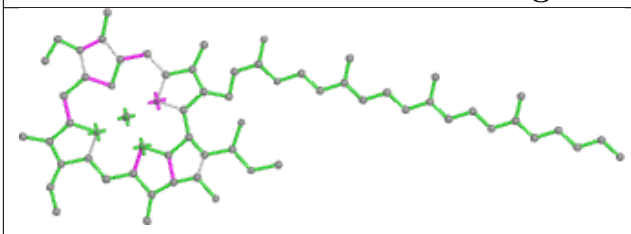
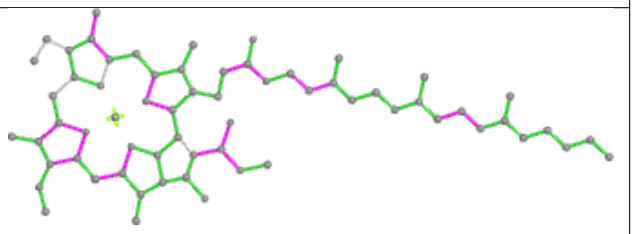
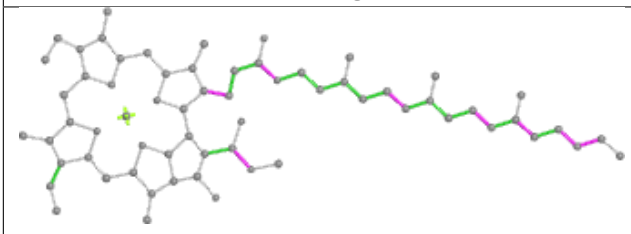
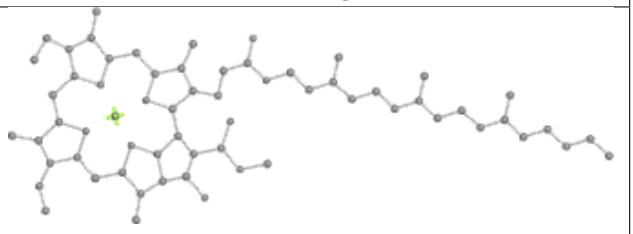


Torsions

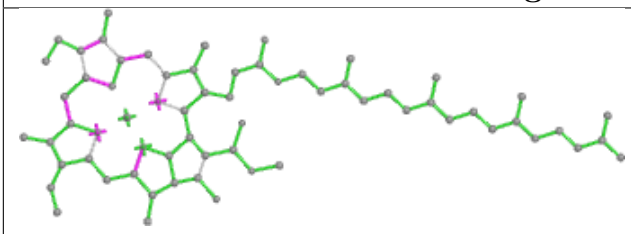


Rings

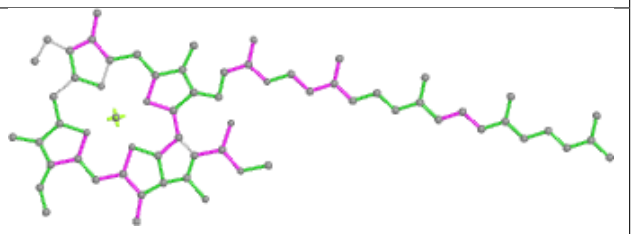
Ligand CLA B 780	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA i 602	
 Bond lengths	 Bond angles
 Torsions	 Rings

