wwPDB X-ray Structure Validation Summary Report (i)

Oct 2, 2023 – 04:55 PM EDT

PDB ID	:	6NLN
Title	:	1.60 A resolution structure of WT BfrB from Pseudomonas aeruginosa in complex with a protein-protein interaction inhibitor (analog 16)
Authors	:	Lovell, S.; Punchi-Hewage, A.; Battaile, K.P.; Yao, H.; Nammalwar, B.; Gnanasekaran, K.K.; Bunce, R.A.; Reitz, A.B.; Rivera, M.
Deposited on	:	2019-01-08
Resolution	:	1.60 Å(reported)

This is a wwPDB X-ray Structure 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/XrayValidationReportHelp
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 (1)) were used in the production of this report:

MolProbity	:	FAILED
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	FAILED
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 1.60 Å.

There are no overall percentile quality scores available for this entry.

MolProbity and EDS failed to run properly - the sequence quality summary graphics cannot be shown.

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 17890 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 Ferroxidase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	156	Total	C	N	O	S	0	1	0
			1272	807	218	240	7			
1	B	156	Total	C	N	O	S	0	1	0
			1272	805	217	243	7			
1	C	156	Total	C	N	O	S	0	1	0
			1275	807	218	243	7			
1	D	156	Total	C	N	O	S	0	1	0
			1281	810	219	245	7			
1	E	156	Total	C	N	O	S	0	2	0
			1278	810	218	243	7			
1	F	156	Total	C	N	O	S	0	1	0
			1264	802	216	239	7			
1	G	156	Total	C	N	O	S	0	1	0
			1269	804	216	242	7			
1	H	156	Total	C	N	O	S	0	2	0
			1267	804	217	239	7			
1	I	156	Total	C	N	O	S	0	1	0
			1267	803	216	241	7			
1	J	156	Total	C	N	O	S	0	1	0
			1268	803	217	241	7			
1	K	156	Total	C	N	O	S	0	1	0
			1269	804	216	242	7			
1	L	156	Total	C	N	O	S	0	1	0
			1266	803	216	240	7			

- Molecule 2 is FE (II) ION (three-letter code: FE2) (formula: Fe).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	Fe	0	0
			1	1		
2	B	1	Total	Fe	0	0
			1	1		

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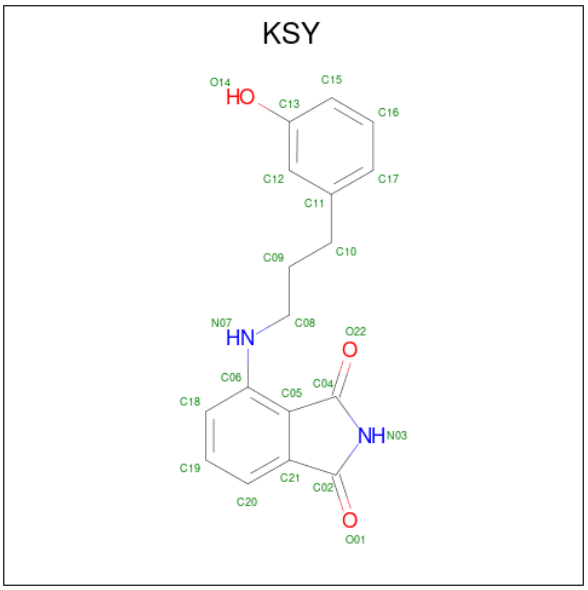
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	D	1	Total Fe 1 1	0	0

- Molecule 3 is 4-{[3-(3-hydroxyphenyl)propyl]amino}-1H-isoindole-1,3(2H)-dione (three-letter code: KSY) (formula: $C_{17}H_{16}N_2O_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C N O 22 17 2 3	0	0
3	A	1	Total C N O 22 17 2 3	0	0
3	B	1	Total C N O 22 17 2 3	0	0
3	C	1	Total C N O 22 17 2 3	0	0
3	D	1	Total C N O 22 17 2 3	0	0
3	E	1	Total C N O 22 17 2 3	0	0
3	F	1	Total C N O 22 17 2 3	0	0
3	G	1	Total C N O 22 17 2 3	0	0
3	H	1	Total C N O 16 12 2 2	0	0
3	I	1	Total C N O 22 17 2 3	0	0

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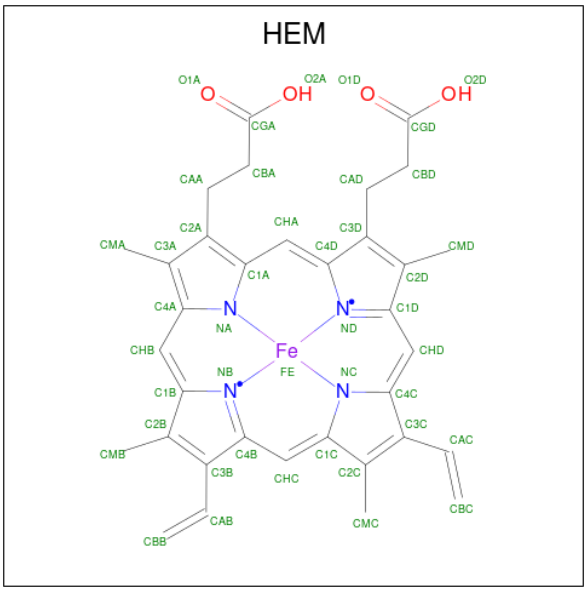
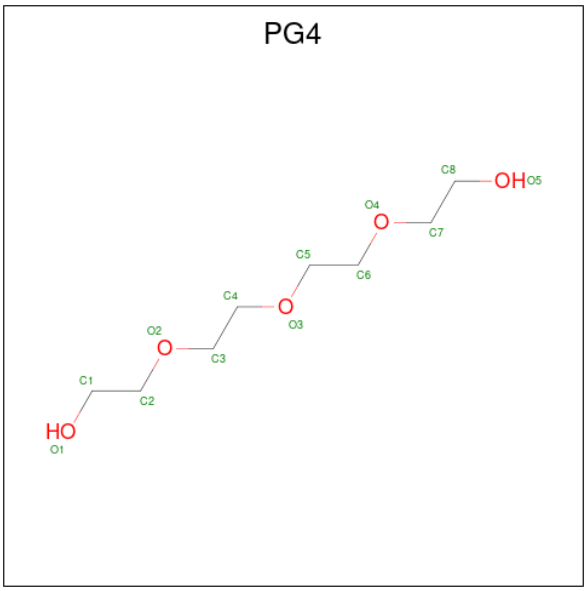
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	J	1	Total C N O 22 17 2 3	0	0
3	K	1	Total C N O 15 11 2 2	0	0
3	L	1	Total C N O 14 10 2 2	0	0

- Molecule 4 is PROTOPORPHYRIN IX CONTAINING FE (three-letter code: HEM) (formula: $C_{34}H_{32}FeN_4O_4$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C Fe N O 43 34 1 4 4	0	0
4	B	1	Total C Fe N O 43 34 1 4 4	0	0
4	C	1	Total C Fe N O 43 34 1 4 4	0	0
4	D	1	Total C Fe N O 43 34 1 4 4	0	0
4	F	1	Total C Fe N O 43 34 1 4 4	0	0
4	H	1	Total C Fe N O 43 34 1 4 4	0	0
4	L	1	Total C Fe N O 43 34 1 4 4	0	0

- Molecule 5 is TETRAETHYLENE GLYCOL (three-letter code: PG4) (formula: $C_8H_{18}O_5$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C O 13 8 5	0	0
5	A	1	Total C O 10 6 4	0	0
5	B	1	Total C O 8 5 3	0	0
5	B	1	Total C O 6 4 2	0	0
5	C	1	Total C O 13 8 5	0	0
5	C	1	Total C O 8 5 3	0	0
5	D	1	Total C O 13 8 5	0	0
5	D	1	Total C O 10 6 4	0	0
5	D	1	Total C O 8 5 3	0	0
5	E	1	Total C O 13 8 5	0	0
5	E	1	Total C O 10 6 4	0	0
5	E	1	Total C O 8 5 3	0	0
5	F	1	Total C O 13 8 5	0	0
5	F	1	Total C O 10 6 4	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	F	1	Total C O 9 6 3	0	0
5	G	1	Total C O 13 8 5	0	0
5	G	1	Total C O 10 6 4	0	0
5	H	1	Total C O 8 5 3	0	0
5	I	1	Total C O 10 6 4	0	0
5	I	1	Total C O 8 5 3	0	0
5	I	1	Total C O 8 5 3	0	0
5	J	1	Total C O 13 8 5	0	0
5	J	1	Total C O 13 8 5	0	0
5	K	1	Total C O 8 5 3	0	0
5	K	1	Total C O 13 8 5	0	0
5	K	1	Total C O 8 5 3	0	0
5	L	1	Total C O 13 8 5	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	159	Total O 159 159	0	0
6	B	147	Total O 147 147	0	0
6	C	159	Total O 159 159	0	0
6	D	154	Total O 154 154	0	0
6	E	152	Total O 152 152	0	0
6	F	156	Total O 156 156	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	G	144	Total O 144 144	0	0
6	H	152	Total O 152 152	0	0
6	I	129	Total O 129 129	0	0
6	J	154	Total O 154 154	0	0
6	K	154	Total O 154 154	0	0
6	L	136	Total O 136 136	0	0

MolProbity and EDS failed to run properly - this section is therefore empty.

3 Data and refinement statistics (i)

EDS failed to run properly - this section is therefore incomplete.

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	129.91Å 194.88Å 203.81Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.72 – 1.60	Depositor
% Data completeness (in resolution range)	100.0 (48.72-1.60)	Depositor
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.96 (at 1.60Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.147 , 0.169	Depositor
Wilson B-factor (Å^2)	18.2	Xtriage
Anisotropy	0.316	Xtriage
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	17890	wwPDB-VP
Average B, all atoms (Å^2)	21.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.68% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

4 Model quality

4.1 Standard geometry

MolProbity failed to run properly - this section is therefore empty.

4.2 Too-close contacts

MolProbity failed to run properly - this section is therefore empty.

