Full wwPDB EM Validation Report ⓘ

Nov 17, 2026 – 07:36 PM JST

PDB ID	:	23KK / pdb_000023kk
EMDB ID	:	EMD-69049
Title	:	LHCP-CP29 complex from Mesostigma viride.
Authors	:	Bai, T.Y.; Mao, Z.Y.; Qian, P.; Wang, Y.M.; Tian, L.R.
Deposited on	:	2026-02-09
Resolution	:	2.86 Å(reported)

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

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

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

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

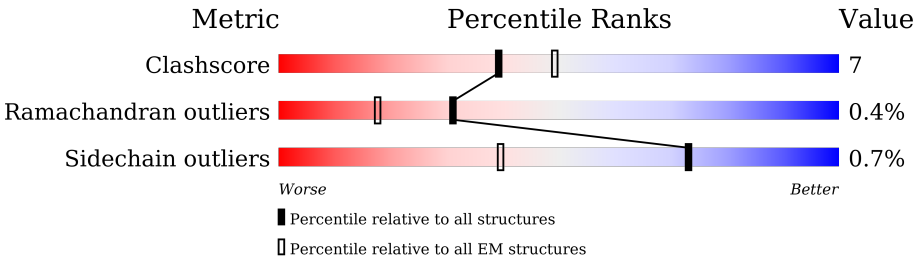
EMDB validation analysis	:	0.0.1.dev133
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.2
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.51

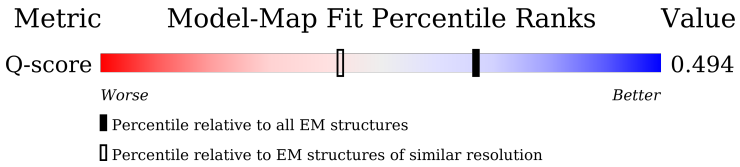
1 Overall quality at a glance

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

The reported resolution of this entry is 2.86 Å.

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





Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	12017 (2.36 - 3.36)

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	0	262	74% 9% 17%
2	Y	267	82% 5% 13%
3	u	306	74% 5% 21%

2 Entry composition (i)

There are 12 unique types of molecules in this entry. The entry contains 8189 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 Chlorophyll a-b binding protein, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	0	218	1684	1083	275	316	10	0	0

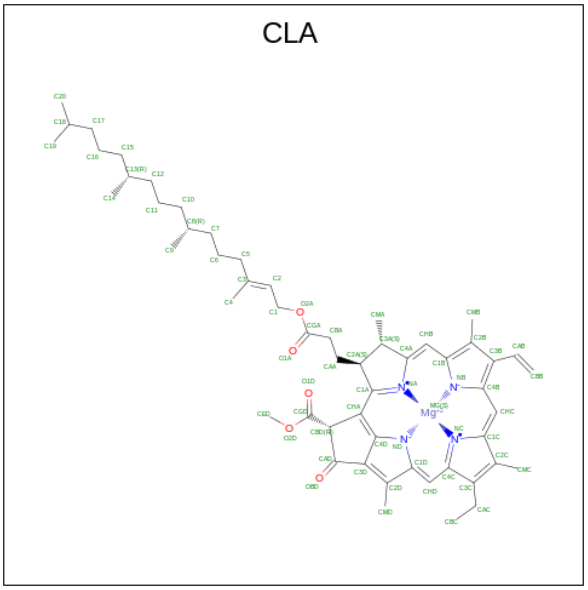
- Molecule 2 is a protein called Chlorophyll a-b binding protein, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	Y	233	1776	1139	295	332	10	0	0

- Molecule 3 is a protein called Chlorophyll a-b binding protein, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	u	242	1843	1183	305	348	7	0	0

- Molecule 4 is CHLOROPHYLL A (CCD ID: CLA) (formula: $C_{55}H_{72}MgN_4O_5$).



Mol	Chain	Residues	Atoms					AltConf
4	0	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
4	0	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
4	0	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
4	0	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
4	0	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
4	0	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
4	0	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
4	0	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
4	0	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
4	0	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
4	Y	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
4	Y	1	Total	C	Mg	N	O	0
			45	35	1	4	5	
4	Y	1	Total	C	Mg	N	O	0
			58	48	1	4	5	
4	Y	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
4	Y	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
4	Y	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
4	Y	1	Total	C	Mg	N	O	0
			50	40	1	4	5	
4	Y	1	Total	C	Mg	N	O	0
			53	43	1	4	5	
4	Y	1	Total	C	Mg	N	O	0
			42	34	1	4	3	
4	Y	1	Total	C	Mg	N	O	0
			43	35	1	4	3	
4	Y	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
4	Y	1	Total	C	Mg	N	O	0
			42	34	1	4	3	

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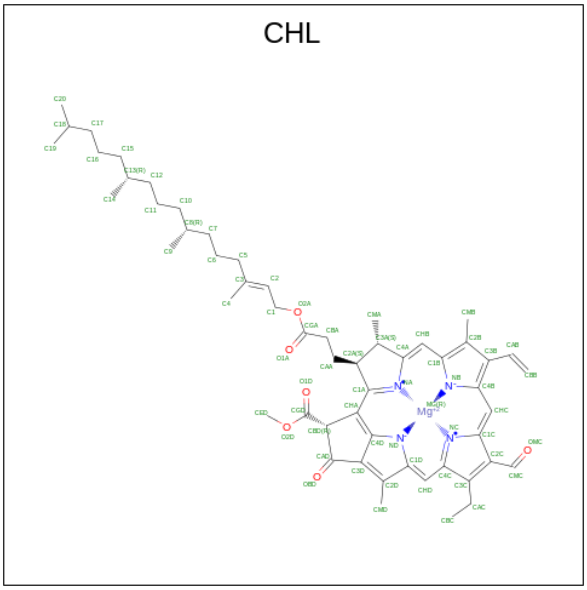
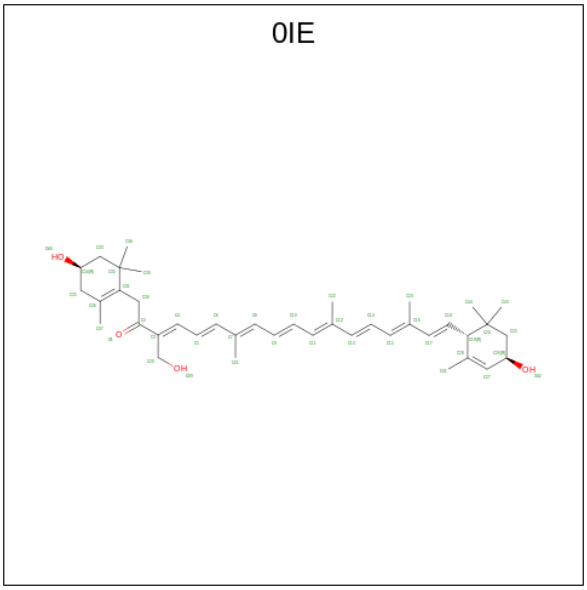
Mol	Chain	Residues	Atoms					AltConf
4	u	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
4	u	1	Total	C	Mg	N	O	0
			61	51	1	4	5	
4	u	1	Total	C	Mg	N	O	0
			52	42	1	4	5	
4	u	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
4	u	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
4	u	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
4	u	1	Total	C	Mg	N	O	0
			56	46	1	4	5	
4	u	1	Total	C	Mg	N	O	0
			65	55	1	4	5	
4	u	1	Total	C	Mg	N	O	0
			55	45	1	4	5	
4	u	1	Total	C	Mg	N	O	0
			60	50	1	4	5	
4	u	1	Total	C	Mg	N	O	0
			42	34	1	4	3	

- Molecule 5 is CHLOROPHYLL B (CCD ID: CHL) (formula: $C_{55}H_{70}MgN_4O_6$).



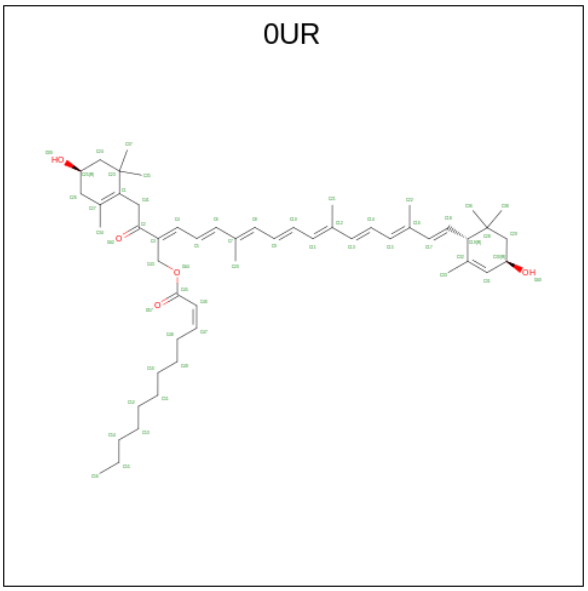
Mol	Chain	Residues	Atoms					AltConf
5	0	1	Total	C	Mg	N	O	0
			43	34	1	4	4	
5	Y	1	Total	C	Mg	N	O	0
			56	45	1	4	6	
5	Y	1	Total	C	Mg	N	O	0
			46	35	1	4	6	
5	u	1	Total	C	Mg	N	O	0
			59	48	1	4	6	
5	u	1	Total	C	Mg	N	O	0
			58	47	1	4	6	
5	u	1	Total	C	Mg	N	O	0
			61	50	1	4	6	

- Molecule 6 is Siphonaxanthin (CCD ID: 0IE) (formula: $C_{40}H_{56}O_4$).



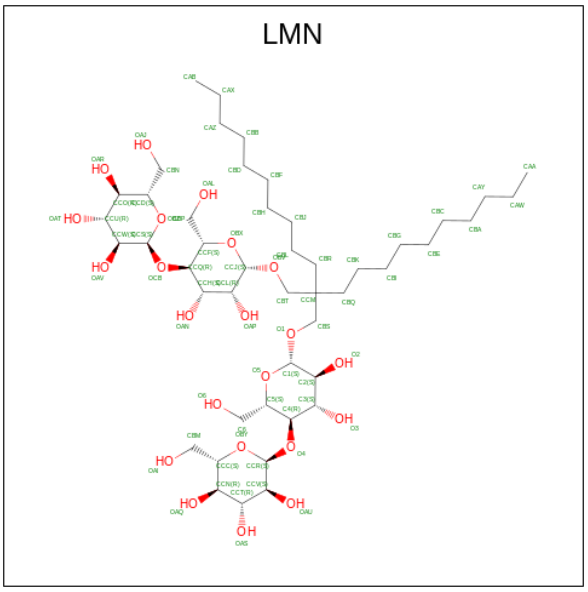
Mol	Chain	Residues	Atoms			AltConf
6	0	1	Total	C	O	0
			44	40	4	
6	Y	1	Total	C	O	0
			44	40	4	
6	Y	1	Total	C	O	0
			44	40	4	

- Molecule 7 is Siphonein (CCD ID: 0UR) (formula: $C_{52}H_{76}O_5$).



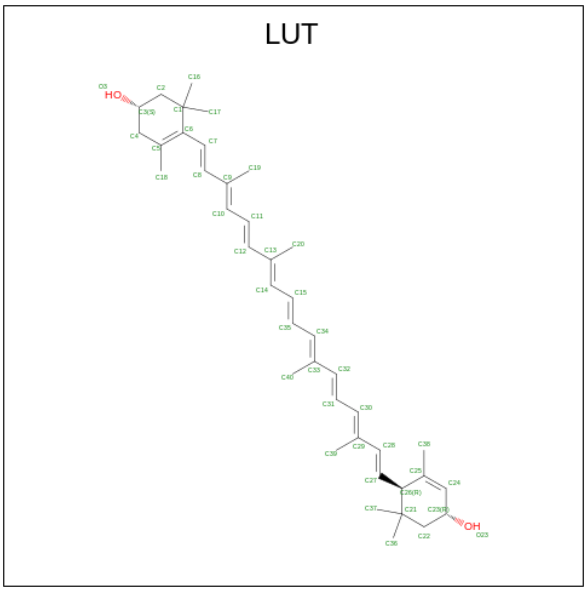
Mol	Chain	Residues	Atoms	AltConf
7	0	1	Total C O 49 44 5	0
7	0	1	Total C O 49 44 5	0
7	Y	1	Total C O 57 52 5	0
7	Y	1	Total C O 50 45 5	0
7	Y	1	Total C O 57 52 5	0
7	Y	1	Total C O 57 52 5	0
7	u	1	Total C O 49 44 5	0

- Molecule 8 is Lauryl Maltose Neopentyl Glycol (CCD ID: LMN) (formula: $C_{47}H_{88}O_{22}$).



Mol	Chain	Residues	Atoms	AltConf
8	Y	1	Total C O 65 43 22	0
8	Y	1	Total C O 69 47 22	0

- Molecule 9 is (3R,3'R,6S)-4,5-DIDEHYDRO-5,6-DIHYDRO-BETA,BETA-CAROTENE-3,3'-DIOL (CCD ID: LUT) (formula: $C_{40}H_{56}O_2$).



Mol	Chain	Residues	Atoms	AltConf
9	Y	1	Total C O 42 40 2	0

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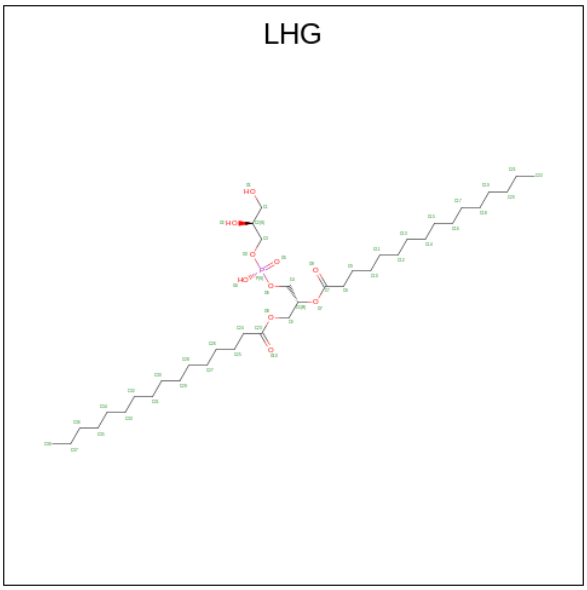
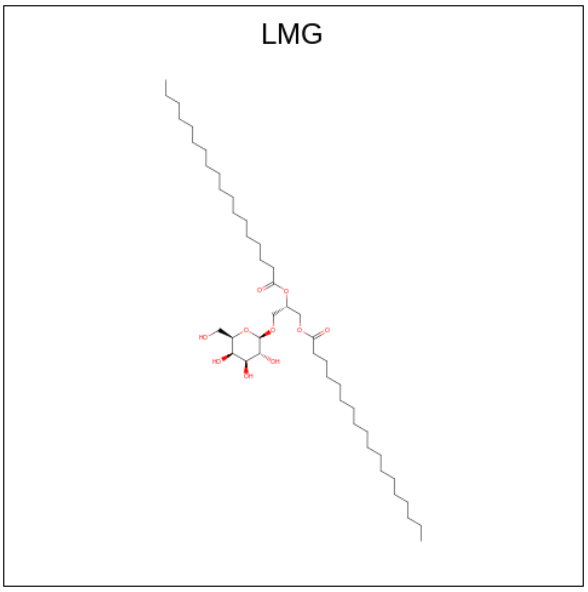
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
9	u	1	42	40	2	0

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



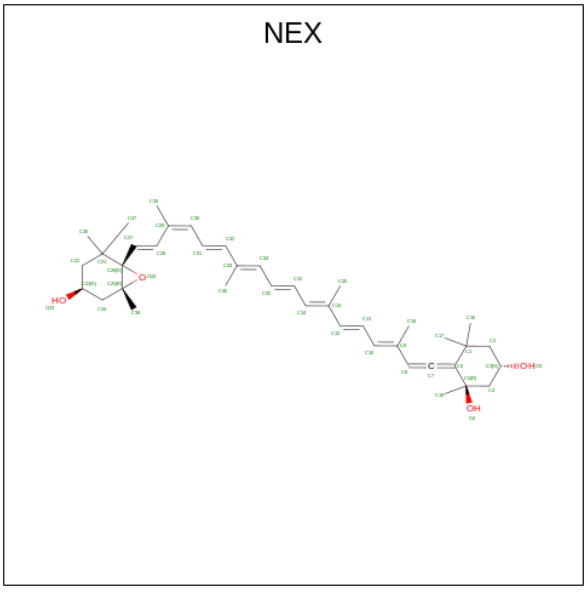
Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
10	u	1	27	16	10	1	0

- Molecule 11 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (CCD ID: LMG) (formula: $C_{45}H_{86}O_{10}$).



Mol	Chain	Residues	Atoms			AltConf
11	u	1	Total	C	O	0
			40	30	10	
11	u	1	Total	C	O	0
			33	23	10	
11	u	1	Total	C	O	0
			32	22	10	

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



Mol	Chain	Residues	Atoms			AltConf
12	u	1	Total	C	O	0
			44	40	4	

3 Residue-property plots (i)

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

• Molecule 1: Chlorophyll a-b binding protein, chloroplastic

Chain 0:

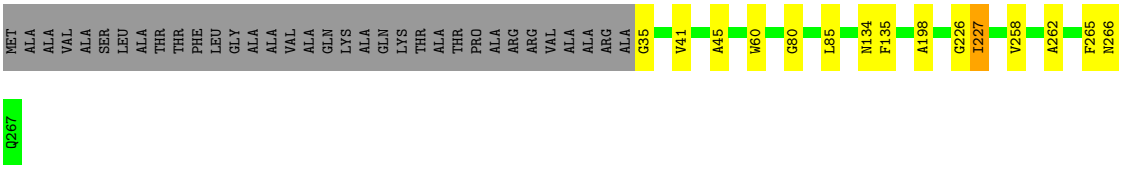




• Molecule 2: Chlorophyll a-b binding protein, chloroplastic

Chain Y:

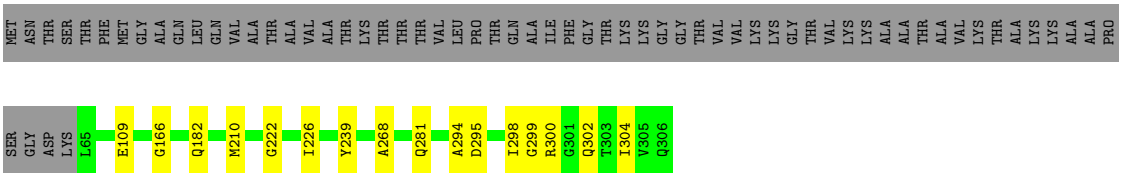




• Molecule 3: Chlorophyll a-b binding protein, chloroplastic

Chain u:





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	299782	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	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	0.687	Depositor
Minimum map value	-0.308	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.014	Depositor
Recommended contour level	0.05	Depositor
Map size (Å)	419.4304, 419.4304, 419.4304	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.8192, 0.8192, 0.8192	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: LMG, LHG, LMN, NEX, 0UR, LUT, CLA, CHL, 0IE

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	0	0.40	3/1735 (0.2%)	0.49	2/2362 (0.1%)
2	Y	0.26	0/1832	0.43	3/2498 (0.1%)
3	u	0.29	0/1886	0.36	0/2561
All	All	0.32	3/5453 (0.1%)	0.43	5/7421 (0.1%)

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
1	0	0	1

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	140	GLY	C-N	-6.65	1.25	1.33
1	0	155	GLY	C-N	-5.86	1.25	1.33
1	0	141	LEU	C-N	5.68	1.42	1.33

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	Y	265	PHE	CB-CA-C	6.27	122.91	110.42
2	Y	266	ASN	N-CA-C	-6.22	104.28	113.61
2	Y	265	PHE	CA-CB-CG	-6.08	107.72	113.80
1	0	140	GLY	O-C-N	-5.84	116.58	122.19
1	0	155	GLY	O-C-N	-5.01	116.18	122.70

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	153	ARG	Sidechain

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	0	1684	0	1585	17	0
2	Y	1776	0	1669	10	0
3	u	1843	0	1833	12	0
4	0	452	0	342	23	0
4	Y	585	0	474	28	0
4	u	632	0	610	18	0
5	0	43	0	29	1	0
5	Y	102	0	78	3	0
5	u	178	0	161	5	0
6	0	44	0	0	0	0
6	Y	88	0	0	1	0
7	0	98	0	0	0	0
7	Y	221	0	0	0	0
7	u	49	0	0	0	0
8	Y	134	0	165	3	0
9	Y	42	0	56	4	0
9	u	42	0	56	4	0
10	u	27	0	24	0	0
11	u	105	0	120	7	0
12	u	44	0	56	4	0
All	All	8189	0	7258	111	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 7.