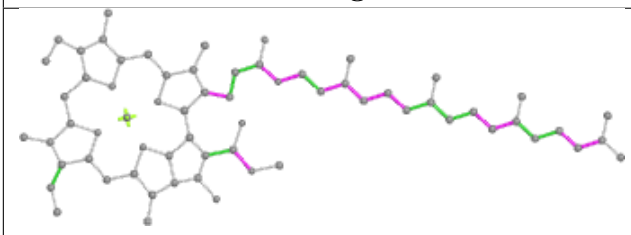
Ligand CLA B 779



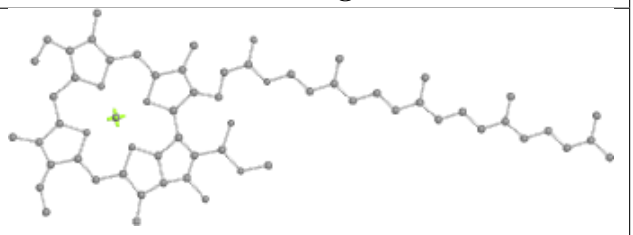
Bond lengths



Bond angles

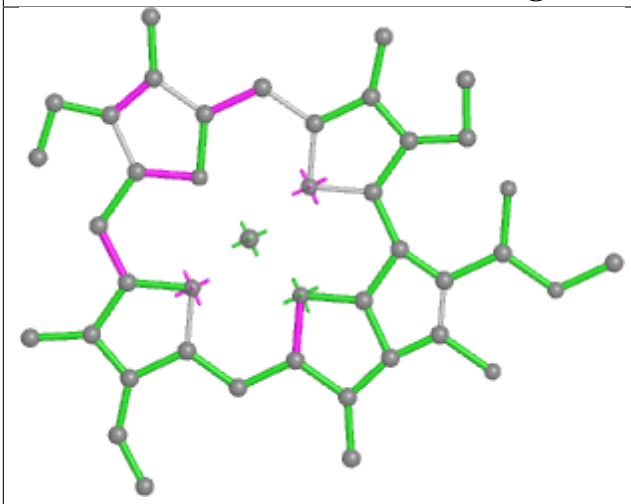


Torsions

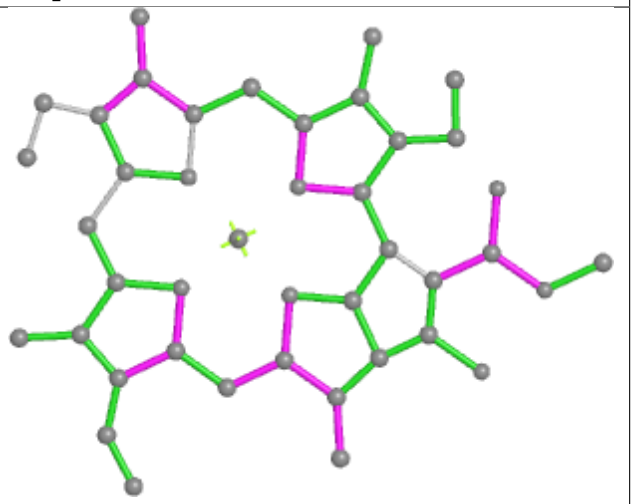


Rings

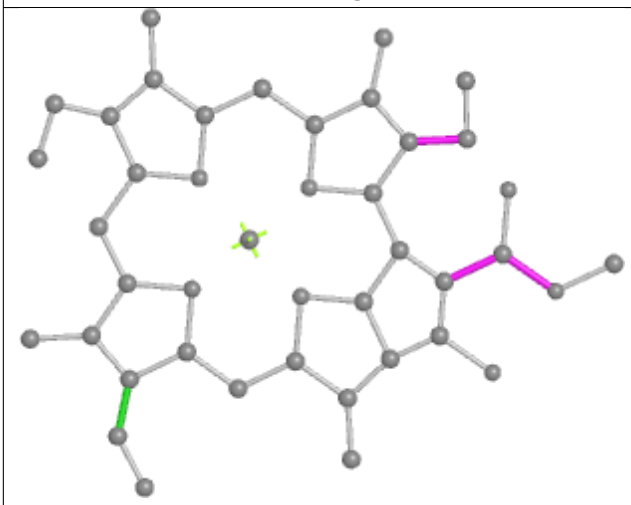
Ligand CLA p 608



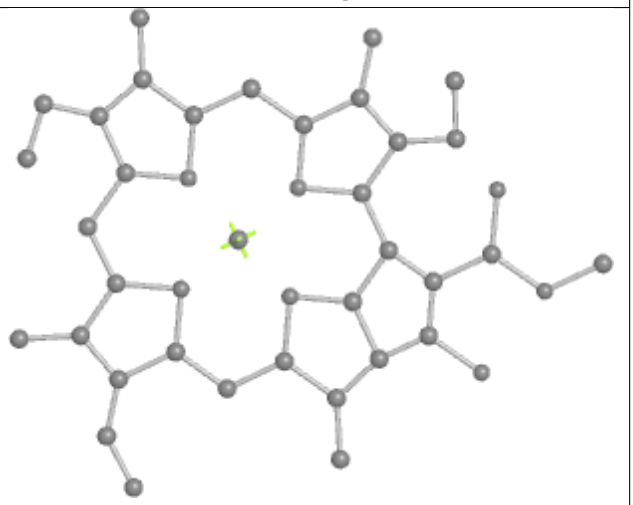
Bond lengths



Bond angles

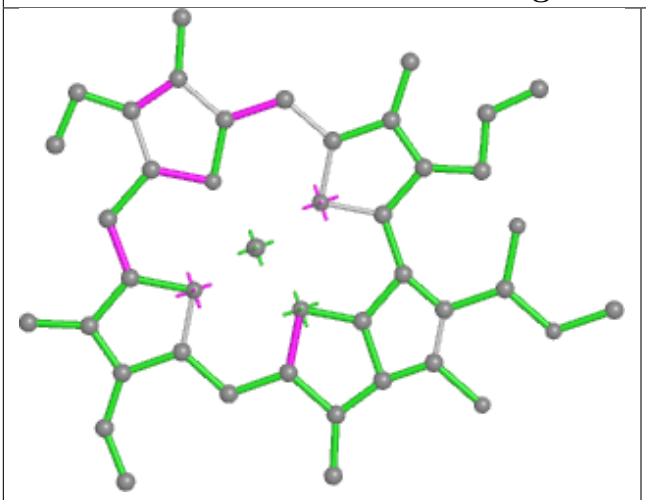


Torsions

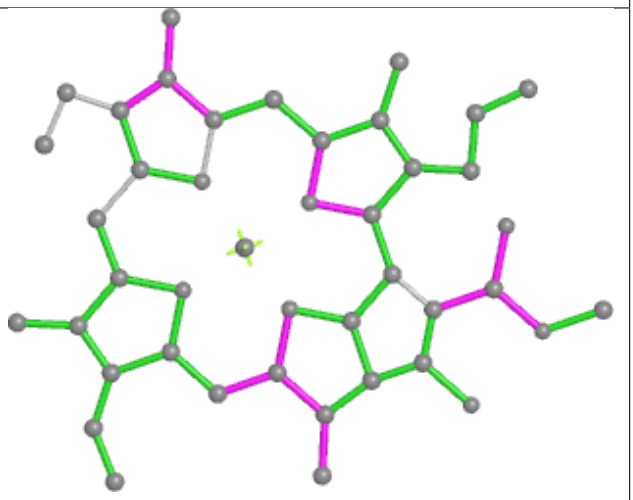


Rings

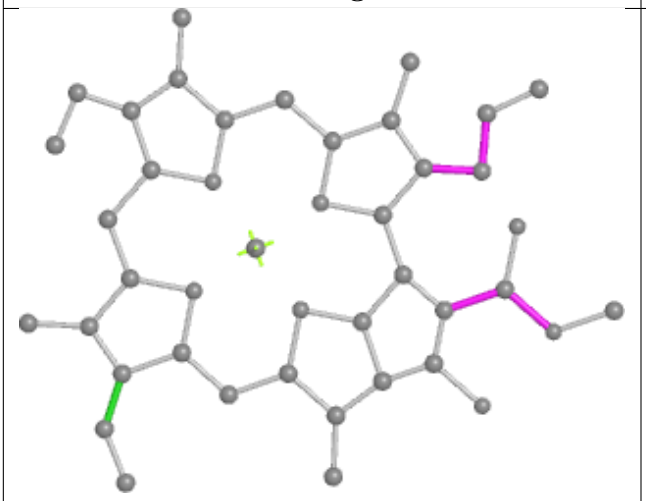
Ligand CLA l 612



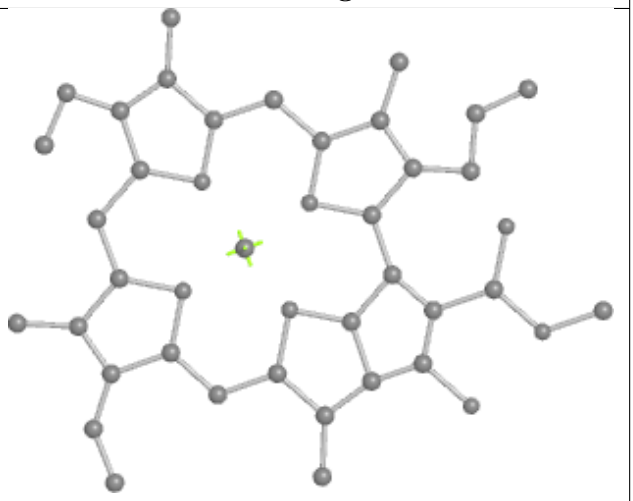
Bond lengths



Bond angles

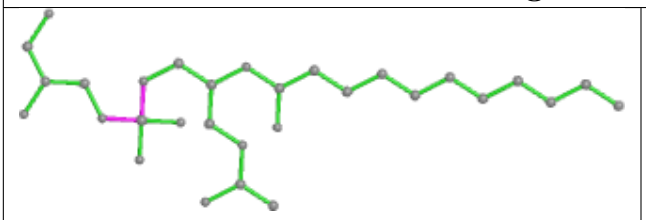


Torsions

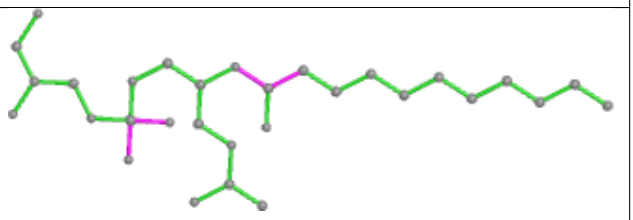


Rings

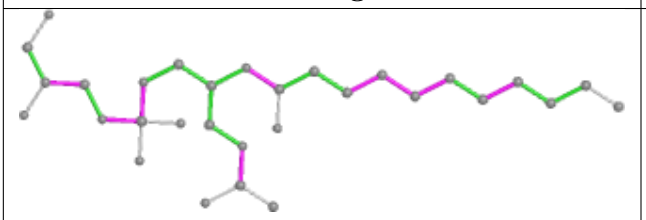
Ligand LHG h 189



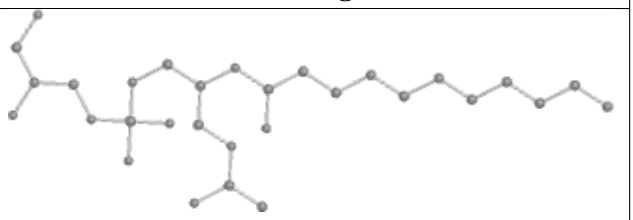
Bond lengths



Bond angles

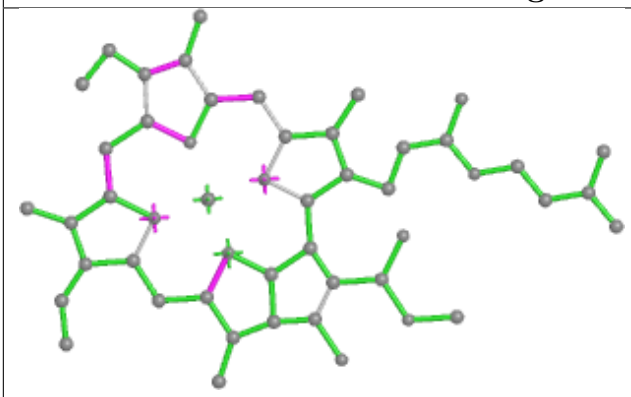


Torsions

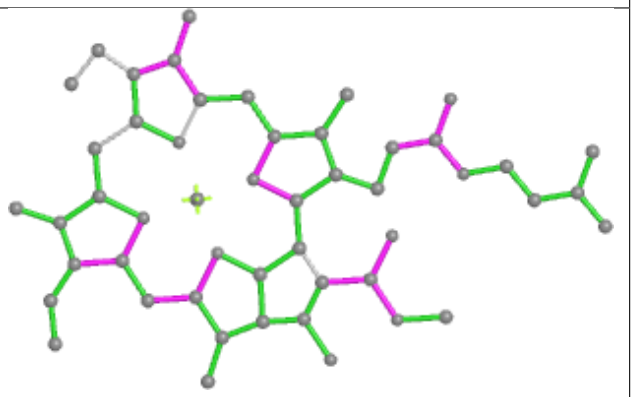


Rings

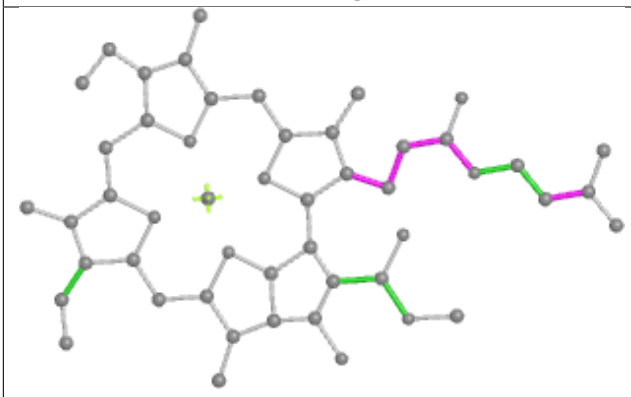
Ligand CLA h 609



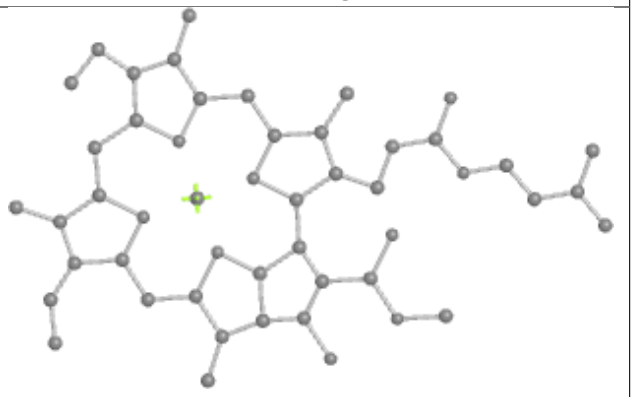
Bond lengths



Bond angles

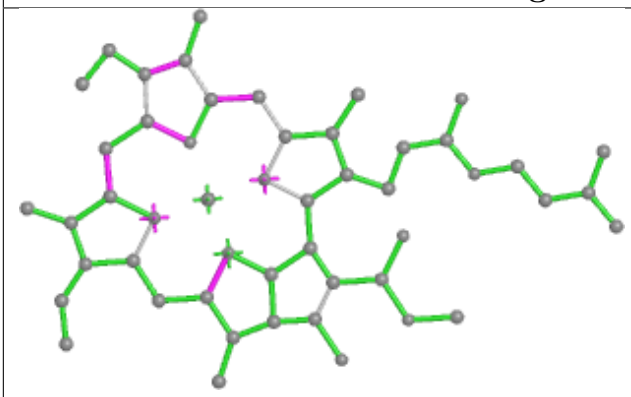


Torsions

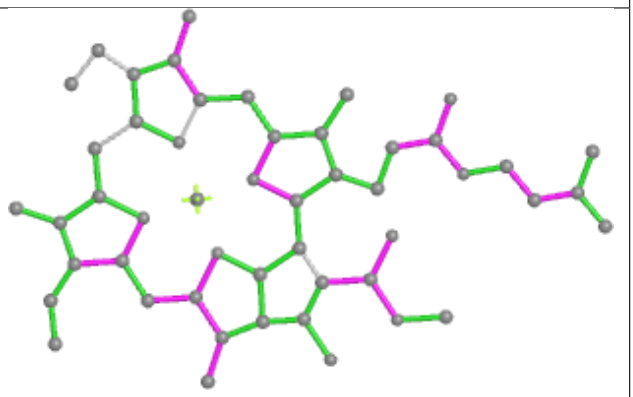


Rings

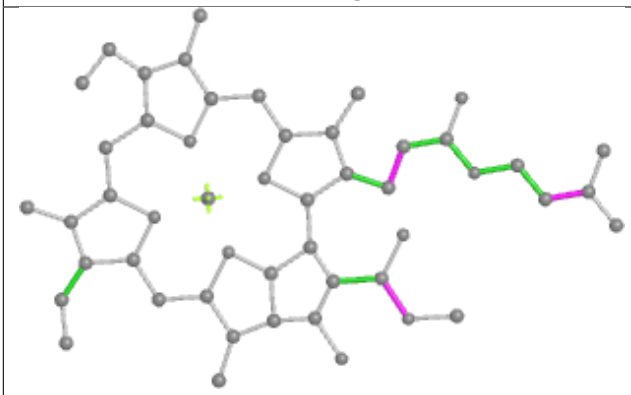
Ligand CLA e 604



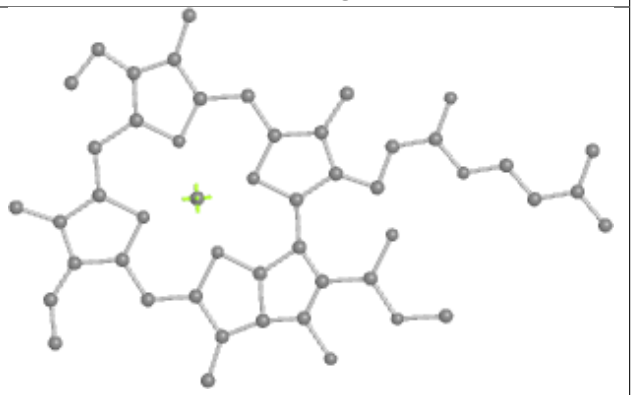
Bond lengths



Bond angles

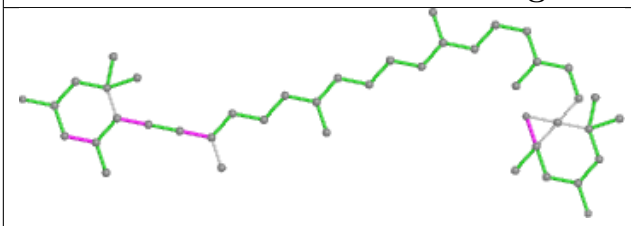


Torsions

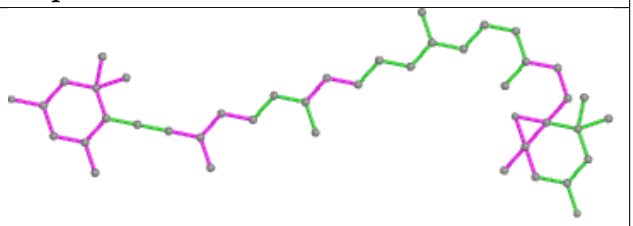


Rings

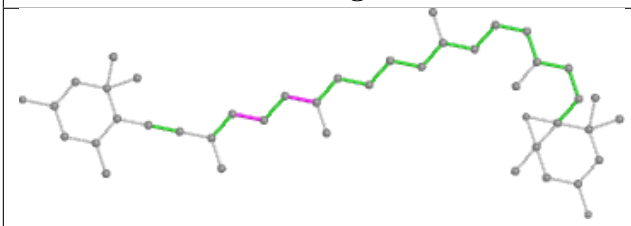
Ligand DD6 p 621



Bond lengths



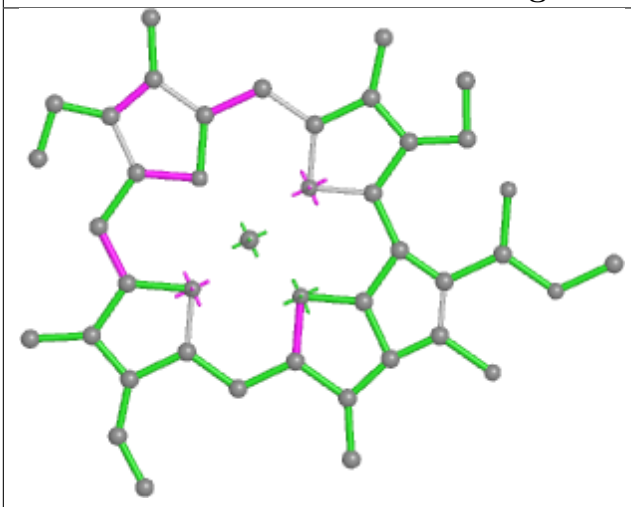
Bond angles



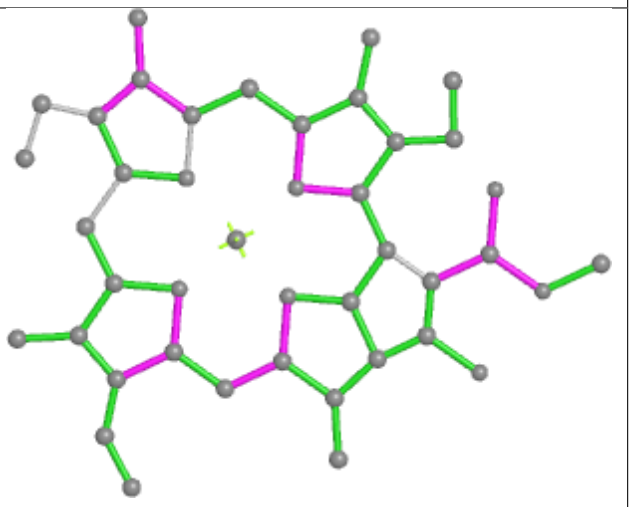
Torsions

Rings

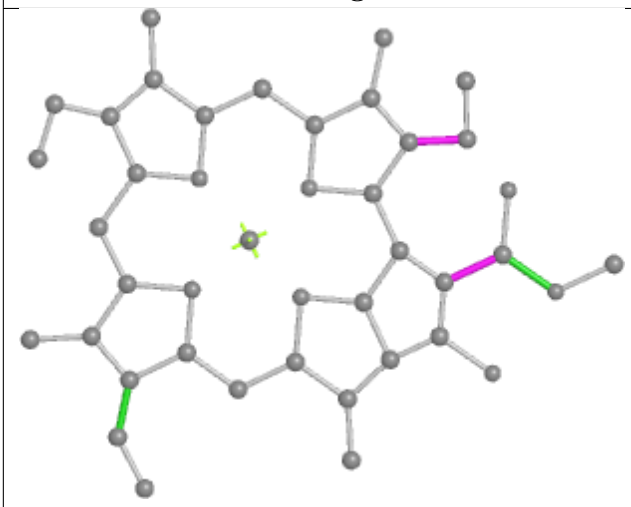
Ligand CLA e 605



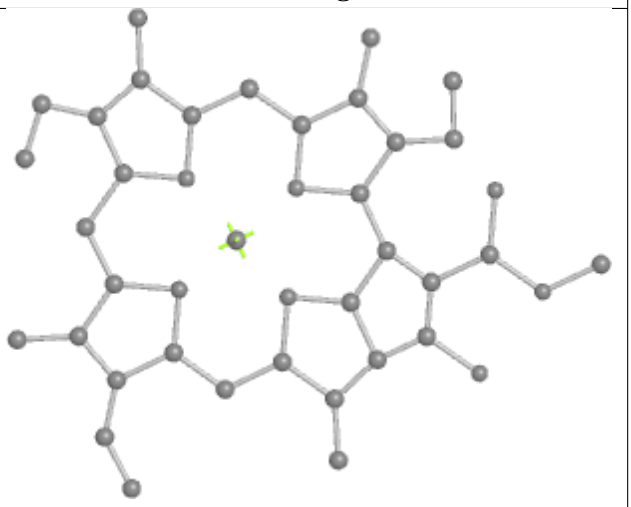
Bond lengths



Bond angles

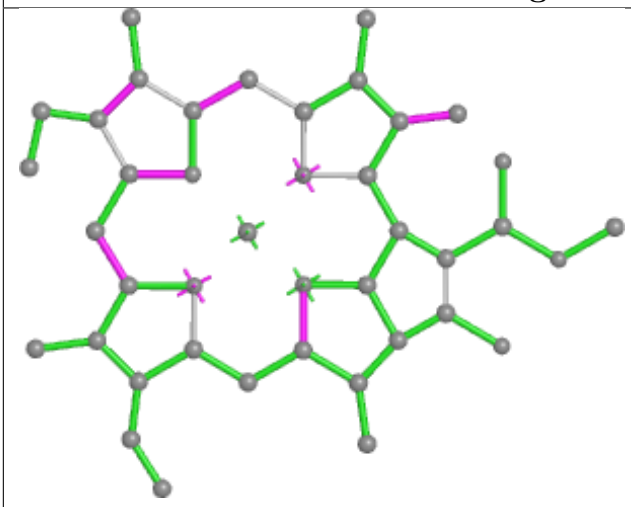


Torsions

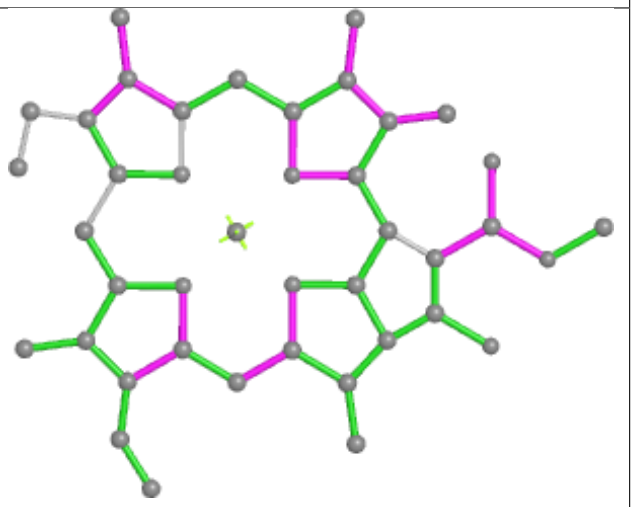


Rings

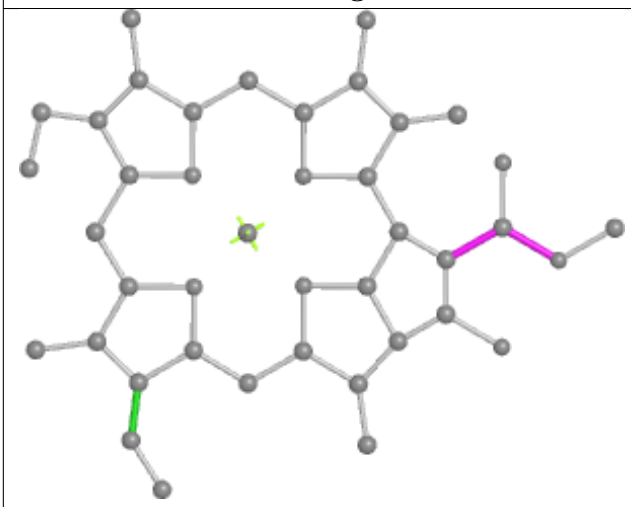
Ligand CLA c 619



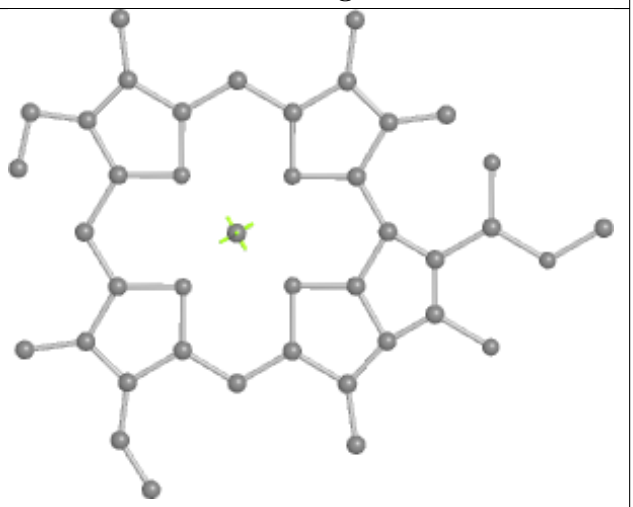
Bond lengths



Bond angles

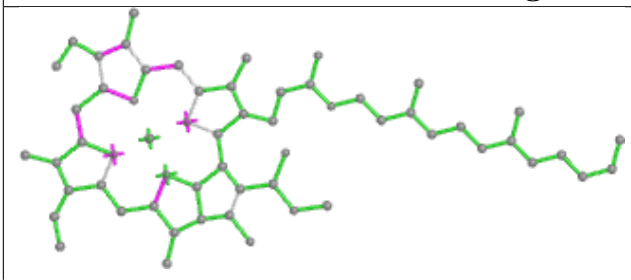


Torsions

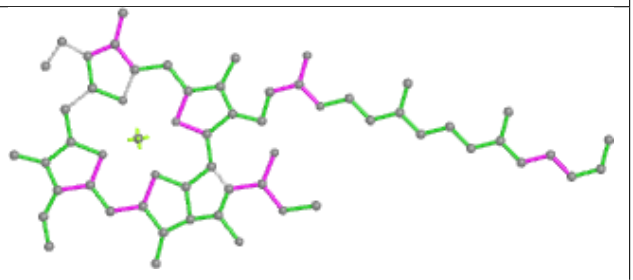


Rings

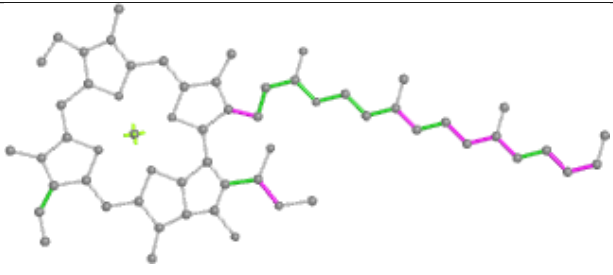
Ligand CLA B 748



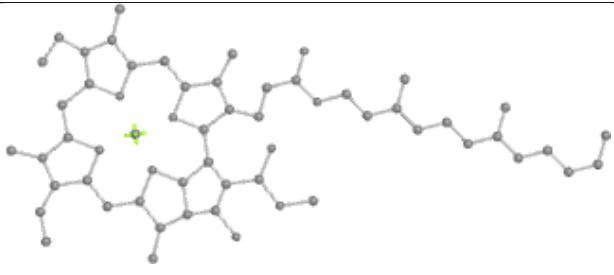
Bond lengths



Bond angles

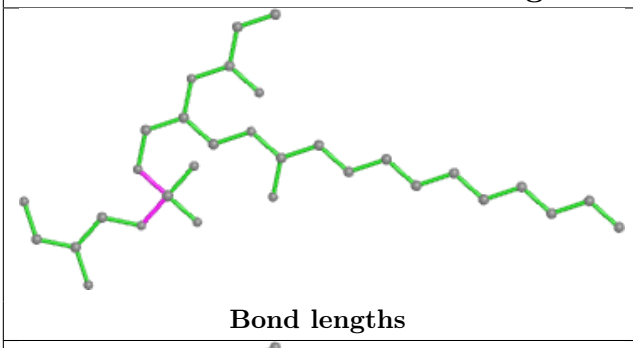


Torsions

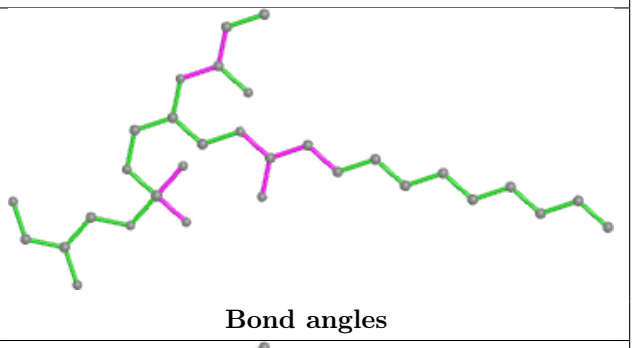


Rings

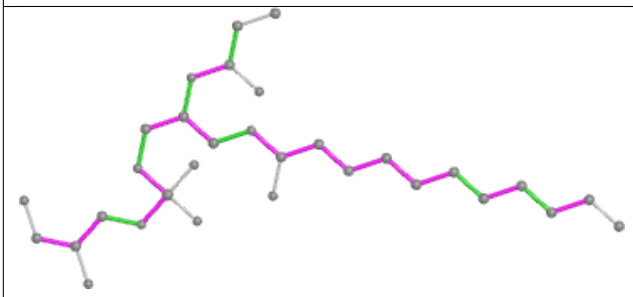
Ligand LHG b 181



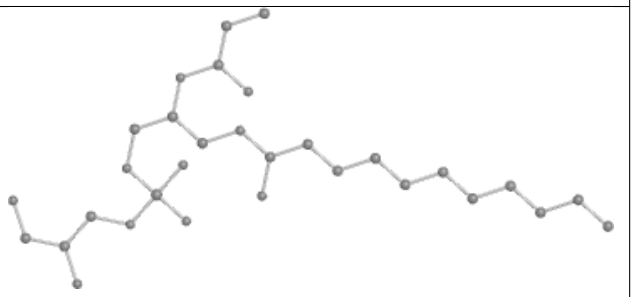
Bond lengths



Bond angles

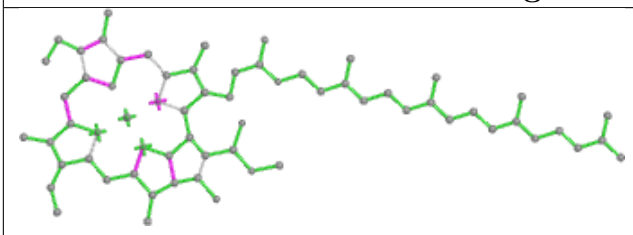


Torsions

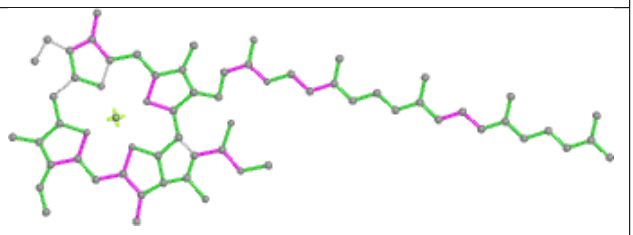


Rings

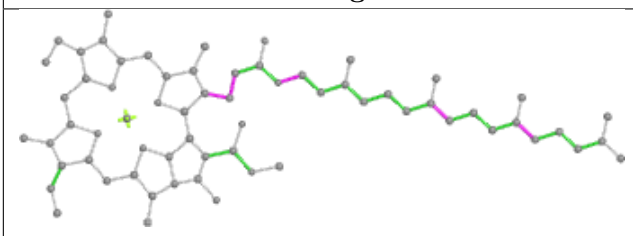
Ligand CLA A 758



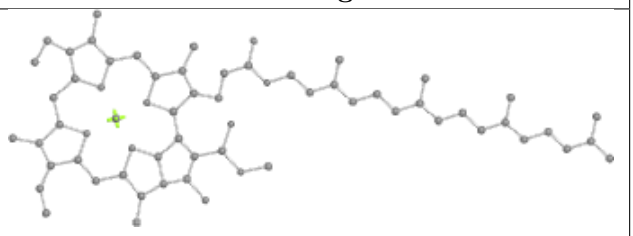
Bond lengths



Bond angles

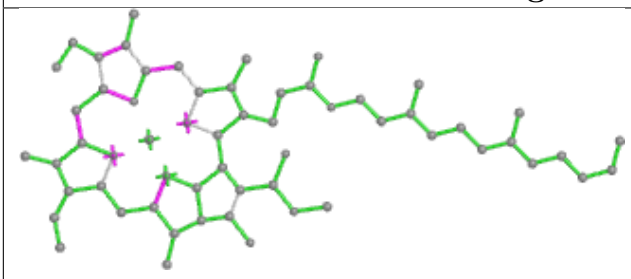


Torsions

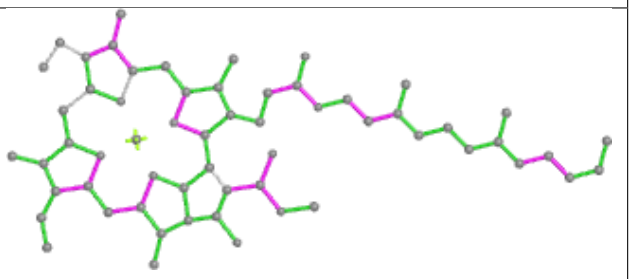


Rings

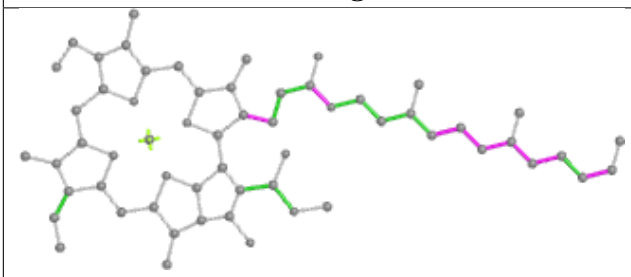
Ligand CLA d 610



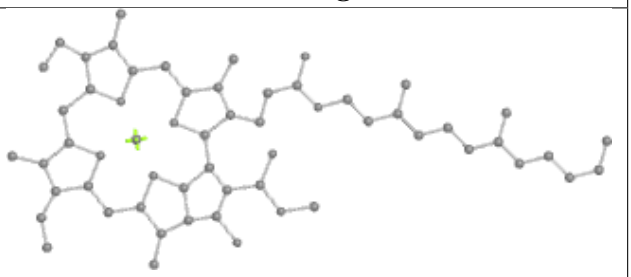
Bond lengths



Bond angles

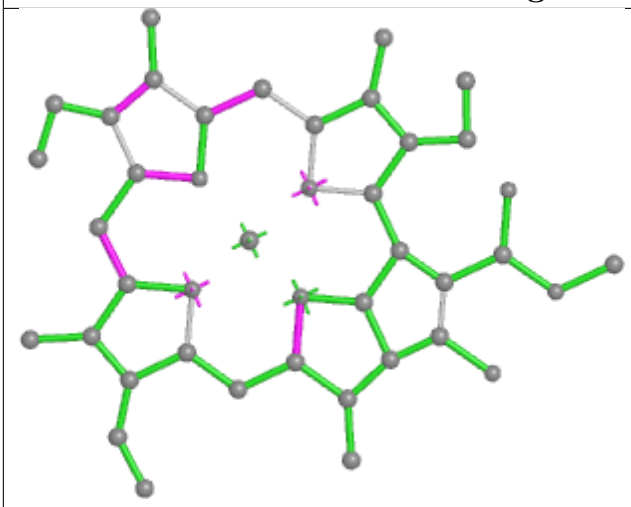


Torsions

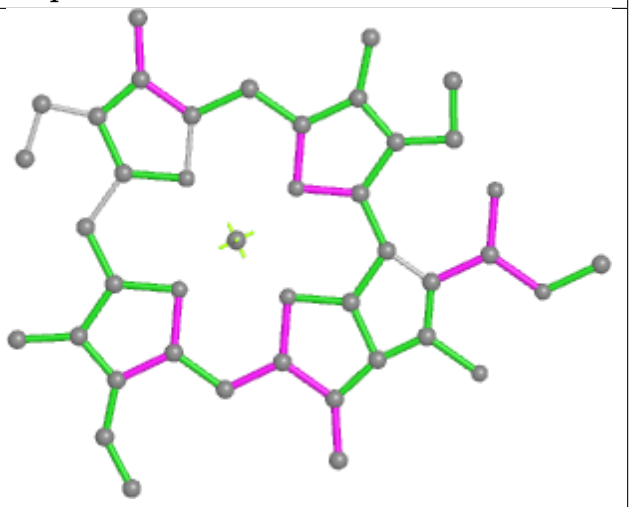


Rings

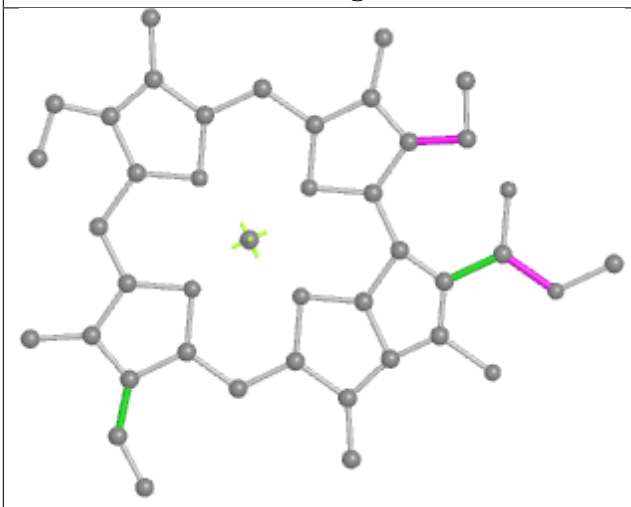
Ligand CLA p 601



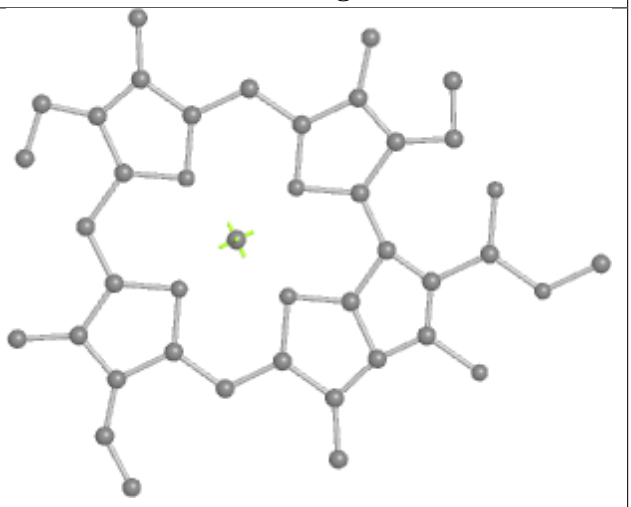
Bond lengths



Bond angles

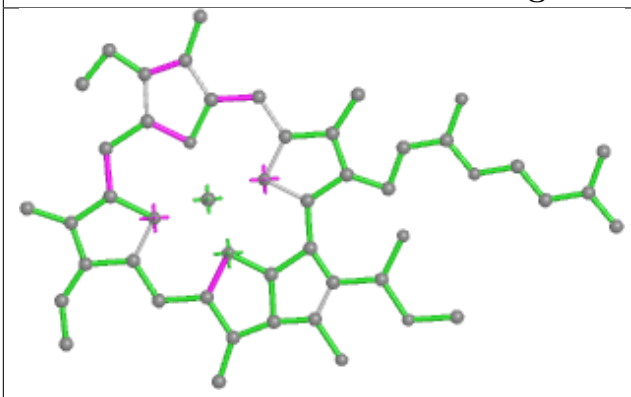


Torsions

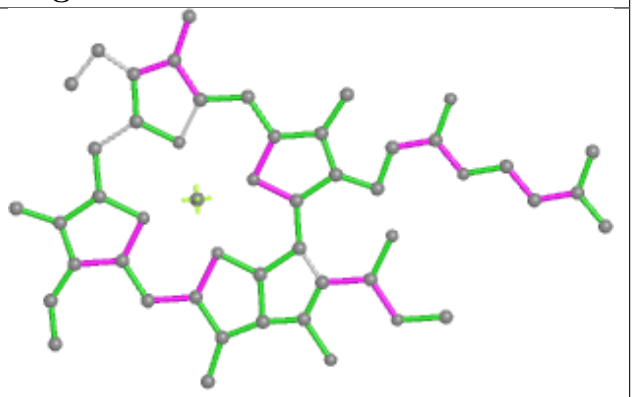


Rings

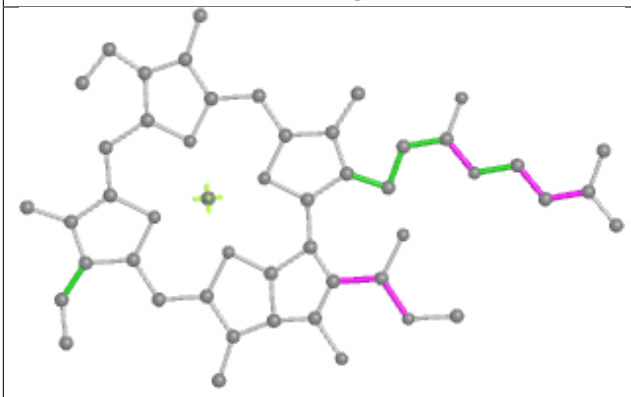
Ligand CLA g 609



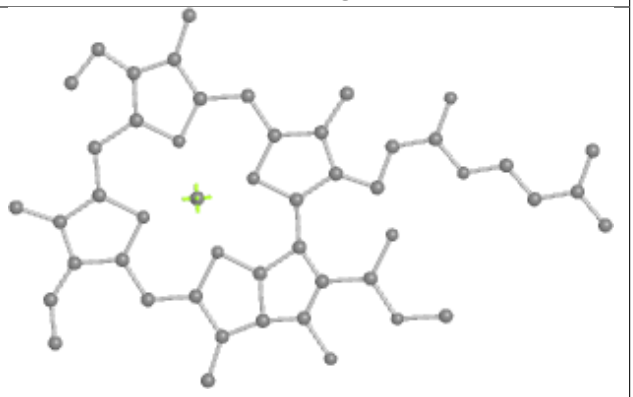
Bond lengths



Bond angles

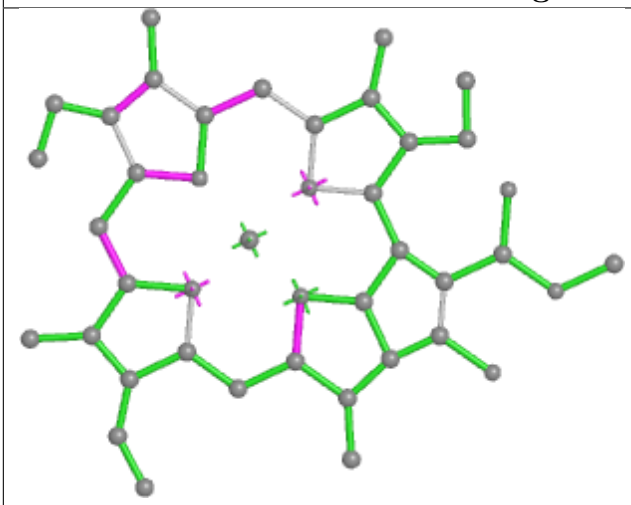


Torsions

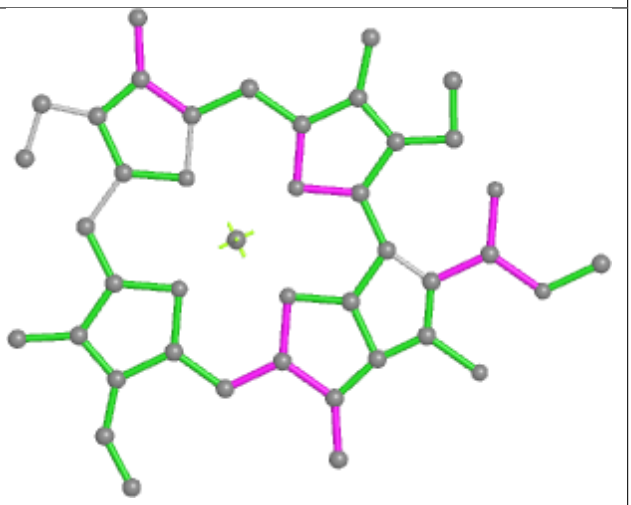


Rings

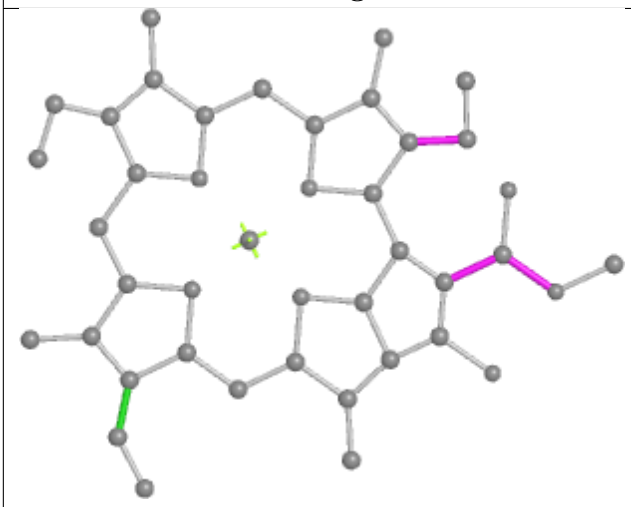
Ligand CLA l 614



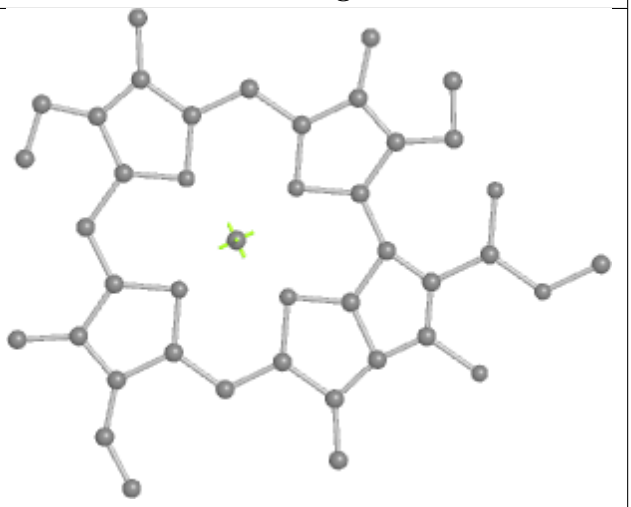
Bond lengths



Bond angles

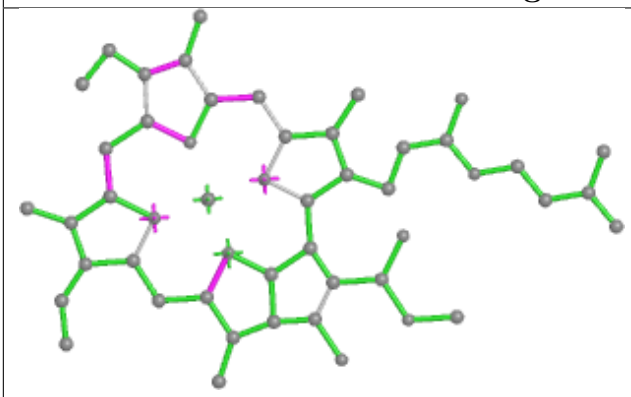


Torsions

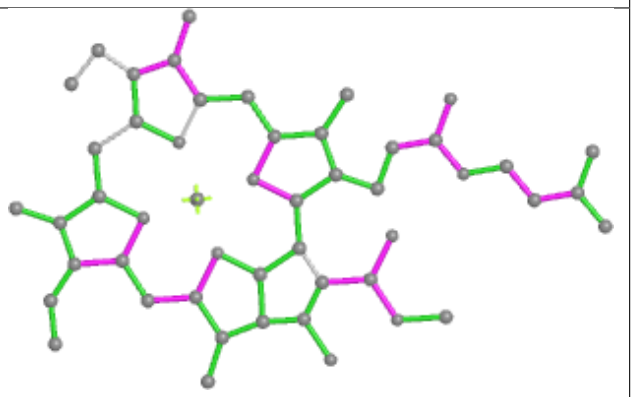


Rings

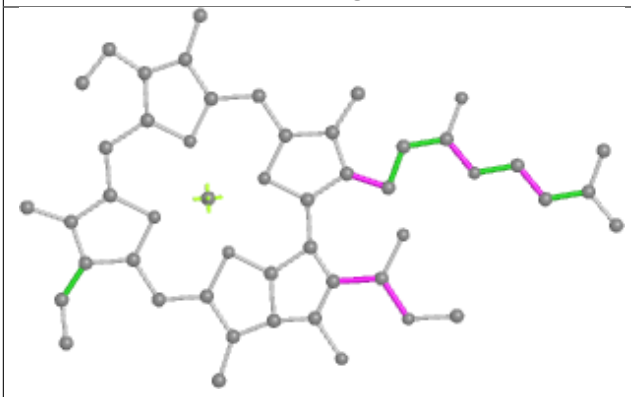
Ligand CLA A 804



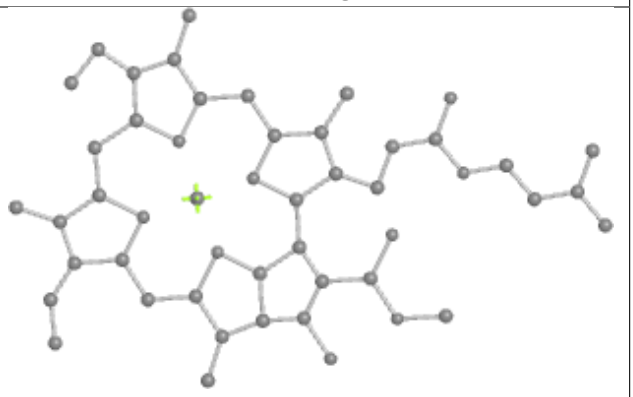
Bond lengths



Bond angles

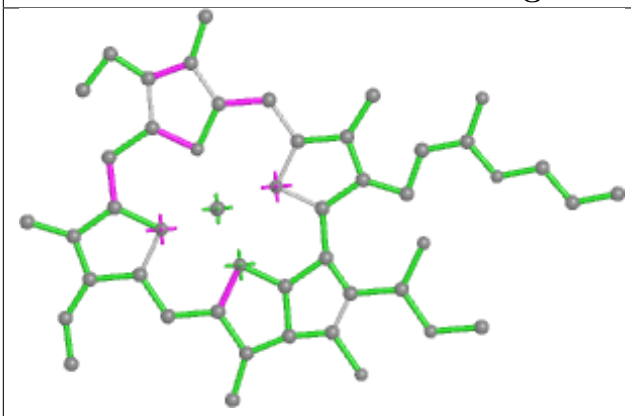


Torsions

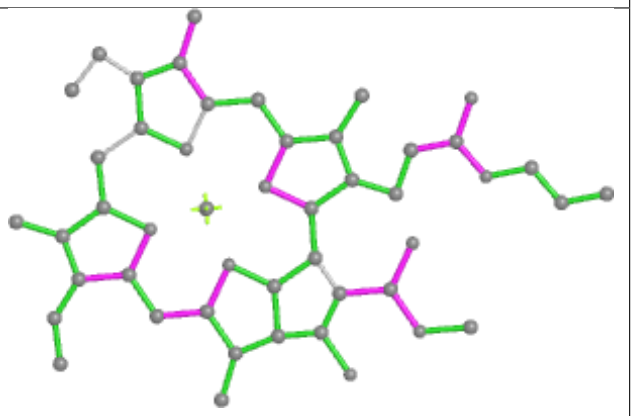


Rings

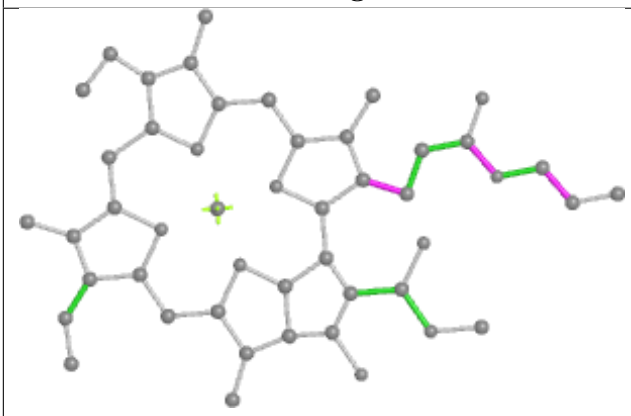
Ligand CLA A 800



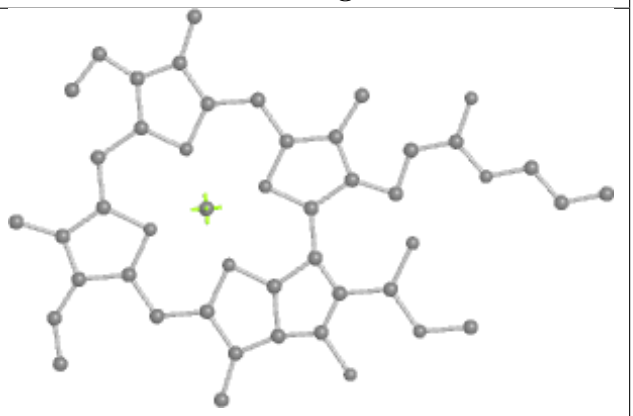
Bond lengths



Bond angles

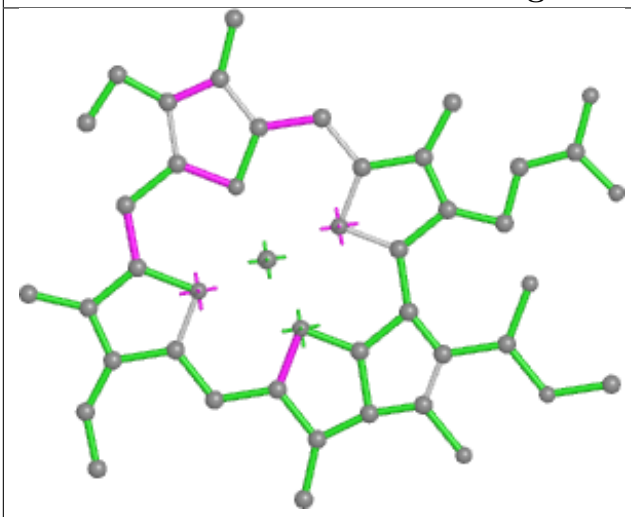


Torsions

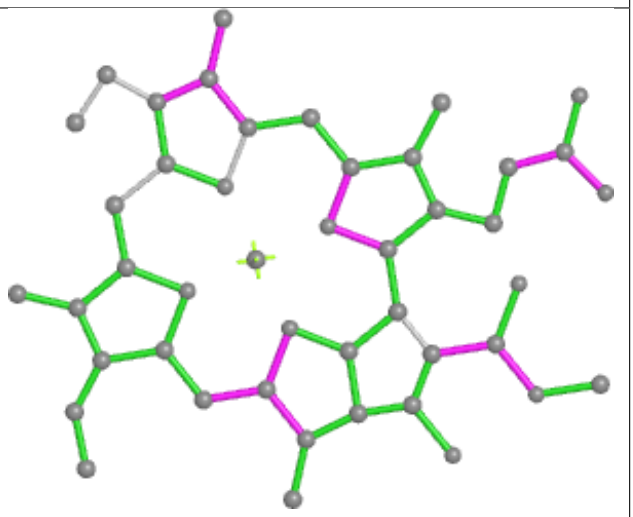


Rings

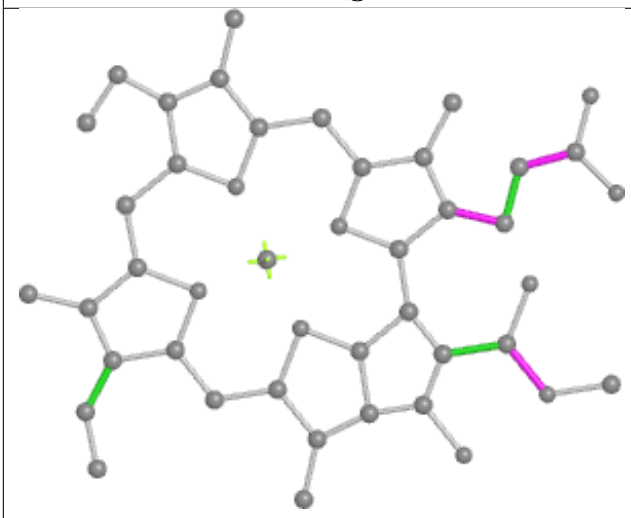
Ligand CLA n 609



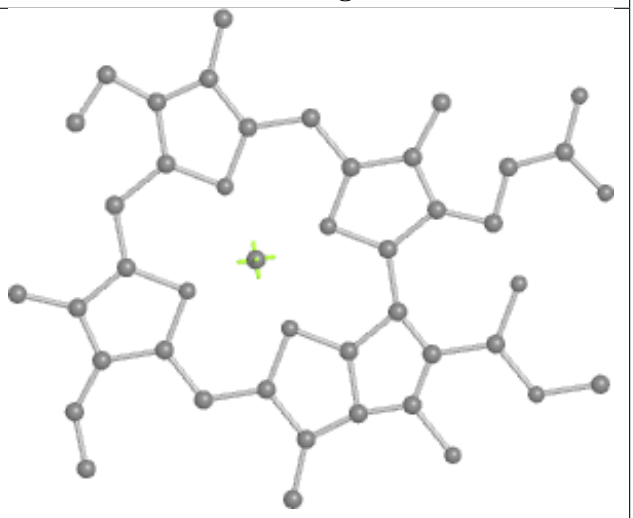
Bond lengths



Bond angles

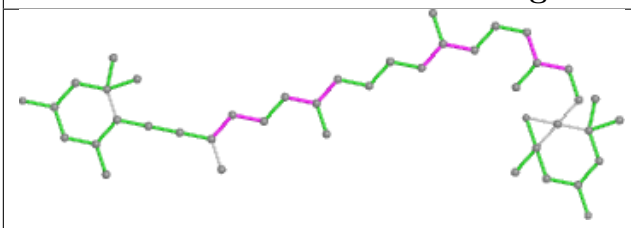


Torsions

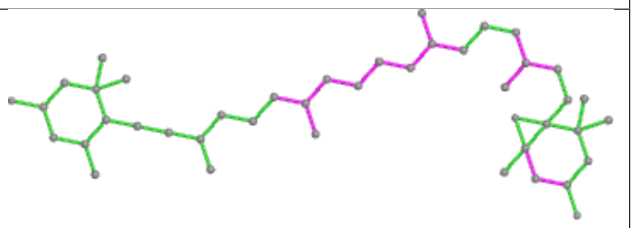


Rings

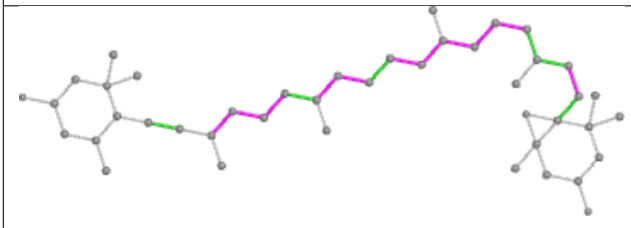
Ligand DD6 e 623



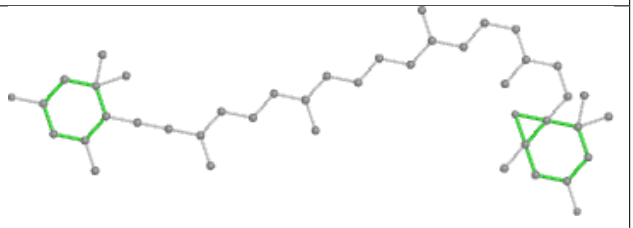
Bond lengths



Bond angles

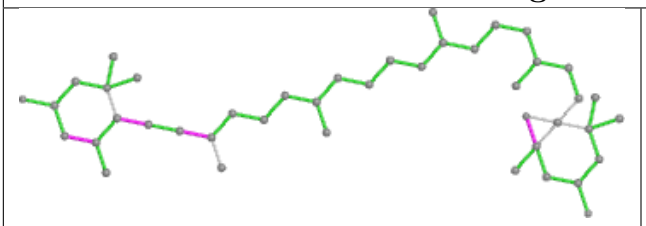


Torsions

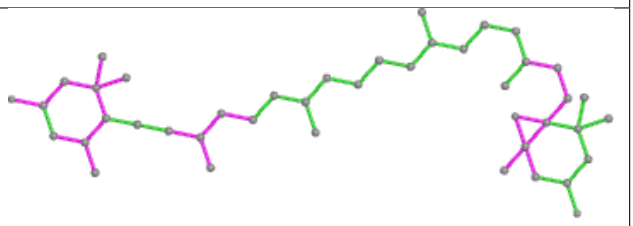


Rings

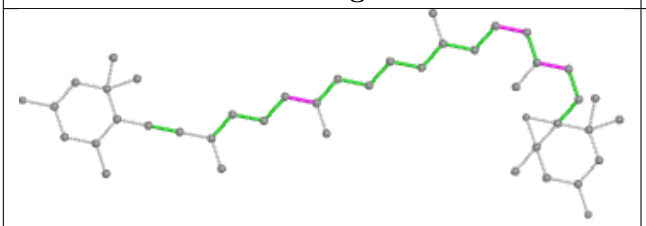
Ligand DD6 a 620



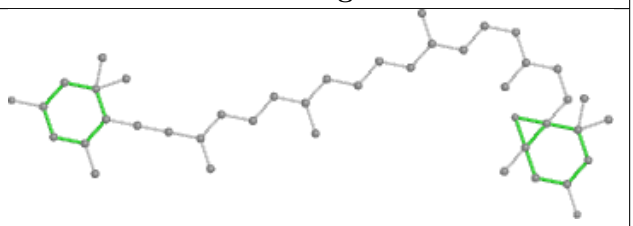
Bond lengths



Bond angles

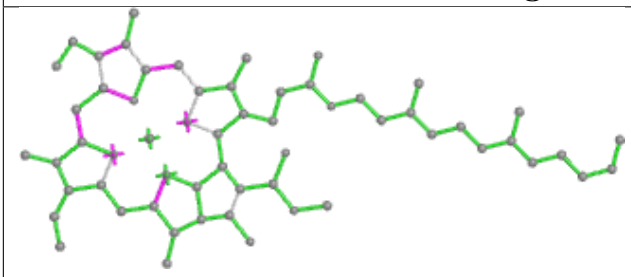


Torsions

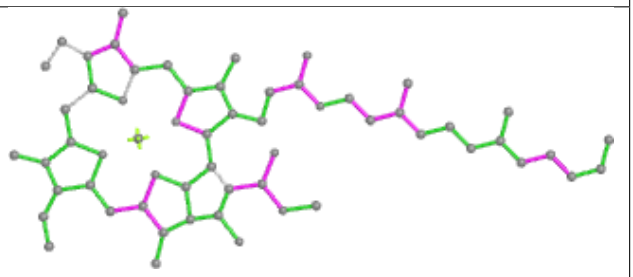


Rings

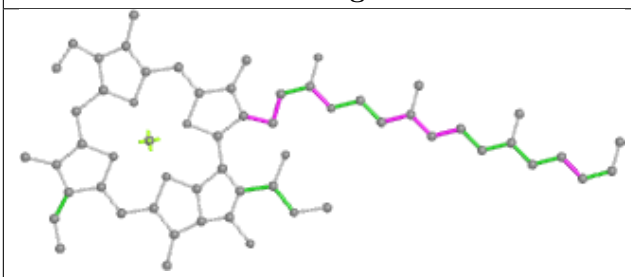
Ligand CLA A 765



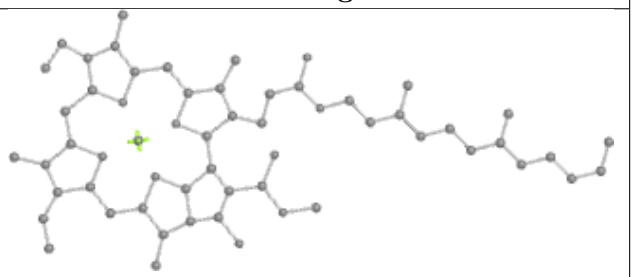
Bond lengths



Bond angles

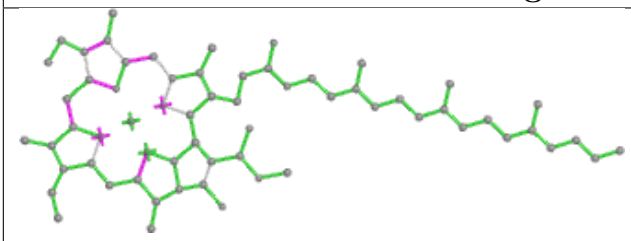


Torsions

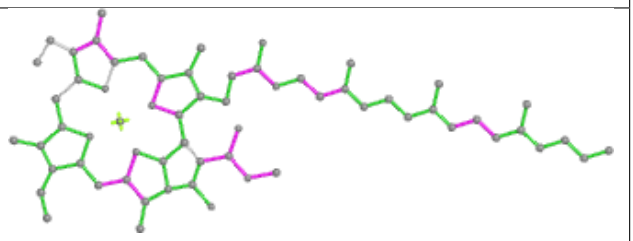


Rings

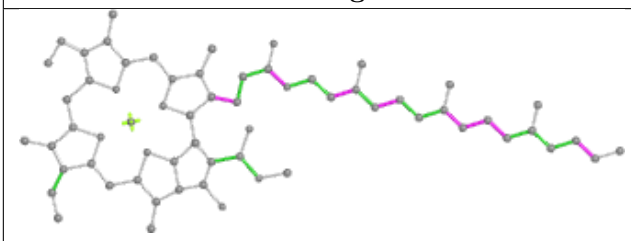
Ligand CLA B 778



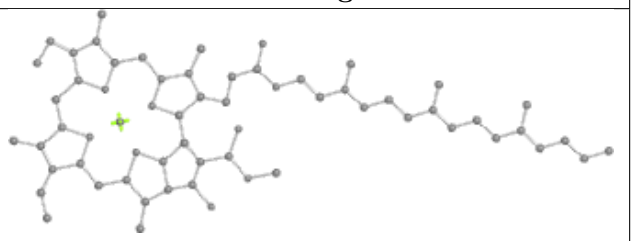
Bond lengths



Bond angles

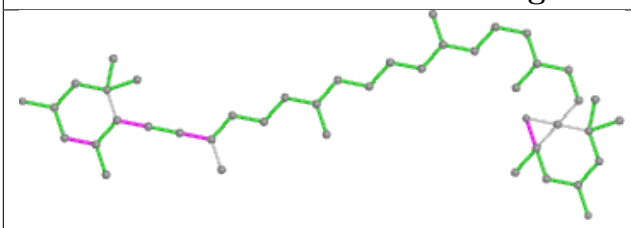


Torsions

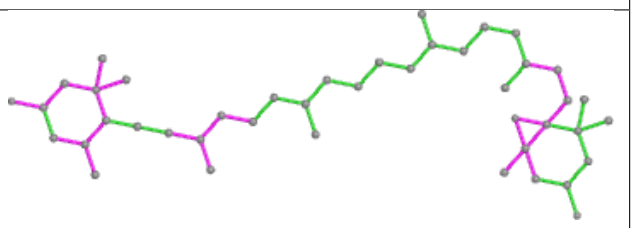


Rings

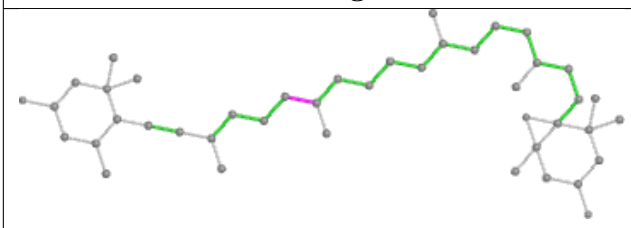
Ligand DD6 d 620



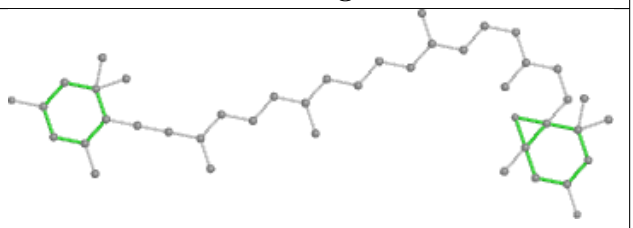
Bond lengths



Bond angles

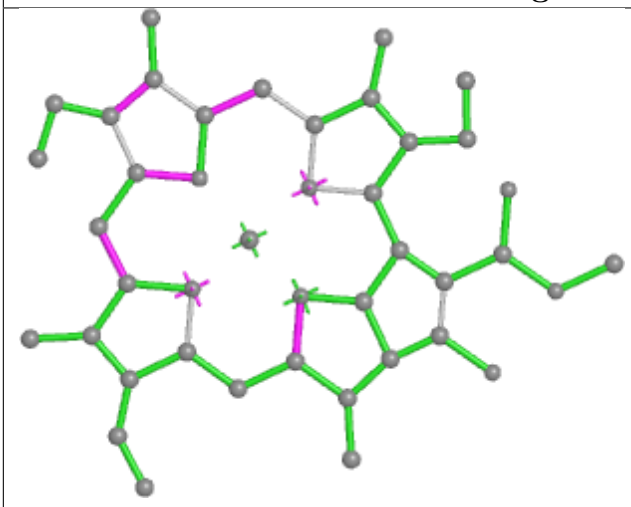


Torsions

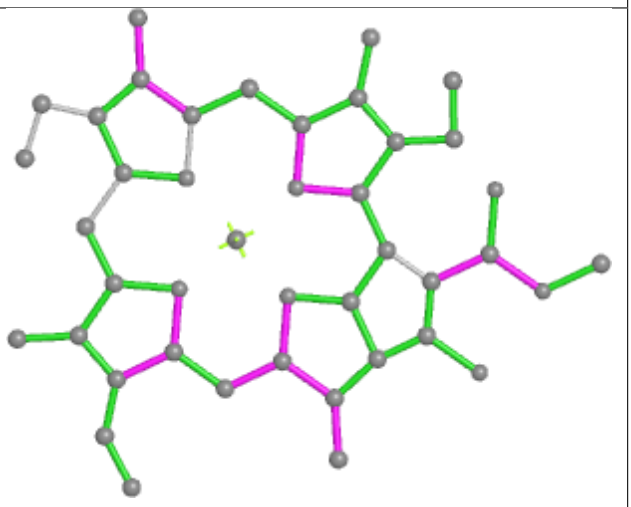


Rings

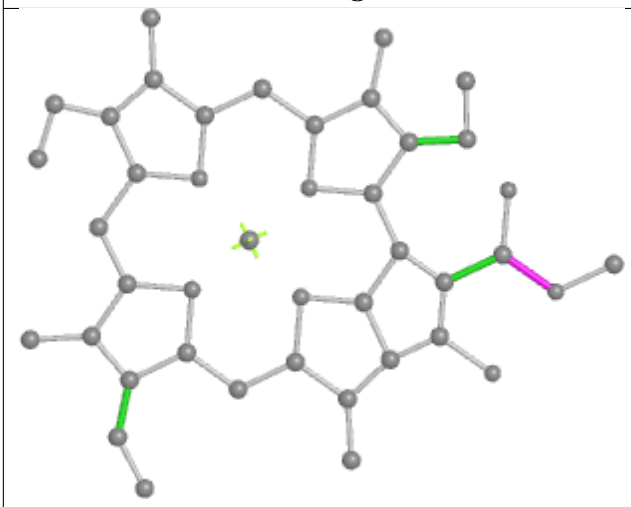
Ligand CLA f 608