4.3 Torsion angles

4.3.1 Protein backbone

MolProbity failed to run properly - this section is therefore empty.

4.3.2 Protein sidechains

MolProbity failed to run properly - this section is therefore empty.

4.3.3 RNA

MolProbity failed to run properly - this section is therefore empty.

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

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

4.5 Carbohydrates

There are no monosaccharides in this entry.

4.6 Ligand geometry

Of 50 ligands modelled in this entry, 3 are monoatomic - leaving 47 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond

length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	HEM	B	203	1	41,50,50	1.52	6 (14%)	45,82,82	1.59	11 (24%)
4	HEM	H	202	1	41,50,50	1.55	4 (9%)	45,82,82	1.64	11 (24%)
5	PG4	F	205	-	8,8,12	0.45	0	7,7,11	0.46	0
3	KSY	E	201	-	24,24,24	1.64	5 (20%)	33,33,33	1.21	3 (9%)
3	KSY	B	202	-	24,24,24	1.54	5 (20%)	33,33,33	1.30	3 (9%)
3	KSY	A	203	-	24,24,24	1.77	5 (20%)	33,33,33	1.25	4 (12%)
3	KSY	F	201	-	24,24,24	1.57	5 (20%)	33,33,33	1.33	3 (9%)
5	PG4	E	204	-	7,7,12	0.49	0	6,6,11	0.34	0
3	KSY	A	202	-	24,24,24	1.92	6 (25%)	33,33,33	2.05	6 (18%)
5	PG4	B	204	-	7,7,12	0.57	0	6,6,11	0.22	0
5	PG4	I	202	-	9,9,12	0.37	0	8,8,11	0.59	0
5	PG4	F	204	-	9,9,12	0.55	0	8,8,11	0.31	0
5	PG4	D	206	-	7,7,12	0.41	0	6,6,11	0.32	0
5	PG4	A	205	-	12,12,12	0.46	0	11,11,11	0.42	0
5	PG4	J	203	-	12,12,12	0.43	0	11,11,11	0.49	0
3	KSY	I	201	-	24,24,24	1.62	5 (20%)	33,33,33	1.37	3 (9%)
5	PG4	K	203	-	12,12,12	0.49	0	11,11,11	0.31	0
5	PG4	E	203	-	9,9,12	0.54	0	8,8,11	0.29	0
4	HEM	L	202	1	41,50,50	1.42	3 (7%)	45,82,82	1.39	7 (15%)
4	HEM	C	202	1	41,50,50	1.42	4 (9%)	45,82,82	1.68	13 (28%)
5	PG4	H	203	-	7,7,12	0.51	0	6,6,11	0.28	0
3	KSY	H	201	-	17,17,24	1.94	5 (29%)	23,23,33	1.91	7 (30%)
5	PG4	C	204	-	7,7,12	0.51	0	6,6,11	0.25	0
5	PG4	D	205	-	9,9,12	0.53	0	8,8,11	0.25	0
5	PG4	K	202	-	7,7,12	0.49	0	6,6,11	0.22	0
5	PG4	B	205	-	5,5,12	0.51	0	4,4,11	0.14	0
5	PG4	G	202	-	12,12,12	0.52	0	11,11,11	0.41	0
5	PG4	K	204	-	7,7,12	0.50	0	6,6,11	0.39	0
3	KSY	J	201	-	24,24,24	1.71	5 (20%)	33,33,33	1.72	4 (12%)
3	KSY	K	201	-	16,16,24	2.01	5 (31%)	22,22,33	1.28	2 (9%)
3	KSY	D	202	-	24,24,24	1.80	5 (20%)	33,33,33	1.71	6 (18%)
5	PG4	L	203	-	12,12,12	0.40	0	11,11,11	0.57	0
5	PG4	E	202	-	12,12,12	0.51	0	11,11,11	0.43	0
5	PG4	J	202	-	12,12,12	0.51	0	11,11,11	0.44	0
5	PG4	C	203	-	12,12,12	0.51	0	11,11,11	0.59	0
4	HEM	F	202	1	41,50,50	1.43	4 (9%)	45,82,82	1.47	6 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
5	PG4	D	204	-	12,12,12	0.49	0	11,11,11	0.45	0
5	PG4	I	204	-	7,7,12	0.38	0	6,6,11	0.45	0
4	HEM	D	203	1	41,50,50	1.46	4 (9%)	45,82,82	1.47	5 (11%)
5	PG4	G	203	-	9,9,12	0.51	0	8,8,11	0.16	0
5	PG4	F	203	-	12,12,12	0.49	0	11,11,11	0.53	0
5	PG4	I	203	-	7,7,12	0.56	0	6,6,11	0.29	0
3	KSY	L	201	-	15,15,24	2.28	6 (40%)	21,21,33	1.90	4 (19%)
5	PG4	A	206	-	9,9,12	0.44	0	8,8,11	0.59	0
4	HEM	A	204	1	41,50,50	1.45	4 (9%)	45,82,82	1.55	11 (24%)
3	KSY	C	201	-	24,24,24	1.65	5 (20%)	33,33,33	1.28	4 (12%)
3	KSY	G	201	-	24,24,24	1.64	5 (20%)	33,33,33	1.12	3 (9%)

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
4	HEM	B	203	1	-	4/12/54/54	-
4	HEM	H	202	1	-	4/12/54/54	-
5	PG4	F	205	-	-	2/6/6/10	-
3	KSY	E	201	-	-	2/7/19/19	0/3/3/3
3	KSY	B	202	-	-	2/7/19/19	0/3/3/3
3	KSY	A	203	-	-	0/7/19/19	0/3/3/3
3	KSY	F	201	-	-	0/7/19/19	0/3/3/3
5	PG4	E	204	-	-	0/5/5/10	-
3	KSY	A	202	-	-	4/7/19/19	0/3/3/3
5	PG4	B	204	-	-	1/5/5/10	-
5	PG4	I	202	-	-	4/7/7/10	-
5	PG4	F	204	-	-	0/7/7/10	-
5	PG4	D	206	-	-	0/5/5/10	-
5	PG4	A	205	-	-	1/10/10/10	-
5	PG4	J	203	-	-	0/10/10/10	-
3	KSY	I	201	-	-	0/7/19/19	0/3/3/3
5	PG4	K	203	-	-	4/10/10/10	-
5	PG4	E	203	-	-	0/7/7/10	-
4	HEM	L	202	1	-	4/12/54/54	-
4	HEM	C	202	1	-	4/12/54/54	-
5	PG4	H	203	-	-	0/5/5/10	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	KSY	H	201	-	-	4/5/17/19	0/2/2/3
5	PG4	C	204	-	-	0/5/5/10	-
5	PG4	D	205	-	-	0/7/7/10	-
5	PG4	K	202	-	-	2/5/5/10	-
5	PG4	B	205	-	-	0/3/3/10	-
5	PG4	G	202	-	-	3/10/10/10	-
5	PG4	K	204	-	-	2/5/5/10	-
3	KSY	J	201	-	-	0/7/19/19	0/3/3/3
3	KSY	K	201	-	-	0/4/16/19	0/2/2/3
3	KSY	D	202	-	-	3/7/19/19	0/3/3/3
5	PG4	L	203	-	-	3/10/10/10	-
5	PG4	E	202	-	-	1/10/10/10	-
5	PG4	J	202	-	-	2/10/10/10	-
5	PG4	C	203	-	-	7/10/10/10	-
4	HEM	F	202	1	-	4/12/54/54	-
5	PG4	D	204	-	-	2/10/10/10	-
5	PG4	I	204	-	-	0/5/5/10	-
4	HEM	D	203	1	-	4/12/54/54	-
5	PG4	G	203	-	-	1/7/7/10	-
5	PG4	F	203	-	-	5/10/10/10	-
5	PG4	I	203	-	-	0/5/5/10	-
3	KSY	L	201	-	-	0/3/15/19	0/2/2/3
5	PG4	A	206	-	-	4/7/7/10	-
4	HEM	A	204	1	-	4/12/54/54	-
3	KSY	C	201	-	-	2/7/19/19	0/3/3/3
3	KSY	G	201	-	-	0/7/19/19	0/3/3/3

The worst 5 of 96 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	H	202	HEM	C3C-C2C	-5.39	1.32	1.40
3	A	202	KSY	C04-N03	5.26	1.46	1.38
4	F	202	HEM	C3C-C2C	-4.88	1.33	1.40
4	B	203	HEM	C3C-C2C	-4.71	1.33	1.40
3	D	202	KSY	C04-N03	4.63	1.45	1.38

The worst 5 of 116 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	202	KSY	C04-N03-C02	-8.24	105.49	112.52
3	D	202	KSY	C04-N03-C02	-7.02	106.53	112.52
3	L	201	KSY	C04-N03-C02	-5.97	107.43	112.52
3	J	201	KSY	C05-C06-N07	-5.52	114.77	121.32
3	H	201	KSY	C21-C05-C06	-5.52	118.11	121.91

There are no chirality outliers.

5 of 89 torsion outliers are listed below:

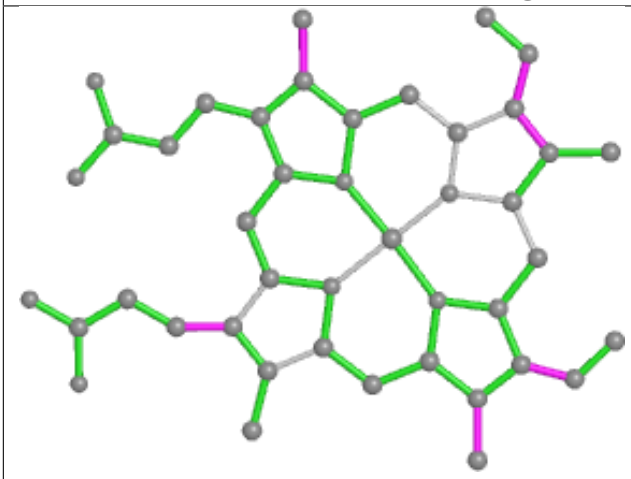
Mol	Chain	Res	Type	Atoms
3	H	201	KSY	C18-C06-N07-C08
3	H	201	KSY	C05-C06-N07-C08
5	I	202	PG4	O4-C7-C8-O5
3	H	201	KSY	N07-C08-C09-C10
5	I	202	PG4	O3-C5-C6-O4

There are no ring outliers.