All (111) 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)
1:0:200:LEU:HD21	4:0:308:CLA:CED	2.01	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:u:182:GLN:NE2	4:u:418:CLA:NA	2.22	0.88
1:0:200:LEU:CD2	4:0:308:CLA:HED2	2.08	0.83
1:0:200:LEU:HD21	4:0:308:CLA:HED2	1.60	0.83
4:Y:303:CLA:HBD	4:Y:303:CLA:HBA1	1.70	0.73
2:Y:45:ALA:HB3	4:Y:303:CLA:HED1	1.71	0.71
9:u:419:LUT:H8	9:u:419:LUT:H171	1.77	0.67
2:Y:35:GLY:N	8:Y:301:LMN:HO3	1.95	0.64
4:Y:313:CLA:HBC3	4:Y:313:CLA:HHD	1.80	0.63
1:0:202:MET:HE1	4:0:301:CLA:CBB	2.30	0.61
9:Y:320:LUT:H8	9:Y:320:LUT:H171	1.85	0.59
4:Y:309:CLA:HBB1	4:Y:309:CLA:HMB3	1.84	0.58
4:Y:304:CLA:HBB1	4:Y:304:CLA:HHC	1.86	0.58
3:u:294:ALA:CB	3:u:302:GLN:NE2	2.68	0.57
9:u:419:LUT:H171	9:u:419:LUT:C8	2.34	0.56
4:Y:309:CLA:H3A	9:Y:320:LUT:H10	1.87	0.56
1:0:80:GLY:HA3	1:0:198:ALA:HB1	1.88	0.56
4:Y:312:CLA:HHC	4:Y:312:CLA:HBB1	1.89	0.54
4:u:417:CLA:HHC	4:u:417:CLA:HBB1	1.89	0.54
4:0:303:CLA:HBB1	4:0:303:CLA:HHC	1.88	0.54
4:Y:308:CLA:HBB1	4:Y:308:CLA:HMB3	1.89	0.54
4:Y:310:CLA:HBB1	4:Y:310:CLA:HHC	1.89	0.54
4:u:414:CLA:HBB1	4:u:414:CLA:HHC	1.90	0.54
4:0:304:CLA:HBB1	4:0:304:CLA:HHC	1.89	0.54
5:Y:315:CHL:HBB1	5:Y:315:CHL:HHC	1.89	0.54
4:u:413:CLA:HBB1	4:u:413:CLA:HMB1	1.90	0.54
4:u:416:CLA:HBB1	4:u:416:CLA:HHC	1.89	0.54
4:u:408:CLA:HBB1	4:u:408:CLA:HMB1	1.89	0.54
4:0:302:CLA:HBB1	4:0:302:CLA:HHC	1.89	0.53
4:u:412:CLA:HBB1	4:u:412:CLA:HHC	1.90	0.53
4:0:311:CLA:HBB1	4:0:311:CLA:HHC	1.90	0.53
4:0:308:CLA:HBB1	4:0:308:CLA:HHC	1.90	0.53
4:0:309:CLA:HBB1	4:0:309:CLA:HHC	1.90	0.53
2:Y:80:GLY:HA3	2:Y:198:ALA:HB1	1.89	0.53
4:0:305:CLA:HBB1	4:0:305:CLA:HHC	1.90	0.53
4:u:418:CLA:HBB1	4:u:418:CLA:HHC	1.91	0.53
11:u:404:LMG:HC8	11:u:404:LMG:O6	2.08	0.53
5:Y:307:CHL:HBB1	5:Y:307:CHL:HHC	1.91	0.52
4:Y:316:CLA:HBB1	4:Y:316:CLA:HHC	1.89	0.52
3:u:239:TYR:HB3	4:u:413:CLA:HED2	1.92	0.52
4:Y:306:CLA:HBB1	4:Y:306:CLA:HHC	1.89	0.52
4:u:405:CLA:HBB1	4:u:405:CLA:HHC	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:u:407:CLA:HBB1	4:u:407:CLA:HHC	1.91	0.52
4:u:415:CLA:HBB1	4:u:415:CLA:HHC	1.91	0.52
5:0:310:CHL:HHC	5:0:310:CHL:HBB1	1.90	0.52
4:Y:313:CLA:HHD	4:Y:313:CLA:CBC	2.40	0.51
3:u:294:ALA:HB1	3:u:302:GLN:NE2	2.25	0.51
5:u:410:CHL:HBB1	5:u:410:CHL:HMB3	1.93	0.51
3:u:166:GLY:HA3	3:u:268:ALA:HB1	1.93	0.51
1:0:118:PHE:CD1	4:0:303:CLA:HBC2	2.46	0.51
4:Y:305:CLA:HBB1	4:Y:305:CLA:HHC	1.93	0.51
9:u:419:LUT:H8	9:u:419:LUT:C17	2.41	0.50
4:0:301:CLA:HHC	4:0:301:CLA:HBB1	1.93	0.50
4:Y:309:CLA:HBA1	9:Y:320:LUT:H10	1.93	0.50
4:0:303:CLA:HBC3	4:0:303:CLA:CMC	2.42	0.49
3:u:281:GLN:NE2	4:u:416:CLA:NA	2.61	0.49
1:0:119:PRO:HD2	4:0:303:CLA:HBC1	1.95	0.49
4:Y:303:CLA:CMB	4:Y:303:CLA:HBB1	2.44	0.48
4:u:412:CLA:O1A	4:u:417:CLA:O1A	2.32	0.48
3:u:298:ILE:HD13	3:u:304:ILE:HG13	1.94	0.47
2:Y:85:LEU:HB3	4:Y:305:CLA:CBB	2.45	0.47
4:Y:311:CLA:H61	4:Y:311:CLA:H41	1.55	0.47
11:u:402:LMG:H301	11:u:402:LMG:C9	2.45	0.47
4:Y:314:CLA:HBB1	4:Y:314:CLA:HMB1	1.97	0.46
4:Y:311:CLA:CGA	4:Y:311:CLA:C3A	2.92	0.46
2:Y:262:ALA:HB1	4:u:418:CLA:HMD2	1.98	0.46
8:Y:301:LMN:CBT	8:Y:301:LMN:H1	2.46	0.46
3:u:295:ASP:HB3	3:u:300:ARG:HD2	1.96	0.46
4:0:307:CLA:HBB1	4:0:307:CLA:HHC	1.97	0.46
3:u:222:GLY:O	3:u:226:ILE:HG12	2.15	0.46
5:Y:307:CHL:HBA1	5:Y:307:CHL:C2	2.46	0.46
1:0:36:SER:O	1:0:37:GLU:C	2.59	0.45
4:Y:311:CLA:O1A	4:Y:311:CLA:C4A	2.64	0.45
5:u:409:CHL:HBB1	5:u:409:CHL:HMB1	1.98	0.45
3:u:294:ALA:HB3	3:u:302:GLN:NE2	2.30	0.45
3:u:299:GLY:O	3:u:300:ARG:C	2.60	0.45
1:0:42:GLU:OE2	4:0:307:CLA:NB	2.50	0.45
4:Y:311:CLA:HAC1	4:Y:311:CLA:HMC1	1.56	0.45
4:Y:303:CLA:H2A	4:Y:303:CLA:O1D	2.17	0.44
2:Y:258:VAL:HG23	4:Y:314:CLA:HMD3	1.99	0.44
4:Y:303:CLA:CMB	4:Y:303:CLA:CBB	2.92	0.44
1:0:60:TRP:CH2	4:0:301:CLA:HMA2	2.53	0.44
11:u:402:LMG:H372	12:u:421:NEX:H35	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:200:LEU:CD2	4:0:308:CLA:CED	2.75	0.44
4:0:306:CLA:HMB1	4:0:306:CLA:HBB1	1.98	0.44
1:0:118:PHE:O	1:0:119:PRO:C	2.58	0.44
5:u:406:CHL:HBB1	5:u:406:CHL:HMB3	1.98	0.43
2:Y:60:TRP:O	2:Y:60:TRP:CE3	2.71	0.43
3:u:210:MET:HB3	11:u:404:LMG:HC92	2.00	0.43
11:u:402:LMG:O1	11:u:402:LMG:O8	2.37	0.43
4:0:303:CLA:HBC3	4:0:303:CLA:HMC1	2.01	0.43
4:0:307:CLA:HBB1	4:u:405:CLA:H62	2.01	0.43
4:Y:303:CLA:CBB	4:Y:303:CLA:HMB1	2.49	0.43
9:Y:320:LUT:H171	9:Y:320:LUT:C8	2.44	0.42
1:0:152:TYR:CE1	1:0:157:ILE:HG21	2.54	0.42
1:0:200:LEU:HD21	4:0:308:CLA:HED3	1.97	0.42
11:u:402:LMG:C19	12:u:421:NEX:H371	2.50	0.42
1:0:135:PHE:O	1:0:136:TYR:HB2	2.19	0.42
4:Y:309:CLA:HMA1	6:Y:319:0IE:C22	2.50	0.42
11:u:404:LMG:O10	11:u:404:LMG:C10	2.68	0.42
2:Y:134:ASN:O	2:Y:135:PHE:HB3	2.20	0.41
4:u:416:CLA:HMA1	9:u:419:LUT:H23	2.02	0.41
1:0:38:GLU:O	1:0:39:VAL:HB	2.21	0.41
4:Y:311:CLA:CGA	4:Y:311:CLA:C4A	2.99	0.41
4:u:405:CLA:H151	4:u:405:CLA:HMB2	2.03	0.41
5:u:409:CHL:HBA1	12:u:421:NEX:H403	2.03	0.41
2:Y:226:GLY:O	2:Y:227:ILE:C	2.65	0.40
2:Y:41:VAL:HG22	8:Y:301:LMN:HBT	2.04	0.40
1:0:157:ILE:O	1:0:158:ASP:C	2.64	0.40
4:Y:303:CLA:HBA1	4:Y:303:CLA:CBD	2.46	0.40
5:u:409:CHL:H93	12:u:421:NEX:H12	2.04	0.40

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	0	214/262 (82%)	181 (85%)	31 (14%)	2 (1%)	14 28
2	Y	231/267 (86%)	208 (90%)	22 (10%)	1 (0%)	30 48
3	u	240/306 (78%)	233 (97%)	7 (3%)	0	100 100
All	All	685/835 (82%)	622 (91%)	60 (9%)	3 (0%)	31 48

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	0	55	ALA
2	Y	227	ILE
1	0	156	LEU

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	0	170/199 (85%)	167 (98%)	3 (2%)	51 73
2	Y	174/194 (90%)	174 (100%)	0	100 100
3	u	191/238 (80%)	190 (100%)	1 (0%)	81 90
All	All	535/631 (85%)	531 (99%)	4 (1%)	73 87

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	0	143	VAL
1	0	144	ILE
1	0	156	LEU
3	u	109	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	197	HIS

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Mol	Chain	Res	Type
2	Y	72	ASN
3	u	292	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

58 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	$\#\|Z\| > 2$
4	CLA	0	304	-	49,53,73	1.38	7 (14%)	59,89,113	1.19	6 (10%)
4	CLA	0	303	-	49,53,73	1.41	8 (16%)	59,89,113	1.18	6 (10%)
4	CLA	u	413	3	60,64,73	1.24	7 (11%)	72,102,113	1.07	4 (5%)
4	CLA	0	306	-	47,51,73	1.41	7 (14%)	56,86,113	1.17	4 (7%)
7	0UR	Y	323	-	55,58,58	0.97	2 (3%)	63,77,77	1.70	14 (22%)
7	0UR	Y	322	-	55,58,58	8.16	41 (74%)	63,77,77	2.63	23 (36%)
6	0IE	0	312	-	42,45,45	3.84	27 (64%)	49,63,63	2.44	14 (28%)
8	LMN	Y	302	-	72,72,72	0.20	0	96,98,98	0.62	2 (2%)
11	LMG	u	403	-	33,33,55	0.28	0	41,41,63	0.91	3 (7%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
12	NEX	u	421	-	38,46,46	1.60	7 (18%)	50,70,70	1.60	10 (20%)
4	CLA	Y	308	-	54,58,73	1.31	6 (11%)	65,95,113	1.06	5 (7%)
4	CLA	0	302	-	49,53,73	1.39	7 (14%)	59,89,113	1.23	6 (10%)
4	CLA	Y	316	-	46,50,73	1.41	7 (15%)	55,85,113	1.17	5 (9%)
4	CLA	u	408	-	56,60,73	1.29	7 (12%)	67,97,113	1.01	4 (5%)
7	0UR	0	313	-	47,50,58	5.63	31 (65%)	55,69,77	2.88	23 (41%)
4	CLA	Y	309	-	54,58,73	1.30	6 (11%)	65,95,113	1.03	4 (6%)
9	LUT	u	419	-	42,43,43	1.65	8 (19%)	51,60,60	1.60	10 (19%)
4	CLA	0	309	1	59,63,73	1.22	7 (11%)	71,101,113	1.11	5 (7%)
4	CLA	Y	303	2	59,63,73	4.06	28 (47%)	71,101,113	1.70	11 (15%)
4	CLA	u	414	10	60,64,73	1.26	8 (13%)	72,102,113	1.08	5 (6%)
9	LUT	Y	320	-	42,43,43	2.21	12 (28%)	51,60,60	2.13	15 (29%)
4	CLA	u	407	3	65,69,73	1.26	8 (12%)	78,108,113	0.98	4 (5%)
8	LMN	Y	301	-	68,68,72	0.25	0	92,94,98	0.48	0
4	CLA	Y	310	2	54,58,73	1.28	7 (12%)	65,95,113	1.12	6 (9%)
11	LMG	u	402	-	40,40,55	0.25	0	48,48,63	0.65	0
7	0UR	u	420	-	47,50,58	0.96	2 (4%)	55,69,77	1.91	12 (21%)
4	CLA	u	411	-	59,63,73	1.26	8 (13%)	71,101,113	0.98	3 (4%)
4	CLA	Y	305	-	62,66,73	1.21	7 (11%)	74,104,113	1.08	5 (6%)
5	CHL	u	409	-	62,66,74	1.18	5 (8%)	70,104,114	0.97	5 (7%)
4	CLA	Y	313	2	47,51,73	3.91	27 (57%)	56,86,113	2.23	17 (30%)
4	CLA	Y	306	2	46,50,73	1.42	6 (13%)	55,85,113	1.21	5 (9%)
5	CHL	0	310	1	47,51,74	1.33	6 (12%)	52,86,114	1.17	5 (9%)
10	LHG	u	401	4	26,26,48	0.38	0	29,32,54	0.43	0
11	LMG	u	404	-	32,32,55	0.29	0	40,40,63	0.72	1 (2%)
4	CLA	Y	304	2	49,53,73	1.39	7 (14%)	59,89,113	1.19	6 (10%)
7	0UR	0	314	-	47,50,58	7.96	31 (65%)	55,69,77	2.85	20 (36%)
4	CLA	u	405	3	69,73,73	1.20	8 (11%)	83,113,113	0.98	5 (6%)
4	CLA	0	305	1	46,50,73	1.41	6 (13%)	55,85,113	1.22	5 (9%)
7	0UR	Y	318	-	48,51,58	9.31	36 (75%)	56,70,77	2.94	22 (39%)
6	0IE	Y	321	-	42,45,45	8.41	34 (80%)	49,63,63	2.85	20 (40%)
5	CHL	u	410	-	65,69,74	1.17	7 (10%)	74,108,114	1.00	4 (5%)
5	CHL	Y	307	-	60,64,74	1.21	7 (11%)	68,102,114	1.18	6 (8%)
4	CLA	u	415	3	69,73,73	1.14	6 (8%)	83,113,113	1.09	6 (7%)
4	CLA	0	308	-	46,50,73	1.44	7 (15%)	55,85,113	1.18	5 (9%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	CLA	Y	314	2	59,63,73	1.26	9 (15%)	71,101,113	0.99	4 (5%)
4	CLA	u	416	3	59,63,73	1.23	7 (11%)	71,101,113	1.07	5 (7%)
4	CLA	u	412	3	69,73,73	1.17	6 (8%)	83,113,113	1.13	7 (8%)
4	CLA	u	417	3	64,68,73	1.25	7 (10%)	77,107,113	1.33	11 (14%)
7	0UR	Y	317	-	55,58,58	6.87	32 (58%)	63,77,77	2.21	20 (31%)
4	CLA	0	307	1	49,53,73	2.62	19 (38%)	59,89,113	2.03	19 (32%)
5	CHL	u	406	3	63,67,74	1.16	7 (11%)	71,105,114	0.99	4 (5%)
6	0IE	Y	319	-	42,45,45	6.34	31 (73%)	49,63,63	4.76	29 (59%)
4	CLA	u	418	3	46,50,73	1.39	7 (15%)	55,85,113	1.19	4 (7%)
4	CLA	Y	312	2	46,50,73	1.45	8 (17%)	55,85,113	1.16	4 (7%)
4	CLA	0	301	1	49,53,73	1.31	7 (14%)	59,89,113	1.21	6 (10%)
4	CLA	Y	311	2	57,61,73	5.08	36 (63%)	68,98,113	3.02	25 (36%)
5	CHL	Y	315	2	50,54,74	1.32	7 (14%)	56,90,114	1.13	4 (7%)
4	CLA	0	311	1	49,53,73	1.38	7 (14%)	59,89,113	1.12	5 (8%)

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	CLA	0	304	-	-	4/15/91/115	-
4	CLA	0	303	-	-	6/15/91/115	-
4	CLA	u	413	3	-	6/29/105/115	-
4	CLA	0	306	-	-	1/13/89/115	-
7	0UR	Y	323	-	-	13/47/86/86	0/2/2/2
7	0UR	Y	322	-	-	17/47/86/86	0/2/2/2
6	0IE	0	312	-	-	17/33/72/72	0/2/2/2
8	LMN	Y	302	-	-	17/50/130/130	0/4/4/4
11	LMG	u	403	-	-	3/28/48/70	0/1/1/1
12	NEX	u	421	-	-	13/27/83/83	0/3/3/3
4	CLA	Y	308	-	-	2/21/97/115	-
4	CLA	0	302	-	-	4/15/91/115	-
4	CLA	Y	316	-	-	0/12/88/115	-
4	CLA	u	408	-	-	4/24/100/115	-
7	0UR	0	313	-	-	17/39/78/86	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	CLA	Y	309	-	-	1/21/97/115	-
9	LUT	u	419	-	-	2/29/67/67	0/2/2/2
4	CLA	0	309	1	-	4/27/103/115	-
4	CLA	Y	303	2	-	14/27/103/115	-
4	CLA	u	414	10	-	3/29/105/115	-
9	LUT	Y	320	-	-	22/29/67/67	0/2/2/2
4	CLA	u	407	3	-	7/35/111/115	-
8	LMN	Y	301	-	-	18/46/126/130	0/4/4/4
4	CLA	Y	310	2	-	0/21/97/115	-
11	LMG	u	402	-	-	2/35/55/70	0/1/1/1
7	0UR	u	420	-	-	7/39/78/86	0/2/2/2
4	CLA	u	411	-	-	1/27/103/115	-
4	CLA	Y	305	-	-	1/31/107/115	-
5	CHL	u	409	-	-	1/32/108/117	-
4	CLA	Y	313	2	-	9/13/89/115	-
4	CLA	Y	306	2	-	2/12/88/115	-
5	CHL	0	310	1	-	1/14/90/117	-
10	LHG	u	401	4	-	6/31/31/53	-
11	LMG	u	404	-	-	1/27/47/70	0/1/1/1
4	CLA	Y	304	2	-	2/15/91/115	-
7	0UR	0	314	-	-	14/39/78/86	0/2/2/2
4	CLA	u	405	3	-	9/39/115/115	-
4	CLA	0	305	1	-	3/12/88/115	-
7	0UR	Y	318	-	-	9/40/79/86	0/2/2/2
6	0IE	Y	321	-	-	3/33/72/72	0/2/2/2
5	CHL	u	410	-	-	5/35/111/117	-
5	CHL	Y	307	-	-	7/29/105/117	-
4	CLA	u	415	3	-	8/39/115/115	-
4	CLA	0	308	-	-	0/12/88/115	-
4	CLA	Y	314	2	-	1/27/103/115	-
4	CLA	u	416	3	-	4/27/103/115	-
4	CLA	u	412	3	-	8/39/115/115	-
4	CLA	u	417	3	-	11/33/109/115	-
7	0UR	Y	317	-	-	9/47/86/86	0/2/2/2
4	CLA	0	307	1	-	3/15/91/115	-
5	CHL	u	406	3	-	2/33/109/117	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	0IE	Y	319	-	-	5/33/72/72	0/2/2/2
4	CLA	u	418	3	-	4/12/88/115	-
4	CLA	Y	312	2	-	1/12/88/115	-
4	CLA	0	301	1	-	3/15/91/115	-
4	CLA	Y	311	2	-	14/25/101/115	-
5	CHL	Y	315	2	-	3/17/93/117	-
4	CLA	0	311	1	-	1/15/91/115	-