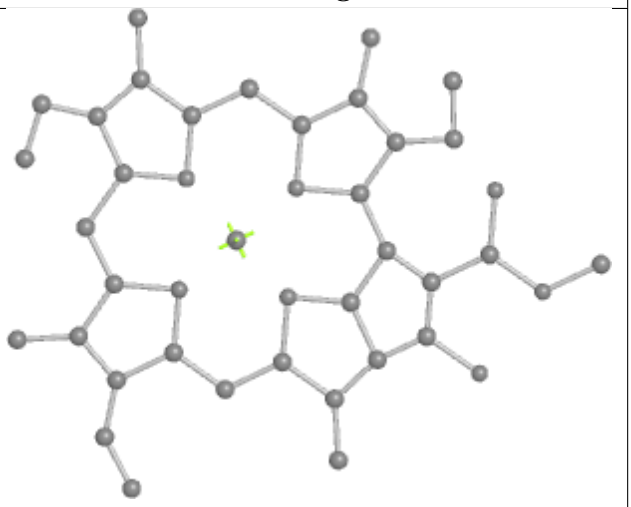
Bond lengths



Bond angles

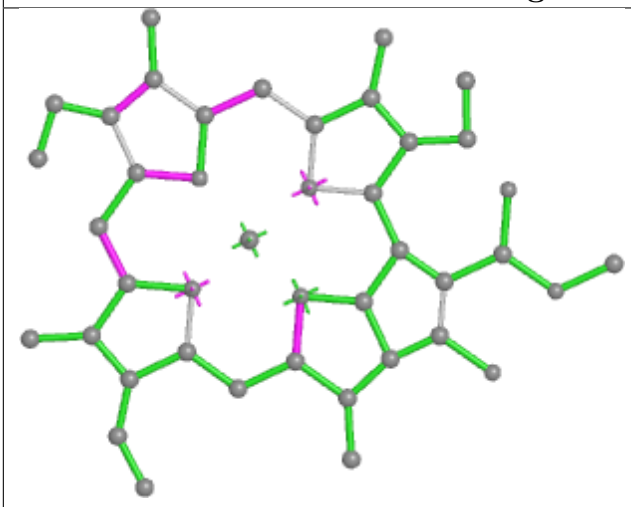


Torsions

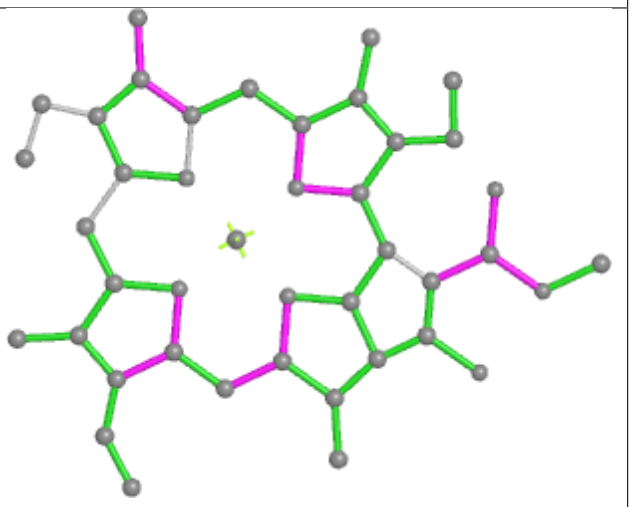


Rings

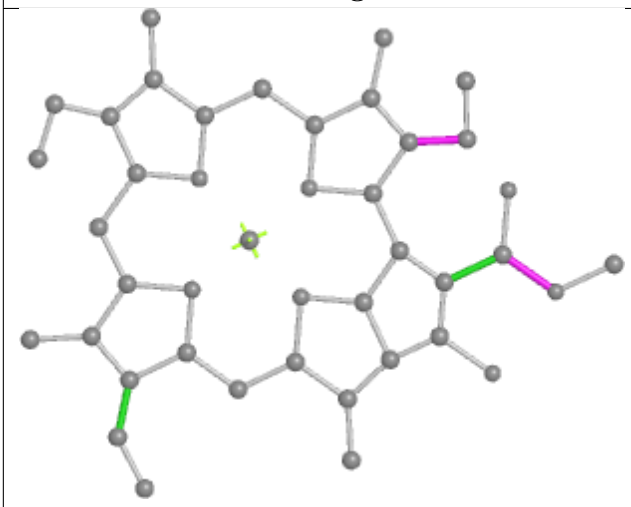
Ligand CLA n 613



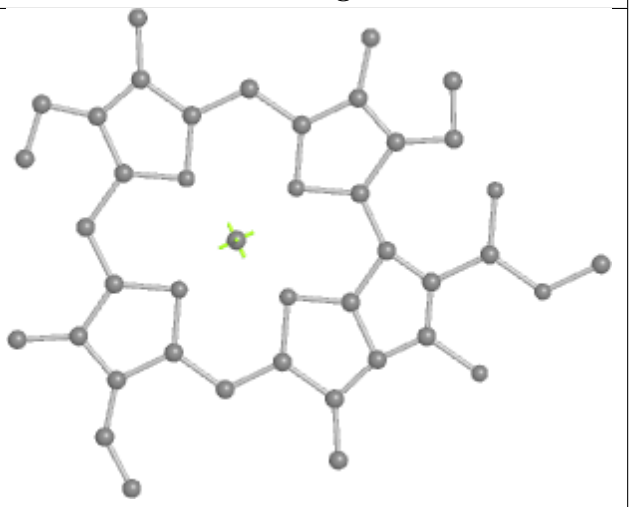
Bond lengths



Bond angles

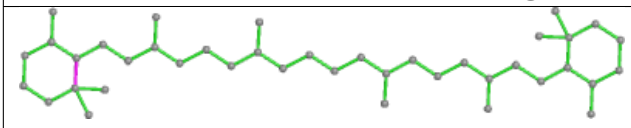


Torsions

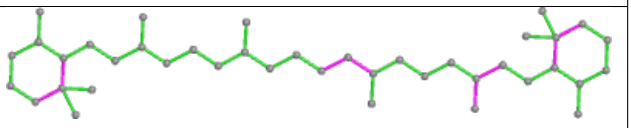


Rings

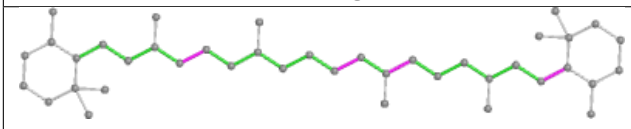
Ligand BCR A 787



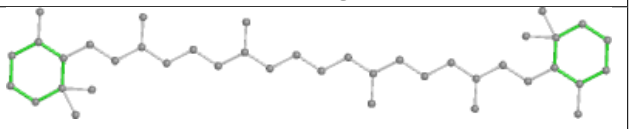
Bond lengths



Bond angles

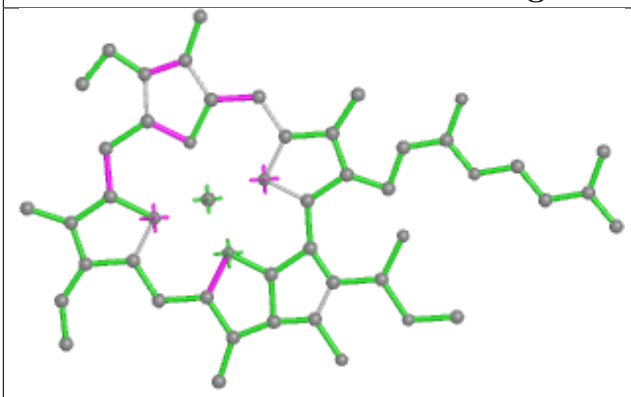


Torsions

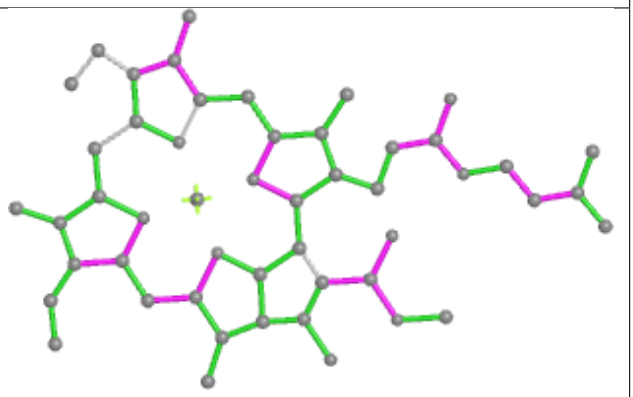


Rings

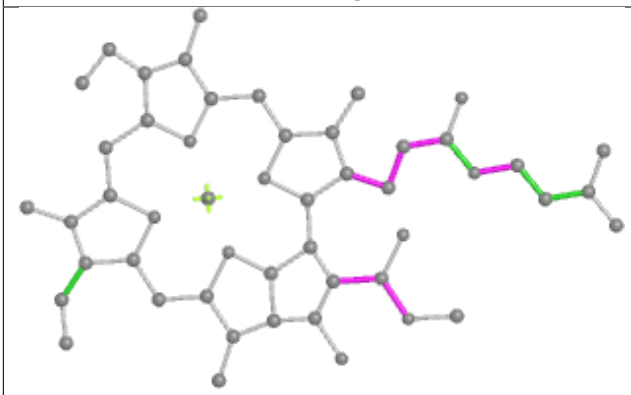
Ligand CLA h 601



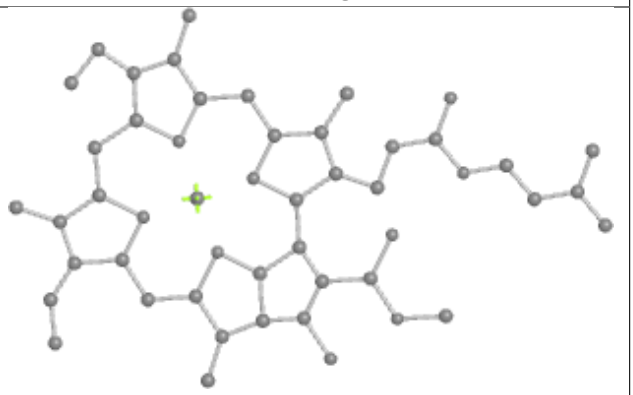
Bond lengths



Bond angles

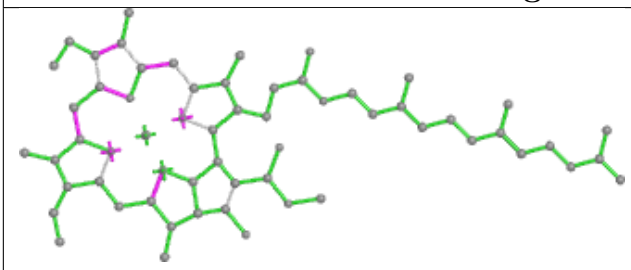


Torsions

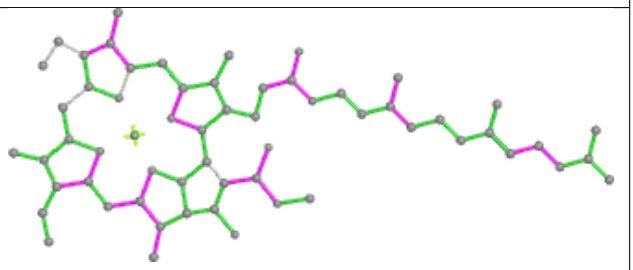


Rings

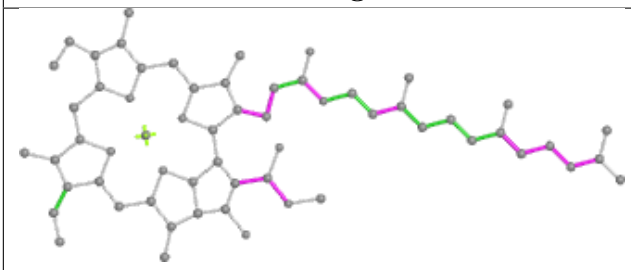
Ligand CLA A 799



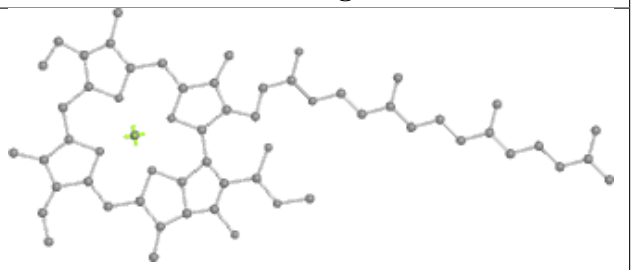
Bond lengths



Bond angles

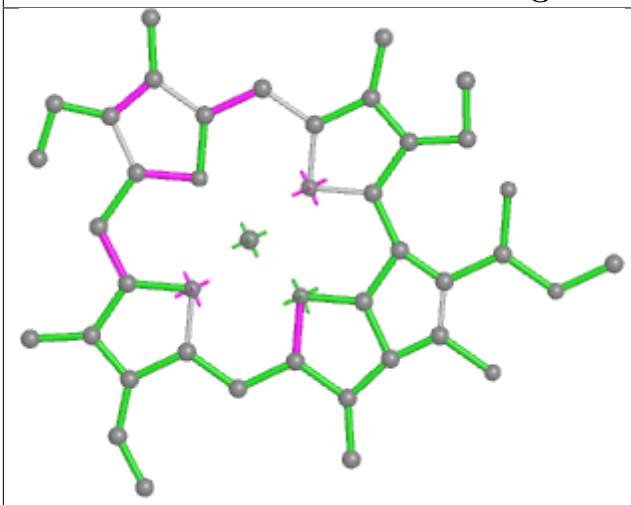


Torsions

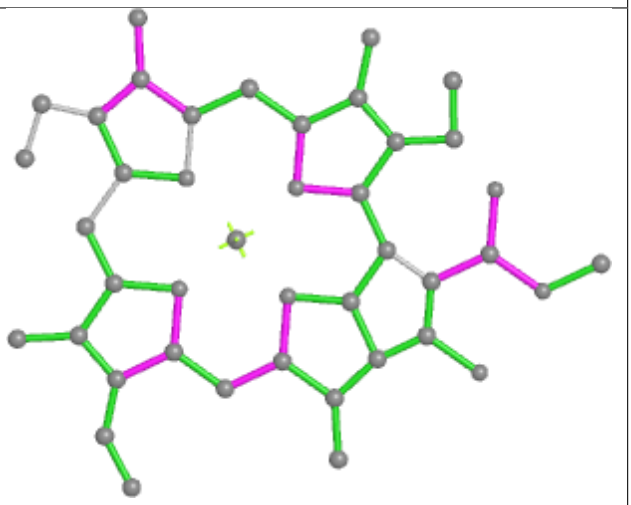


Rings

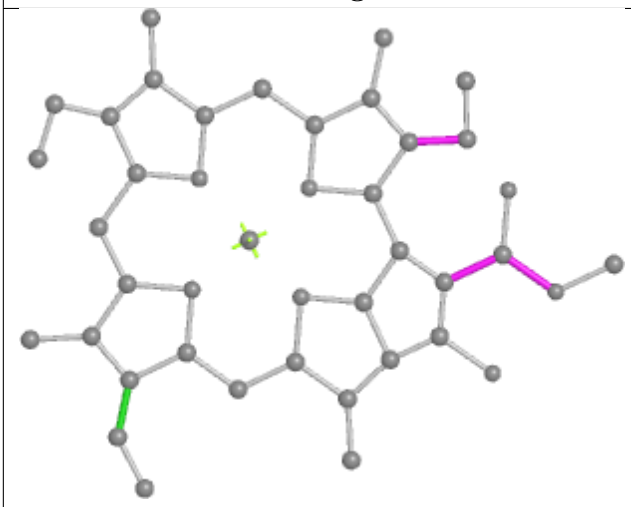
Ligand CLA f 601



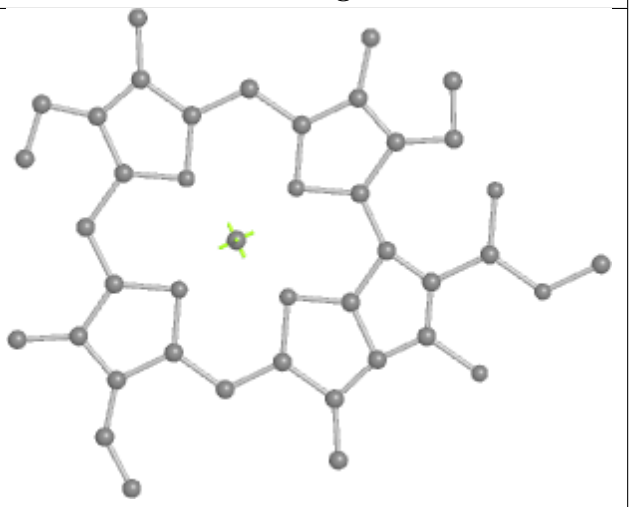
Bond lengths



Bond angles

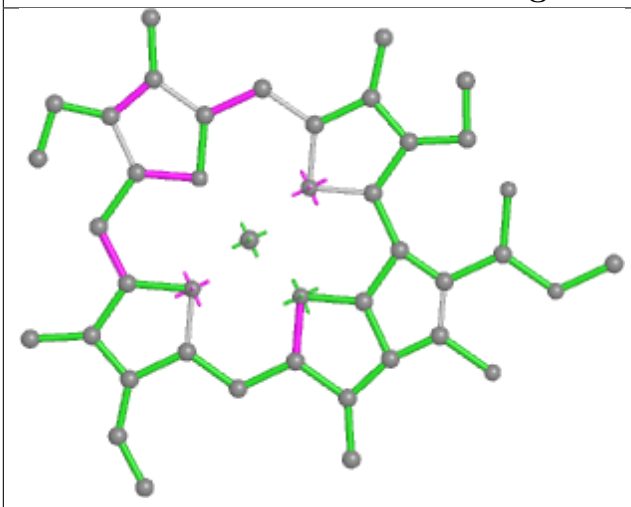


Torsions

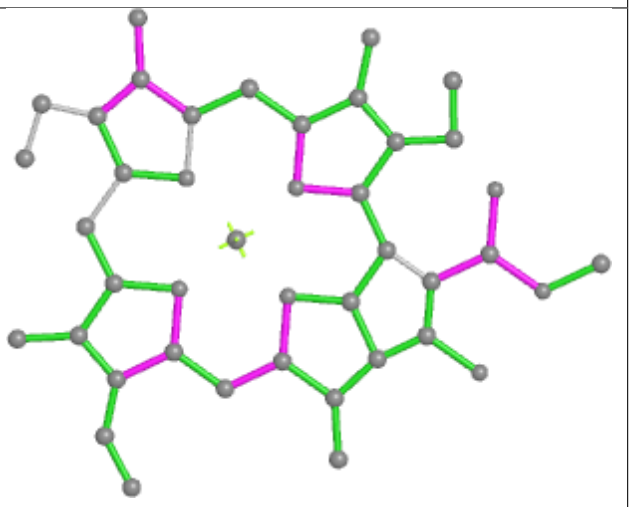


Rings

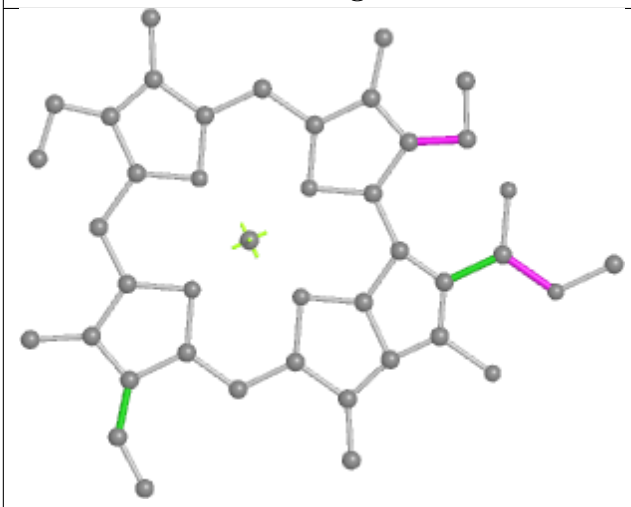
Ligand CLA c 614



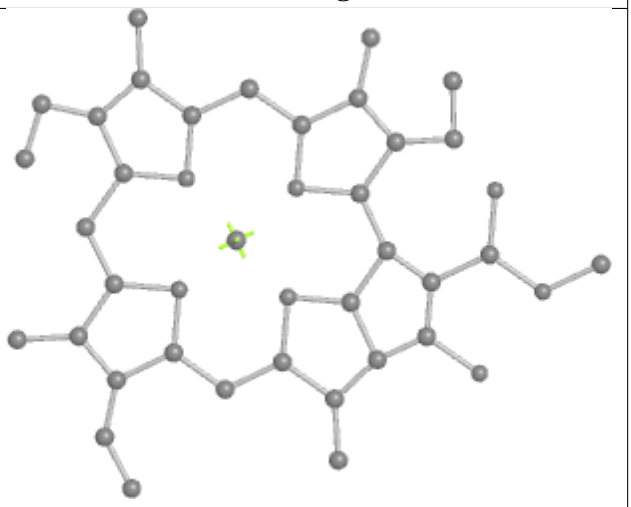
Bond lengths



Bond angles

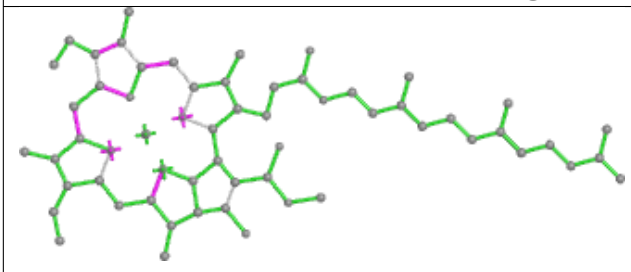


Torsions

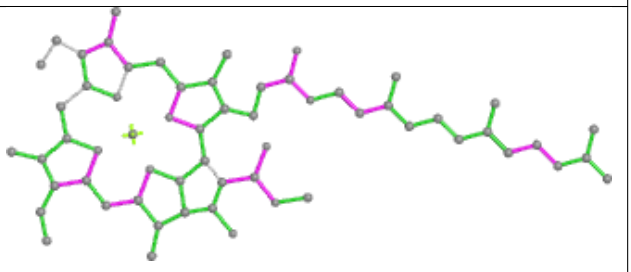


Rings

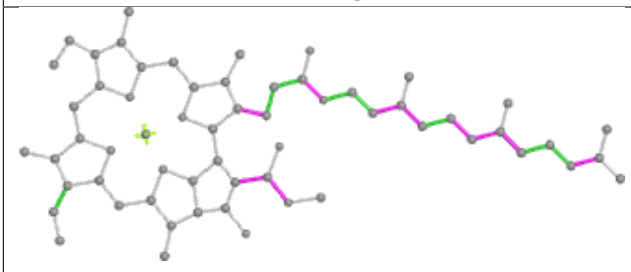
Ligand CLA B 756



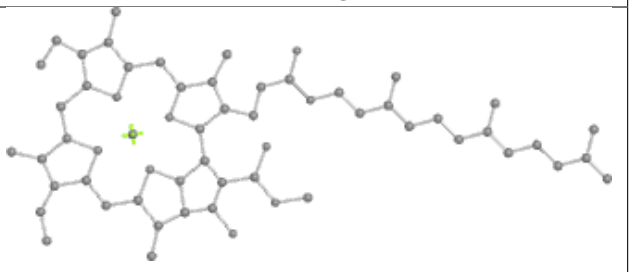
Bond lengths



Bond angles

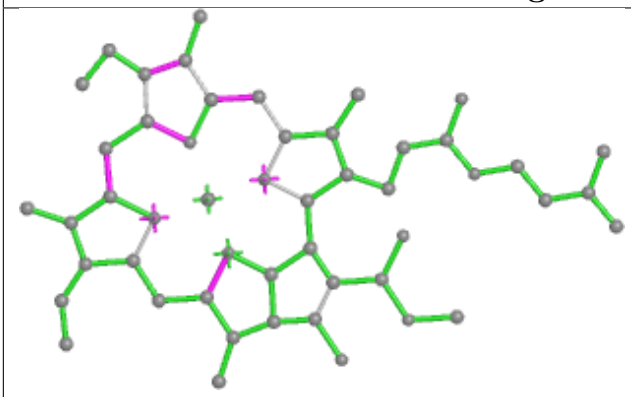


Torsions

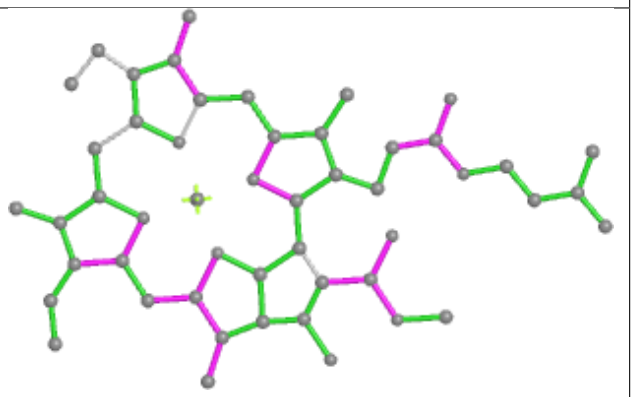


Rings

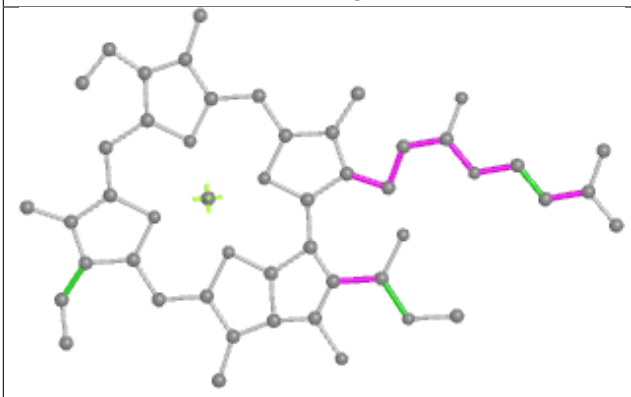
Ligand CLA J 101



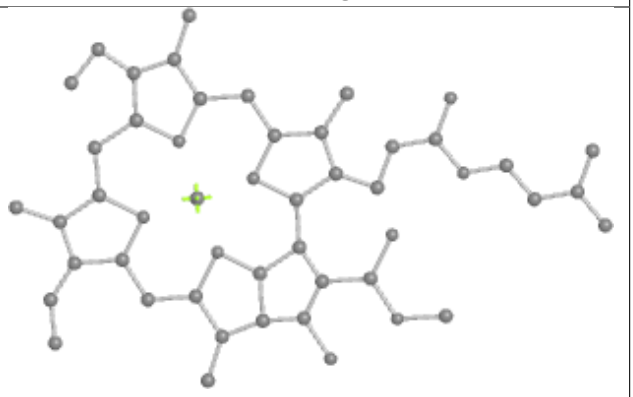
Bond lengths



Bond angles

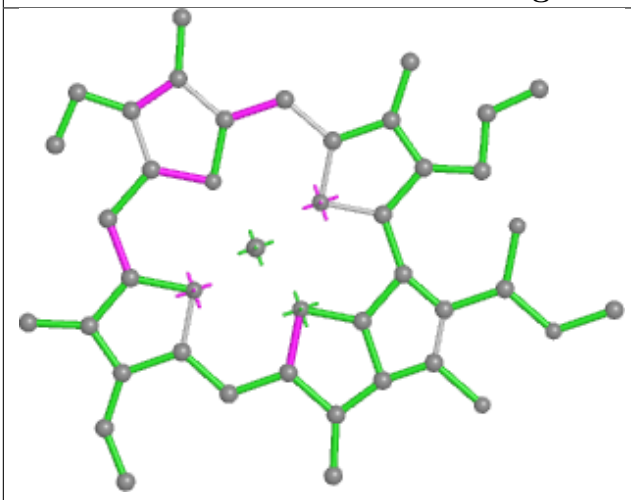


Torsions

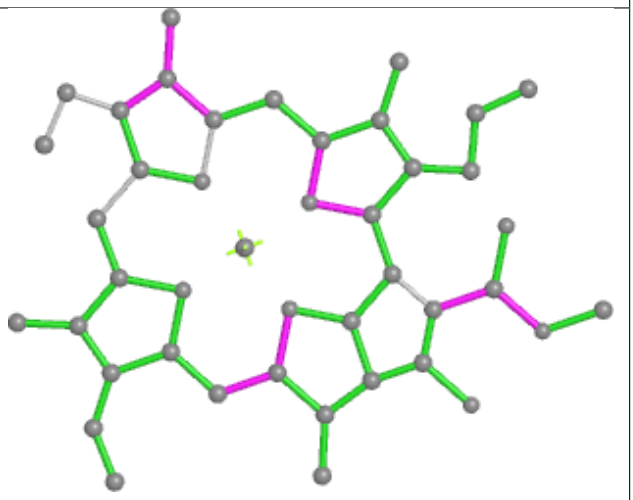


Rings

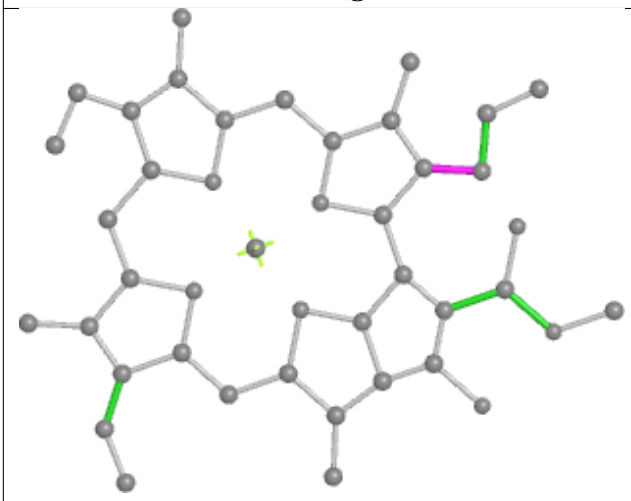
Ligand CLA i 609



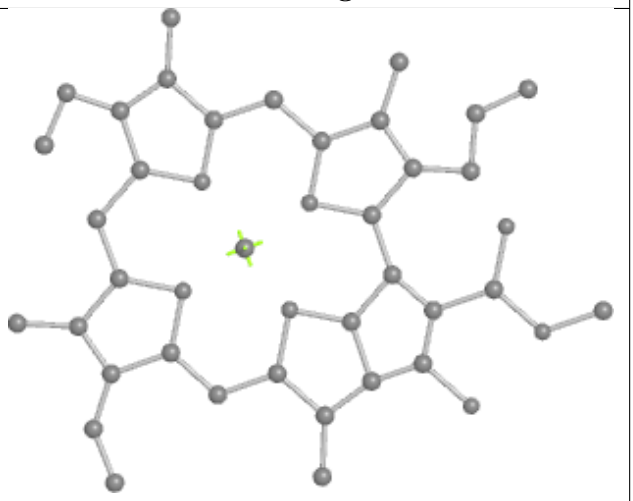
Bond lengths



Bond angles

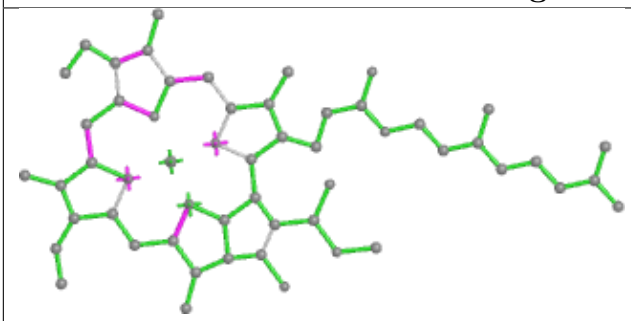


Torsions

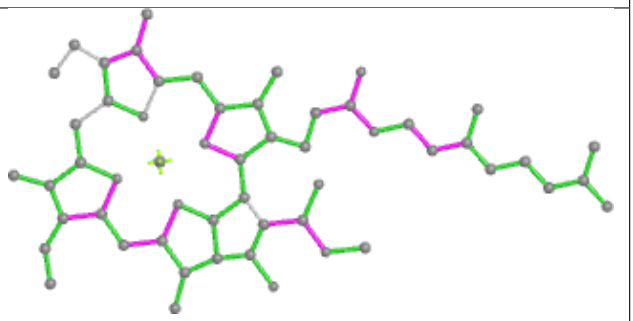


Rings

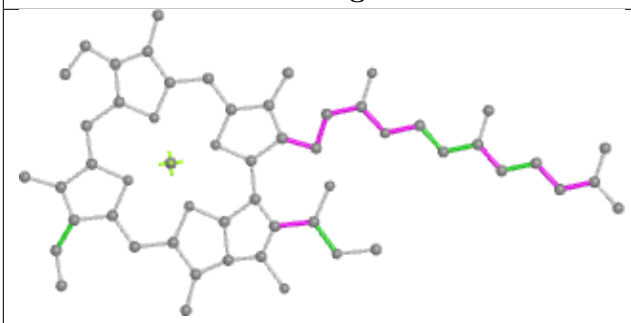
Ligand CLA c 610



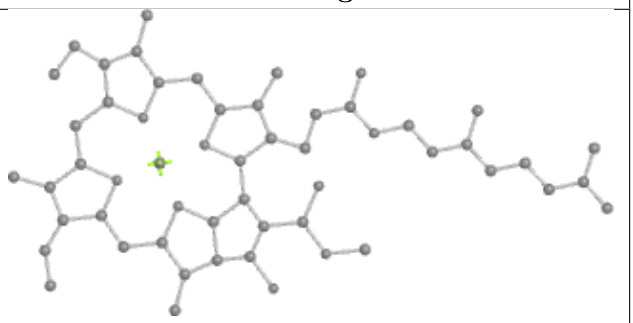
Bond lengths



Bond angles

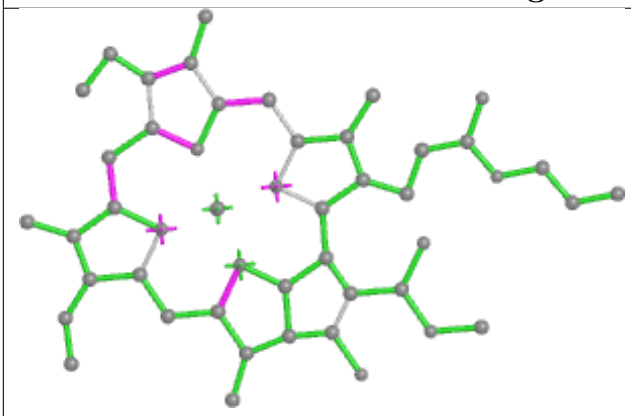


Torsions

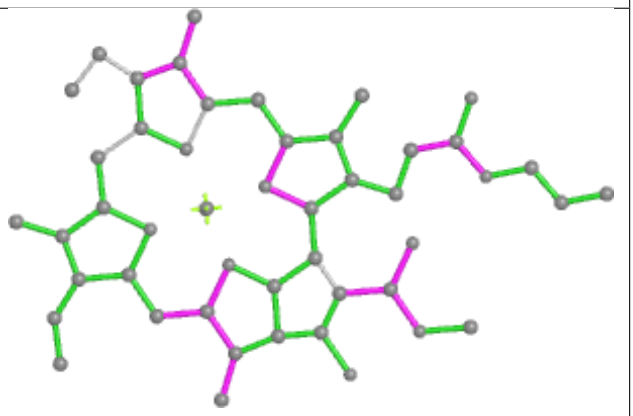


Rings

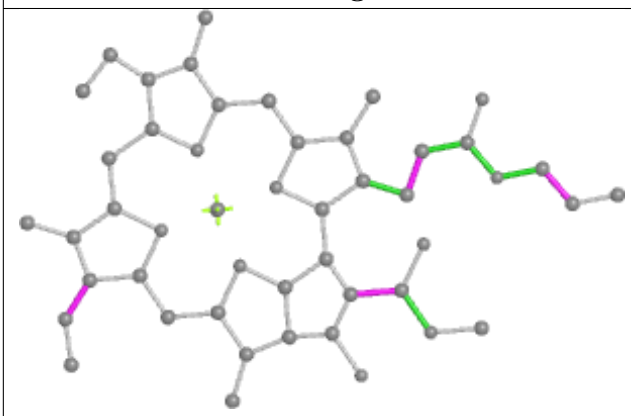
Ligand CLA n 604



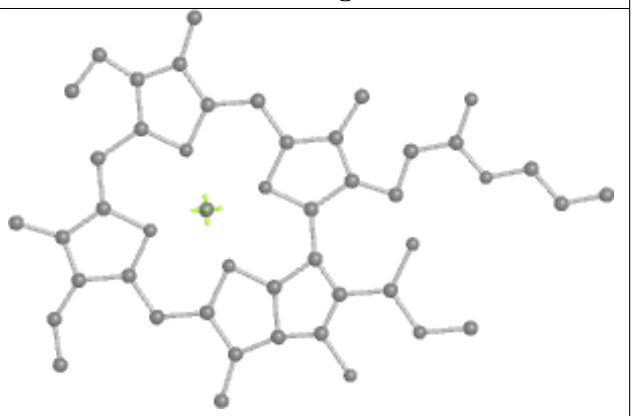
Bond lengths



Bond angles

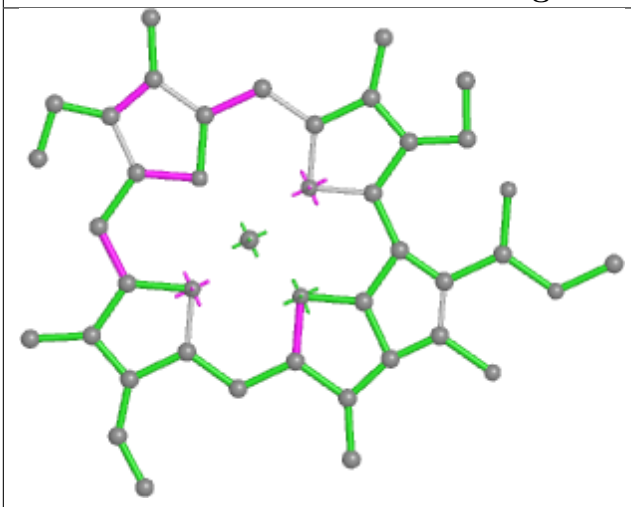


Torsions

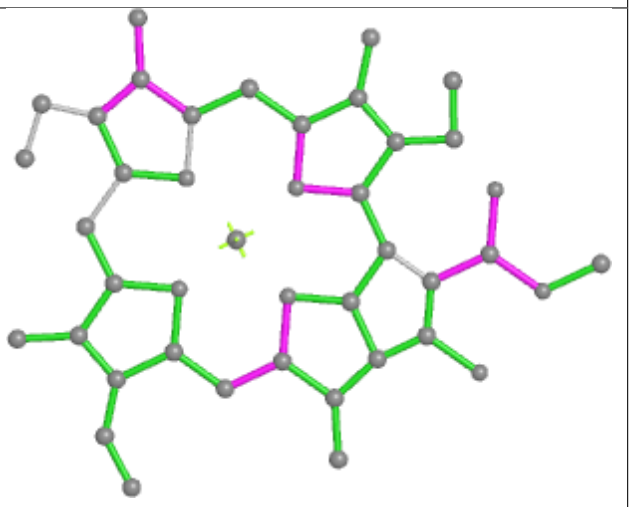


Rings

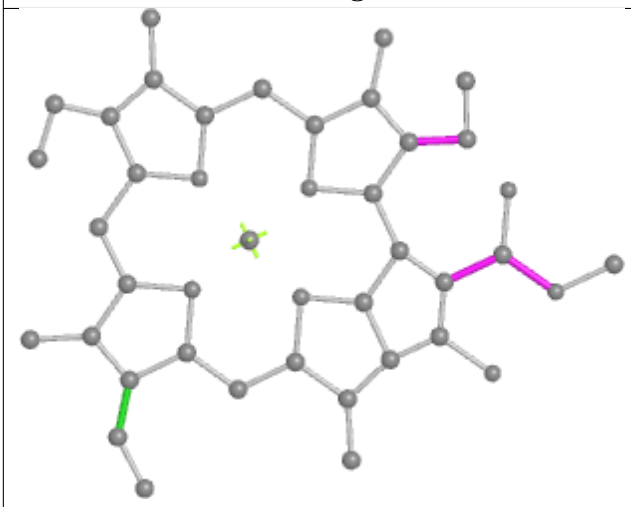
Ligand CLA l 601



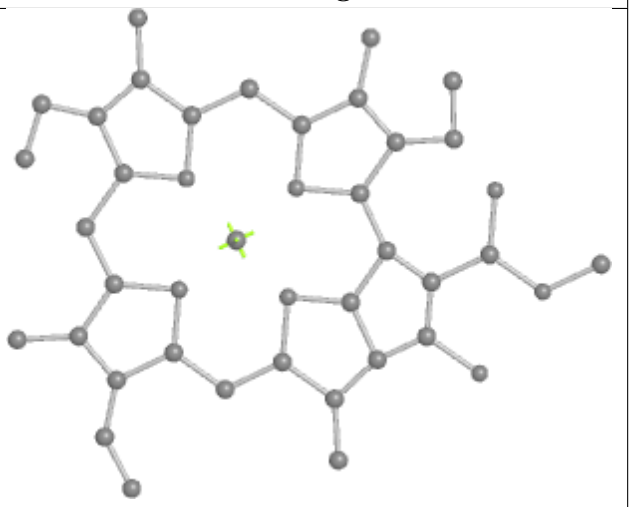
Bond lengths



Bond angles

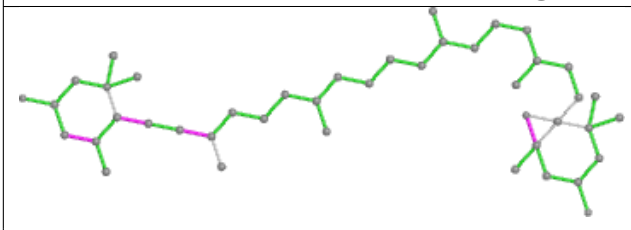


Torsions

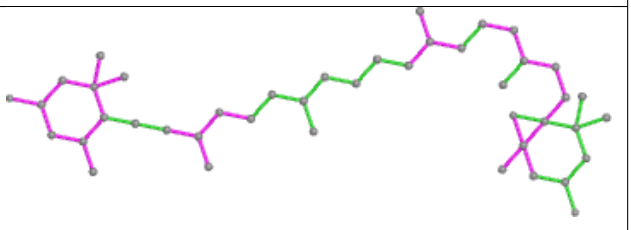


Rings

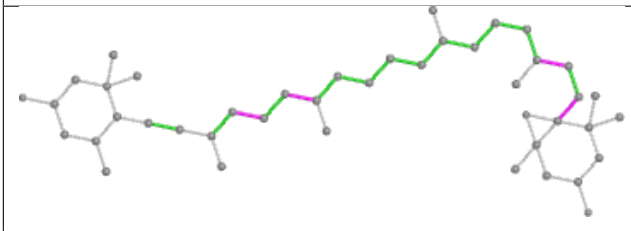
Ligand DD6 f 621



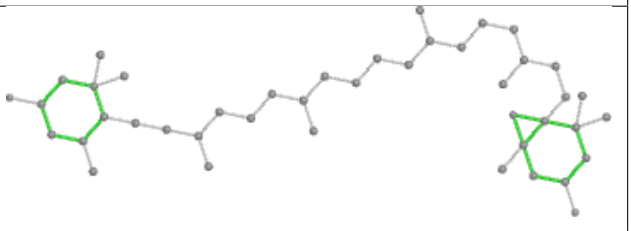
Bond lengths



Bond angles

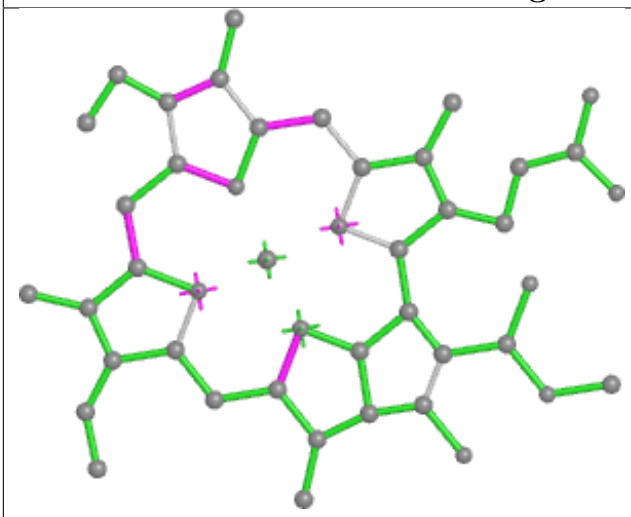


Torsions

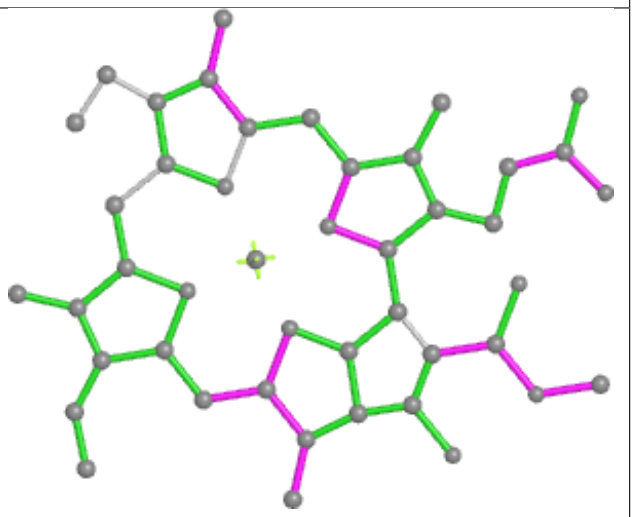


Rings

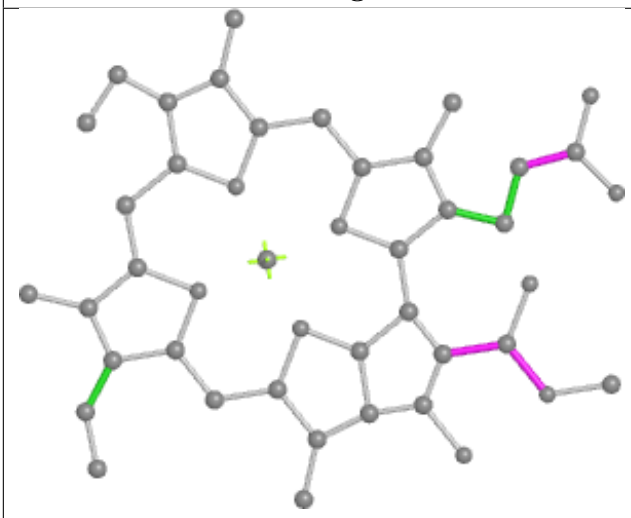
Ligand CLA e 603



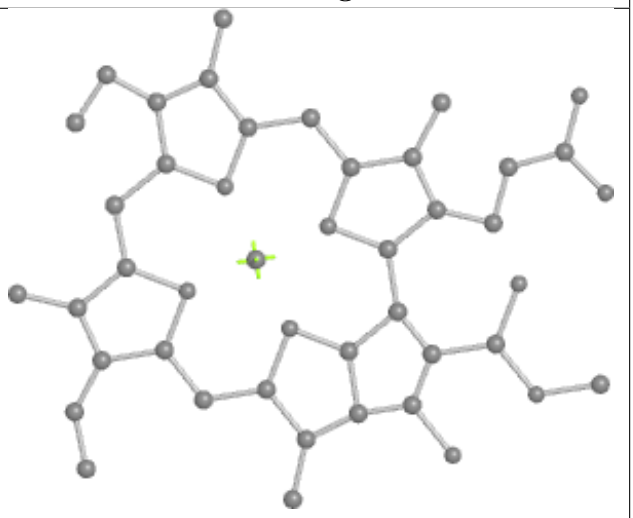
Bond lengths



Bond angles

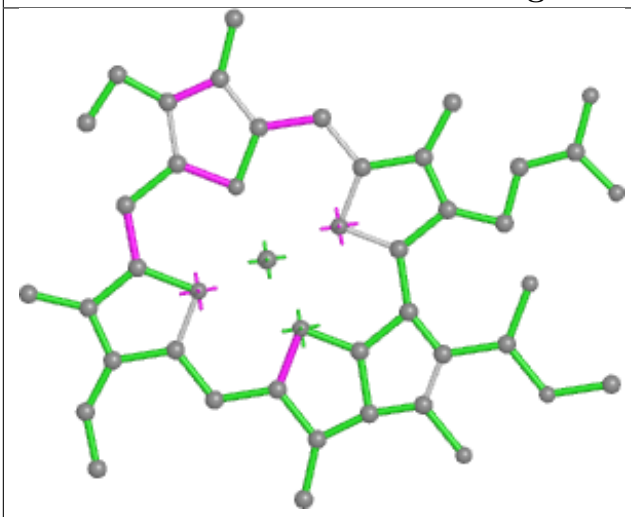


Torsions

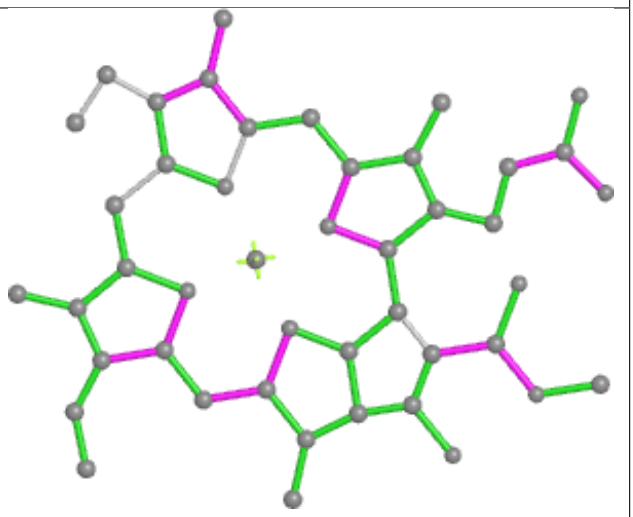


Rings

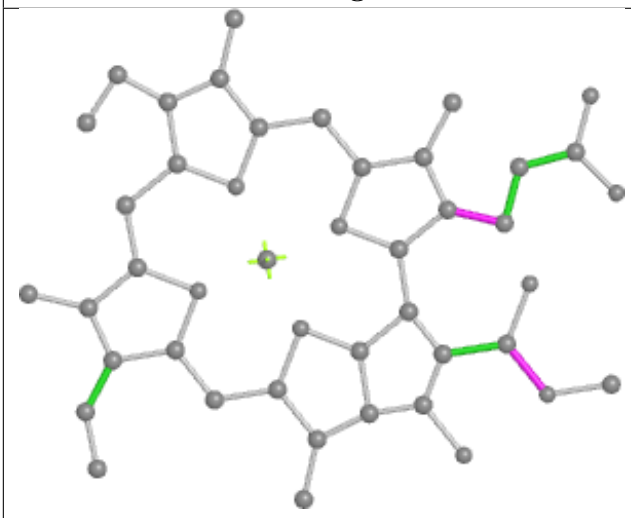
Ligand CLA b 604



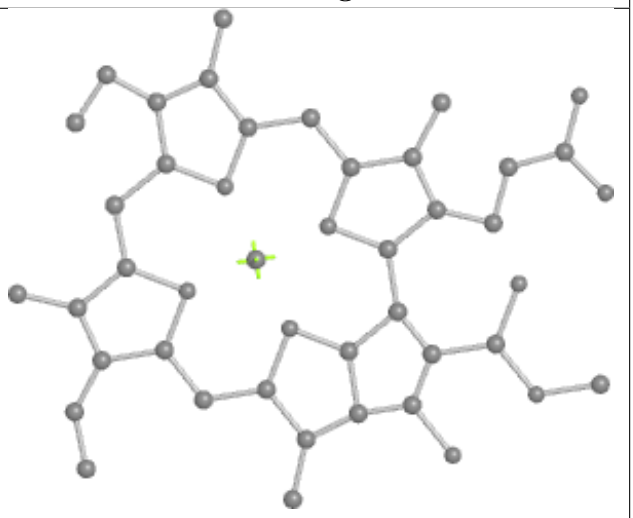
Bond lengths



Bond angles

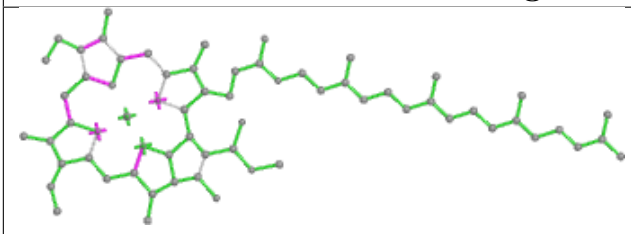


Torsions

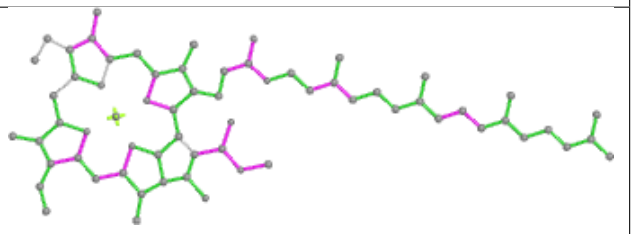


Rings

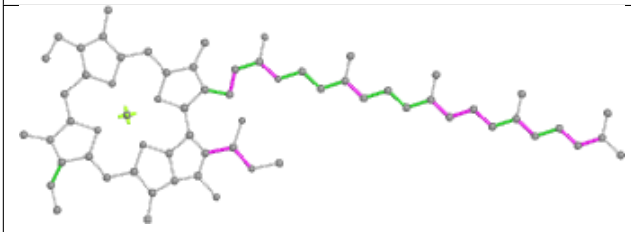
Ligand CLA A 769



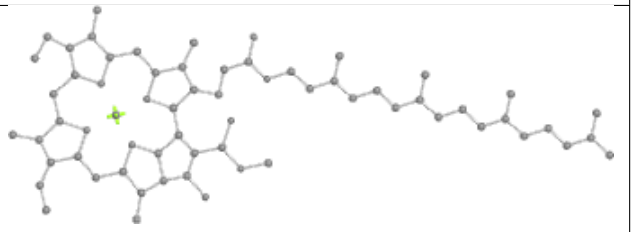
Bond lengths



Bond angles

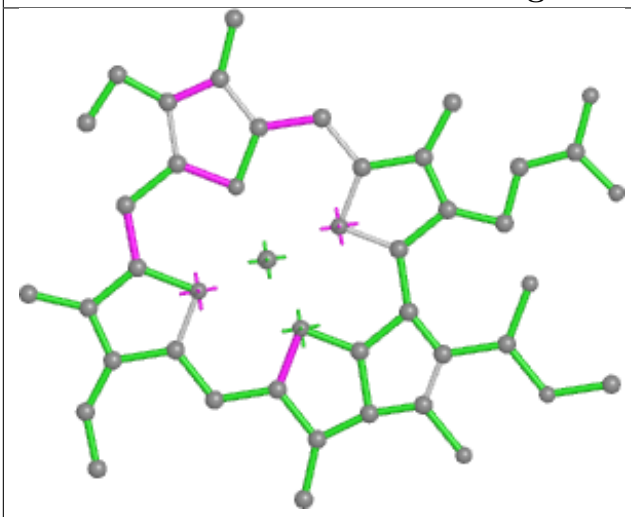


Torsions

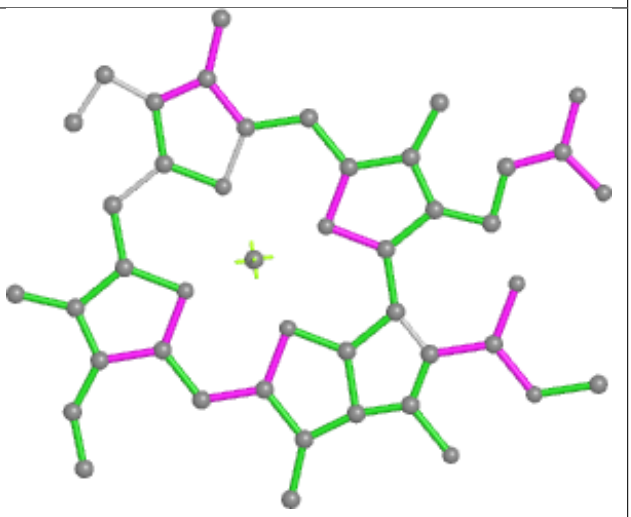


Rings

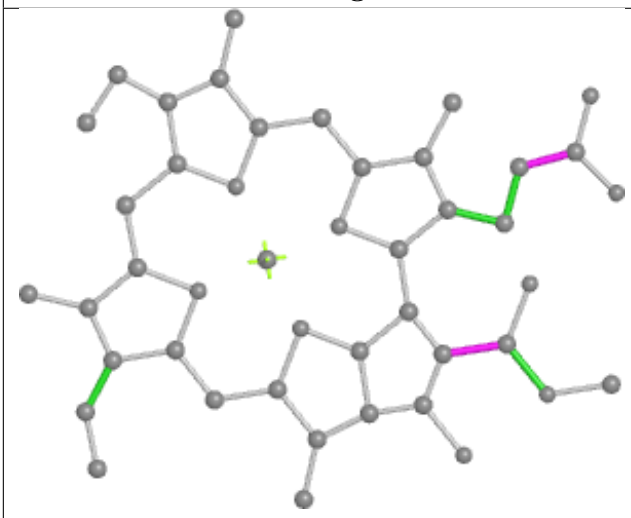
Ligand CLA b 609



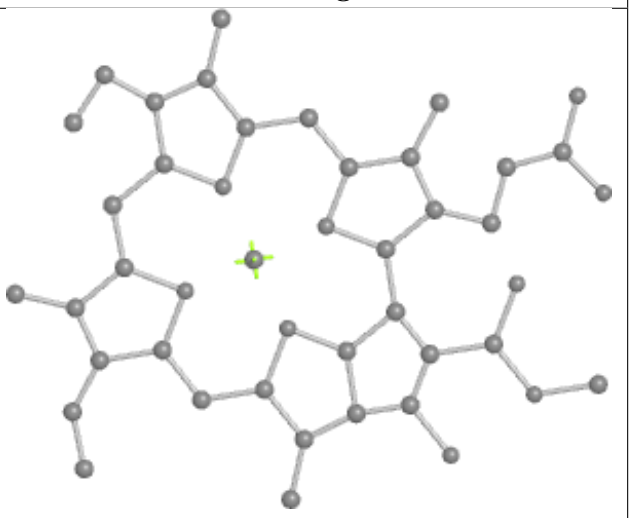
Bond lengths



Bond angles

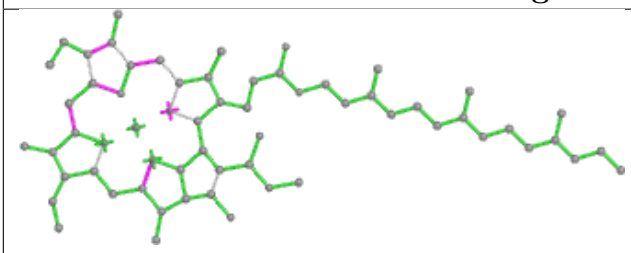


Torsions

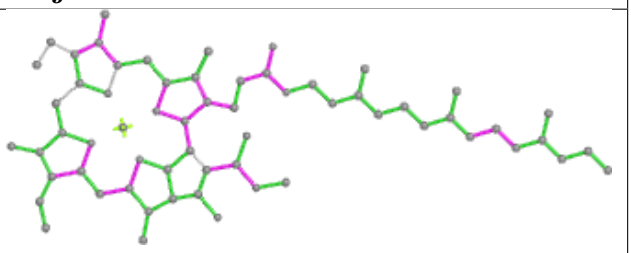


Rings

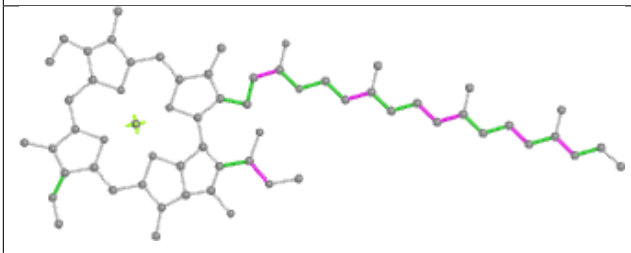
Ligand CLA j 613



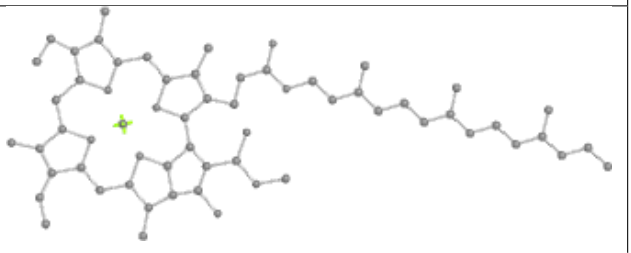
Bond lengths



Bond angles

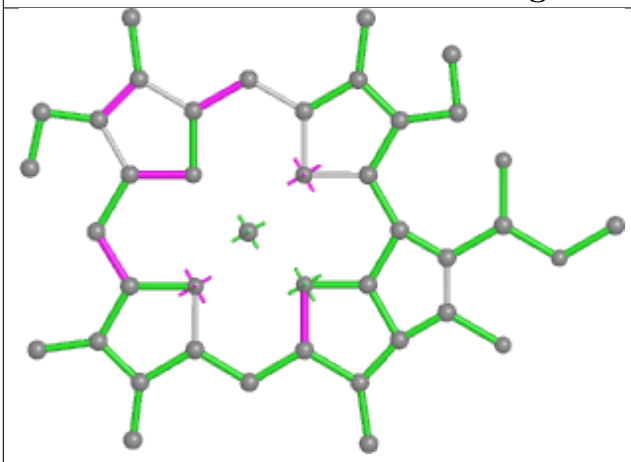


Torsions

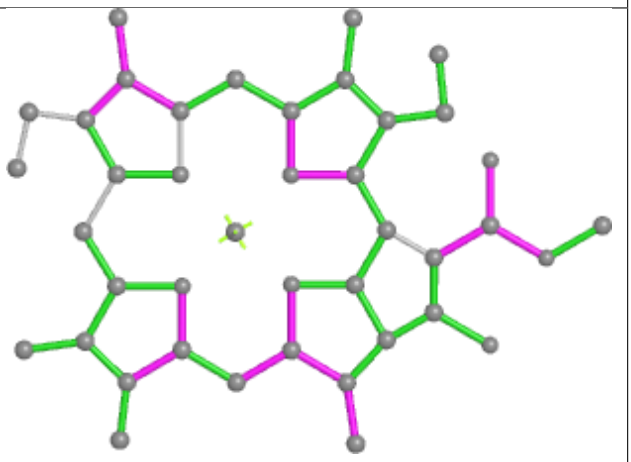


Rings

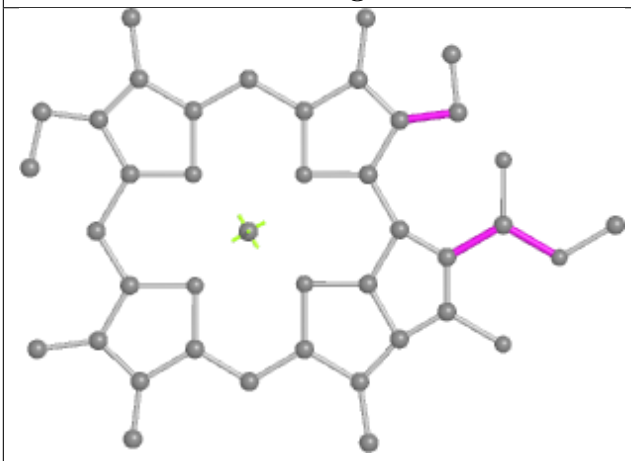
Ligand CLA e 601



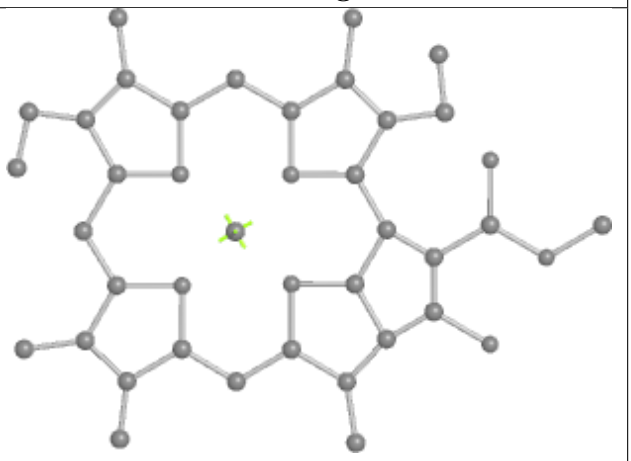
Bond lengths



Bond angles

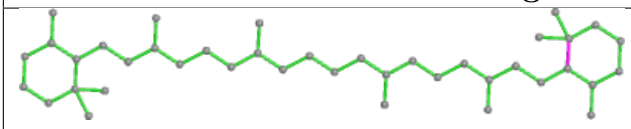


Torsions

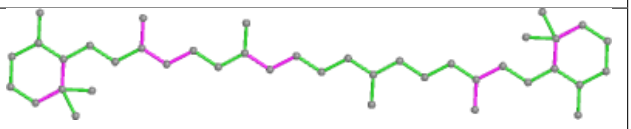


Rings

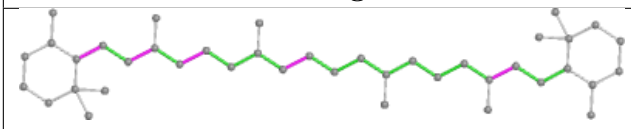
Ligand BCR B 762



Bond lengths



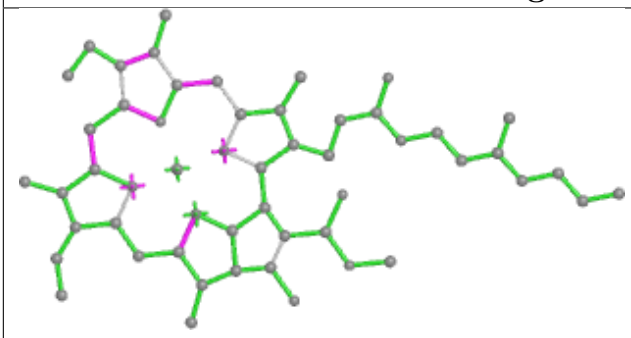
Bond angles



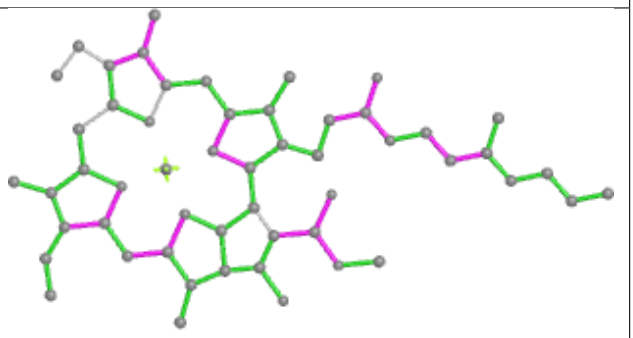
Torsions

Rings

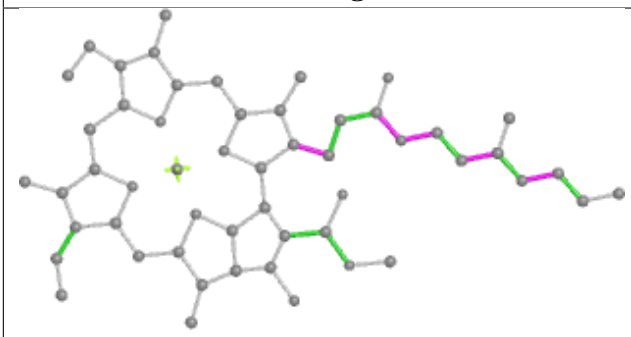
Ligand CLA k 602



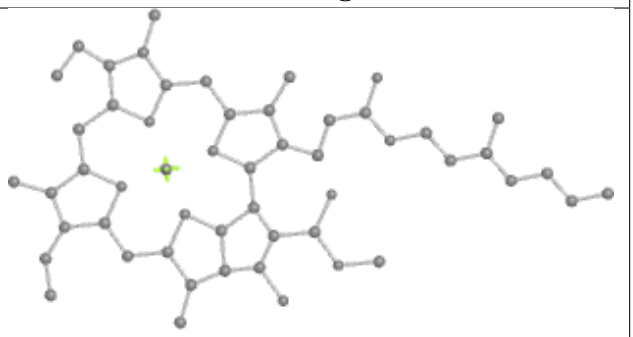
Bond lengths



Bond angles

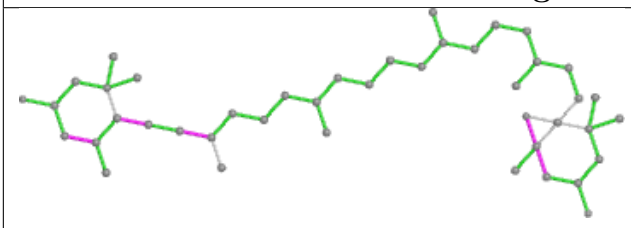


Torsions

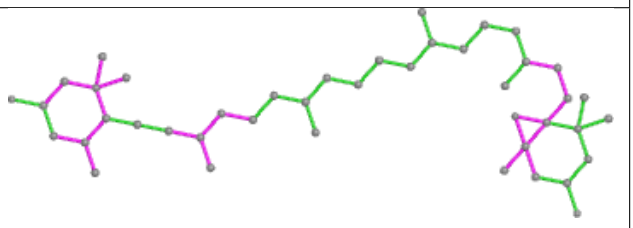


Rings

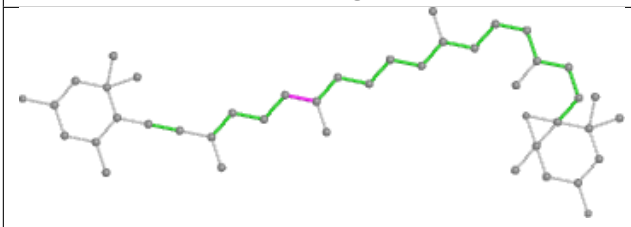
Ligand DD6 i 620



Bond lengths



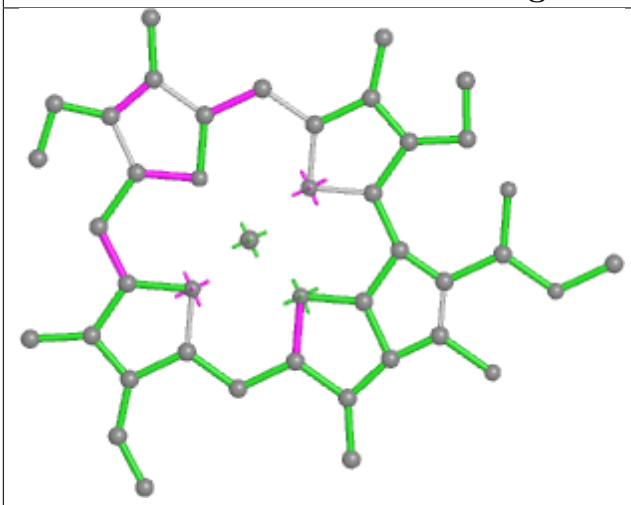
Bond angles



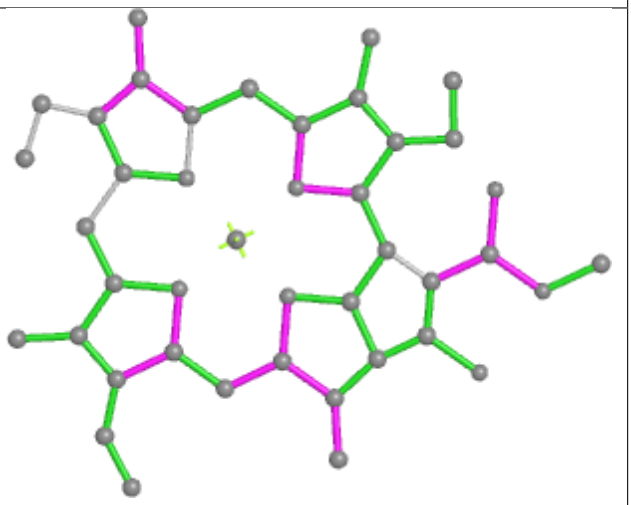
Torsions

Rings

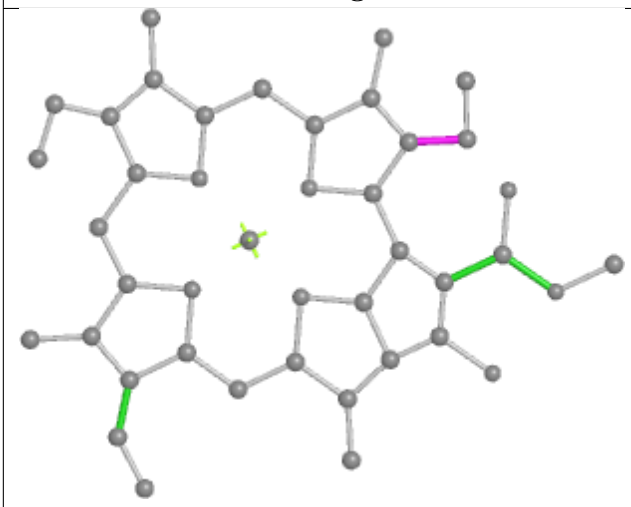
Ligand CLA o 604



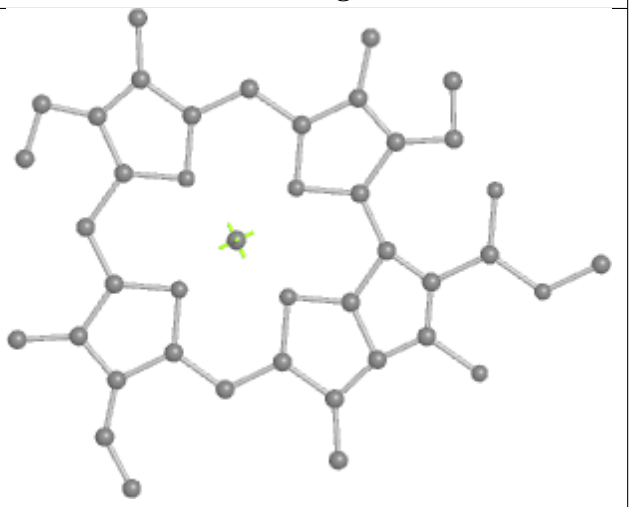
Bond lengths



Bond angles

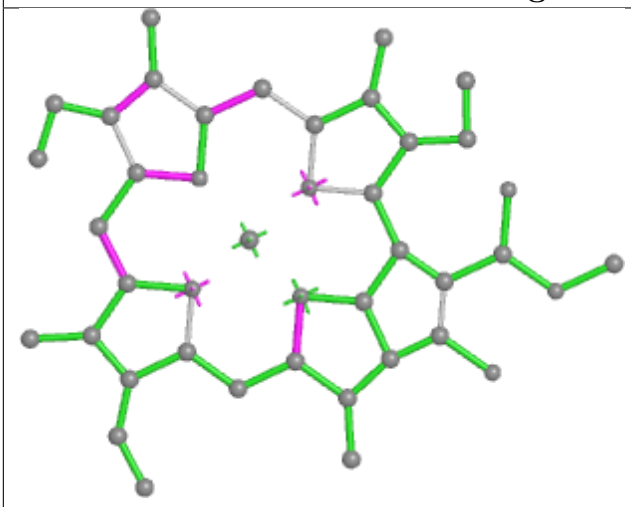


Torsions

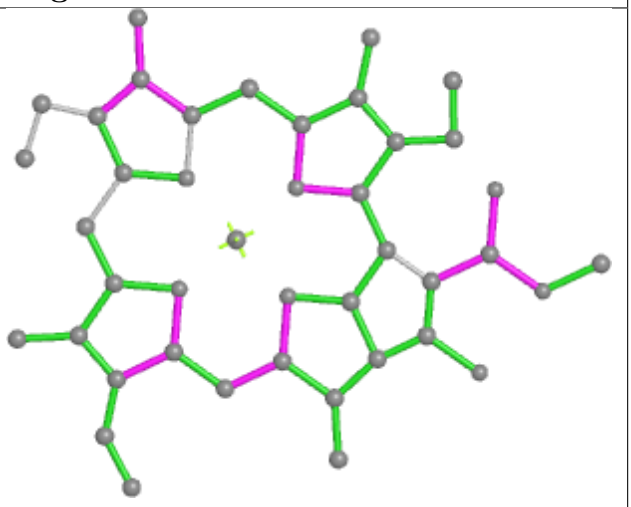


Rings

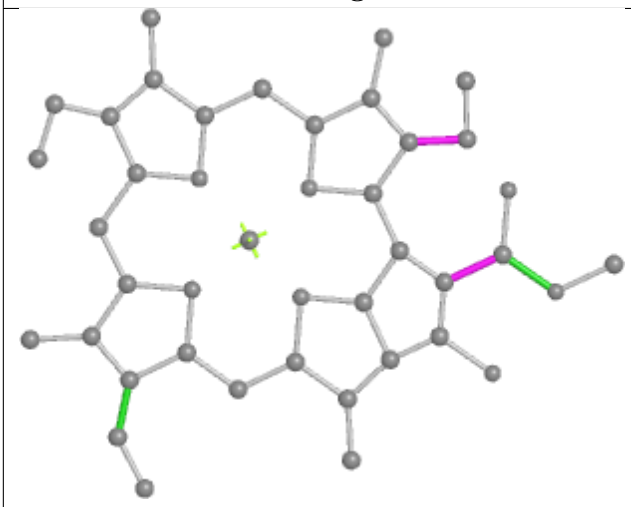
Ligand CLA g 611



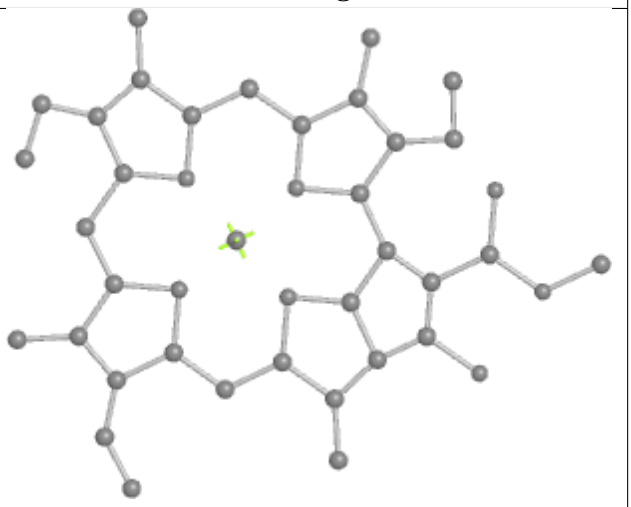
Bond lengths



Bond angles

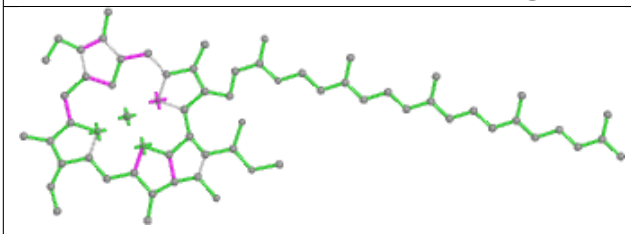