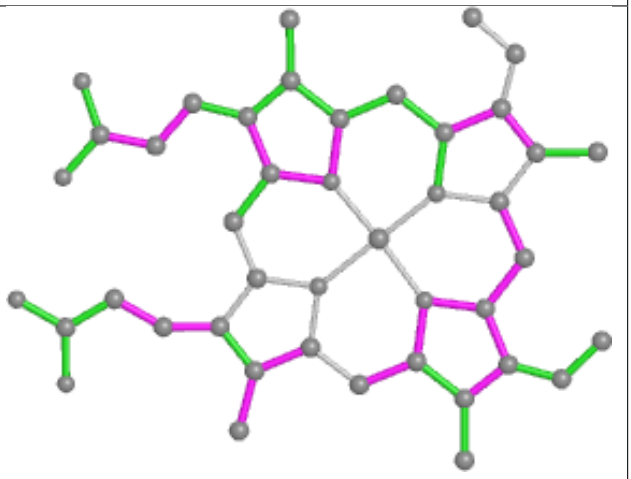
No monomer is involved in short contacts.

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.

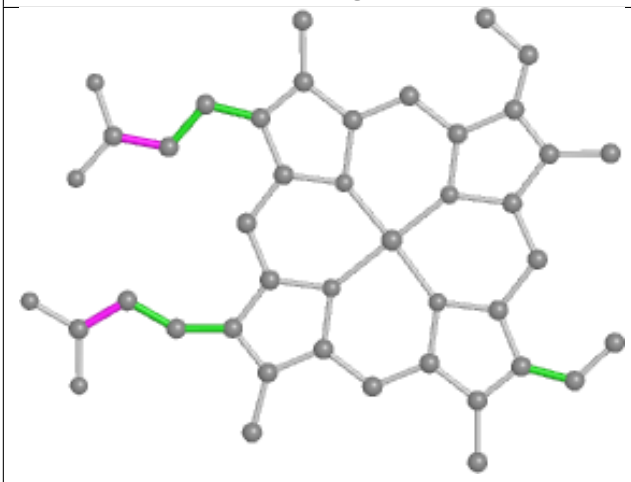
Ligand HEM B 203



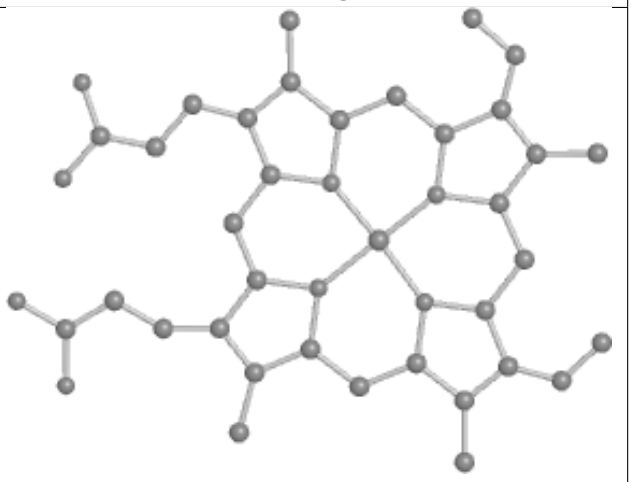
Bond lengths



Bond angles

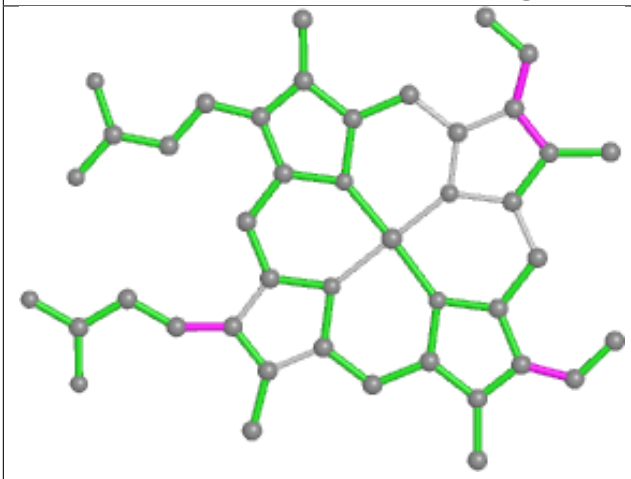


Torsions



Rings

Ligand HEM H 202



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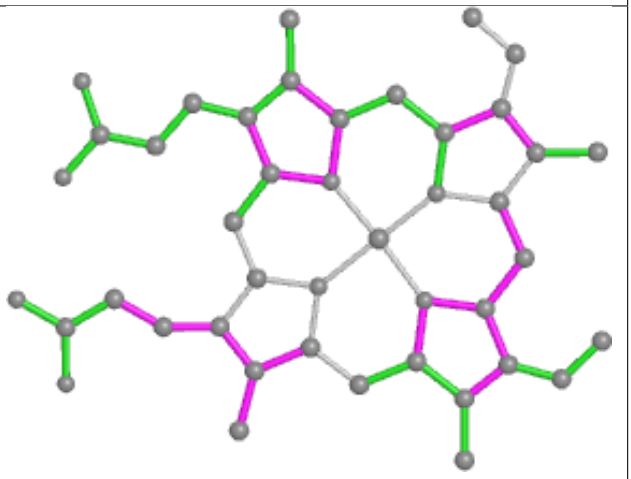

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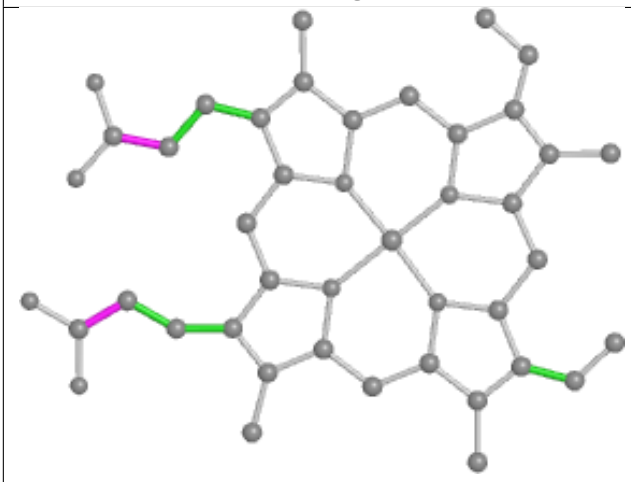

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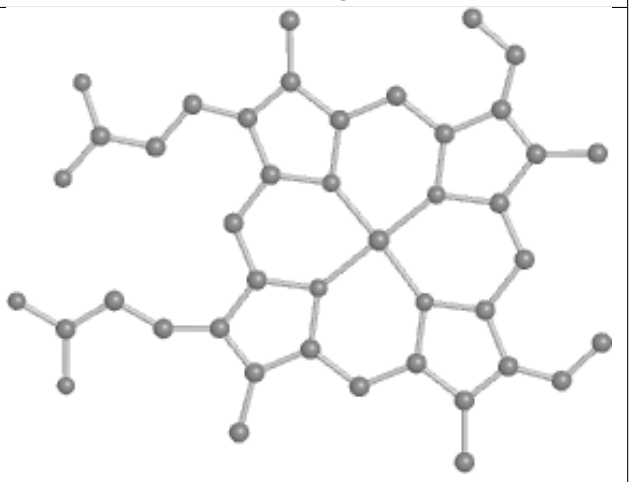
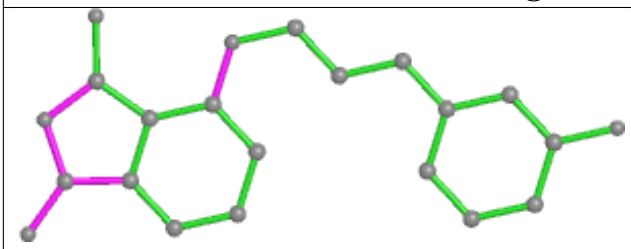


Rings

Ligand KSY E 201



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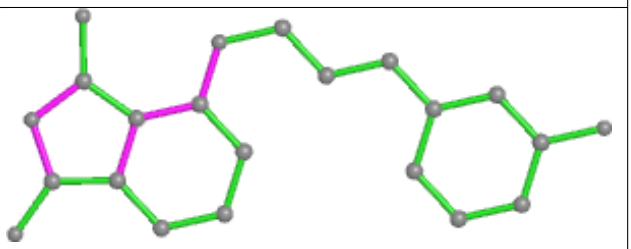

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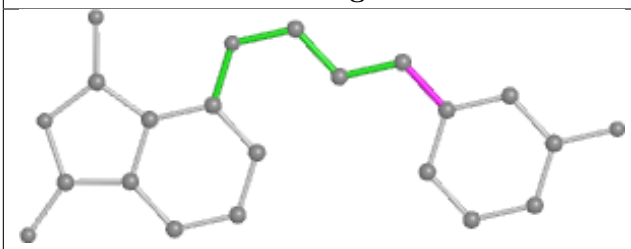

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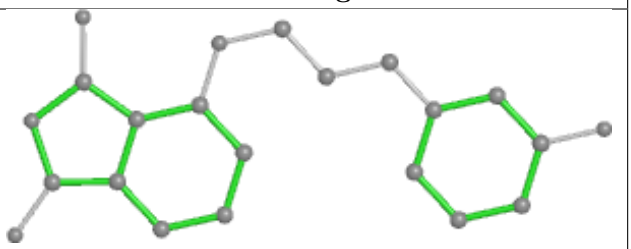
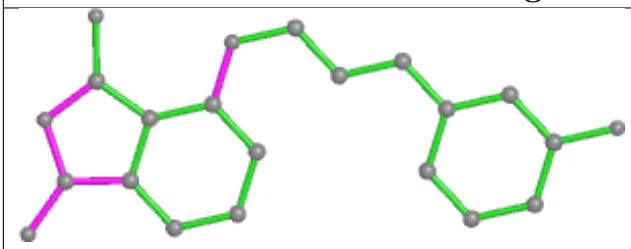