All (648) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	Y	318	0UR	C43-C3	-27.47	1.13	1.50
7	Y	318	0UR	C29-C28	-24.66	1.23	1.54
7	0	314	0UR	C29-C28	-23.09	1.25	1.54
7	0	313	0UR	C29-C28	-21.93	1.27	1.54
7	Y	322	0UR	C29-C28	-20.80	1.28	1.54
6	Y	319	0IE	C25-C24	-20.41	1.29	1.54
7	Y	322	0UR	C43-C3	-20.08	1.23	1.50
7	Y	318	0UR	C37-C23	-18.34	1.17	1.53
6	Y	321	0IE	C20-C3	-18.33	1.17	1.51
6	Y	321	0IE	C35-C36	-17.47	1.23	1.51
7	Y	322	0UR	C29-C30	-16.30	1.25	1.53
6	Y	321	0IE	C25-C24	-16.28	1.34	1.54
4	Y	311	CLA	MG-ND	-15.91	1.74	2.05
7	Y	317	0UR	C24-C25	-15.74	1.29	1.52
4	Y	303	CLA	MG-NB	-15.41	1.75	2.05
7	Y	317	0UR	C35-C23	-15.24	1.23	1.53
7	Y	317	0UR	C29-C28	-14.92	1.36	1.54
7	Y	318	0UR	C23-C1	-14.73	1.21	1.53
7	0	314	0UR	C36-C28	-14.28	1.22	1.53
7	Y	318	0UR	C30-C31	-14.27	1.29	1.50
7	Y	322	0UR	C33-C32	-13.89	1.24	1.50
7	Y	318	0UR	C26-C27	-13.79	1.29	1.51
7	Y	322	0UR	C26-C27	-13.65	1.29	1.51
6	Y	321	0IE	C33-C34	-13.63	1.32	1.52
7	0	314	0UR	C38-C28	-13.45	1.24	1.53
7	Y	317	0UR	C37-C23	-13.32	1.27	1.53
7	Y	318	0UR	C29-C30	-13.27	1.30	1.53
7	0	314	0UR	C24-C25	-13.22	1.33	1.52
7	Y	322	0UR	C30-C31	-12.89	1.31	1.50
7	Y	318	0UR	C34-C27	-12.84	1.29	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	0	314	0UR	C34-C27	-12.72	1.30	1.50
7	Y	322	0UR	C21-C12	-12.41	1.25	1.50
7	Y	322	0UR	C34-C27	-12.19	1.30	1.50
7	0	314	0UR	C43-C3	-12.16	1.33	1.50
7	Y	317	0UR	C43-C3	-12.07	1.34	1.50
7	Y	317	0UR	C26-C27	-12.00	1.32	1.51
7	0	314	0UR	C37-C23	-11.94	1.30	1.53
7	0	314	0UR	C30-C31	-11.91	1.33	1.50
7	Y	318	0UR	C33-C32	-11.90	1.28	1.50
4	Y	313	CLA	MG-ND	-11.69	1.82	2.05
6	Y	321	0IE	C39-C32	-11.67	1.30	1.53
7	Y	317	0UR	C26-C25	-11.65	1.31	1.52
7	0	314	0UR	C26-C27	-11.61	1.33	1.51
6	Y	321	0IE	C21-C7	-11.60	1.26	1.50
4	Y	311	CLA	MG-NC	-11.53	1.78	2.06
7	Y	317	0UR	O42-C2	-11.43	1.00	1.23
7	Y	318	0UR	O42-C2	-11.42	1.00	1.23
6	Y	321	0IE	C38-C32	-11.34	1.31	1.53
7	Y	322	0UR	C37-C23	-11.30	1.31	1.53
6	Y	321	0IE	C26-C27	-11.17	1.34	1.50
6	Y	319	0IE	C44-C24	-11.10	1.29	1.53
6	Y	321	0IE	C33-C32	-11.10	1.20	1.54
6	Y	321	0IE	C32-C31	-11.08	1.29	1.53
7	Y	318	0UR	C21-C12	-10.85	1.28	1.50
7	0	314	0UR	C35-C23	-10.81	1.32	1.53
4	Y	311	CLA	C1D-ND	-10.78	1.24	1.37
7	Y	322	0UR	C31-C32	-10.72	1.19	1.33
7	0	314	0UR	C27-C1	-10.72	1.19	1.34
7	Y	317	0UR	C23-C1	-10.65	1.30	1.53
7	Y	317	0UR	C29-C30	-10.57	1.35	1.53
7	0	314	0UR	C20-C7	-10.56	1.29	1.50
7	Y	318	0UR	C20-C7	-10.55	1.29	1.50
6	Y	319	0IE	C41-C28	-10.48	1.31	1.50
7	0	313	0UR	C26-C27	-10.33	1.35	1.51
6	Y	321	0IE	C37-C36	-10.33	1.34	1.50
7	Y	318	0UR	C31-C32	-10.31	1.20	1.33
7	Y	322	0UR	O44-C43	-10.29	1.21	1.44
7	Y	322	0UR	O40-C30	-10.22	1.24	1.43
6	Y	319	0IE	C43-C24	-10.17	1.31	1.53
6	Y	321	0IE	C35-C34	-10.13	1.34	1.52
4	Y	311	CLA	C1C-C2C	-10.08	1.25	1.44
7	0	314	0UR	C29-C30	-10.03	1.36	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	Y	318	0UR	O40-C30	-10.00	1.24	1.43
7	Y	317	0UR	C20-C7	-9.98	1.30	1.50
7	0	313	0UR	C36-C28	-9.94	1.32	1.53
6	Y	321	0IE	C22-C12	-9.93	1.30	1.50
6	Y	319	0IE	O42-C26	-9.85	1.25	1.43
7	Y	322	0UR	C24-C25	-9.67	1.38	1.52
7	Y	317	0UR	C34-C27	-9.62	1.35	1.50
7	Y	322	0UR	O44-C45	-9.59	1.11	1.34
6	Y	319	0IE	C27-C28	-9.54	1.21	1.33
6	Y	319	0IE	C25-C26	-9.48	1.37	1.53
7	Y	318	0UR	C36-C28	-9.37	1.33	1.53
7	Y	322	0UR	C27-C1	-9.28	1.21	1.34
7	Y	322	0UR	C22-C16	-9.22	1.31	1.50
7	Y	322	0UR	C36-C28	-9.08	1.33	1.53
4	Y	311	CLA	C4C-C3C	-9.02	1.29	1.45
6	Y	319	0IE	C26-C27	-8.97	1.37	1.50
7	Y	318	0UR	C38-C28	-8.93	1.34	1.53
7	Y	317	0UR	C38-C28	-8.86	1.34	1.53
7	0	313	0UR	C29-C30	-8.77	1.38	1.53
7	Y	317	0UR	C24-C23	-8.71	1.27	1.54
6	Y	321	0IE	O1-C2	-8.70	1.05	1.23
7	Y	322	0UR	C46-C45	-8.59	1.28	1.48
6	Y	321	0IE	C36-C31	-8.58	1.22	1.34
7	Y	318	0UR	C6-C7	-8.58	1.27	1.45
7	Y	322	0UR	C38-C28	-8.57	1.35	1.53
7	0	314	0UR	C24-C23	-8.55	1.28	1.54
7	0	313	0UR	C31-C32	-8.48	1.22	1.33
7	0	313	0UR	C30-C31	-8.48	1.38	1.50
6	Y	319	0IE	C32-C31	-8.41	1.35	1.53
7	Y	322	0UR	C23-C1	-8.40	1.35	1.53
4	Y	311	CLA	C1D-C2D	-8.40	1.28	1.45
7	Y	317	0UR	O44-C43	-8.32	1.25	1.44
4	Y	313	CLA	C1C-C2C	-8.31	1.28	1.44
7	Y	322	0UR	O42-C2	-8.26	1.06	1.23
7	Y	318	0UR	C11-C12	-8.26	1.24	1.35
7	Y	322	0UR	C35-C23	-8.25	1.37	1.53
4	Y	311	CLA	C1C-NC	-8.25	1.25	1.37
4	Y	303	CLA	C1C-C2C	-8.24	1.28	1.44
4	Y	303	CLA	C4C-C3C	-8.15	1.31	1.45
4	Y	303	CLA	C1C-NC	-8.15	1.25	1.37
7	0	314	0UR	O44-C43	-8.11	1.26	1.44
7	0	314	0UR	O44-C45	-8.10	1.15	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	Y	303	CLA	C1B-NB	-8.09	1.27	1.37
4	Y	311	CLA	C1B-NB	-8.09	1.27	1.37
6	Y	321	0IE	C44-C24	-8.04	1.36	1.53
7	0	313	0UR	C43-C3	-7.97	1.39	1.50
6	Y	319	0IE	C22-C12	-7.95	1.34	1.50
7	Y	318	0UR	O44-C43	-7.93	1.26	1.44
7	Y	317	0UR	C33-C32	-7.86	1.36	1.50
6	0	312	0IE	C39-C32	-7.83	1.38	1.53
4	Y	311	CLA	C3D-C4D	-7.76	1.26	1.44
4	Y	303	CLA	C1D-C2D	-7.74	1.30	1.45
6	Y	321	0IE	C25-C26	-7.70	1.40	1.53
7	0	314	0UR	C23-C1	-7.68	1.37	1.53
6	Y	321	0IE	O29-C20	-7.65	1.15	1.41
4	Y	311	CLA	C4D-ND	-7.62	1.27	1.37
7	0	314	0UR	C31-C32	-7.62	1.23	1.33
6	Y	321	0IE	C27-C28	-7.61	1.23	1.33
7	Y	322	0UR	C11-C12	-7.61	1.25	1.35
7	Y	322	0UR	C26-C25	-7.49	1.39	1.52
4	Y	313	CLA	C1D-ND	-7.44	1.28	1.37
7	0	314	0UR	C33-C32	-7.44	1.36	1.50
7	Y	317	0UR	C8-C7	-7.40	1.26	1.35
7	Y	317	0UR	C30-C31	-7.37	1.39	1.50
7	Y	318	0UR	C35-C23	-7.33	1.39	1.53
6	0	312	0IE	C35-C36	-7.32	1.39	1.51
7	Y	318	0UR	C28-C19	-7.31	1.36	1.56
7	0	313	0UR	C26-C25	-7.30	1.39	1.52
7	0	314	0UR	O40-C30	-7.30	1.29	1.43
6	Y	321	0IE	O40-C34	-7.29	1.21	1.43
6	Y	321	0IE	C41-C28	-7.25	1.37	1.50
4	0	307	CLA	C1C-C2C	-7.09	1.30	1.44
4	Y	311	CLA	C3C-C2C	-7.07	1.21	1.36
7	0	314	0UR	C21-C12	-7.06	1.36	1.50
4	Y	313	CLA	C1D-C2D	-7.03	1.31	1.45
4	Y	303	CLA	C3D-C4D	-6.99	1.28	1.44
6	0	312	0IE	C36-C31	-6.95	1.24	1.34
7	Y	317	0UR	C31-C32	-6.92	1.24	1.33
4	Y	303	CLA	C1D-ND	-6.91	1.29	1.37
7	Y	322	0UR	C24-C23	-6.81	1.33	1.54
7	0	313	0UR	O42-C2	-6.76	1.09	1.23
7	Y	318	0UR	C22-C16	-6.71	1.37	1.50
7	Y	322	0UR	C13-C12	-6.70	1.31	1.45
6	0	312	0IE	C8-C7	-6.70	1.26	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	Y	321	0IE	C8-C7	-6.67	1.26	1.35
6	Y	319	0IE	C23-C16	-6.66	1.37	1.50
7	0	313	0UR	C34-C27	-6.62	1.40	1.50
6	Y	321	0IE	C24-C19	-6.60	1.37	1.56
7	Y	317	0UR	C27-C1	-6.55	1.24	1.34
7	0	313	0UR	C37-C23	-6.55	1.40	1.53
7	0	313	0UR	C33-C32	-6.53	1.38	1.50
4	Y	311	CLA	C1B-C2B	-6.46	1.28	1.43
6	Y	319	0IE	C38-C32	-6.45	1.41	1.53
7	Y	318	0UR	C24-C25	-6.44	1.43	1.52
6	0	312	0IE	C21-C7	-6.43	1.37	1.50
7	Y	317	0UR	O57-C45	-6.38	1.08	1.21
4	Y	313	CLA	C3D-C4D	-6.35	1.29	1.44
7	0	314	0UR	C22-C16	-6.28	1.37	1.50
6	Y	321	0IE	O42-C26	-6.26	1.31	1.43
7	0	314	0UR	C26-C25	-6.21	1.41	1.52
7	Y	317	0UR	C22-C16	-6.21	1.38	1.50
6	Y	319	0IE	C19-C18	-6.17	1.41	1.50
7	0	314	0UR	O42-C2	-6.17	1.10	1.23
4	Y	313	CLA	C4C-C3C	-6.13	1.34	1.45
7	Y	322	0UR	O57-C45	-6.11	1.09	1.21
6	Y	319	0IE	C36-C31	-6.09	1.25	1.34
4	0	307	CLA	C4C-C3C	-6.04	1.34	1.45
4	Y	313	CLA	C1C-NC	-5.85	1.29	1.37
4	Y	311	CLA	C3D-C2D	-5.84	1.23	1.39
6	0	312	0IE	C33-C34	-5.82	1.43	1.52
6	Y	319	0IE	C39-C32	-5.80	1.42	1.53
7	Y	322	0UR	C20-C7	-5.74	1.39	1.50
4	Y	311	CLA	CHD-C1D	-5.72	1.27	1.38
4	0	307	CLA	MG-ND	-5.70	1.94	2.05
6	Y	321	0IE	C23-C16	-5.67	1.39	1.50
4	Y	313	CLA	C4D-ND	-5.62	1.30	1.37
7	Y	318	0UR	C41-C2	-5.61	1.28	1.51
7	Y	322	0UR	C17-C16	-5.54	1.34	1.45
6	0	312	0IE	C33-C32	-5.53	1.37	1.54
4	Y	311	CLA	O2D-CGD	-5.52	1.19	1.33
6	Y	321	0IE	C43-C24	-5.50	1.41	1.53
7	Y	317	0UR	O39-C25	-5.48	1.27	1.43
7	0	313	0UR	O40-C30	-5.47	1.33	1.43
7	0	313	0UR	C15-C16	-5.45	1.28	1.35
4	Y	313	CLA	C1B-C2B	-5.38	1.30	1.43
7	Y	318	0UR	C27-C1	-5.36	1.26	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	Y	319	0IE	C24-C19	-5.36	1.41	1.56
4	Y	303	CLA	C1B-C2B	-5.35	1.30	1.43
6	0	312	0IE	C15-C16	-5.32	1.28	1.35
6	0	312	0IE	C24-C19	5.29	1.71	1.56
7	Y	318	0UR	C26-C25	-5.25	1.43	1.52
4	Y	313	CLA	C1B-NB	-5.24	1.31	1.37
4	Y	313	CLA	MG-NB	-5.24	1.95	2.05
7	0	314	0UR	C6-C7	-5.21	1.34	1.45
6	Y	319	0IE	C11-C12	-5.12	1.29	1.35
4	Y	303	CLA	CHC-C1C	-5.07	1.28	1.38
6	Y	319	0IE	C13-C12	-5.06	1.35	1.45
4	Y	303	CLA	MG-NC	-5.00	1.94	2.06
4	Y	311	CLA	C3B-C2B	-4.99	1.24	1.41
6	Y	319	0IE	C30-C2	-4.99	1.31	1.51
7	Y	318	0UR	C5-C4	-4.91	1.28	1.43
4	0	307	CLA	C1B-NB	-4.89	1.31	1.37
7	0	313	0UR	C35-C23	-4.89	1.44	1.53
6	Y	321	0IE	C30-C2	-4.87	1.31	1.51
7	Y	318	0UR	C8-C7	-4.81	1.29	1.35
7	Y	317	0UR	C21-C12	-4.80	1.41	1.50
4	u	416	CLA	C4C-C3C	-4.74	1.36	1.45
9	Y	320	LUT	C8-C9	-4.71	1.35	1.45
7	Y	318	0UR	C24-C23	-4.70	1.40	1.54
7	Y	322	0UR	C15-C16	-4.69	1.29	1.35
9	Y	320	LUT	C12-C13	-4.64	1.36	1.45
4	Y	308	CLA	C4C-C3C	-4.63	1.37	1.45
4	u	407	CLA	C4C-C3C	-4.61	1.37	1.45
4	Y	312	CLA	C4C-C3C	-4.61	1.37	1.45
7	Y	317	0UR	C36-C28	-4.60	1.43	1.53
4	0	307	CLA	C3D-C4D	-4.59	1.33	1.44
4	Y	303	CLA	C4D-ND	-4.57	1.31	1.37
4	u	413	CLA	C4C-C3C	-4.57	1.37	1.45
7	0	313	0UR	C27-C1	-4.55	1.27	1.34
9	Y	320	LUT	C19-C9	-4.55	1.41	1.50
6	0	312	0IE	C6-C7	-4.51	1.36	1.45
7	0	313	0UR	C28-C19	-4.50	1.43	1.56
4	u	407	CLA	C1C-C2C	-4.50	1.35	1.44
4	u	405	CLA	C4C-C3C	-4.50	1.37	1.45
7	Y	322	0UR	C6-C7	-4.50	1.36	1.45
7	Y	317	0UR	O44-C45	-4.50	1.23	1.34
4	u	412	CLA	C4C-C3C	-4.47	1.37	1.45
4	Y	309	CLA	C4C-C3C	-4.46	1.37	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	u	415	CLA	C4C-C3C	-4.46	1.37	1.45
4	0	307	CLA	C1D-C2D	-4.45	1.36	1.45
4	0	307	CLA	C1D-ND	-4.45	1.32	1.37
4	u	411	CLA	C4C-C3C	-4.44	1.37	1.45
4	u	418	CLA	C4C-C3C	-4.44	1.37	1.45
4	0	311	CLA	C4C-C3C	-4.44	1.37	1.45
4	0	301	CLA	C4C-C3C	-4.44	1.37	1.45
4	Y	306	CLA	C4C-C3C	-4.44	1.37	1.45
6	0	312	0IE	O29-C20	-4.43	1.26	1.41
6	Y	321	0IE	C6-C7	-4.43	1.36	1.45
6	0	312	0IE	C23-C16	-4.42	1.41	1.50
4	u	408	CLA	C4C-C3C	-4.42	1.37	1.45
4	Y	311	CLA	CAB-C3B	-4.41	1.35	1.47
4	0	302	CLA	C1C-C2C	-4.39	1.36	1.44
4	0	302	CLA	C4C-C3C	-4.38	1.37	1.45
4	Y	316	CLA	C4C-C3C	-4.38	1.37	1.45
4	u	417	CLA	C4C-C3C	-4.38	1.37	1.45
4	0	306	CLA	C4C-C3C	-4.37	1.37	1.45
4	0	305	CLA	C4C-C3C	-4.37	1.37	1.45
4	0	303	CLA	C4C-C3C	-4.36	1.37	1.45
4	u	405	CLA	C1C-C2C	-4.36	1.36	1.44
7	Y	322	0UR	C41-C2	-4.36	1.33	1.51
4	Y	314	CLA	C4C-C3C	-4.36	1.37	1.45
4	Y	305	CLA	C4C-C3C	-4.36	1.37	1.45
7	0	314	0UR	C28-C19	-4.36	1.44	1.56
4	Y	303	CLA	MG-ND	-4.36	1.97	2.05
4	u	414	CLA	C4C-C3C	-4.35	1.37	1.45
4	Y	312	CLA	C1C-C2C	-4.34	1.36	1.44
4	0	308	CLA	C4C-C3C	-4.34	1.37	1.45
6	Y	321	0IE	C19-C18	-4.33	1.44	1.50
4	0	304	CLA	C4C-C3C	-4.33	1.37	1.45
4	Y	304	CLA	C4C-C3C	-4.31	1.37	1.45
4	u	412	CLA	C1C-C2C	-4.31	1.36	1.44
4	u	414	CLA	C1C-C2C	-4.31	1.36	1.44
7	Y	318	0UR	O57-C45	-4.31	1.12	1.21
4	Y	311	CLA	CHD-C4C	-4.31	1.29	1.39
4	Y	313	CLA	CHC-C1C	-4.31	1.29	1.38
4	0	309	CLA	C4C-C3C	-4.30	1.37	1.45
7	0	313	0UR	C22-C16	-4.29	1.42	1.50
4	u	417	CLA	C1C-C2C	-4.29	1.36	1.44
4	0	307	CLA	C1B-C2B	-4.29	1.33	1.43
5	u	409	CHL	C4C-C3C	-4.28	1.37	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	Y	315	CHL	C4C-C3C	-4.28	1.37	1.45
4	u	411	CLA	C1C-C2C	-4.27	1.36	1.44
4	Y	310	CLA	C4C-C3C	-4.26	1.37	1.45
4	Y	305	CLA	C1C-C2C	-4.26	1.36	1.44
7	0	313	0UR	C41-C2	-4.26	1.34	1.51
4	u	408	CLA	C1C-C2C	-4.26	1.36	1.44
4	Y	316	CLA	C1C-C2C	-4.26	1.36	1.44
4	u	413	CLA	C1C-C2C	-4.26	1.36	1.44
6	Y	321	0IE	C13-C12	-4.25	1.36	1.45
4	Y	303	CLA	CAB-C3B	-4.25	1.35	1.47
5	u	410	CHL	C4C-C3C	-4.25	1.37	1.45
4	0	303	CLA	C1C-C2C	-4.24	1.36	1.44
4	0	306	CLA	C1C-C2C	-4.24	1.36	1.44
9	Y	320	LUT	C40-C33	-4.24	1.42	1.50
4	Y	311	CLA	CMA-C3A	-4.24	1.44	1.53
5	0	310	CHL	C4C-C3C	-4.23	1.37	1.45
4	0	304	CLA	C1C-C2C	-4.23	1.36	1.44
4	0	301	CLA	C1C-C2C	-4.23	1.36	1.44
4	Y	314	CLA	C1C-C2C	-4.22	1.36	1.44
4	Y	306	CLA	C1C-C2C	-4.22	1.36	1.44
4	Y	309	CLA	C1C-C2C	-4.22	1.36	1.44
4	Y	304	CLA	C1C-C2C	-4.21	1.36	1.44
7	0	313	0UR	C21-C12	-4.20	1.42	1.50
4	u	418	CLA	C1C-C2C	-4.20	1.36	1.44
4	u	416	CLA	C1C-C2C	-4.20	1.36	1.44
6	Y	319	0IE	C15-C16	-4.19	1.30	1.35
5	Y	307	CHL	C4C-C3C	-4.17	1.37	1.45
4	0	308	CLA	C1C-C2C	-4.17	1.36	1.44
4	0	309	CLA	C1C-C2C	-4.16	1.36	1.44
7	Y	317	0UR	C46-C45	-4.15	1.38	1.48
4	u	415	CLA	C1C-C2C	-4.14	1.36	1.44
4	Y	310	CLA	C1C-C2C	-4.13	1.36	1.44
4	0	311	CLA	C1C-C2C	-4.12	1.36	1.44
4	Y	311	CLA	CHB-C4A	-4.08	1.28	1.37
4	0	305	CLA	C1C-C2C	-4.07	1.36	1.44
6	Y	319	0IE	C33-C32	-4.05	1.42	1.54
5	u	406	CHL	C4C-C3C	-4.05	1.38	1.45
6	0	312	0IE	C37-C36	-4.05	1.44	1.50
7	Y	317	0UR	C28-C19	-4.04	1.45	1.56
9	Y	320	LUT	C28-C29	-4.02	1.37	1.45
9	Y	320	LUT	C32-C33	-4.00	1.37	1.45
4	Y	313	CLA	CHC-C4B	-4.00	1.30	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	u	419	LUT	C14-C13	3.98	1.41	1.35
7	0	313	0UR	C38-C28	-3.98	1.45	1.53
4	Y	311	CLA	C4B-NB	-3.98	1.32	1.37
4	Y	308	CLA	C1C-C2C	-3.96	1.36	1.44
6	Y	319	0IE	C17-C16	-3.96	1.37	1.45
12	u	421	NEX	C14-C13	3.93	1.41	1.35
4	u	407	CLA	MG-NA	3.87	2.15	2.06
12	u	421	NEX	C34-C33	3.87	1.40	1.35
4	u	417	CLA	MG-NA	3.86	2.15	2.06
4	0	308	CLA	MG-NA	3.86	2.15	2.06
12	u	421	NEX	C30-C29	3.86	1.40	1.35
4	Y	303	CLA	CHD-C1D	-3.85	1.30	1.38
5	Y	307	CHL	MG-NA	3.85	2.15	2.06
4	0	307	CLA	C4D-ND	-3.84	1.32	1.37
4	Y	311	CLA	MG-NA	3.83	2.15	2.06
7	0	313	0UR	C13-C12	-3.82	1.37	1.45
5	u	410	CHL	MG-NA	3.82	2.15	2.06
7	Y	322	0UR	O39-C25	-3.81	1.32	1.43
6	Y	319	0IE	C35-C36	-3.80	1.45	1.51
4	u	405	CLA	MG-NA	3.79	2.15	2.06
6	Y	319	0IE	C21-C7	-3.78	1.43	1.50
7	Y	322	0UR	C8-C7	-3.78	1.30	1.35
6	0	312	0IE	C38-C32	-3.78	1.46	1.53
6	0	312	0IE	O42-C26	-3.76	1.36	1.43
4	Y	303	CLA	C3B-C2B	-3.76	1.28	1.41
4	0	303	CLA	MG-NA	3.76	2.15	2.06
9	Y	320	LUT	C20-C13	-3.74	1.43	1.50
7	Y	318	0UR	C13-C12	-3.74	1.37	1.45
4	0	305	CLA	MG-NA	3.71	2.15	2.06
4	0	302	CLA	MG-NA	3.71	2.15	2.06
4	0	306	CLA	MG-NA	3.70	2.15	2.06
4	0	307	CLA	MG-NC	-3.69	1.97	2.06
7	0	313	0UR	C19-C18	-3.68	1.44	1.50
4	Y	311	CLA	CHC-C4B	-3.67	1.31	1.39
4	Y	311	CLA	CHC-C1C	-3.67	1.31	1.38
6	0	312	0IE	C19-C18	-3.66	1.45	1.50
4	Y	308	CLA	MG-NA	3.66	2.15	2.06
4	Y	311	CLA	CAA-C2A	-3.65	1.47	1.54
7	Y	322	0UR	C46-C47	-3.65	1.22	1.32
4	Y	313	CLA	CHB-C4A	-3.63	1.29	1.37
4	Y	311	CLA	O1A-CGA	-3.62	1.11	1.22
9	Y	320	LUT	C30-C29	3.61	1.40	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	Y	306	CLA	MG-NA	3.61	2.14	2.06
9	u	419	LUT	C10-C9	3.60	1.40	1.35
6	0	312	0IE	C9-C10	-3.60	1.26	1.36
9	u	419	LUT	C30-C29	3.58	1.40	1.35
4	Y	311	CLA	C3B-C4B	-3.57	1.34	1.42
6	Y	319	0IE	C9-C8	3.56	1.54	1.43
4	u	412	CLA	MG-NA	3.54	2.14	2.06
9	u	419	LUT	C34-C33	3.54	1.40	1.35
5	u	409	CHL	MG-NA	3.54	2.14	2.06
7	0	314	0UR	O57-C45	-3.53	1.14	1.21
5	Y	315	CHL	MG-NA	3.52	2.14	2.06
9	Y	320	LUT	C21-C26	-3.52	1.46	1.56
6	0	312	0IE	C27-C28	-3.51	1.28	1.33
7	Y	323	0UR	C29-C28	-3.50	1.50	1.54
4	u	408	CLA	MG-NA	3.50	2.14	2.06
4	Y	313	CLA	CHD-C1D	-3.49	1.31	1.38
5	u	406	CHL	MG-NA	3.48	2.14	2.06
6	Y	319	0IE	O1-C2	-3.48	1.16	1.23
4	Y	312	CLA	MG-NA	3.48	2.14	2.06
4	Y	313	CLA	C3C-C2C	-3.48	1.29	1.36
4	Y	303	CLA	C3C-C2C	-3.47	1.29	1.36
4	u	411	CLA	MG-NA	3.45	2.14	2.06
4	u	414	CLA	MG-NA	3.45	2.14	2.06
4	Y	304	CLA	MG-NA	3.45	2.14	2.06
4	Y	305	CLA	MG-NA	3.42	2.14	2.06
7	0	313	0UR	C20-C7	-3.41	1.43	1.50
4	Y	313	CLA	CMA-C3A	-3.40	1.45	1.53
4	Y	303	CLA	C4B-NB	-3.39	1.33	1.37
4	Y	303	CLA	CHB-C4A	-3.38	1.29	1.37
4	Y	303	CLA	CAA-C2A	-3.38	1.47	1.54
4	0	309	CLA	MG-NA	3.38	2.14	2.06
4	Y	313	CLA	C3B-C2B	-3.35	1.29	1.41
4	Y	313	CLA	C4B-NB	-3.35	1.33	1.37
4	Y	314	CLA	MG-NA	3.33	2.14	2.06
4	0	304	CLA	MG-NA	3.33	2.14	2.06
4	Y	316	CLA	MG-NA	3.32	2.14	2.06
7	0	314	0UR	C41-C2	-3.31	1.37	1.51
7	0	313	0UR	O44-C45	3.30	1.42	1.34
6	0	312	0IE	O40-C34	-3.28	1.33	1.43
4	u	413	CLA	MG-NA	3.28	2.14	2.06
4	0	311	CLA	MG-NA	3.26	2.14	2.06
4	Y	310	CLA	MG-NA	3.24	2.14	2.06