Torsions

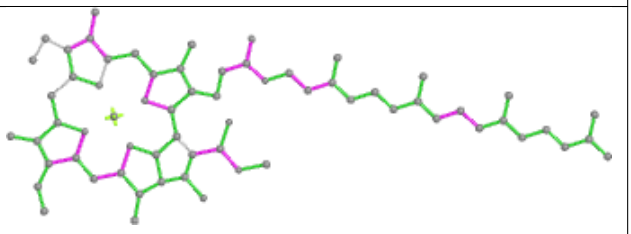


Rings

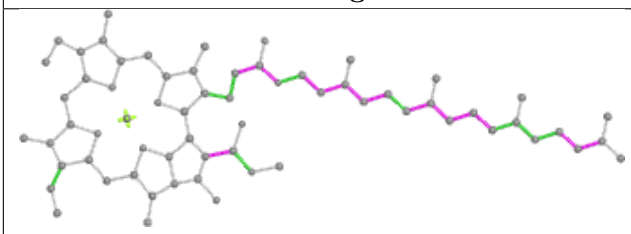
Ligand CLA A 760



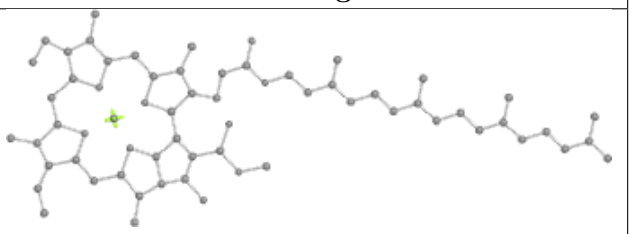
Bond lengths



Bond angles

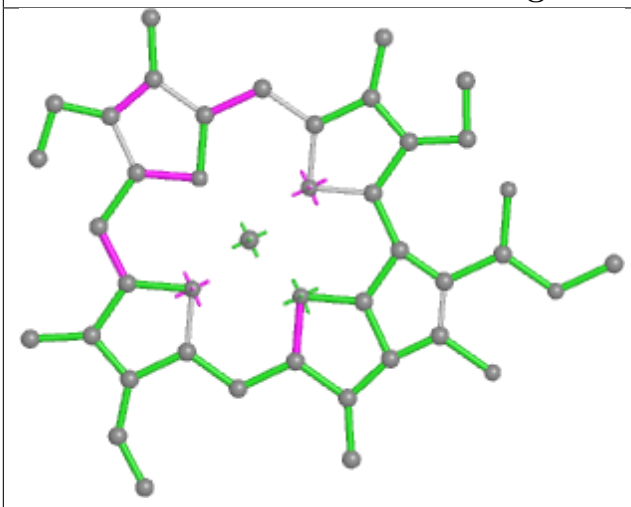


Torsions

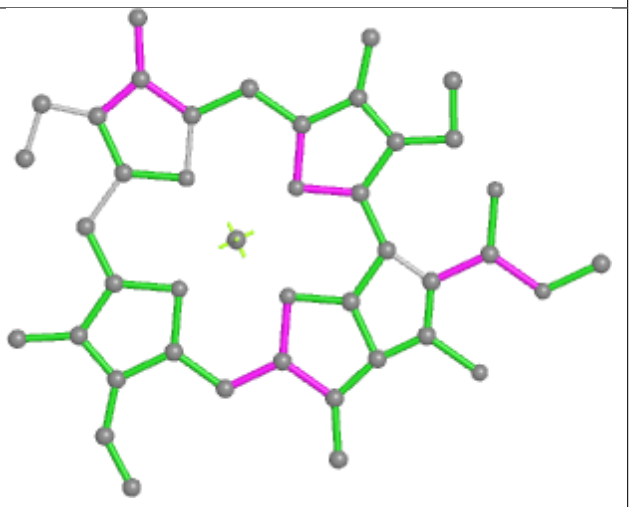


Rings

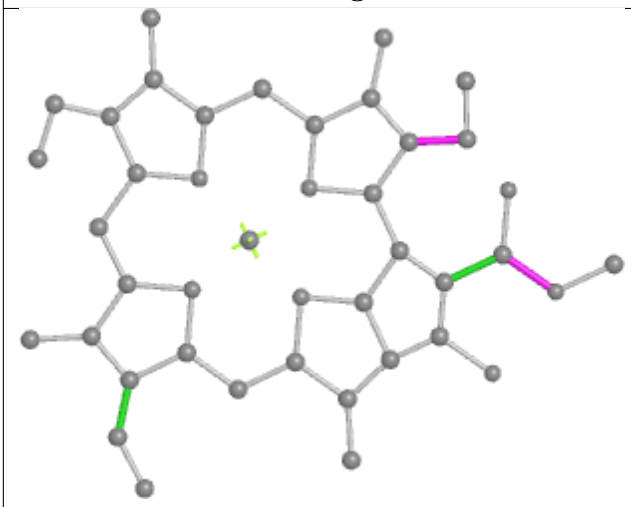
Ligand CLA n 606



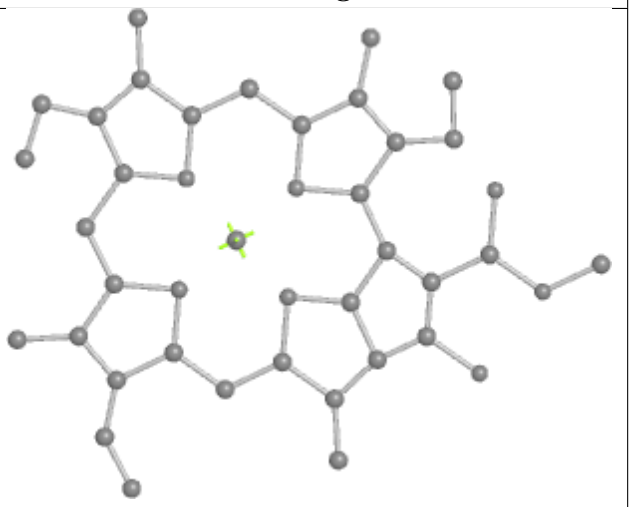
Bond lengths



Bond angles

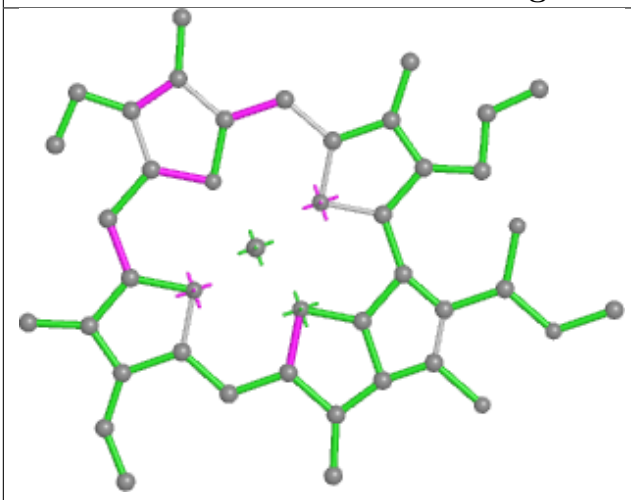


Torsions

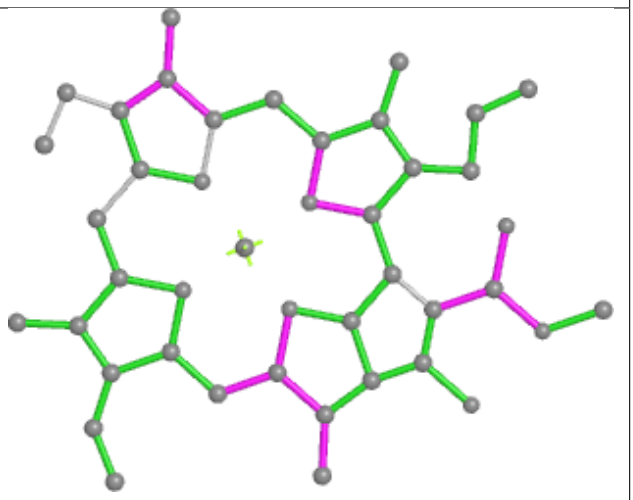


Rings

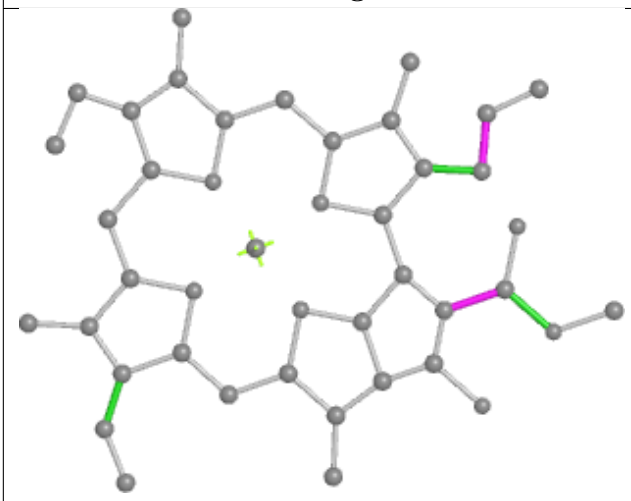
Ligand CLA e 612



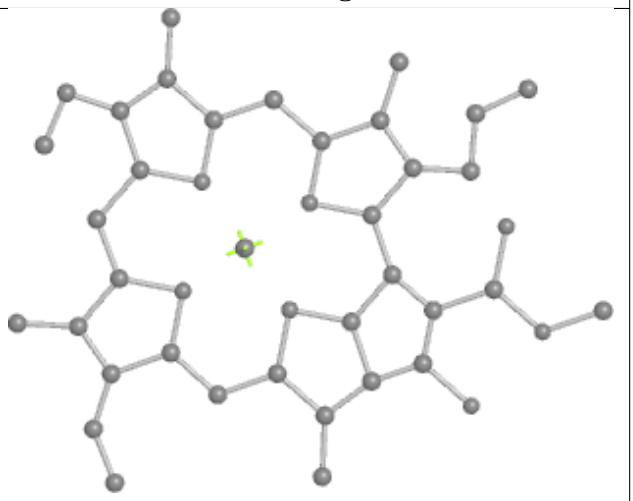
Bond lengths



Bond angles

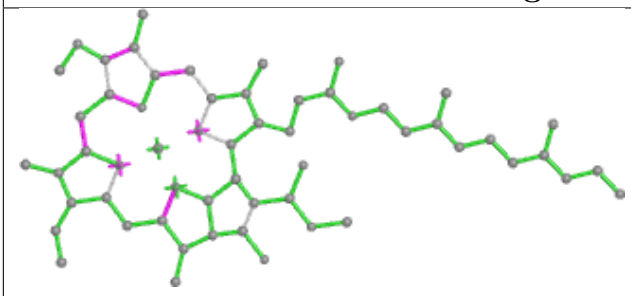


Torsions

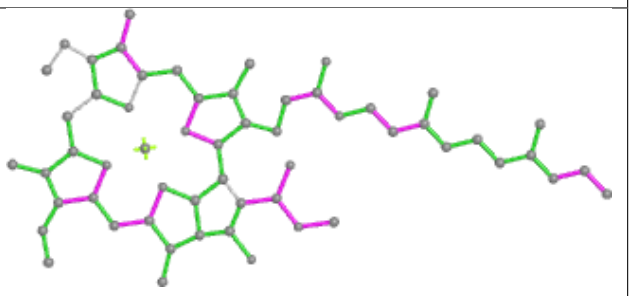


Rings

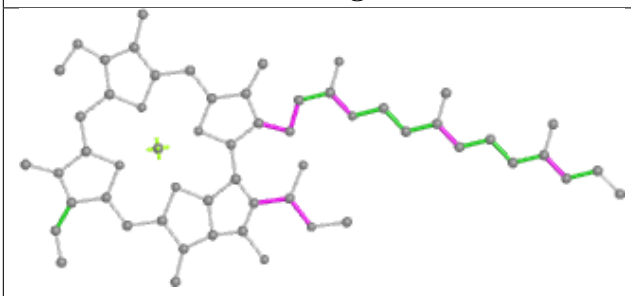
Ligand CLA A 771



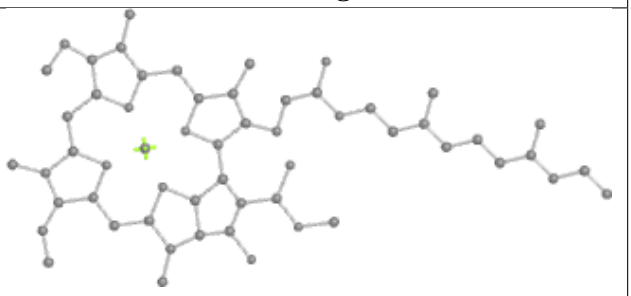
Bond lengths



Bond angles

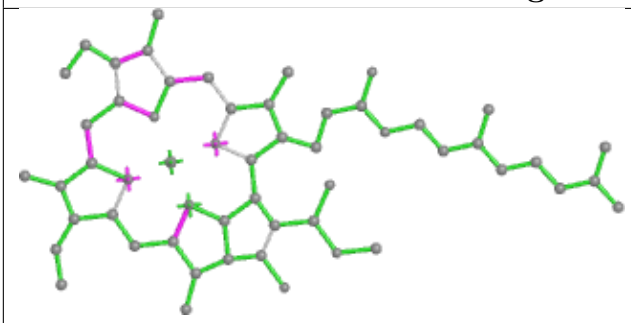


Torsions

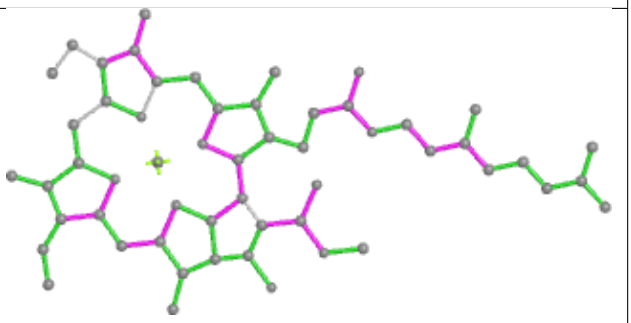


Rings

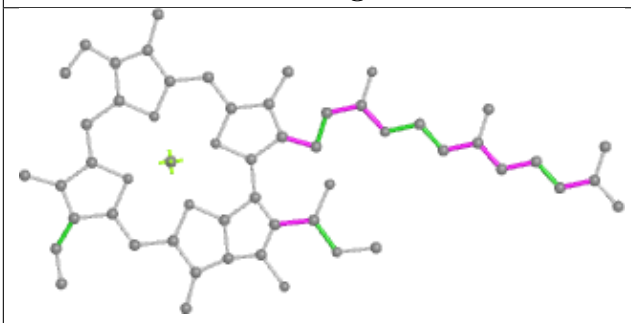
Ligand CLA h 602



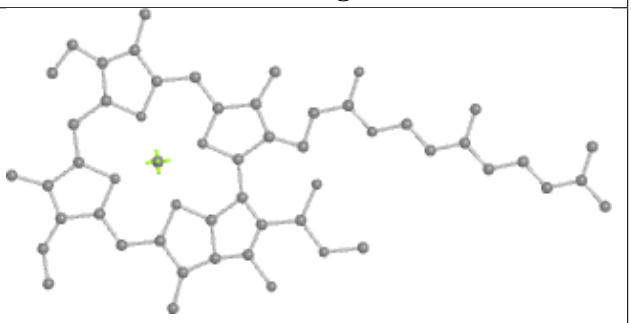
Bond lengths



Bond angles

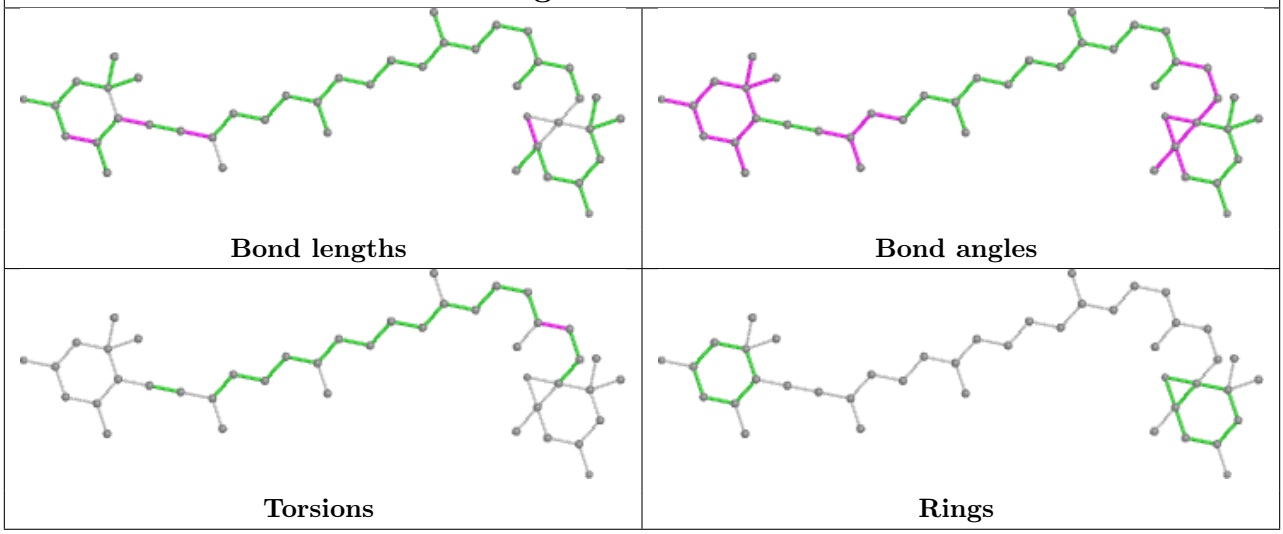


Torsions

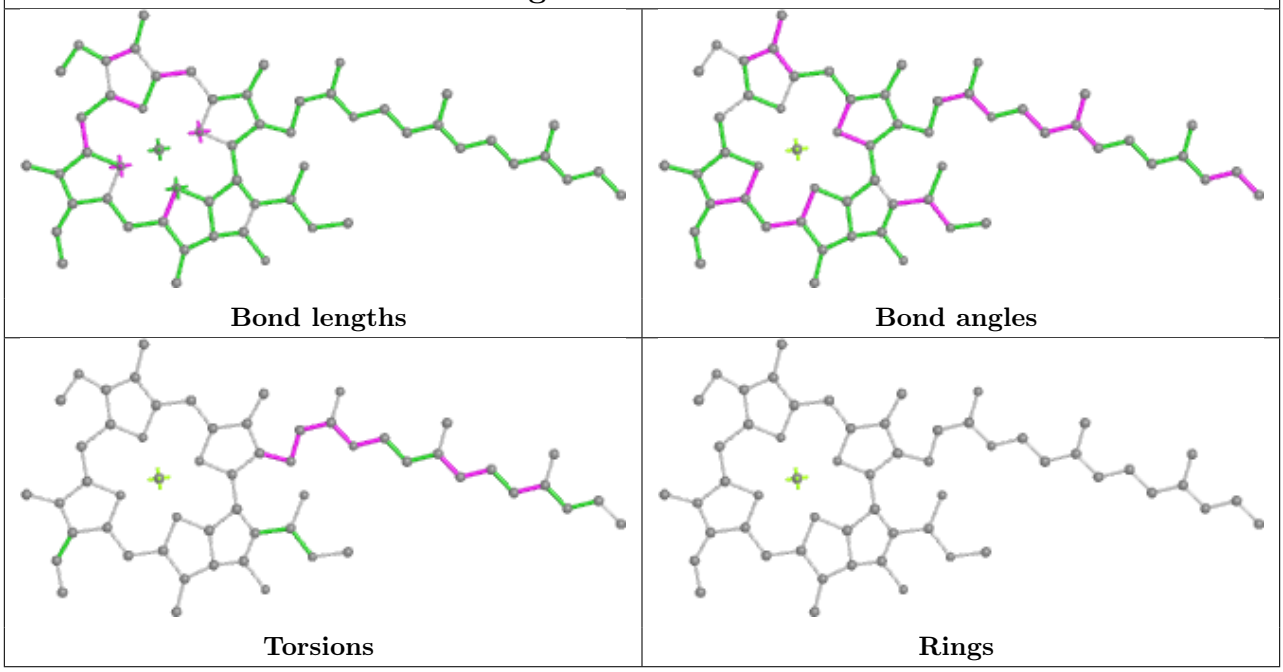


Rings

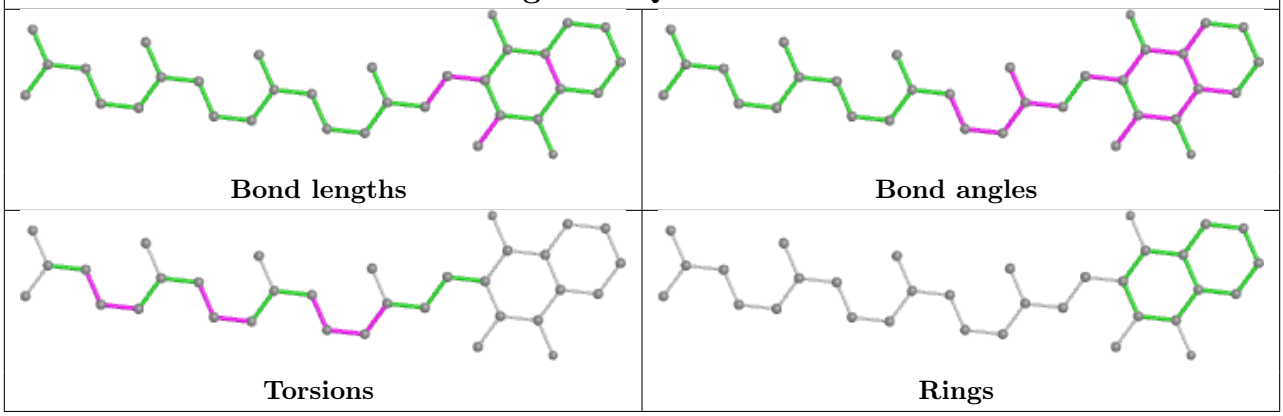
Ligand DD6 l 620



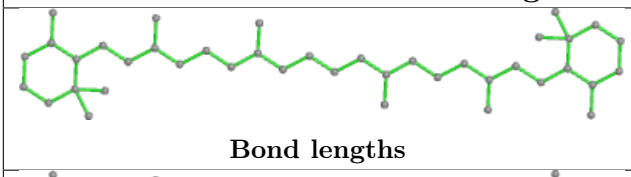
Ligand CLA k 610



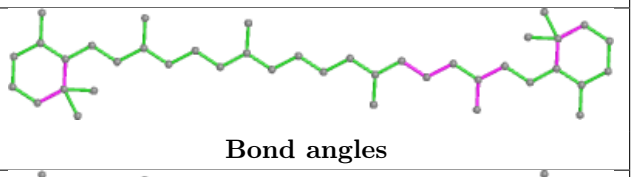
Ligand PQN B 761



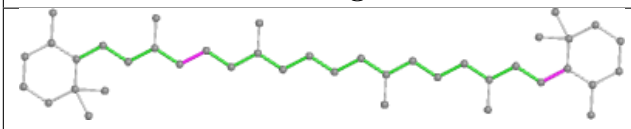
Ligand BCR B 763



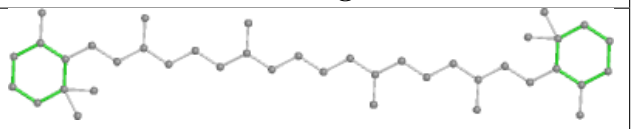
Bond lengths



Bond angles

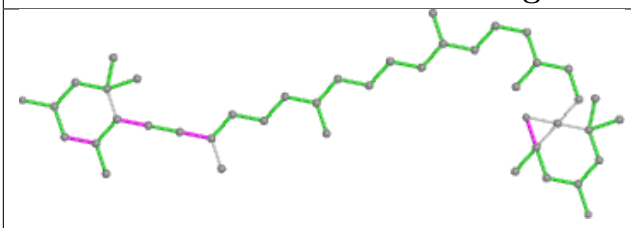


Torsions

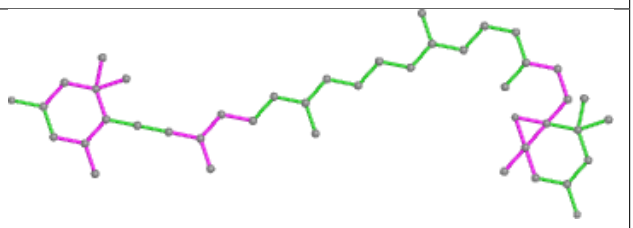


Rings

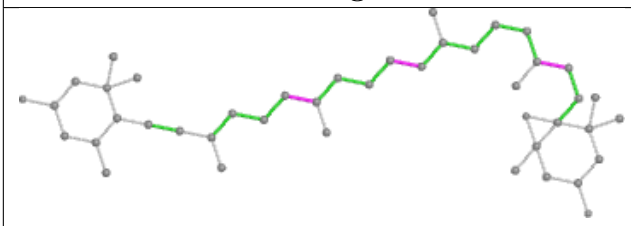
Ligand DD6 m 620



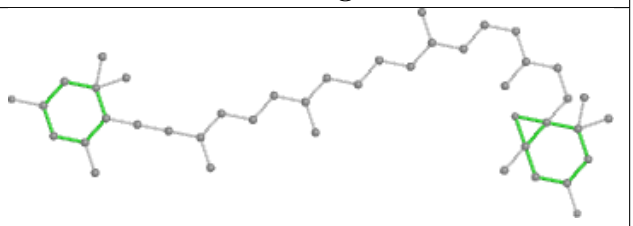
Bond lengths



Bond angles

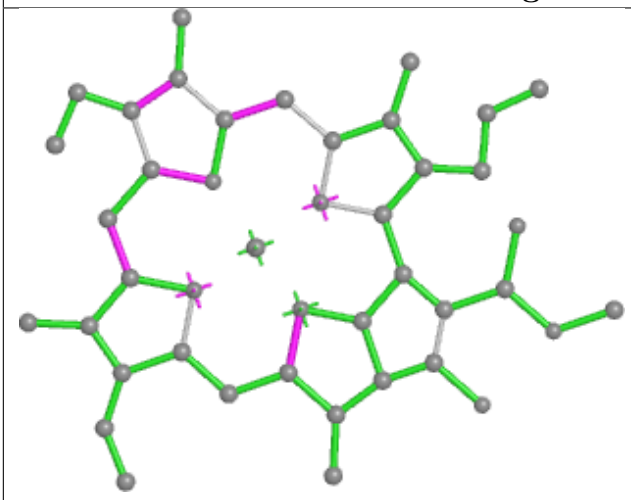


Torsions

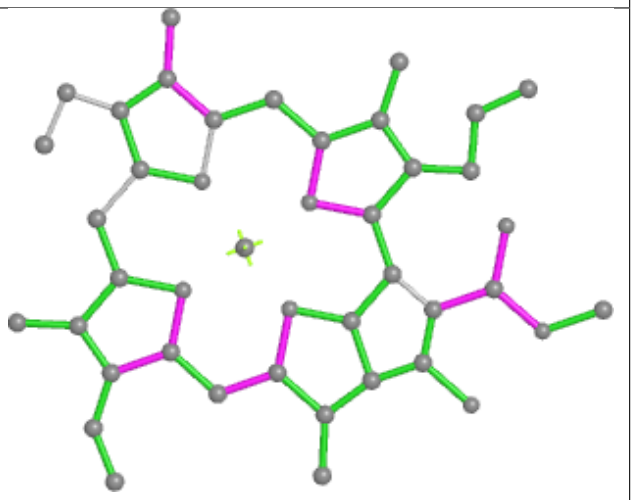


Rings

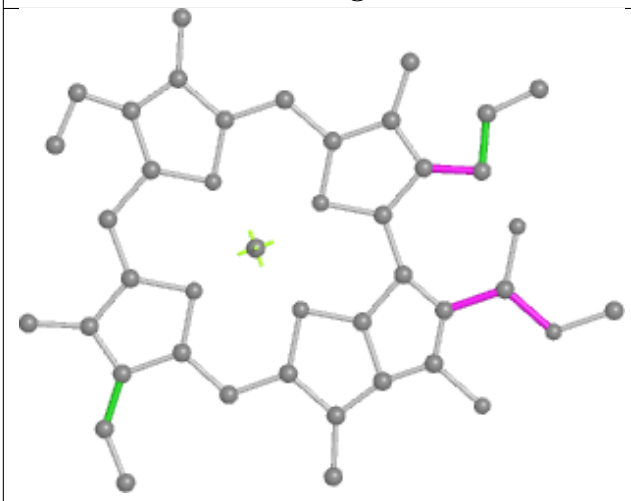
Ligand CLA m 604



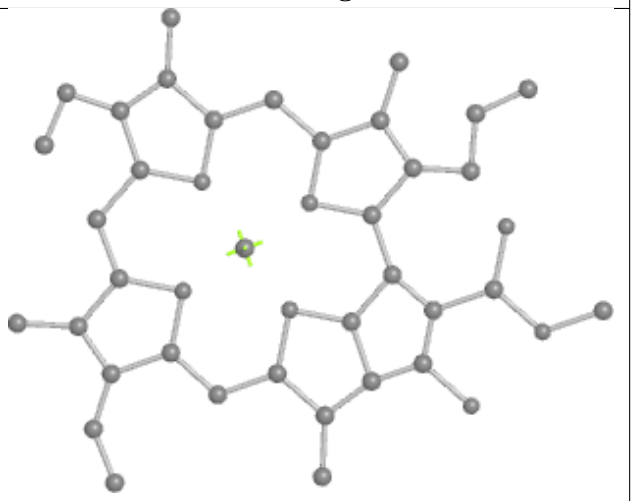
Bond lengths



Bond angles

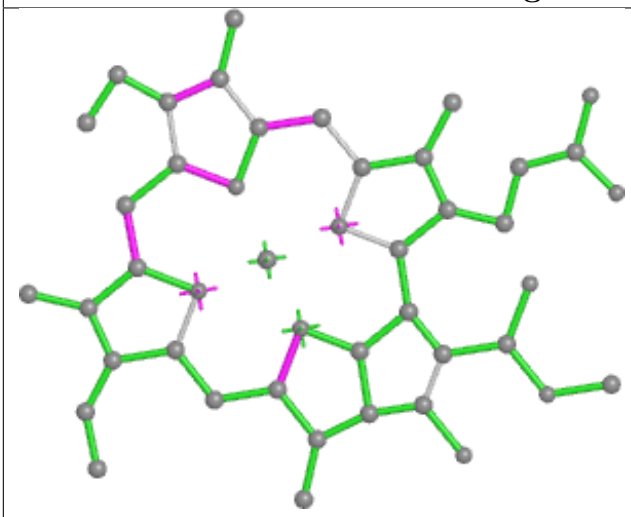


Torsions

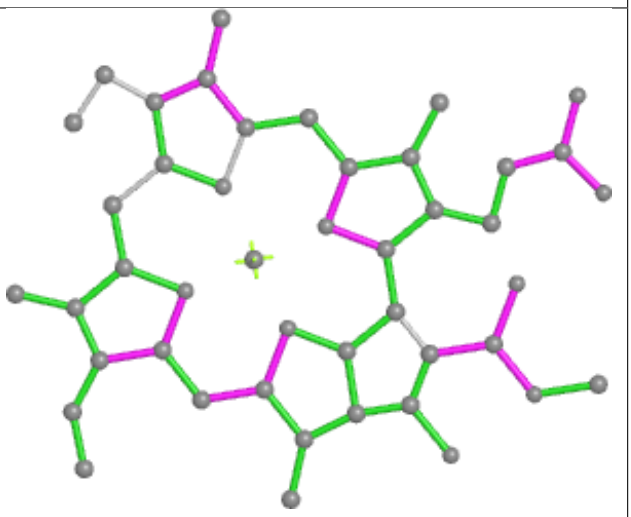


Rings

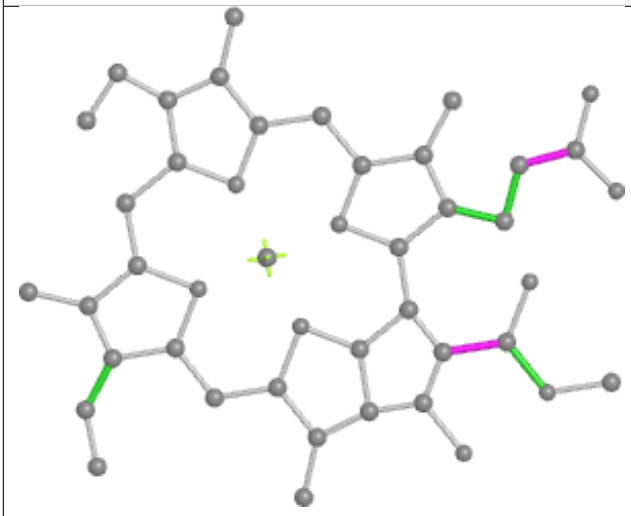
Ligand CLA A 806



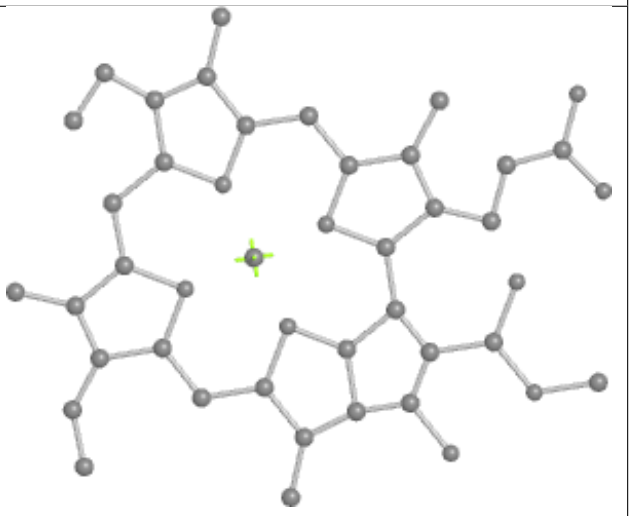
Bond lengths



Bond angles

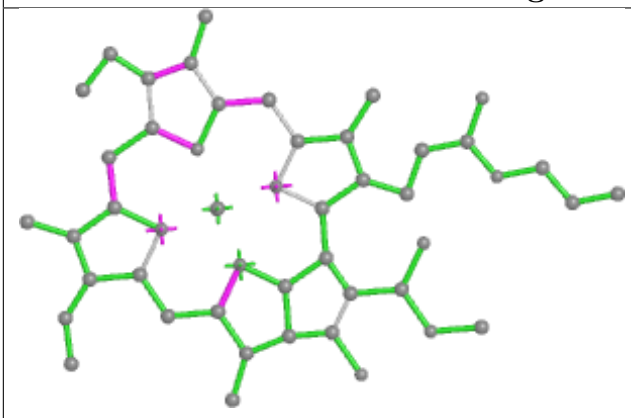


Torsions

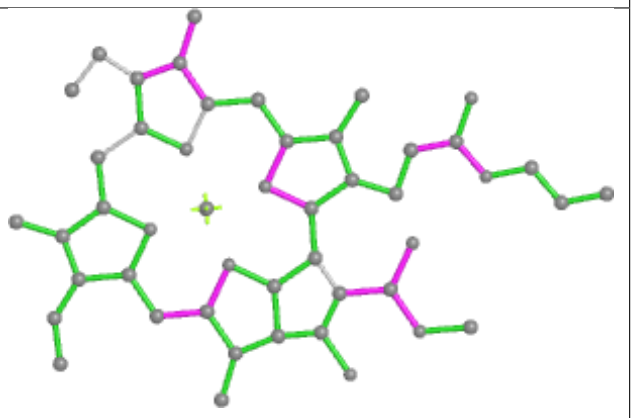


Rings

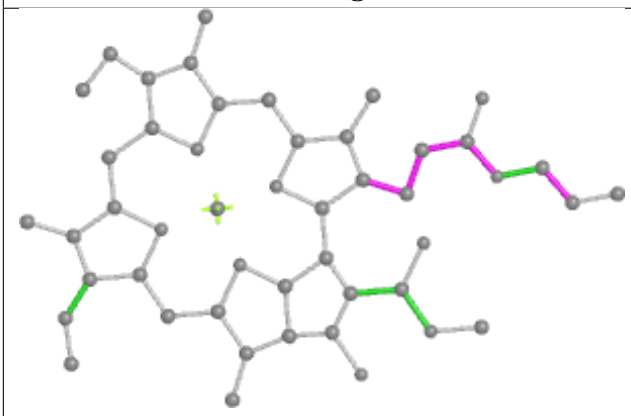
Ligand CLA h 608



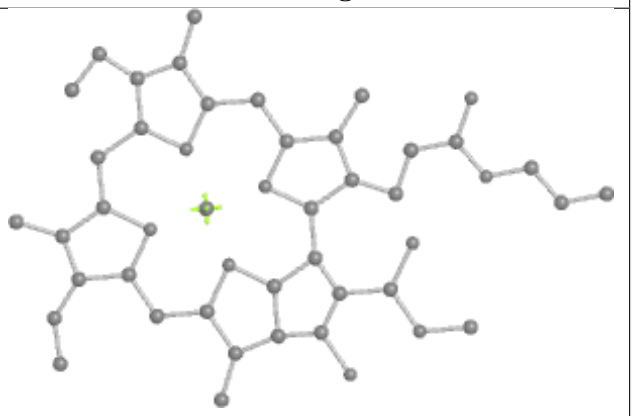
Bond lengths



Bond angles

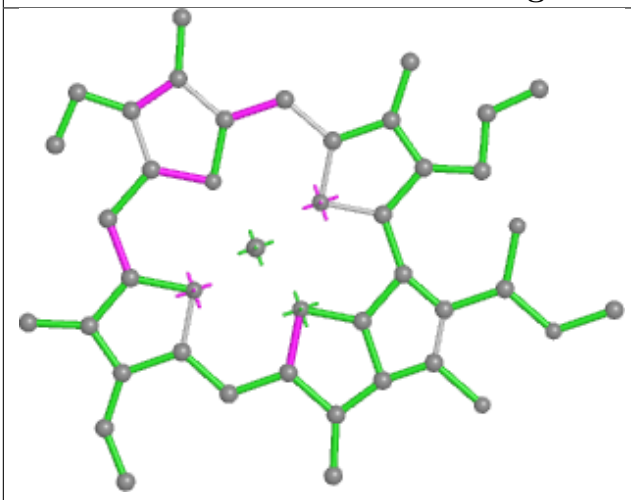


Torsions

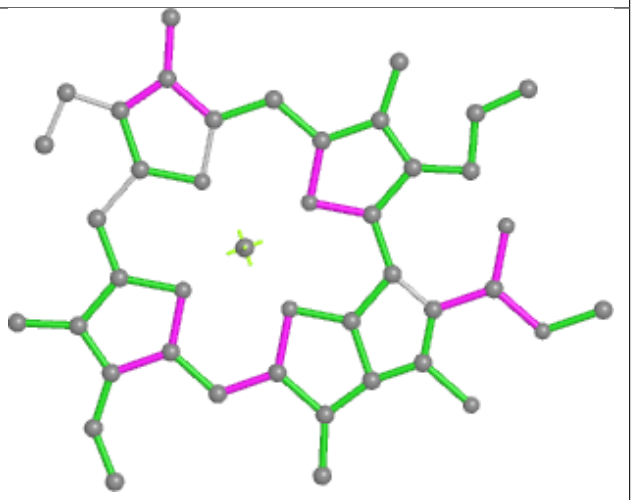


Rings

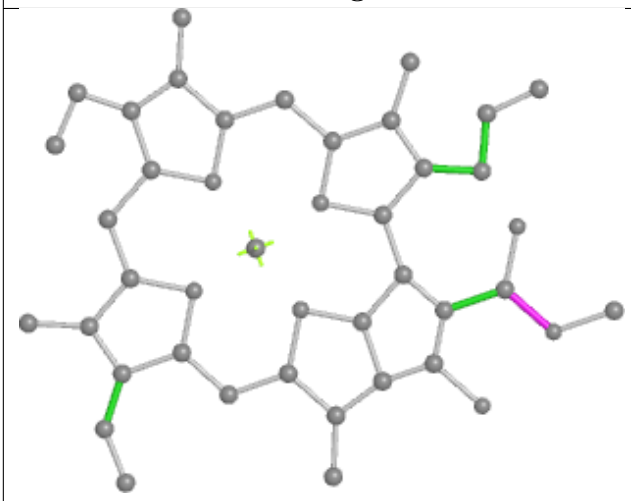
Ligand CLA h 618



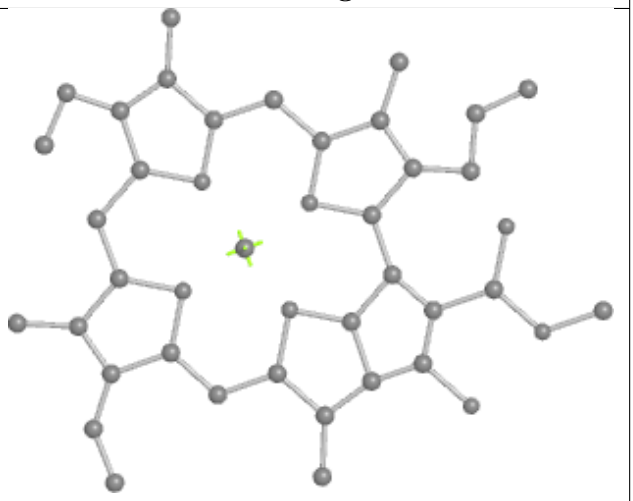
Bond lengths



Bond angles

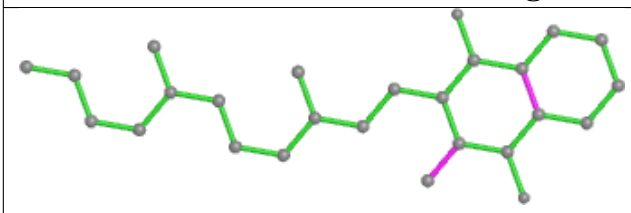


Torsions

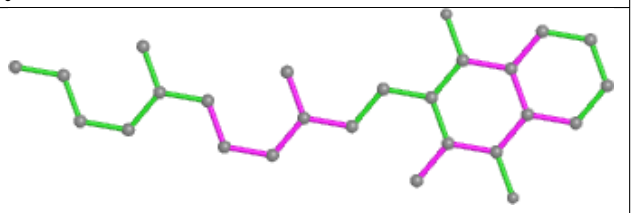


Rings

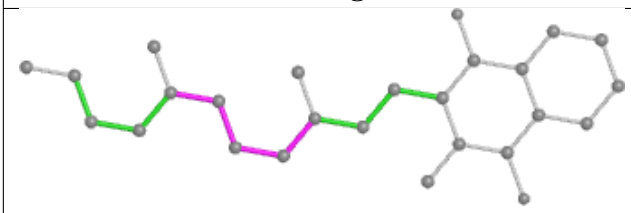
Ligand PQN d 223



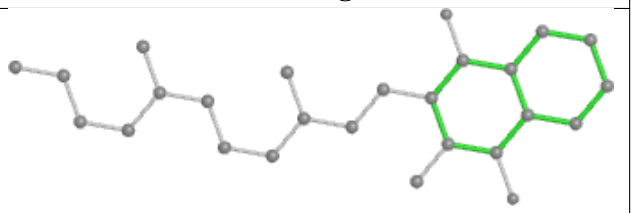
Bond lengths



Bond angles

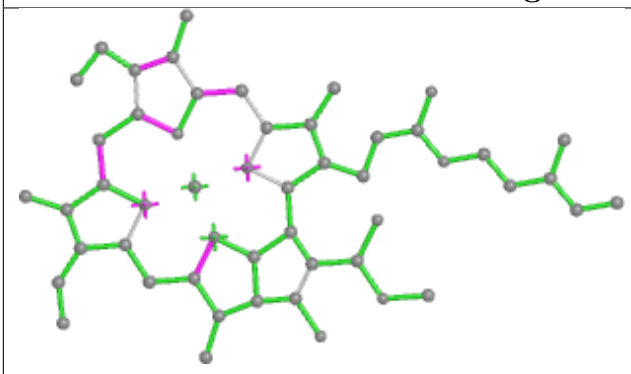


Torsions

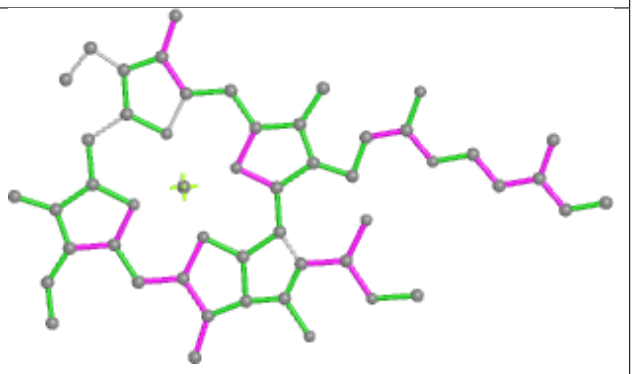


Rings

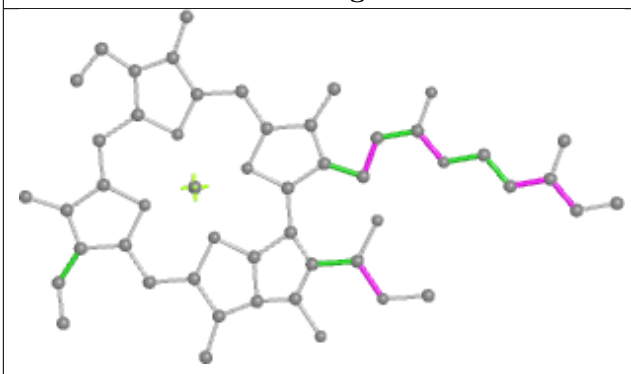
Ligand CLA A 803



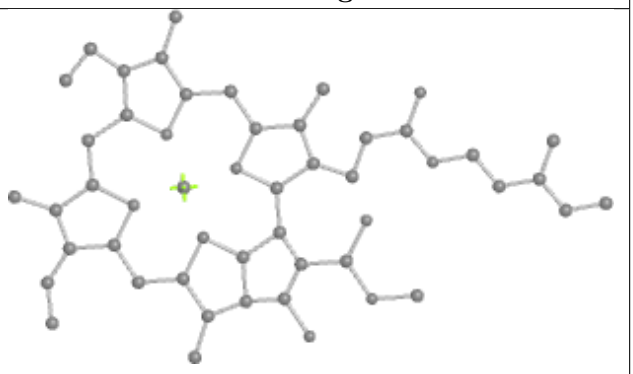
Bond lengths



Bond angles

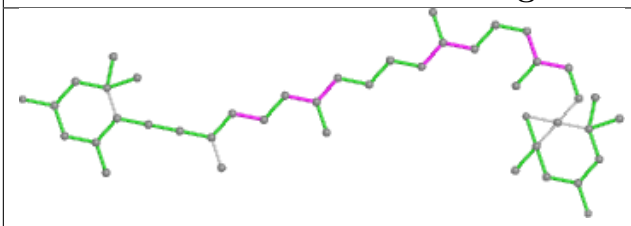


Torsions

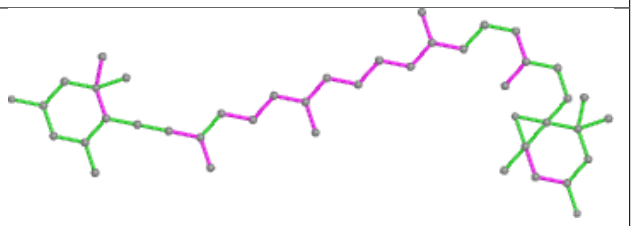


Rings

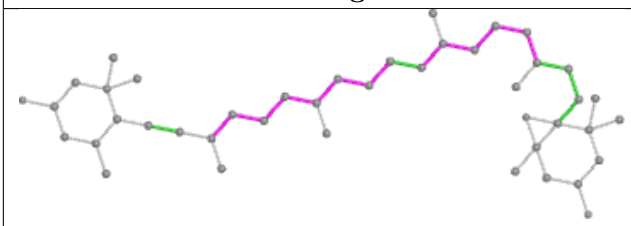
Ligand DD6 F 4002



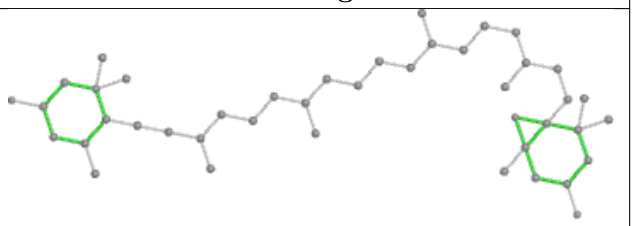
Bond lengths



Bond angles

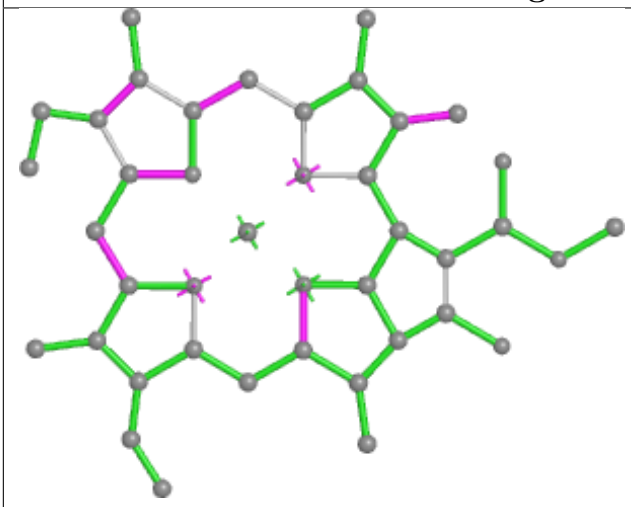


Torsions

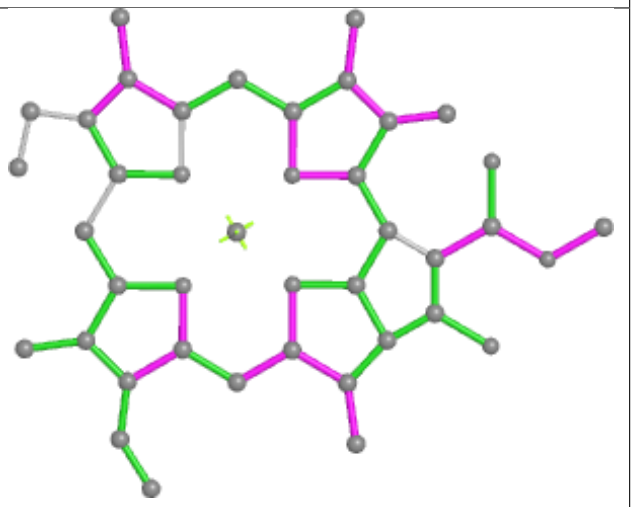


Rings

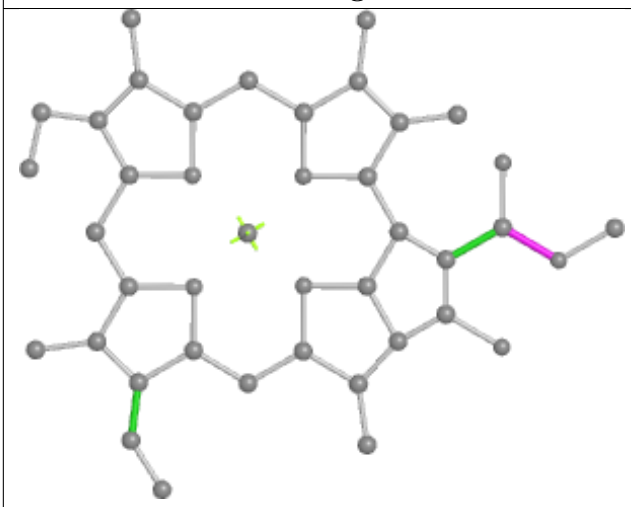
Ligand CLA o 601



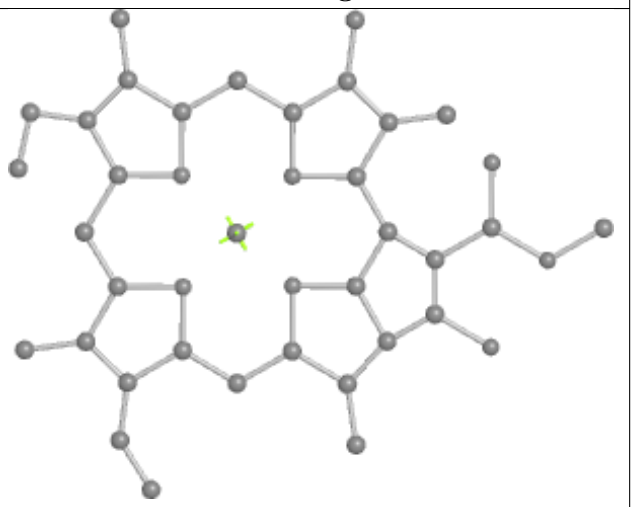
Bond lengths



Bond angles

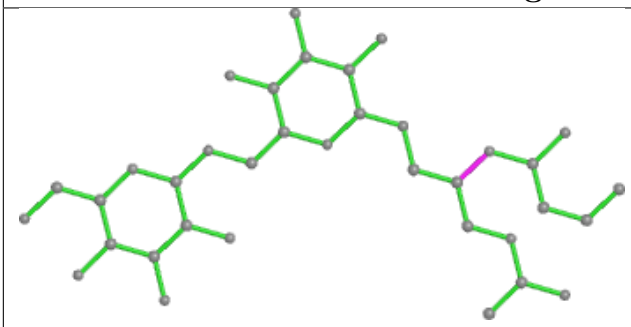


Torsions

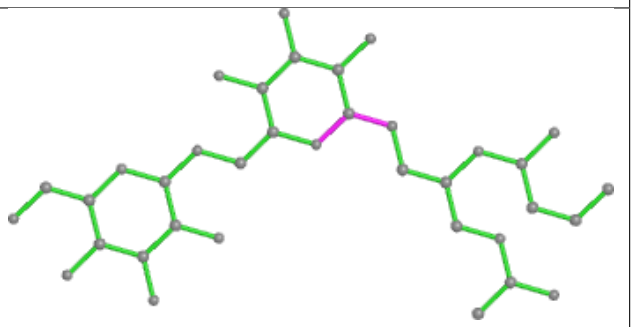


Rings

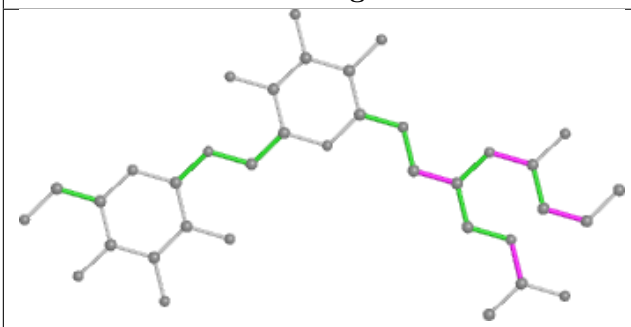
Ligand DGD e 205



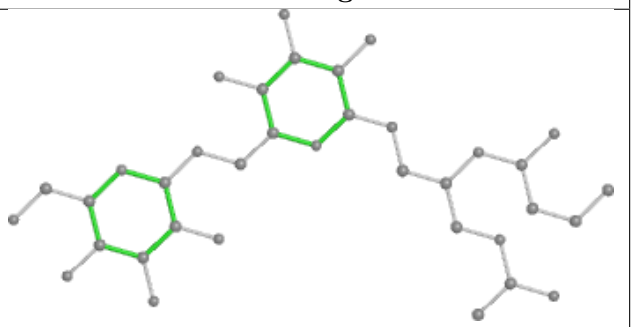
Bond lengths



Bond angles

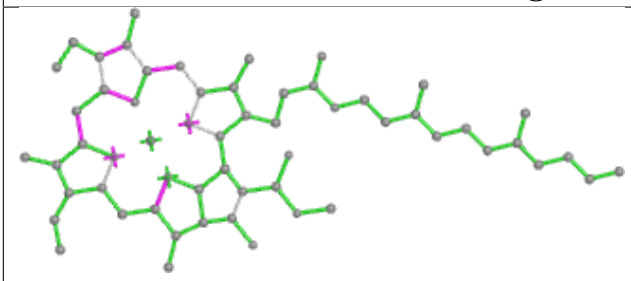


Torsions

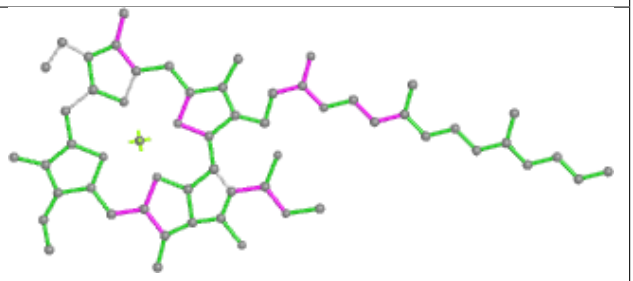


Rings

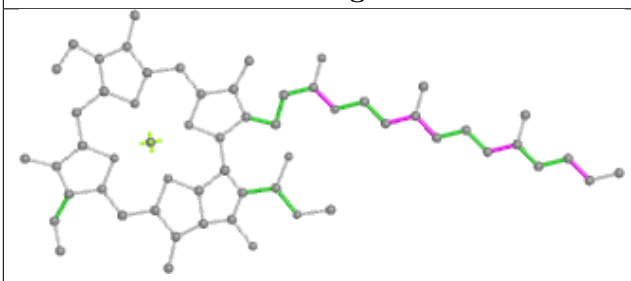
Ligand CLA h 612



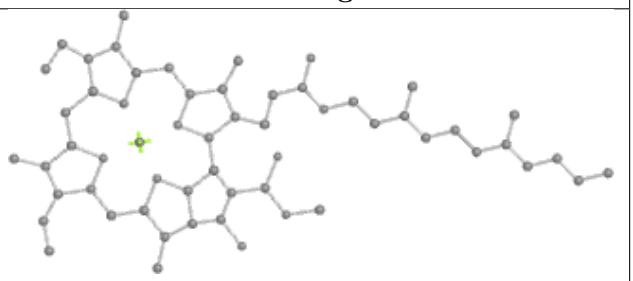
Bond lengths



Bond angles

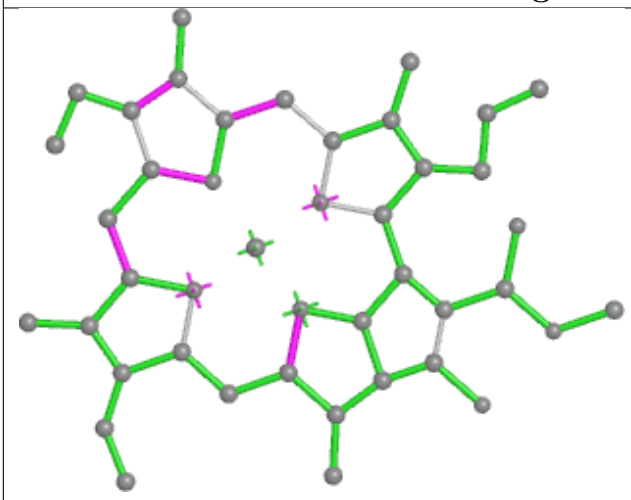


Torsions

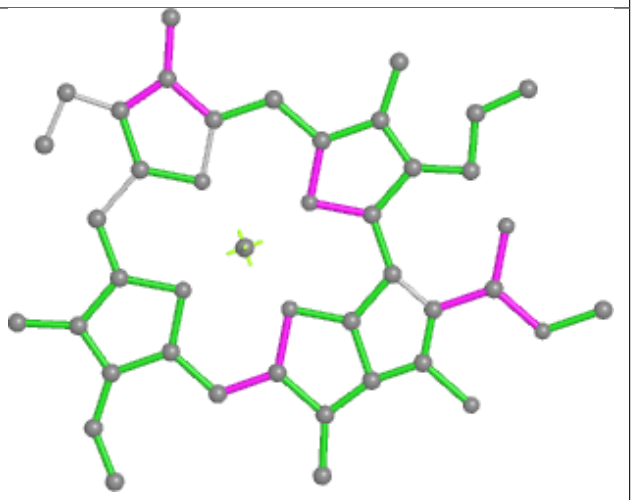


Rings

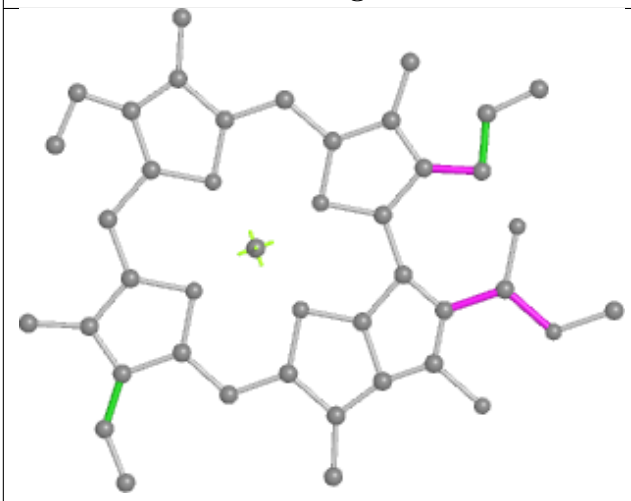
Ligand CLA i 611



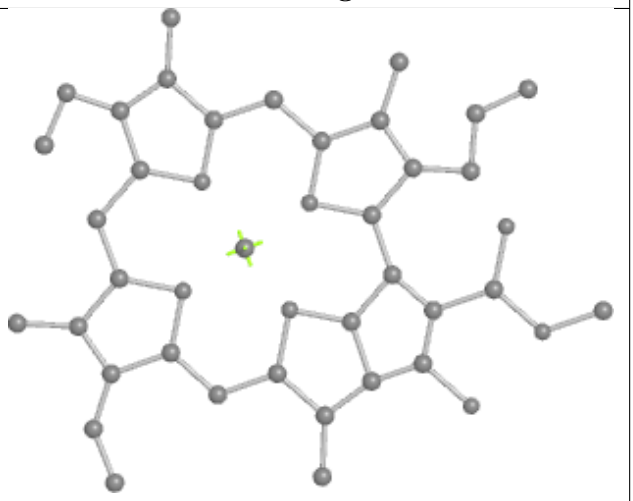
Bond lengths



Bond angles

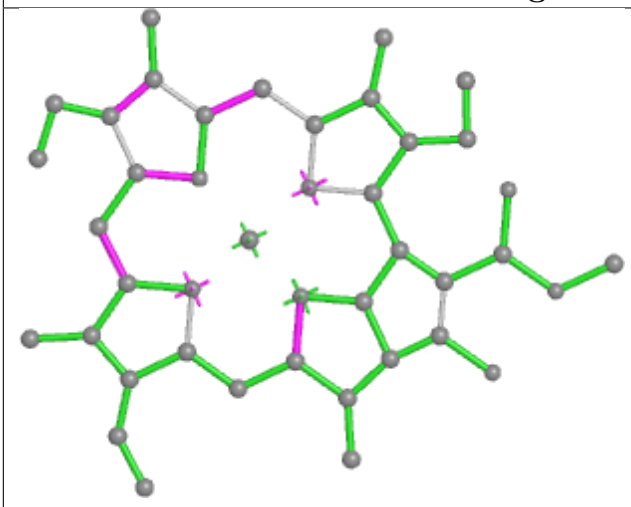


Torsions

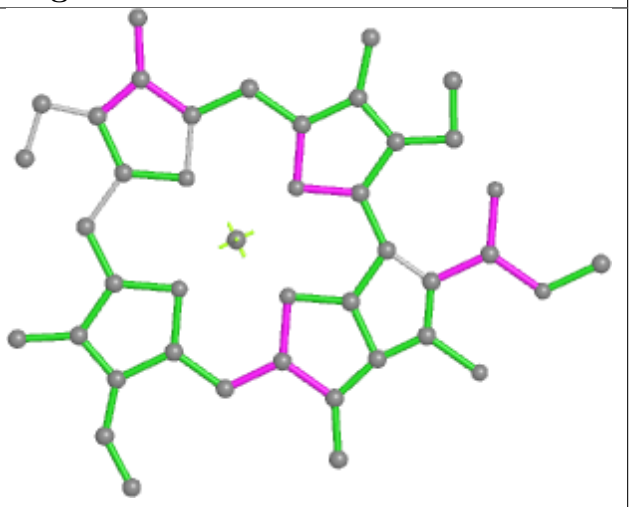


Rings

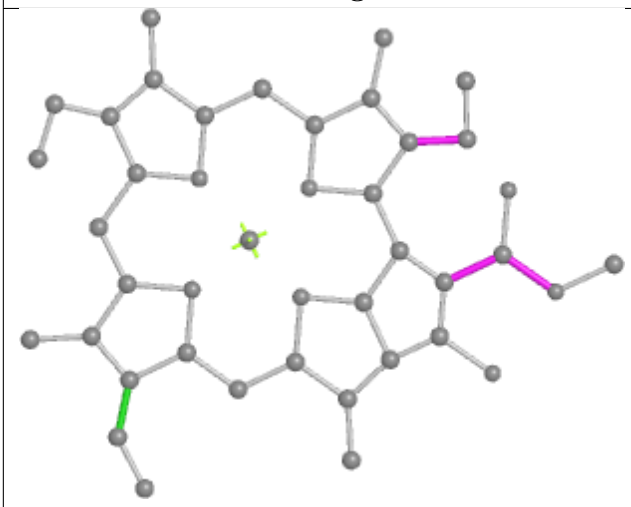
Ligand CLA g 601



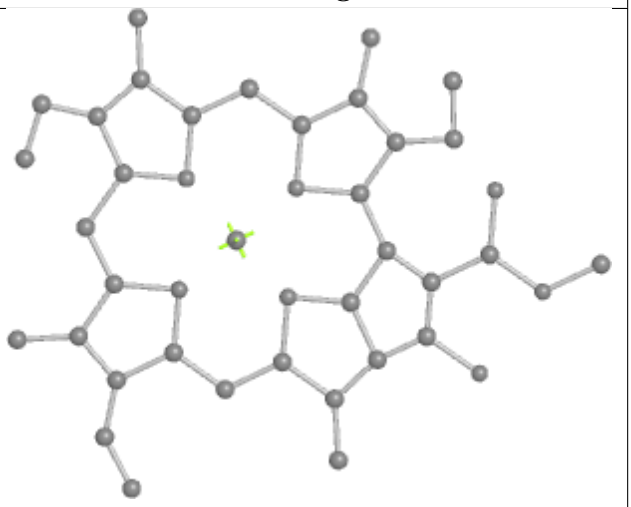
Bond lengths



Bond angles

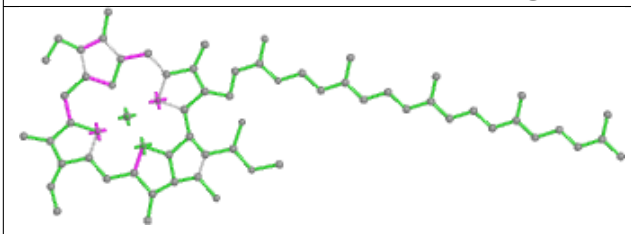


Torsions

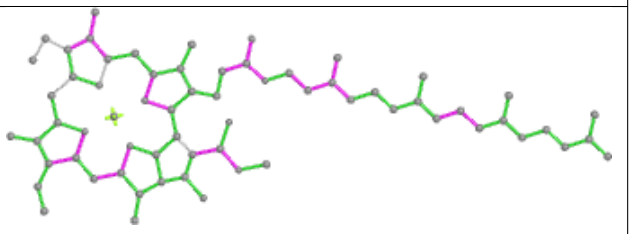


Rings

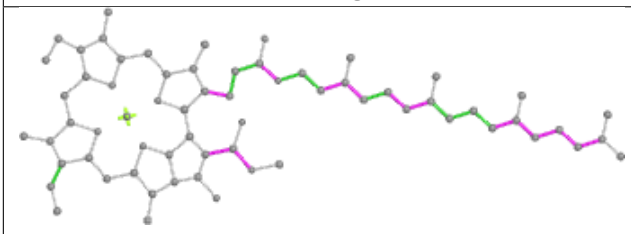
Ligand CLA B 758



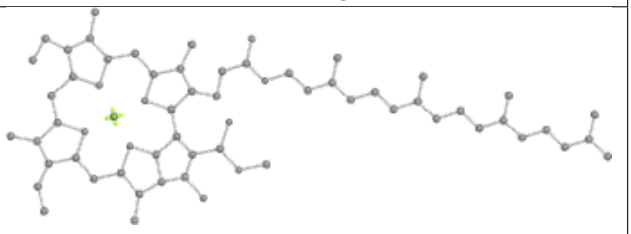
Bond lengths



Bond angles

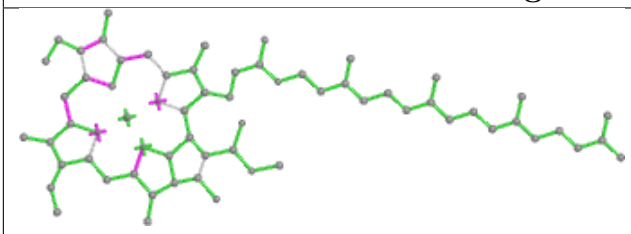


Torsions

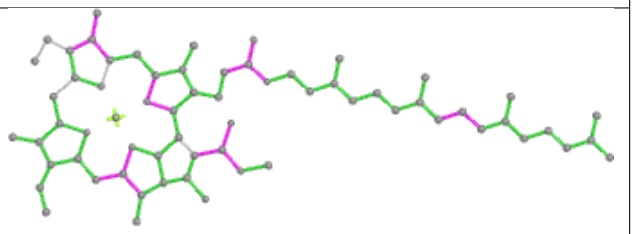


Rings

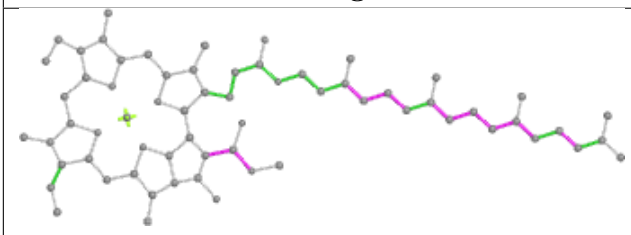
Ligand CLA B 741



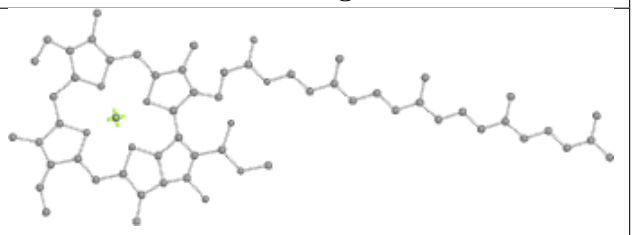
Bond lengths



Bond angles

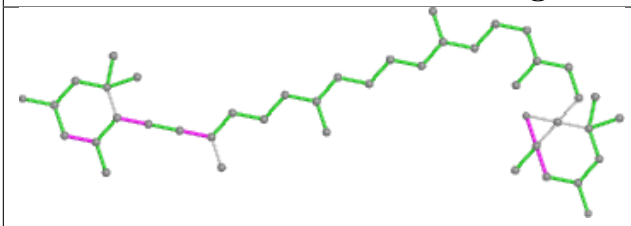


Torsions

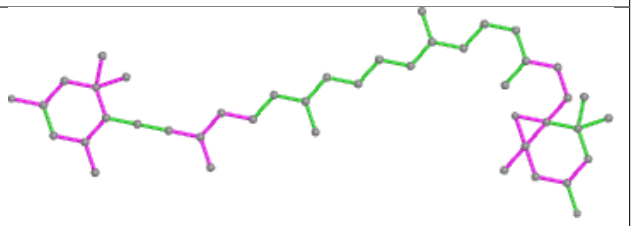


Rings

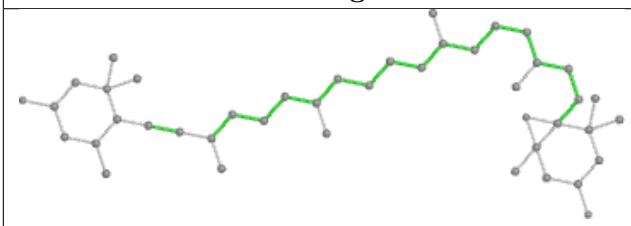
Ligand DD6 a 621



Bond lengths



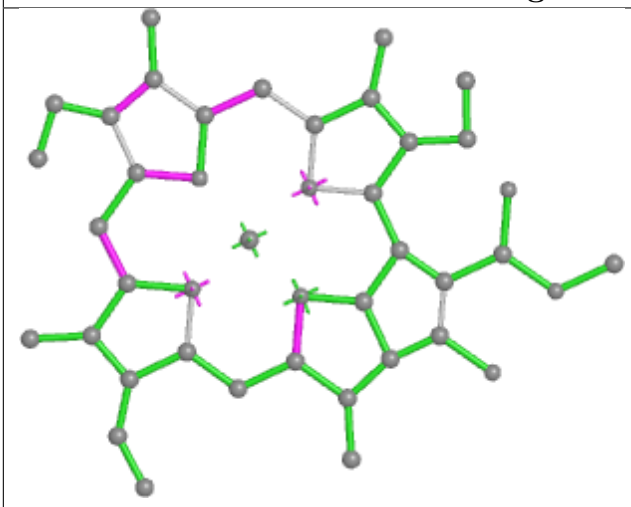
Bond angles



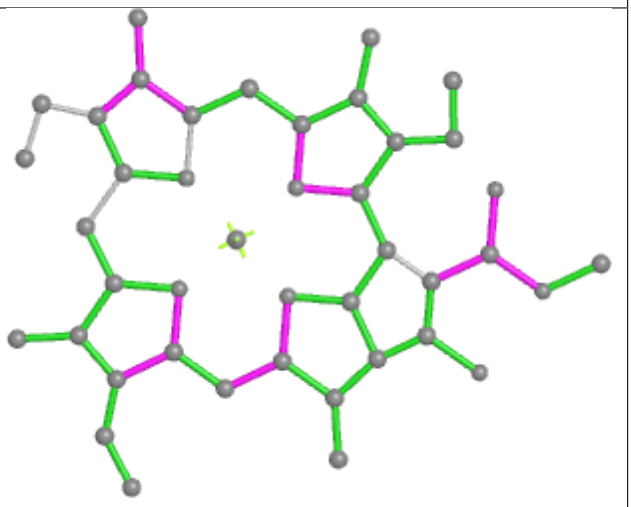
Torsions

Rings

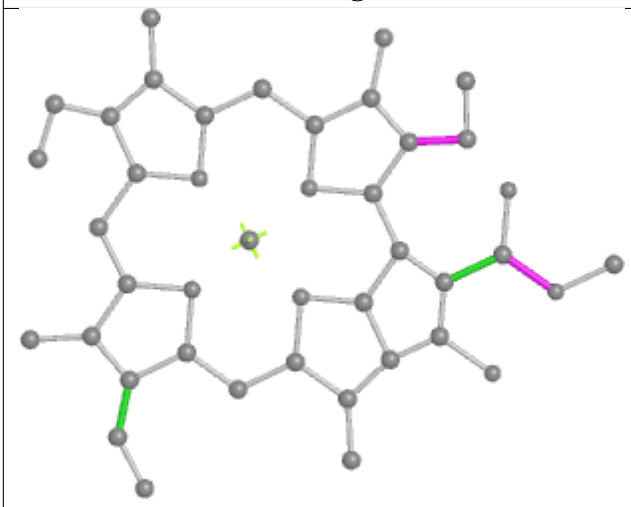
Ligand CLA h 615



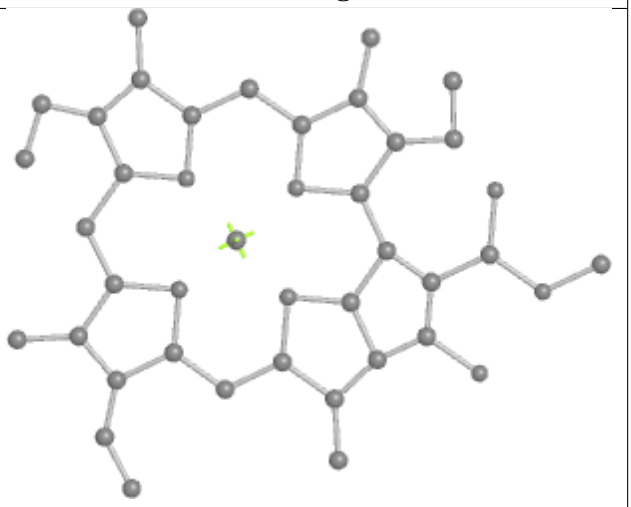
Bond lengths



Bond angles

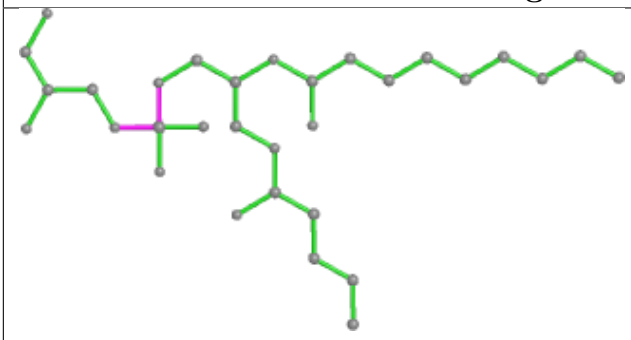


Torsions

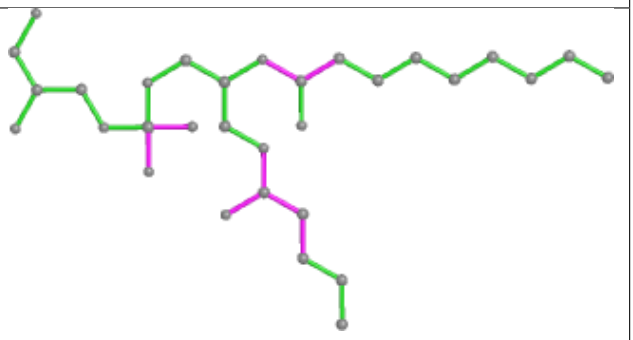


Rings

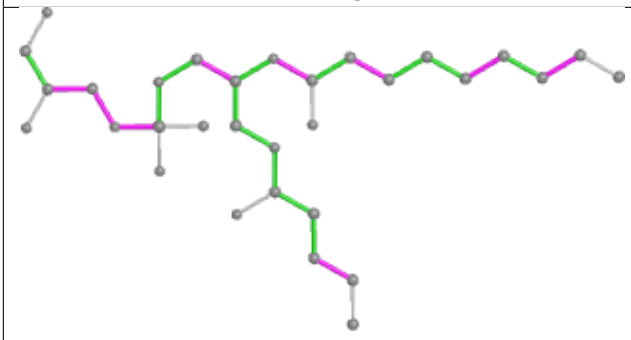