Rings

Ligand KSY B 202



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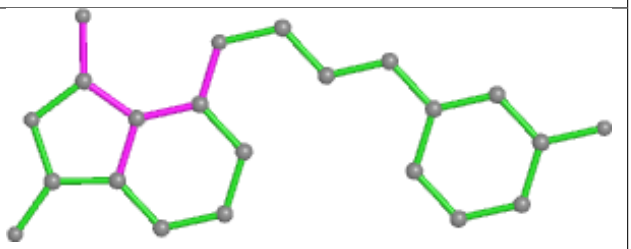

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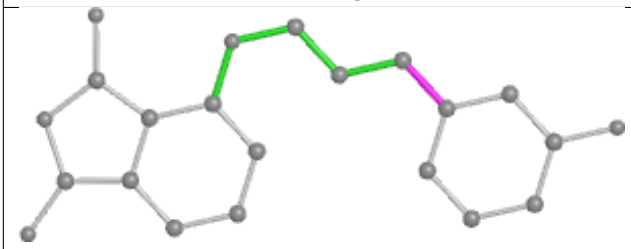

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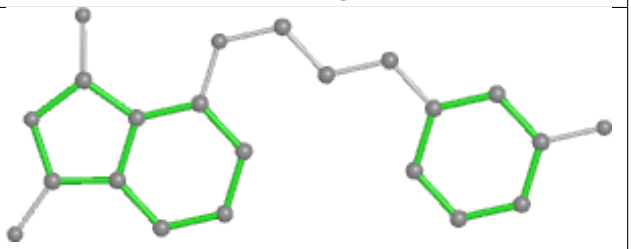
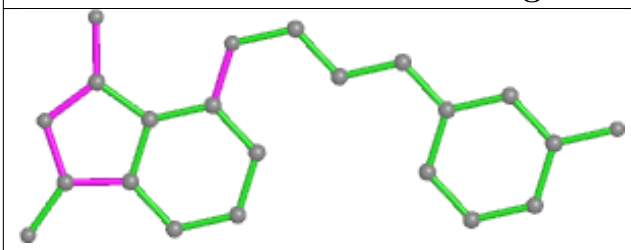


Rings

Ligand KSY A 203



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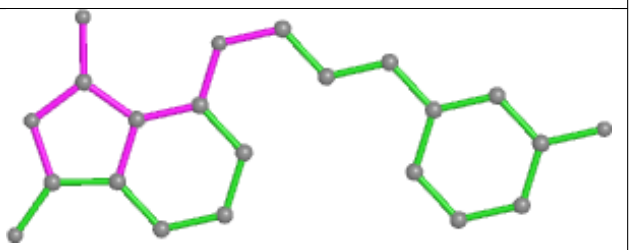

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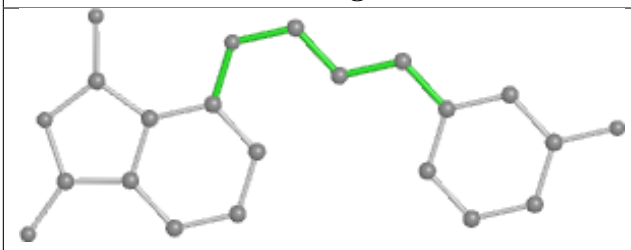

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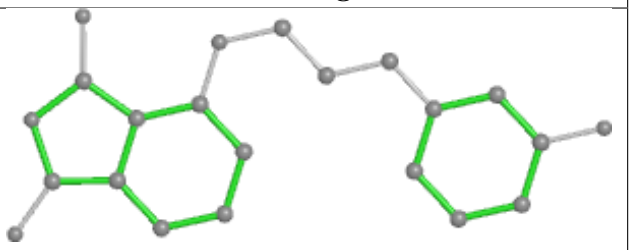
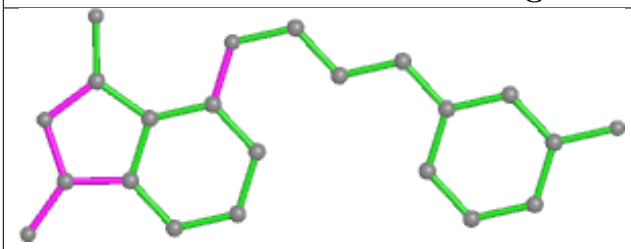


Rings

Ligand KSY F 201



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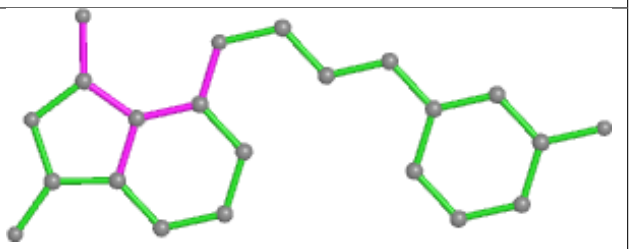
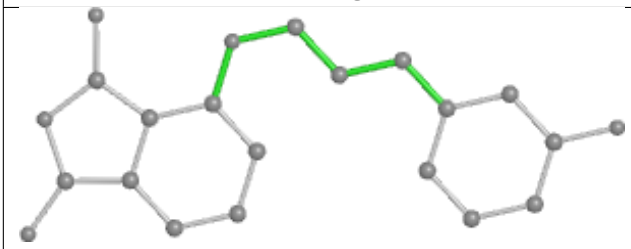


Bond angles



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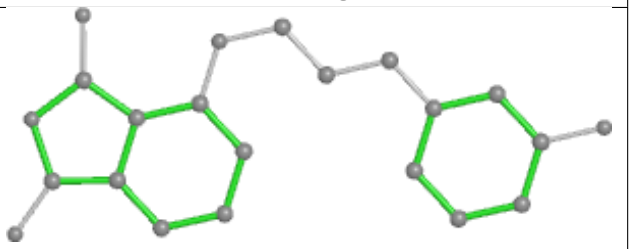
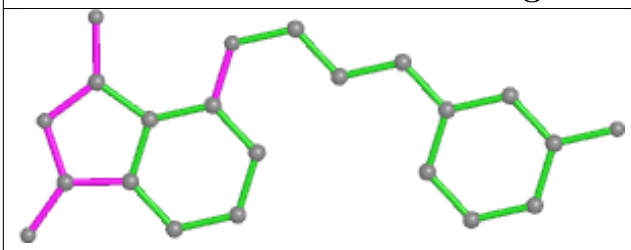


Rings

Ligand KSY A 202



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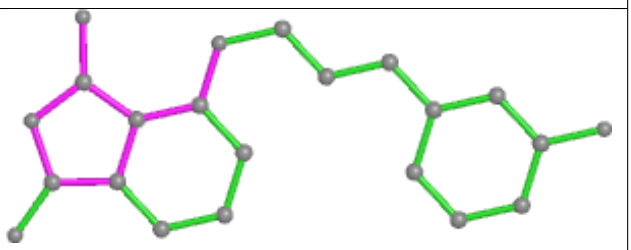

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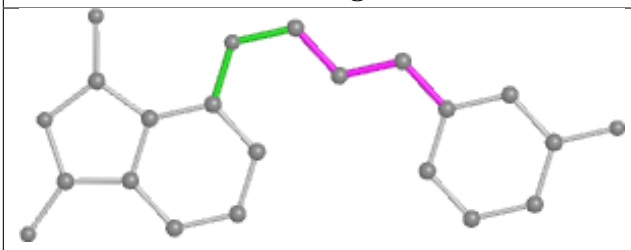

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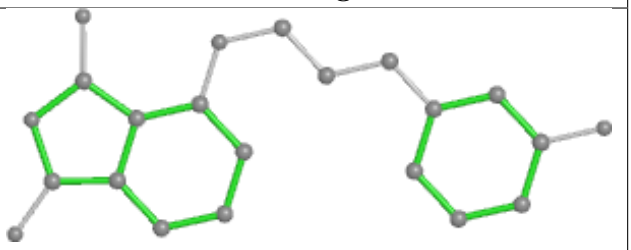

Rings

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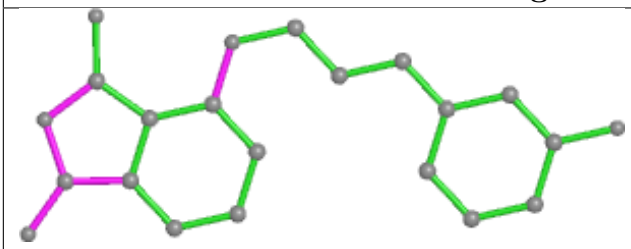

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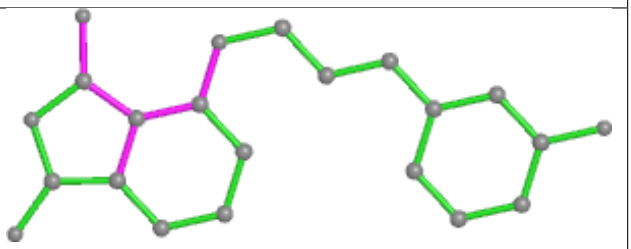

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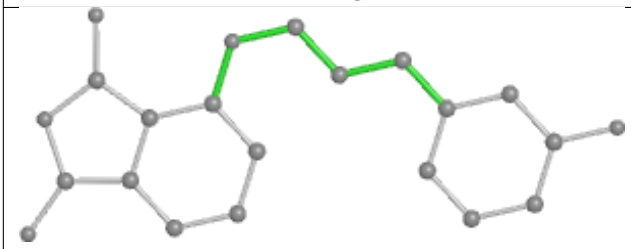