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	0	310	CHL	MG-NA	3.22	2.13	2.06
4	0	307	CLA	C1C-NC	-3.19	1.33	1.37
7	Y	317	0UR	O40-C30	-3.19	1.37	1.43
4	u	415	CLA	MG-NA	3.17	2.13	2.06
4	Y	303	CLA	C3D-C2D	-3.17	1.30	1.39
6	0	312	0IE	C4-C3	-3.17	1.27	1.36
4	Y	303	CLA	C3B-C4B	-3.17	1.35	1.42
9	u	419	LUT	C8-C9	-3.14	1.39	1.45
4	Y	303	CLA	MG-NA	3.13	2.13	2.06
12	u	421	NEX	C10-C9	3.12	1.39	1.35
6	Y	319	0IE	C20-C3	-3.12	1.45	1.51
6	0	312	0IE	C35-C34	3.10	1.57	1.52
4	Y	311	CLA	C2A-C1A	-3.09	1.45	1.52
4	Y	309	CLA	MG-NA	3.07	2.13	2.06
6	Y	321	0IE	C17-C16	-3.07	1.39	1.45
4	Y	313	CLA	O2D-CGD	-3.05	1.25	1.33
4	Y	303	CLA	CMA-C3A	-3.04	1.46	1.53
6	0	312	0IE	C20-C3	-3.03	1.45	1.51
4	Y	311	CLA	C3D-CAD	-3.01	1.34	1.45
5	u	410	CHL	C2C-C1C	-2.98	1.38	1.44
4	Y	313	CLA	MG-NC	-2.97	1.99	2.06
5	u	406	CHL	C2C-C1C	-2.96	1.38	1.44
7	Y	322	0UR	C48-C47	-2.94	1.33	1.50
5	u	409	CHL	C2C-C1C	-2.92	1.39	1.44
7	0	314	0UR	O39-C25	-2.92	1.34	1.43
7	Y	317	0UR	C41-C2	-2.91	1.39	1.51
6	0	312	0IE	C25-C26	-2.90	1.48	1.53
7	0	313	0UR	C17-C18	-2.86	1.25	1.32
5	Y	307	CHL	C2C-C1C	-2.86	1.39	1.44
5	Y	315	CHL	C2C-C1C	-2.86	1.39	1.44
4	Y	303	CLA	O1A-CGA	-2.85	1.14	1.22
5	0	310	CHL	C2C-C1C	-2.85	1.39	1.44
9	u	419	LUT	C12-C13	-2.83	1.39	1.45
7	Y	322	0UR	C28-C19	-2.82	1.48	1.56
9	u	419	LUT	C32-C33	-2.81	1.39	1.45
6	0	312	0IE	O1-C2	-2.81	1.17	1.23
4	u	418	CLA	MG-NA	2.79	2.12	2.06
4	Y	303	CLA	CHC-C4B	-2.77	1.33	1.39
4	0	307	CLA	CHC-C1C	-2.77	1.32	1.38
4	Y	311	CLA	O1D-CGD	-2.76	1.14	1.21
4	Y	303	CLA	C2A-C1A	-2.73	1.46	1.52
4	Y	313	CLA	CAB-C3B	-2.71	1.40	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	u	419	LUT	C28-C29	-2.71	1.40	1.45
7	Y	322	0UR	C17-C18	-2.71	1.26	1.32
4	Y	313	CLA	C3B-C4B	-2.69	1.36	1.42
4	0	307	CLA	C3B-C2B	-2.68	1.32	1.41
5	Y	315	CHL	C3D-C4D	-2.64	1.38	1.44
4	u	418	CLA	C3D-C4D	-2.63	1.38	1.44
4	u	416	CLA	MG-NA	2.63	2.12	2.06
6	Y	321	0IE	C15-C16	-2.62	1.32	1.35
5	u	409	CHL	C3D-C4D	-2.61	1.38	1.44
4	Y	312	CLA	C3D-C4D	-2.60	1.38	1.44
4	u	411	CLA	C3D-C4D	-2.60	1.38	1.44
7	Y	318	0UR	C10-C11	-2.60	1.35	1.43
7	0	314	0UR	C4-C3	-2.59	1.29	1.36
7	u	420	0UR	C29-C28	-2.59	1.51	1.54
4	Y	309	CLA	C3D-C4D	-2.59	1.38	1.44
4	u	412	CLA	C3D-C4D	-2.58	1.38	1.44
5	0	310	CHL	C3D-C4D	-2.57	1.38	1.44
5	Y	307	CHL	C3D-C4D	-2.57	1.38	1.44
4	Y	305	CLA	C3D-C4D	-2.57	1.38	1.44
4	u	417	CLA	C3D-C4D	-2.57	1.38	1.44
4	u	415	CLA	C3D-C4D	-2.56	1.38	1.44
4	0	308	CLA	C3D-C4D	-2.56	1.38	1.44
4	Y	310	CLA	C3D-C4D	-2.56	1.38	1.44
4	0	311	CLA	C3D-C4D	-2.56	1.38	1.44
5	u	406	CHL	C1D-C2D	-2.55	1.40	1.45
4	0	304	CLA	C3D-C4D	-2.54	1.38	1.44
4	u	413	CLA	C3D-C4D	-2.54	1.38	1.44
4	Y	304	CLA	C3D-C4D	-2.53	1.38	1.44
4	Y	308	CLA	C3D-C4D	-2.53	1.38	1.44
4	0	301	CLA	MG-NA	2.52	2.12	2.06
6	0	312	0IE	C44-C24	-2.52	1.48	1.53
4	u	407	CLA	C3D-C4D	-2.52	1.38	1.44
7	Y	318	0UR	C46-C45	-2.51	1.42	1.48
4	Y	314	CLA	C3D-C4D	-2.51	1.38	1.44
6	0	312	0IE	C26-C27	-2.51	1.46	1.50
4	u	405	CLA	C3D-C4D	-2.50	1.38	1.44
4	Y	313	CLA	C3D-C2D	-2.50	1.32	1.39
12	u	421	NEX	C28-C29	-2.50	1.40	1.45
4	u	405	CLA	C1B-C2B	-2.50	1.37	1.43
5	u	410	CHL	C3D-C4D	-2.49	1.38	1.44
5	Y	307	CHL	C1B-C2B	-2.49	1.37	1.43
4	u	408	CLA	C3D-C4D	-2.49	1.38	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	Y	316	CLA	C3D-C4D	-2.49	1.38	1.44
7	0	313	0UR	C8-C7	2.48	1.39	1.35
4	Y	311	CLA	CMC-C2C	-2.47	1.45	1.50
4	Y	306	CLA	C3D-C4D	-2.47	1.38	1.44
5	u	406	CHL	C3D-C4D	-2.47	1.38	1.44
4	0	303	CLA	C3D-C4D	-2.46	1.38	1.44
7	Y	323	0UR	C17-C18	-2.46	1.26	1.32
7	Y	322	0UR	C49-C48	-2.46	1.42	1.52
4	u	414	CLA	C3D-C4D	-2.45	1.38	1.44
7	0	313	0UR	C24-C25	-2.45	1.48	1.52
4	0	307	CLA	CMA-C3A	-2.43	1.47	1.53
4	0	304	CLA	C1B-C2B	-2.43	1.37	1.43
4	u	416	CLA	C3D-C4D	-2.42	1.38	1.44
4	0	307	CLA	CHC-C4B	-2.42	1.34	1.39
4	0	305	CLA	C3D-C4D	-2.42	1.38	1.44
6	0	312	0IE	C10-C11	-2.42	1.36	1.43
7	Y	318	0UR	C15-C16	-2.42	1.32	1.35
4	Y	312	CLA	C1B-C2B	-2.42	1.37	1.43
4	Y	311	CLA	CHB-C1B	-2.42	1.34	1.39
4	u	407	CLA	C1B-C2B	-2.41	1.37	1.43
7	0	314	0UR	C17-C18	-2.41	1.26	1.32
4	0	309	CLA	C3D-C4D	-2.41	1.38	1.44
4	0	307	CLA	C3B-C4B	-2.41	1.37	1.42
4	0	303	CLA	C1D-C2D	-2.40	1.40	1.45
4	0	301	CLA	C3D-C4D	-2.39	1.38	1.44
4	Y	303	CLA	CHD-C4C	-2.39	1.33	1.39
5	0	310	CHL	C1B-C2B	-2.38	1.37	1.43
7	u	420	0UR	C17-C18	-2.38	1.26	1.32
12	u	421	NEX	C32-C33	-2.37	1.40	1.45
6	Y	319	0IE	O40-C34	-2.36	1.36	1.43
4	0	306	CLA	C3D-C4D	-2.36	1.38	1.44
4	Y	305	CLA	C1B-C2B	-2.36	1.37	1.43
4	Y	304	CLA	C1D-C2D	-2.36	1.40	1.45
4	u	415	CLA	C1B-C2B	-2.35	1.37	1.43
4	Y	312	CLA	C1D-C2D	-2.35	1.40	1.45
4	Y	313	CLA	MG-NA	-2.35	2.00	2.06
4	0	309	CLA	C1B-C2B	-2.34	1.37	1.43
4	u	418	CLA	C1D-C2D	-2.33	1.40	1.45
7	Y	317	0UR	C17-C18	-2.33	1.26	1.32
4	0	307	CLA	C4B-NB	-2.32	1.34	1.37
4	u	411	CLA	C1B-C2B	-2.32	1.37	1.43
5	u	410	CHL	C1D-C2D	-2.32	1.40	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	0	302	CLA	C3D-C4D	-2.32	1.38	1.44
4	Y	308	CLA	C1B-C2B	-2.32	1.37	1.43
7	0	313	0UR	C14-C15	-2.31	1.36	1.43
4	Y	304	CLA	C1B-C2B	-2.31	1.37	1.43
7	Y	322	0UR	C19-C18	-2.31	1.46	1.50
4	u	417	CLA	C1B-C2B	-2.30	1.37	1.43
4	u	411	CLA	C1D-C2D	-2.30	1.40	1.45
4	u	412	CLA	C1B-C2B	-2.30	1.37	1.43
4	u	418	CLA	C1B-C2B	-2.29	1.37	1.43
5	Y	307	CHL	C1D-C2D	-2.29	1.40	1.45
4	0	303	CLA	C1B-C2B	-2.29	1.37	1.43
4	0	311	CLA	C1B-C2B	-2.28	1.37	1.43
7	Y	317	0UR	C6-C7	-2.28	1.41	1.45
4	Y	306	CLA	C1B-C2B	-2.28	1.37	1.43
4	Y	316	CLA	C1D-C2D	-2.27	1.40	1.45
4	Y	314	CLA	C1D-C2D	-2.27	1.40	1.45
12	u	421	NEX	C12-C13	-2.26	1.41	1.45
4	u	413	CLA	C1B-C2B	-2.26	1.37	1.43
7	Y	318	0UR	O39-C25	-2.25	1.36	1.43
4	u	414	CLA	CHB-C1B	2.25	1.44	1.39
4	u	407	CLA	C1D-C2D	-2.25	1.40	1.45
4	Y	309	CLA	C1D-C2D	-2.23	1.40	1.45
4	0	305	CLA	C1D-C2D	-2.23	1.40	1.45
5	Y	315	CHL	C1D-C2D	-2.23	1.40	1.45
4	u	414	CLA	C1B-C2B	-2.23	1.38	1.43
4	u	405	CLA	C1D-C2D	-2.22	1.40	1.45
5	Y	315	CHL	C1B-C2B	-2.22	1.38	1.43
4	Y	310	CLA	C1B-C2B	-2.22	1.38	1.43
4	u	414	CLA	C1B-NB	-2.21	1.35	1.37
6	Y	321	0IE	C5-C4	-2.21	1.36	1.43
4	0	301	CLA	C1B-C2B	-2.21	1.38	1.43
4	Y	313	CLA	CAA-C2A	-2.20	1.50	1.54
4	u	416	CLA	C1B-C2B	-2.19	1.38	1.43
4	u	408	CLA	C1D-C2D	-2.19	1.41	1.45
6	Y	321	0IE	C11-C12	-2.19	1.32	1.35
4	Y	310	CLA	C1D-C2D	-2.19	1.41	1.45
4	u	417	CLA	C1D-C2D	-2.19	1.41	1.45
4	Y	316	CLA	C1B-C2B	-2.18	1.38	1.43
4	0	305	CLA	C1B-C2B	-2.18	1.38	1.43
4	u	414	CLA	C1D-C2D	-2.18	1.41	1.45
5	u	410	CHL	MG-NC	2.18	2.11	2.06
6	Y	319	0IE	C35-C34	-2.17	1.48	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	Y	319	0IE	C33-C34	-2.17	1.49	1.52
4	Y	305	CLA	C1D-C2D	-2.17	1.41	1.45
4	u	413	CLA	C1D-C2D	-2.17	1.41	1.45
4	0	302	CLA	C1B-C2B	-2.17	1.38	1.43
5	u	409	CHL	C1B-C2B	-2.16	1.38	1.43
4	Y	308	CLA	C1D-C2D	-2.16	1.41	1.45
4	u	416	CLA	CHB-C1B	2.16	1.44	1.39
4	0	302	CLA	C1D-C2D	-2.16	1.41	1.45
4	Y	314	CLA	MG-NC	2.15	2.11	2.06
4	0	308	CLA	CHB-C1B	2.15	1.44	1.39
4	u	416	CLA	C1D-C2D	-2.15	1.41	1.45
4	0	303	CLA	MG-NC	2.14	2.11	2.06
9	Y	320	LUT	C24-C25	-2.14	1.30	1.33
5	u	406	CHL	C1B-C2B	-2.13	1.38	1.43
4	0	308	CLA	C1B-C2B	-2.13	1.38	1.43
4	u	405	CLA	CHB-C1B	2.13	1.44	1.39
4	u	418	CLA	CHB-C1B	2.13	1.44	1.39
4	0	302	CLA	CHB-C1B	2.13	1.44	1.39
4	0	307	CLA	C2A-C1A	-2.13	1.47	1.52
4	0	306	CLA	MG-NC	2.13	2.11	2.06
4	0	311	CLA	C1D-C2D	-2.12	1.41	1.45
4	Y	311	CLA	OBD-CAD	-2.12	1.18	1.22
4	Y	306	CLA	C1D-C2D	-2.12	1.41	1.45
4	Y	314	CLA	C1B-C2B	-2.12	1.38	1.43
4	u	413	CLA	CHB-C1B	2.12	1.44	1.39
5	u	410	CHL	C1B-C2B	-2.12	1.38	1.43
4	u	411	CLA	C1B-NB	-2.11	1.35	1.37
4	0	303	CLA	CHB-C1B	2.11	1.44	1.39
4	u	415	CLA	C1D-C2D	-2.11	1.41	1.45
4	0	308	CLA	C1D-C2D	-2.11	1.41	1.45
4	u	412	CLA	C1D-C2D	-2.11	1.41	1.45
4	u	408	CLA	C1B-C2B	-2.10	1.38	1.43
4	Y	309	CLA	C1B-C2B	-2.10	1.38	1.43
4	0	306	CLA	C1B-C2B	-2.09	1.38	1.43
9	Y	320	LUT	C22-C21	-2.09	1.52	1.54
4	u	407	CLA	MG-NC	2.09	2.11	2.06
4	Y	304	CLA	C1B-NB	-2.09	1.35	1.37
4	Y	305	CLA	C1B-NB	-2.09	1.35	1.37
7	Y	322	0UR	C55-C54	-2.09	1.36	1.51
7	Y	318	0UR	C17-C18	-2.09	1.27	1.32
9	Y	320	LUT	C15-C14	-2.08	1.37	1.43
4	0	301	CLA	C1B-NB	-2.08	1.35	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	0	309	CLA	C1D-C2D	-2.07	1.41	1.45
4	u	405	CLA	C1B-NB	-2.07	1.35	1.37
4	0	304	CLA	CHB-C1B	2.07	1.44	1.39
4	Y	311	CLA	CMD-C2D	-2.07	1.46	1.50
4	Y	316	CLA	CHB-C1B	2.07	1.44	1.39
4	0	306	CLA	CHB-C1B	2.07	1.44	1.39
4	u	407	CLA	C1B-NB	-2.07	1.35	1.37
4	u	417	CLA	CHB-C1B	2.06	1.44	1.39
4	Y	314	CLA	C1B-NB	-2.06	1.35	1.37
4	Y	311	CLA	C1A-CHA	-2.06	1.34	1.43
6	Y	319	0IE	C5-C4	2.06	1.49	1.43
5	u	406	CHL	MG-NC	2.05	2.11	2.06
5	Y	315	CHL	CHB-C1B	2.05	1.44	1.39
4	u	408	CLA	MG-NC	2.04	2.11	2.06
7	0	313	0UR	C14-C13	-2.04	1.29	1.34
4	0	309	CLA	CHB-C1B	2.03	1.44	1.39
4	Y	310	CLA	CHB-C1B	2.03	1.44	1.39
4	0	301	CLA	C1D-C2D	-2.03	1.41	1.45
7	0	313	0UR	C17-C16	-2.03	1.41	1.45
4	0	311	CLA	CHB-C1B	2.03	1.44	1.39
4	u	411	CLA	MG-NC	2.02	2.11	2.06
4	Y	312	CLA	CHB-C1B	2.02	1.43	1.39
4	Y	311	CLA	CBD-CGD	-2.02	1.46	1.52
4	Y	314	CLA	CHB-C1B	2.02	1.43	1.39
4	0	304	CLA	C1D-C2D	-2.02	1.41	1.45
5	Y	307	CHL	MG-NC	2.01	2.11	2.06
4	Y	313	CLA	C1A-CHA	-2.01	1.34	1.43
4	0	307	CLA	MG-NA	2.01	2.11	2.06
5	0	310	CHL	CHB-C1B	2.00	1.43	1.39
4	Y	312	CLA	C1B-NB	-2.00	1.35	1.37