Ligand LHG h 190



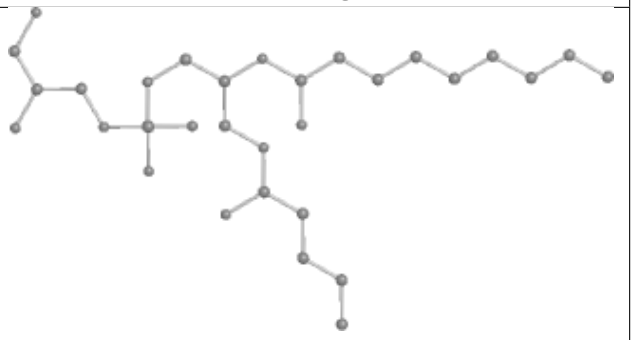
Bond lengths



Bond angles

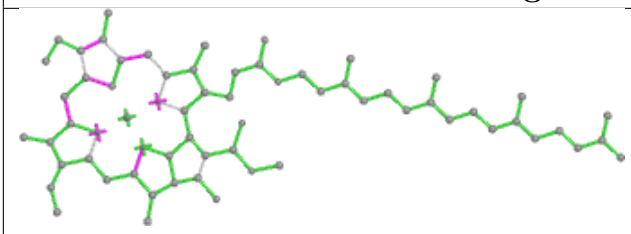


Torsions

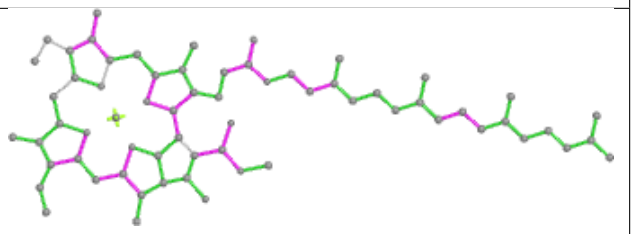


Rings

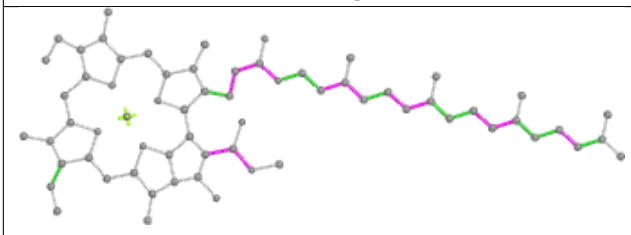
Ligand CLA A 784



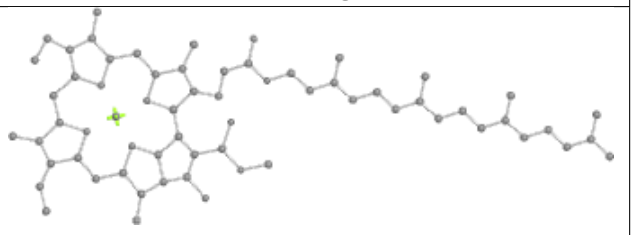
Bond lengths



Bond angles

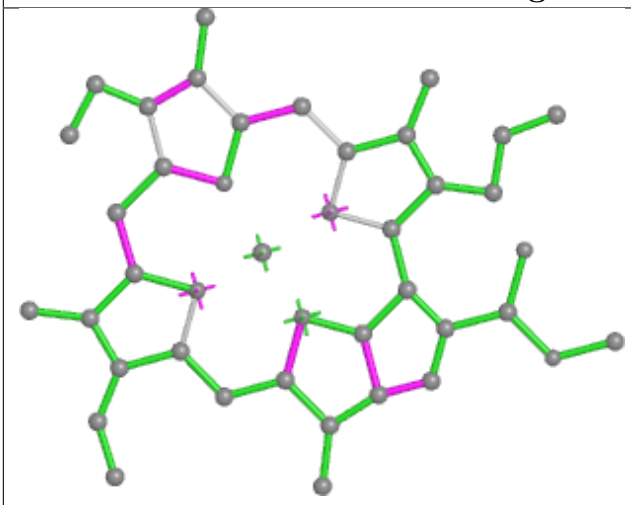


Torsions

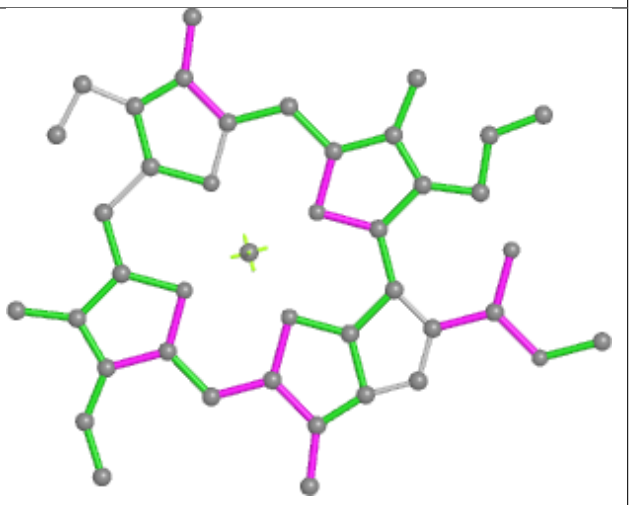


Rings

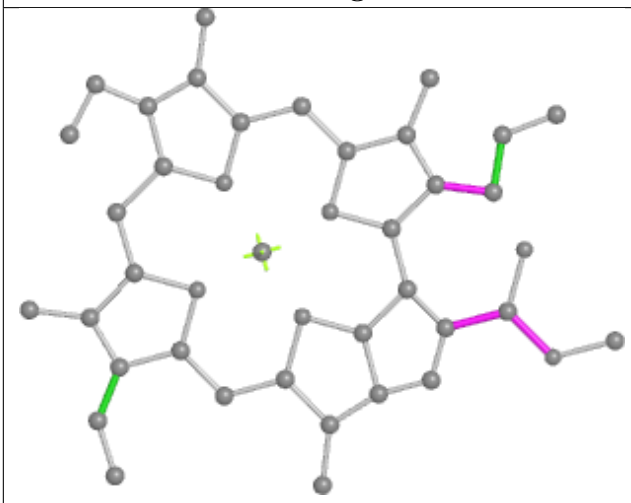
Ligand CLA o 612



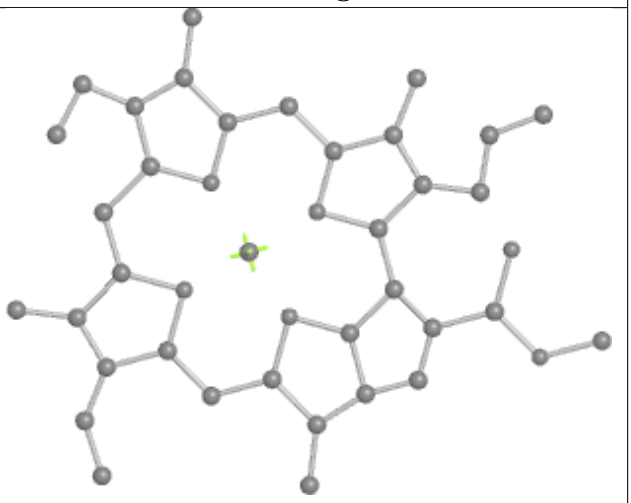
Bond lengths



Bond angles

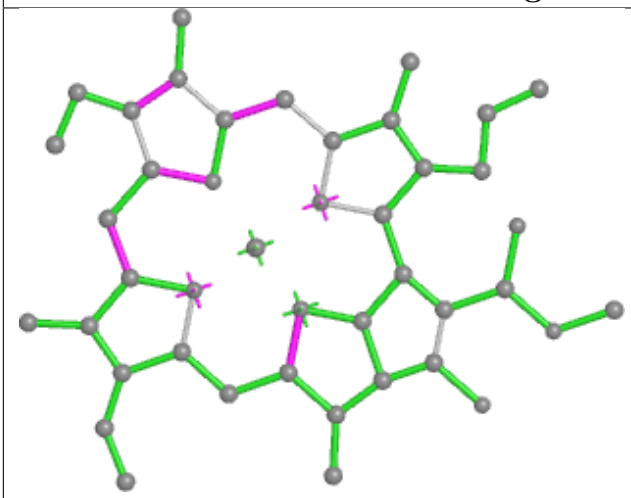


Torsions

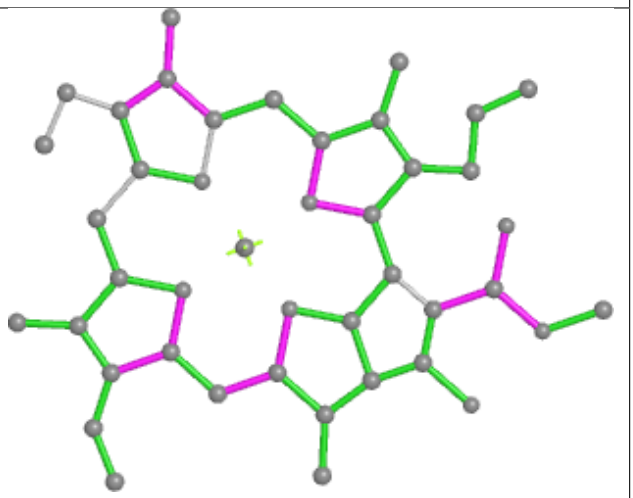


Rings

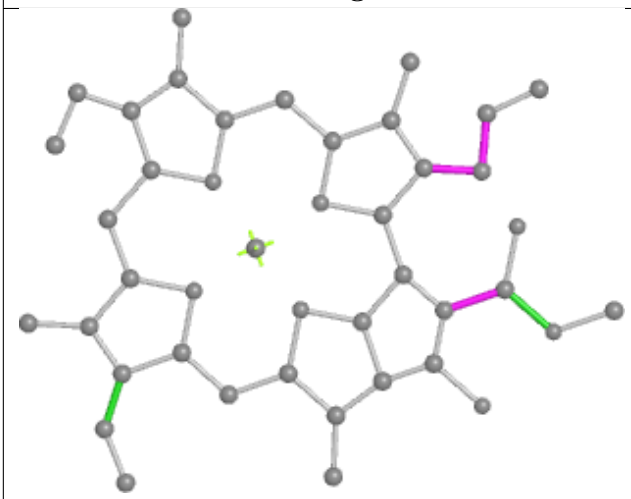
Ligand CLA B 759



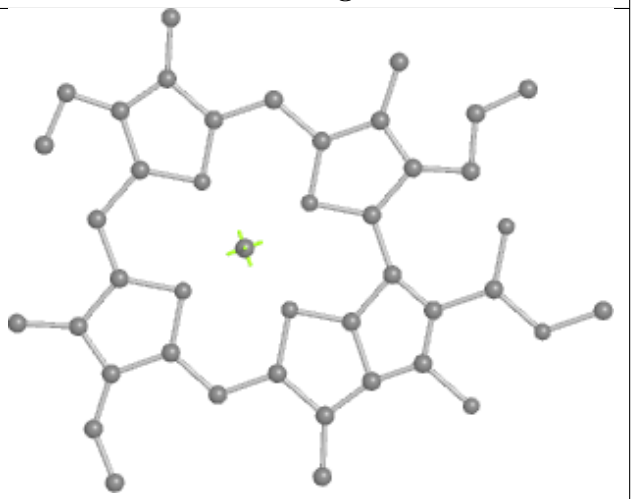
Bond lengths



Bond angles

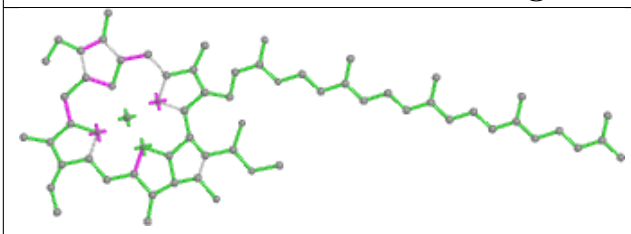


Torsions

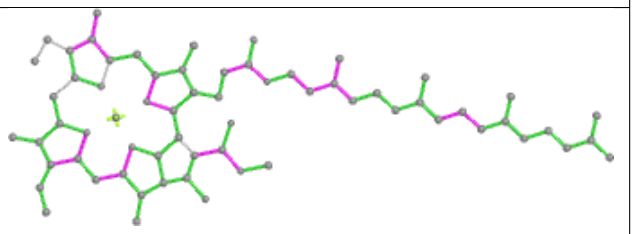


Rings

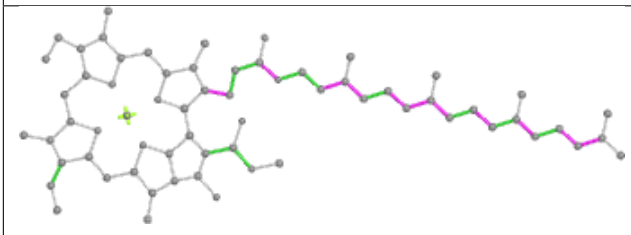
Ligand CLA k 604



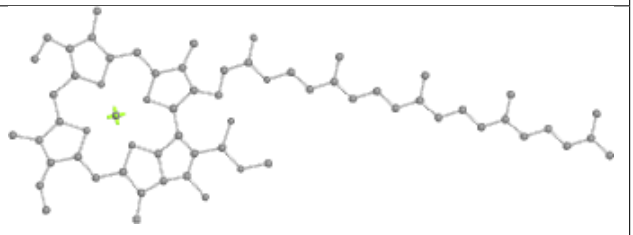
Bond lengths



Bond angles

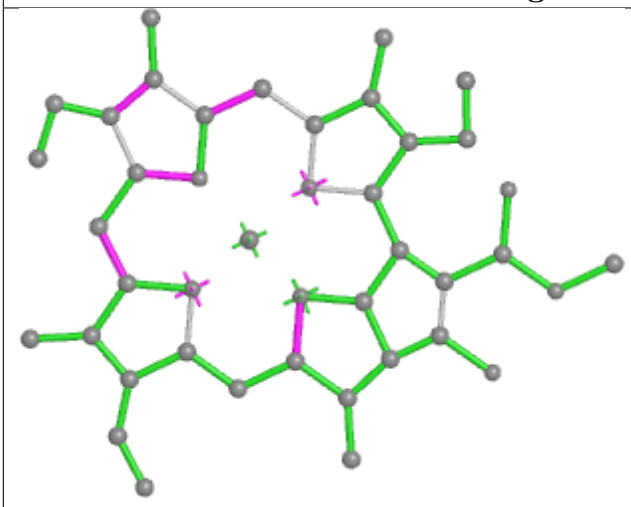


Torsions

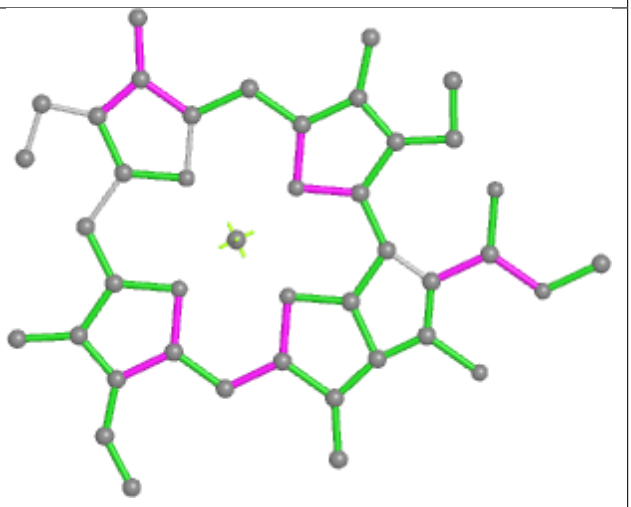


Rings

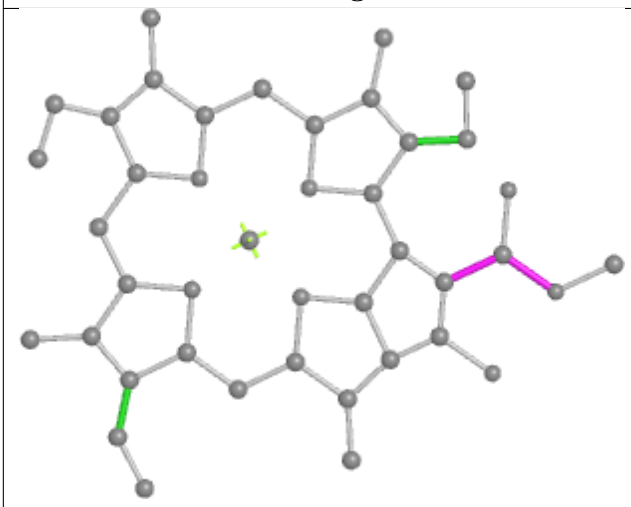
Ligand CLA b 611



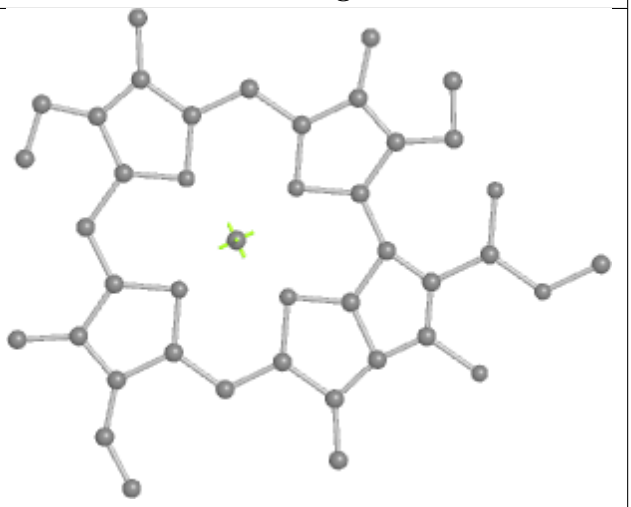
Bond lengths



Bond angles

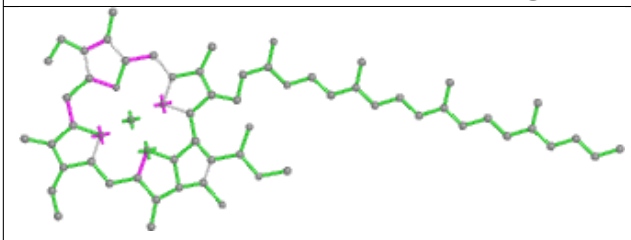


Torsions

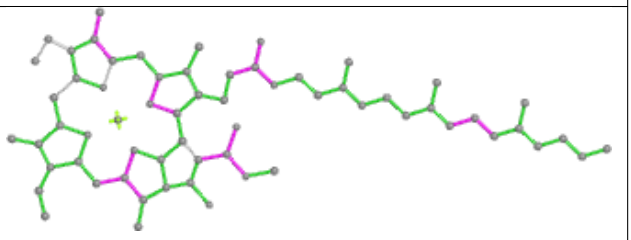


Rings

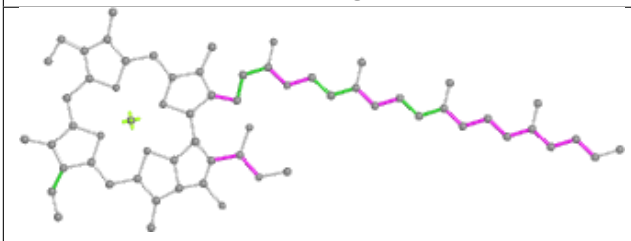
Ligand CLA B 745



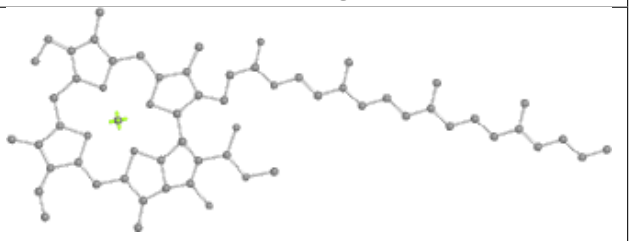
Bond lengths



Bond angles

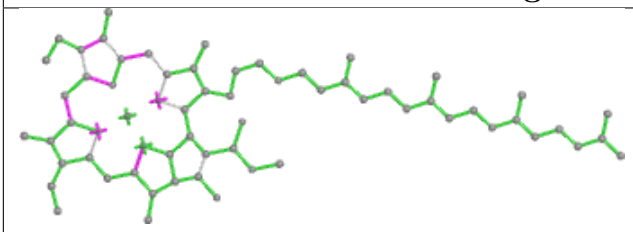


Torsions

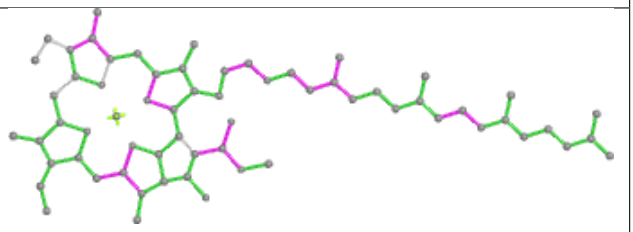


Rings

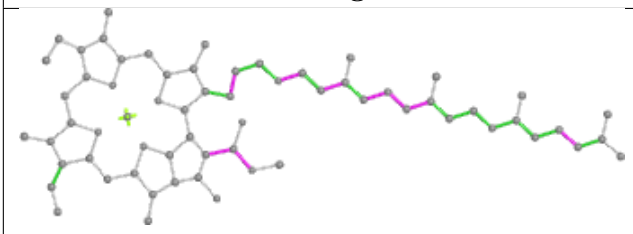
Ligand CLA A 772



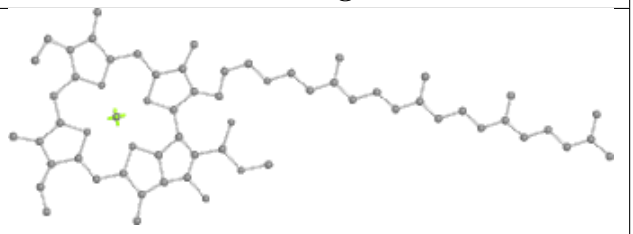
Bond lengths



Bond angles

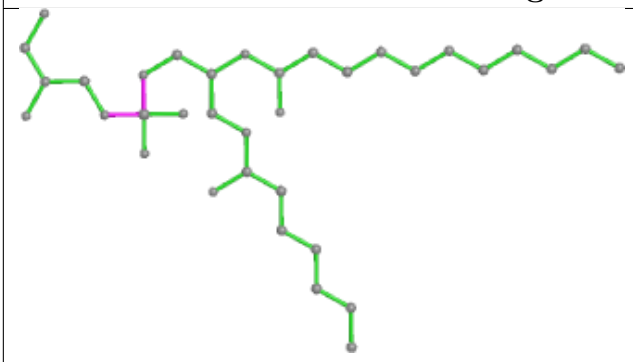


Torsions

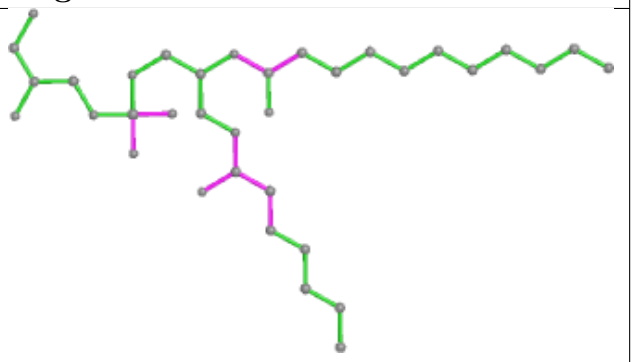


Rings

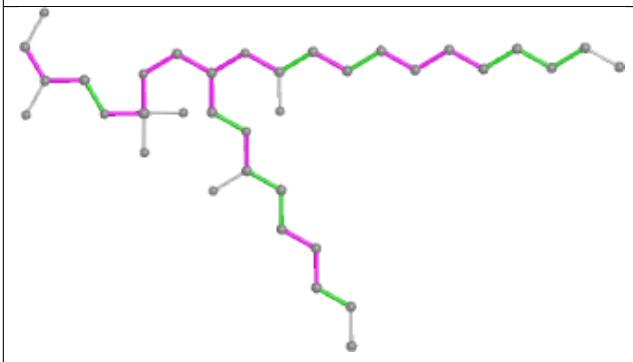
Ligand LHG g 189



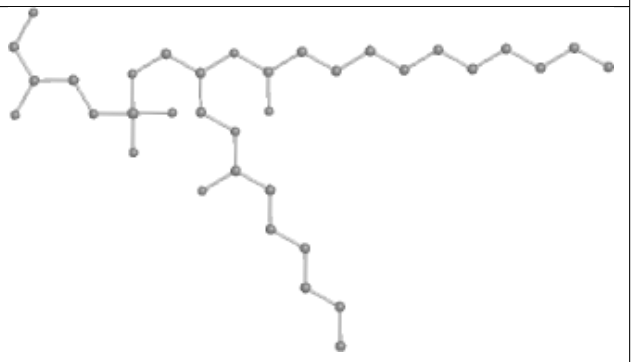
Bond lengths



Bond angles

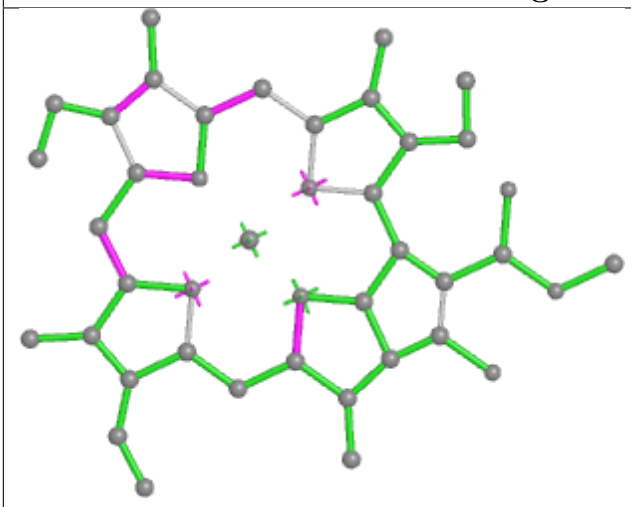


Torsions

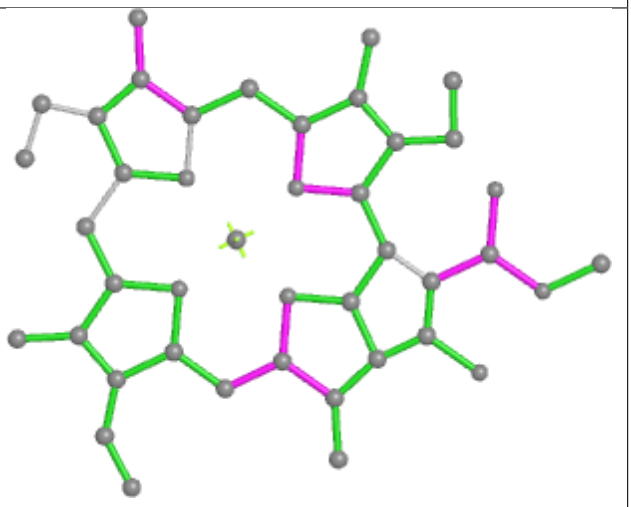


Rings

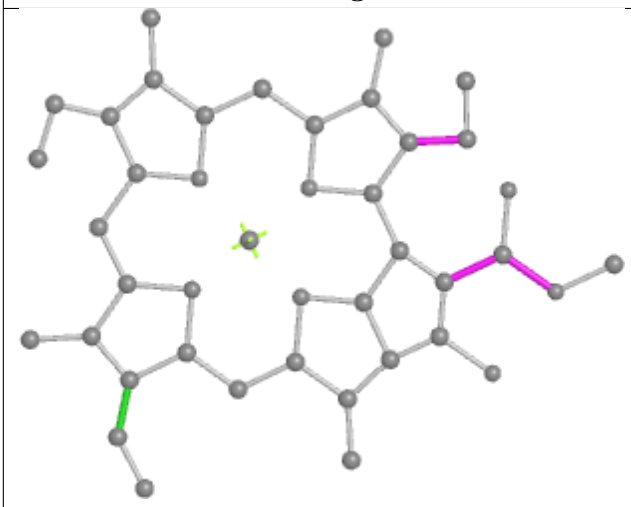
Ligand CLA f 604



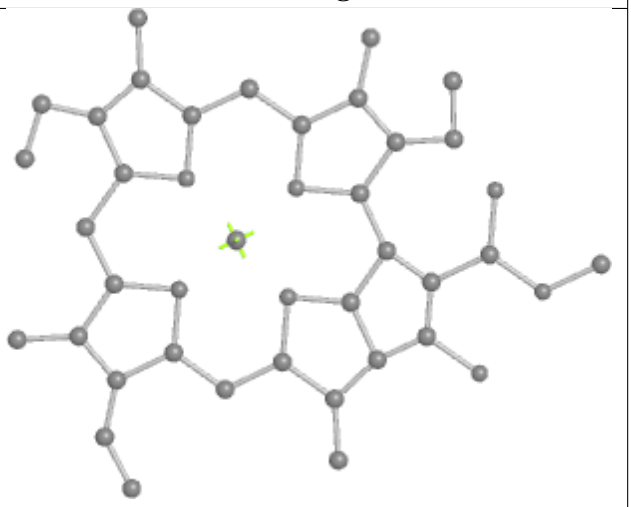
Bond lengths



Bond angles

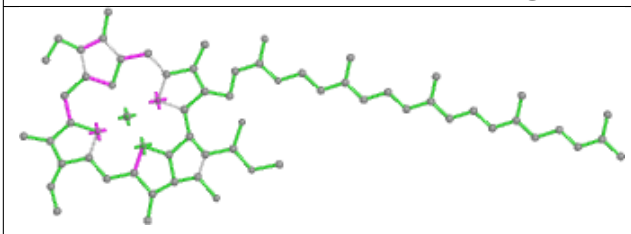


Torsions

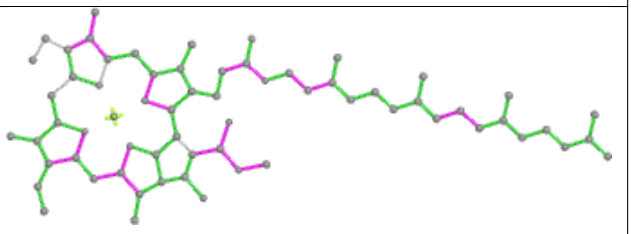


Rings

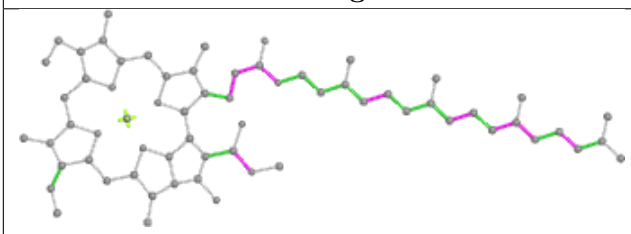
Ligand CLA A 761



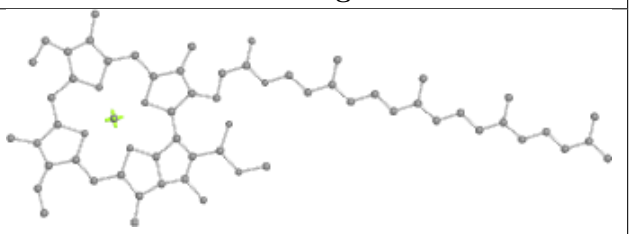
Bond lengths



Bond angles

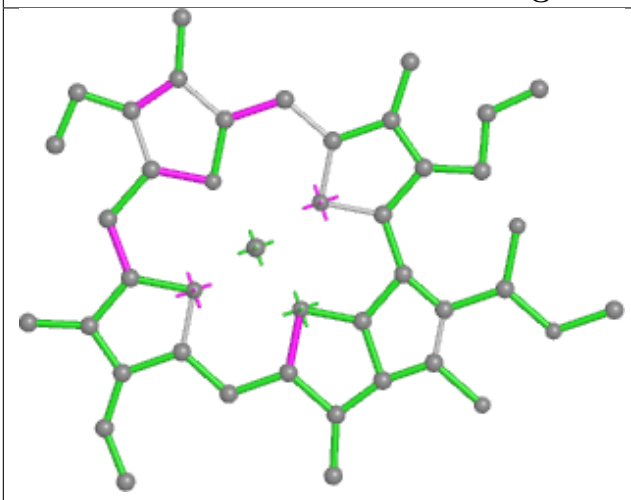


Torsions

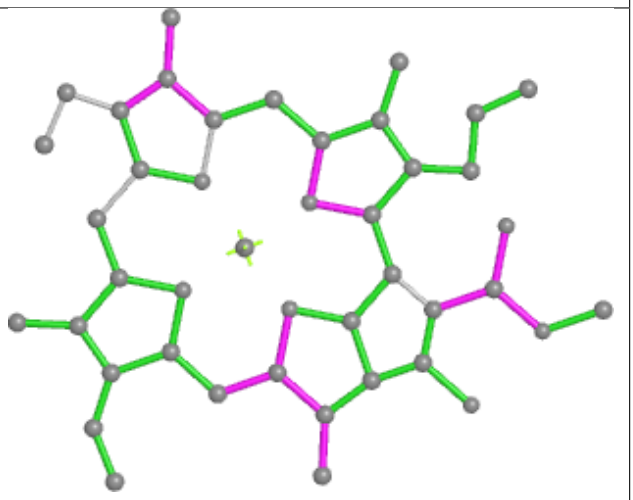


Rings

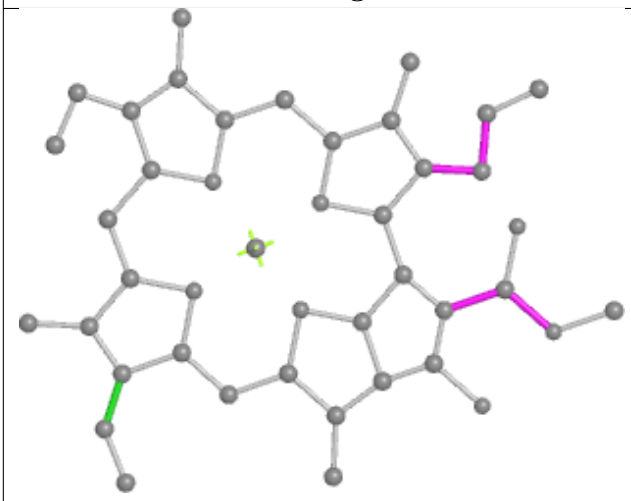
Ligand CLA i 603



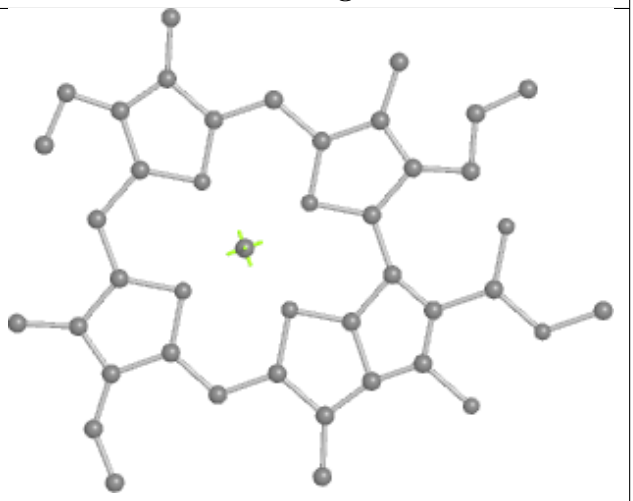
Bond lengths



Bond angles

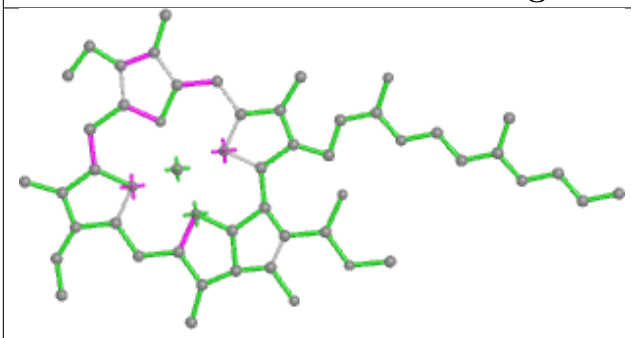


Torsions

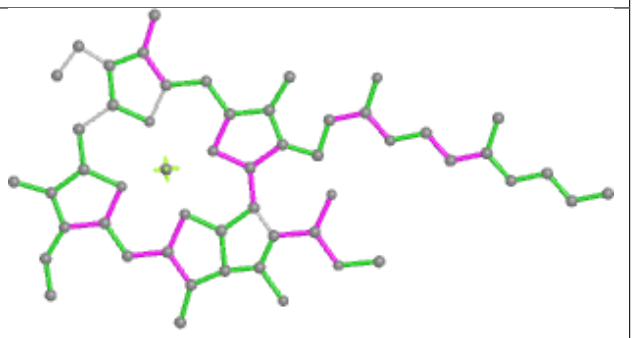


Rings

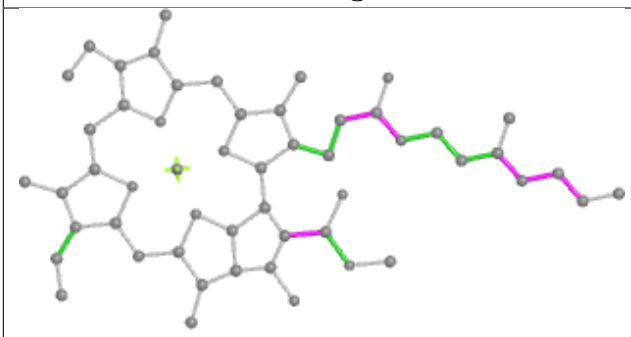
Ligand CLA a 603



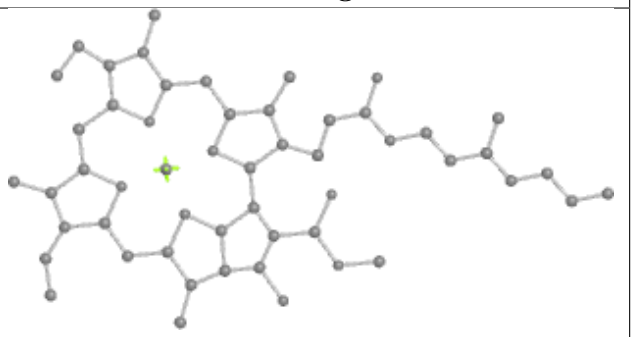
Bond lengths



Bond angles

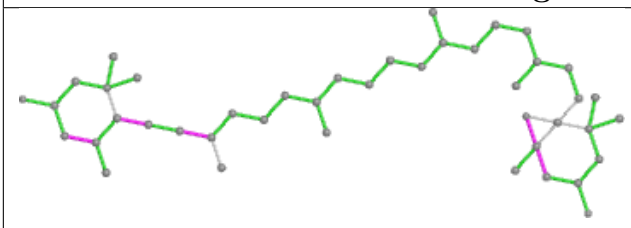


Torsions

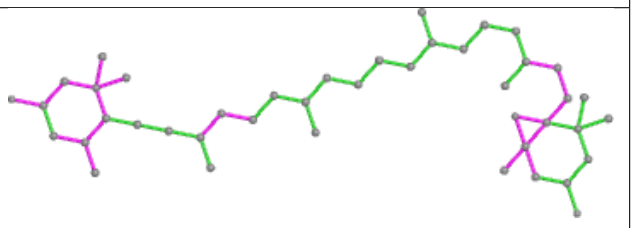


Rings

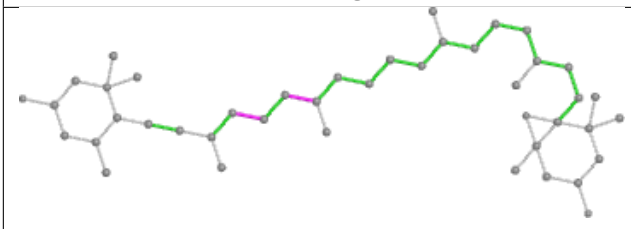
Ligand DD6 i 621



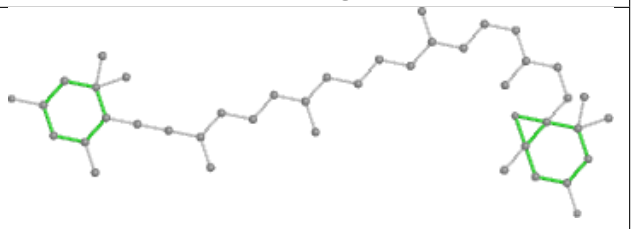
Bond lengths



Bond angles

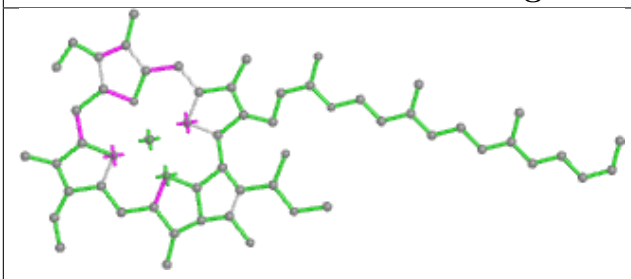


Torsions

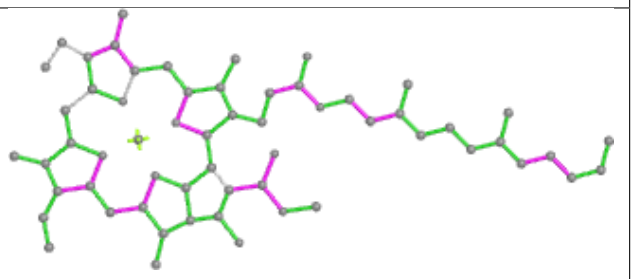


Rings

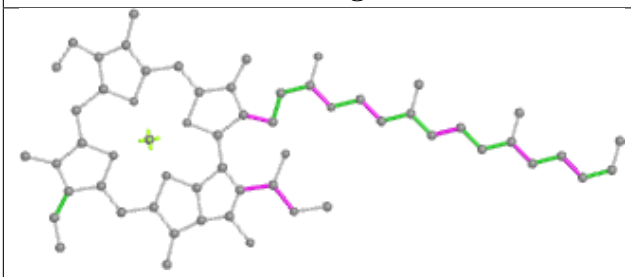
Ligand CLA B 776



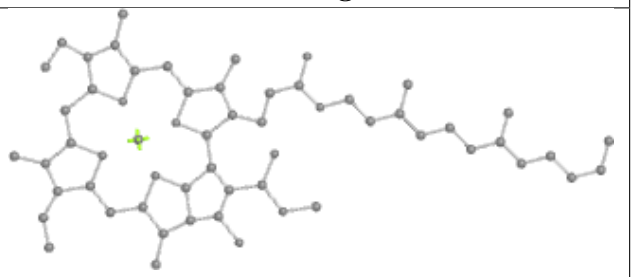
Bond lengths



Bond angles

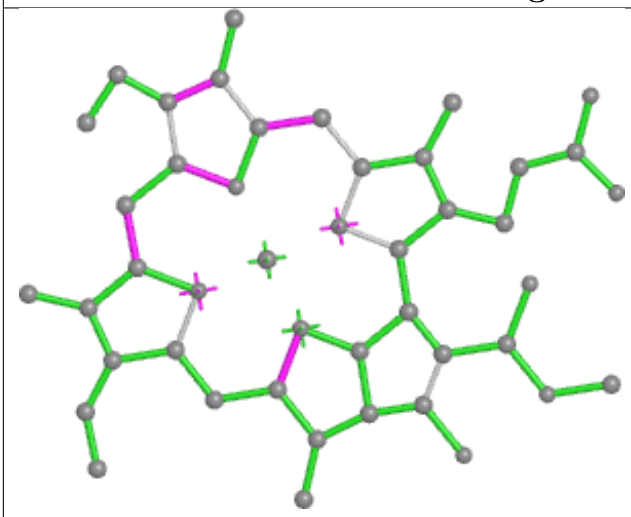


Torsions

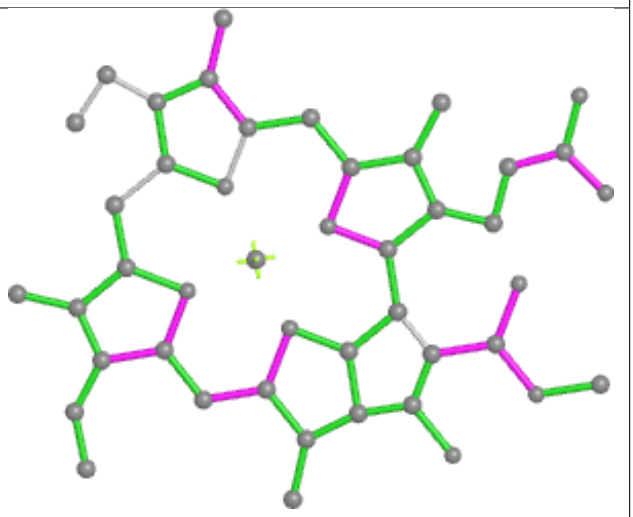


Rings

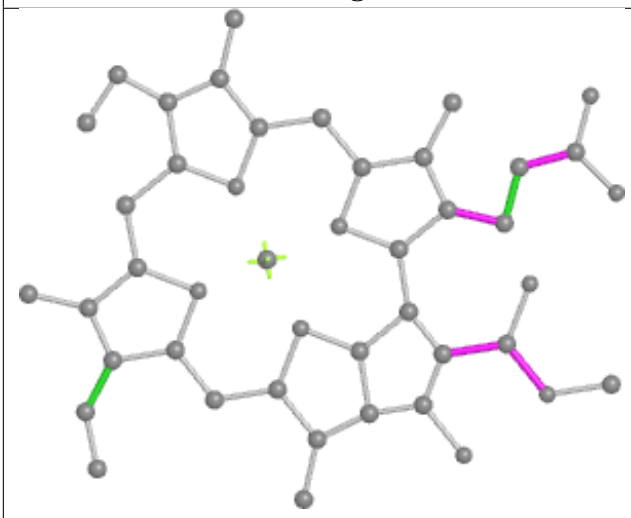
Ligand CLA a 604



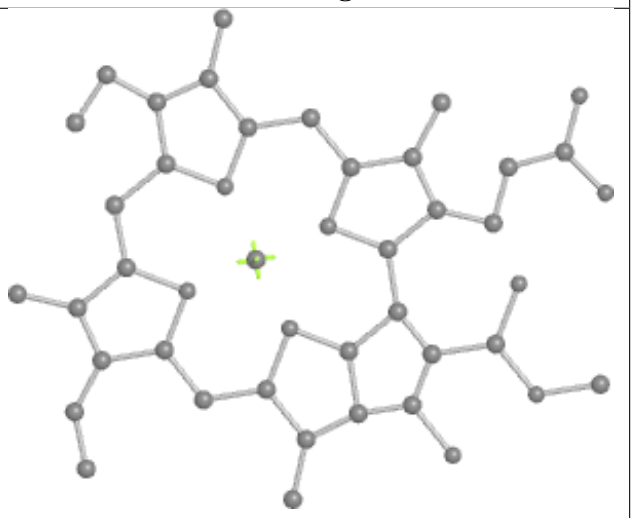
Bond lengths



Bond angles

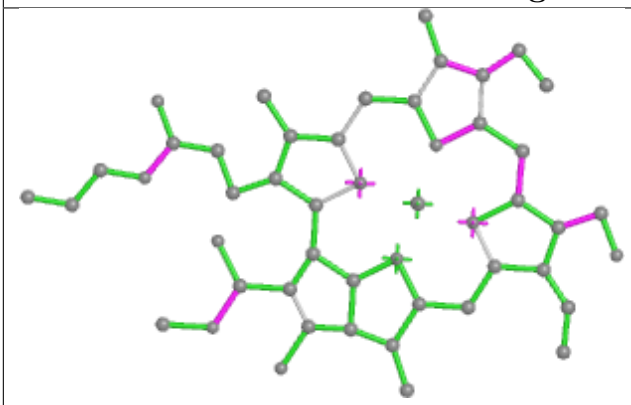


Torsions

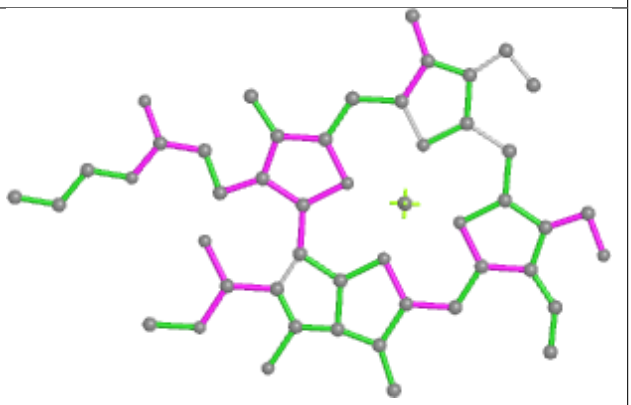


Rings

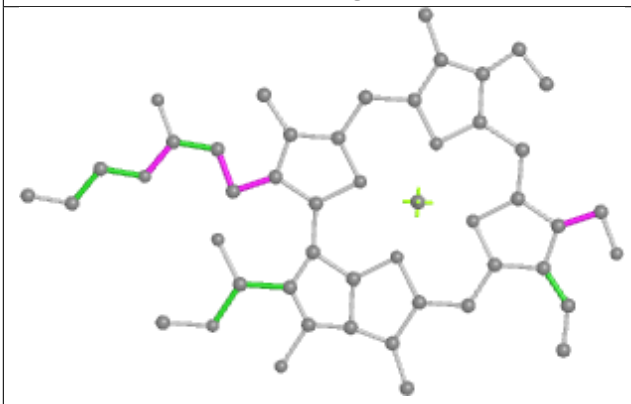
Ligand CHL c 607



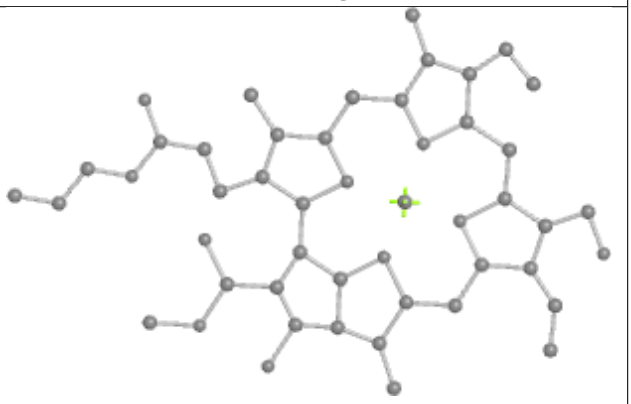
Bond lengths



Bond angles

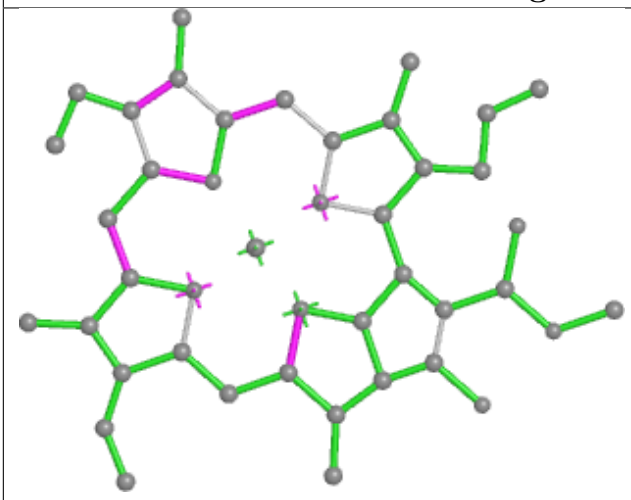


Torsions

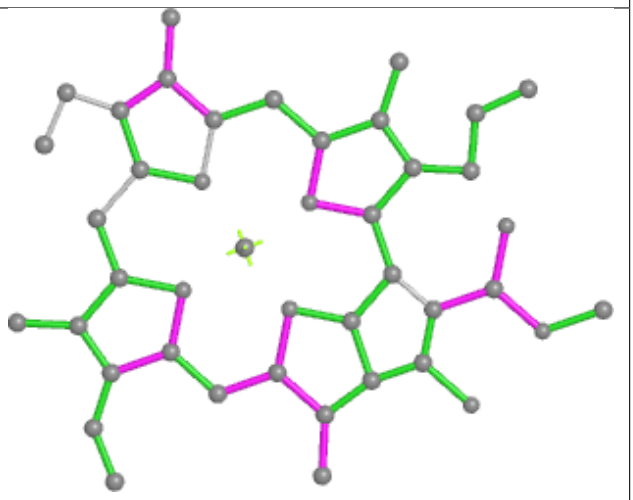


Rings

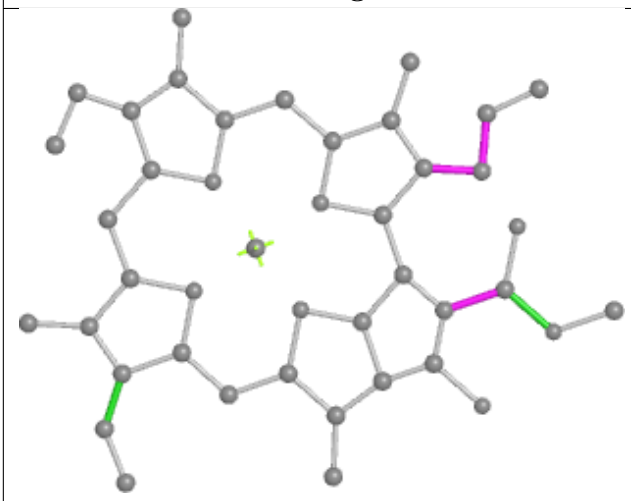
Ligand CLA c 606



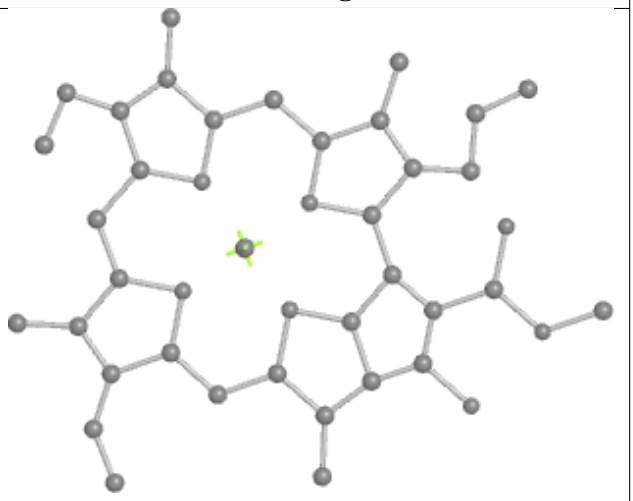
Bond lengths



Bond angles

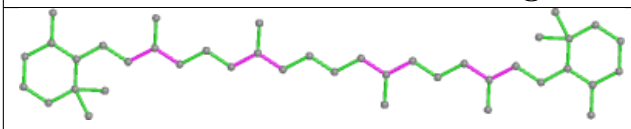


Torsions

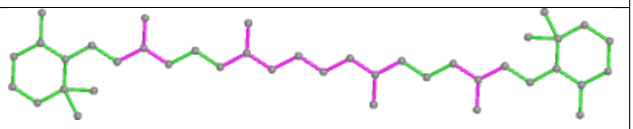


Rings

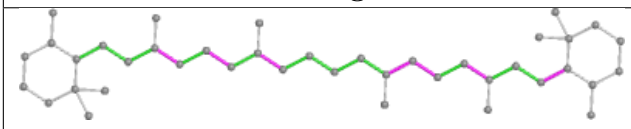
Ligand BCR B 765



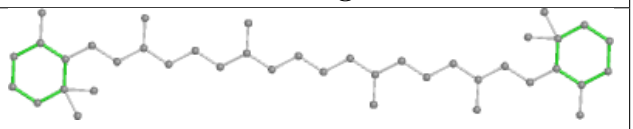
Bond lengths



Bond angles

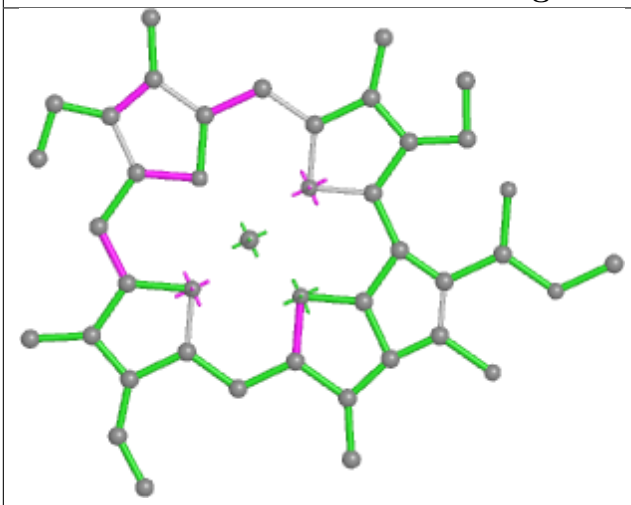


Torsions

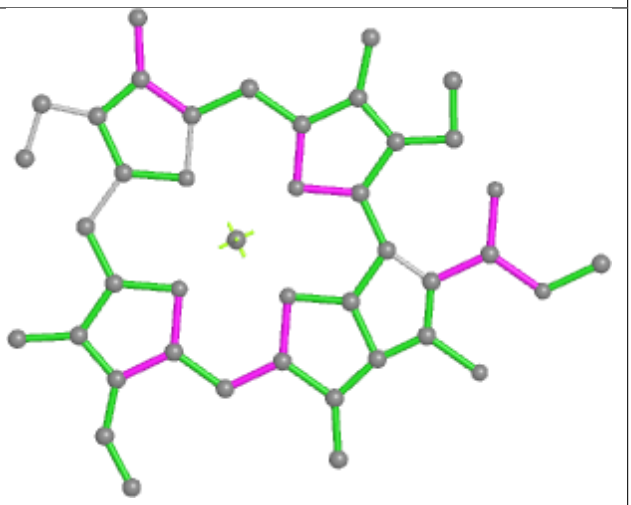


Rings

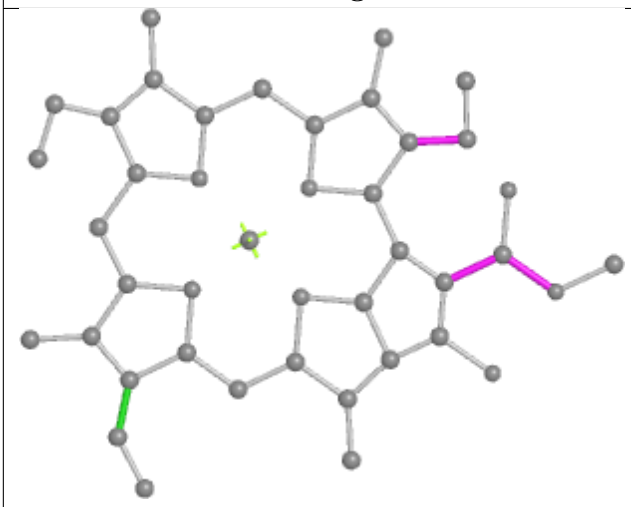
Ligand CLA l 617



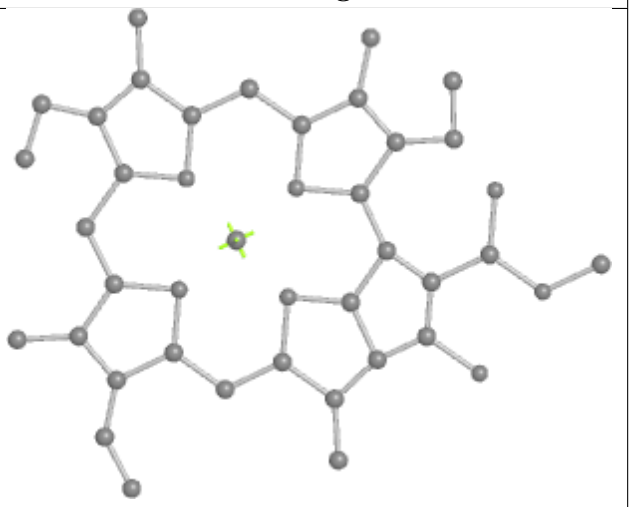
Bond lengths



Bond angles

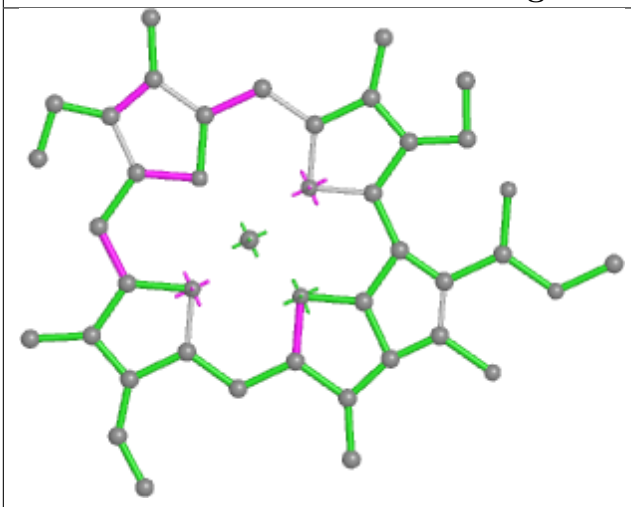


Torsions

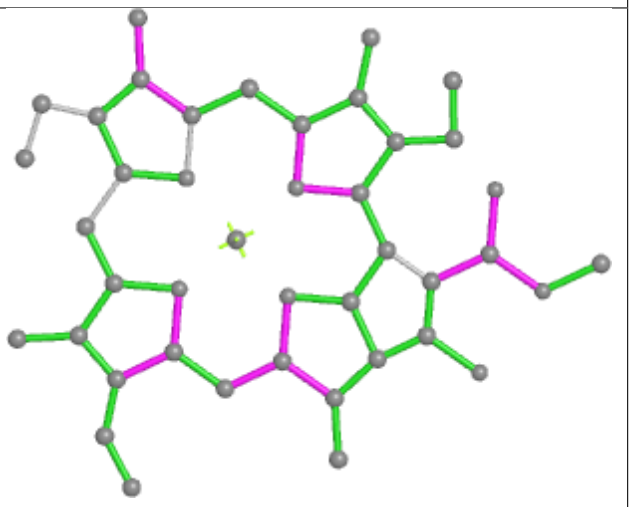


Rings

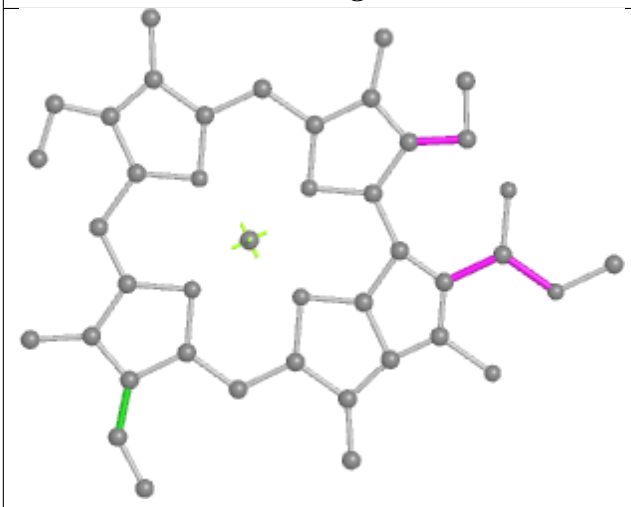
Ligand CLA n 605



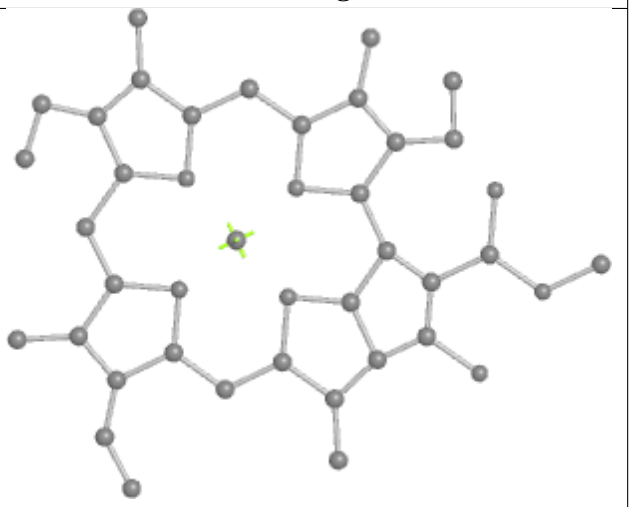
Bond lengths



Bond angles

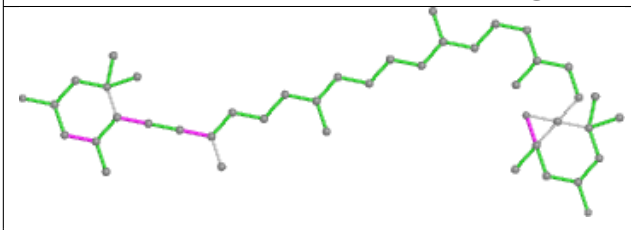


Torsions

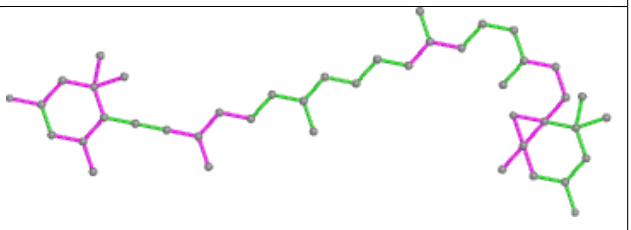


Rings

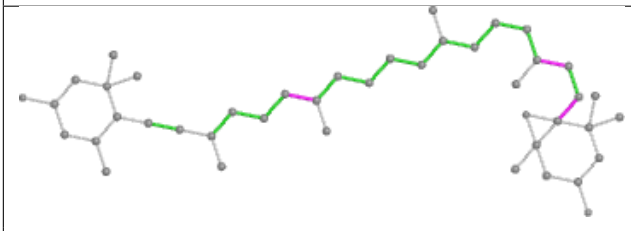
Ligand DD6 b 620



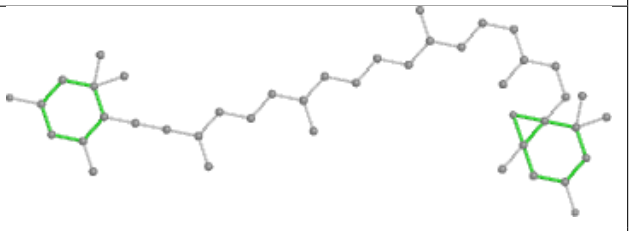
Bond lengths



Bond angles

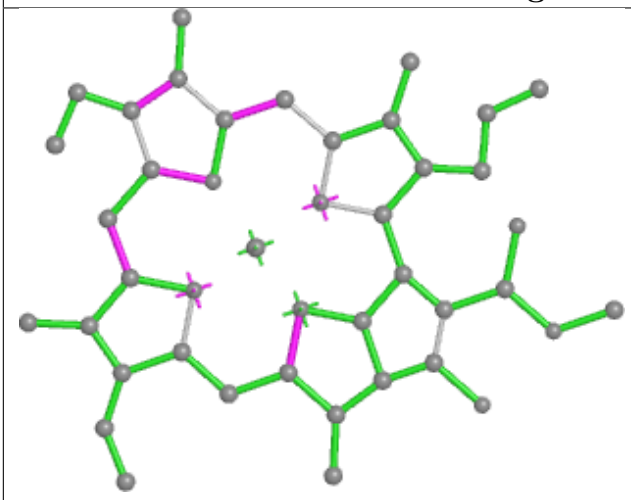


Torsions

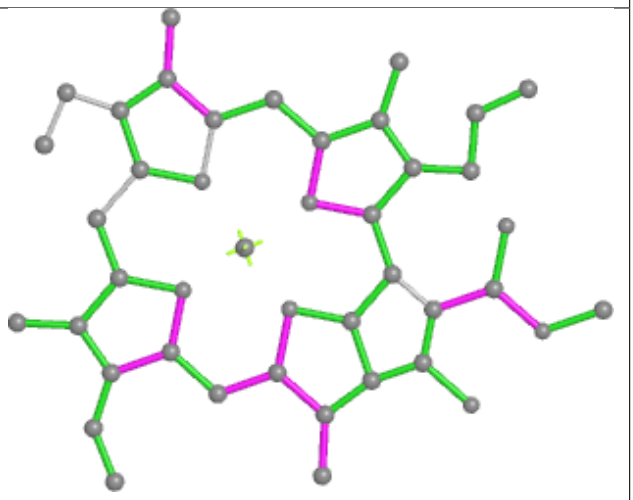


Rings

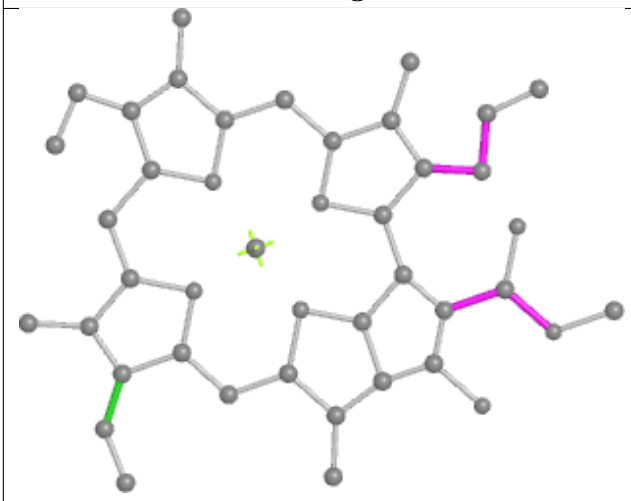
Ligand CLA b 603



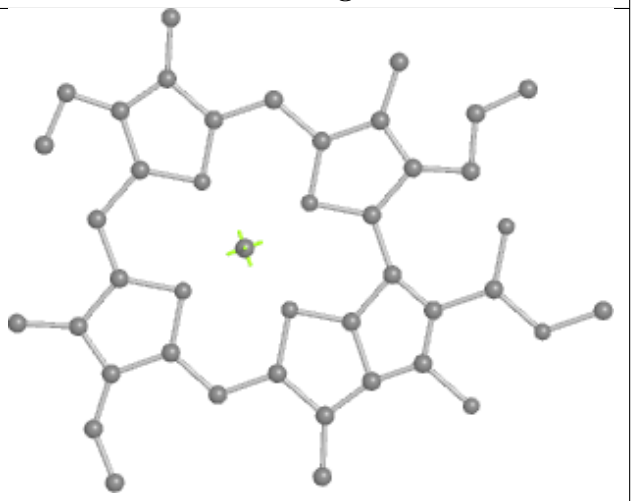
Bond lengths



Bond angles

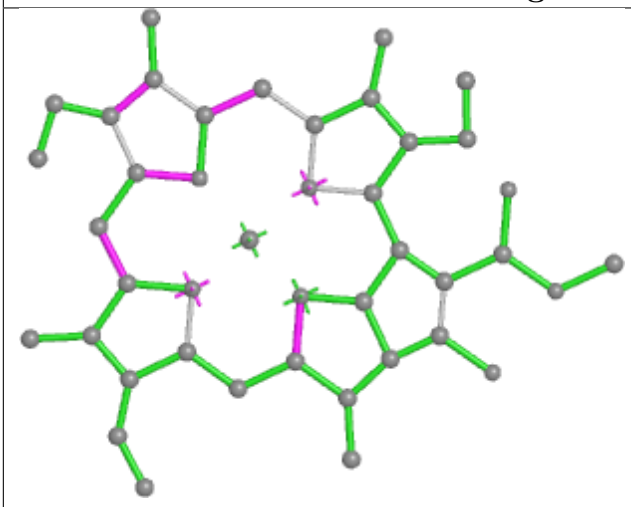


Torsions

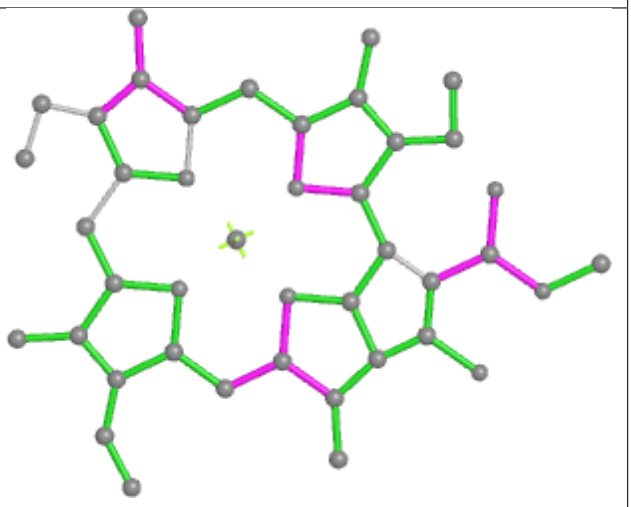


Rings

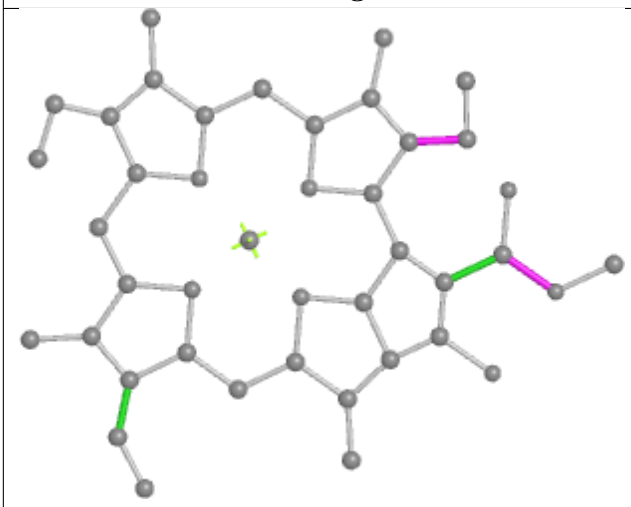
Ligand CLA d 614



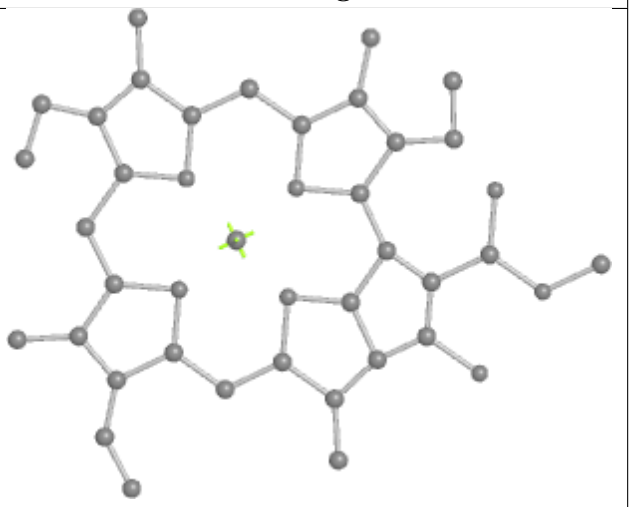
Bond lengths



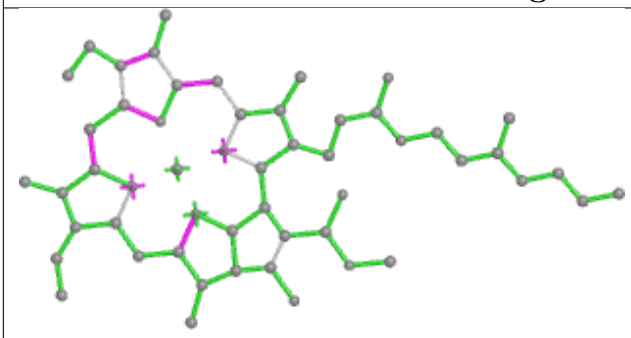
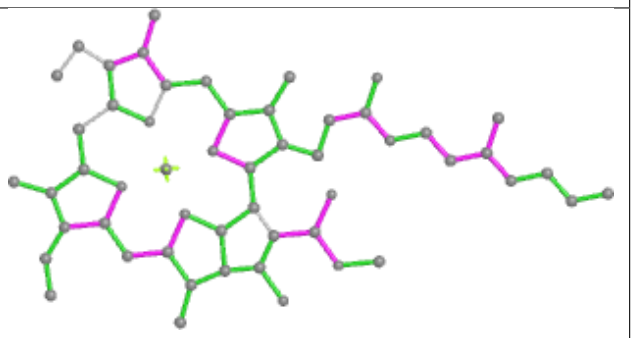
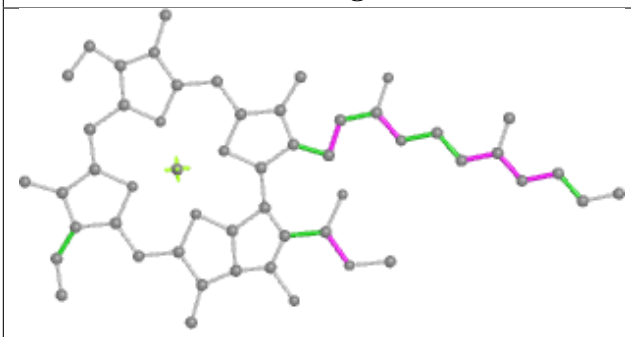
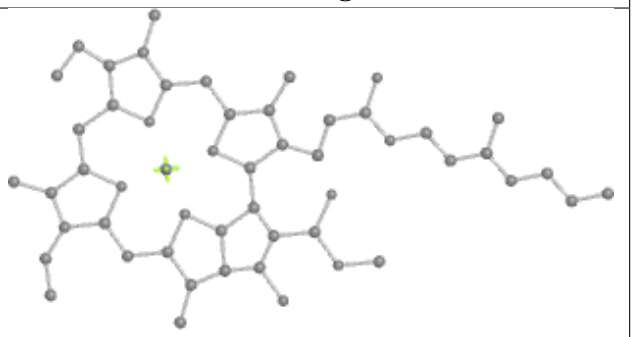
Bond angles