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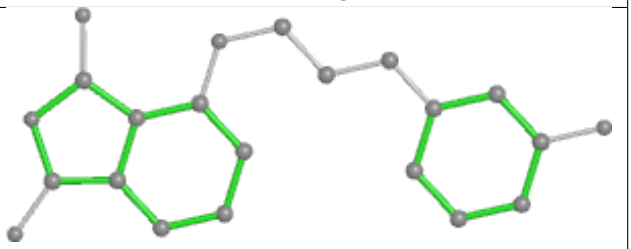
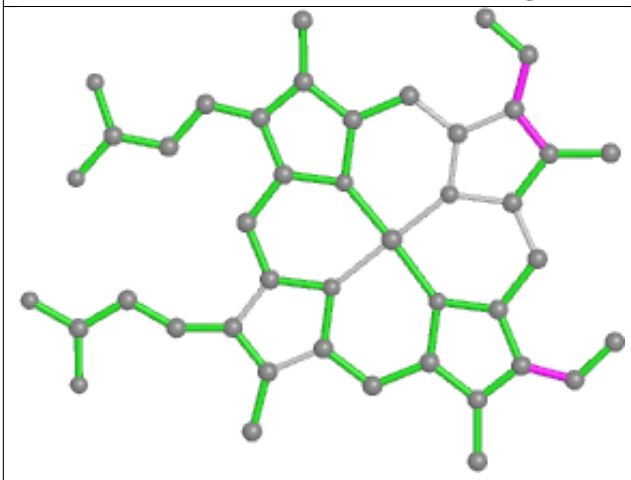


Rings

Ligand HEM L 202



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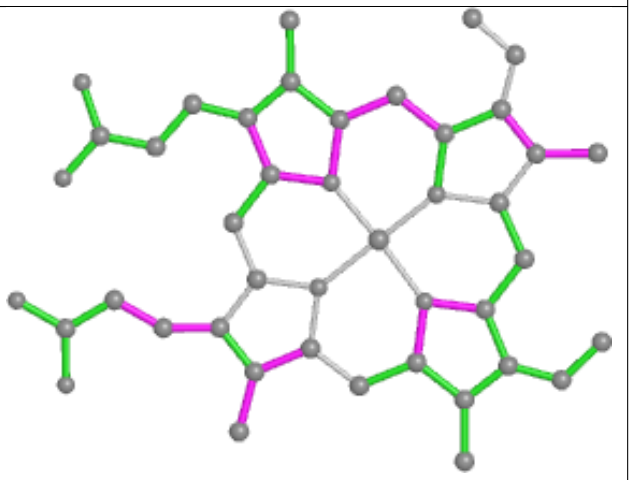
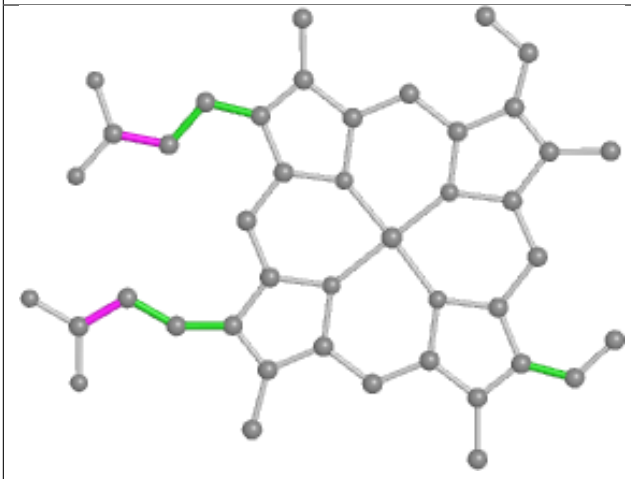


Bond angles



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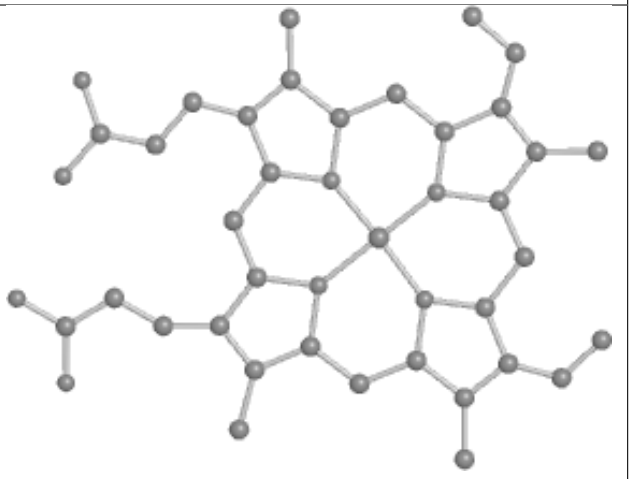
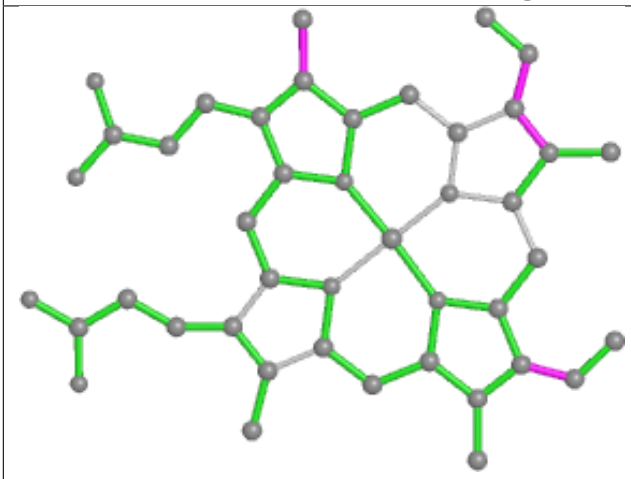


Rings

Ligand HEM C 202



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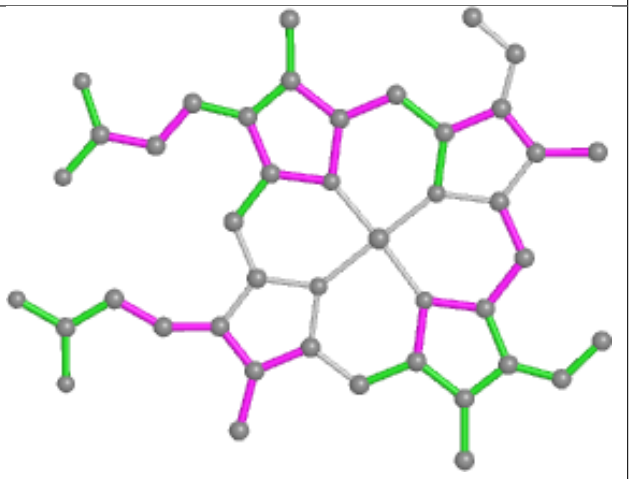

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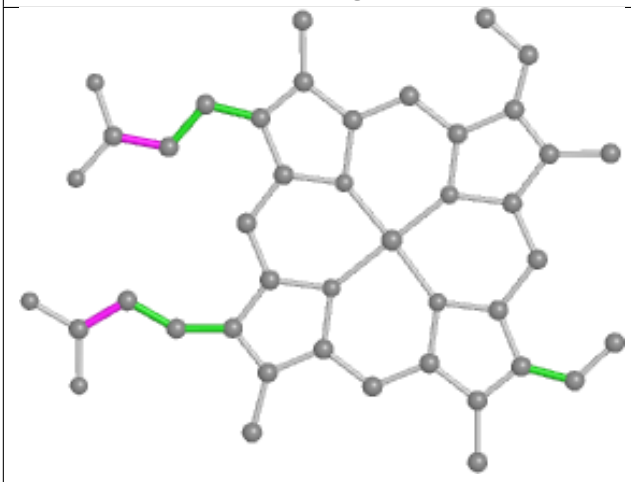

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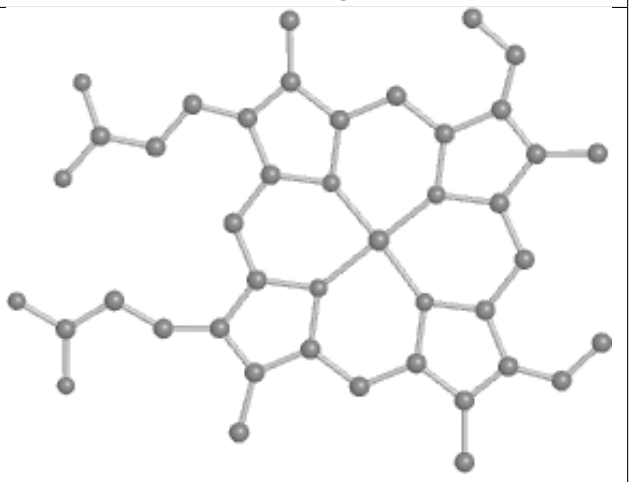
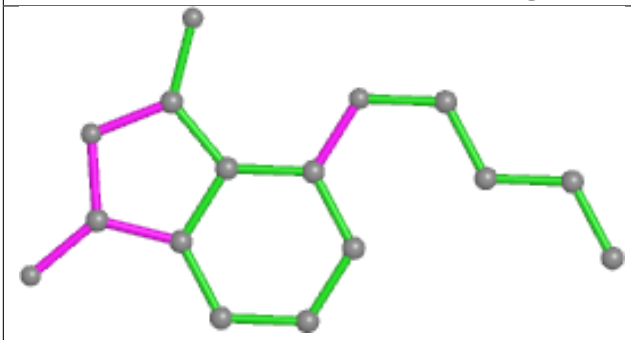


Rings

Ligand KSY H 201



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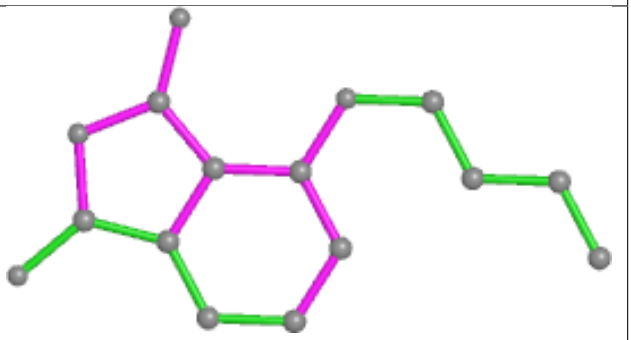
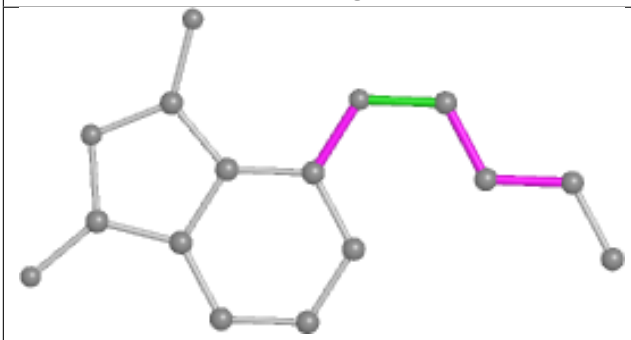