All (488) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	Y	319	0IE	C4-C3-C2	-19.02	103.77	120.08
6	Y	319	0IE	C5-C4-C3	15.77	145.96	127.00
7	Y	318	0UR	O42-C2-C41	-11.01	104.64	120.58
4	Y	311	CLA	CHD-C1D-ND	-9.37	115.84	124.45
7	0	313	0UR	C4-C3-C2	-7.86	113.33	120.08
6	Y	319	0IE	C17-C16-C15	-7.64	107.22	118.94
7	Y	318	0UR	C5-C4-C3	7.43	135.94	127.00
7	u	420	0UR	C4-C3-C2	-7.22	113.88	120.08

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	0	312	0IE	C4-C3-C2	-7.17	113.92	120.08
7	0	314	0UR	C38-C28-C19	7.16	120.39	109.55
7	0	313	0UR	C38-C28-C19	7.07	120.25	109.55
7	Y	322	0UR	C5-C4-C3	7.04	135.46	127.00
4	Y	311	CLA	CAC-C3C-C4C	7.04	133.94	124.81
7	0	314	0UR	O42-C2-C3	-7.00	107.88	120.66
6	Y	321	0IE	C25-C26-C27	-6.99	103.79	111.74
4	Y	313	CLA	CAC-C3C-C4C	6.90	133.76	124.81
4	Y	311	CLA	C4D-CHA-C1A	6.88	129.63	121.25
7	Y	317	0UR	C36-C28-C19	6.85	119.93	109.55
6	Y	321	0IE	O40-C34-C33	-6.84	96.22	109.80
7	Y	322	0UR	C38-C28-C19	6.75	119.78	109.55
6	Y	319	0IE	C14-C15-C16	6.75	136.94	127.31
4	0	307	CLA	CHD-C1D-ND	-6.72	118.28	124.45
4	Y	303	CLA	CAA-C2A-C3A	-6.69	94.46	112.78
7	Y	318	0UR	C38-C28-C19	6.56	119.48	109.55
4	Y	311	CLA	CGD-CBD-CAD	-6.55	89.51	110.73
6	Y	321	0IE	C38-C32-C31	6.41	118.86	109.71
6	Y	319	0IE	C10-C11-C12	-6.33	118.28	127.31
7	0	314	0UR	C29-C30-C31	-6.21	104.67	111.74
7	0	313	0UR	C28-C19-C18	-6.21	104.86	112.70
4	Y	311	CLA	CMD-C2D-C1D	6.20	135.64	124.71
6	Y	321	0IE	O29-C20-C3	-6.09	95.14	111.03
6	Y	321	0IE	O1-C2-C30	-5.97	111.93	120.58
7	Y	322	0UR	O42-C2-C41	-5.97	111.94	120.58
4	Y	311	CLA	C1-O2A-CGA	5.88	131.87	116.44
7	0	313	0UR	C24-C25-C26	-5.83	102.33	110.30
6	Y	319	0IE	C25-C26-C27	-5.79	105.15	111.74
4	Y	313	CLA	C4D-CHA-C1A	5.67	128.14	121.25
6	Y	319	0IE	C33-C34-C35	-5.66	102.56	110.30
7	0	313	0UR	O42-C2-C3	-5.62	110.38	120.66
9	Y	320	LUT	C8-C9-C10	5.60	127.54	118.94
7	Y	322	0UR	O44-C43-C3	-5.60	94.12	109.11
4	Y	311	CLA	CAA-CBA-CGA	-5.53	97.10	113.25
4	Y	303	CLA	C3B-C4B-NB	-5.49	105.43	110.52
7	Y	322	0UR	C36-C28-C29	-5.45	99.11	109.44
7	Y	322	0UR	O40-C30-C29	-5.41	97.05	110.74
7	0	314	0UR	C34-C27-C1	-5.32	117.50	124.49
9	Y	320	LUT	C19-C9-C10	-5.31	115.48	122.92
7	Y	318	0UR	C34-C27-C26	-5.28	104.58	114.36
7	Y	323	0UR	C28-C19-C18	-5.23	106.09	112.70
6	Y	321	0IE	C43-C24-C19	5.05	117.20	109.55

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	u	419	LUT	C39-C29-C28	5.04	126.02	118.08
7	0	314	0UR	C24-C25-C26	-5.03	103.42	110.30
6	Y	319	0IE	C23-C16-C15	4.99	129.92	122.92
6	0	312	0IE	C20-C3-C4	-4.98	118.42	124.83
6	0	312	0IE	C41-C28-C27	-4.97	112.92	123.56
7	0	314	0UR	O42-C2-C41	-4.97	113.39	120.58
7	0	314	0UR	C4-C3-C2	4.89	124.28	120.08
7	Y	323	0UR	C4-C3-C2	-4.89	115.89	120.08
7	u	420	0UR	C28-C19-C18	-4.89	106.52	112.70
7	0	314	0UR	C36-C28-C29	-4.83	100.30	109.44
6	0	312	0IE	C25-C26-C27	-4.81	106.27	111.74
4	Y	311	CLA	O2A-C1-C2	4.81	121.27	108.64
4	Y	311	CLA	C5-C3-C2	4.79	130.82	121.12
6	0	312	0IE	C10-C9-C8	-4.79	113.67	123.47
6	Y	319	0IE	C10-C9-C8	-4.78	113.69	123.47
7	0	313	0UR	C17-C16-C15	-4.75	111.65	118.94
7	Y	317	0UR	O39-C25-C26	-4.73	99.53	109.68
4	Y	313	CLA	C1C-C2C-C3C	4.73	111.92	106.96
7	Y	322	0UR	C4-C3-C2	-4.72	116.03	120.08
4	Y	311	CLA	CMD-C2D-C3D	-4.70	116.80	127.61
4	Y	311	CLA	CHD-C1D-C2D	4.69	135.32	125.48
6	0	312	0IE	C43-C24-C19	4.63	116.56	109.55
7	Y	322	0UR	C24-C25-C26	-4.60	104.01	110.30
6	0	312	0IE	O40-C34-C33	-4.58	100.69	109.80
6	Y	319	0IE	C6-C7-C8	4.57	125.95	118.94
7	0	314	0UR	O39-C25-C24	-4.56	100.73	109.80
7	0	313	0UR	C35-C23-C1	4.56	116.23	109.71
9	Y	320	LUT	C15-C35-C34	4.56	132.81	123.47
4	u	415	CLA	C1-O2A-CGA	4.54	128.36	116.44
7	Y	318	0UR	C35-C23-C1	4.52	116.16	109.71
7	Y	318	0UR	O44-C43-C3	-4.46	97.18	109.11
6	Y	319	0IE	C43-C24-C19	4.45	116.28	109.55
7	0	313	0UR	O39-C25-C26	-4.44	100.15	109.68
7	0	314	0UR	C36-C28-C38	-4.41	101.39	107.89
6	Y	321	0IE	O40-C34-C35	-4.41	100.23	109.68
4	Y	311	CLA	C1C-C2C-C3C	4.38	111.56	106.96
7	Y	317	0UR	O39-C25-C24	-4.37	101.12	109.80
4	u	412	CLA	C1-O2A-CGA	4.36	127.89	116.44
7	Y	317	0UR	C24-C25-C26	-4.35	104.34	110.30
4	0	307	CLA	C3C-C4C-NC	-4.34	105.70	110.57
4	0	307	CLA	CHD-C4C-C3C	4.33	131.21	124.84
6	Y	321	0IE	C34-C35-C36	-4.33	103.23	111.85

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	Y	303	CLA	CHC-C4B-NB	4.32	128.83	124.26
9	Y	320	LUT	C11-C10-C9	4.31	133.46	127.31
7	0	314	0UR	C9-C8-C7	4.29	133.44	127.31
7	Y	322	0UR	O39-C25-C24	-4.28	101.31	109.80
7	Y	318	0UR	O42-C2-C3	-4.24	112.91	120.66
7	0	313	0UR	O40-C30-C29	-4.21	100.09	110.74
7	0	314	0UR	C28-C19-C18	4.19	118.00	112.70
7	0	313	0UR	C36-C28-C29	-4.17	101.53	109.44
4	0	306	CLA	C4D-CHA-C1A	4.17	126.32	121.25
4	0	301	CLA	CHD-C1D-ND	-4.17	120.62	124.45
7	Y	317	0UR	C22-C16-C15	4.14	128.73	122.92
7	Y	318	0UR	C36-C28-C29	-4.05	101.76	109.44
7	0	313	0UR	O42-C2-C41	-4.04	114.72	120.58
6	Y	319	0IE	O42-C26-C27	-4.02	101.44	110.53
12	u	421	NEX	C39-C29-C30	-4.01	117.30	122.92
9	Y	320	LUT	C40-C33-C34	-4.01	117.31	122.92
4	0	306	CLA	CHD-C1D-ND	-4.00	120.78	124.45
7	Y	317	0UR	C37-C23-C1	3.98	115.40	109.71
4	Y	304	CLA	C4D-CHA-C1A	3.98	126.10	121.25
4	Y	308	CLA	C4D-CHA-C1A	3.98	126.09	121.25
4	u	416	CLA	CHD-C1D-ND	-3.97	120.80	124.45
6	Y	319	0IE	C24-C19-C18	-3.96	107.69	112.70
4	Y	313	CLA	C1D-ND-C4D	3.95	109.14	106.33
4	u	411	CLA	C4D-CHA-C1A	3.94	126.05	121.25
6	0	312	0IE	C10-C11-C12	-3.94	121.69	127.31
7	Y	317	0UR	C36-C28-C38	-3.93	102.10	107.89
4	Y	311	CLA	CAC-C3C-C2C	-3.92	120.83	127.53
5	Y	307	CHL	C1-O2A-CGA	3.89	126.65	116.44
7	Y	318	0UR	O40-C30-C29	-3.89	100.90	110.74
4	u	418	CLA	C4D-CHA-C1A	3.89	125.98	121.25
5	Y	315	CHL	C4D-CHA-C1A	3.88	125.98	121.25
5	u	406	CHL	C4D-CHA-C1A	3.88	125.97	121.25
4	u	412	CLA	CHD-C1D-ND	-3.88	120.89	124.45
4	0	311	CLA	CHD-C1D-ND	-3.88	120.89	124.45
6	Y	319	0IE	C39-C32-C31	3.87	115.24	109.71
4	Y	311	CLA	CHA-C1A-NA	-3.86	117.56	126.40
5	u	409	CHL	C4D-CHA-C1A	3.85	125.93	121.25
4	Y	312	CLA	C4D-CHA-C1A	3.85	125.93	121.25
4	u	408	CLA	C4D-CHA-C1A	3.83	125.92	121.25
6	Y	321	0IE	C4-C3-C2	-3.83	116.79	120.08
4	u	417	CLA	C4D-CHA-C1A	3.83	125.91	121.25
4	u	417	CLA	C5-C3-C2	3.82	128.85	121.12