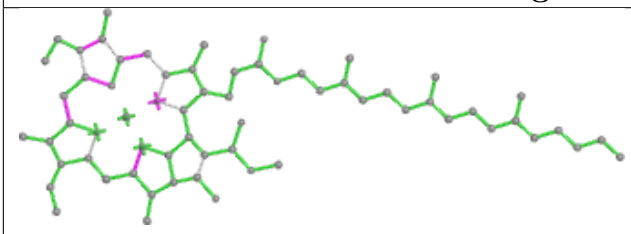
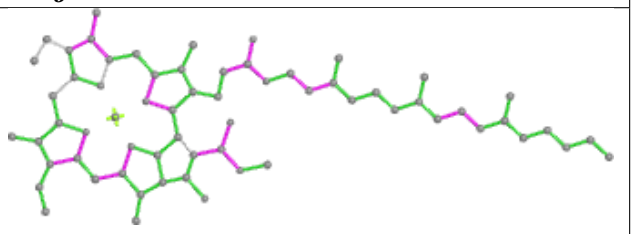
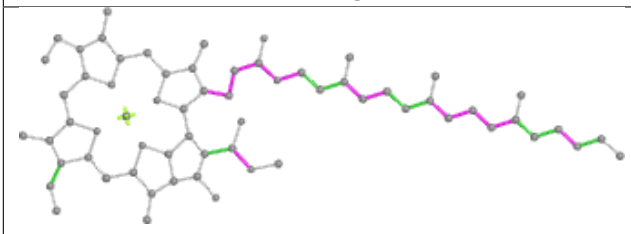
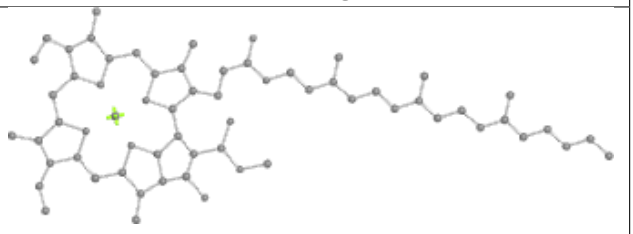


Torsions

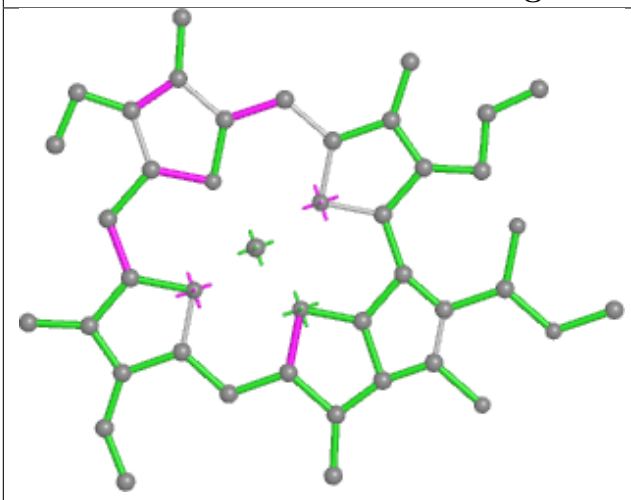


Rings

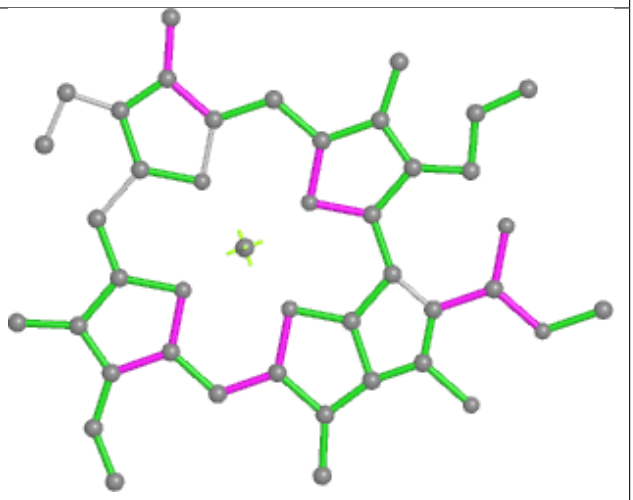
Ligand CLA c 613	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand CLA j 610	
	
Bond lengths	Bond angles
	
Torsions	Rings

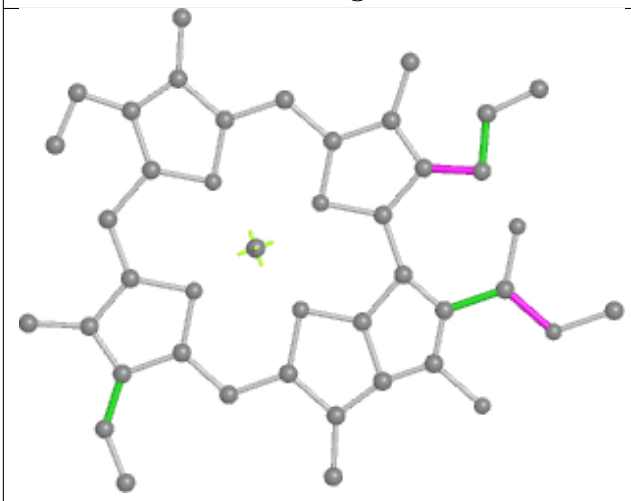
Ligand CLA B 760



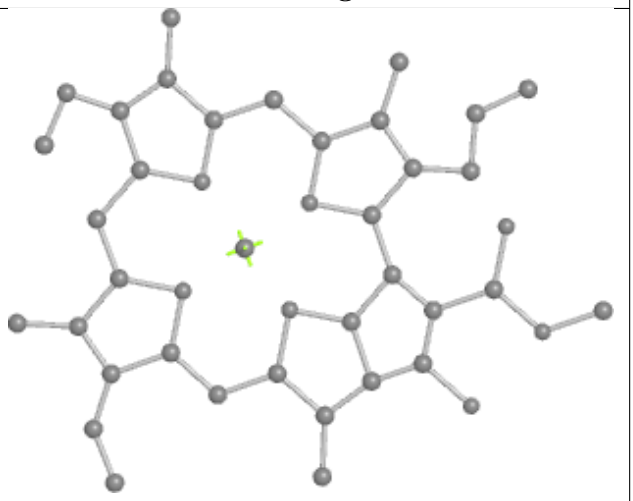
Bond lengths



Bond angles

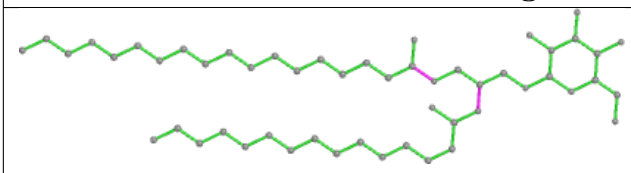


Torsions

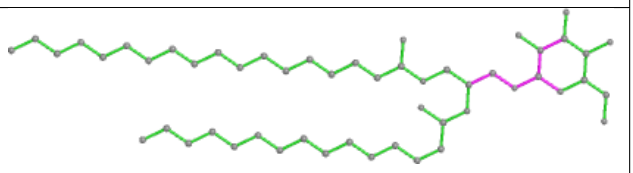


Rings

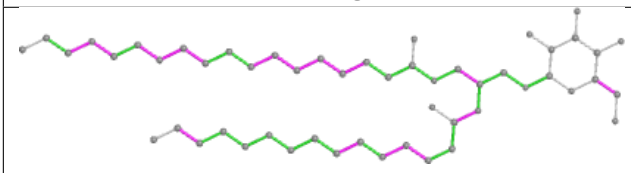
Ligand LMG B 786



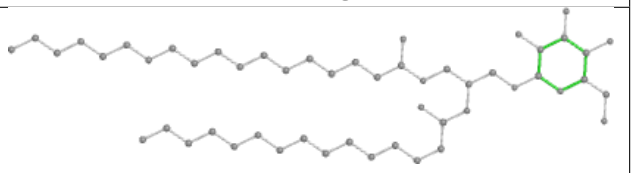
Bond lengths



Bond angles

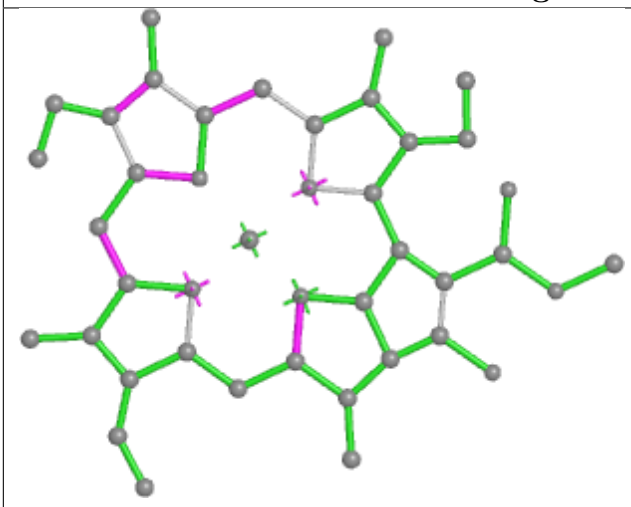


Torsions

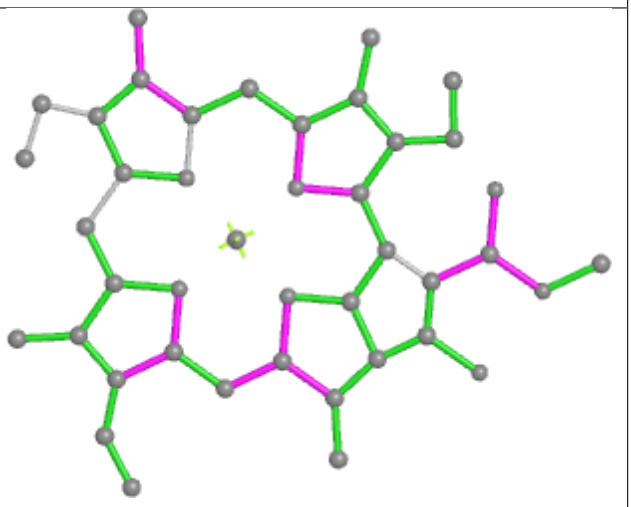


Rings

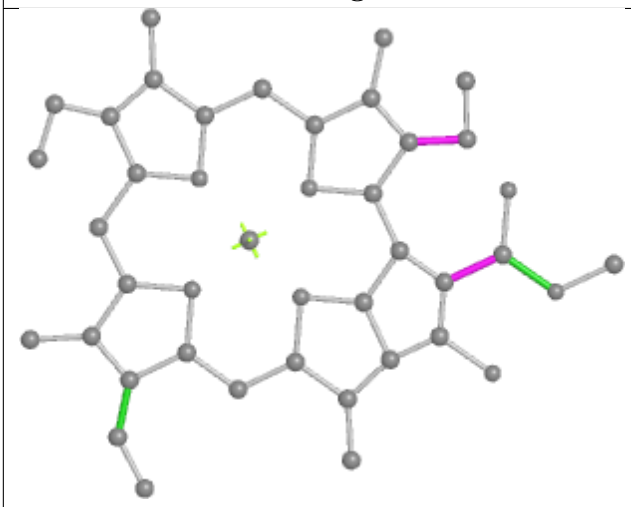
Ligand CLA i 614



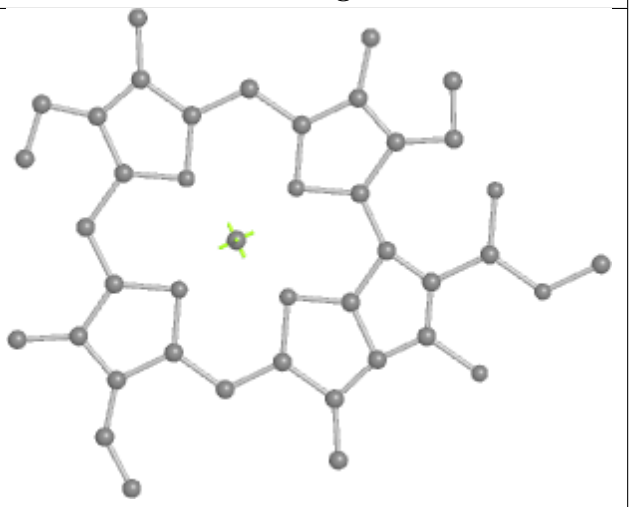
Bond lengths



Bond angles

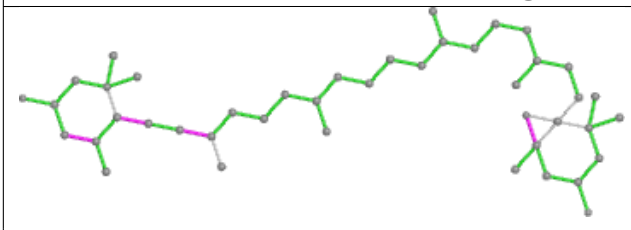


Torsions

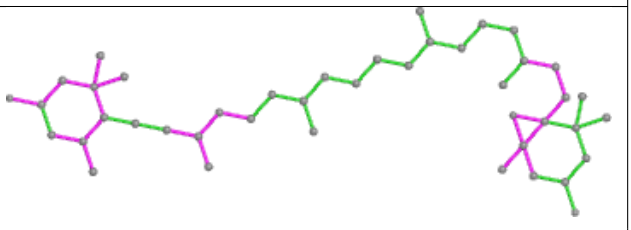


Rings

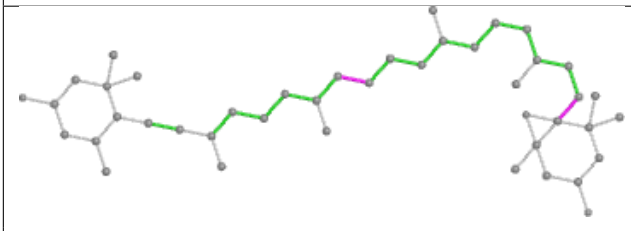
Ligand DD6 J 4002



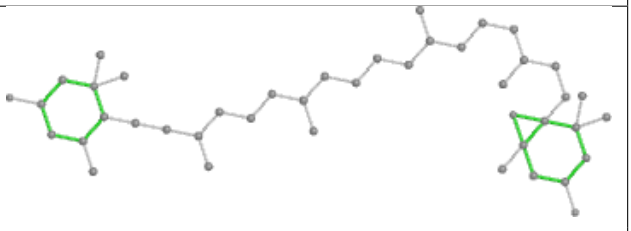
Bond lengths



Bond angles

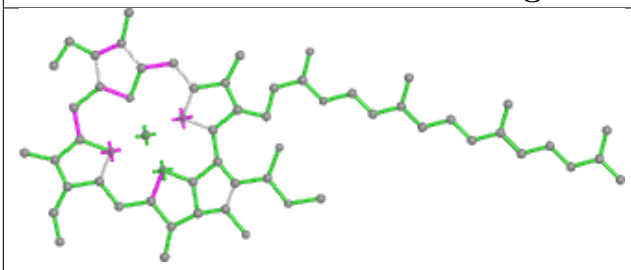


Torsions

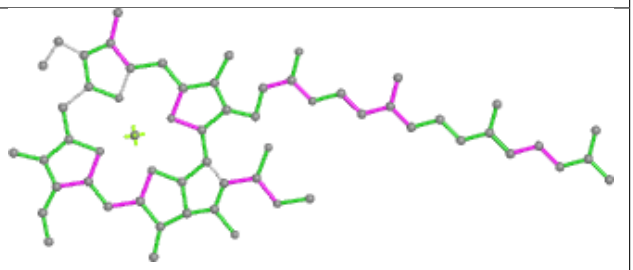


Rings

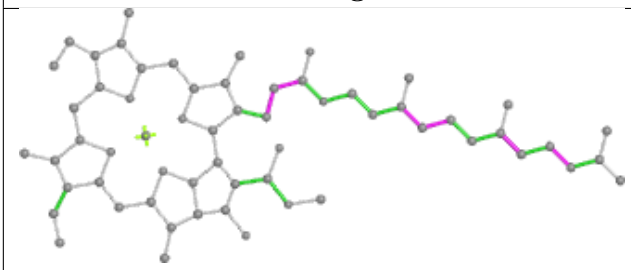
Ligand CLA A 755



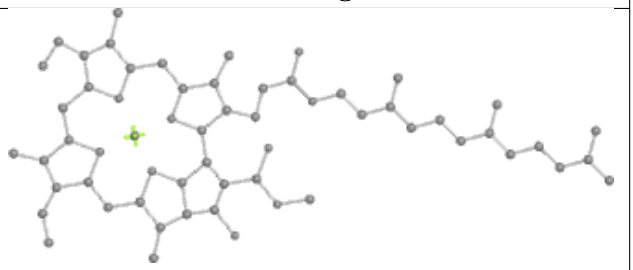
Bond lengths



Bond angles

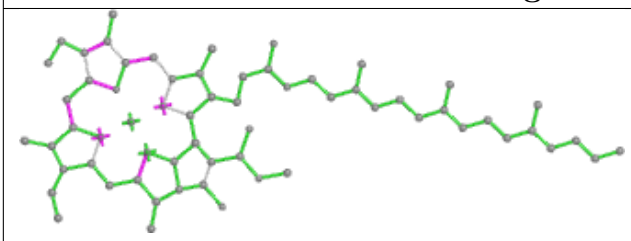


Torsions

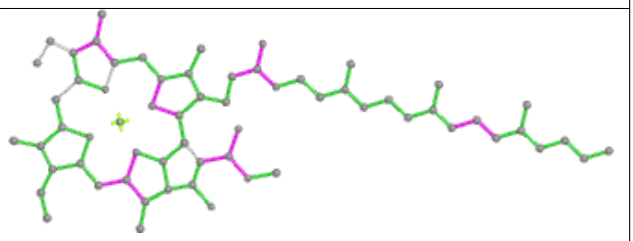


Rings

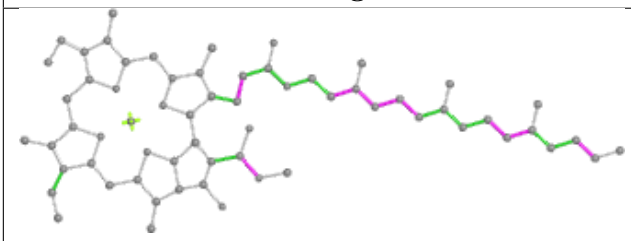
Ligand CLA A 791



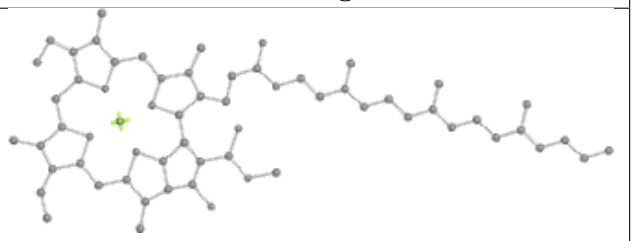
Bond lengths



Bond angles

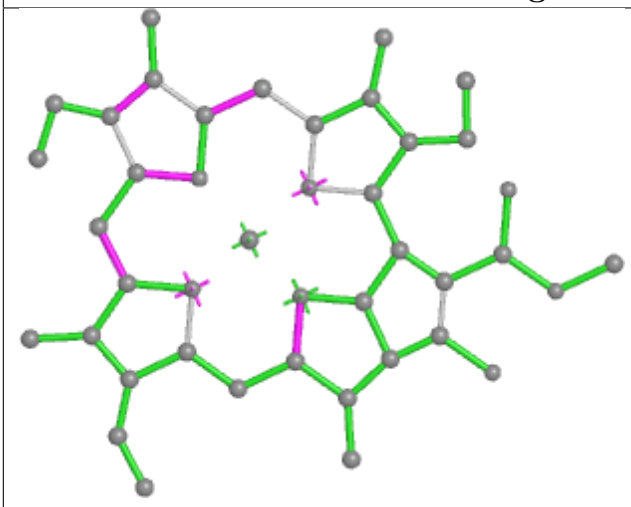


Torsions

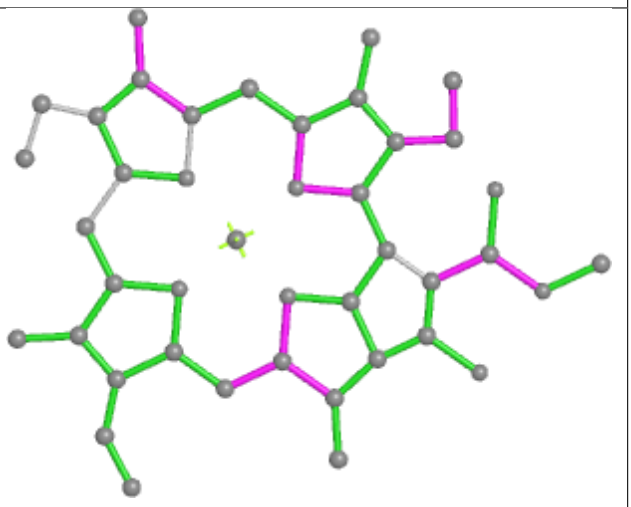


Rings

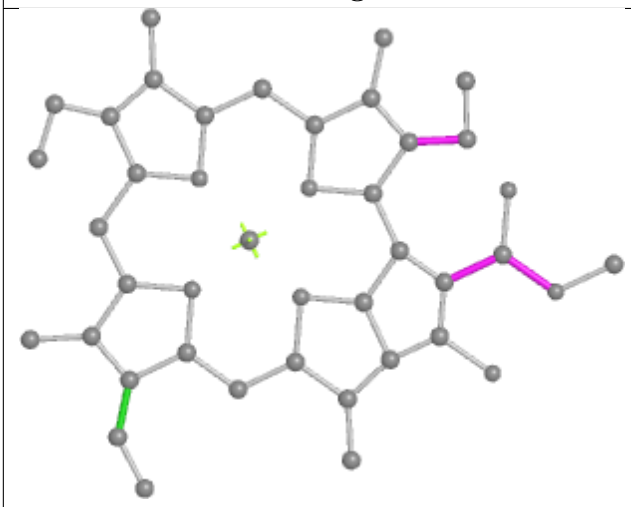
Ligand CLA o 613



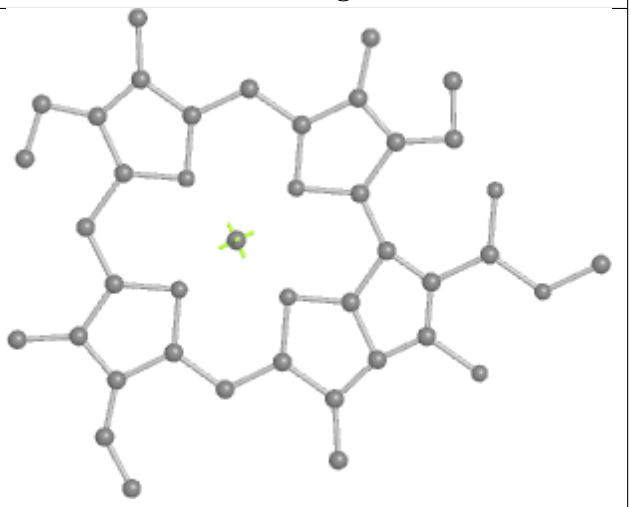
Bond lengths



Bond angles

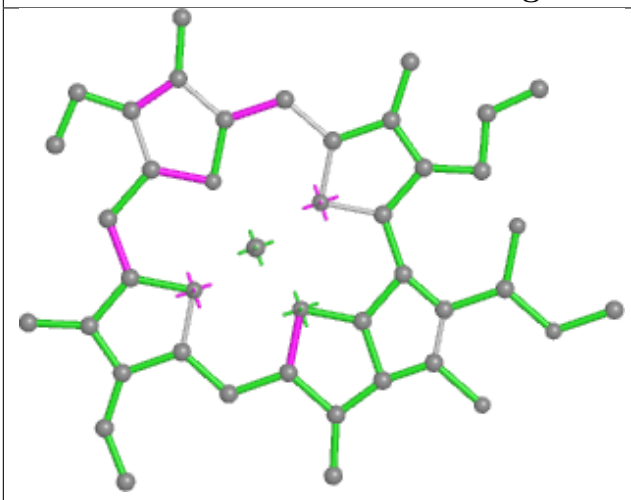


Torsions

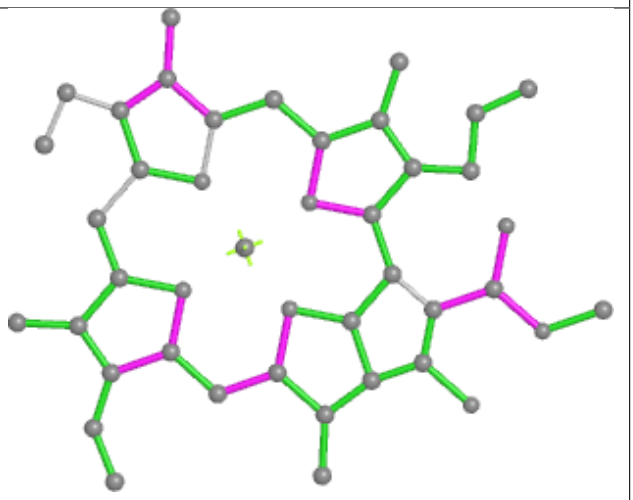


Rings

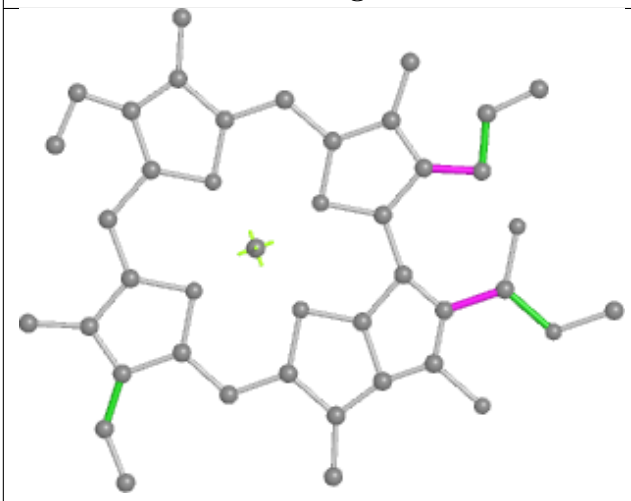
Ligand CLA m 611



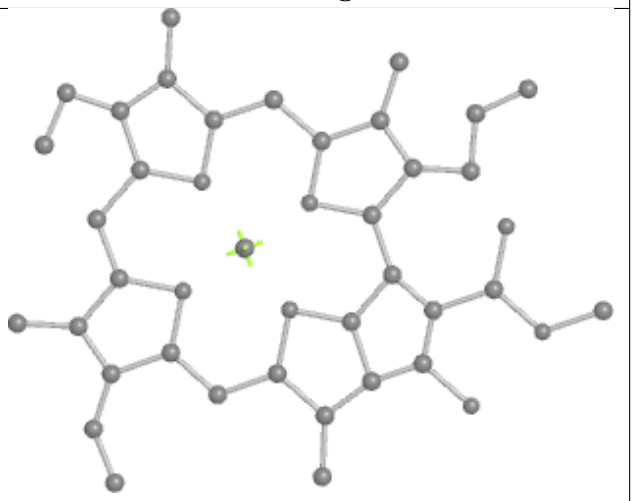
Bond lengths



Bond angles

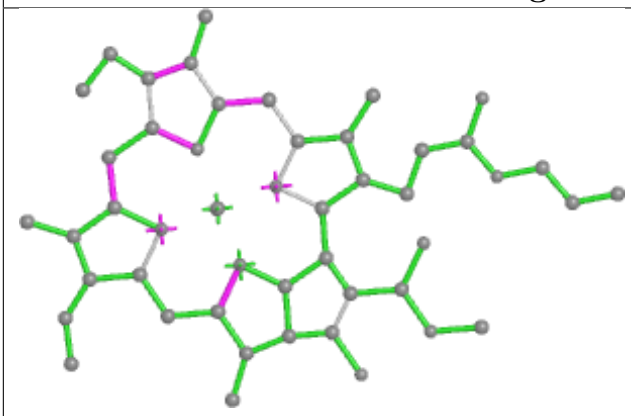


Torsions

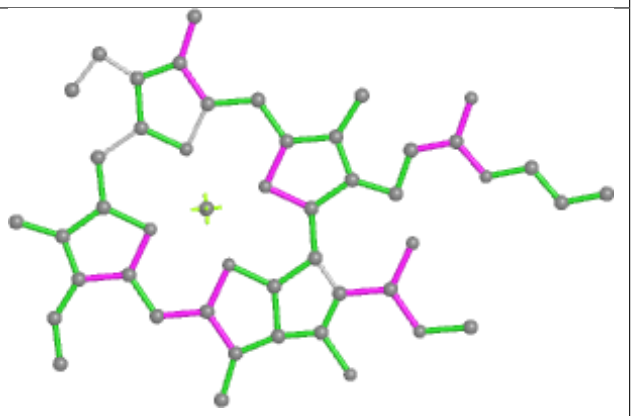


Rings

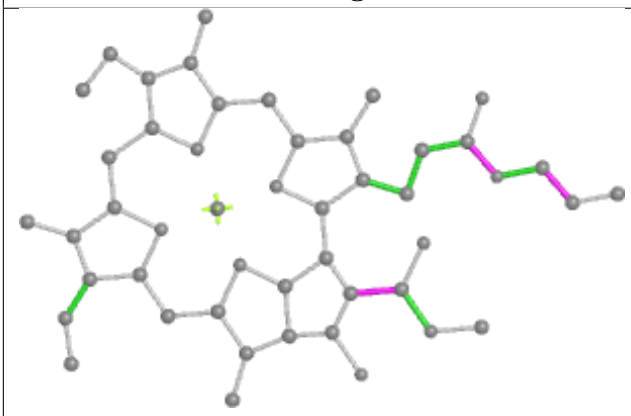
Ligand CLA c 604



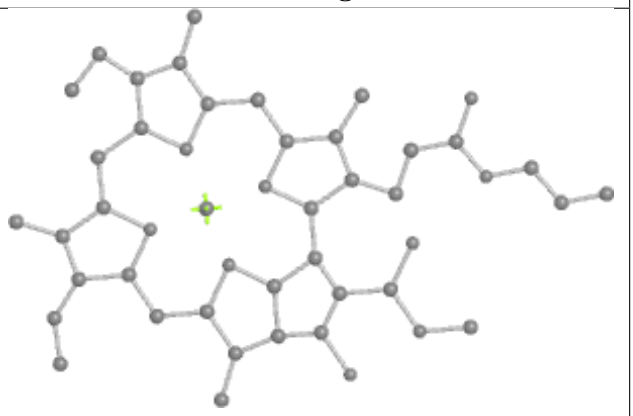
Bond lengths



Bond angles

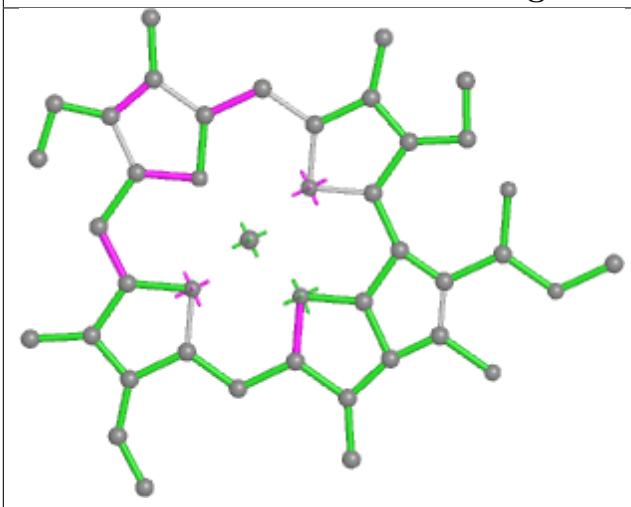


Torsions

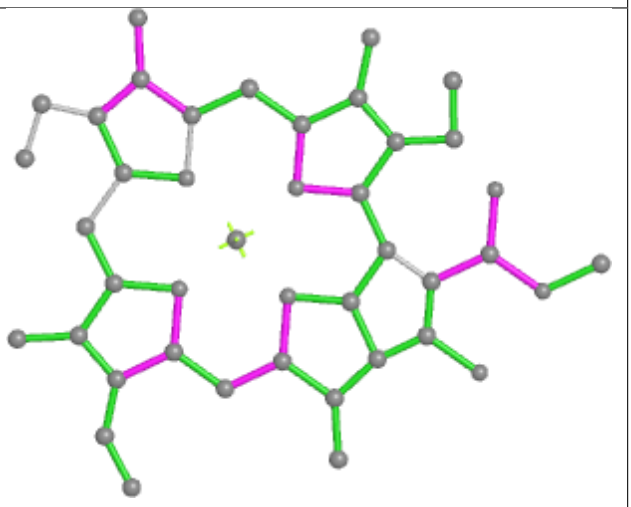


Rings

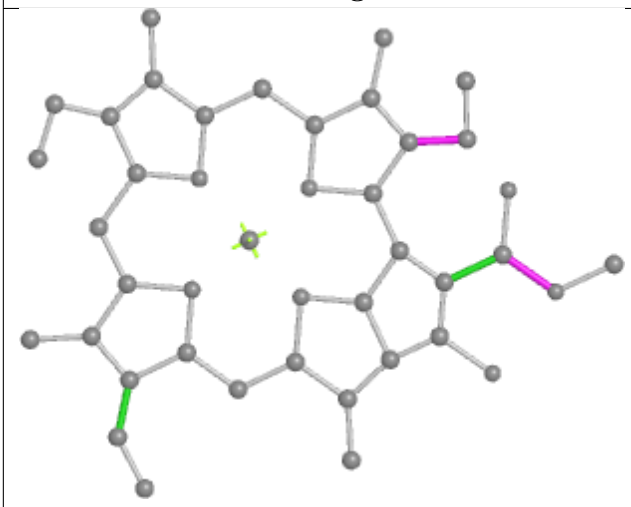
Ligand CLA k 615



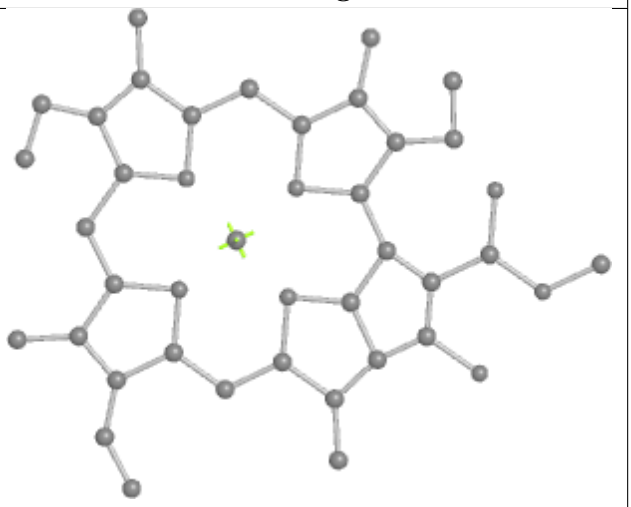
Bond lengths



Bond angles

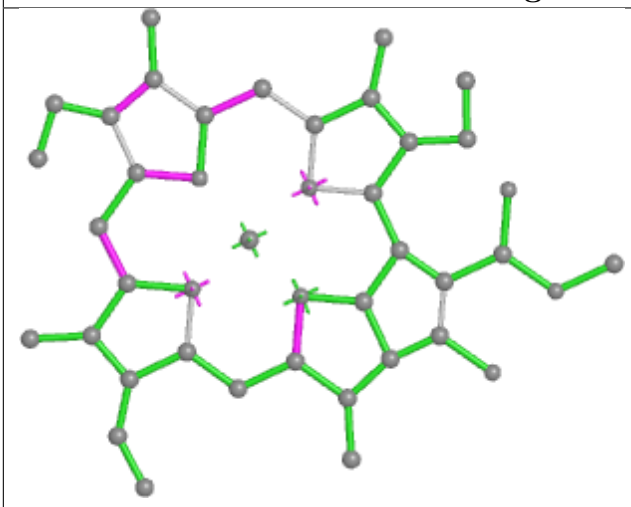


Torsions

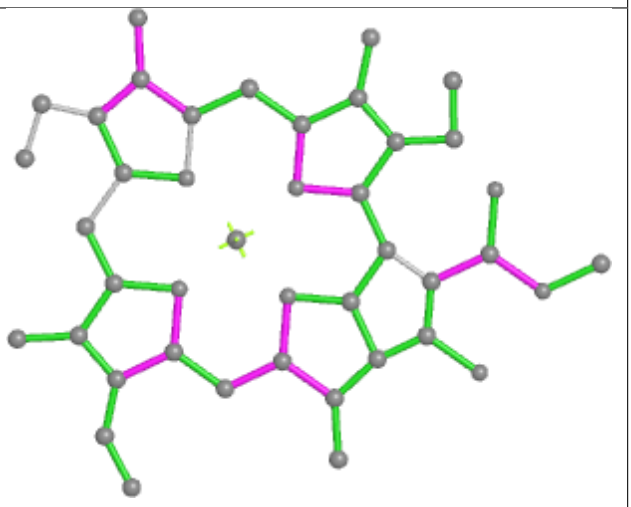


Rings

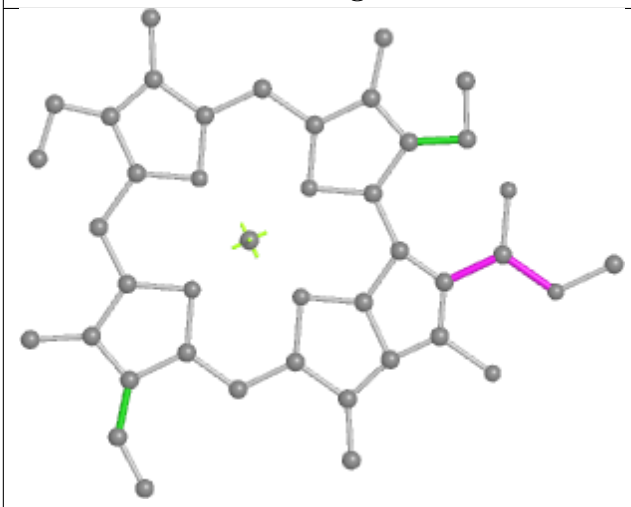
Ligand CLA B 743



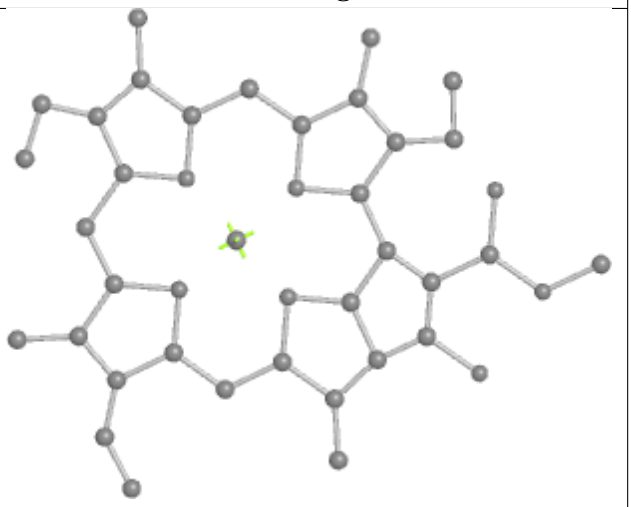
Bond lengths



Bond angles

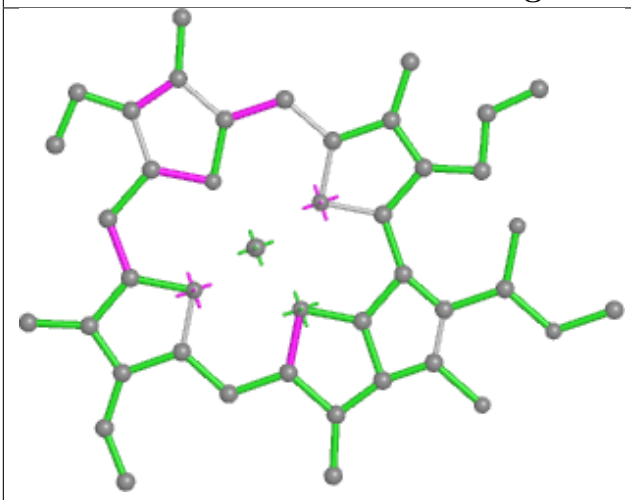


Torsions

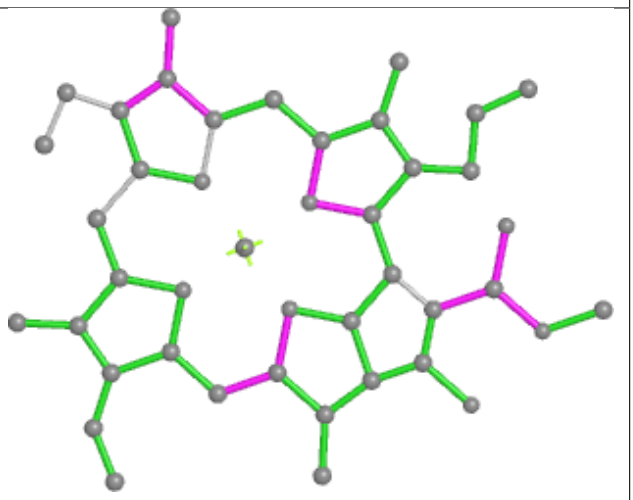


Rings

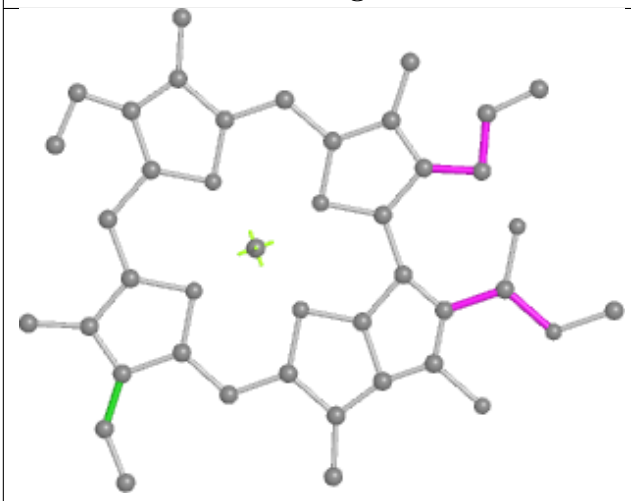
Ligand CLA B 754



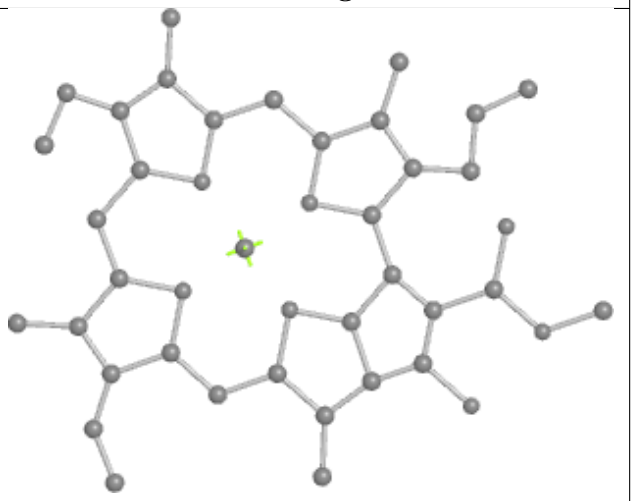
Bond lengths



Bond angles

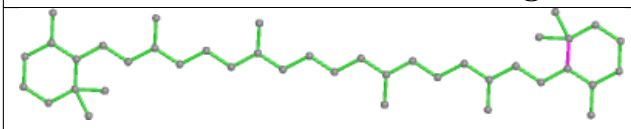


Torsions

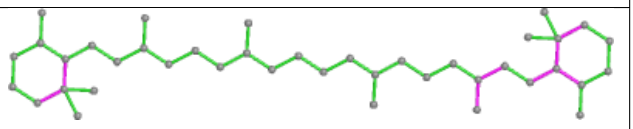


Rings

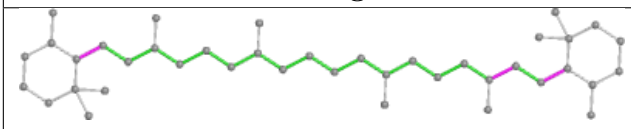
Ligand BCR B 767



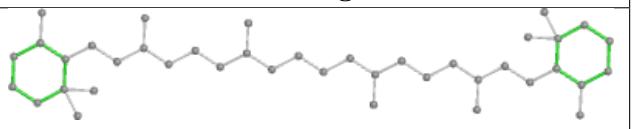
Bond lengths



Bond angles

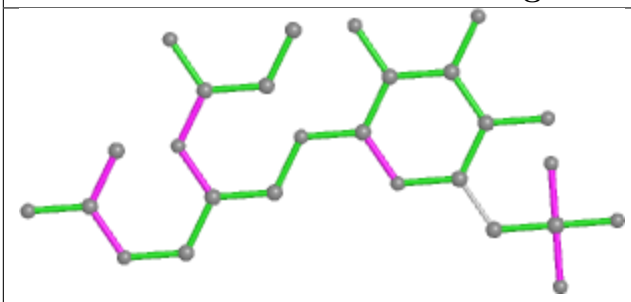


Torsions

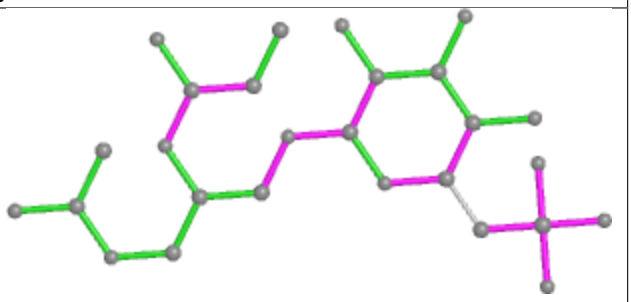


Rings

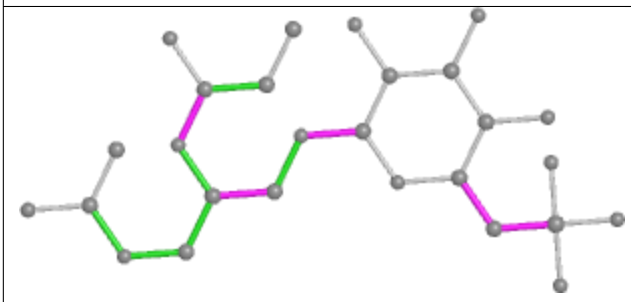
Ligand SQD A 795



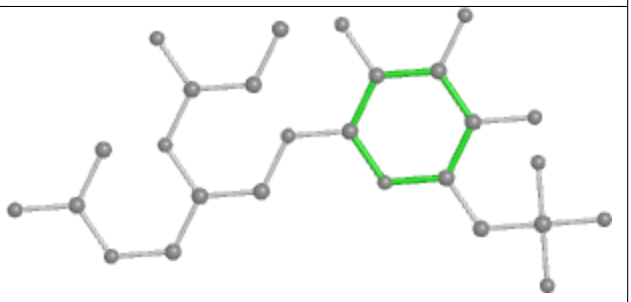
Bond lengths



Bond angles

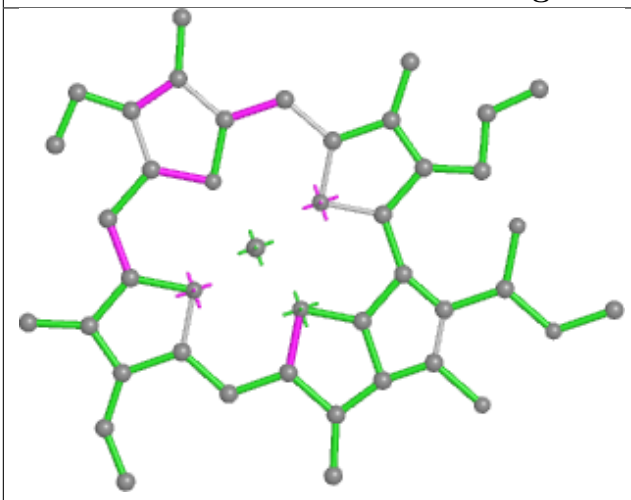


Torsions

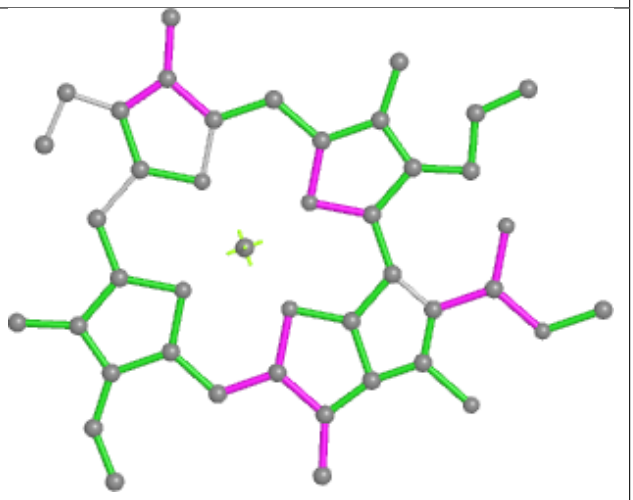


Rings

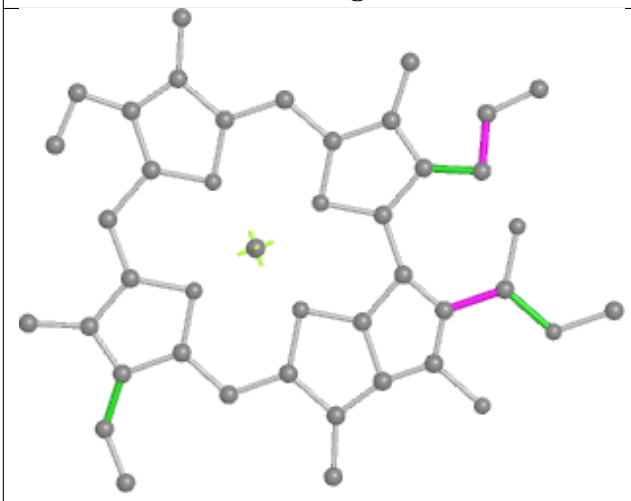
Ligand CLA l 603



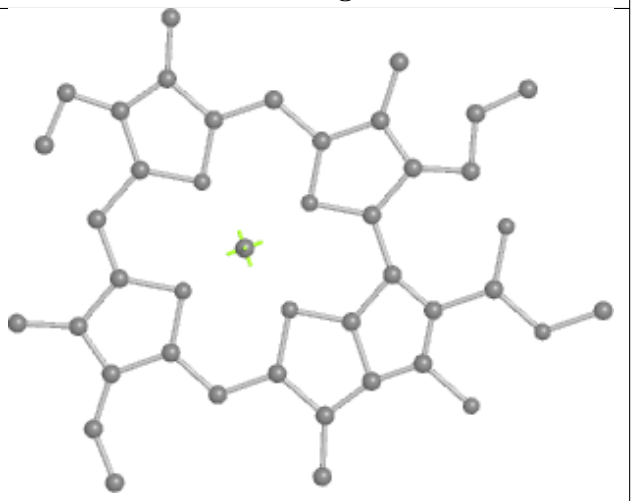
Bond lengths



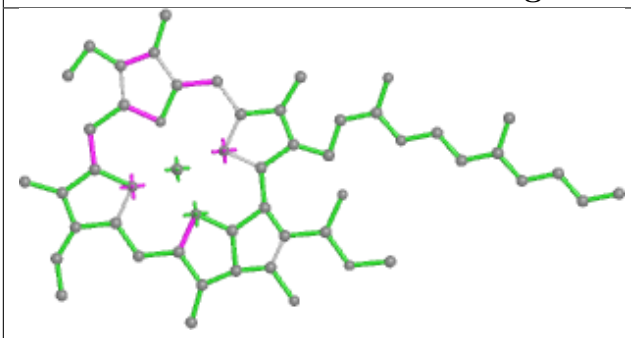
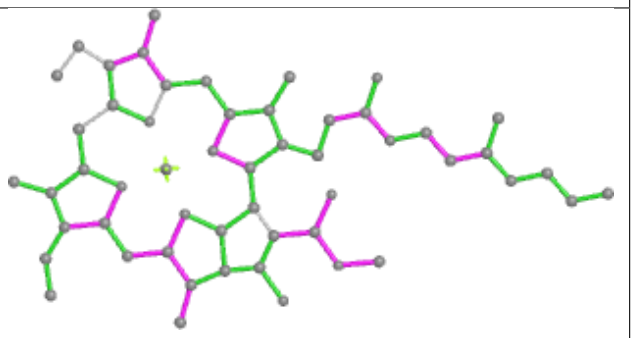
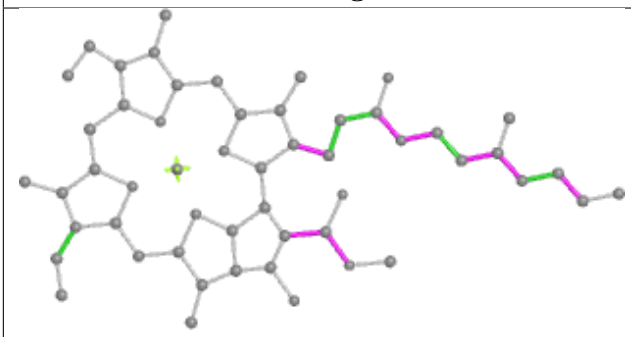
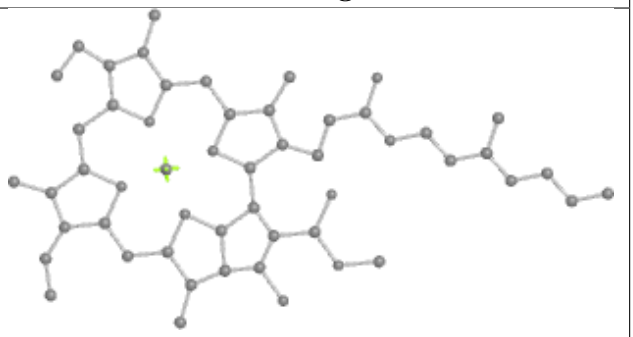
Bond angles

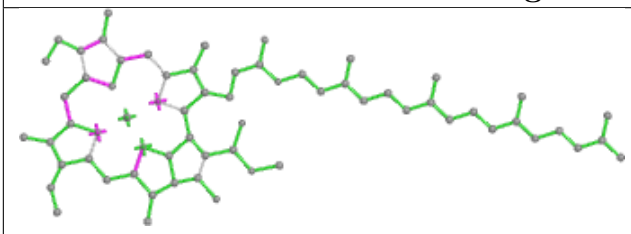
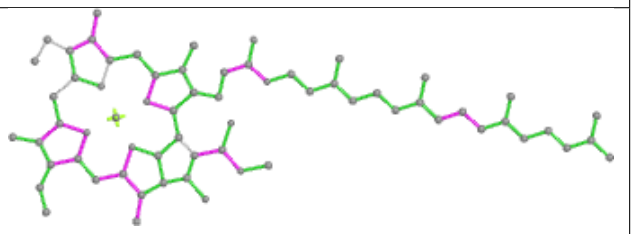
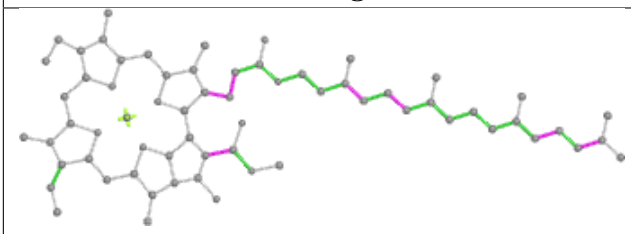
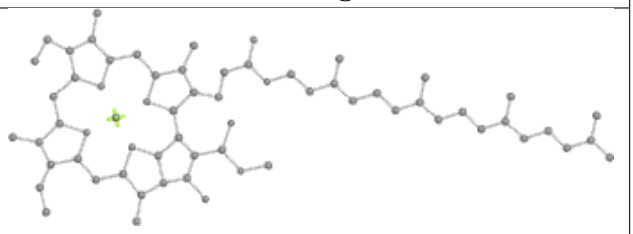


Torsions

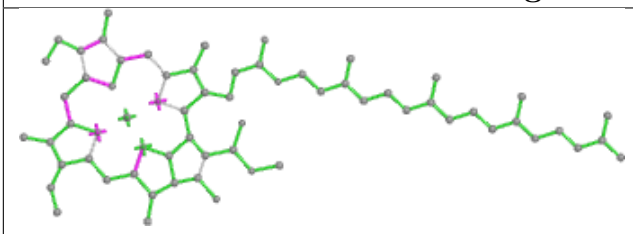


Rings

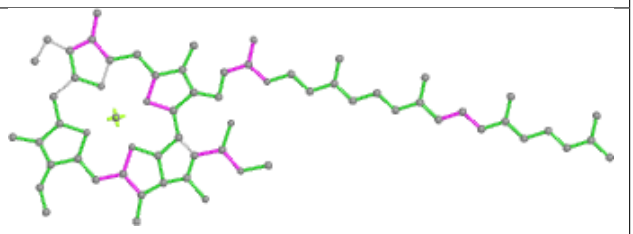
Ligand CLA B 777	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand CLA B 781	
	