Bond angles



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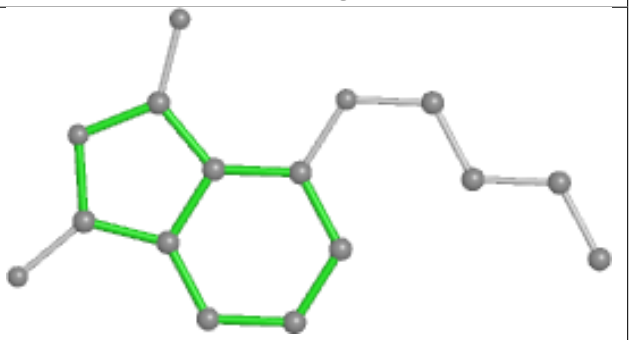
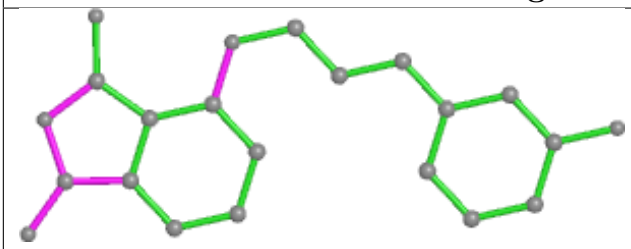


Rings

Ligand KSY J 201



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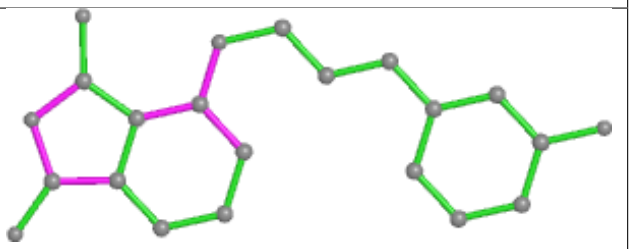
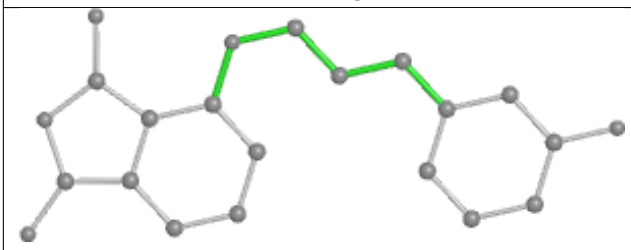


Bond angles



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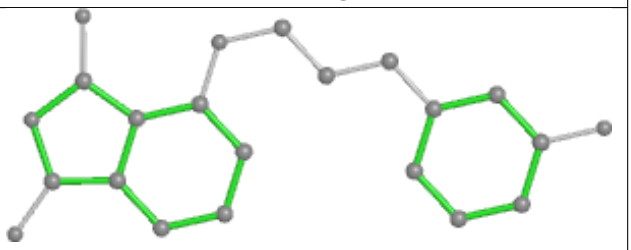
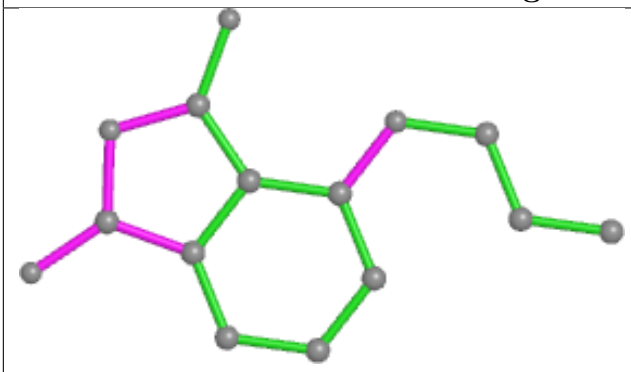


Rings

Ligand KSY K 201



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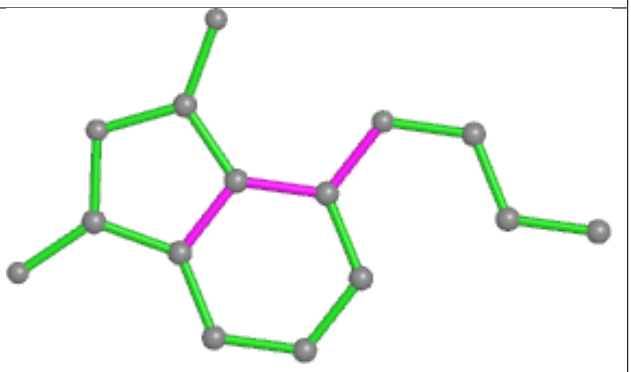

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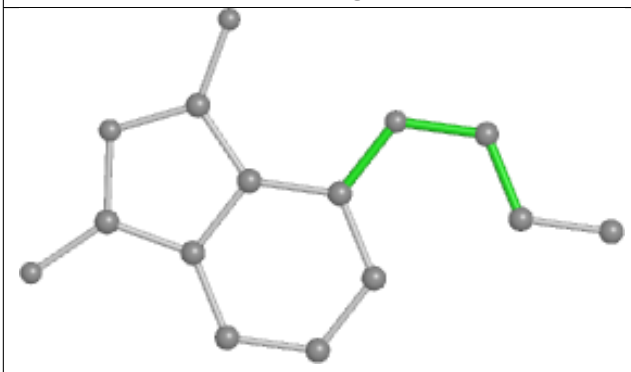

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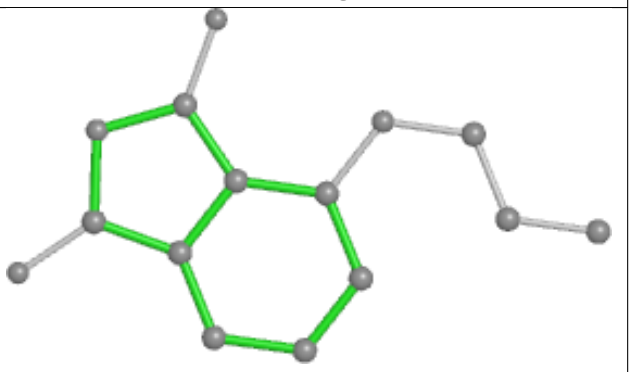
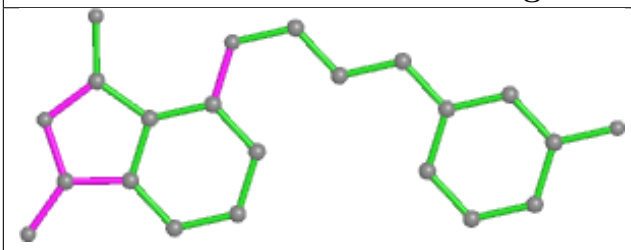


Rings

Ligand KSY D 202



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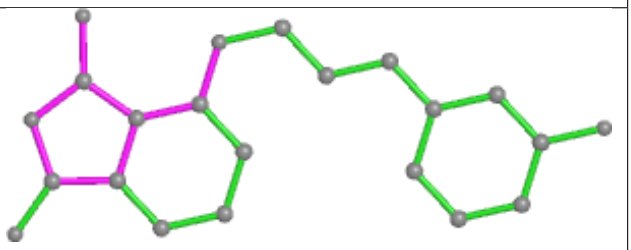
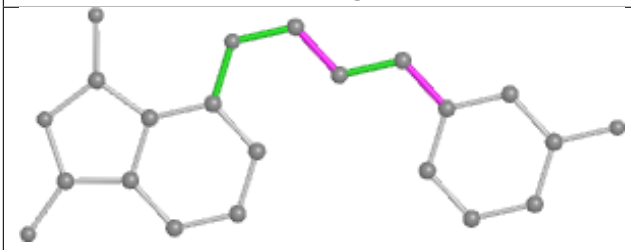


Bond angles



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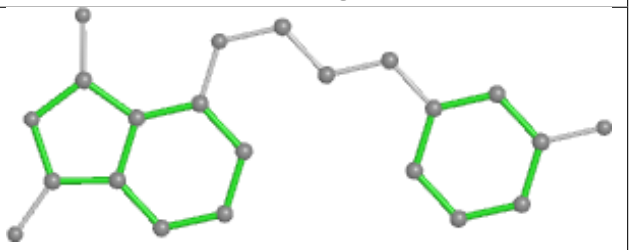
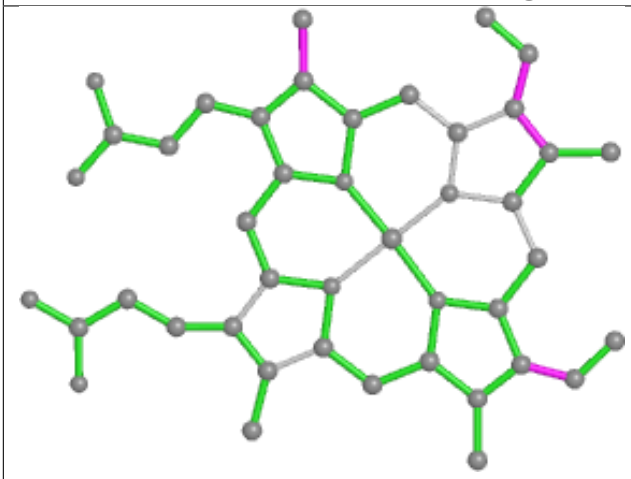