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	u	413	CLA	CHD-C1D-ND	-3.82	120.94	124.45
7	u	420	0UR	C38-C28-C19	3.82	115.33	109.55
7	Y	318	0UR	C22-C16-C15	3.81	128.27	122.92
4	Y	309	CLA	C4D-CHA-C1A	3.81	125.89	121.25
7	Y	323	0UR	C22-C16-C15	3.80	128.25	122.92
4	0	307	CLA	CHD-C1D-C2D	3.80	133.44	125.48
4	Y	310	CLA	C4D-CHA-C1A	3.79	125.86	121.25
7	Y	318	0UR	C33-C32-C31	-3.79	115.45	123.56
4	0	304	CLA	CHD-C1D-ND	-3.79	120.97	124.45
4	Y	311	CLA	CMC-C2C-C1C	3.78	130.80	125.04
4	Y	305	CLA	CHD-C1D-ND	-3.78	120.98	124.45
4	Y	311	CLA	C3B-C4B-NB	-3.78	107.01	110.52
7	Y	322	0UR	C33-C32-C31	-3.78	115.47	123.56
9	Y	320	LUT	C12-C13-C14	3.77	124.72	118.94
7	Y	318	0UR	C4-C3-C2	-3.76	116.85	120.08
4	0	308	CLA	C4D-CHA-C1A	3.75	125.82	121.25
4	u	413	CLA	C4D-CHA-C1A	3.75	125.81	121.25
7	Y	323	0UR	C38-C28-C19	3.75	115.22	109.55
7	Y	322	0UR	C36-C28-C38	-3.74	102.38	107.89
4	u	405	CLA	C4D-CHA-C1A	3.74	125.80	121.25
4	u	417	CLA	O2A-C1-C2	3.73	118.43	108.64
4	Y	309	CLA	CHD-C1D-ND	-3.72	121.03	124.45
6	0	312	0IE	C38-C32-C31	3.71	115.02	109.71
6	Y	319	0IE	O42-C26-C25	-3.71	101.36	110.74
12	u	421	NEX	C35-C15-C14	3.71	131.07	123.47
7	Y	317	0UR	O42-C2-C41	-3.71	115.21	120.58
12	u	421	NEX	C15-C35-C34	3.70	131.05	123.47
5	u	410	CHL	C4D-CHA-C1A	3.70	125.75	121.25
4	0	309	CLA	CHD-C1D-ND	-3.68	121.07	124.45
4	Y	316	CLA	C4D-CHA-C1A	3.68	125.73	121.25
4	0	311	CLA	C4D-CHA-C1A	3.67	125.72	121.25
4	Y	310	CLA	CHD-C1D-ND	-3.66	121.09	124.45
7	0	313	0UR	C25-C26-C27	-3.65	104.58	111.85
9	u	419	LUT	C31-C30-C29	3.65	132.52	127.31
4	Y	304	CLA	CHD-C1D-ND	-3.65	121.10	124.45
5	0	310	CHL	C4D-CHA-C1A	3.65	125.69	121.25
6	Y	321	0IE	C41-C28-C27	-3.62	115.81	123.56
4	0	304	CLA	C4D-CHA-C1A	3.61	125.64	121.25
7	Y	317	0UR	C34-C27-C26	-3.61	107.68	114.36
4	u	414	CLA	C4D-CHA-C1A	3.60	125.64	121.25
5	Y	307	CHL	CHD-C1D-ND	-3.57	121.18	124.45
4	u	415	CLA	CHD-C1D-ND	-3.56	121.18	124.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	0	310	CHL	CHD-C1D-ND	-3.56	121.19	124.45
6	Y	319	0IE	C5-C6-C7	-3.55	116.44	126.42
5	Y	315	CHL	CHD-C1D-ND	-3.54	121.20	124.45
4	Y	313	CLA	C4A-NA-C1A	-3.53	105.12	106.71
4	0	307	CLA	C4A-NA-C1A	-3.52	105.12	106.71
4	u	407	CLA	C4D-CHA-C1A	3.52	125.53	121.25
4	u	418	CLA	CHD-C1D-ND	-3.52	121.22	124.45
4	u	412	CLA	C4D-CHA-C1A	3.52	125.53	121.25
5	Y	307	CHL	C4D-CHA-C1A	3.51	125.52	121.25
4	Y	312	CLA	CHD-C1D-ND	-3.50	121.24	124.45
4	Y	316	CLA	CHD-C1D-ND	-3.50	121.24	124.45
4	Y	306	CLA	C4D-CHA-C1A	3.49	125.50	121.25
7	u	420	0UR	C17-C16-C15	-3.49	113.58	118.94
4	0	309	CLA	C4D-CHA-C1A	3.49	125.49	121.25
4	Y	313	CLA	CHA-C1A-NA	-3.48	118.43	126.40
4	u	405	CLA	CHD-C1D-ND	-3.47	121.27	124.45
4	Y	305	CLA	C4D-CHA-C1A	3.46	125.47	121.25
4	u	417	CLA	CHD-C1D-ND	-3.46	121.27	124.45
4	u	415	CLA	C4D-CHA-C1A	3.46	125.46	121.25
6	0	312	0IE	C39-C32-C31	3.46	114.65	109.71
4	u	414	CLA	CHD-C1D-ND	-3.46	121.28	124.45
4	Y	303	CLA	O2A-C1-C2	3.45	117.70	108.64
6	Y	319	0IE	C34-C35-C36	-3.45	104.98	111.85
12	u	421	NEX	C20-C13-C14	-3.45	118.09	122.92
4	0	302	CLA	C4D-CHA-C1A	3.45	125.44	121.25
4	Y	306	CLA	CHD-C1D-ND	-3.43	121.30	124.45
7	u	420	0UR	C22-C16-C15	3.43	127.73	122.92
4	u	408	CLA	CHD-C1D-ND	-3.43	121.31	124.45
4	0	305	CLA	C4D-CHA-C1A	3.42	125.42	121.25
4	0	301	CLA	C4D-CHA-C1A	3.42	125.41	121.25
4	0	308	CLA	CHD-C1D-ND	-3.41	121.32	124.45
4	Y	314	CLA	CHD-C1D-ND	-3.40	121.33	124.45
4	u	411	CLA	CHD-C1D-ND	-3.40	121.33	124.45
4	0	305	CLA	CHD-C1D-ND	-3.39	121.33	124.45
8	Y	302	LMN	CBR-CCM-CBQ	3.39	116.32	109.97
12	u	421	NEX	C40-C33-C34	-3.38	118.18	122.92
7	Y	317	0UR	O40-C30-C29	-3.38	102.19	110.74
7	Y	317	0UR	C29-C30-C31	-3.38	107.90	111.74
4	Y	308	CLA	CHD-C1D-ND	-3.37	121.35	124.45
5	u	406	CHL	CHD-C1D-ND	-3.37	121.35	124.45
4	u	407	CLA	CHD-C1D-ND	-3.37	121.36	124.45
7	0	313	0UR	C36-C28-C38	-3.35	102.95	107.89

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	Y	322	0UR	C22-C16-C15	3.35	127.61	122.92
4	u	416	CLA	C4D-CHA-C1A	3.35	125.32	121.25
4	Y	311	CLA	CMC-C2C-C3C	-3.34	117.04	126.12
4	Y	313	CLA	CAA-C2A-C3A	-3.33	103.65	112.78
7	0	314	0UR	C37-C23-C1	3.33	114.47	109.71
7	Y	322	0UR	C37-C23-C1	3.33	114.46	109.71
9	u	419	LUT	C35-C15-C14	3.32	130.28	123.47
4	Y	313	CLA	CHD-C1D-ND	-3.32	121.41	124.45
7	0	313	0UR	C28-C19-C32	3.31	117.35	111.42
7	0	314	0UR	C6-C7-C8	3.31	124.02	118.94
5	u	409	CHL	CHD-C1D-ND	-3.31	121.42	124.45
4	Y	311	CLA	CHC-C1C-NC	3.29	129.20	124.20
4	0	302	CLA	CHD-C1D-ND	-3.27	121.45	124.45
4	Y	303	CLA	CHA-C1A-NA	-3.26	118.93	126.40
7	Y	318	0UR	O40-C30-C31	-3.23	103.23	110.53
4	Y	313	CLA	CAC-C3C-C2C	-3.22	122.03	127.53
9	Y	320	LUT	C39-C29-C30	-3.22	118.42	122.92
4	0	303	CLA	C4D-CHA-C1A	3.21	125.16	121.25
4	Y	311	CLA	CHB-C1B-NB	3.20	127.64	124.26
7	0	313	0UR	C33-C32-C31	-3.19	116.74	123.56
7	0	313	0UR	C43-C3-C4	3.17	128.85	125.02
7	Y	323	0UR	C17-C16-C15	-3.16	114.09	118.94
4	0	307	CLA	C3D-C4D-ND	3.16	115.35	110.24
9	Y	320	LUT	C32-C33-C34	3.15	123.78	118.94
12	u	421	NEX	C19-C9-C10	-3.15	118.51	122.92
4	0	307	CLA	CAA-C2A-C1A	-3.15	101.66	111.97
5	u	410	CHL	CHD-C1D-ND	-3.14	121.56	124.45
6	Y	321	0IE	C24-C19-C28	-3.12	105.83	111.42
12	u	421	NEX	C12-C13-C14	3.12	123.72	118.94
12	u	421	NEX	C32-C33-C34	3.10	123.70	118.94
9	Y	320	LUT	C20-C13-C14	-3.10	118.59	122.92
7	Y	322	0UR	C34-C27-C26	-3.09	108.62	114.36
7	0	314	0UR	C36-C28-C19	3.09	114.22	109.55
4	0	307	CLA	C3D-C2D-C1D	3.06	110.01	105.83
11	u	404	LMG	O7-C10-C11	3.06	118.11	111.50
4	Y	313	CLA	C2D-C1D-ND	-3.03	107.87	110.10
7	Y	323	0UR	C36-C28-C19	3.03	114.13	109.55
11	u	403	LMG	O7-C8-C7	3.01	119.29	108.40
6	Y	319	0IE	C21-C7-C8	-3.01	118.71	122.92
7	0	314	0UR	C20-C7-C6	-2.99	113.36	118.08
7	0	313	0UR	C5-C4-C3	2.99	130.60	127.00
9	Y	320	LUT	C1-C6-C5	-2.99	118.41	122.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	u	417	CLA	C4-C3-C2	-2.96	116.07	123.68
7	Y	317	0UR	O42-C2-C3	-2.96	115.24	120.66
4	0	307	CLA	CHC-C4B-NB	-2.94	121.14	124.26
7	u	420	0UR	C36-C28-C29	-2.94	103.87	109.44
6	Y	319	0IE	C41-C28-C27	-2.94	117.28	123.56
4	Y	303	CLA	C4D-CHA-C1A	2.94	124.82	121.25
6	Y	319	0IE	O40-C34-C35	-2.93	103.40	109.68
7	Y	317	0UR	C20-C7-C8	-2.91	118.85	122.92
9	Y	320	LUT	C35-C15-C14	2.91	129.43	123.47
7	Y	317	0UR	C28-C19-C18	-2.90	109.03	112.70
4	0	302	CLA	C4A-NA-C1A	2.90	108.01	106.71
4	0	307	CLA	C4D-CHA-C1A	2.89	124.77	121.25
7	Y	322	0UR	C22-C16-C17	-2.89	113.53	118.08
9	Y	320	LUT	C21-C26-C27	-2.89	109.05	112.70
7	Y	318	0UR	C23-C1-C27	-2.88	111.50	119.35
6	Y	319	0IE	C13-C12-C11	2.87	123.35	118.94
4	Y	314	CLA	C4D-CHA-C1A	2.87	124.75	121.25
6	Y	319	0IE	C23-C16-C17	2.86	122.59	118.08
6	Y	321	0IE	C37-C36-C35	-2.85	109.07	114.36
6	Y	319	0IE	C32-C33-C34	-2.85	107.21	113.64
4	Y	311	CLA	C2C-C1C-NC	-2.85	107.31	109.97
7	Y	322	0UR	C25-C26-C27	-2.84	106.21	111.85
6	Y	319	0IE	C44-C24-C43	-2.83	103.72	107.89
9	u	419	LUT	C19-C9-C10	-2.83	118.96	122.92
7	u	420	0UR	C28-C19-C32	2.83	116.49	111.42
4	Y	313	CLA	CGD-CBD-CAD	-2.83	101.57	110.73
4	0	303	CLA	C4A-NA-C1A	2.82	107.98	106.71
7	0	314	0UR	O40-C30-C29	-2.82	103.61	110.74
4	Y	304	CLA	C4A-NA-C1A	2.82	107.97	106.71
4	0	309	CLA	CHC-C4B-NB	-2.80	121.29	124.26
7	Y	318	0UR	C24-C25-C26	-2.80	106.47	110.30
7	Y	317	0UR	C33-C32-C31	-2.80	117.57	123.56
7	u	420	0UR	C24-C25-C26	-2.79	106.48	110.30
7	Y	323	0UR	C29-C30-C31	2.79	114.92	111.74
4	0	307	CLA	CGD-CBD-CAD	2.79	119.76	110.73
5	u	410	CHL	CHA-C1A-NA	-2.78	120.03	126.40
4	Y	311	CLA	C4-C3-C2	-2.74	116.64	123.68
7	0	314	0UR	C23-C24-C25	-2.74	107.46	113.64
6	0	312	0IE	C44-C24-C25	-2.73	104.27	109.44
7	Y	323	0UR	O40-C30-C29	-2.72	103.86	110.74
4	0	302	CLA	CHA-C1A-NA	-2.72	120.18	126.40
9	u	419	LUT	C39-C29-C30	-2.72	119.12	122.92

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	0	305	CLA	CHA-C1A-NA	-2.70	120.20	126.40
9	u	419	LUT	C19-C9-C8	2.70	122.34	118.08
4	0	303	CLA	CHA-C1A-NA	-2.70	120.21	126.40
11	u	403	LMG	O7-C8-C9	-2.70	98.62	108.40
6	Y	319	0IE	C4-C5-C6	2.70	131.64	123.22
4	u	405	CLA	CHA-C1A-NA	-2.69	120.24	126.40
4	u	417	CLA	CHA-C1A-NA	-2.69	120.25	126.40
7	Y	322	0UR	C35-C23-C1	2.68	113.54	109.71
7	0	313	0UR	C22-C16-C15	2.68	126.68	122.92
6	Y	319	0IE	C15-C14-C13	-2.67	114.87	123.22
7	Y	318	0UR	C28-C19-C18	-2.67	109.32	112.70
9	u	419	LUT	C28-C29-C30	-2.66	114.86	118.94
4	u	418	CLA	CHA-C1A-NA	-2.66	120.31	126.40
4	u	415	CLA	CHA-C1A-NA	-2.66	120.31	126.40
4	u	411	CLA	CHA-C1A-NA	-2.66	120.31	126.40
5	Y	315	CHL	CHA-C1A-NA	-2.66	120.31	126.40
4	u	413	CLA	CHA-C1A-NA	-2.65	120.32	126.40
7	Y	323	0UR	C24-C25-C26	-2.65	106.67	110.30
4	0	308	CLA	CHA-C1A-NA	-2.65	120.33	126.40
4	u	414	CLA	CHA-C1A-NA	-2.64	120.35	126.40
7	Y	317	0UR	C22-C16-C17	-2.64	113.92	118.08
4	Y	303	CLA	CAA-CBA-CGA	-2.62	105.59	113.25
4	Y	316	CLA	CHA-C1A-NA	-2.62	120.40	126.40
4	u	417	CLA	C1-O2A-CGA	2.62	123.32	116.44
4	Y	308	CLA	CHA-C1A-NA	-2.61	120.41	126.40
4	Y	308	CLA	C4A-NA-C1A	2.61	107.88	106.71
5	Y	307	CHL	CHA-C1A-NA	-2.61	120.42	126.40
4	Y	312	CLA	CHA-C1A-NA	-2.61	120.42	126.40
7	Y	323	0UR	C36-C28-C38	-2.61	104.05	107.89
7	Y	322	0UR	C34-C27-C1	-2.60	121.08	124.49
4	0	307	CLA	C2D-C1D-ND	-2.60	108.19	110.10
7	u	420	0UR	C36-C28-C38	-2.60	104.06	107.89
4	Y	313	CLA	CHD-C4C-C3C	2.60	128.66	124.84
4	u	407	CLA	CHA-C1A-NA	-2.60	120.45	126.40
4	0	301	CLA	CHA-C1A-NA	-2.60	120.45	126.40
4	Y	304	CLA	CHA-C1A-NA	-2.59	120.47	126.40
4	u	412	CLA	CHA-C1A-NA	-2.59	120.48	126.40
4	Y	305	CLA	CHA-C1A-NA	-2.58	120.49	126.40
7	Y	322	0UR	O42-C2-C3	-2.58	115.95	120.66
7	Y	317	0UR	C10-C11-C12	2.58	130.99	127.31
4	u	408	CLA	CHA-C1A-NA	-2.57	120.52	126.40
4	0	309	CLA	CHA-C1A-NA	-2.56	120.53	126.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	Y	321	0IE	C44-C24-C25	-2.56	104.59	109.44
4	0	304	CLA	CHA-C1A-NA	-2.56	120.55	126.40
5	u	406	CHL	CHA-C1A-NA	-2.56	120.55	126.40
4	Y	310	CLA	CHA-C1A-NA	-2.55	120.55	126.40
7	u	420	0UR	O40-C30-C29	-2.55	104.29	110.74
4	0	306	CLA	CHA-C1A-NA	-2.54	120.58	126.40
4	Y	306	CLA	CHA-C1A-NA	-2.54	120.58	126.40
7	Y	322	0UR	O39-C25-C26	-2.54	104.23	109.68
4	0	311	CLA	CHA-C1A-NA	-2.54	120.59	126.40
5	u	409	CHL	CHA-C1A-NA	-2.52	120.63	126.40
4	Y	314	CLA	CHA-C1A-NA	-2.51	120.64	126.40
7	Y	322	0UR	C9-C8-C7	2.51	130.89	127.31
7	u	420	0UR	C36-C28-C19	2.51	113.34	109.55
7	0	313	0UR	O39-C25-C24	2.50	114.78	109.80
4	0	307	CLA	CHA-C1A-NA	-2.50	120.67	126.40
5	0	310	CHL	CHA-C1A-NA	-2.50	120.68	126.40
6	0	312	0IE	C33-C34-C35	2.49	113.71	110.30
7	Y	318	0UR	C9-C8-C7	2.48	130.85	127.31
4	Y	309	CLA	CHA-C1A-NA	-2.48	120.71	126.40
8	Y	302	LMN	CBR-CCM-CBT	-2.47	103.55	109.40
4	u	416	CLA	CHA-C1A-NA	-2.47	120.75	126.40
4	Y	311	CLA	C3B-C2B-C1B	2.46	110.14	107.16
12	u	421	NEX	C28-C29-C30	2.46	122.72	118.94
7	0	314	0UR	C43-C3-C4	-2.45	122.05	125.02
4	Y	313	CLA	CHD-C1D-C2D	2.45	130.62	125.48
4	0	301	CLA	CHC-C4B-NB	-2.45	121.67	124.26
7	Y	317	0UR	C20-C7-C6	2.44	121.93	118.08
4	Y	305	CLA	CHC-C4B-NB	-2.44	121.67	124.26
7	Y	318	0UR	C14-C15-C16	2.44	130.80	127.31
9	u	419	LUT	C35-C34-C33	2.44	130.79	127.31
7	Y	323	0UR	C36-C28-C29	-2.42	104.85	109.44
4	0	301	CLA	CHD-C1D-C2D	2.41	130.54	125.48
7	u	420	0UR	C29-C30-C31	2.41	114.49	111.74
4	u	418	CLA	C4A-NA-C1A	2.40	107.79	106.71
5	Y	307	CHL	C4A-NA-C1A	2.40	107.78	106.71
7	Y	318	0UR	O39-C25-C24	-2.39	105.05	109.80
4	0	303	CLA	CHD-C1D-ND	-2.37	122.28	124.45
7	Y	322	0UR	O40-C30-C31	-2.37	105.18	110.53
7	Y	323	0UR	C43-C3-C4	-2.36	122.16	125.02
4	u	415	CLA	CHC-C4B-NB	-2.36	121.76	124.26
5	Y	307	CHL	CHC-C4B-NB	-2.36	121.76	124.26
4	0	311	CLA	CHC-C4B-NB	-2.35	121.77	124.26