Bond lengths	Bond angles
	
Torsions	Rings

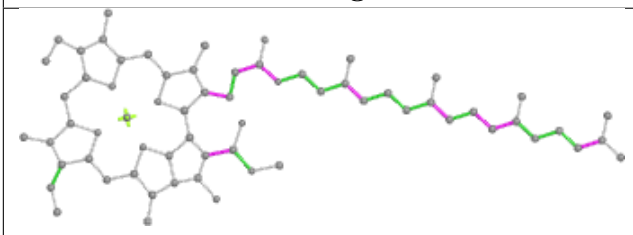
Ligand CLA B 738



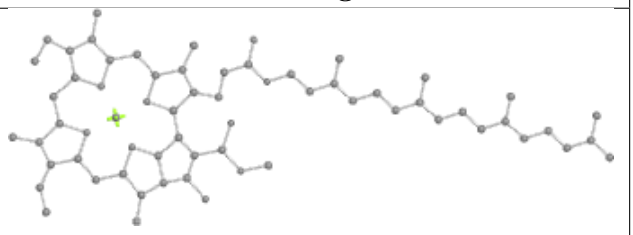
Bond lengths



Bond angles

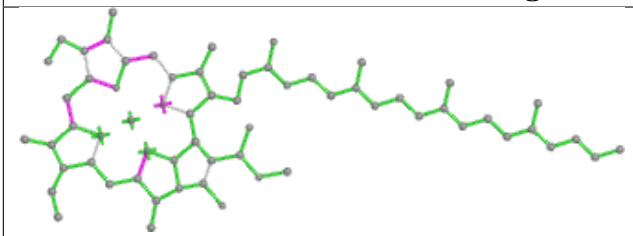


Torsions

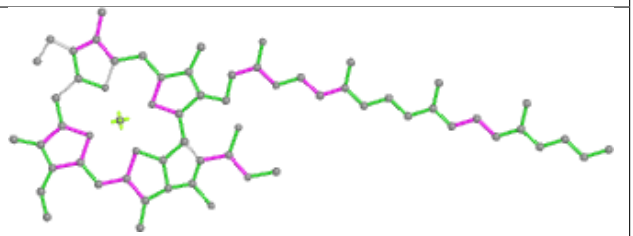


Rings

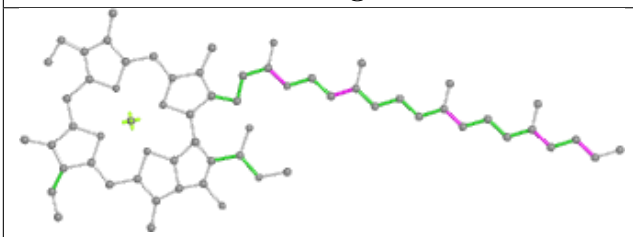
Ligand CLA A 753



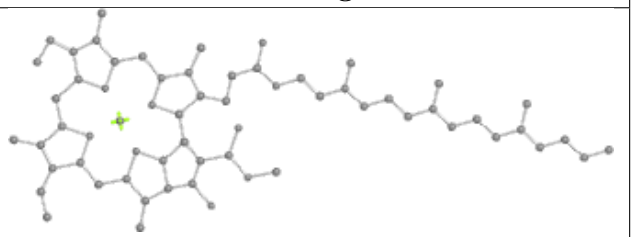
Bond lengths



Bond angles

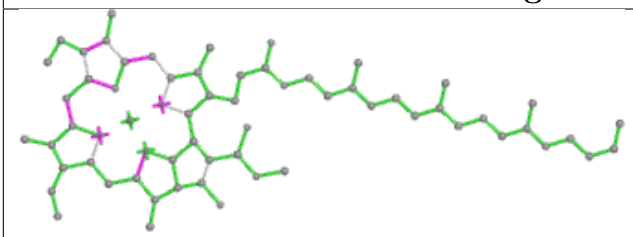


Torsions

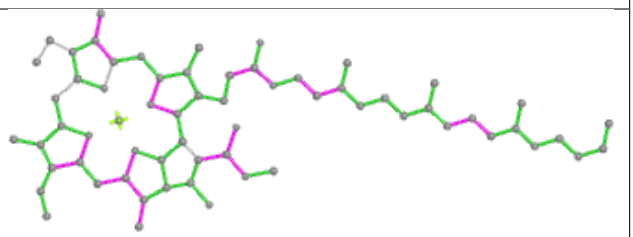


Rings

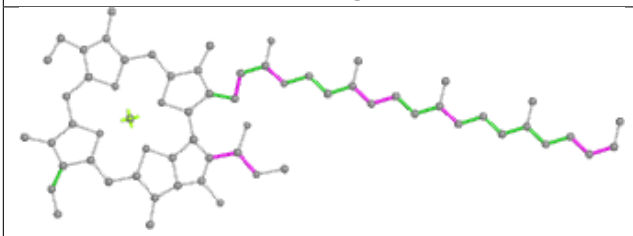
Ligand CLA B 746



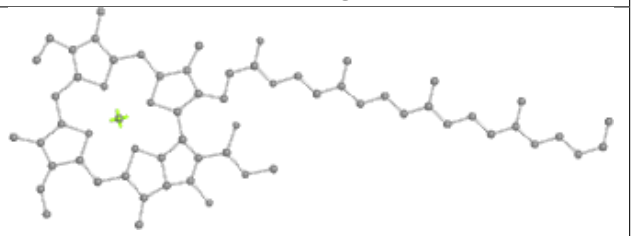
Bond lengths



Bond angles

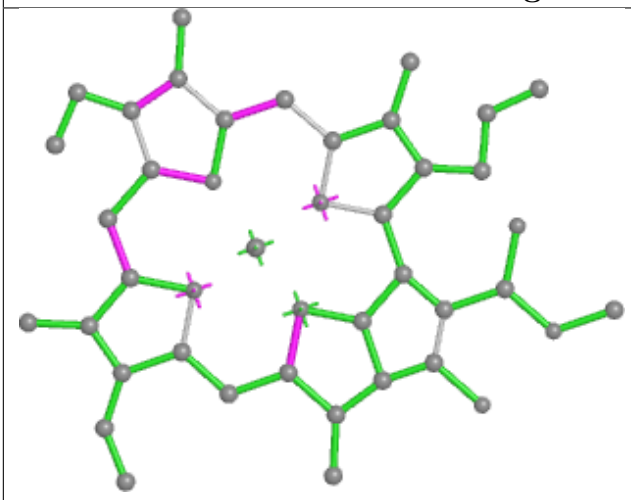


Torsions

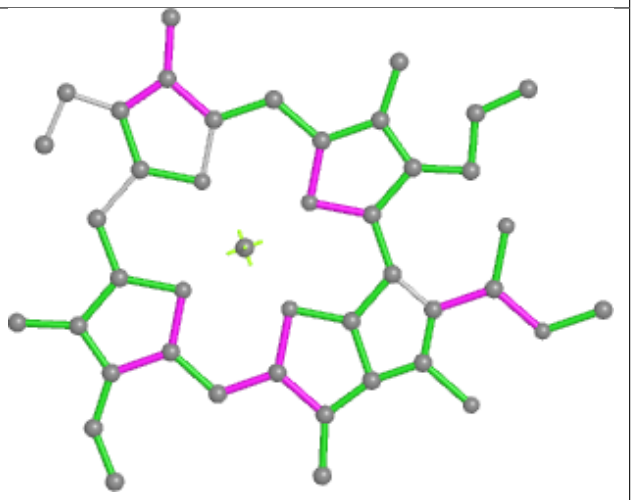


Rings

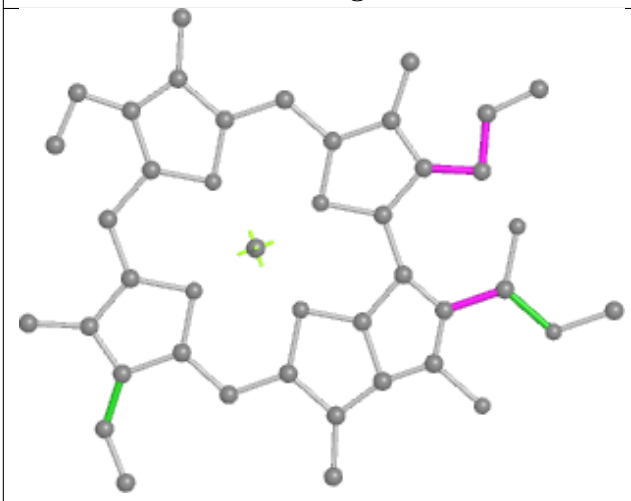
Ligand CLA A 767



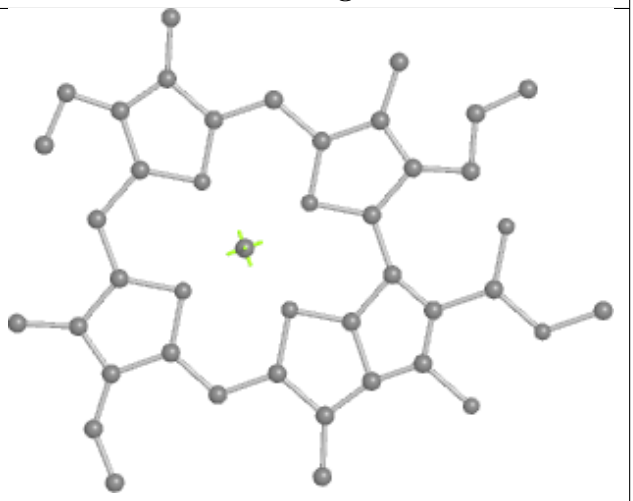
Bond lengths



Bond angles

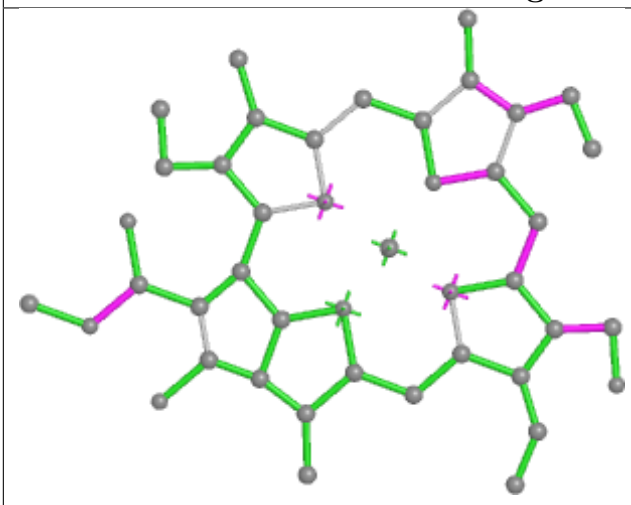


Torsions

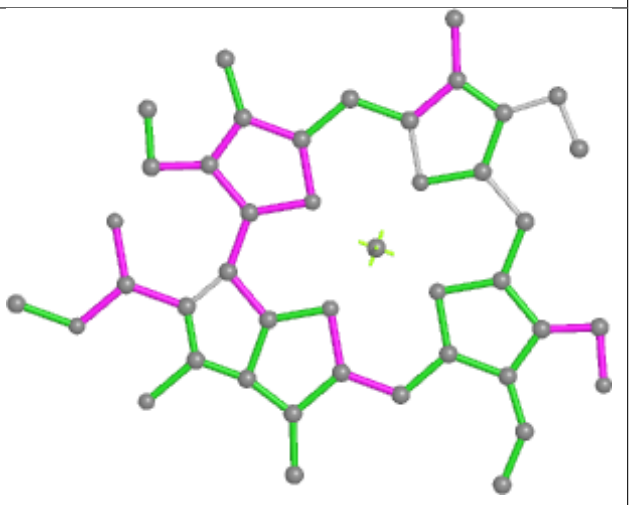


Rings

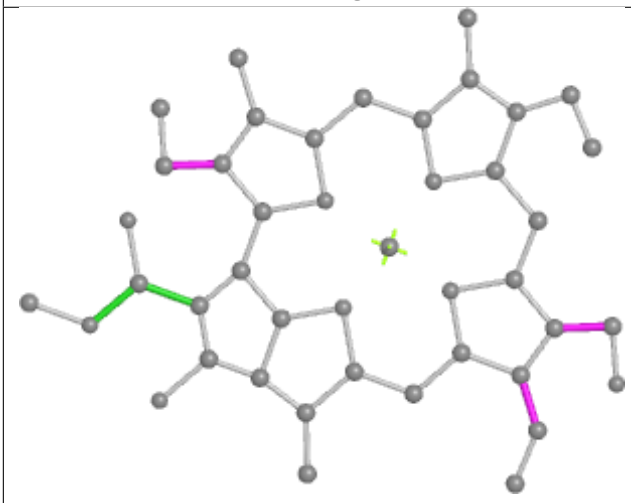
Ligand CHL d 607



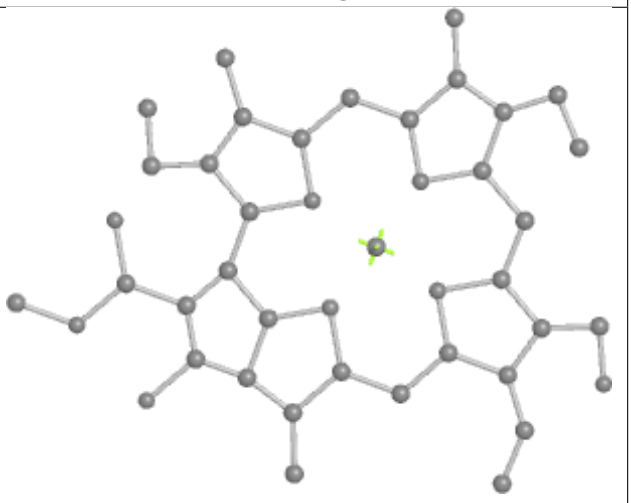
Bond lengths



Bond angles

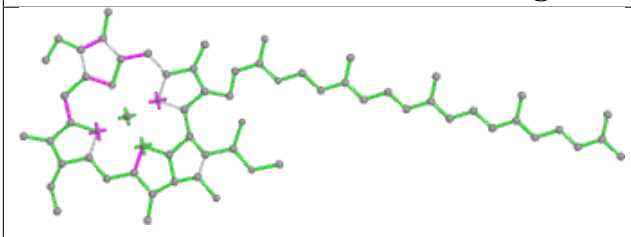


Torsions

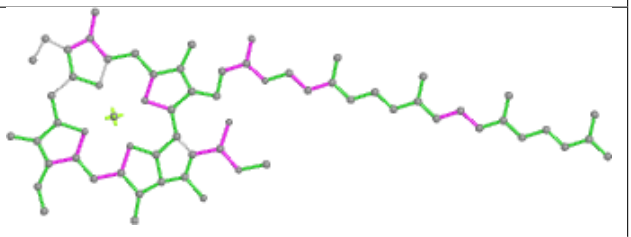


Rings

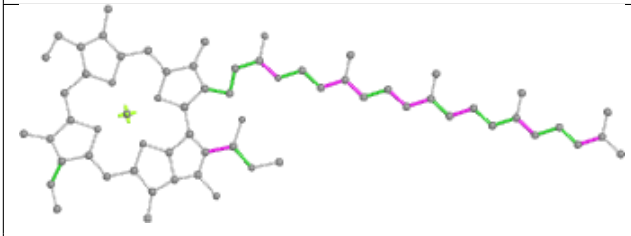
Ligand CLA i 608



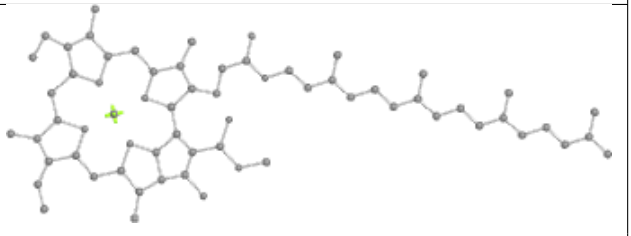
Bond lengths



Bond angles

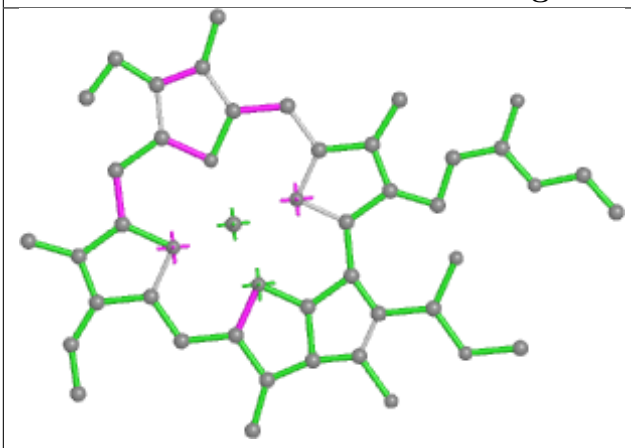


Torsions

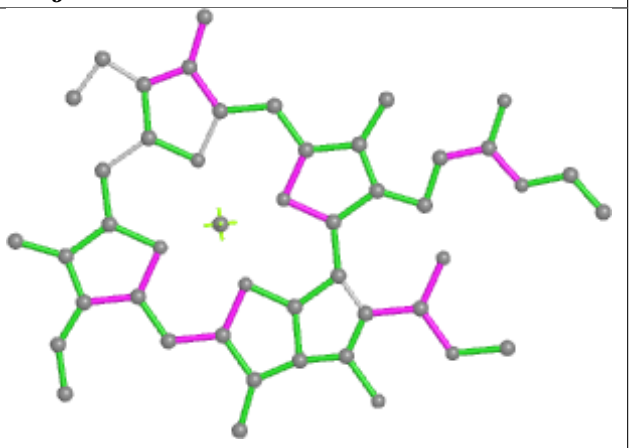


Rings

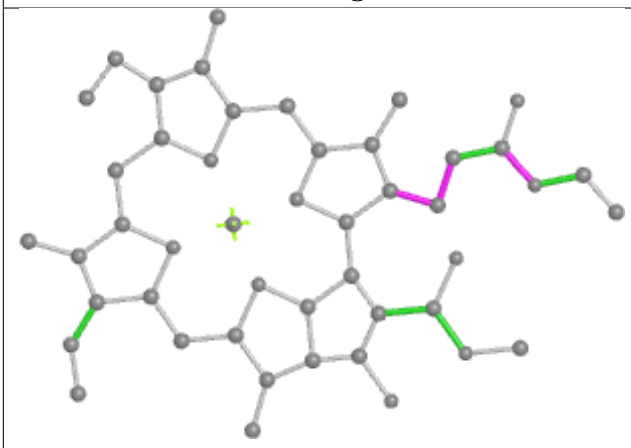
Ligand CLA j 608



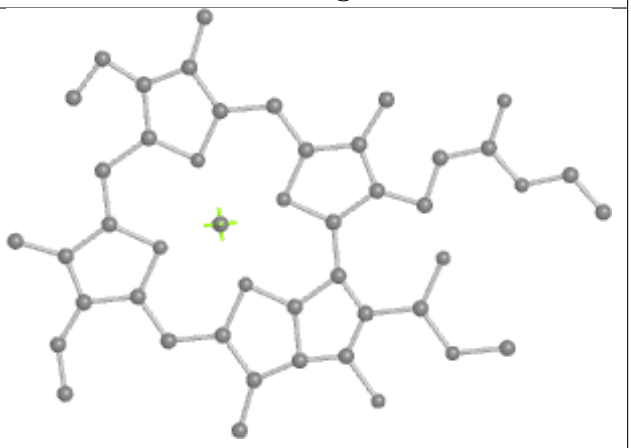
Bond lengths



Bond angles

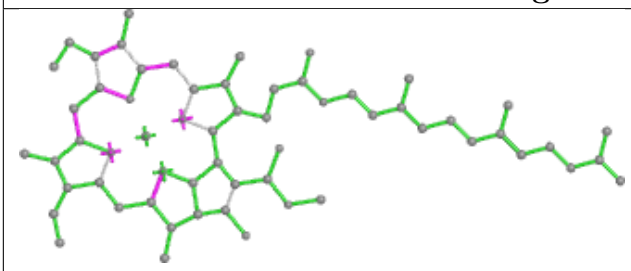


Torsions

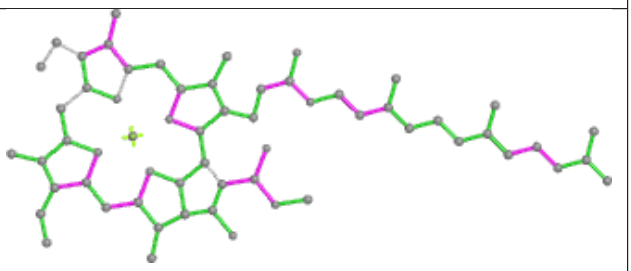


Rings

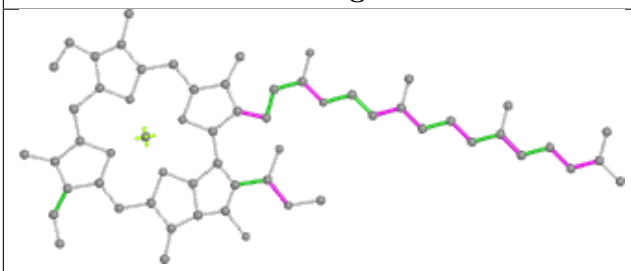
Ligand CLA l 609



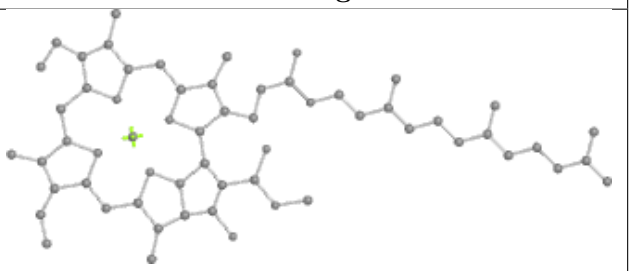
Bond lengths



Bond angles

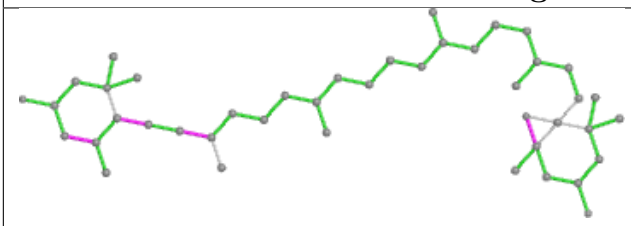


Torsions

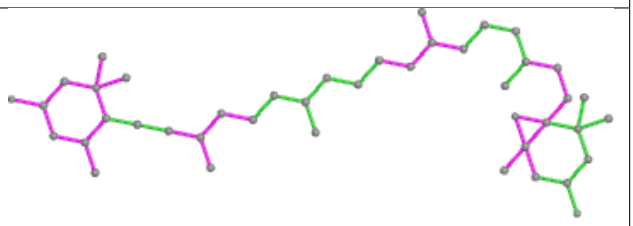


Rings

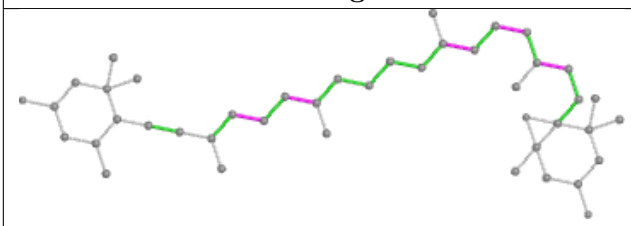
Ligand DD6 c 623



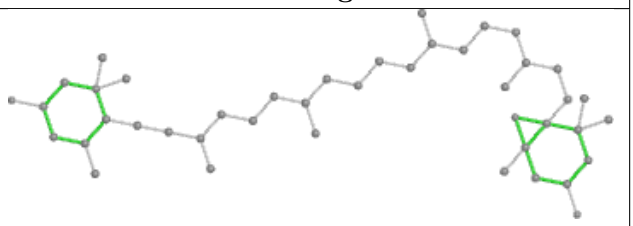
Bond lengths



Bond angles

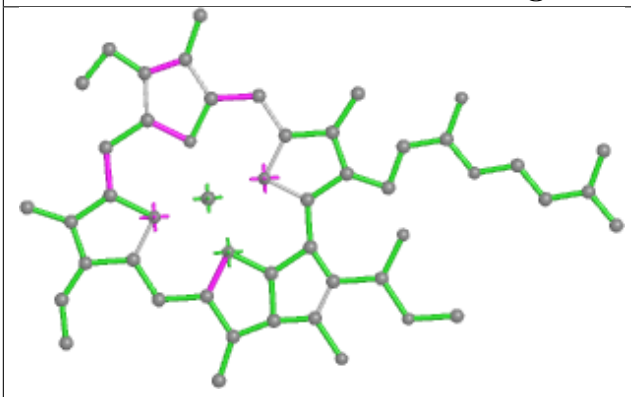


Torsions

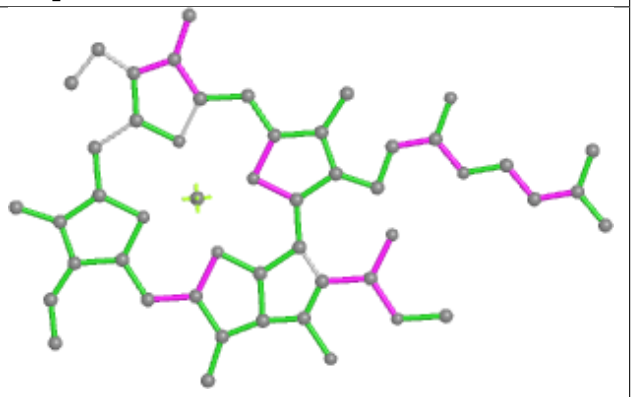


Rings

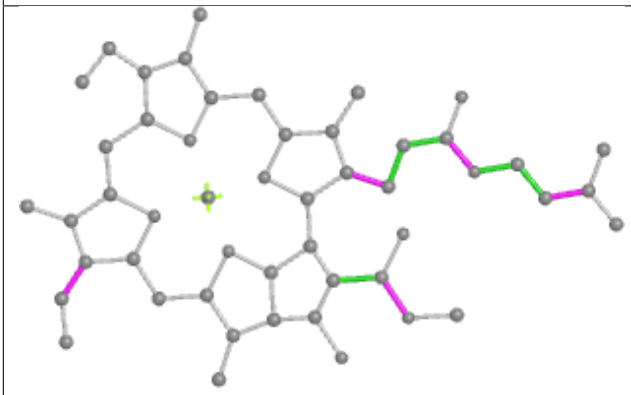
Ligand CLA p 609



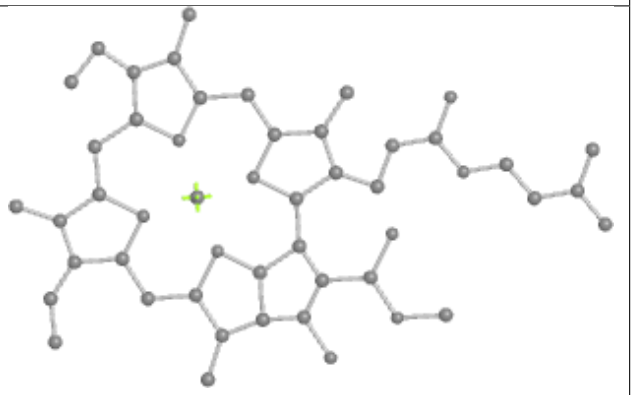
Bond lengths



Bond angles

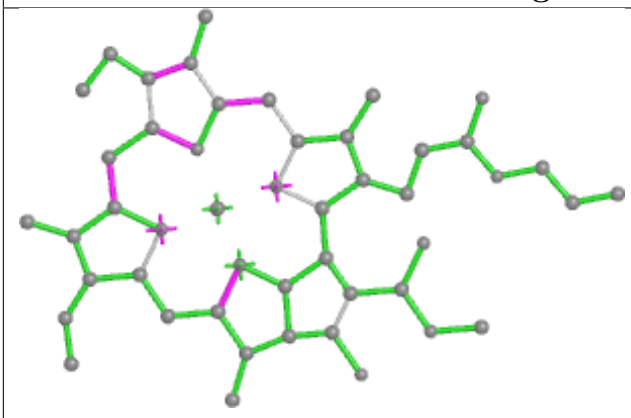


Torsions

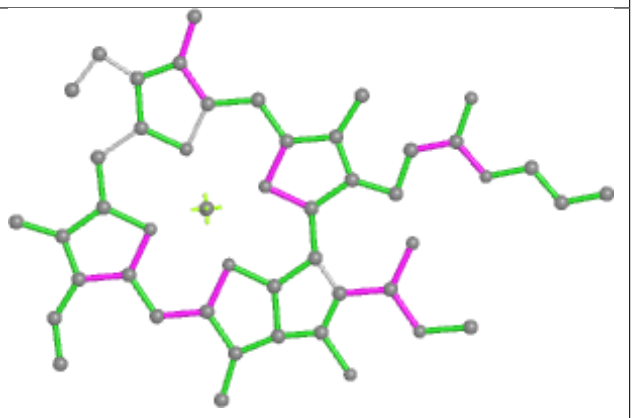


Rings

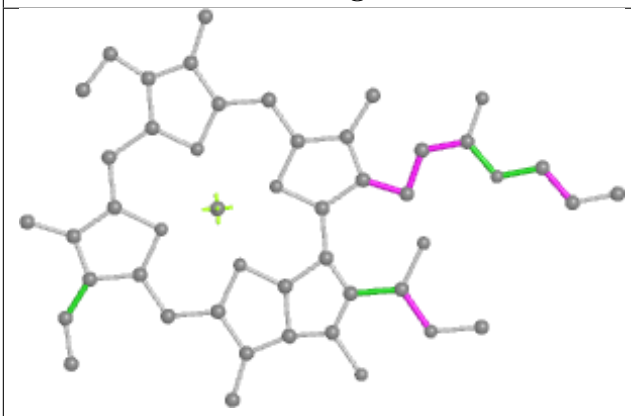
Ligand CLA l 613



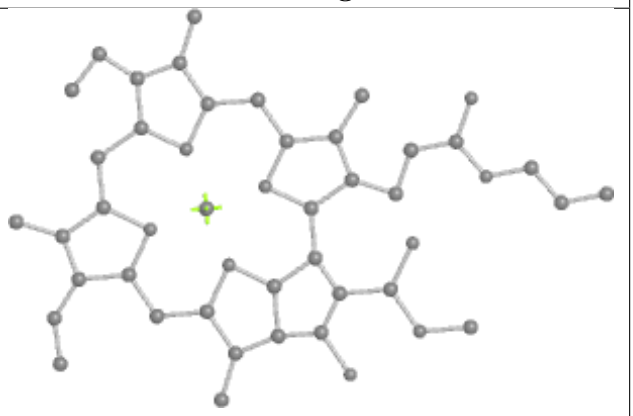
Bond lengths



Bond angles

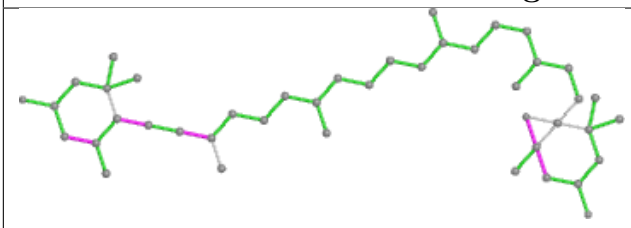


Torsions

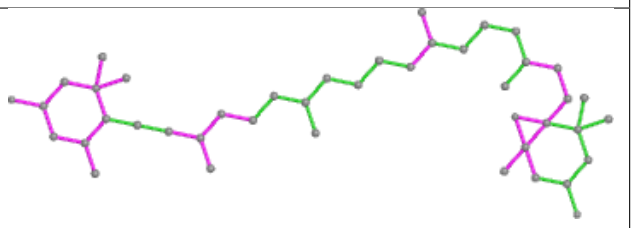


Rings

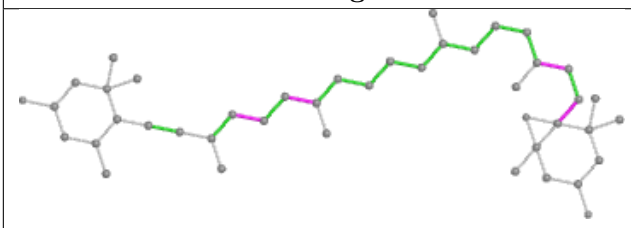
Ligand DD6 m 621



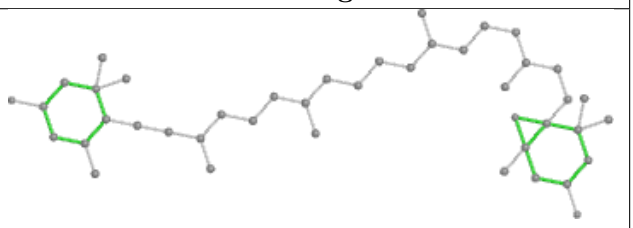
Bond lengths



Bond angles

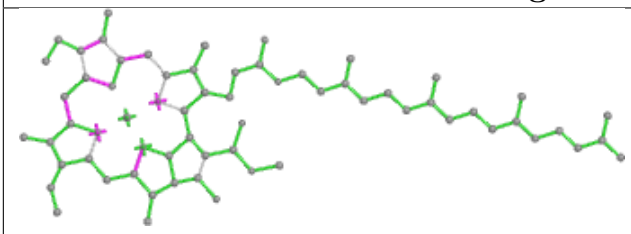


Torsions

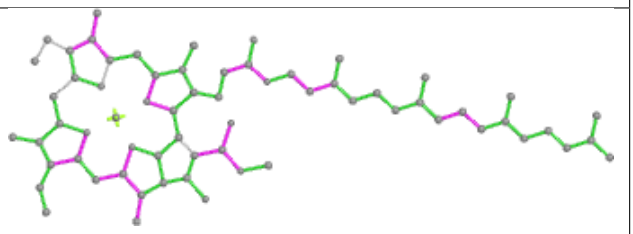


Rings

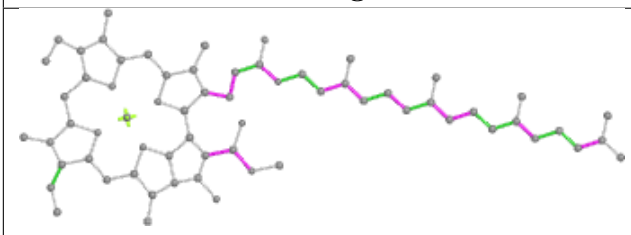
Ligand CLA e 602



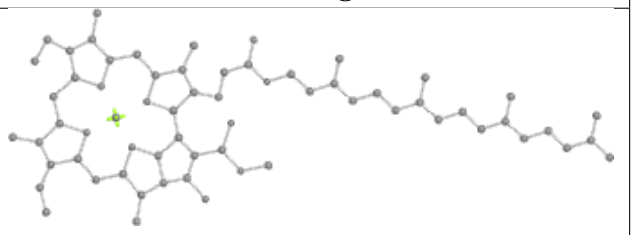
Bond lengths



Bond angles

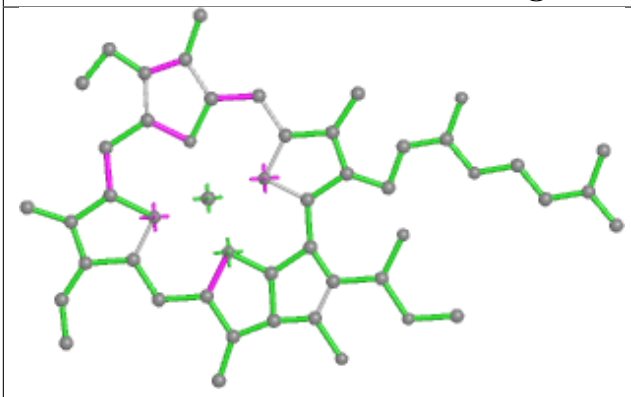


Torsions

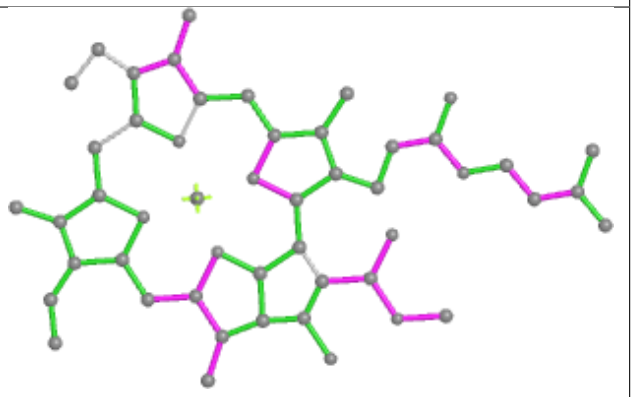


Rings

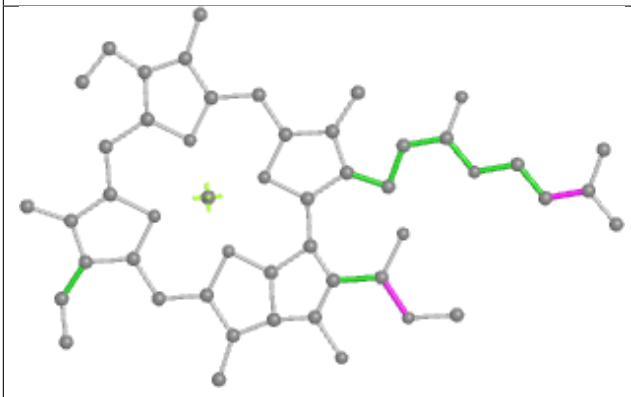
Ligand CLA k 608



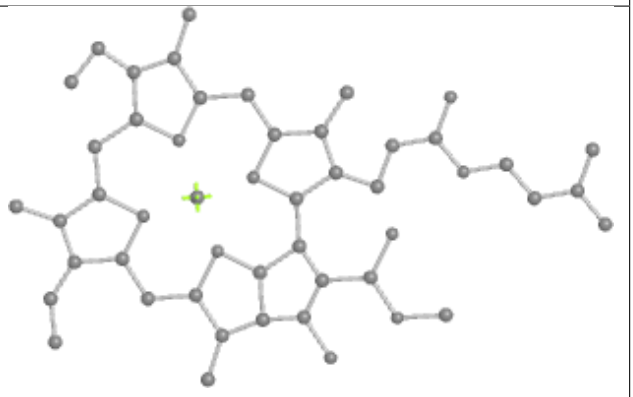
Bond lengths



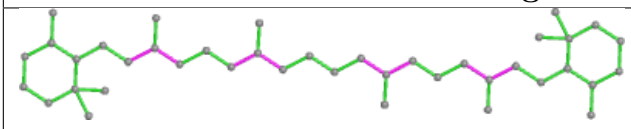
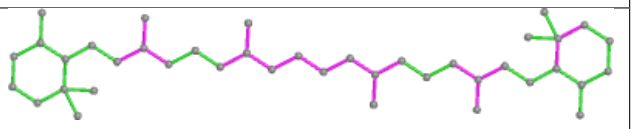
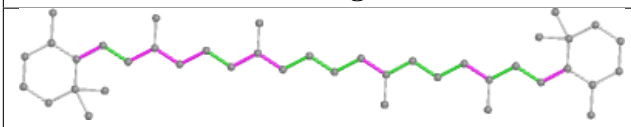
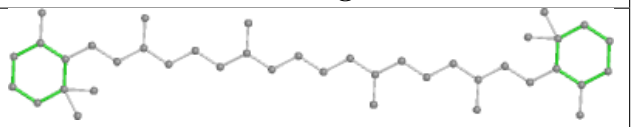
Bond angles

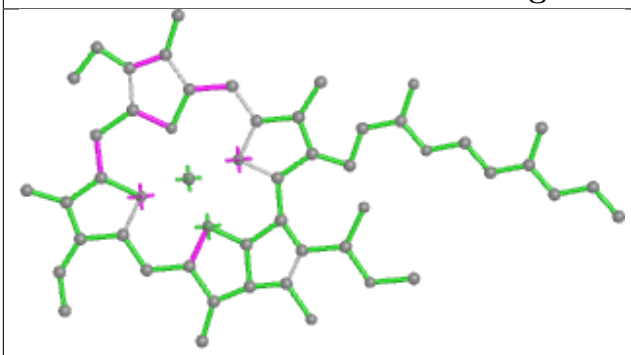
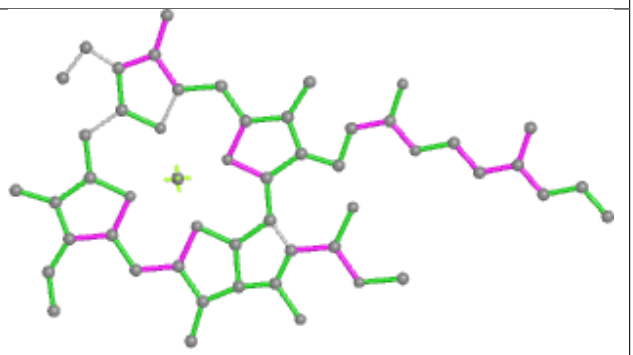
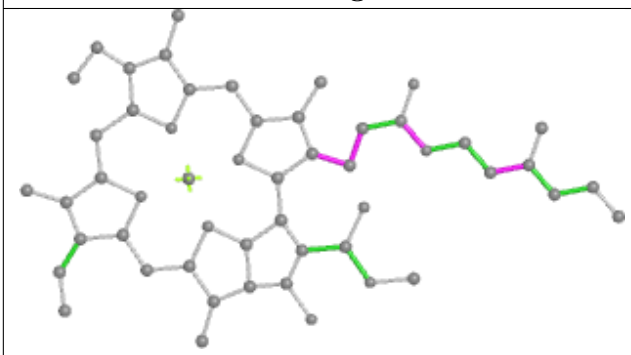
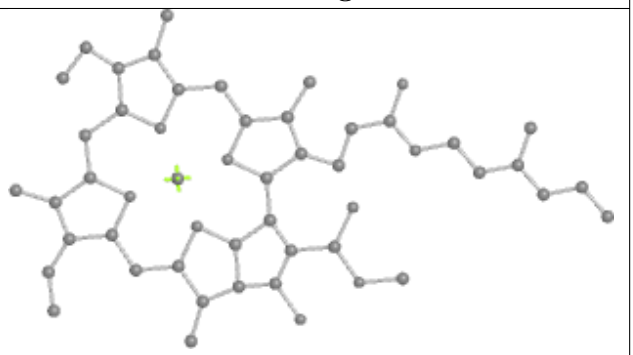


Torsions

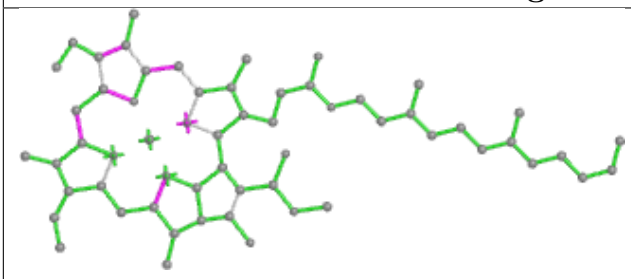


Rings

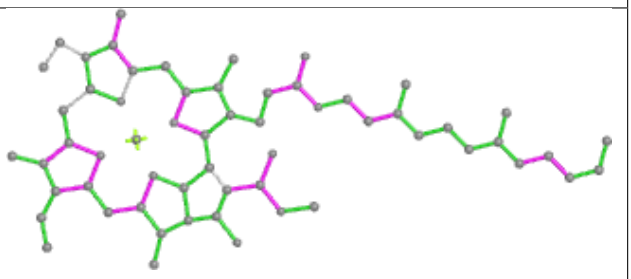
Ligand BCR A 792	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA e 609	
 Bond lengths	 Bond angles
 Torsions	 Rings

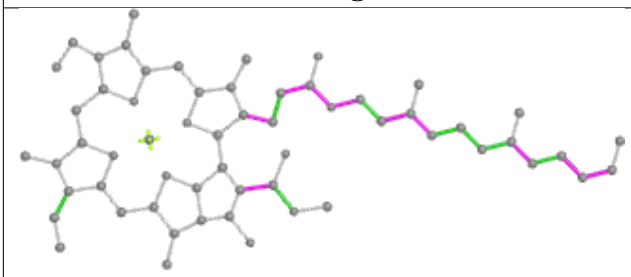
Ligand CLA n 602



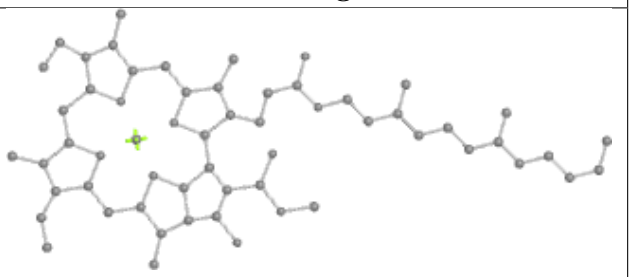
Bond lengths



Bond angles

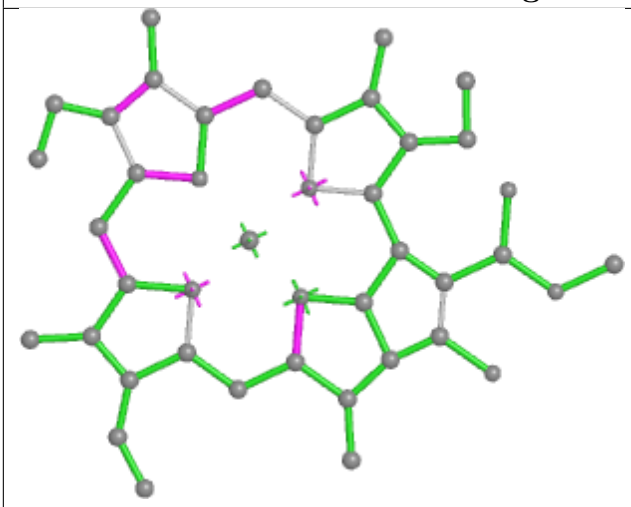


Torsions

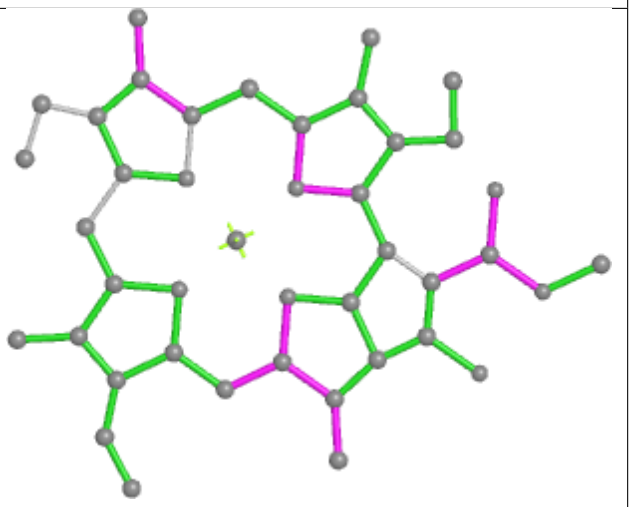


Rings

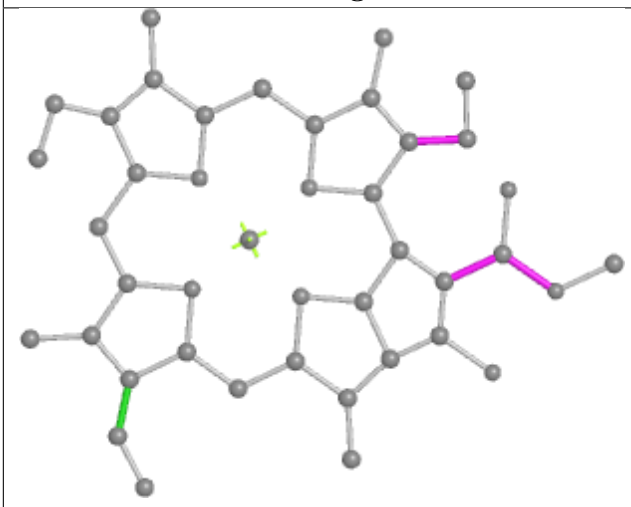
Ligand CLA m 601



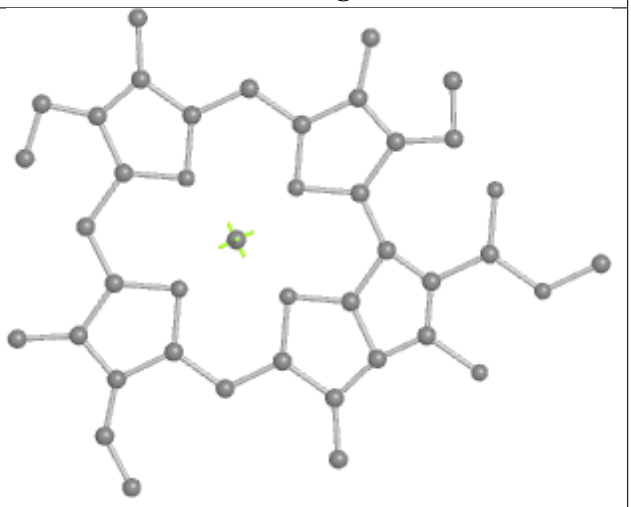
Bond lengths



Bond angles

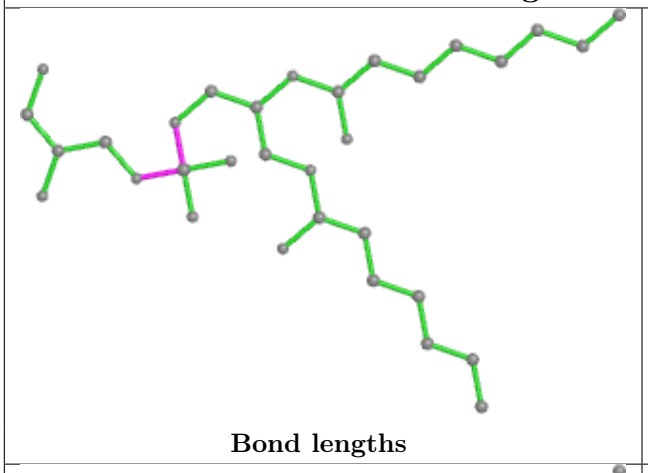


Torsions

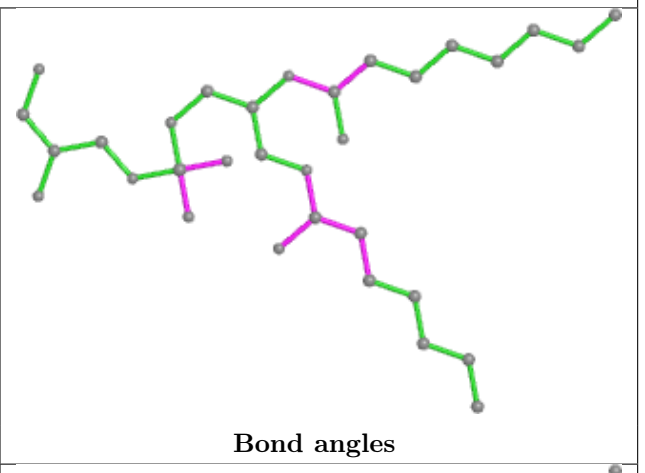


Rings

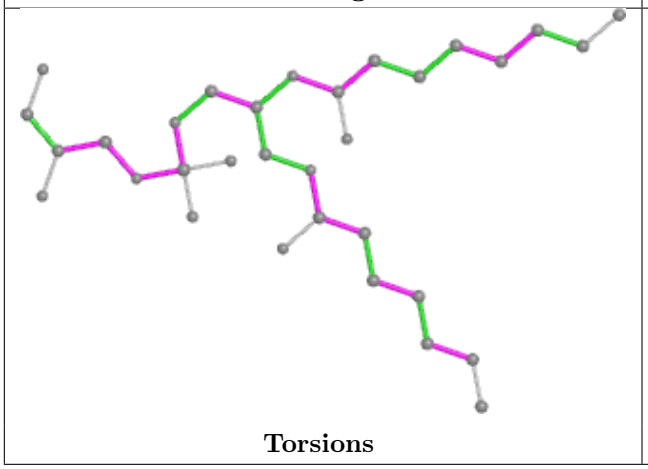
Ligand LHG m 182



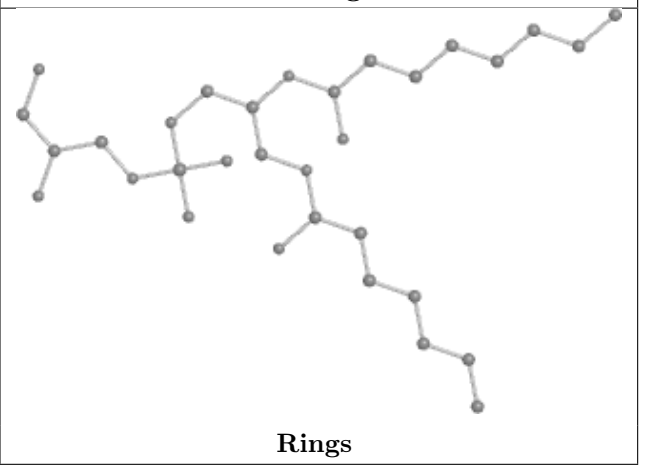
Bond lengths



Bond angles

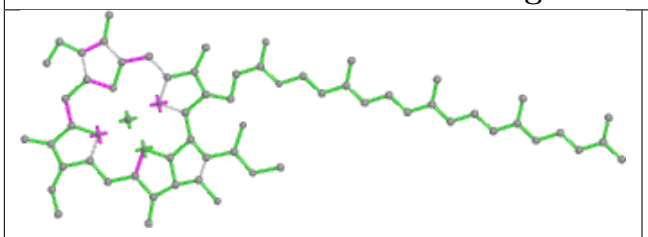


Torsions

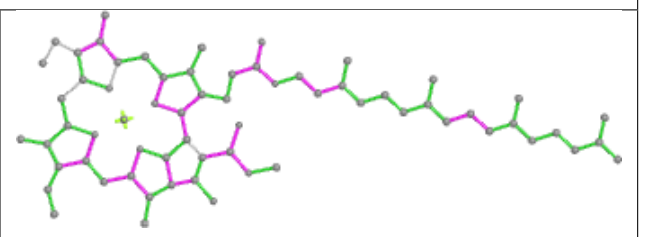


Rings

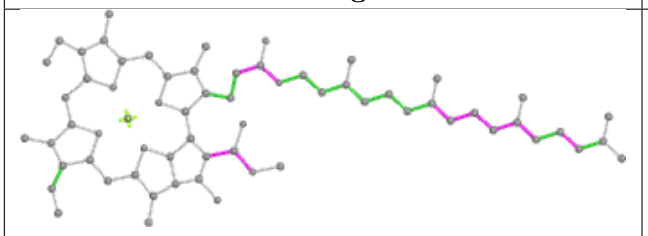
Ligand CLA A 752



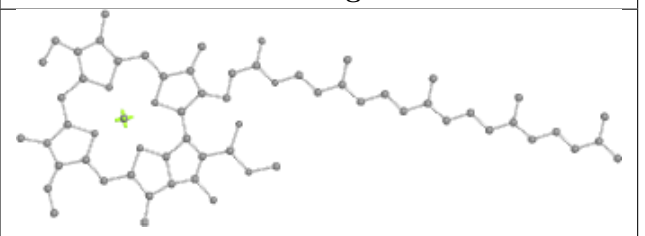
Bond lengths



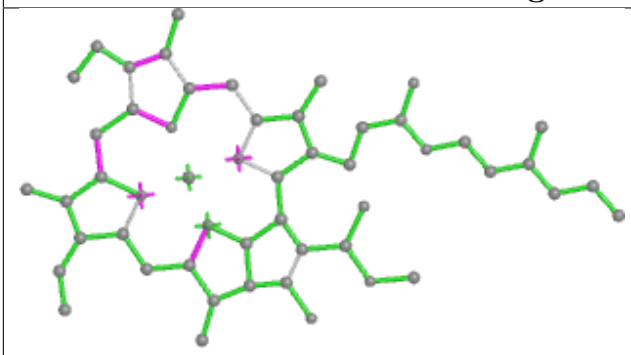
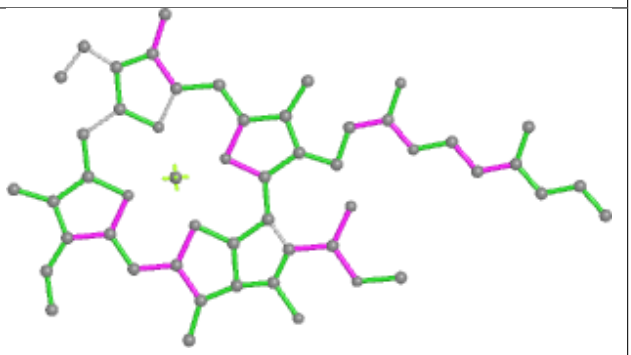
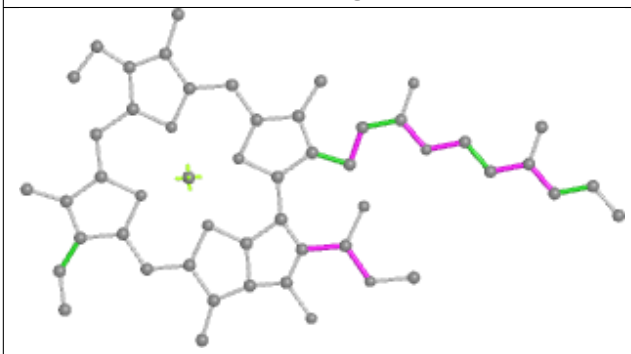
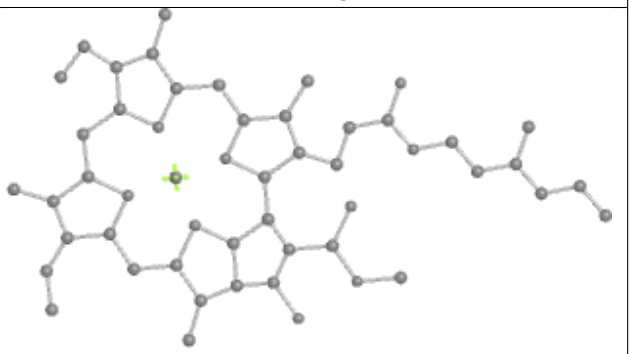
Bond angles



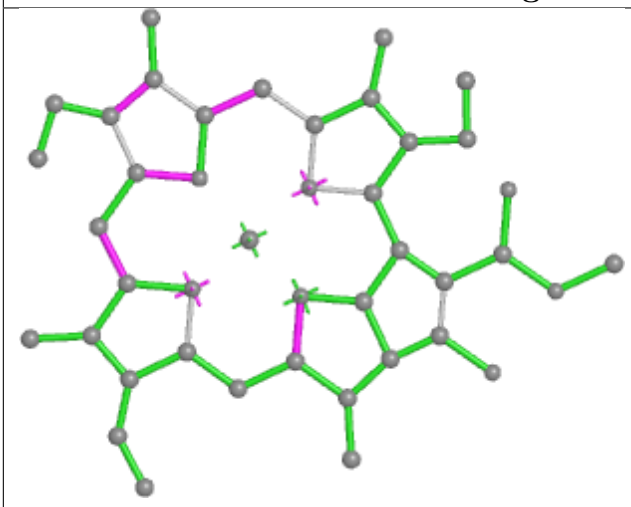
Torsions



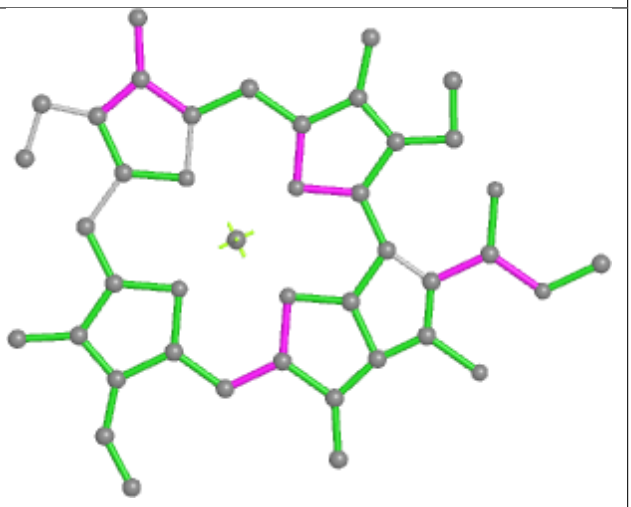
Rings

Ligand CLA k 613	
	
Bond lengths	**Bond angles**
	
Torsions	**Rings**

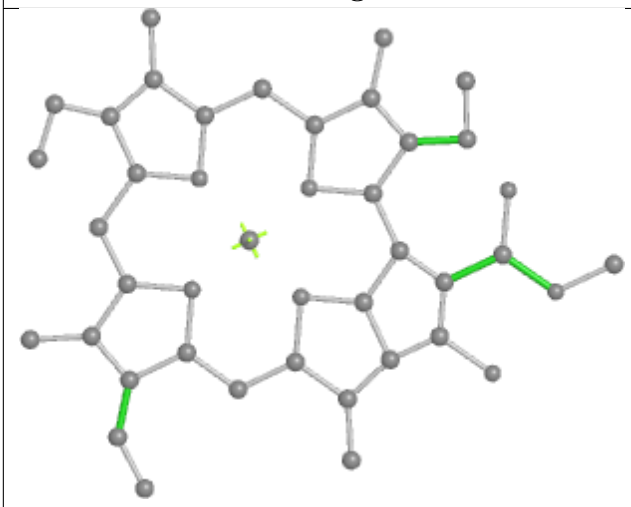
Ligand CLA m 608



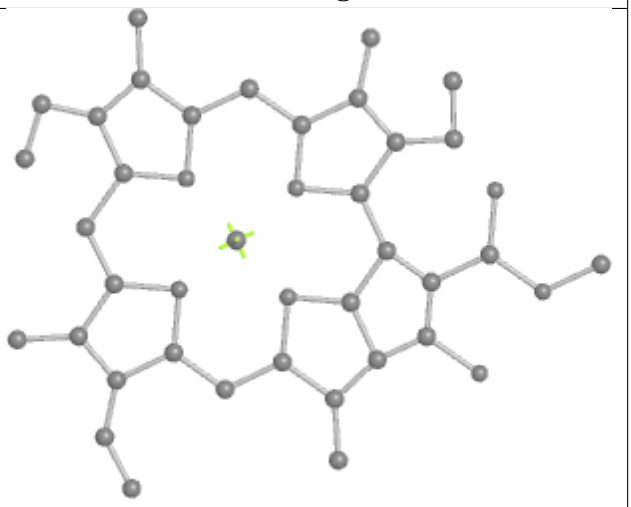
Bond lengths



Bond angles

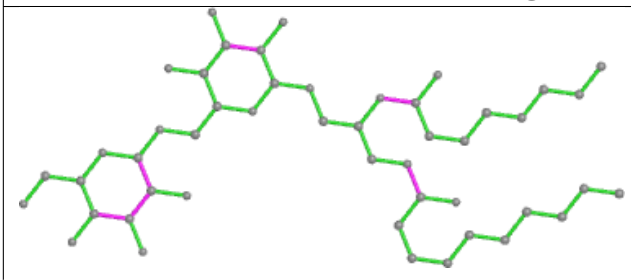


Torsions

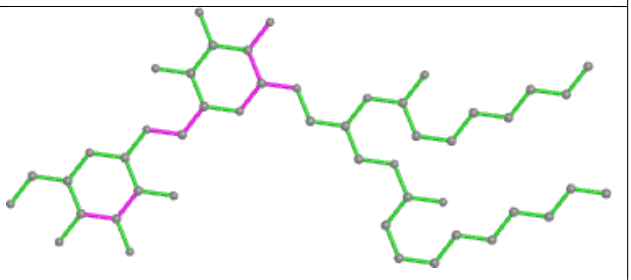


Rings

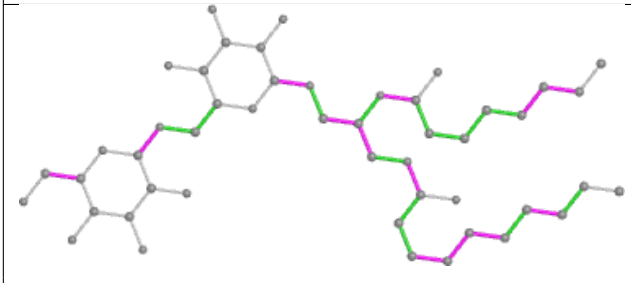
Ligand DGD b 182



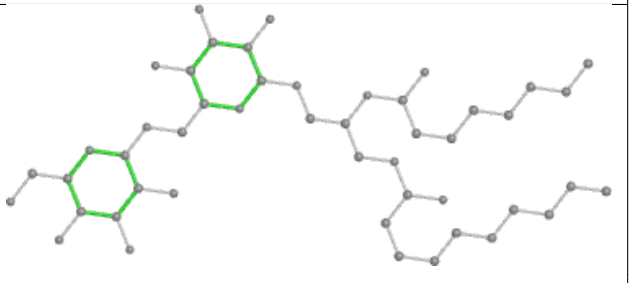
Bond lengths



Bond angles

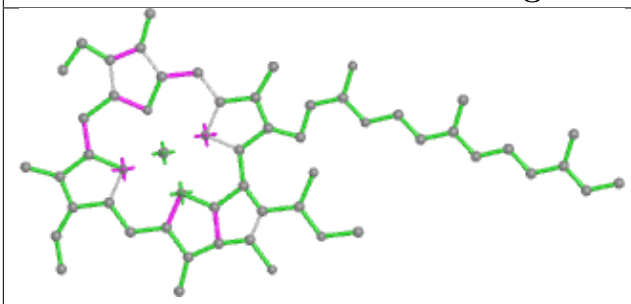


Torsions

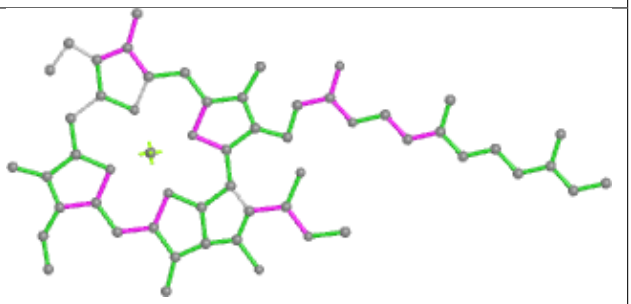


Rings

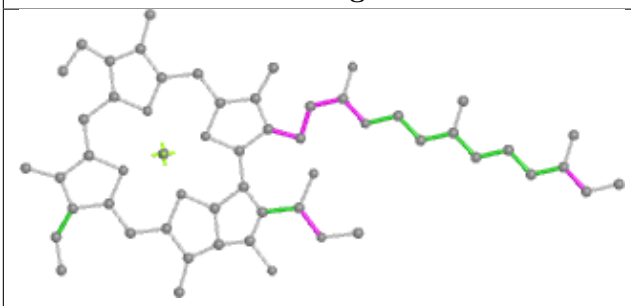
Ligand CLA A 768



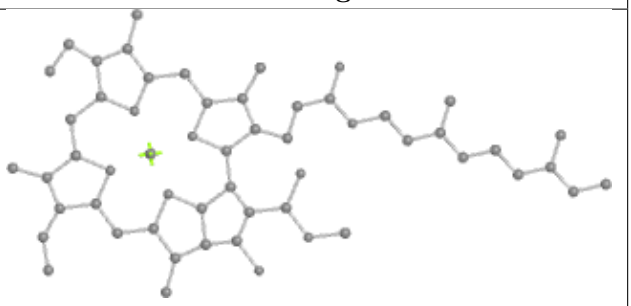
Bond lengths



Bond angles

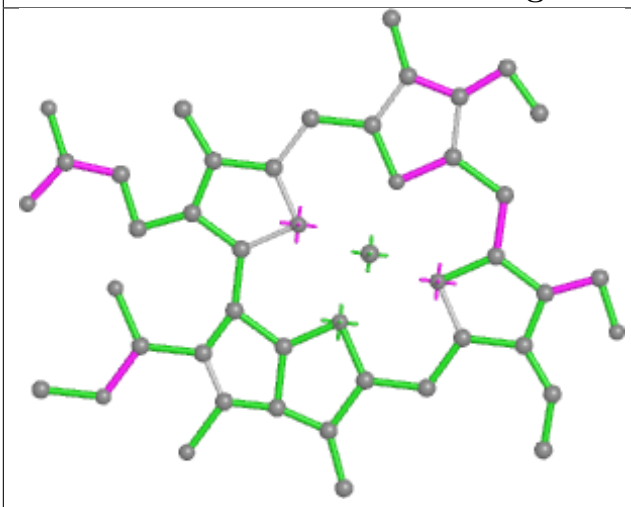


Torsions

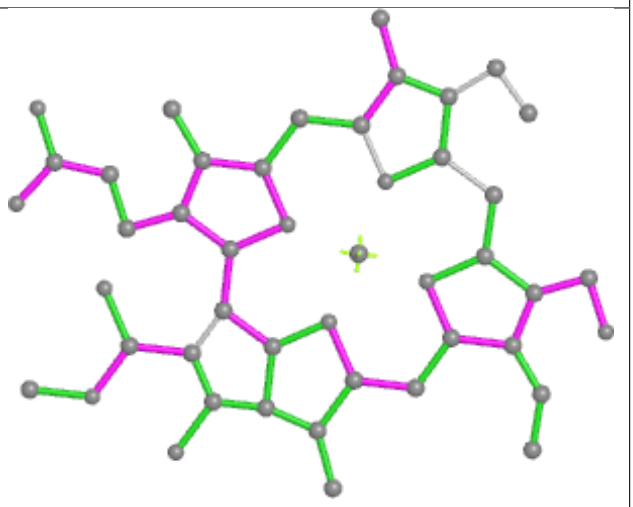


Rings

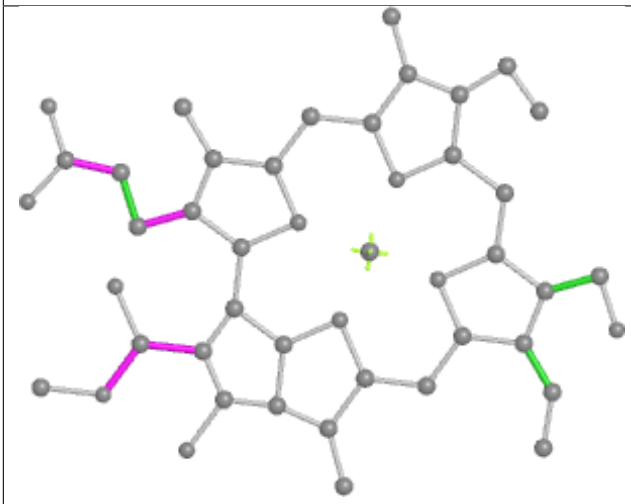
Ligand CHL d 608



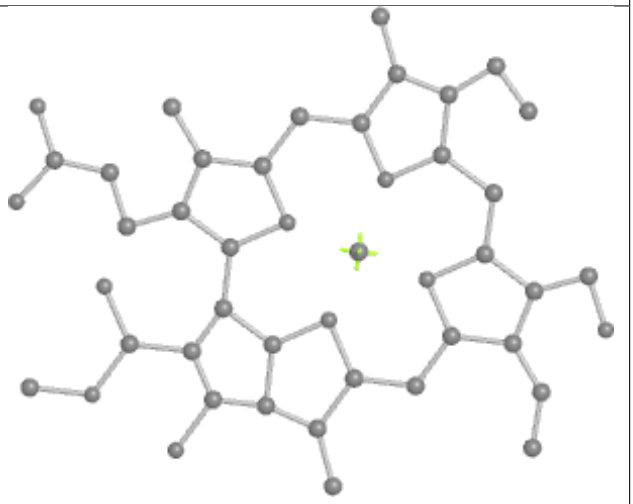
Bond lengths



Bond angles

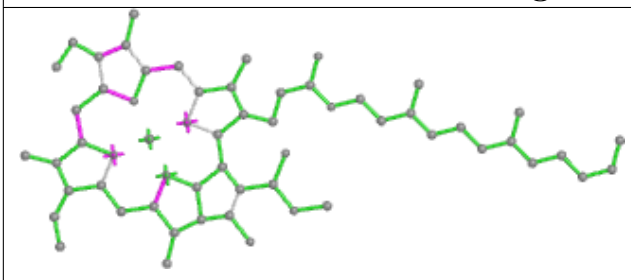


Torsions

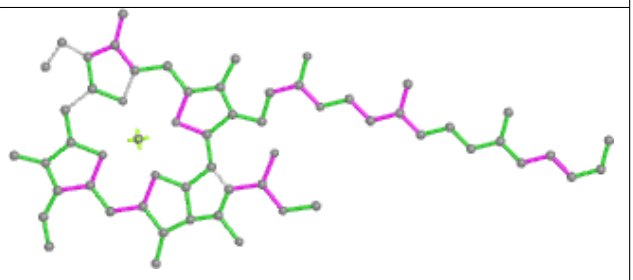


Rings

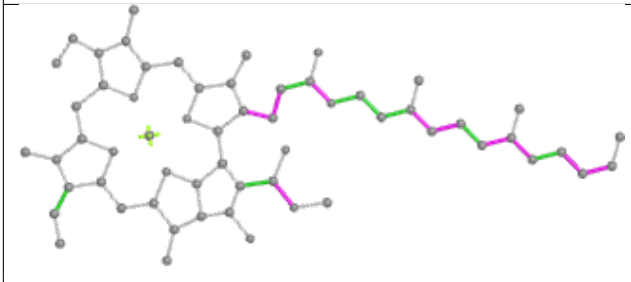
Ligand CLA f 602



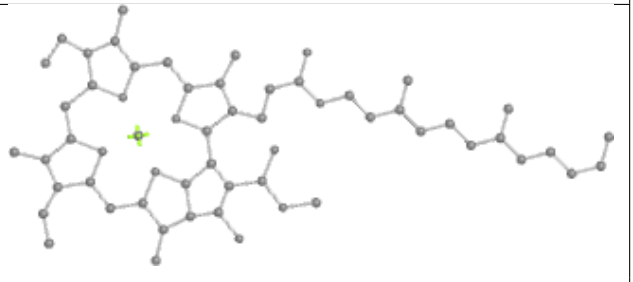
Bond lengths



Bond angles

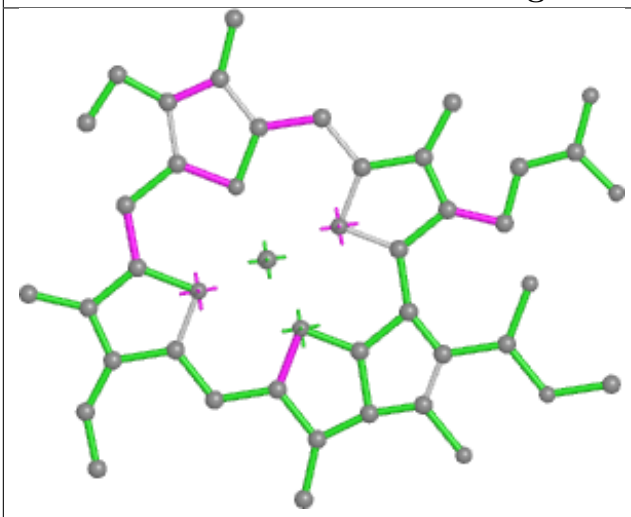


Torsions

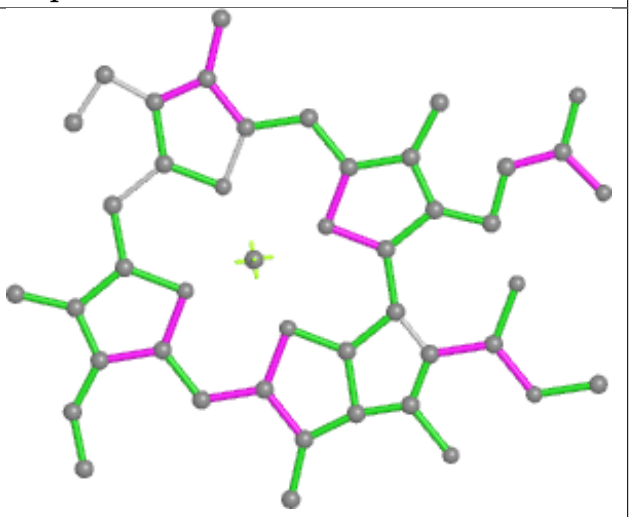


Rings

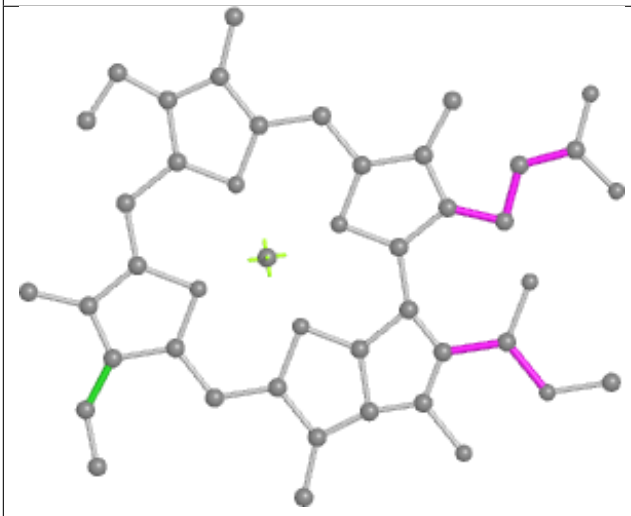
Ligand CLA p 610



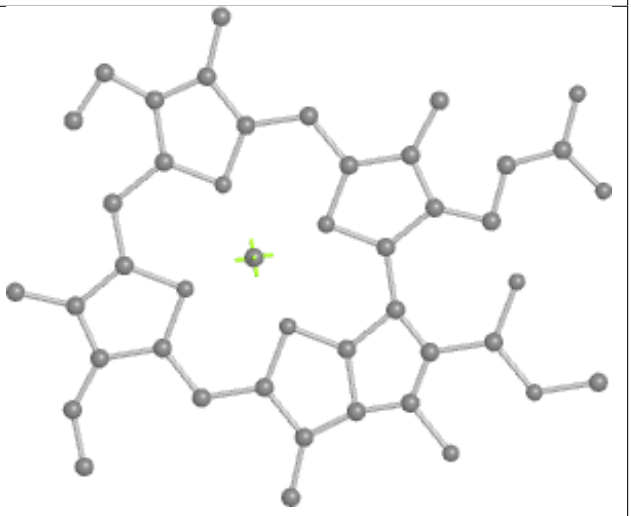
Bond lengths



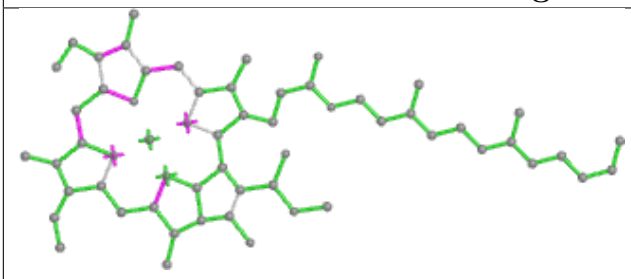
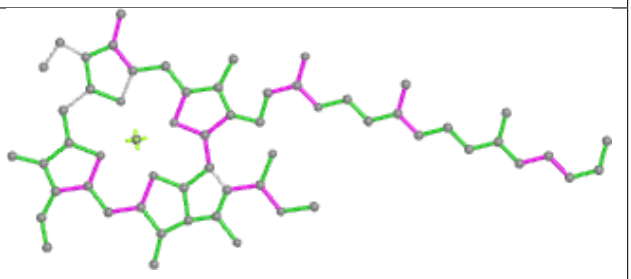
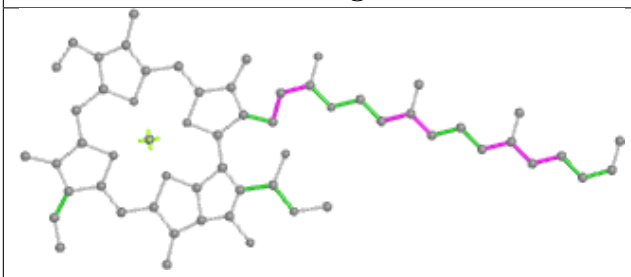
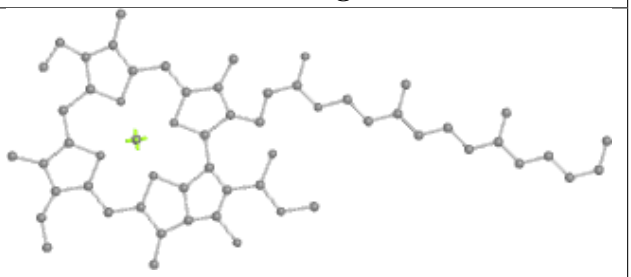
Bond angles

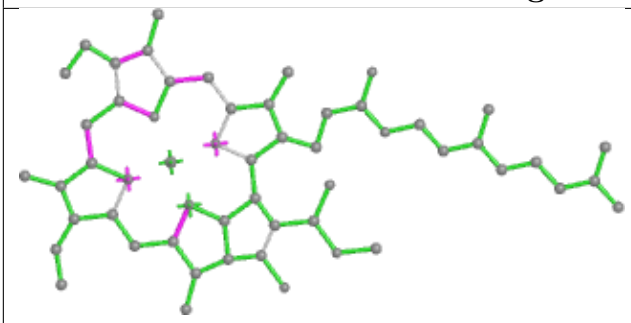
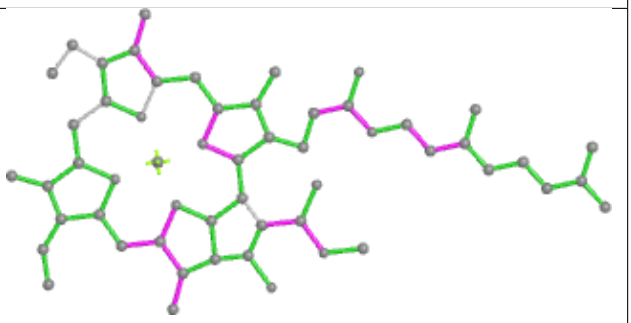
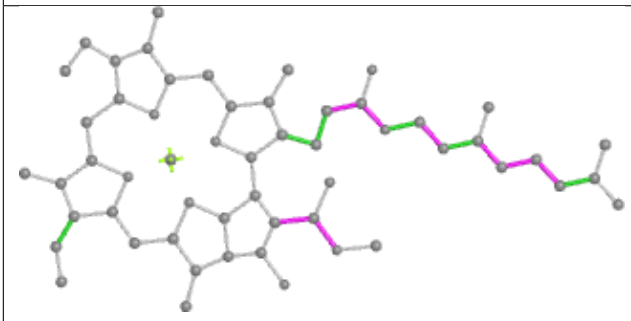
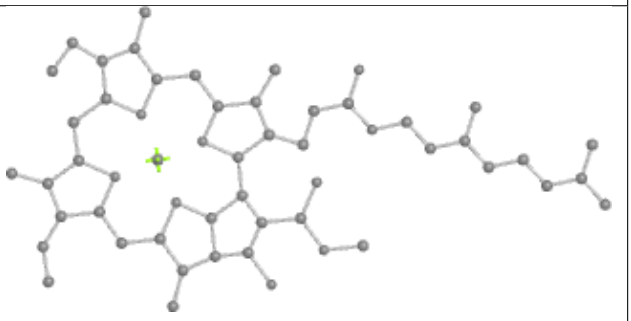


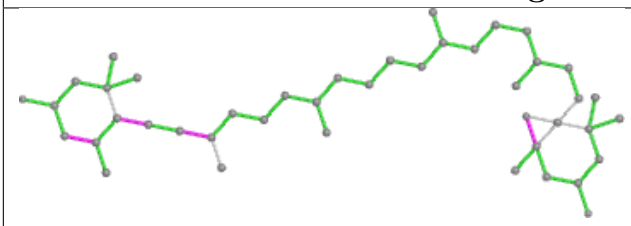
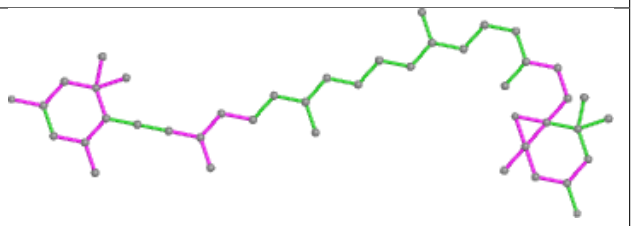
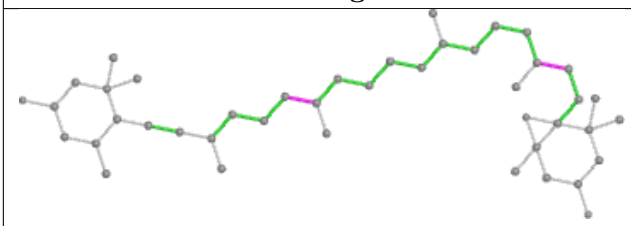
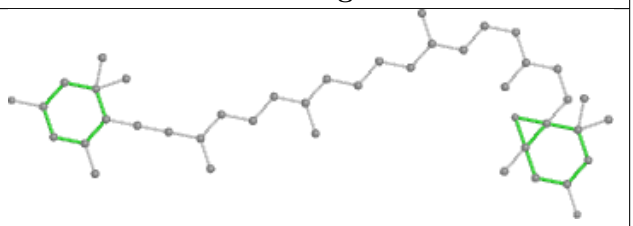
Torsions

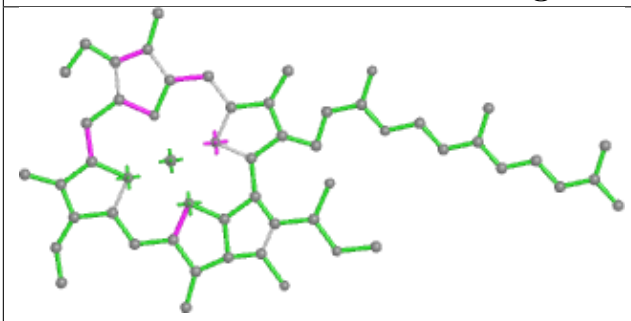
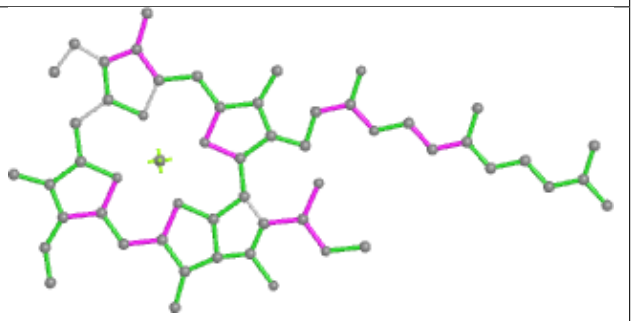
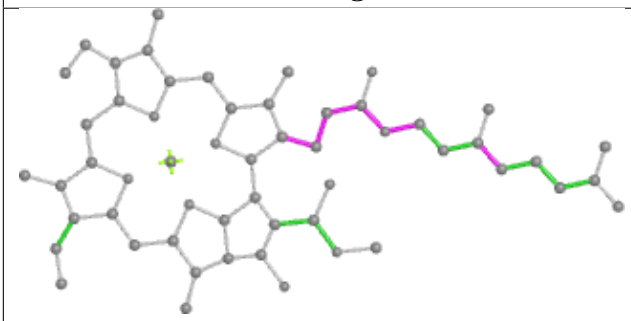
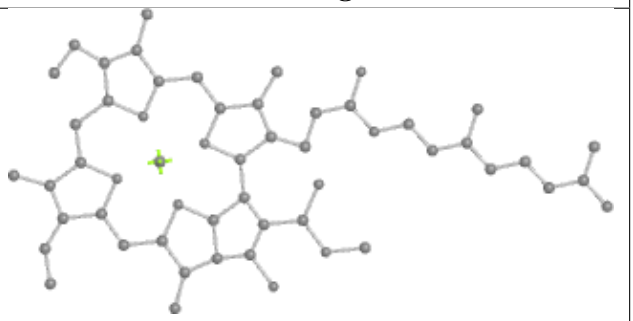


Rings

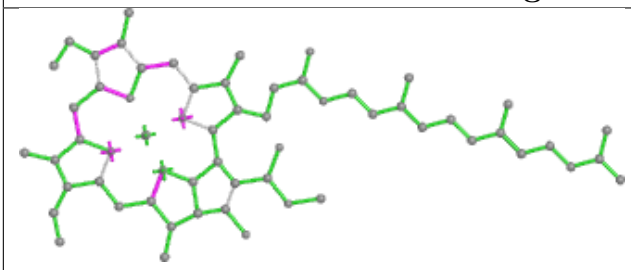
Ligand CLA i 613	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA n 603	
 Bond lengths	 Bond angles
 Torsions	 Rings

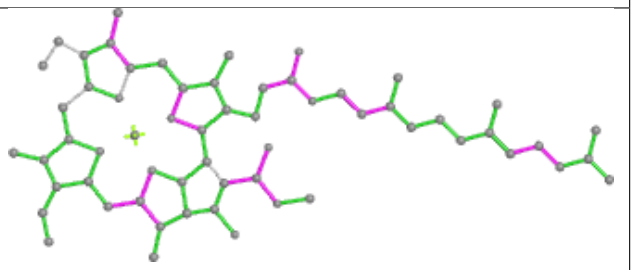
Ligand DD6 h 620	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA i 610	
 Bond lengths	 Bond angles
 Torsions	 Rings