Rings

Ligand HEM F 202



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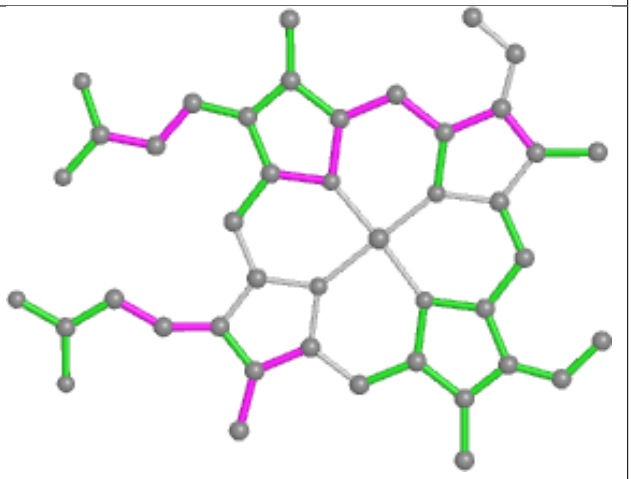
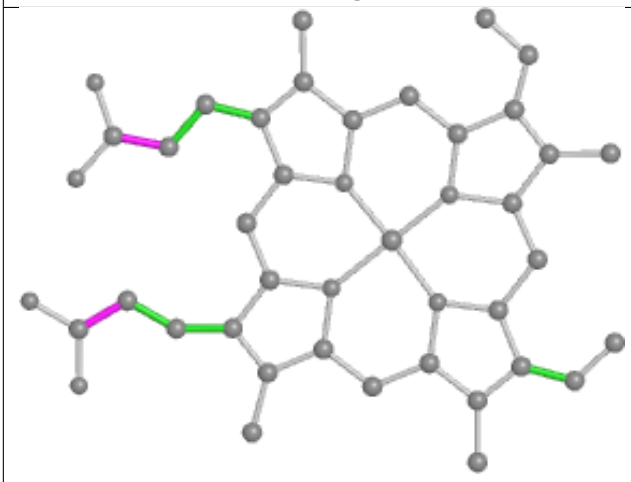
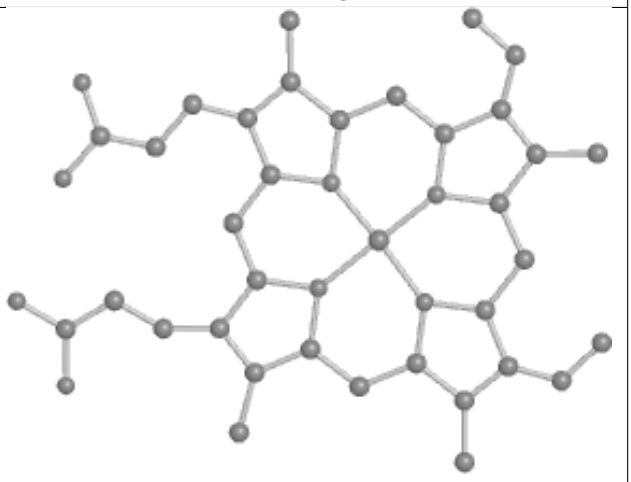