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	Y	321	0IE	C5-C4-C3	2.35	129.83	127.00
5	u	410	CHL	C4A-NA-C1A	2.35	107.76	106.71
4	u	412	CLA	CHC-C4B-NB	-2.34	121.78	124.26
4	0	304	CLA	CHC-C4B-NB	-2.34	121.78	124.26
4	Y	310	CLA	CHC-C4B-NB	-2.33	121.79	124.26
4	0	307	CLA	CAC-C3C-C2C	-2.32	123.56	127.53
6	Y	321	0IE	C44-C24-C43	-2.32	104.47	107.89
9	u	419	LUT	C11-C10-C9	2.32	130.62	127.31
4	Y	313	CLA	CMD-C2D-C1D	2.31	128.79	124.71
4	0	303	CLA	O2D-CGD-CBD	2.31	115.38	111.27
4	Y	310	CLA	C4A-NA-C1A	2.30	107.74	106.71
4	Y	303	CLA	CHB-C1B-NB	2.30	126.69	124.26
4	Y	316	CLA	CHC-C4B-NB	-2.29	121.83	124.26
4	0	305	CLA	CHC-C4B-NB	-2.29	121.83	124.26
7	Y	317	0UR	C48-C47-C46	2.29	130.75	125.85
4	0	308	CLA	CHC-C4B-NB	-2.28	121.84	124.26
4	u	417	CLA	C1-C2-C3	2.28	129.98	126.04
4	Y	313	CLA	CMC-C2C-C3C	-2.27	119.96	126.12
6	Y	321	0IE	C33-C34-C35	-2.26	107.21	110.30
7	0	313	0UR	C22-C16-C17	2.26	121.63	118.08
4	u	405	CLA	CHC-C4B-NB	-2.26	121.87	124.26
4	u	407	CLA	CHC-C4B-NB	-2.25	121.87	124.26
4	u	417	CLA	C4A-NA-C1A	2.25	107.72	106.71
7	Y	323	0UR	C43-C3-C2	2.25	121.94	116.66
6	0	312	0IE	C4-C5-C6	-2.24	116.23	123.22
4	Y	313	CLA	C2B-C1B-NB	2.23	111.73	110.23
6	Y	319	0IE	C20-C3-C4	2.23	127.69	124.83
7	Y	318	0UR	C36-C28-C38	-2.23	104.61	107.89
4	Y	305	CLA	CHD-C1D-C2D	2.21	130.12	125.48
4	u	416	CLA	CHD-C1D-C2D	2.21	130.11	125.48
4	0	303	CLA	CHC-C4B-NB	-2.20	121.93	124.26
6	Y	321	0IE	O42-C26-C27	-2.20	105.56	110.53
4	u	405	CLA	C4A-NA-C1A	2.20	107.69	106.71
6	0	312	0IE	C44-C24-C43	-2.18	104.67	107.89
4	Y	311	CLA	CHA-C4D-ND	2.18	137.06	132.50
4	Y	312	CLA	CHC-C4B-NB	-2.18	121.95	124.26
4	u	414	CLA	CHC-C4B-NB	-2.16	121.97	124.26
5	0	310	CHL	CHC-C4B-NB	-2.16	121.97	124.26
4	0	307	CLA	C3B-C2B-C1B	2.16	109.77	107.16
5	u	406	CHL	C4A-NA-C1A	2.16	107.68	106.71
7	0	314	0UR	C37-C23-C24	-2.16	99.37	109.05
4	Y	303	CLA	C7-C6-C5	2.16	119.21	113.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	0	306	CLA	CHD-C1D-C2D	2.15	130.00	125.48
4	u	412	CLA	CHD-C1D-C2D	2.15	129.99	125.48
11	u	403	LMG	O1-C7-C8	-2.15	105.71	110.90
4	0	311	CLA	CHD-C1D-C2D	2.15	129.98	125.48
4	0	309	CLA	CHD-C1D-C2D	2.14	129.97	125.48
4	u	413	CLA	CHD-C1D-C2D	2.14	129.97	125.48
6	Y	321	0IE	C4-C5-C6	-2.14	116.55	123.22
5	0	310	CHL	CHD-C1D-C2D	2.13	129.95	125.48
7	Y	317	0UR	C23-C1-C27	-2.13	113.54	119.35
4	0	307	CLA	CAD-C3D-C2D	2.13	151.07	140.80
4	u	417	CLA	CHC-C4B-NB	-2.13	122.00	124.26
7	Y	322	0UR	C20-C7-C8	2.13	125.91	122.92
4	Y	304	CLA	CHC-C4B-NB	-2.12	122.01	124.26
6	Y	321	0IE	C24-C19-C18	-2.12	110.02	112.70
4	u	416	CLA	CHC-C4B-NB	-2.12	122.02	124.26
4	Y	306	CLA	O2D-CGD-CBD	2.12	115.03	111.27
4	0	304	CLA	CHD-C1D-C2D	2.11	129.90	125.48
9	Y	320	LUT	C22-C23-C24	2.11	114.14	111.74
4	Y	310	CLA	CHD-C1D-C2D	2.10	129.89	125.48
4	u	412	CLA	C4A-NA-C1A	2.10	107.65	106.71
4	Y	314	CLA	CAA-C2A-C3A	-2.10	107.04	112.78
4	0	304	CLA	O2D-CGD-CBD	2.09	114.99	111.27
4	0	307	CLA	O2D-CGD-CBD	2.09	114.99	111.27
4	0	307	CLA	CAA-C2A-C3A	2.09	118.50	112.78
4	0	305	CLA	C4A-NA-C1A	2.09	107.64	106.71
9	u	419	LUT	C15-C35-C34	2.09	127.75	123.47
6	Y	319	0IE	C21-C7-C6	-2.08	114.81	118.08
7	0	313	0UR	C21-C12-C13	-2.08	114.81	118.08
6	Y	321	0IE	O42-C26-C25	-2.07	105.50	110.74
4	Y	311	CLA	CAA-C2A-C1A	-2.07	105.18	111.97
4	u	415	CLA	CHD-C1D-C2D	2.07	129.83	125.48
7	Y	318	0UR	C48-C47-C46	2.07	128.19	125.84
9	Y	320	LUT	C39-C29-C28	2.07	121.34	118.08
4	Y	308	CLA	CHD-C1D-C2D	2.07	129.81	125.48
4	Y	311	CLA	C2A-C1A-CHA	2.07	127.47	123.86
4	u	414	CLA	CHD-C1D-C2D	2.05	129.79	125.48
4	0	302	CLA	O2D-CGD-CBD	2.05	114.92	111.27
4	u	417	CLA	CHD-C1D-C2D	2.05	129.78	125.48
4	0	308	CLA	CHD-C1D-C2D	2.04	129.77	125.48
4	Y	303	CLA	C3C-C4C-NC	-2.04	108.28	110.57
7	0	313	0UR	C9-C8-C7	2.04	130.22	127.31
9	Y	320	LUT	C3-C4-C5	-2.04	107.79	111.85

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	Y	309	CLA	CHD-C1D-C2D	2.04	129.75	125.48
4	Y	303	CLA	CHD-C1D-ND	-2.03	122.59	124.45
4	0	307	CLA	C4C-C3C-C2C	2.03	109.86	106.90
12	u	421	NEX	C2-C1-C6	2.03	111.18	109.21
5	u	409	CHL	C2C-C3C-C4C	2.02	107.93	106.49
7	0	313	0UR	C34-C27-C1	2.02	127.15	124.49
4	Y	304	CLA	CHD-C1D-C2D	2.02	129.72	125.48
4	u	408	CLA	CHD-C1D-C2D	2.02	129.71	125.48
4	Y	316	CLA	CHD-C1D-C2D	2.02	129.71	125.48
4	Y	313	CLA	CMC-C2C-C1C	2.02	128.11	125.04
4	0	301	CLA	C3B-C4B-NB	-2.02	108.64	110.52
4	0	302	CLA	CHC-C4B-NB	-2.01	122.12	124.26
4	Y	306	CLA	CHC-C4B-NB	-2.01	122.12	124.26
5	Y	315	CHL	CHD-C1D-C2D	2.01	129.70	125.48
7	Y	318	0UR	O44-C45-C46	2.01	116.89	111.55
7	Y	323	0UR	C20-C7-C6	2.01	121.24	118.08
6	Y	319	0IE	C32-C31-C36	-2.00	113.89	119.35
5	u	409	CHL	CHD-C1D-C2D	2.00	129.68	125.48

There are no chirality outliers.

All (355) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	0	301	CLA	CHA-CBD-CGD-O1D
4	0	301	CLA	CHA-CBD-CGD-O2D
4	0	302	CLA	CBD-CGD-O2D-CED
4	0	302	CLA	O1D-CGD-O2D-CED
4	0	303	CLA	CBD-CGD-O2D-CED
4	0	303	CLA	O1D-CGD-O2D-CED
4	0	304	CLA	CBD-CGD-O2D-CED
4	0	304	CLA	O1D-CGD-O2D-CED
4	0	305	CLA	C1A-C2A-CAA-CBA
4	0	305	CLA	C3A-C2A-CAA-CBA
4	0	309	CLA	O2A-C1-C2-C3
4	Y	303	CLA	C1-C2-C3-C4
4	Y	303	CLA	C1-C2-C3-C5
4	Y	306	CLA	CBD-CGD-O2D-CED
4	Y	306	CLA	O1D-CGD-O2D-CED
4	Y	311	CLA	C3A-C2A-CAA-CBA
4	Y	313	CLA	C1A-C2A-CAA-CBA
4	Y	313	CLA	C2C-C3C-CAC-CBC
4	Y	313	CLA	C4C-C3C-CAC-CBC

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Mol	Chain	Res	Type	Atoms
4	Y	313	CLA	CHA-CBD-CGD-O1D
4	Y	313	CLA	CHA-CBD-CGD-O2D
4	u	412	CLA	CBA-CGA-O2A-C1
4	u	412	CLA	O1A-CGA-O2A-C1
4	u	413	CLA	C1A-C2A-CAA-CBA
4	u	413	CLA	C3A-C2A-CAA-CBA
4	u	415	CLA	CBA-CGA-O2A-C1
4	u	415	CLA	O1A-CGA-O2A-C1
4	u	417	CLA	CBA-CGA-O2A-C1
4	u	417	CLA	O1A-CGA-O2A-C1
4	u	417	CLA	O2A-C1-C2-C3
4	u	417	CLA	C2-C3-C5-C6
4	u	417	CLA	C4-C3-C5-C6
5	Y	307	CHL	CBA-CGA-O2A-C1
5	Y	307	CHL	O1A-CGA-O2A-C1
5	Y	307	CHL	CHA-CBD-CGD-O1D
5	Y	307	CHL	CHA-CBD-CGD-O2D
5	u	406	CHL	C1A-C2A-CAA-CBA
5	u	406	CHL	C3A-C2A-CAA-CBA
6	0	312	0IE	C5-C6-C7-C21
6	0	312	0IE	O1-C2-C3-C20
6	0	312	0IE	O29-C20-C3-C4
6	0	312	0IE	O29-C20-C3-C2
6	0	312	0IE	C11-C12-C13-C14
6	0	312	0IE	C22-C12-C13-C14
6	0	312	0IE	C15-C16-C17-C18
6	0	312	0IE	C23-C16-C17-C18
6	0	312	0IE	C17-C18-C19-C24
6	0	312	0IE	C17-C18-C19-C28
6	0	312	0IE	C7-C8-C9-C10
6	Y	319	0IE	C3-C4-C5-C6
6	Y	319	0IE	O1-C2-C3-C20
6	Y	319	0IE	C2-C30-C31-C36
6	Y	321	0IE	O1-C2-C3-C20
7	0	313	0UR	C2-C3-C43-O44
7	0	313	0UR	C4-C3-C43-O44
7	0	313	0UR	C27-C1-C41-C2
7	0	313	0UR	C3-C4-C5-C6
7	0	313	0UR	C13-C14-C15-C16
7	0	313	0UR	O57-C45-O44-C43
7	0	313	0UR	C7-C8-C9-C10
7	0	314	0UR	C2-C3-C43-O44

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Mol	Chain	Res	Type	Atoms
7	0	314	0UR	C4-C3-C43-O44
7	0	314	0UR	C5-C6-C7-C20
7	0	314	0UR	C17-C18-C19-C28
7	0	314	0UR	C17-C18-C19-C32
7	Y	318	0UR	C27-C1-C41-C2
7	Y	318	0UR	O42-C2-C3-C43
7	Y	322	0UR	C2-C3-C43-O44
7	Y	322	0UR	C4-C3-C43-O44
7	Y	322	0UR	O42-C2-C3-C43
7	Y	322	0UR	C21-C12-C13-C14
7	Y	322	0UR	C22-C16-C17-C18
7	Y	322	0UR	C46-C45-O44-C43
7	Y	323	0UR	C2-C3-C43-O44
7	Y	323	0UR	C4-C3-C43-O44
7	Y	323	0UR	C11-C12-C13-C14
7	Y	323	0UR	C21-C12-C13-C14
7	Y	323	0UR	C15-C16-C17-C18
7	Y	323	0UR	C22-C16-C17-C18
8	Y	301	LMN	O1-CBS-CCM-CBQ
8	Y	301	LMN	OBV-CBT-CCM-CBQ
8	Y	301	LMN	OBV-CBT-CCM-CBR
8	Y	301	LMN	OBX-CCJ-OBV-CBT
8	Y	301	LMN	CCL-CCJ-OBV-CBT
8	Y	302	LMN	CBK-CBQ-CCM-CBR
8	Y	302	LMN	CBK-CBQ-CCM-CBS
8	Y	302	LMN	CBL-CBR-CCM-CBQ
8	Y	302	LMN	CBL-CBR-CCM-CBS
8	Y	302	LMN	CBL-CBR-CCM-CBT
8	Y	302	LMN	O1-CBS-CCM-CBQ
8	Y	302	LMN	O1-CBS-CCM-CBR
9	Y	320	LUT	C6-C7-C8-C9
9	Y	320	LUT	C7-C8-C9-C10
9	Y	320	LUT	C7-C8-C9-C19
9	Y	320	LUT	C11-C10-C9-C8
9	Y	320	LUT	C11-C10-C9-C19
9	Y	320	LUT	C10-C11-C12-C13
9	Y	320	LUT	C11-C12-C13-C14
9	Y	320	LUT	C11-C12-C13-C20
9	Y	320	LUT	C14-C15-C35-C34
9	Y	320	LUT	C26-C27-C28-C29
9	Y	320	LUT	C27-C28-C29-C30
9	Y	320	LUT	C27-C28-C29-C39

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Mol	Chain	Res	Type	Atoms
9	Y	320	LUT	C28-C29-C30-C31
9	Y	320	LUT	C39-C29-C30-C31
9	Y	320	LUT	C32-C33-C34-C35
9	Y	320	LUT	C40-C33-C34-C35
9	u	419	LUT	C5-C6-C7-C8
11	u	402	LMG	O10-C28-O8-C9
11	u	402	LMG	C29-C28-O8-C9
12	u	421	NEX	C30-C31-C32-C33
4	Y	313	CLA	CBD-CGD-O2D-CED
8	Y	302	LMN	OBY-CCR-O4-C4
8	Y	302	LMN	CCV-CCR-O4-C4
7	Y	322	0UR	O57-C45-O44-C43
4	u	415	CLA	C3-C5-C6-C7
7	0	313	0UR	C46-C45-O44-C43
4	Y	313	CLA	O1D-CGD-O2D-CED
4	0	303	CLA	C2C-C3C-CAC-CBC
4	u	407	CLA	C4-C3-C5-C6
5	Y	307	CHL	C4-C3-C5-C6
5	u	410	CHL	C2A-CAA-CBA-CGA
7	0	314	0UR	C3-C4-C5-C6
5	u	410	CHL	C3-C5-C6-C7
7	Y	323	0UR	C46-C45-O44-C43
7	0	313	0UR	O44-C45-C46-C47
4	Y	311	CLA	C3-C5-C6-C7
8	Y	302	LMN	O1-CBS-CCM-CBT
4	u	413	CLA	C4-C3-C5-C6
4	u	413	CLA	C2-C3-C5-C6
4	Y	303	CLA	C2A-CAA-CBA-CGA
8	Y	301	LMN	OBV-CBT-CCM-CBS
4	u	417	CLA	C1-C2-C3-C5
4	0	303	CLA	C4C-C3C-CAC-CBC
4	Y	311	CLA	CBA-CGA-O2A-C1
7	Y	323	0UR	O57-C45-O44-C43
4	u	407	CLA	C2-C3-C5-C6
4	u	415	CLA	C14-C13-C15-C16
7	0	313	0UR	C21-C12-C13-C14
7	0	313	0UR	C22-C16-C17-C18
7	Y	318	0UR	C5-C6-C7-C20
12	u	421	NEX	C11-C12-C13-C20
12	u	421	NEX	C31-C32-C33-C40
7	0	313	0UR	C11-C12-C13-C14
7	0	313	0UR	C15-C16-C17-C18

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Mol	Chain	Res	Type	Atoms
7	0	314	0UR	C5-C6-C7-C8
4	u	412	CLA	C8-C10-C11-C12
7	u	420	0UR	O44-C45-C46-C47
6	0	312	0IE	C13-C14-C15-C16
6	Y	321	0IE	C3-C4-C5-C6
7	0	313	0UR	C9-C10-C11-C12
4	Y	311	CLA	O1A-CGA-O2A-C1
7	0	313	0UR	O57-C45-C46-C47
9	Y	320	LUT	C30-C31-C32-C33
7	0	314	0UR	O44-C45-C46-C47
5	u	410	CHL	C8-C10-C11-C12
4	Y	311	CLA	C4-C3-C5-C6
4	Y	305	CLA	C3-C5-C6-C7
9	Y	320	LUT	C20-C13-C14-C15
12	u	421	NEX	C11-C10-C9-C19
12	u	421	NEX	C40-C33-C34-C35
4	Y	303	CLA	C6-C7-C8-C10
7	Y	322	0UR	O44-C45-C46-C47
7	Y	322	0UR	C48-C49-C50-C51
9	Y	320	LUT	C12-C13-C14-C15
12	u	421	NEX	C11-C10-C9-C8
12	u	421	NEX	C32-C33-C34-C35
8	Y	302	LMN	CBE-CBG-CBI-CBK
4	Y	308	CLA	C2A-CAA-CBA-CGA
7	Y	322	0UR	O57-C45-C46-C47
4	Y	311	CLA	C4B-C3B-CAB-CBB
4	Y	303	CLA	C6-C7-C8-C9
8	Y	302	LMN	O5-C5-C6-O6
4	0	307	CLA	C3A-C2A-CAA-CBA
4	Y	313	CLA	C3A-C2A-CAA-CBA
4	u	416	CLA	C3A-C2A-CAA-CBA
7	Y	317	0UR	C48-C49-C50-C51
7	0	314	0UR	O57-C45-C46-C47
4	u	412	CLA	C2-C3-C5-C6
8	Y	302	LMN	CBD-CBF-CBH-CBJ
4	Y	311	CLA	C2B-C3B-CAB-CBB
7	Y	322	0UR	C49-C50-C51-C52
9	Y	320	LUT	C1-C6-C7-C8
9	Y	320	LUT	C5-C6-C7-C8
9	u	419	LUT	C1-C6-C7-C8
7	u	420	0UR	O57-C45-C46-C47
4	u	414	CLA	C4-C3-C5-C6

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Mol	Chain	Res	Type	Atoms
6	0	312	0IE	C9-C10-C11-C12
12	u	421	NEX	C29-C30-C31-C32
4	0	309	CLA	C2A-CAA-CBA-CGA
4	u	405	CLA	C2A-CAA-CBA-CGA
4	Y	303	CLA	CBA-CGA-O2A-C1
8	Y	301	LMN	O1-CBS-CCM-CBT
11	u	403	LMG	O6-C5-C6-O5
4	u	412	CLA	C4-C3-C5-C6
8	Y	301	LMN	OAJ-CBN-CCD-OBZ
8	Y	301	LMN	OAL-CBP-CCF-OBX
4	0	307	CLA	C1A-C2A-CAA-CBA
4	Y	311	CLA	C1A-C2A-CAA-CBA
4	u	416	CLA	C1A-C2A-CAA-CBA
4	u	405	CLA	C5-C6-C7-C8
4	u	405	CLA	C3-C5-C6-C7
8	Y	302	LMN	CBJ-CBL-CBR-CCM
8	Y	302	LMN	CBK-CBQ-CCM-CBT
7	Y	323	0UR	C53-C54-C55-C56
8	Y	302	LMN	OBX-CCJ-OBV-CBT
7	Y	323	0UR	C47-C48-C49-C50
4	u	407	CLA	C5-C6-C7-C8
12	u	421	NEX	C39-C29-C30-C31
7	Y	317	0UR	C53-C54-C55-C56
7	Y	317	0UR	C50-C51-C52-C53
4	u	414	CLA	C2-C3-C5-C6
7	0	314	0UR	C15-C16-C17-C18
12	u	421	NEX	C31-C32-C33-C34
4	Y	303	CLA	O1A-CGA-O2A-C1
8	Y	301	LMN	CBI-CBK-CBQ-CCM
8	Y	301	LMN	CCF-CCQ-OCB-CCS
7	Y	322	0UR	C51-C52-C53-C54
4	u	412	CLA	C16-C17-C18-C20
8	Y	301	LMN	CCH-CCQ-OCB-CCS
4	Y	309	CLA	C2-C1-O2A-CGA
7	Y	318	0UR	C5-C6-C7-C8
12	u	421	NEX	C11-C12-C13-C14
7	Y	318	0UR	C46-C47-C48-C49
10	u	401	LHG	O6-C4-C5-C6
7	Y	318	0UR	C9-C10-C11-C12
7	Y	323	0UR	C9-C10-C11-C12
7	Y	317	0UR	C49-C50-C51-C52
6	0	312	0IE	O1-C2-C3-C4

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Mol	Chain	Res	Type	Atoms
6	Y	319	0IE	C20-C3-C4-C5
7	0	313	0UR	O42-C2-C3-C4
7	0	313	0UR	C45-C46-C47-C48
7	0	314	0UR	O42-C2-C3-C4
7	Y	317	0UR	O42-C2-C3-C4
7	Y	323	0UR	O42-C2-C3-C4
7	u	420	0UR	O42-C2-C3-C4
7	u	420	0UR	C45-C46-C47-C48
4	Y	308	CLA	CAD-CBD-CGD-O2D
4	Y	312	CLA	CAD-CBD-CGD-O2D
5	Y	315	CHL	CAD-CBD-CGD-O2D
4	u	413	CLA	C5-C6-C7-C8
4	u	408	CLA	C4-C3-C5-C6
10	u	401	LHG	O6-C4-C5-O7
7	Y	317	0UR	C52-C53-C54-C55
4	u	418	CLA	CHA-CBD-CGD-O1D
12	u	421	NEX	C28-C29-C30-C31
8	Y	301	LMN	O1-CBS-CCM-CBR
4	Y	311	CLA	O1D-CGD-O2D-CED
4	u	407	CLA	C8-C10-C11-C12
7	Y	322	0UR	C15-C16-C17-C18
4	u	412	CLA	C16-C17-C18-C19
4	u	405	CLA	C2-C1-O2A-CGA
5	u	410	CHL	C2-C3-C5-C6
10	u	401	LHG	C3-O3-P-O5
4	Y	311	CLA	C5-C6-C7-C8
4	0	305	CLA	CAD-CBD-CGD-O1D
4	u	418	CLA	CAD-CBD-CGD-O1D
4	u	415	CLA	C12-C13-C15-C16
4	u	417	CLA	C6-C7-C8-C10
5	Y	307	CHL	C2-C3-C5-C6
6	Y	321	0IE	C17-C18-C19-C28
6	0	312	0IE	C3-C4-C5-C6
4	Y	303	CLA	O1D-CGD-O2D-CED
8	Y	301	LMN	CCM-CBS-O1-C1
11	u	404	LMG	C8-C7-O1-C1
8	Y	301	LMN	CBG-CBI-CBK-CBQ
4	u	408	CLA	C2-C3-C5-C6
4	u	417	CLA	C6-C7-C8-C9
7	0	314	0UR	C41-C2-C3-C4
7	Y	318	0UR	C41-C2-C3-C4
7	Y	322	0UR	C11-C12-C13-C14