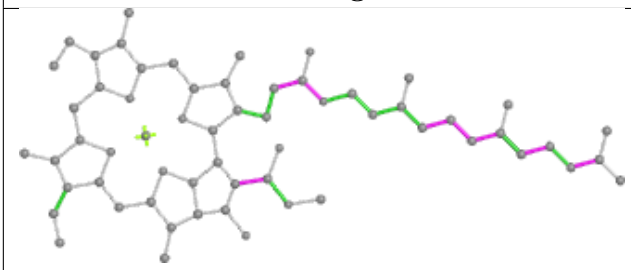
Ligand CLA A 759



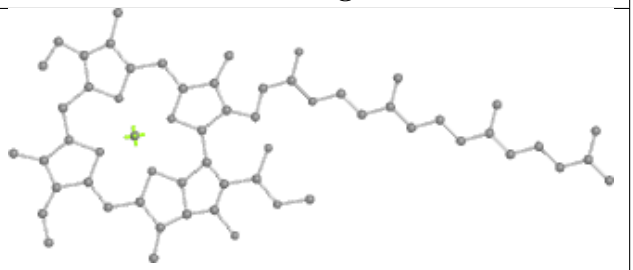
Bond lengths



Bond angles

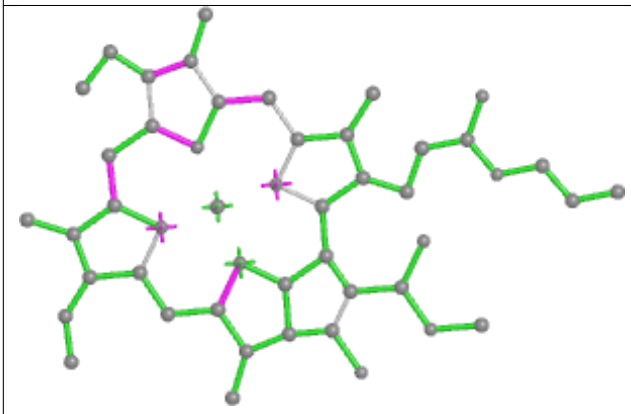


Torsions

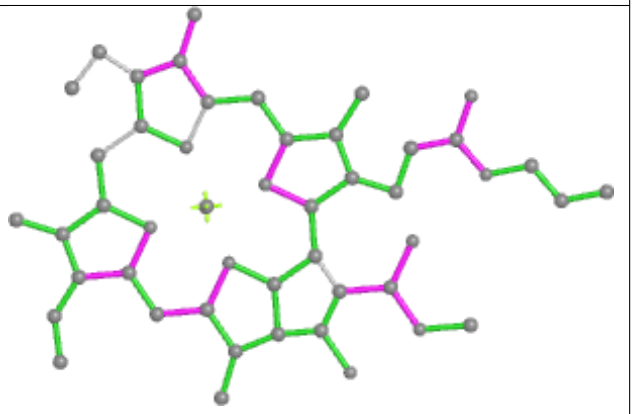


Rings

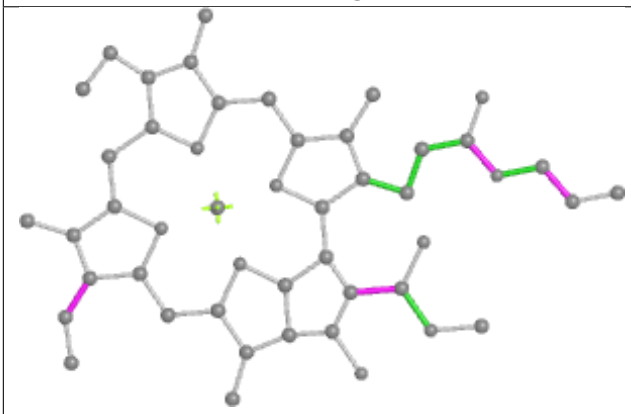
Ligand CLA A 807



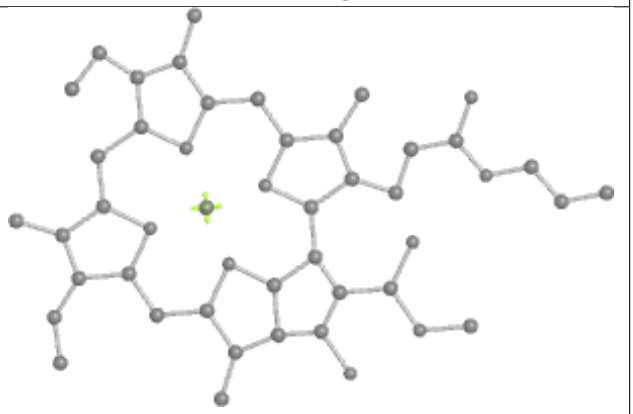
Bond lengths



Bond angles

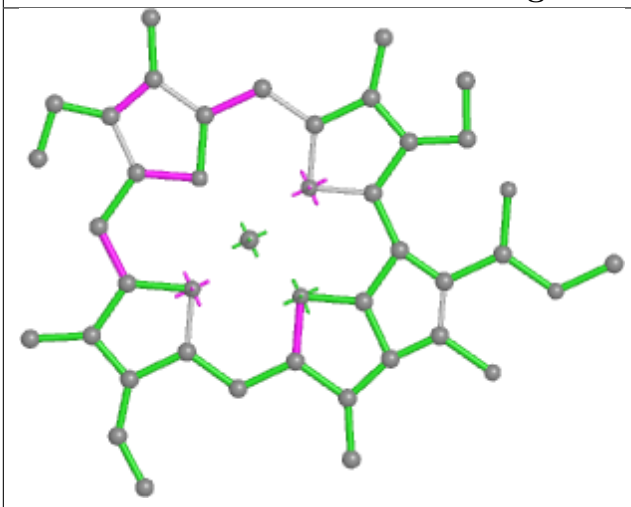


Torsions

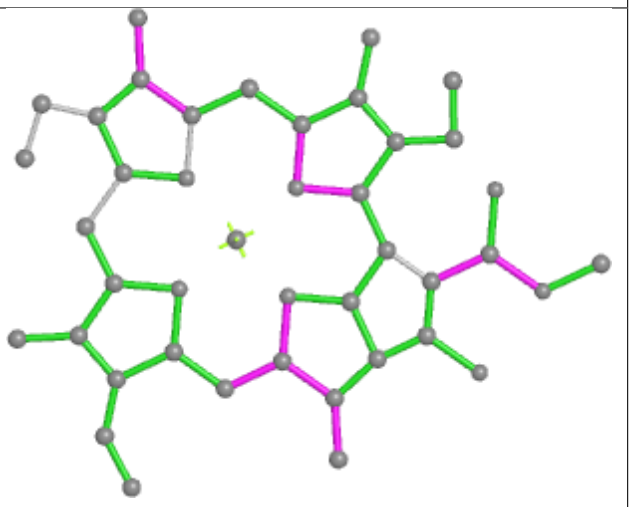


Rings

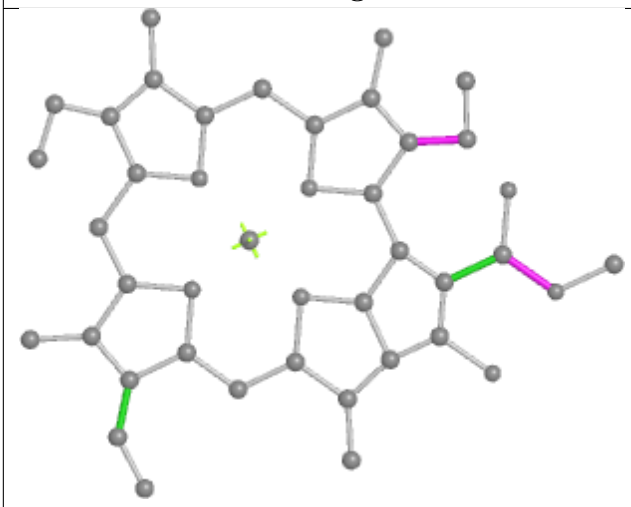
Ligand CLA n 612



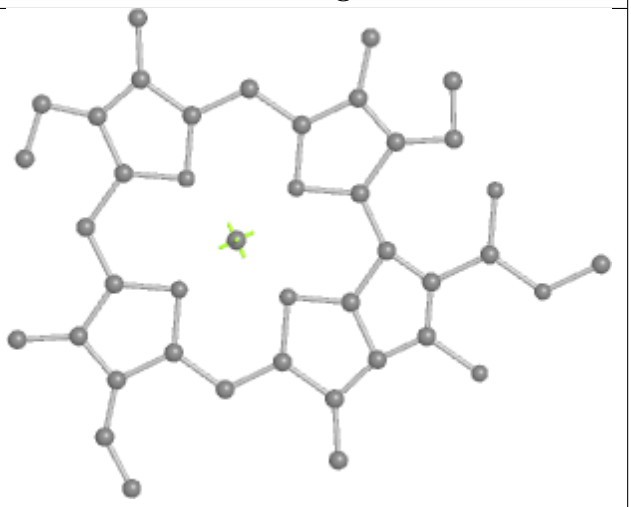
Bond lengths



Bond angles

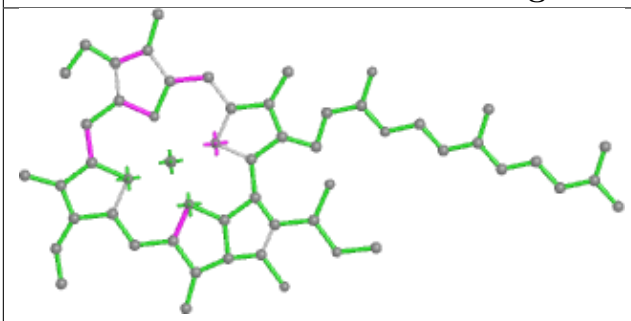


Torsions

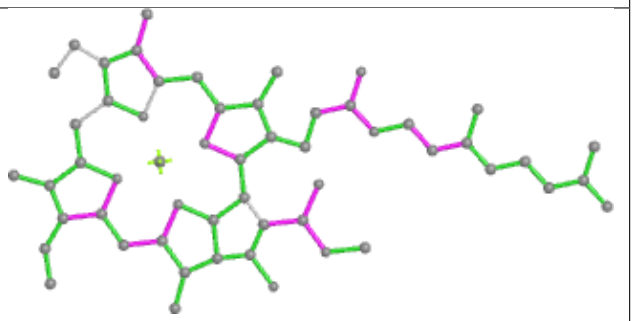


Rings

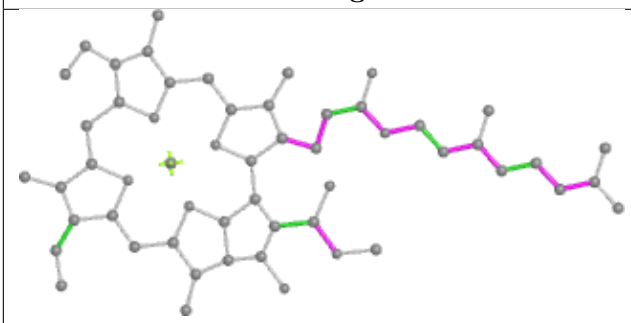
Ligand CLA a 613



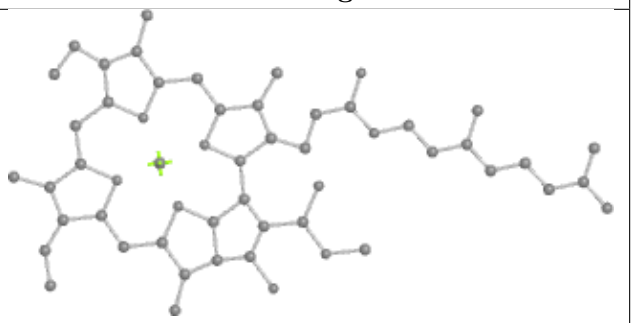
Bond lengths



Bond angles

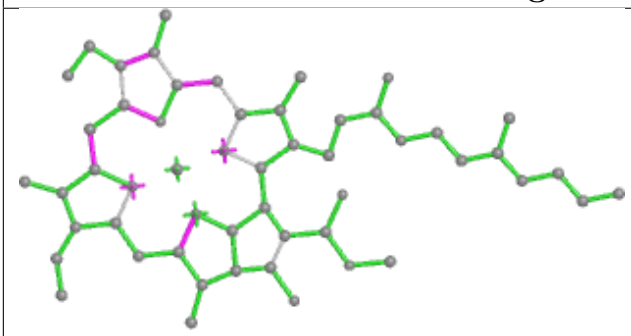


Torsions

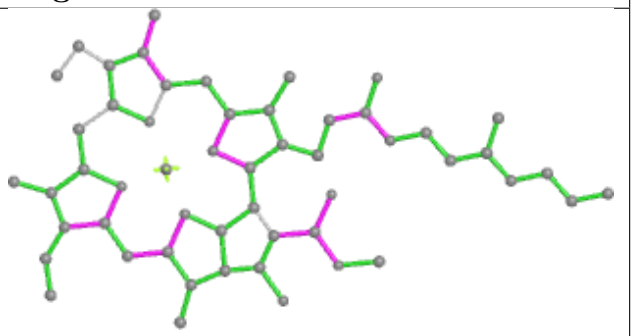


Rings

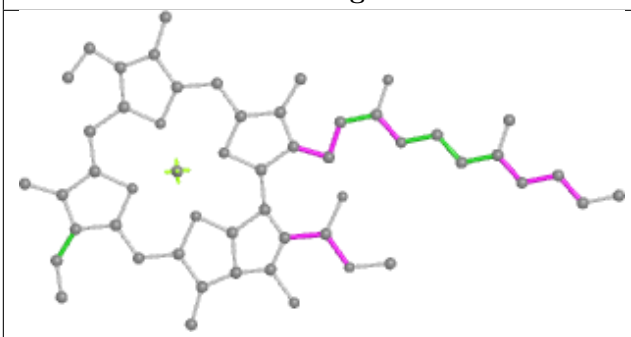
Ligand CLA g 602



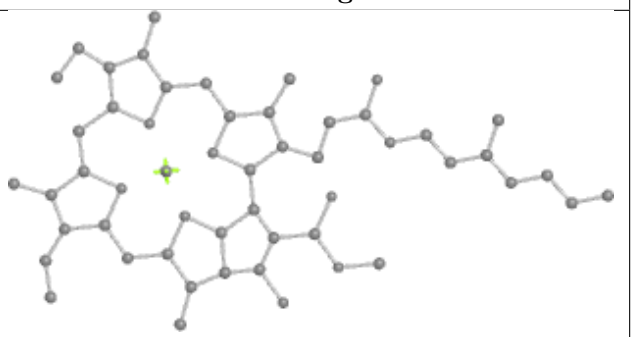
Bond lengths



Bond angles

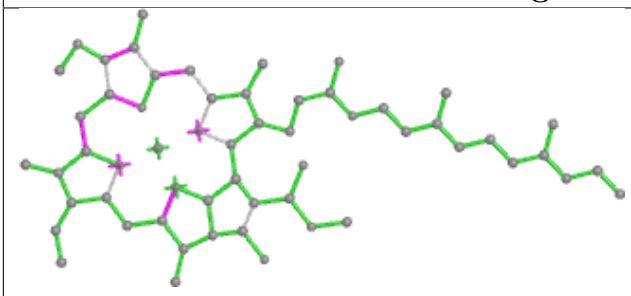


Torsions

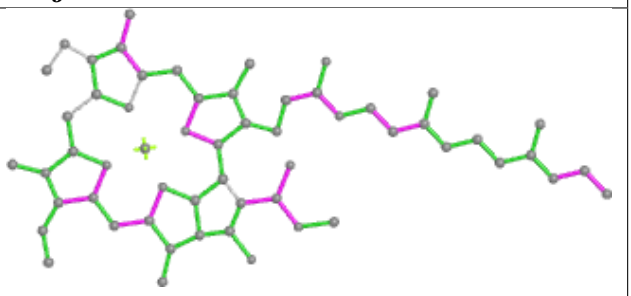


Rings

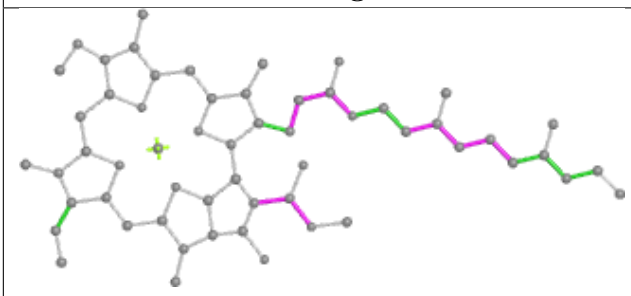
Ligand CLA j 604



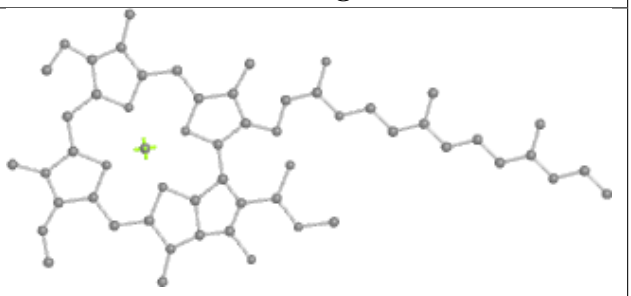
Bond lengths



Bond angles

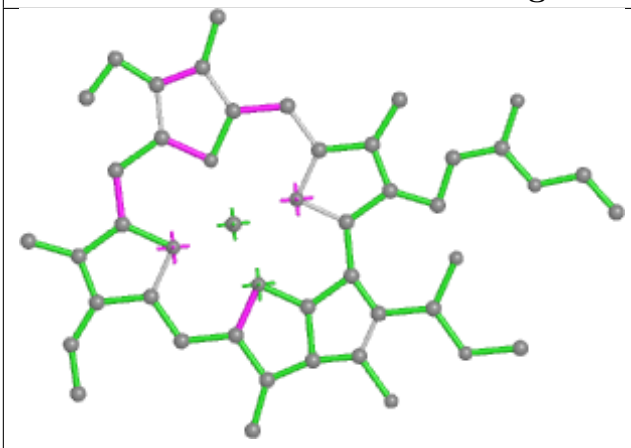


Torsions

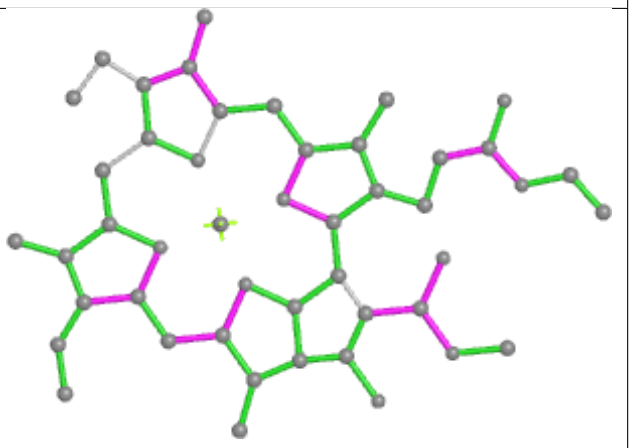


Rings

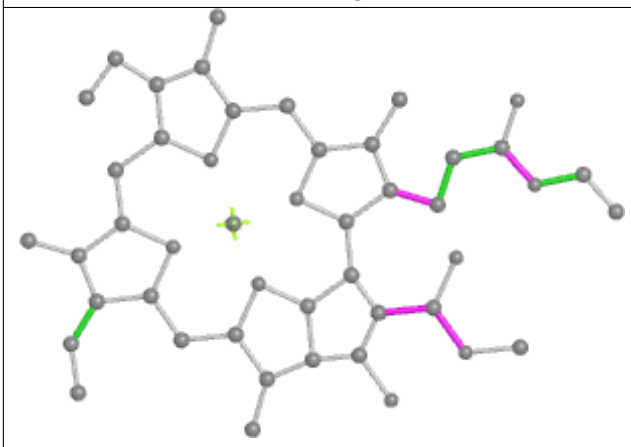
Ligand CLA o 602



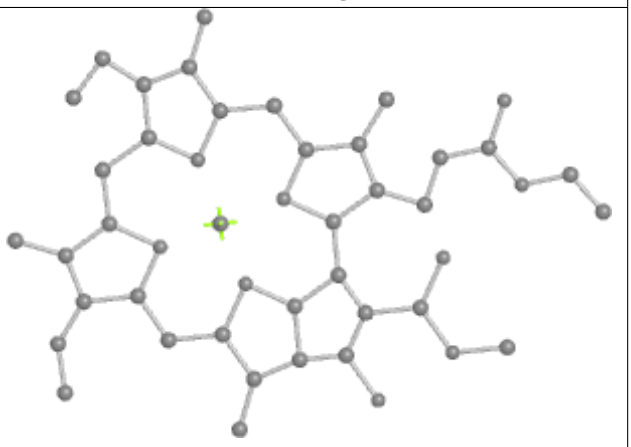
Bond lengths



Bond angles

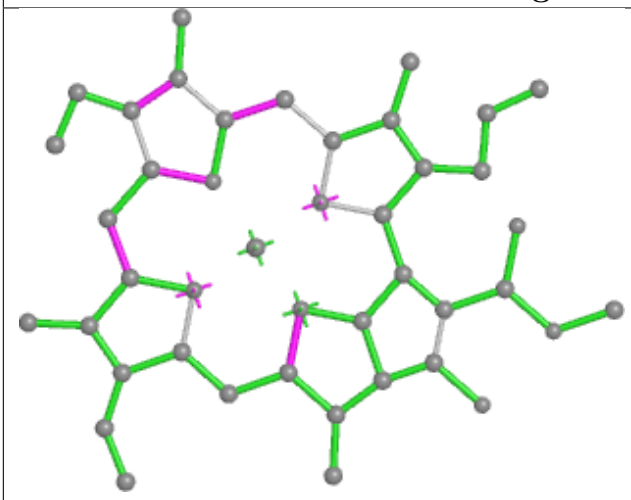


Torsions

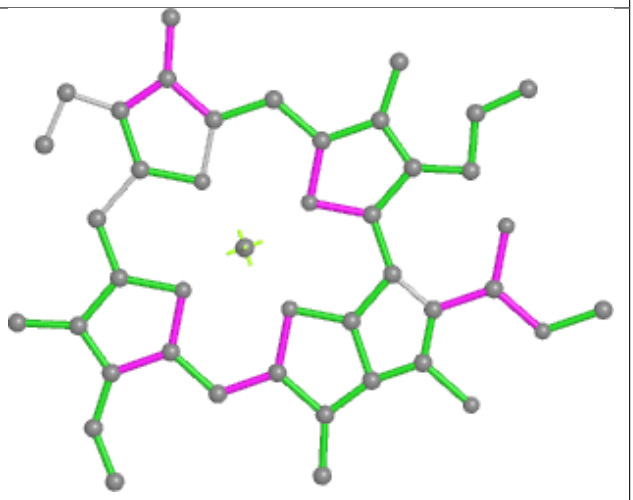


Rings

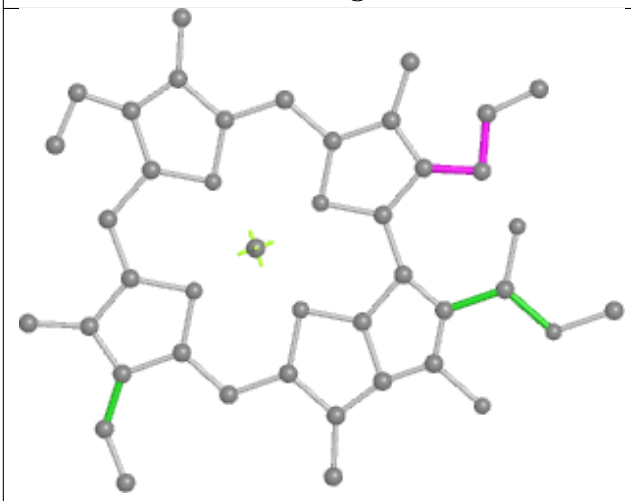
Ligand CLA l 611



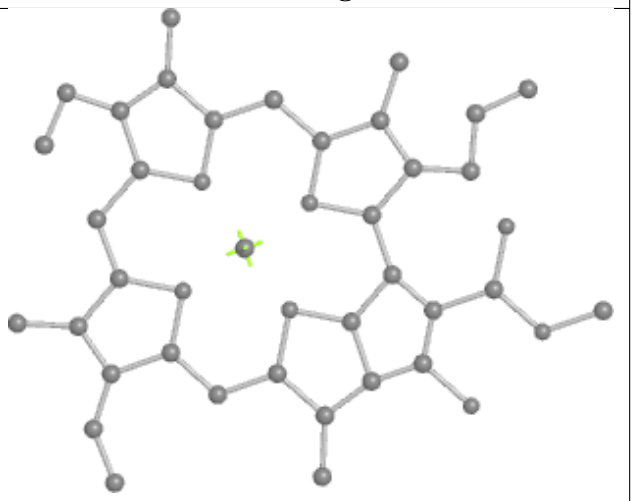
Bond lengths



Bond angles

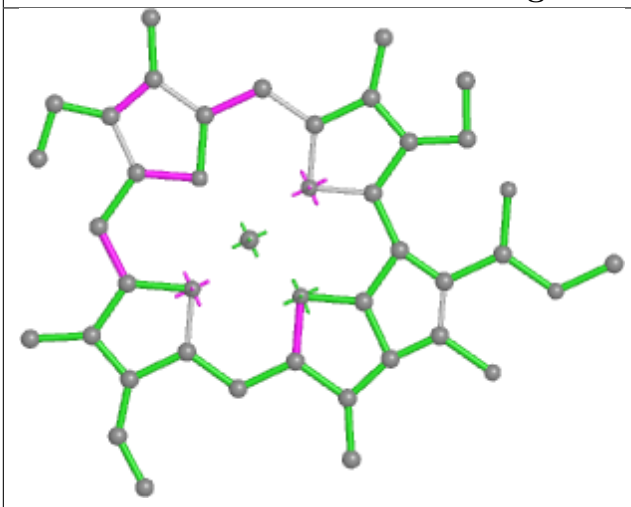


Torsions

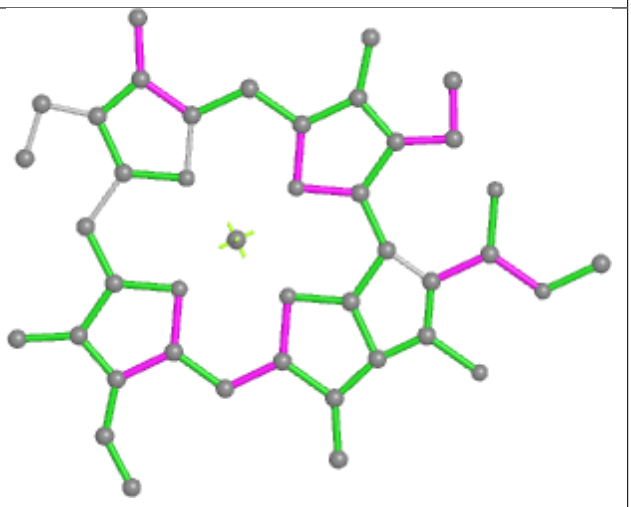


Rings

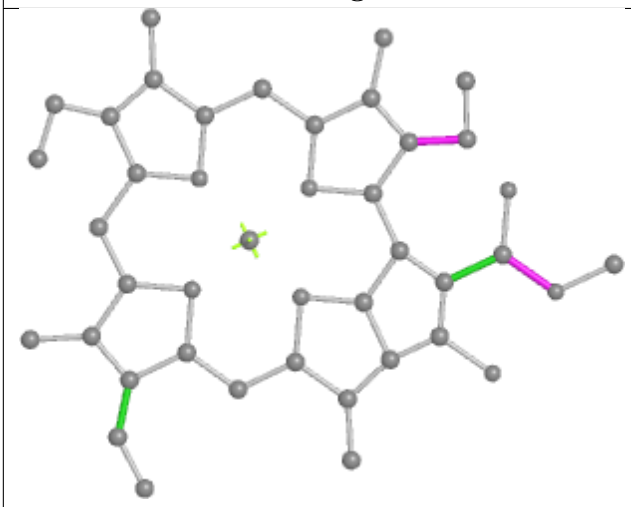
Ligand CLA d 613



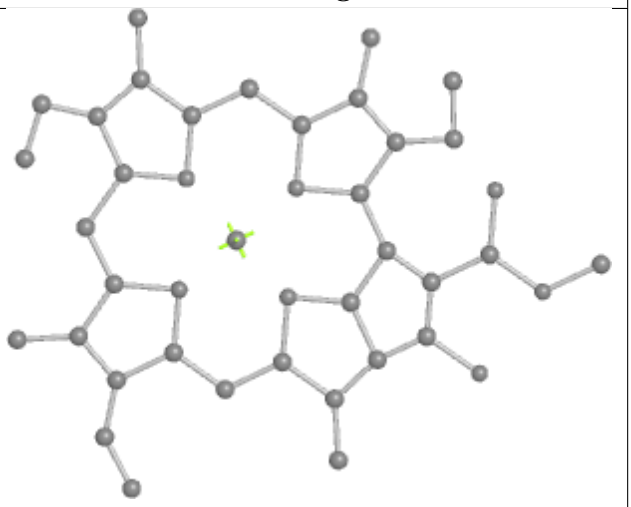
Bond lengths



Bond angles

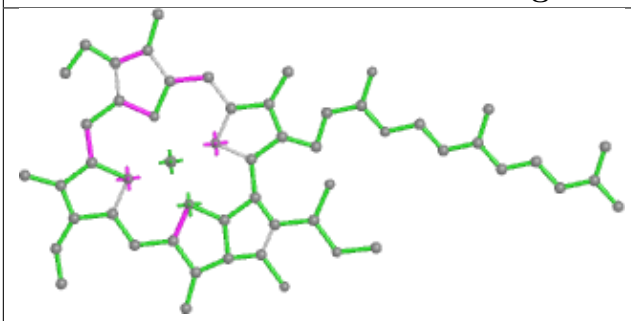


Torsions

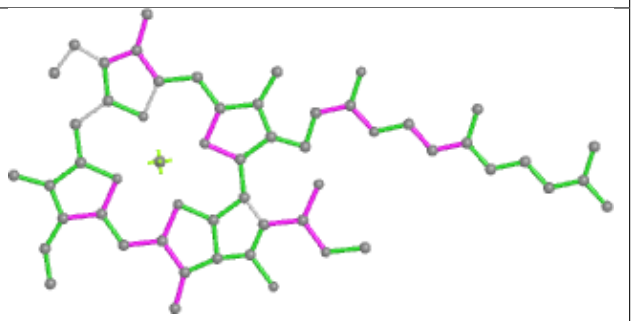


Rings

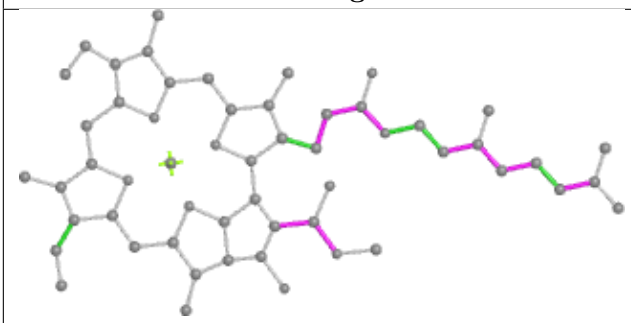
Ligand CLA f 610



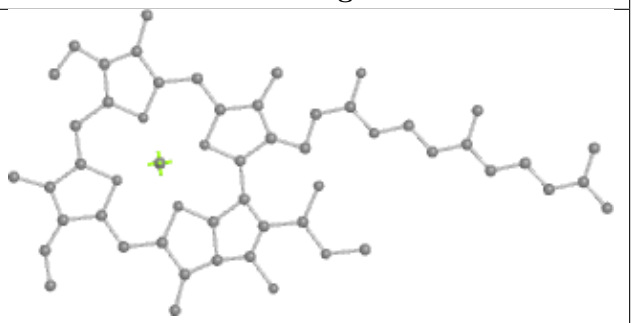
Bond lengths



Bond angles

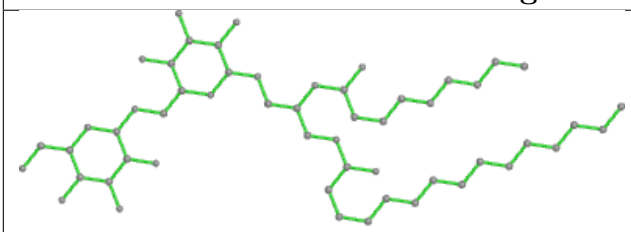


Torsions

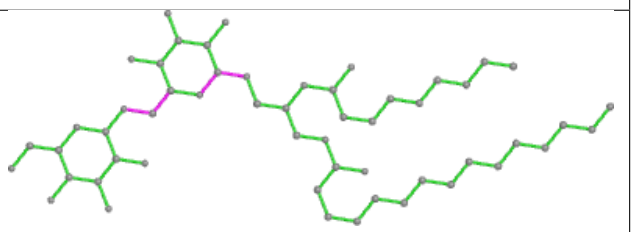


Rings

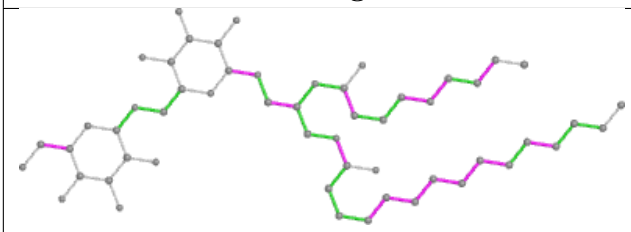
Ligand DGD B 787



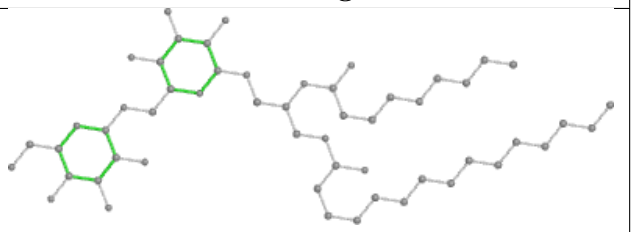
Bond lengths



Bond angles

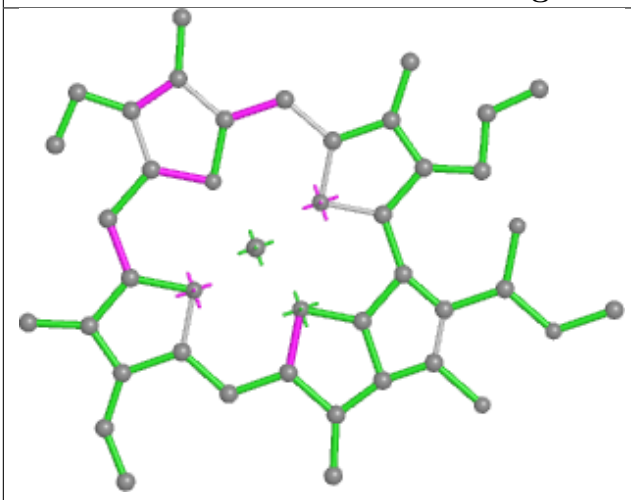


Torsions

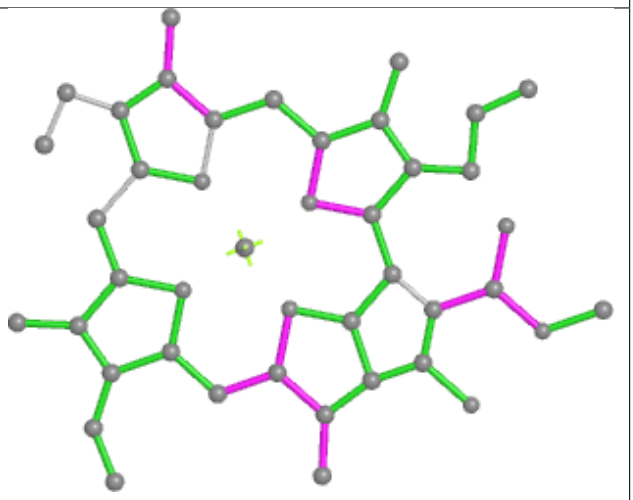


Rings

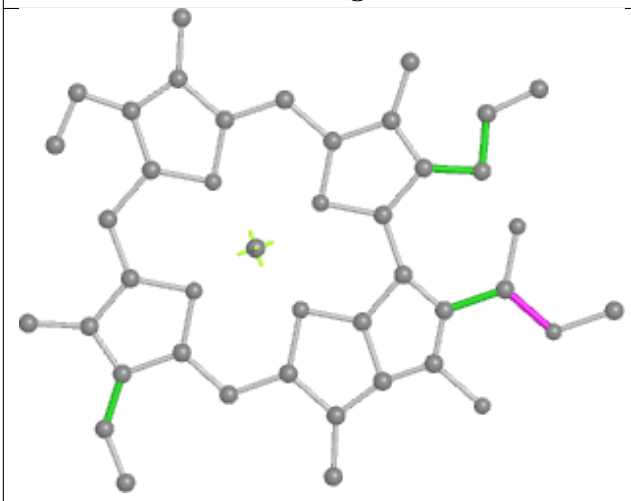
Ligand CLA f 603



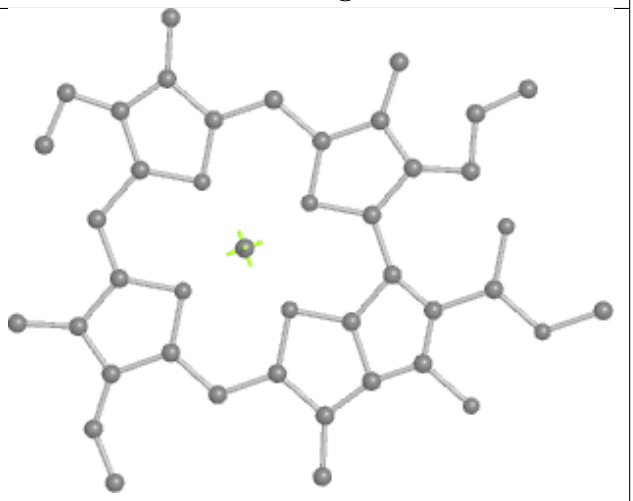
Bond lengths



Bond angles

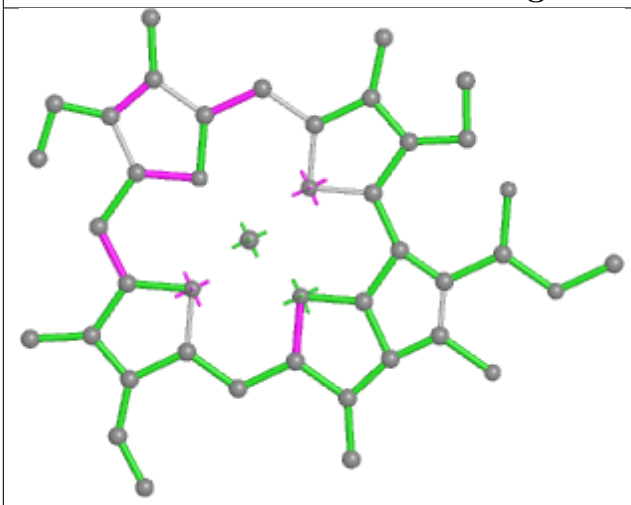


Torsions

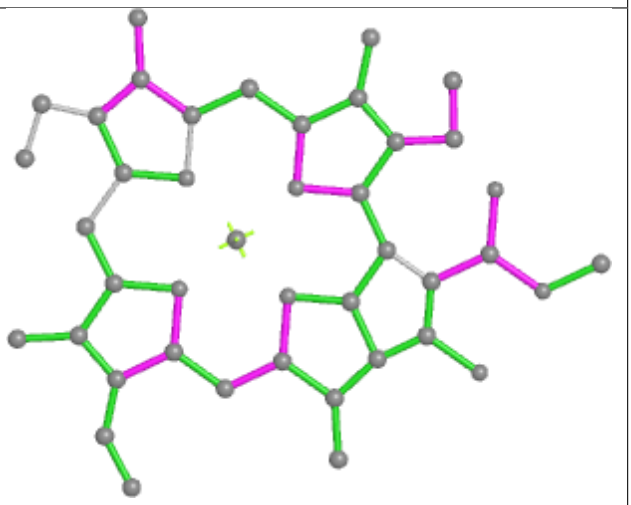


Rings

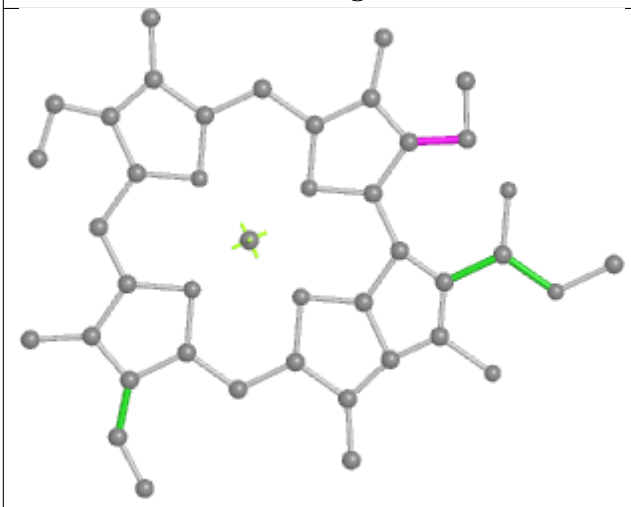
Ligand CLA b 610



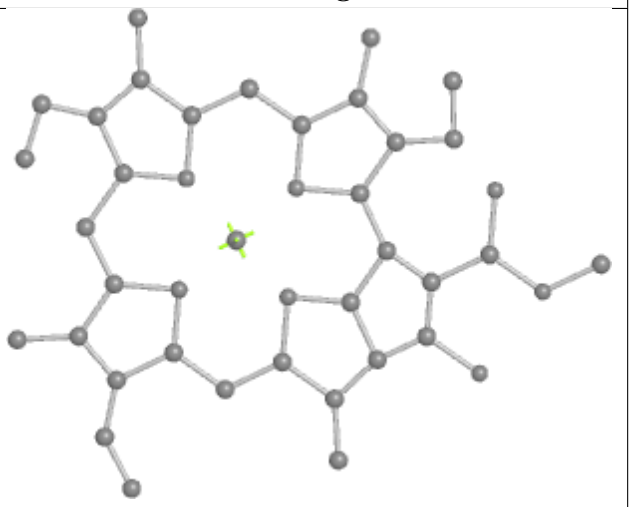
Bond lengths



Bond angles

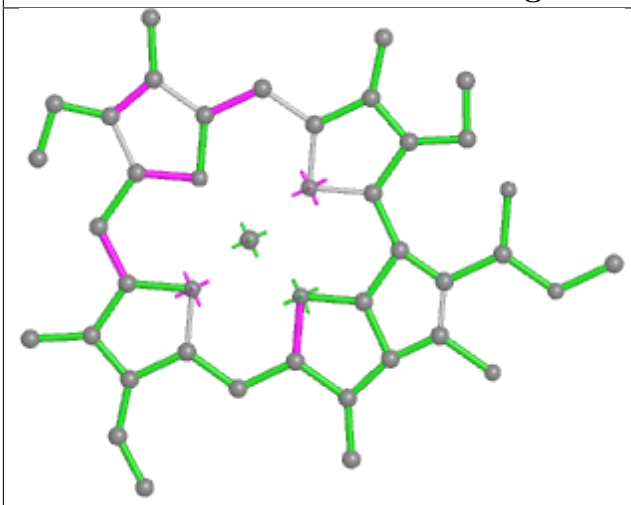


Torsions

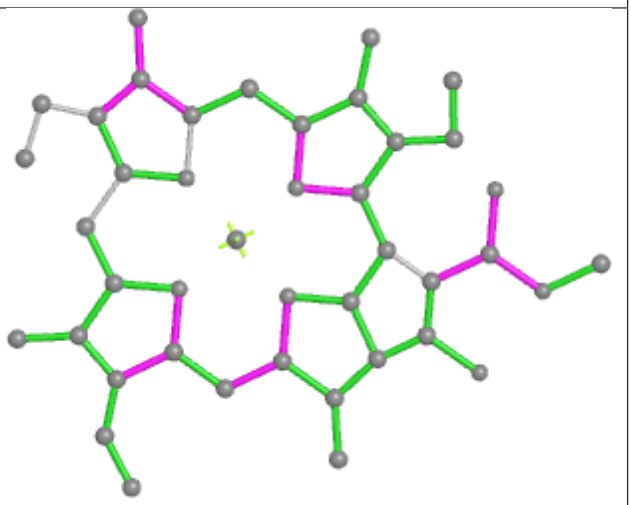


Rings

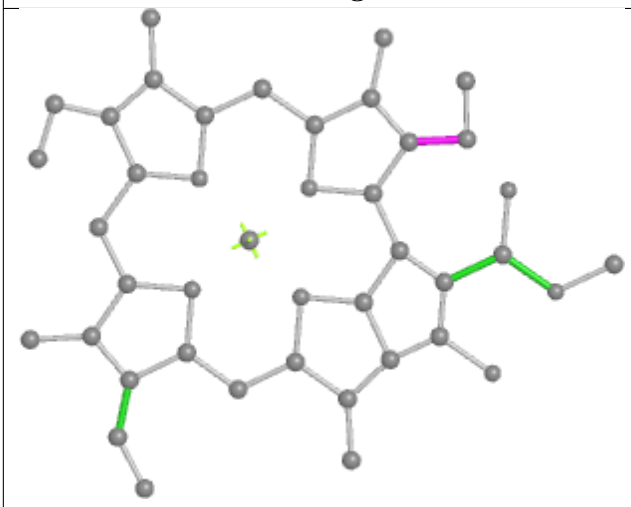
Ligand CLA B 740



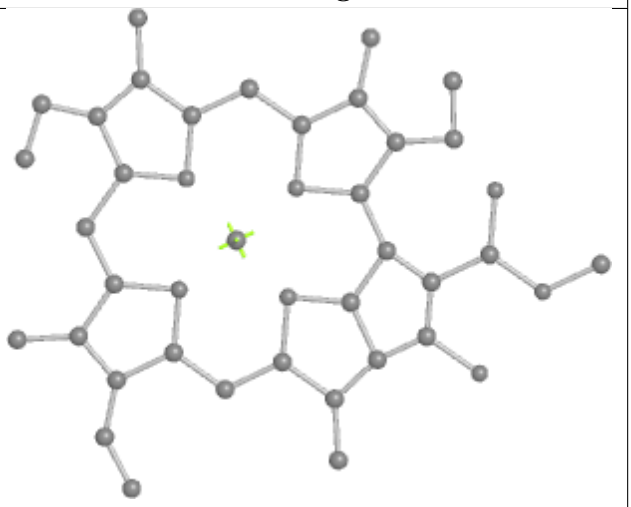
Bond lengths



Bond angles

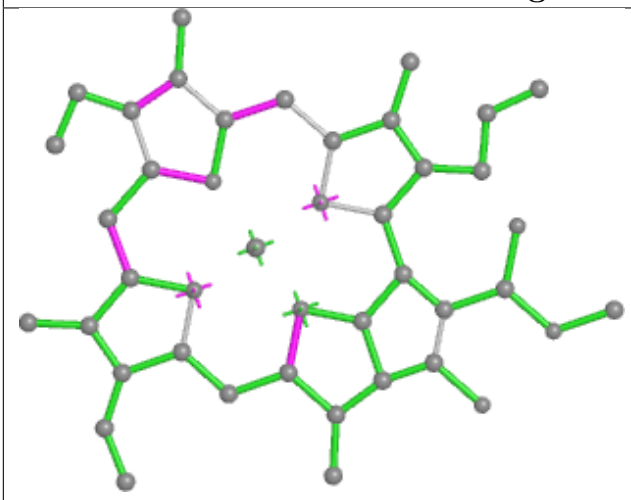


Torsions

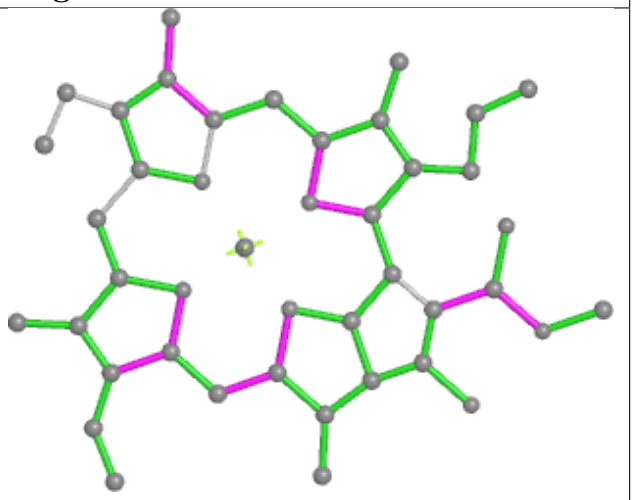


Rings

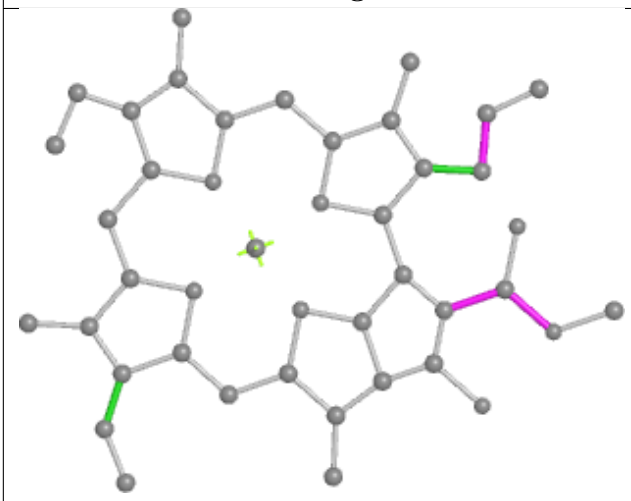
Ligand CLA g 604



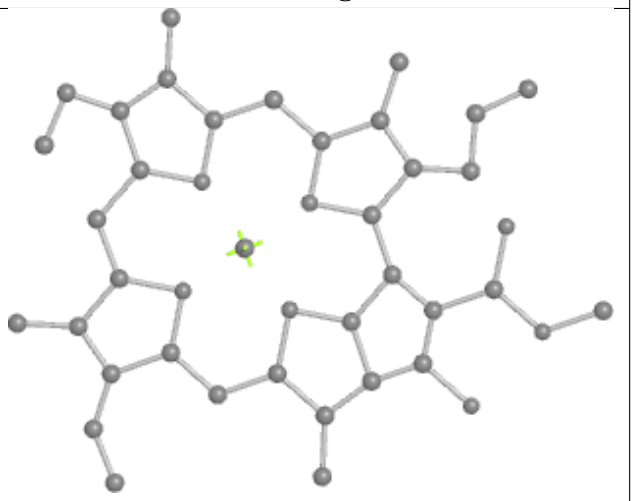
Bond lengths



Bond angles

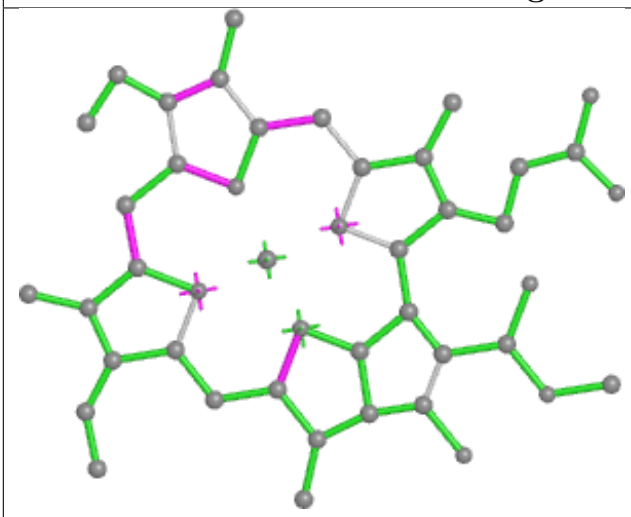


Torsions

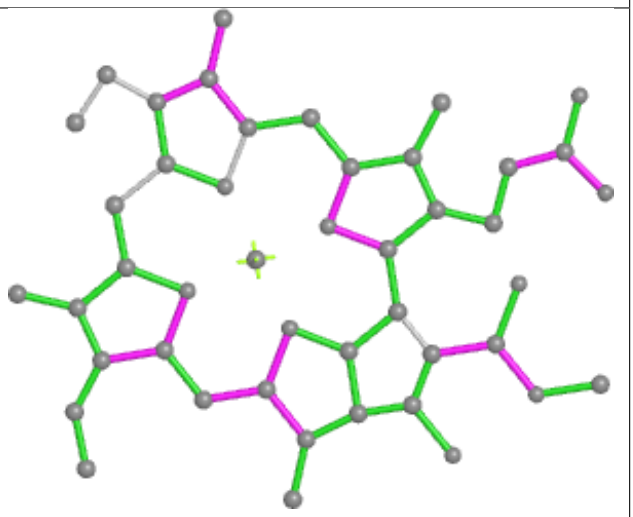


Rings

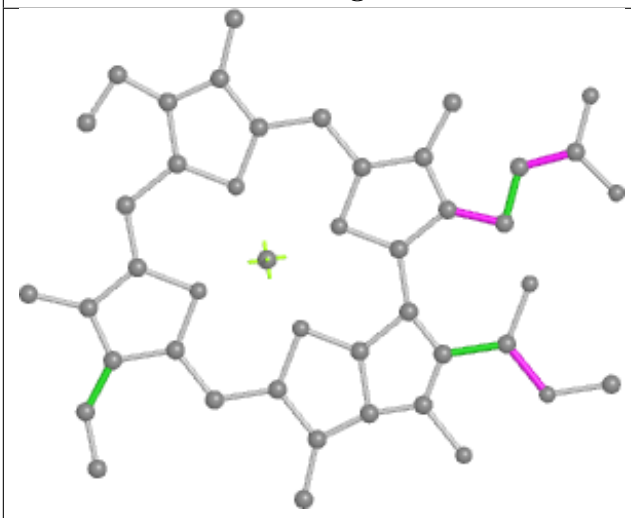
Ligand CLA b 605



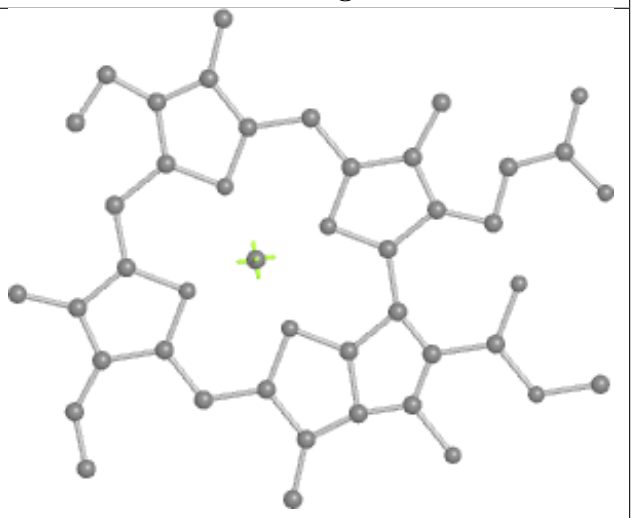
Bond lengths



Bond angles

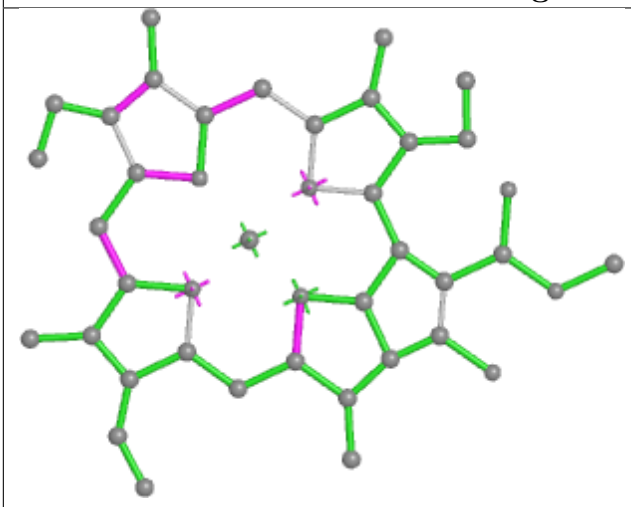


Torsions

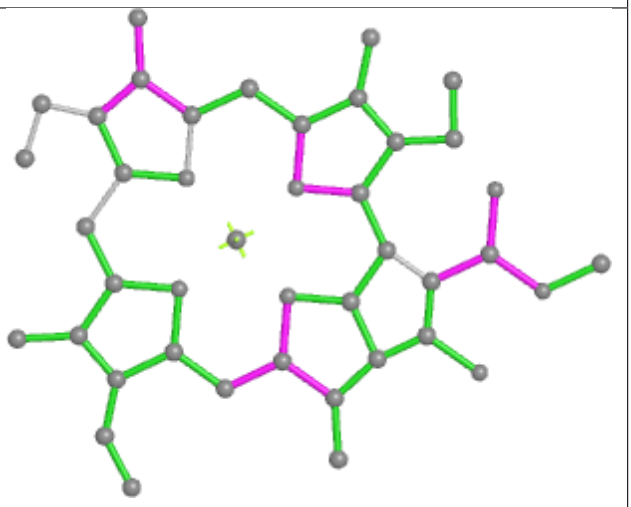


Rings

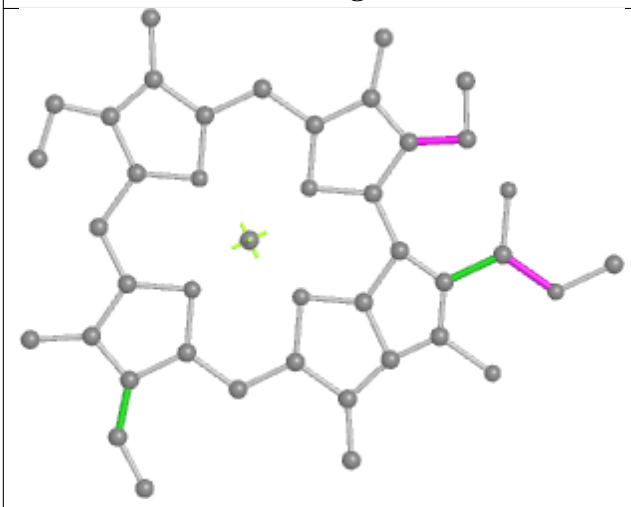
Ligand CLA f 612



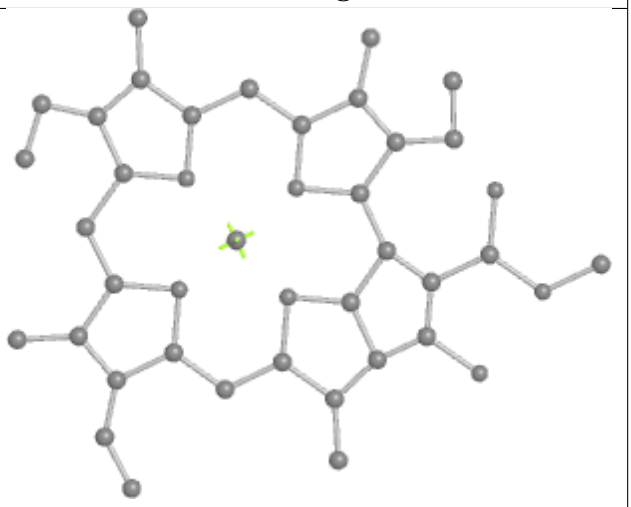
Bond lengths



Bond angles

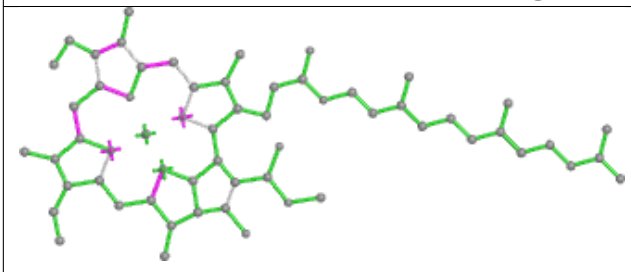


Torsions

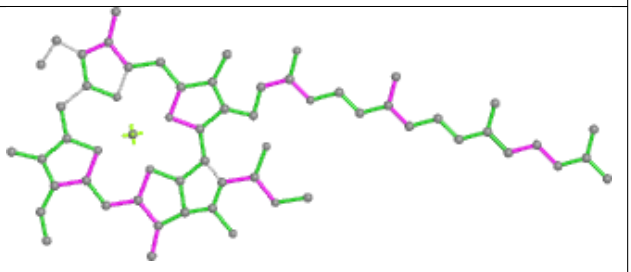


Rings

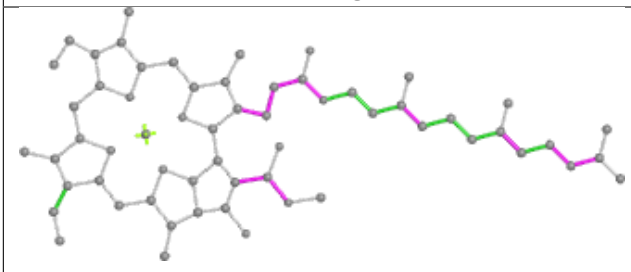
Ligand CLA c 609



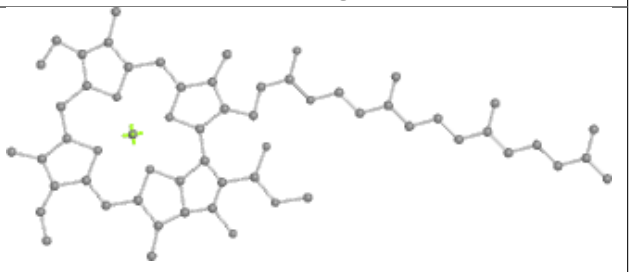
Bond lengths



Bond angles

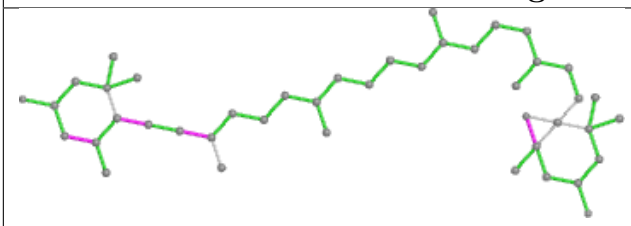


Torsions

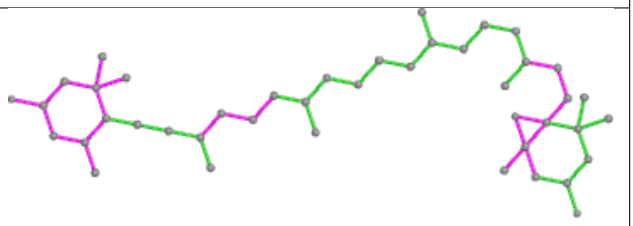


Rings

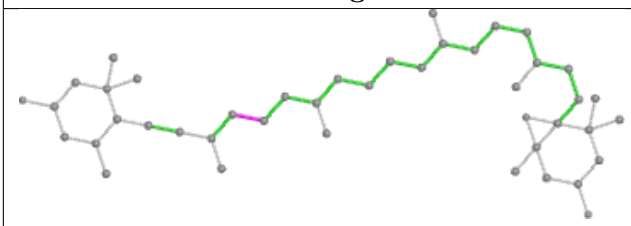
Ligand DD6 b 621



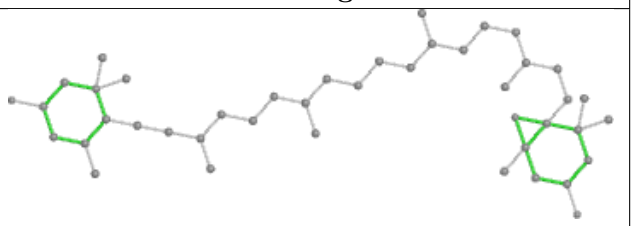
Bond lengths



Bond angles

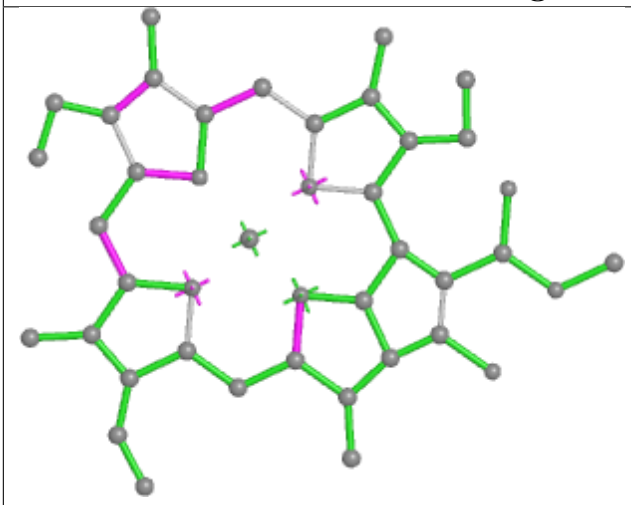


Torsions

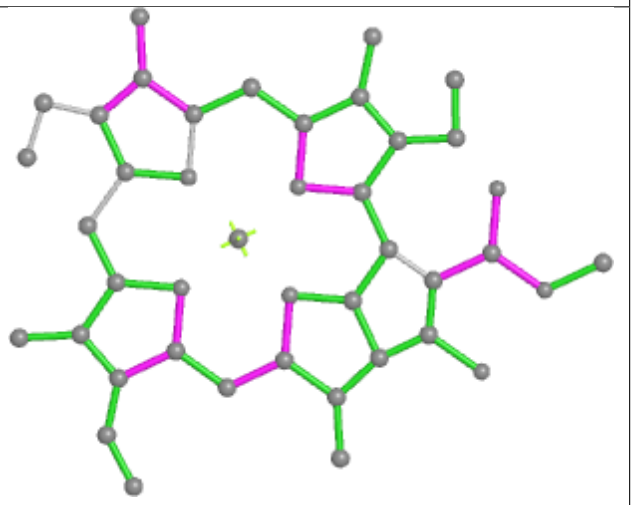


Rings

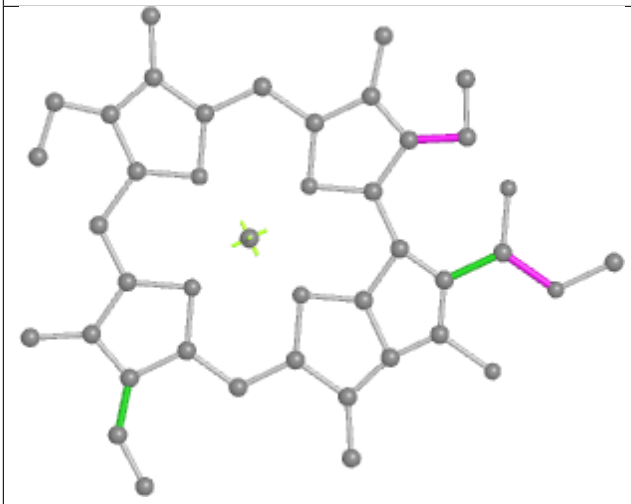
Ligand CLA e 611



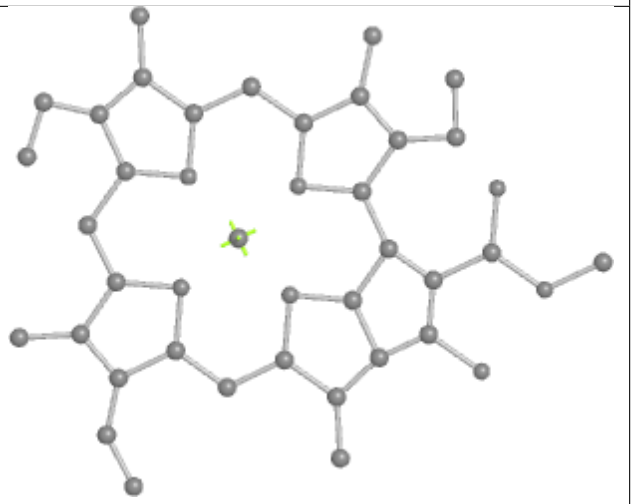
Bond lengths



Bond angles

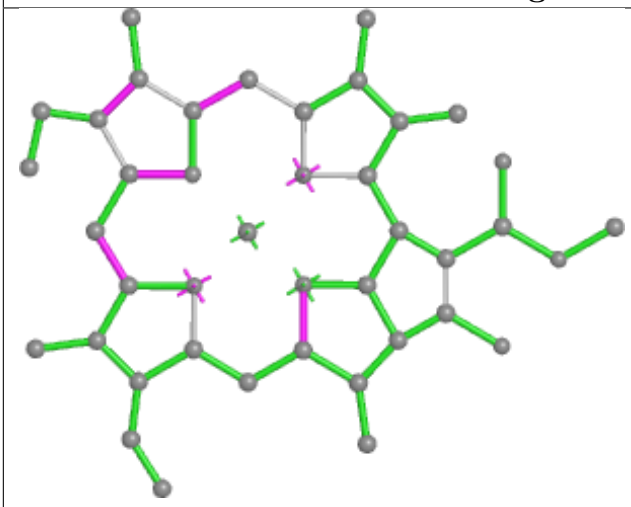


Torsions

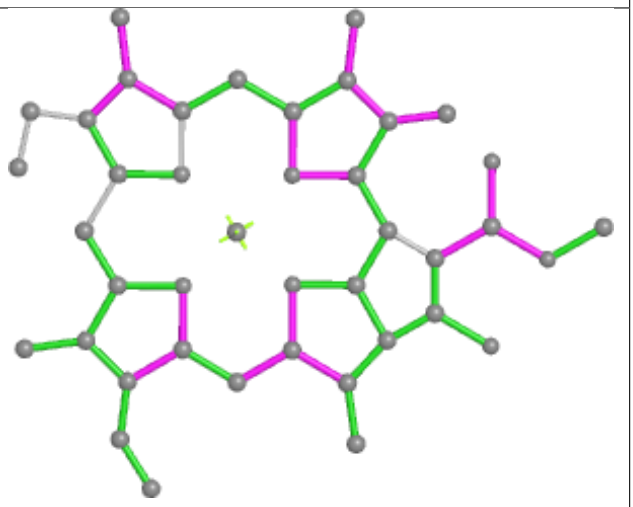


Rings

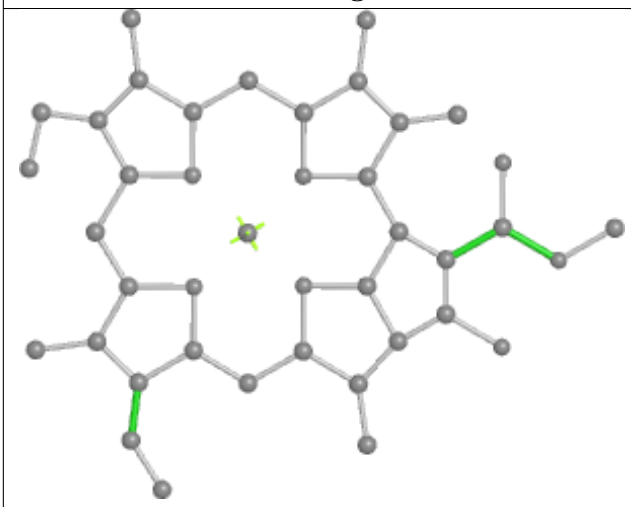
Ligand CLA o 610



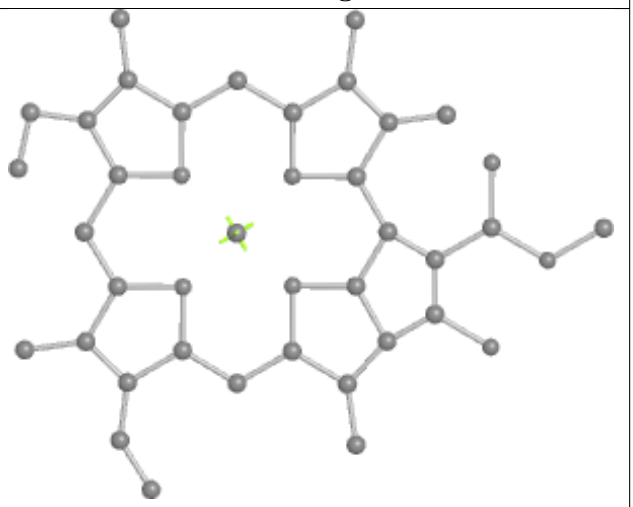
Bond lengths



Bond angles

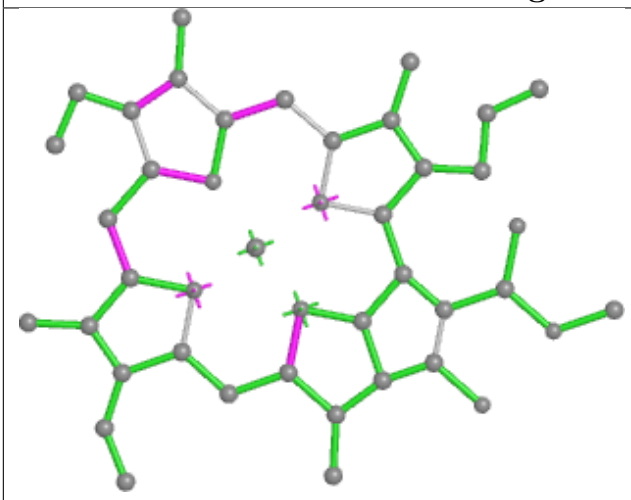


Torsions

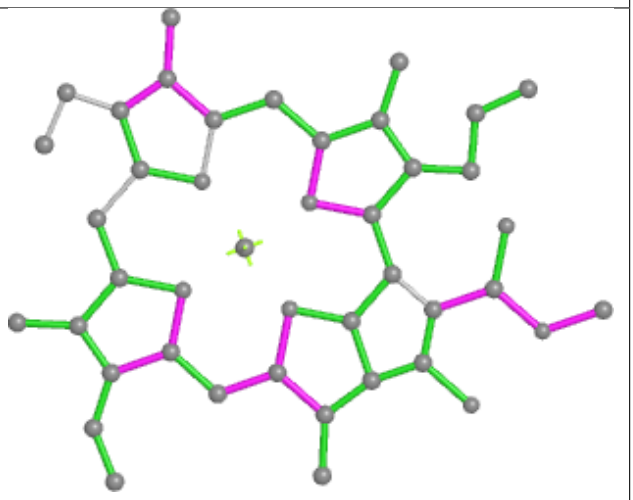


Rings

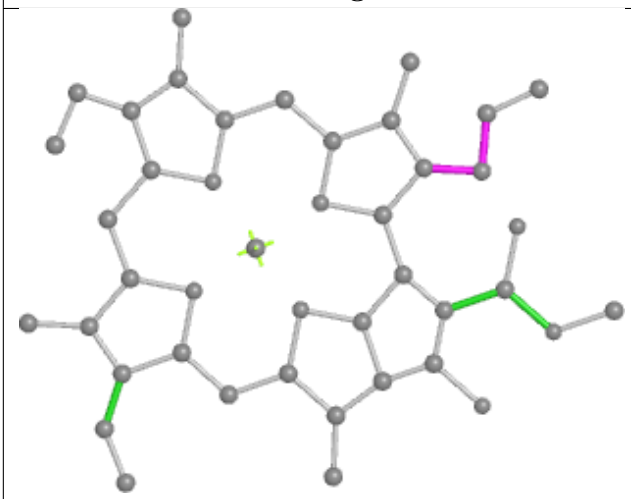
Ligand CLA o 608



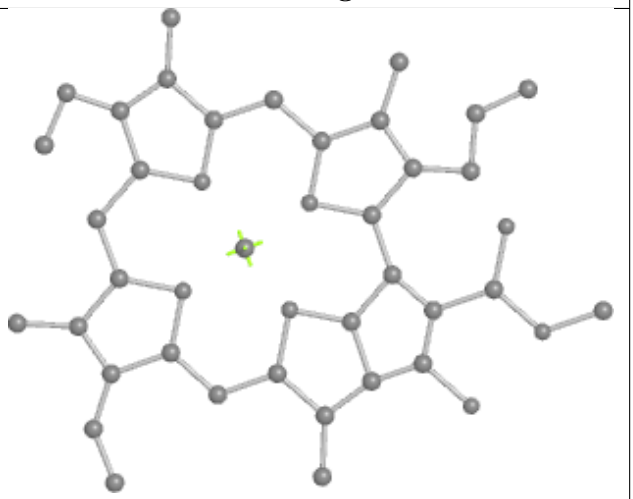
Bond lengths



Bond angles

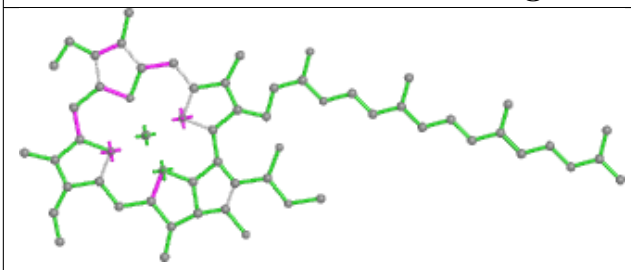


Torsions

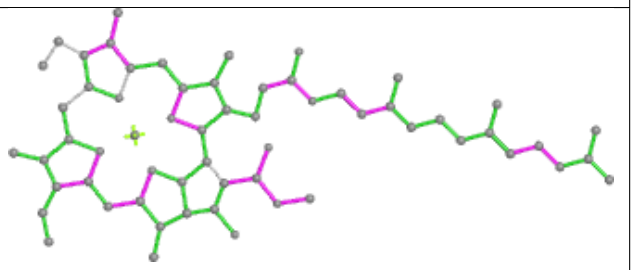


Rings

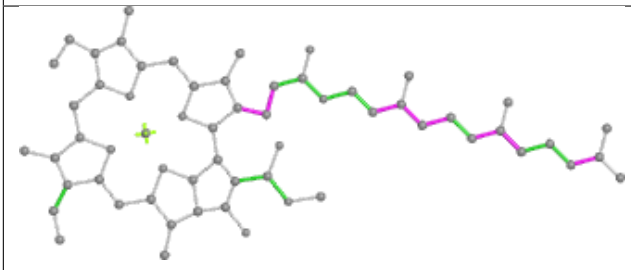
Ligand CLA B 774



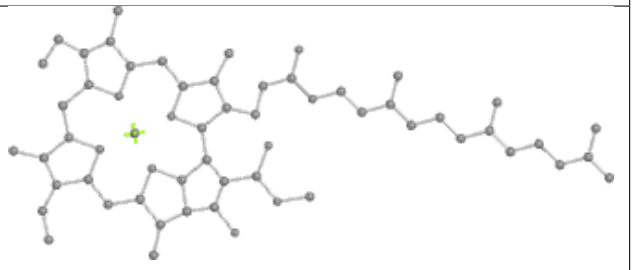
Bond lengths



Bond angles

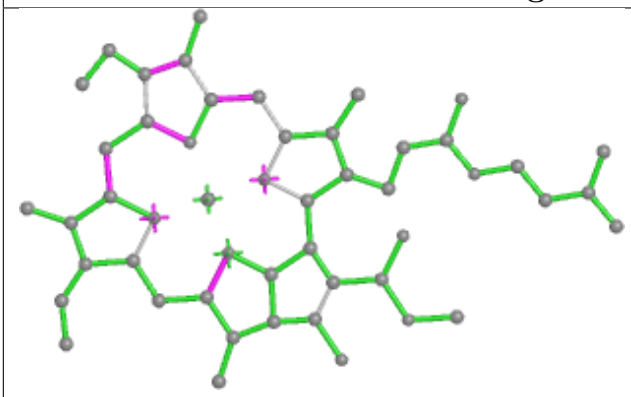


Torsions

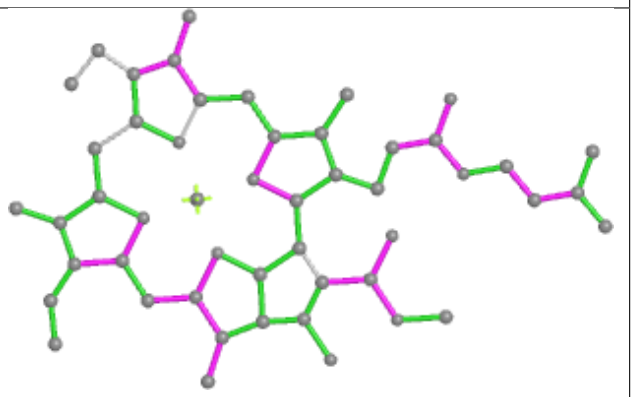


Rings

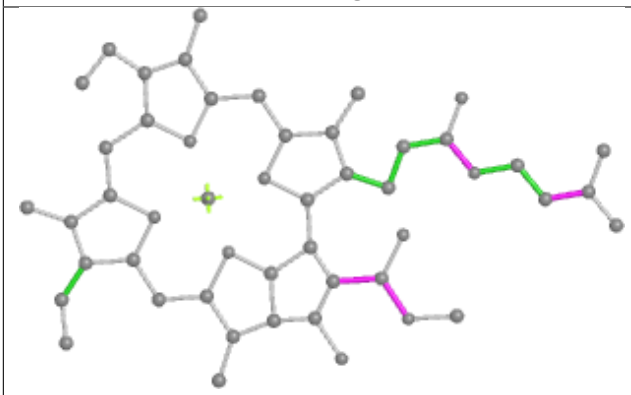
Ligand CLA d 601



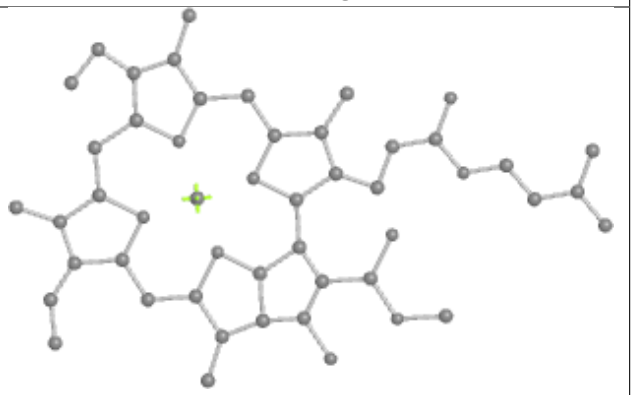
Bond lengths



Bond angles

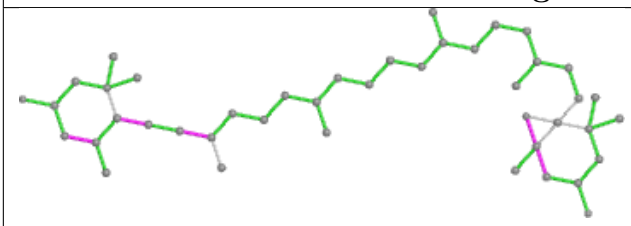


Torsions

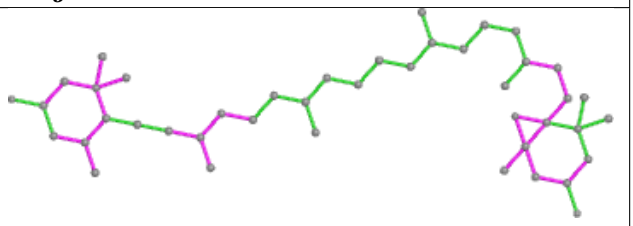


Rings

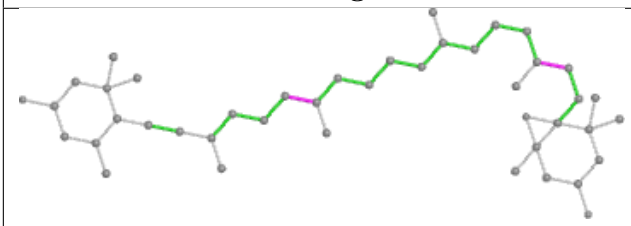
Ligand DD6 j 620



Bond lengths



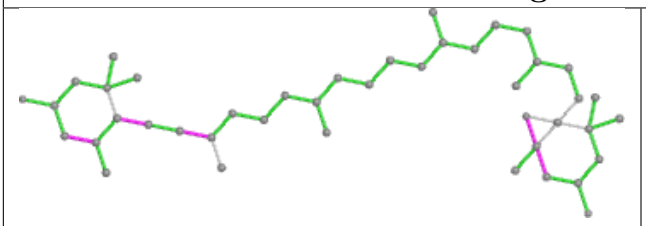
Bond angles



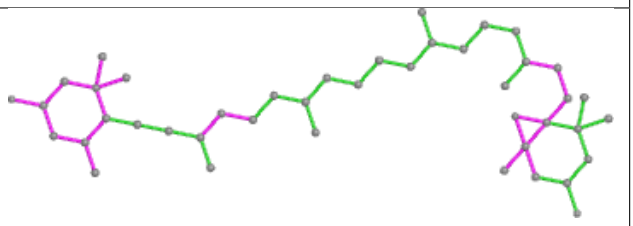
Torsions

Rings

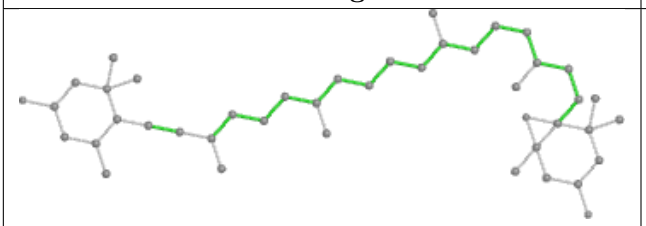
Ligand DD6 c 621



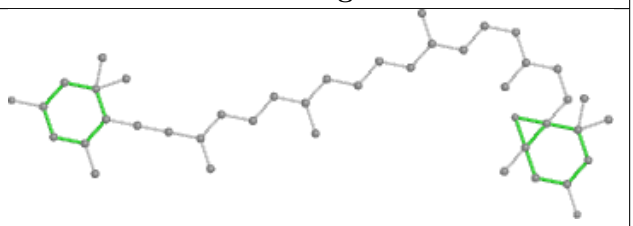
Bond lengths



Bond angles

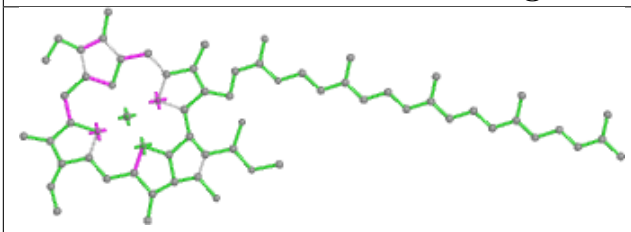


Torsions

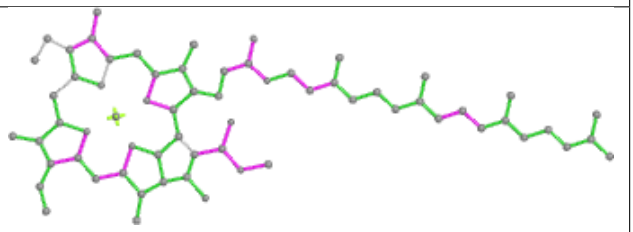


Rings

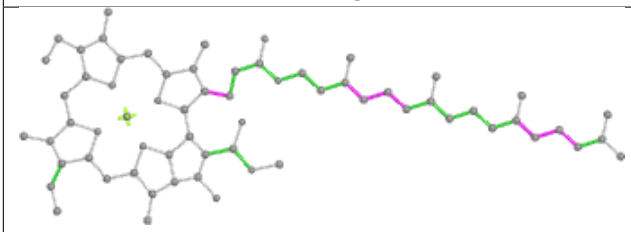
Ligand CLA A 770



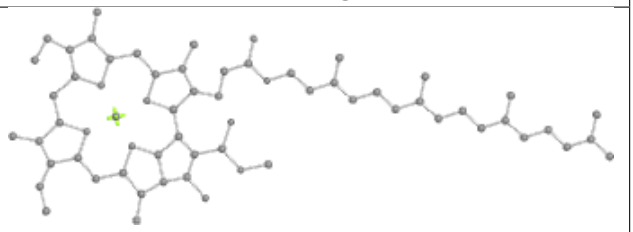
Bond lengths



Bond angles

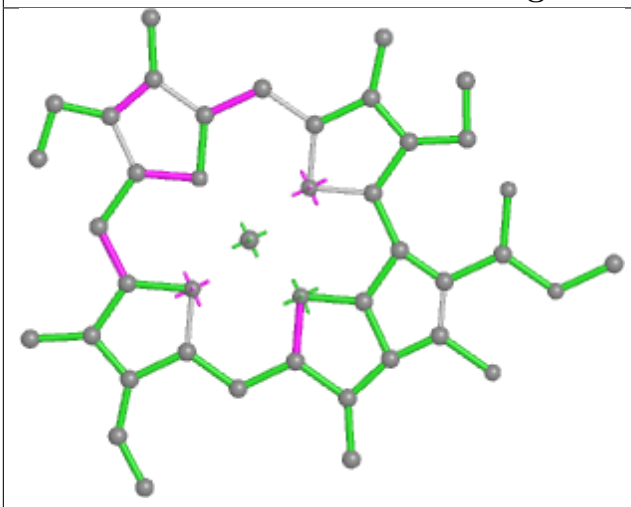


Torsions

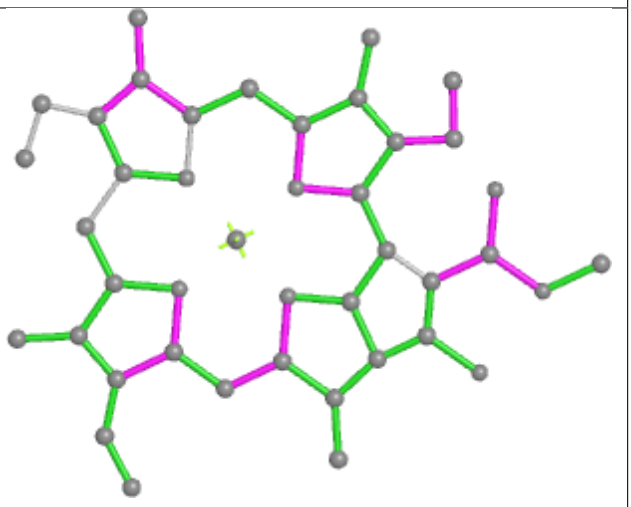


Rings

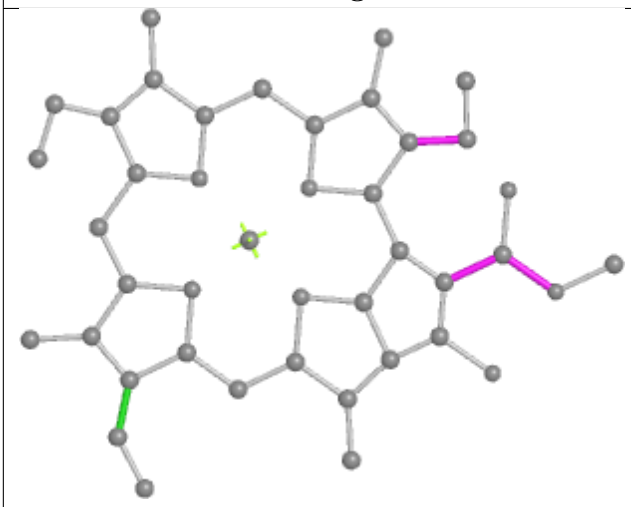
Ligand CLA b 613



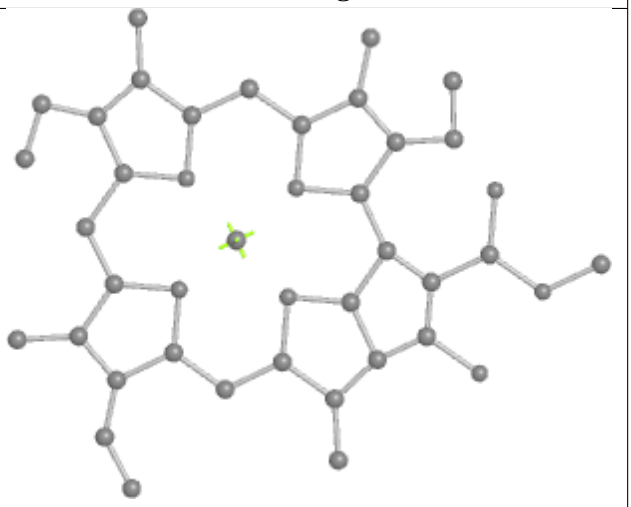
Bond lengths



Bond angles

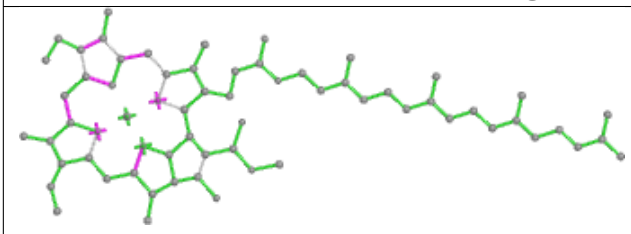


Torsions

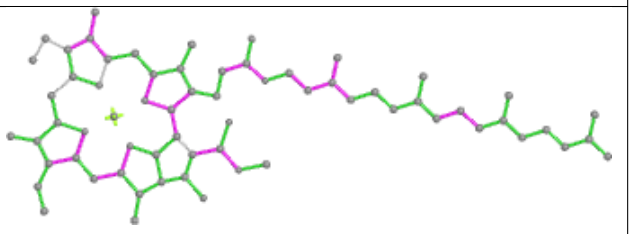


Rings

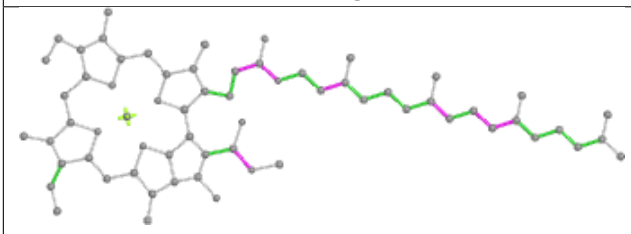
Ligand CLA A 783



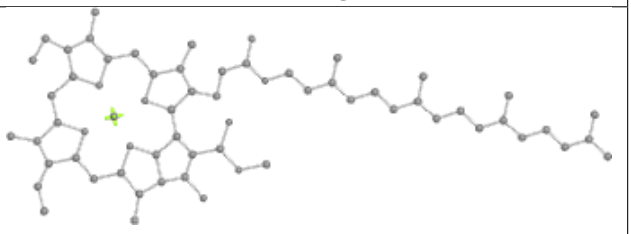
Bond lengths



Bond angles

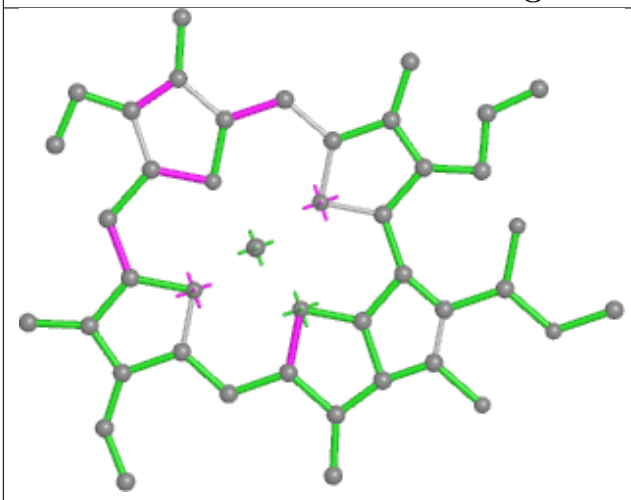


Torsions

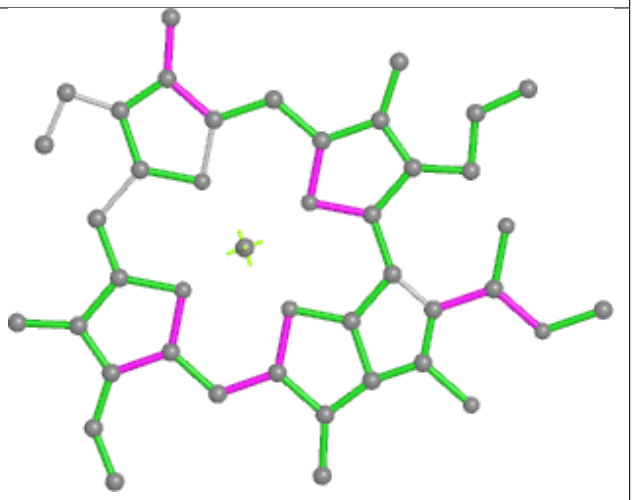


Rings

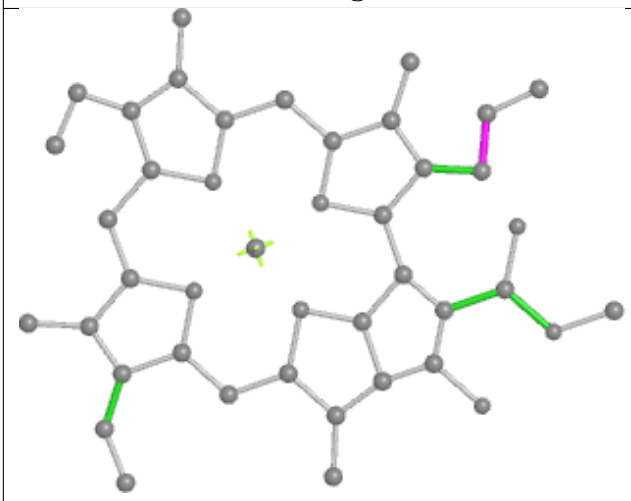
Ligand CLA B 742



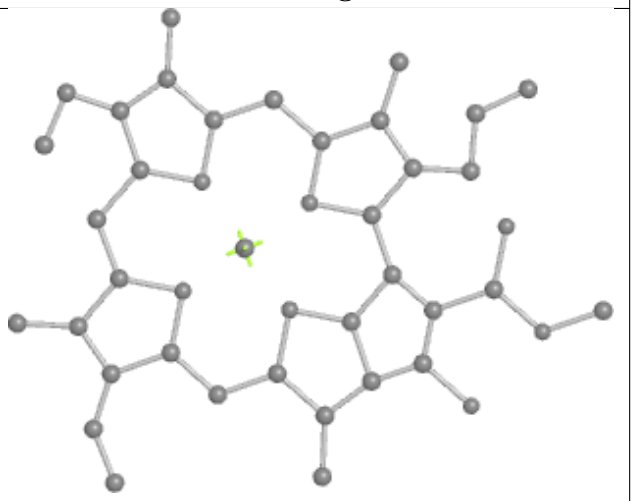
Bond lengths



Bond angles

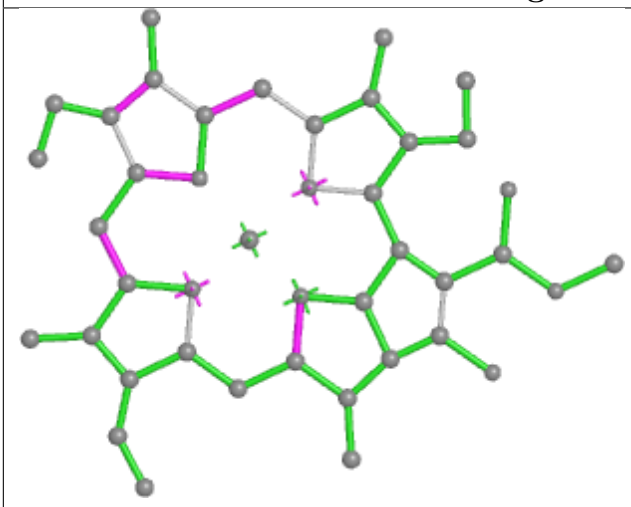


Torsions

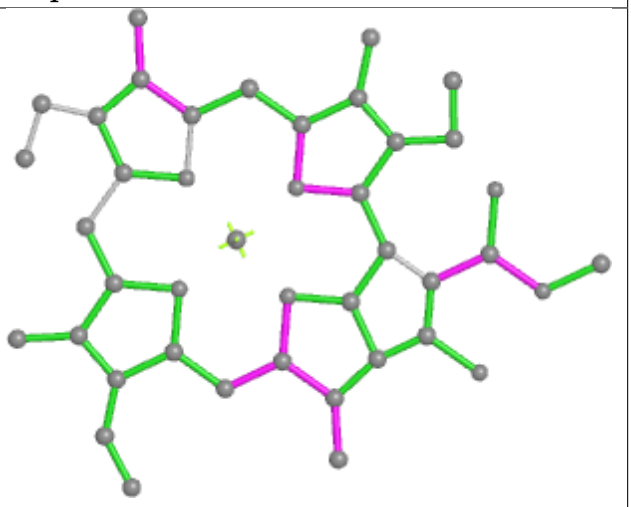


Rings

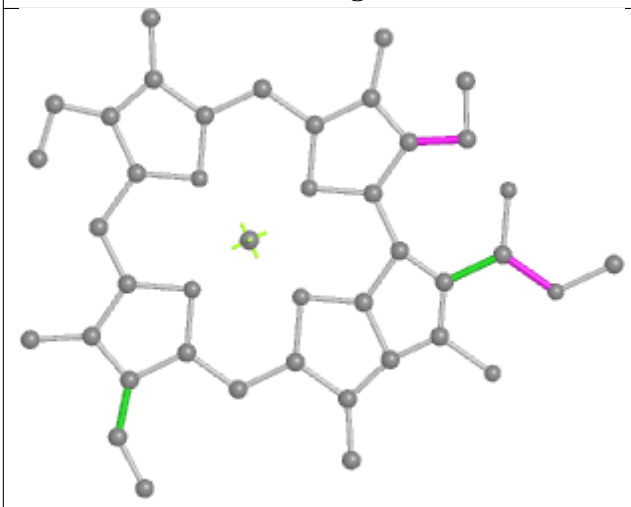
Ligand CLA p 603



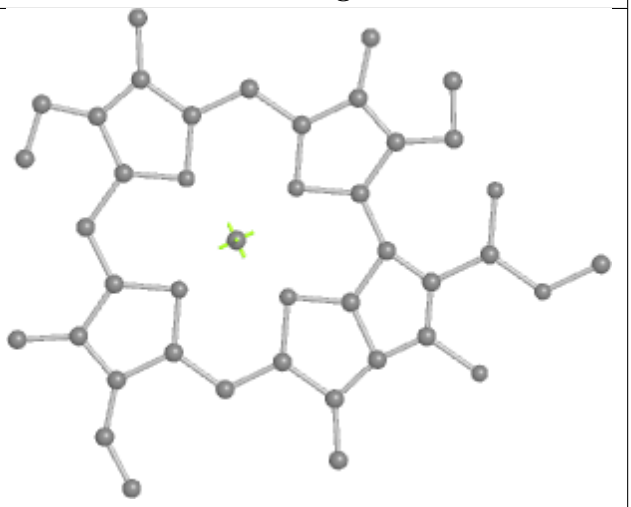
Bond lengths



Bond angles

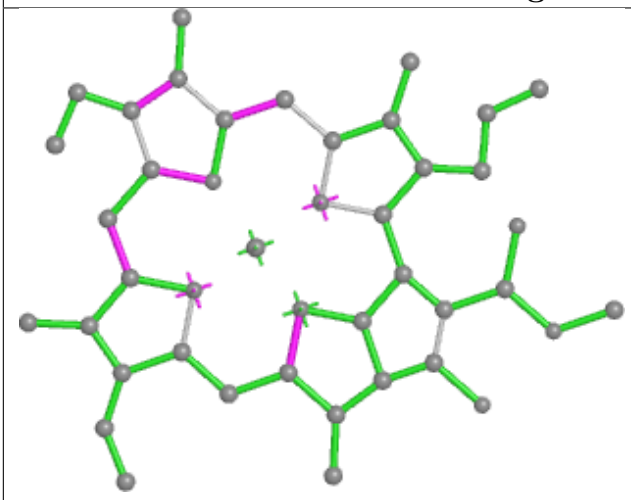


Torsions

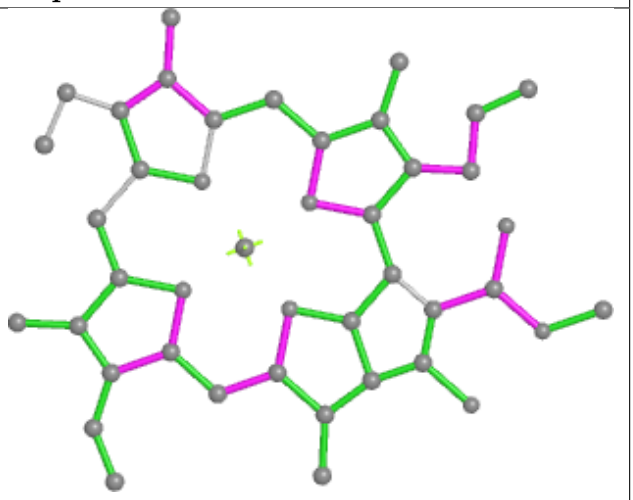


Rings

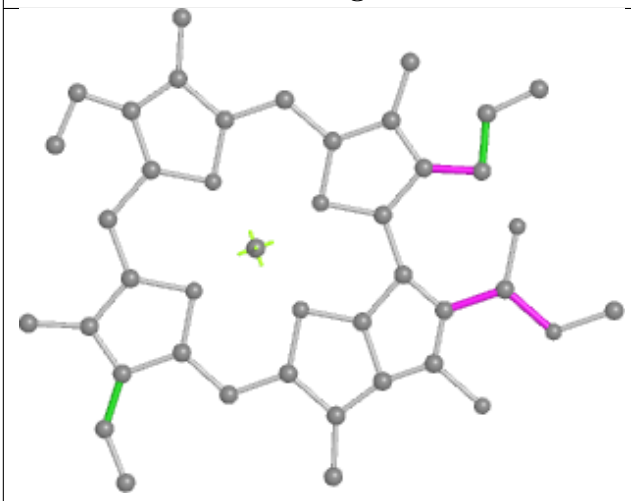
Ligand CLA p 612



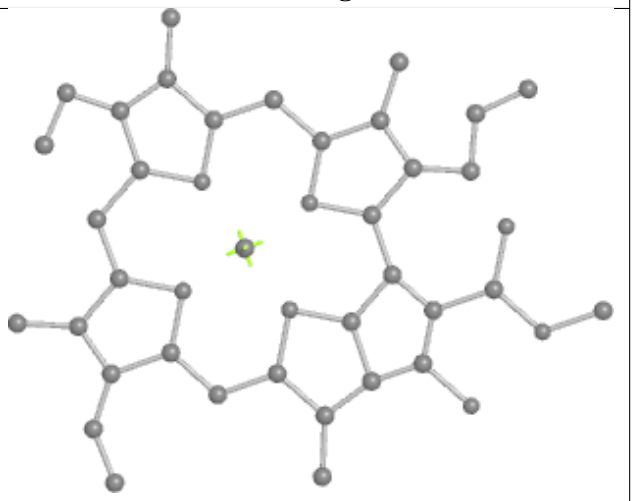
Bond lengths



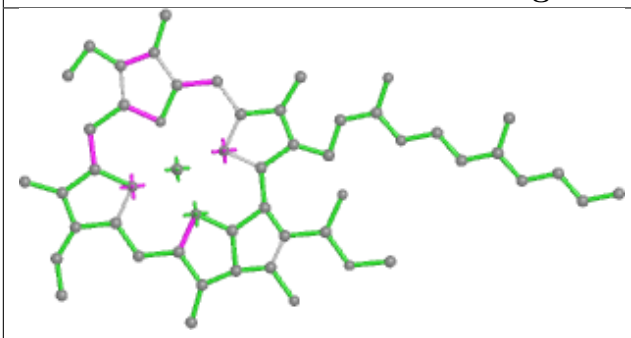
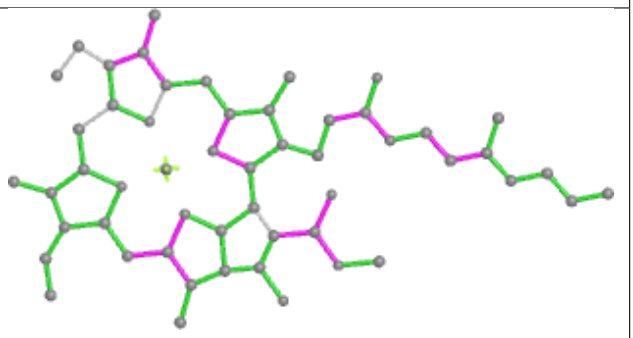
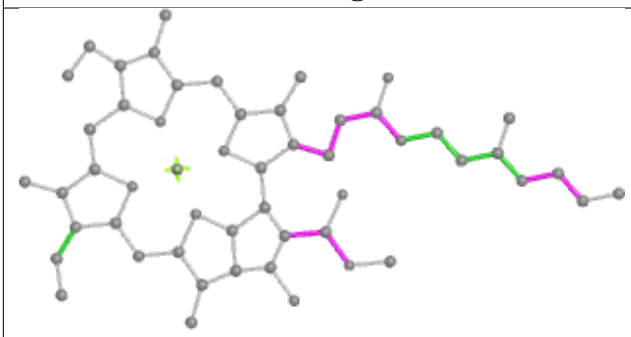
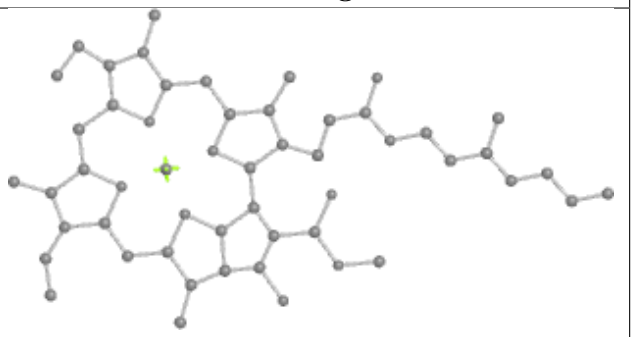
Bond angles

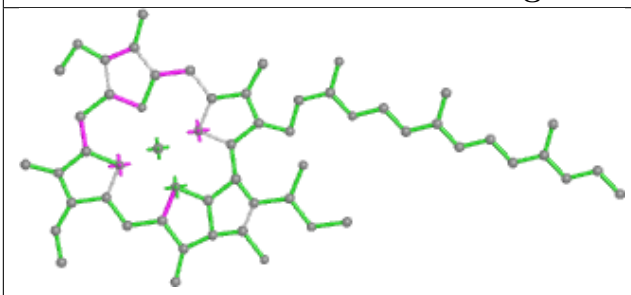
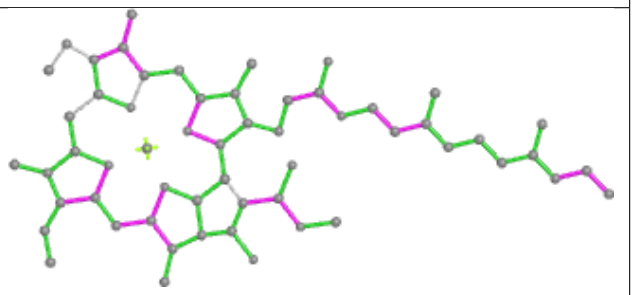
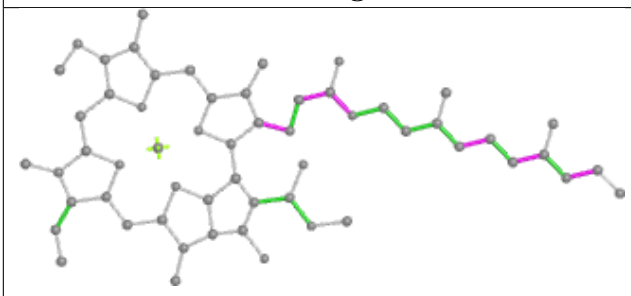
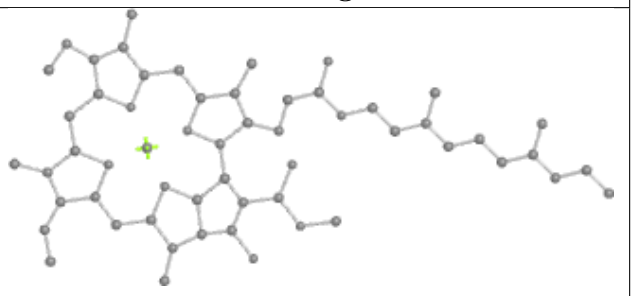


Torsions



Rings

Ligand CLA i 601	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CLA A 794	
 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.

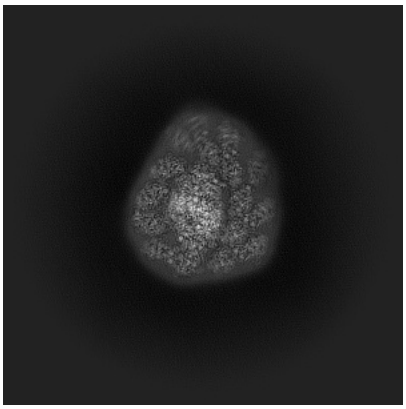
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-64823. These allow visual inspection of the internal detail of the map and identification of artifacts.

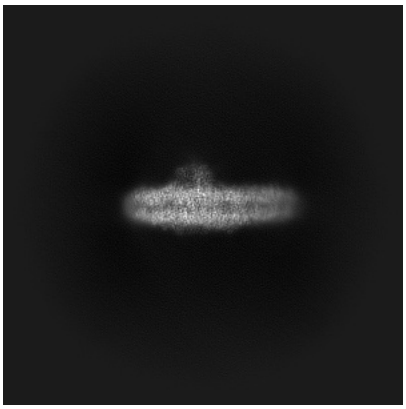
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

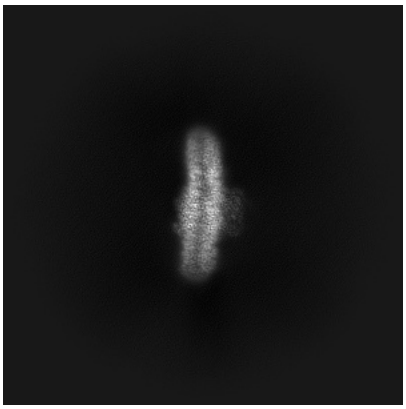
6.1.1 Primary map



X

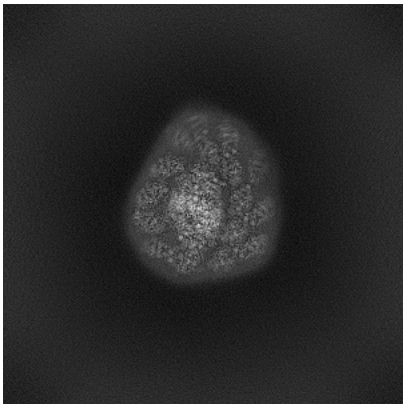


Y

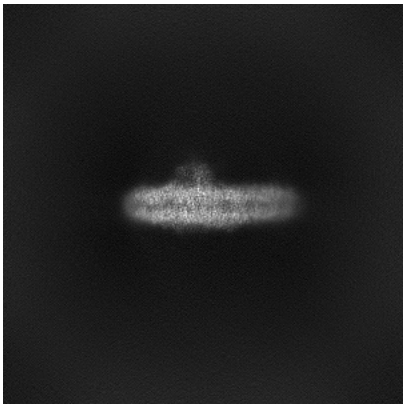


Z

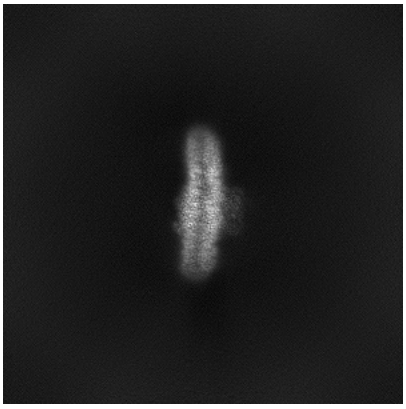
6.1.2 Raw map



X



Y

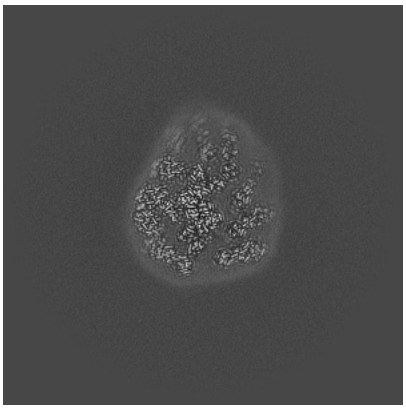


Z

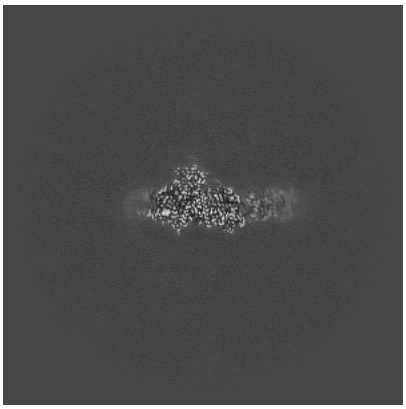
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

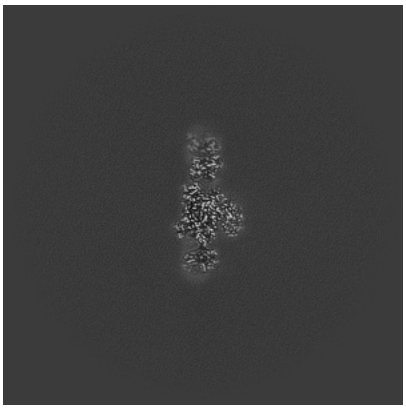
6.2.1 Primary map



X Index: 256

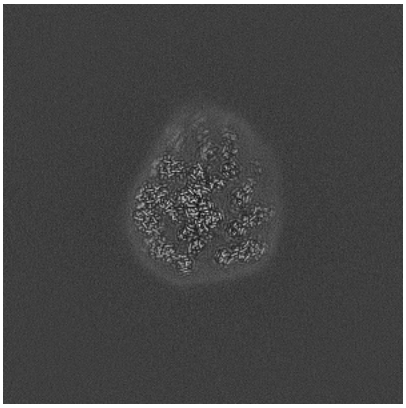


Y Index: 256

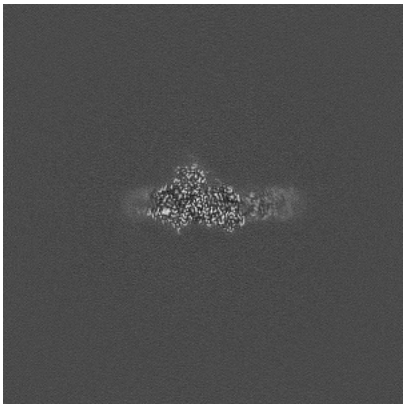


Z Index: 256

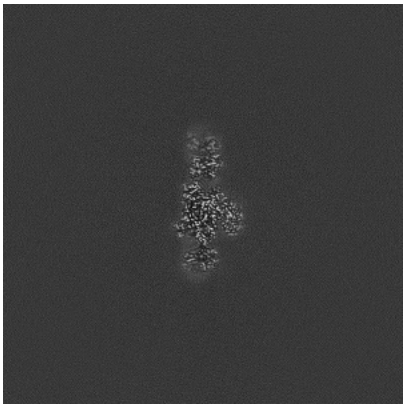
6.2.2 Raw map



X Index: 256



Y Index: 256

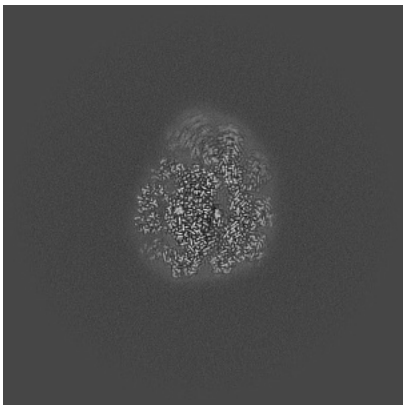


Z Index: 256

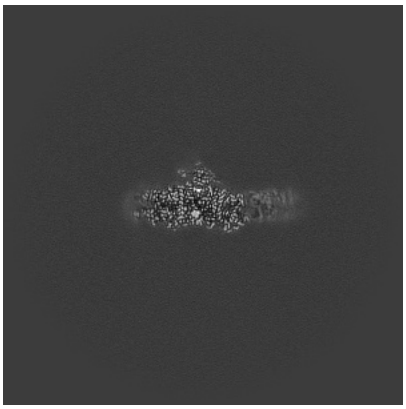
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

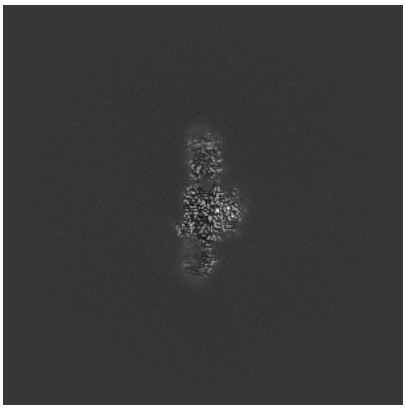
6.3.1 Primary map



X Index: 267

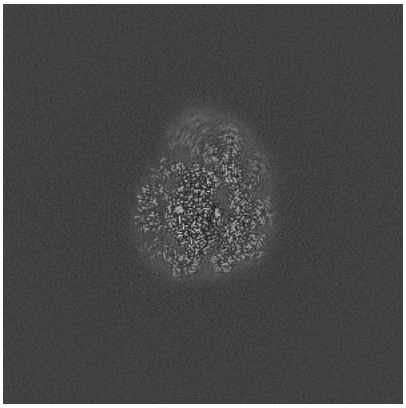


Y Index: 249

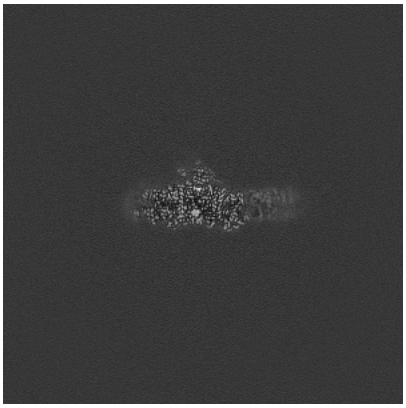


Z Index: 250

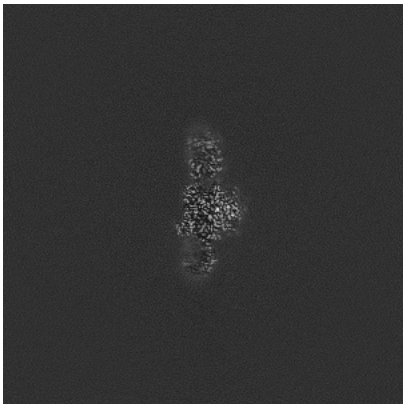
6.3.2 Raw map



X Index: 267



Y Index: 249

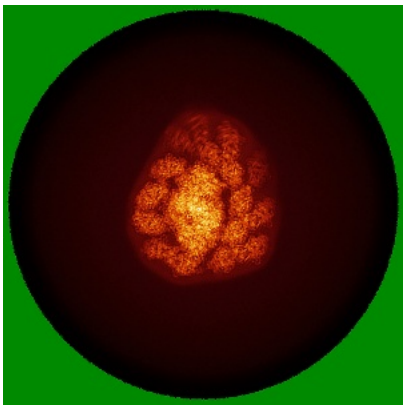


Z Index: 250

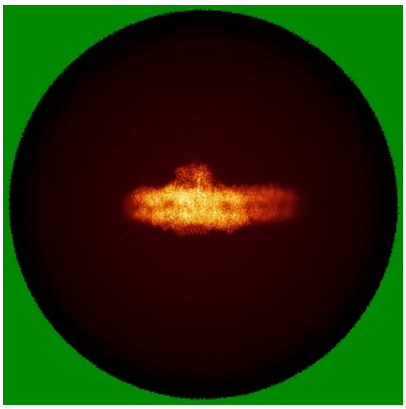
The images above show the largest variance slices of the map in three orthogonal directions.

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

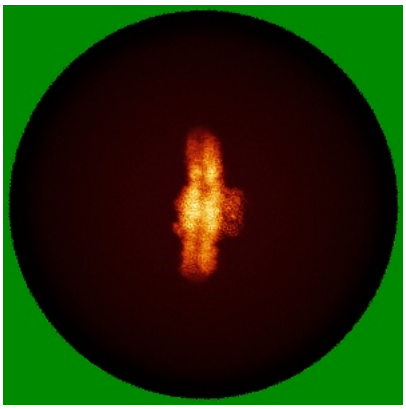
6.4.1 Primary map



X

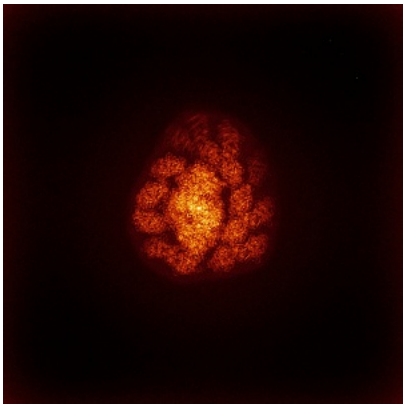


Y

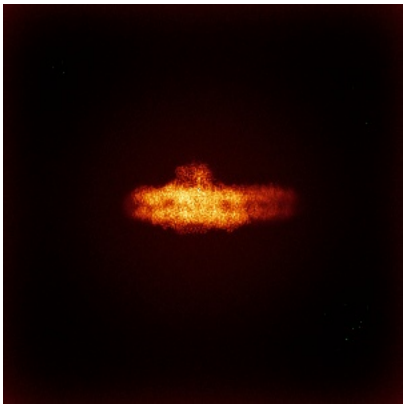


Z

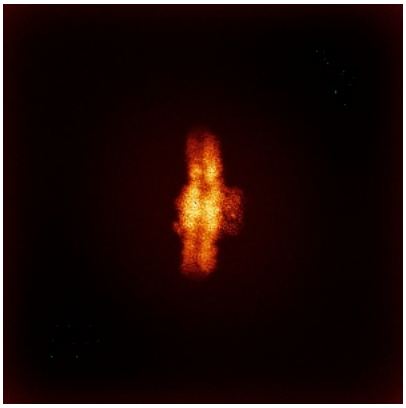
6.4.2 Raw map



X



Y

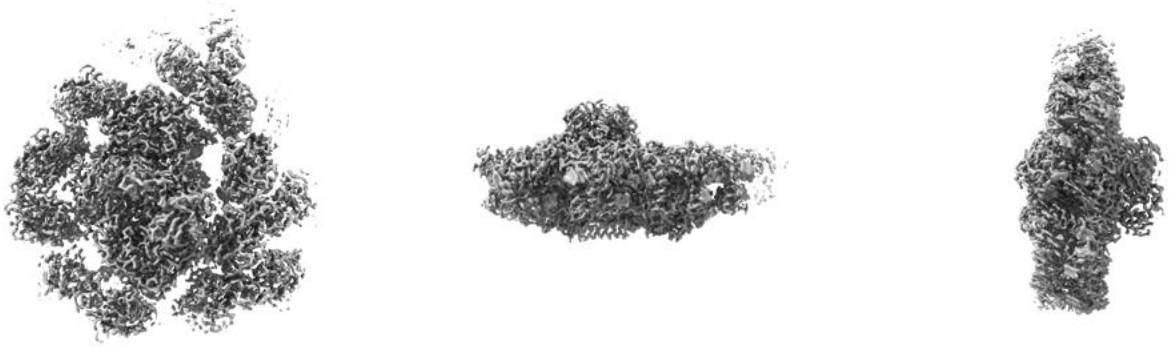


Z

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

6.5 Orthogonal surface views (i)

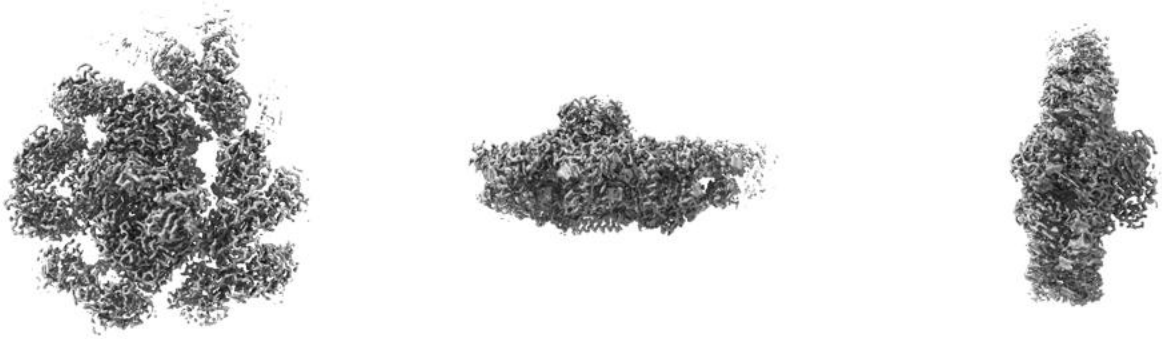
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

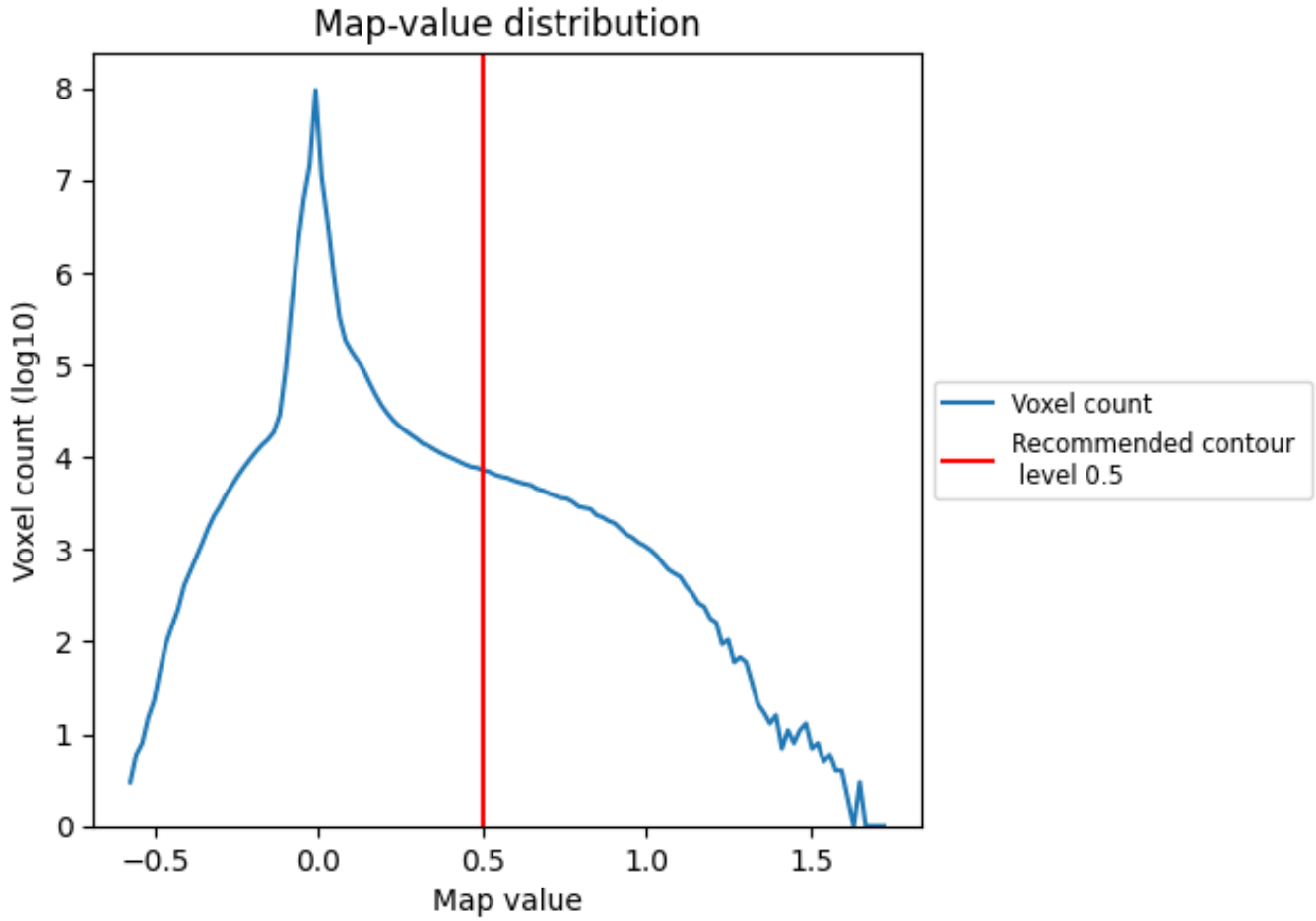
6.6 Mask visualisation (i)

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

7 Map analysis

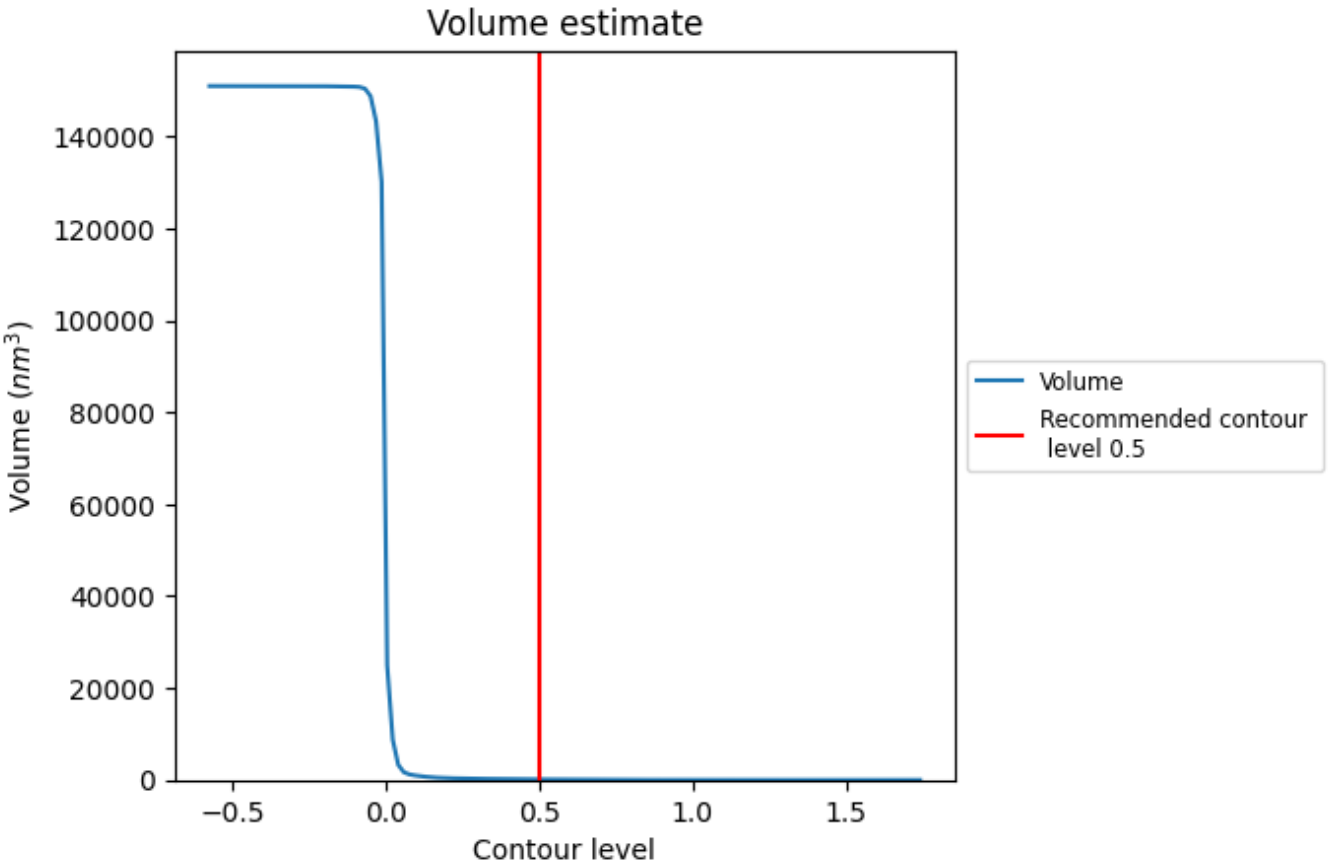
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

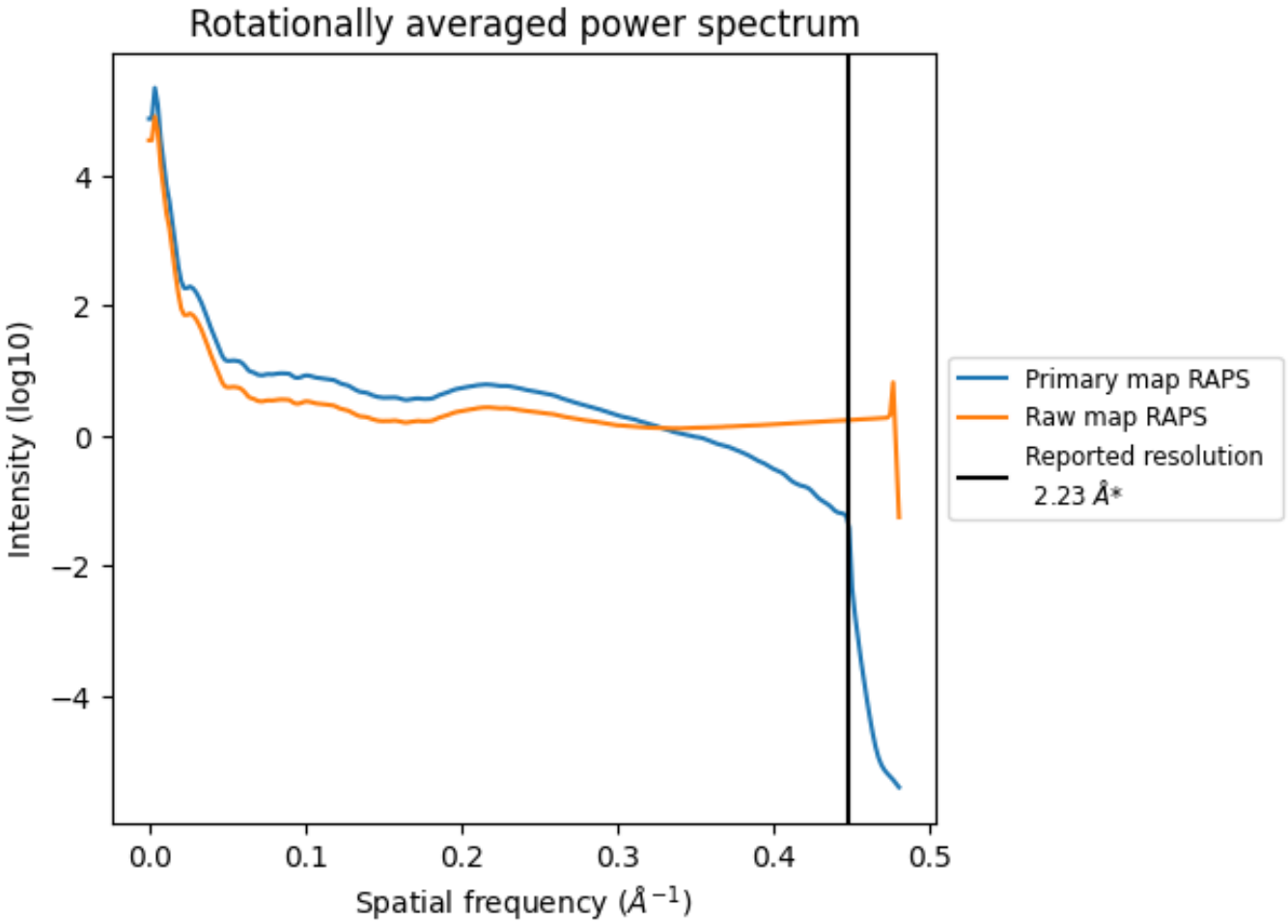
7.2 Volume estimate (i)



The volume at the recommended contour level is 125 nm^3; this corresponds to an approximate mass of 113 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)

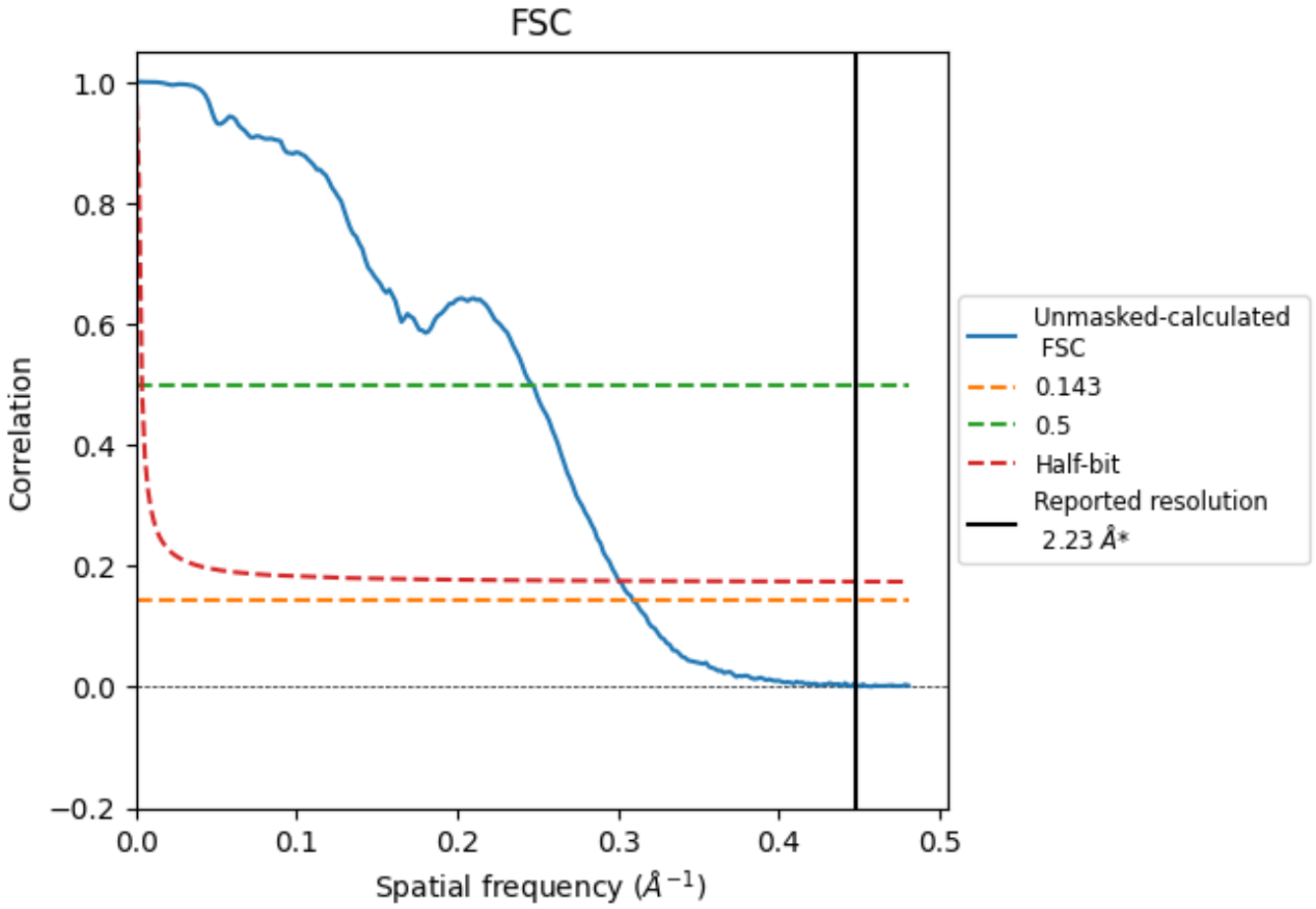


*Reported resolution corresponds to spatial frequency of 0.448 Å^{-1}

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 0.448 Å^{-1}

8.2 Resolution estimates (i)

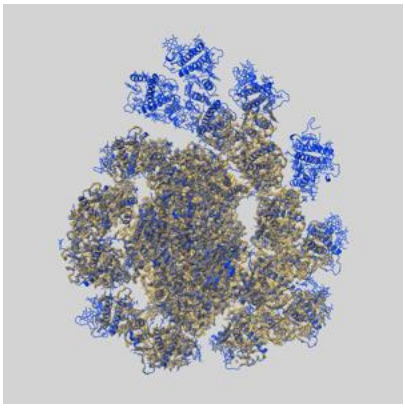
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.23	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.23	4.06	3.33

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.23 differs from the reported value 2.23 by more than 10 %

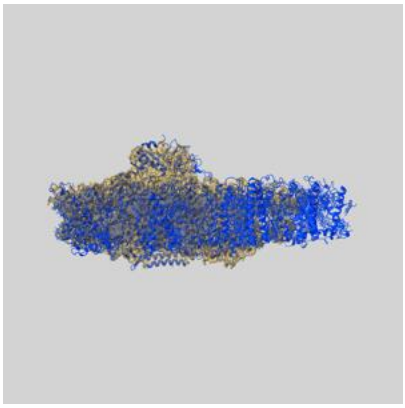
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-64823 and PDB model 9V7T. Per-residue inclusion information can be found in section 3 on page 38.

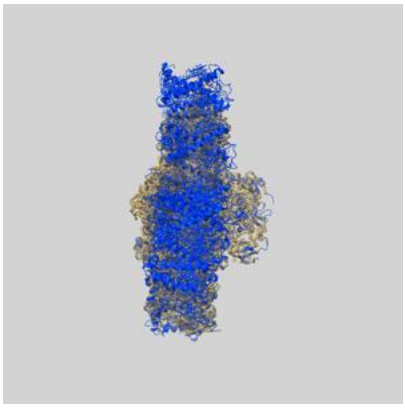
9.1 Map-model overlay



X



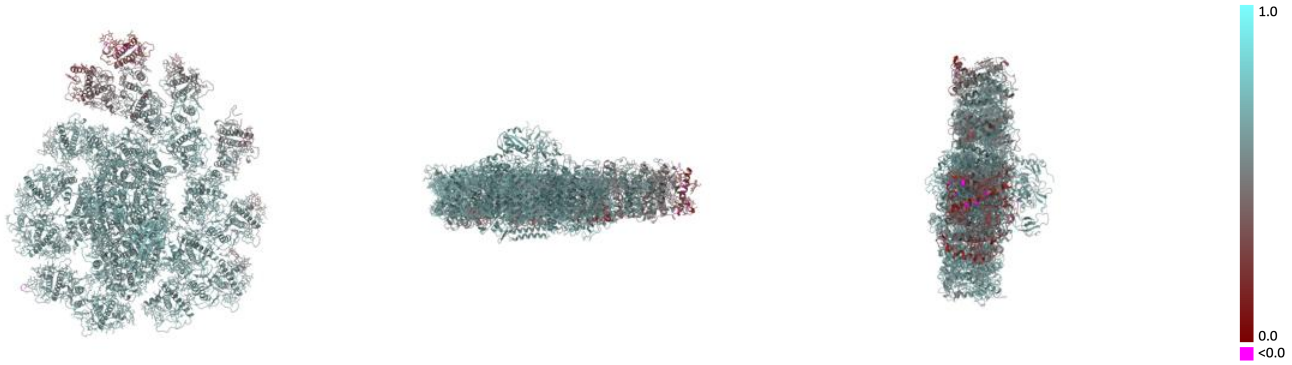
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.5 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

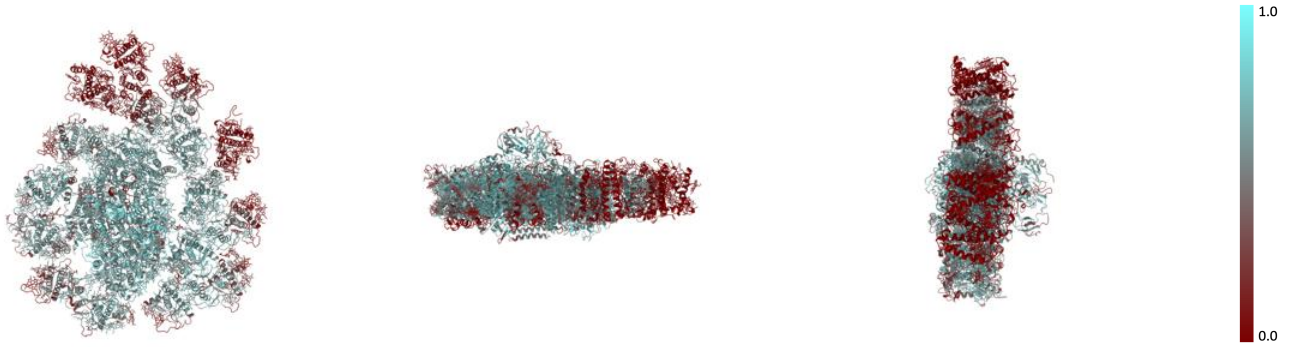
9.2 Q-score mapped to coordinate model



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.

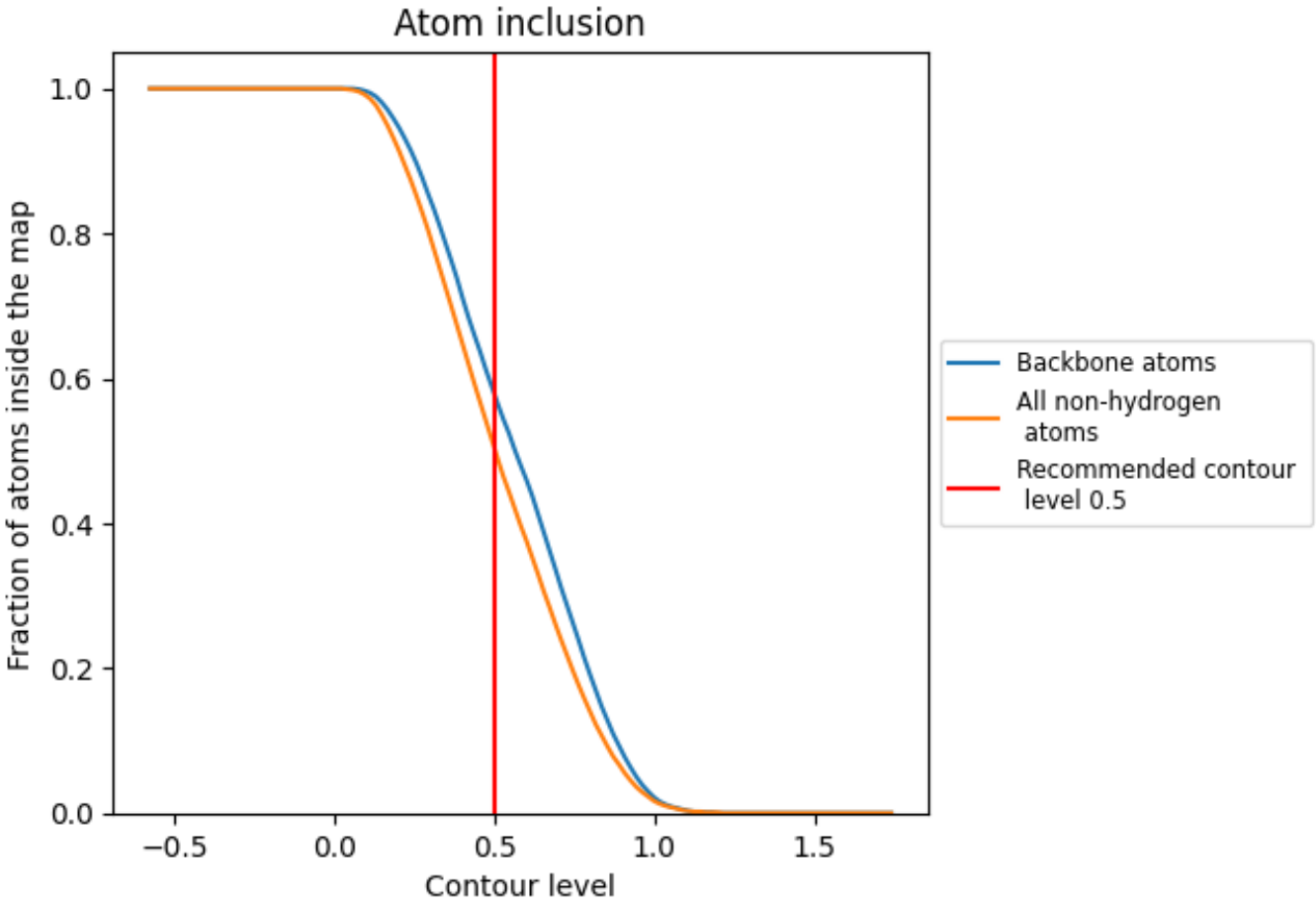
9.3 Atom inclusion mapped to coordinate model



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 (0.5).

9.4 Atom inclusion (i)



At the recommended contour level, 58% of all backbone atoms, 50% 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 (0.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5050	0.6030
A	0.7370	0.6620
B	0.7200	0.6600
C	0.7380	0.6460
D	0.4870	0.6250
E	0.5280	0.6170
F	0.5750	0.6420
J	0.6550	0.6550
M	0.5350	0.6370
a	0.5050	0.6250
b	0.3480	0.5970
c	0.4990	0.6240
d	0.5540	0.6300
e	0.4480	0.6170
f	0.0030	0.3560
g	0.2530	0.5450
h	0.5780	0.6320
i	0.5940	0.6340
j	0.6730	0.6500
k	0.4950	0.6240
l	0.3890	0.5840
m	0.2650	0.5670
n	0.0050	0.4830
o	0.1340	0.5040
p	0.0000	0.2870