Bond angles

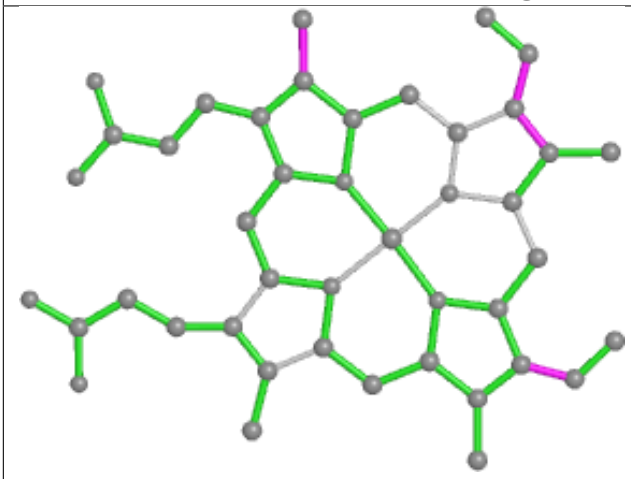


Torsions

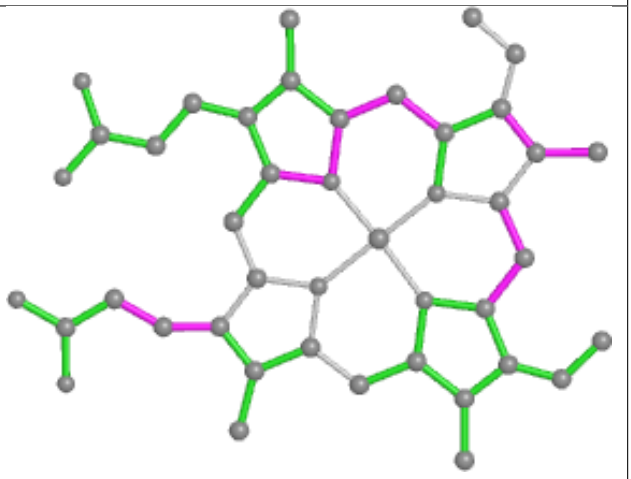


Rings

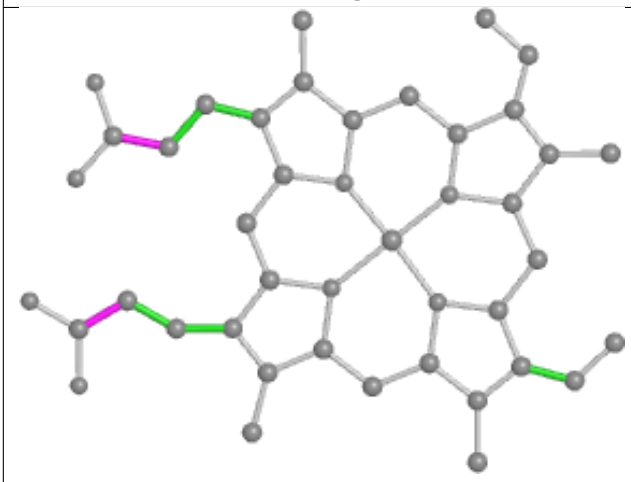
Ligand HEM D 203



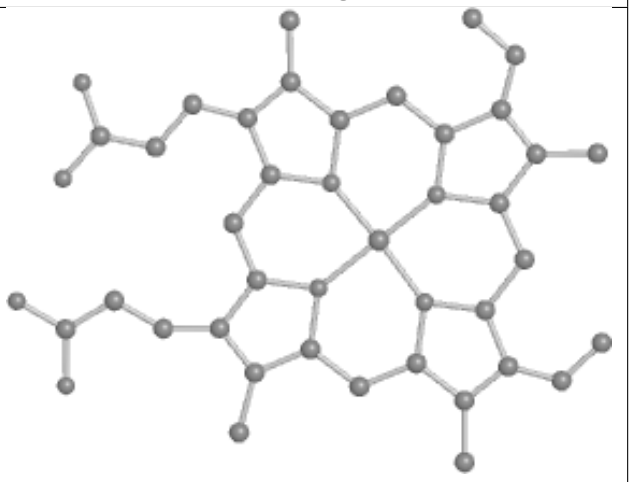
Bond lengths



Bond angles

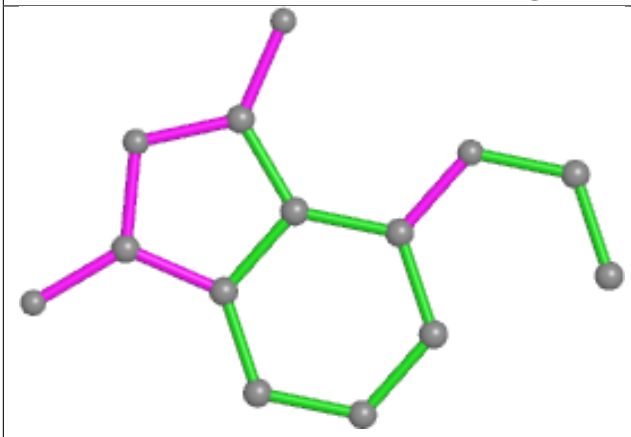


Torsions

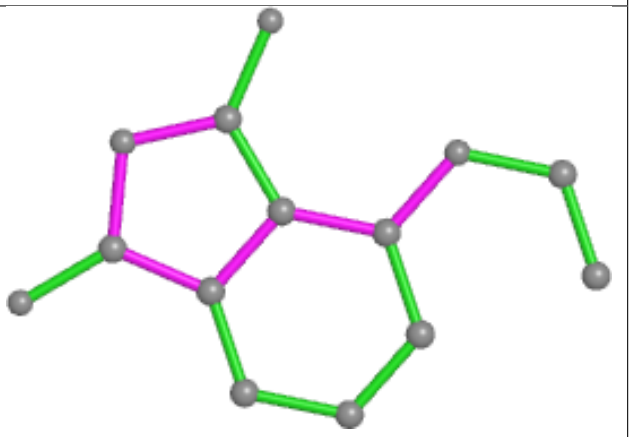


Rings

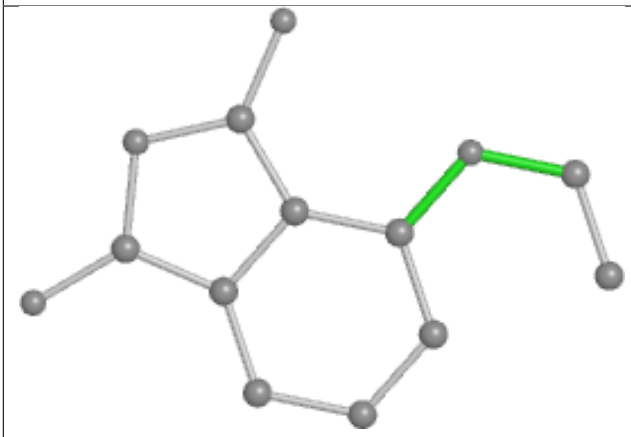
Ligand KSY L 201



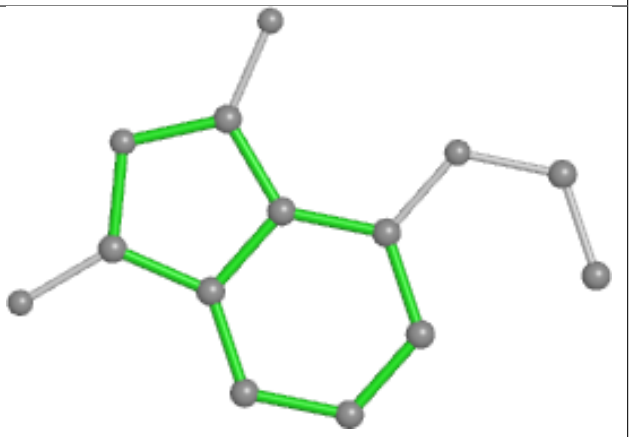
Bond lengths



Bond angles

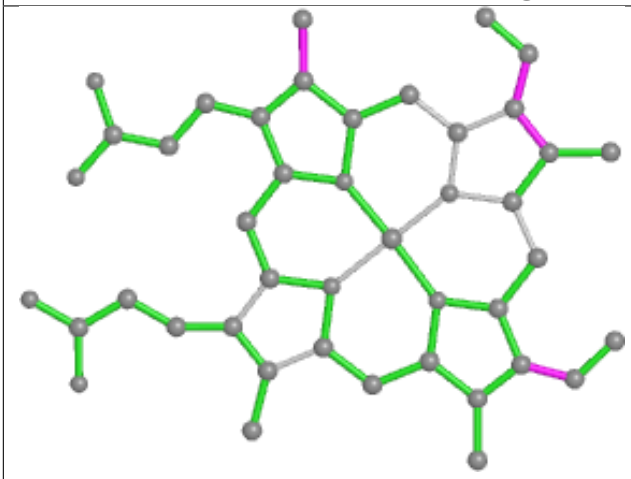


Torsions

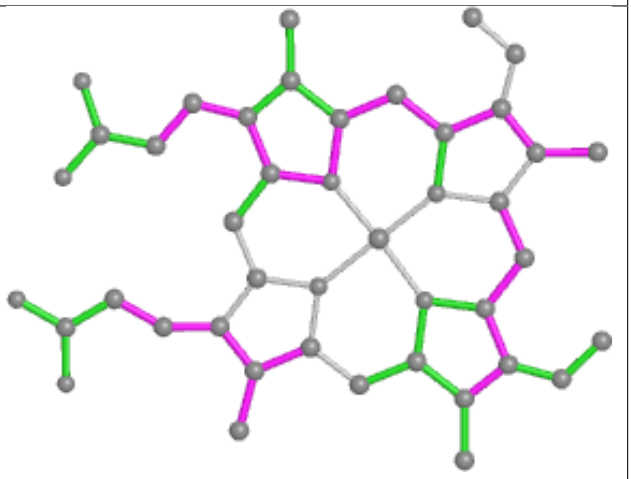


Rings

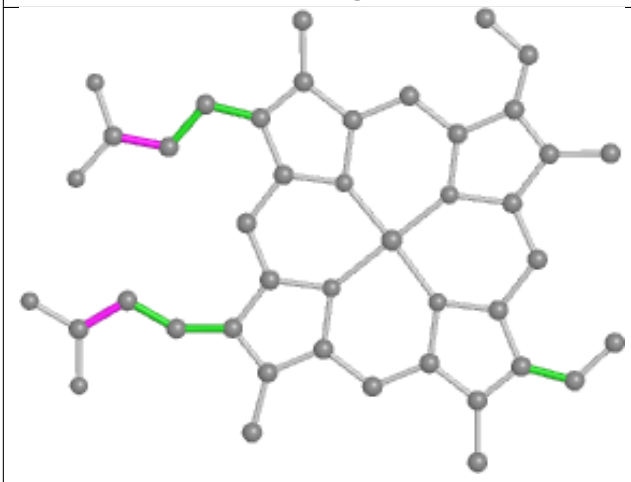
Ligand HEM A 204



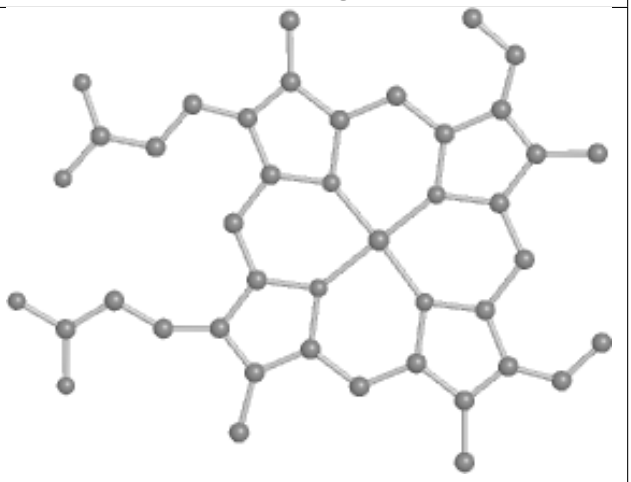
Bond lengths



Bond angles

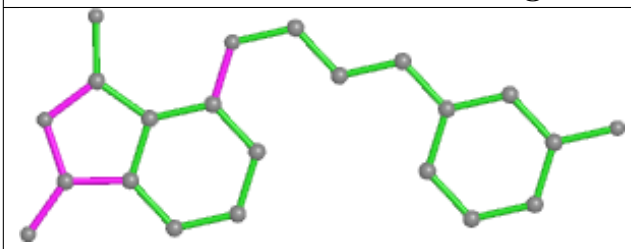


Torsions

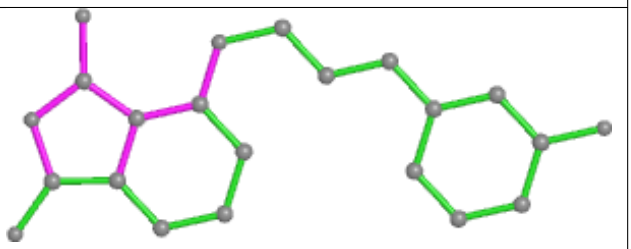


Rings

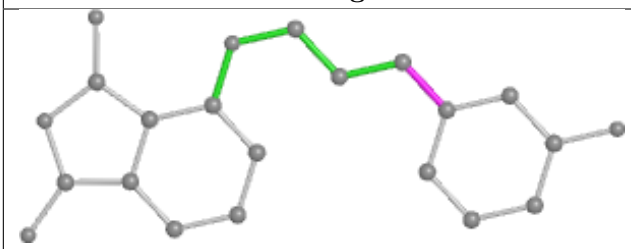
Ligand KSY C 201



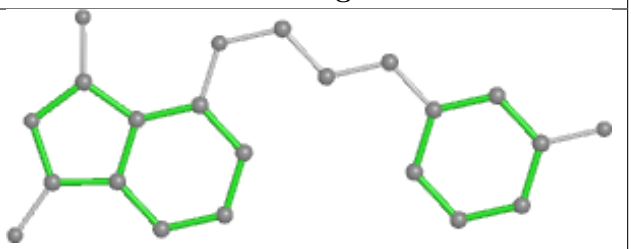
Bond lengths



Bond angles

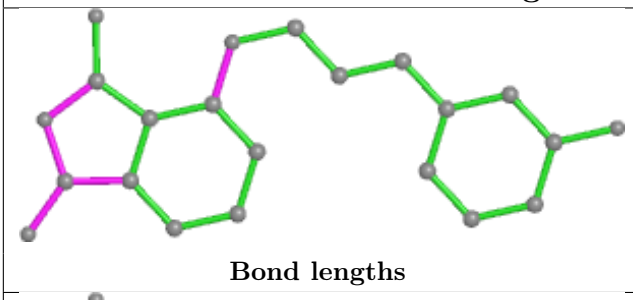


Torsions

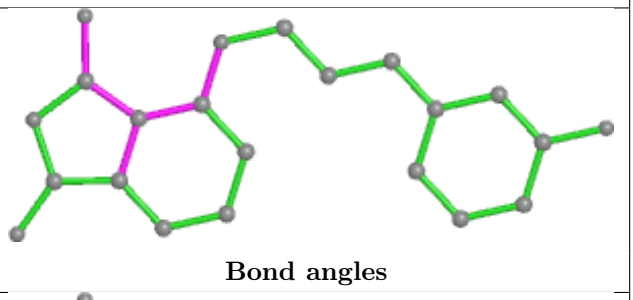


Rings

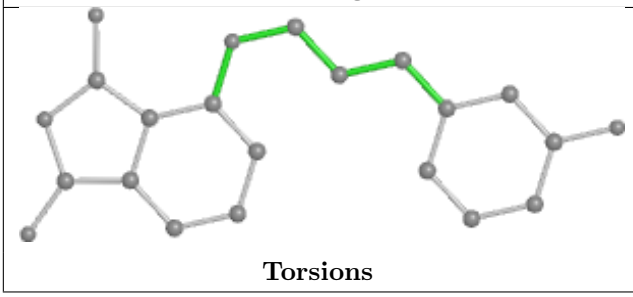
Ligand KSY G 201



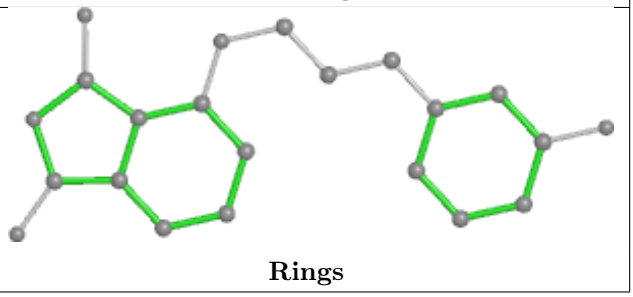
Bond lengths



Bond angles



Torsions



Rings

4.7 Other polymers

There are no such residues in this entry.

4.8 Polymer linkage issues

There are no chain breaks in this entry.

5 Fit of model and data

5.1 Protein, DNA and RNA chains

EDS failed to run properly - this section is therefore empty.

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

EDS failed to run properly - this section is therefore empty.

5.3 Carbohydrates

EDS failed to run properly - this section is therefore empty.

5.4 Ligands

EDS failed to run properly - this section is therefore empty.

5.5 Other polymers

EDS failed to run properly - this section is therefore empty.