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Mol	Chain	Res	Type	Atoms
4	Y	311	CLA	C2-C3-C5-C6
4	u	416	CLA	C2-C1-O2A-CGA
10	u	401	LHG	C3-O3-P-O6
4	u	405	CLA	C6-C7-C8-C10
7	Y	317	0UR	C51-C52-C53-C54
12	u	421	NEX	C13-C14-C15-C35
7	0	314	0UR	C22-C16-C17-C18
4	0	307	CLA	C2C-C3C-CAC-CBC
4	u	415	CLA	C16-C17-C18-C19
4	u	405	CLA	C15-C16-C17-C18
4	Y	313	CLA	C4B-C3B-CAB-CBB
9	Y	320	LUT	C9-C10-C11-C12
8	Y	301	LMN	CBE-CBG-CBI-CBK
4	0	302	CLA	CAA-CBA-CGA-O2A
4	Y	303	CLA	C4-C3-C5-C6
4	Y	311	CLA	C2A-CAA-CBA-CGA
7	Y	322	0UR	C52-C53-C54-C55
4	u	415	CLA	C11-C12-C13-C14
4	0	302	CLA	CAA-CBA-CGA-O1A
4	Y	304	CLA	CAA-CBA-CGA-O1A
10	u	401	LHG	C4-C5-C6-O8
4	0	303	CLA	CAA-CBA-CGA-O1A
4	0	304	CLA	CAA-CBA-CGA-O2A
4	0	301	CLA	C1A-C2A-CAA-CBA
7	u	420	0UR	C3-C4-C5-C6
4	0	304	CLA	CAA-CBA-CGA-O1A
8	Y	302	LMN	O5-C1-O1-CBS
5	Y	315	CHL	CAA-CBA-CGA-O2A
4	0	303	CLA	CAA-CBA-CGA-O2A
4	u	405	CLA	C4-C3-C5-C6
4	u	405	CLA	C2-C3-C5-C6
4	Y	311	CLA	C1-C2-C3-C4
6	Y	319	0IE	O1-C2-C30-C31
4	Y	303	CLA	CAA-CBA-CGA-O2A
4	u	412	CLA	C13-C15-C16-C17
7	Y	322	0UR	C46-C47-C48-C49
5	Y	315	CHL	CAA-CBA-CGA-O1A
4	0	306	CLA	CAD-CBD-CGD-O2D
4	Y	303	CLA	CAD-CBD-CGD-O2D
5	0	310	CHL	CAD-CBD-CGD-O2D
5	u	409	CHL	CAD-CBD-CGD-O2D
4	u	413	CLA	C2-C1-O2A-CGA

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Mol	Chain	Res	Type	Atoms
4	Y	304	CLA	CAA-CBA-CGA-O2A
6	0	312	0IE	C5-C6-C7-C8
7	Y	317	0UR	C5-C6-C7-C8
7	Y	318	0UR	C11-C12-C13-C14
4	u	405	CLA	O2A-C1-C2-C3
5	Y	307	CHL	C2A-CAA-CBA-CGA
8	Y	301	LMN	C3-C4-O4-CCR
4	0	309	CLA	CHA-CBD-CGD-O1D
4	0	309	CLA	CHA-CBD-CGD-O2D
4	u	407	CLA	CHA-CBD-CGD-O2D
4	u	408	CLA	CHA-CBD-CGD-O1D
4	u	408	CLA	CHA-CBD-CGD-O2D
4	u	417	CLA	CHA-CBD-CGD-O1D
4	u	417	CLA	CHA-CBD-CGD-O2D
4	u	418	CLA	CHA-CBD-CGD-O2D
4	u	407	CLA	CAA-CBA-CGA-O2A
11	u	403	LMG	O7-C8-C9-O8
4	u	411	CLA	C2B-C3B-CAB-CBB
4	Y	303	CLA	CAA-CBA-CGA-O1A
4	Y	303	CLA	C1A-C2A-CAA-CBA
4	u	417	CLA	C1A-C2A-CAA-CBA
5	u	410	CHL	C4-C3-C5-C6
8	Y	301	LMN	C5-C4-O4-CCR
4	u	418	CLA	C4B-C3B-CAB-CBB
4	u	407	CLA	CAA-CBA-CGA-O1A
10	u	401	LHG	O8-C23-C24-C25
4	Y	311	CLA	CAD-CBD-CGD-O1D
7	Y	318	0UR	C23-C1-C41-C2
4	u	414	CLA	C11-C10-C8-C9
4	u	416	CLA	C4-C3-C5-C6
4	Y	303	CLA	C3A-C2A-CAA-CBA
4	Y	314	CLA	C3A-C2A-CAA-CBA
6	0	312	0IE	C3-C2-C30-C31
7	0	314	0UR	C3-C2-C41-C1
7	Y	317	0UR	O42-C2-C3-C43
7	Y	322	0UR	C3-C2-C41-C1
7	Y	323	0UR	O42-C2-C3-C43
7	u	420	0UR	O42-C2-C3-C43
7	u	420	0UR	C3-C2-C41-C1
4	u	415	CLA	C8-C10-C11-C12
11	u	403	LMG	O8-C28-C29-C30
4	0	311	CLA	CAA-CBA-CGA-O2A

There are no ring outliers.

45 monomers are involved in 92 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	0	304	CLA	1	0
4	0	303	CLA	5	0
4	u	413	CLA	2	0
4	0	306	CLA	1	0
12	u	421	NEX	4	0
4	Y	308	CLA	1	0
4	0	302	CLA	1	0
4	Y	316	CLA	1	0
4	u	408	CLA	1	0
4	Y	309	CLA	4	0
9	u	419	LUT	4	0
4	0	309	CLA	1	0
4	Y	303	CLA	7	0
4	u	414	CLA	1	0
9	Y	320	LUT	4	0
4	u	407	CLA	1	0
8	Y	301	LMN	3	0
4	Y	310	CLA	1	0
11	u	402	LMG	4	0
4	Y	305	CLA	2	0
5	u	409	CHL	3	0
4	Y	313	CLA	2	0
4	Y	306	CLA	1	0
5	0	310	CHL	1	0
11	u	404	LMG	3	0
4	Y	304	CLA	1	0
4	u	405	CLA	3	0
4	0	305	CLA	1	0
5	u	410	CHL	1	0
5	Y	307	CHL	2	0
4	u	415	CLA	1	0
4	0	308	CLA	6	0
4	Y	314	CLA	2	0
4	u	416	CLA	3	0
4	u	412	CLA	2	0
4	u	417	CLA	2	0
4	0	307	CLA	3	0
5	u	406	CHL	1	0
6	Y	319	0IE	1	0
4	u	418	CLA	3	0

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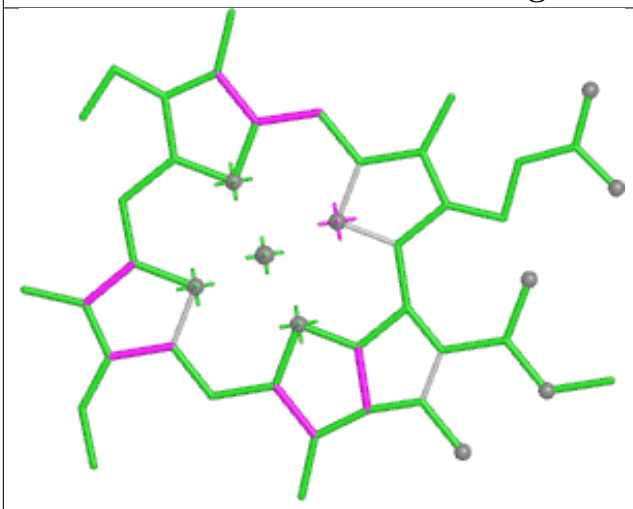
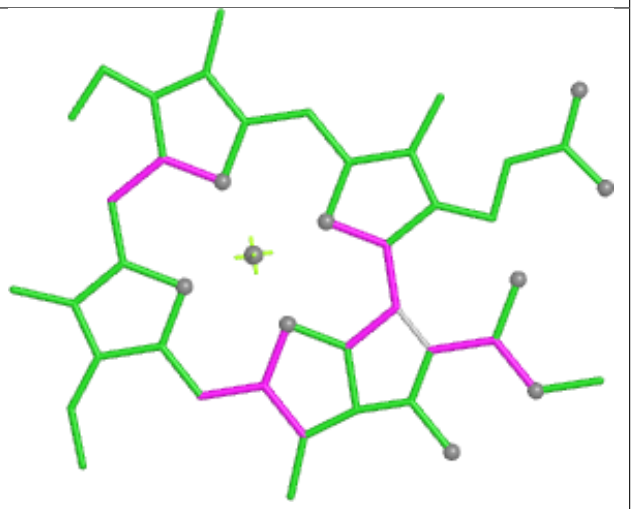
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	Y	312	CLA	1	0
4	0	301	CLA	3	0
4	Y	311	CLA	5	0
5	Y	315	CHL	1	0
4	0	311	CLA	1	0

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

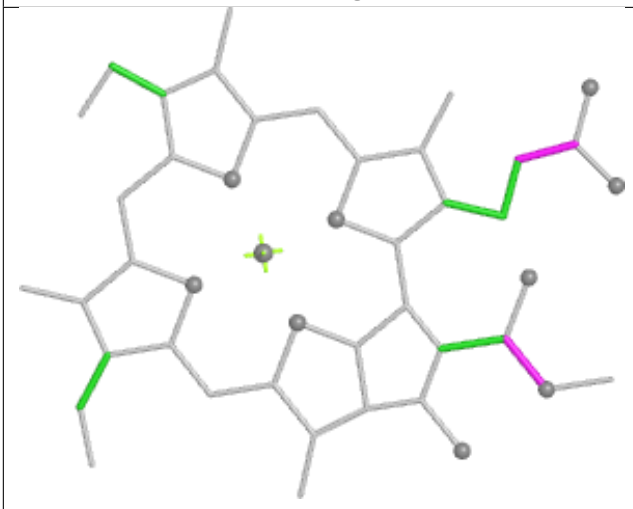
Ligand CLA 0 304



Bond lengths



Bond angles

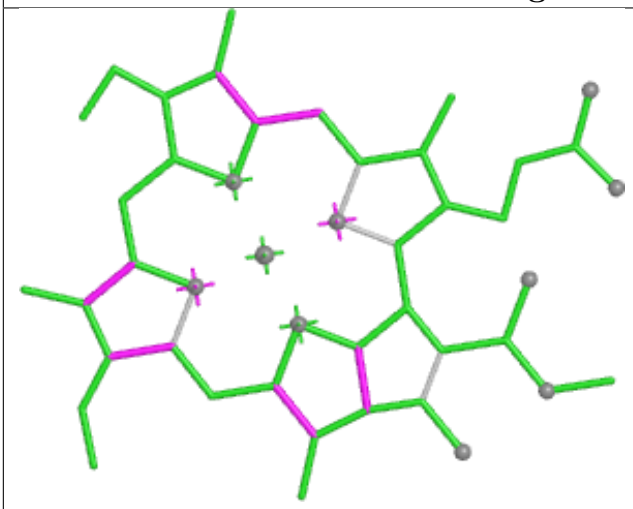


Torsions

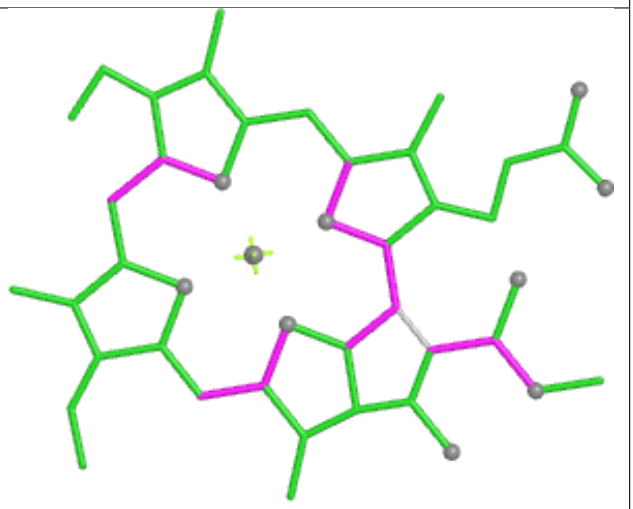


Rings

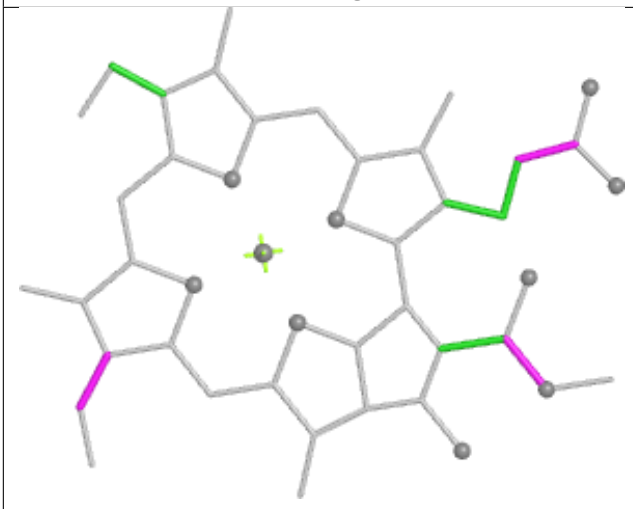
Ligand CLA 0 303



Bond lengths



Bond angles

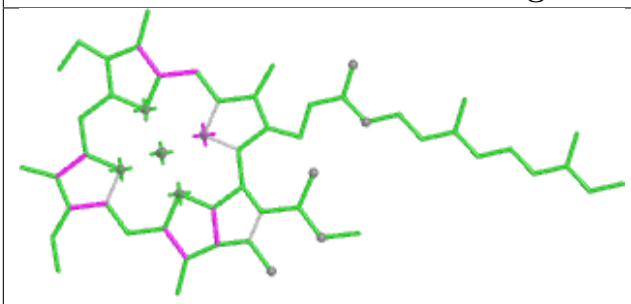


Torsions

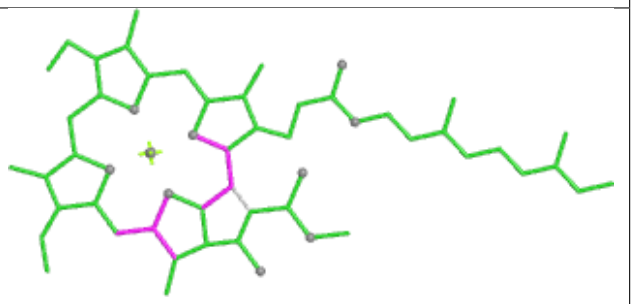


Rings

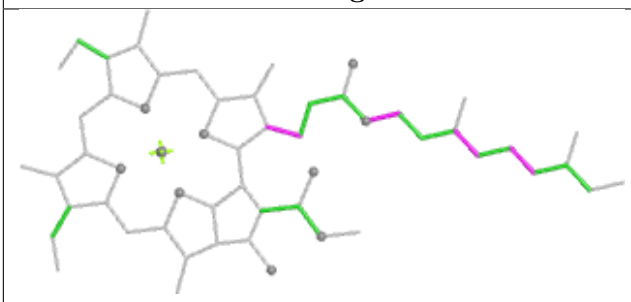
Ligand CLA u 413



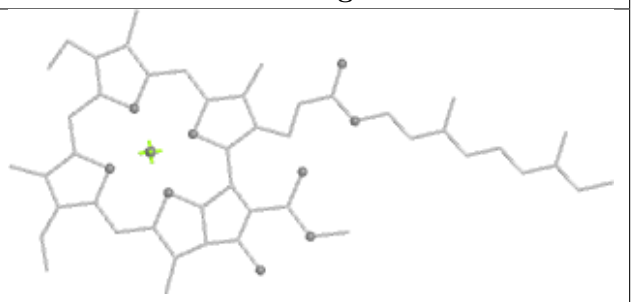
Bond lengths



Bond angles

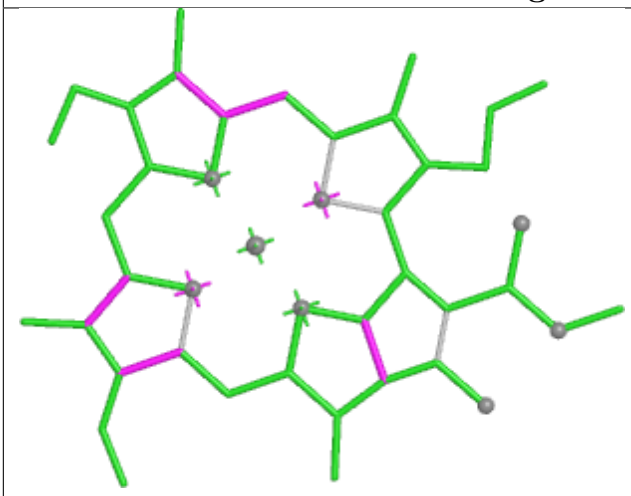


Torsions

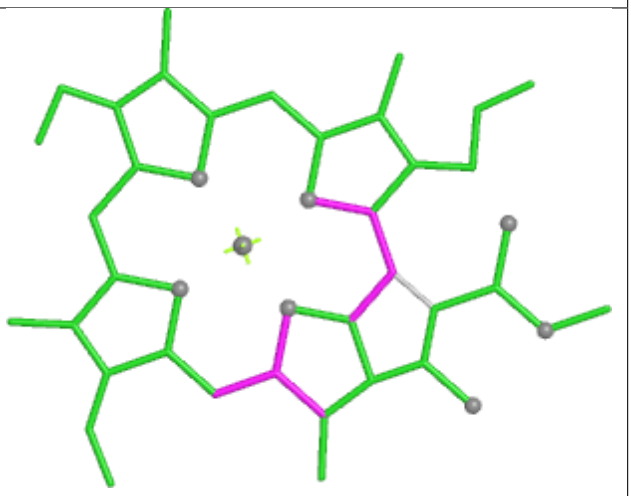


Rings

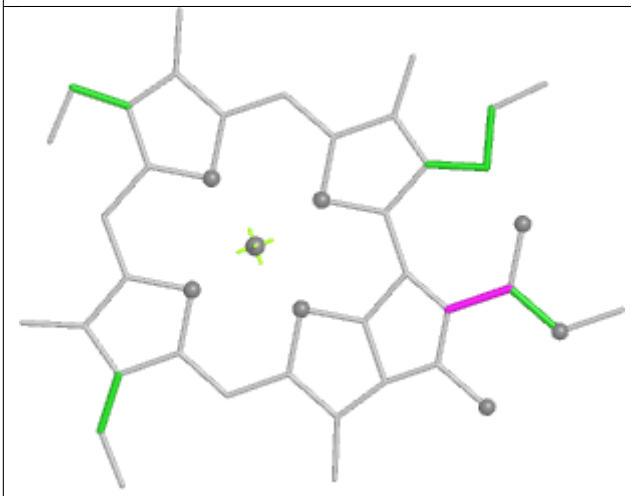
Ligand CLA 0 306



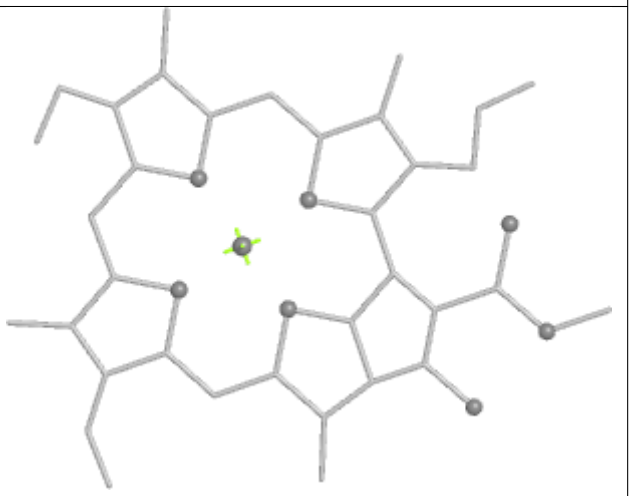
Bond lengths



Bond angles

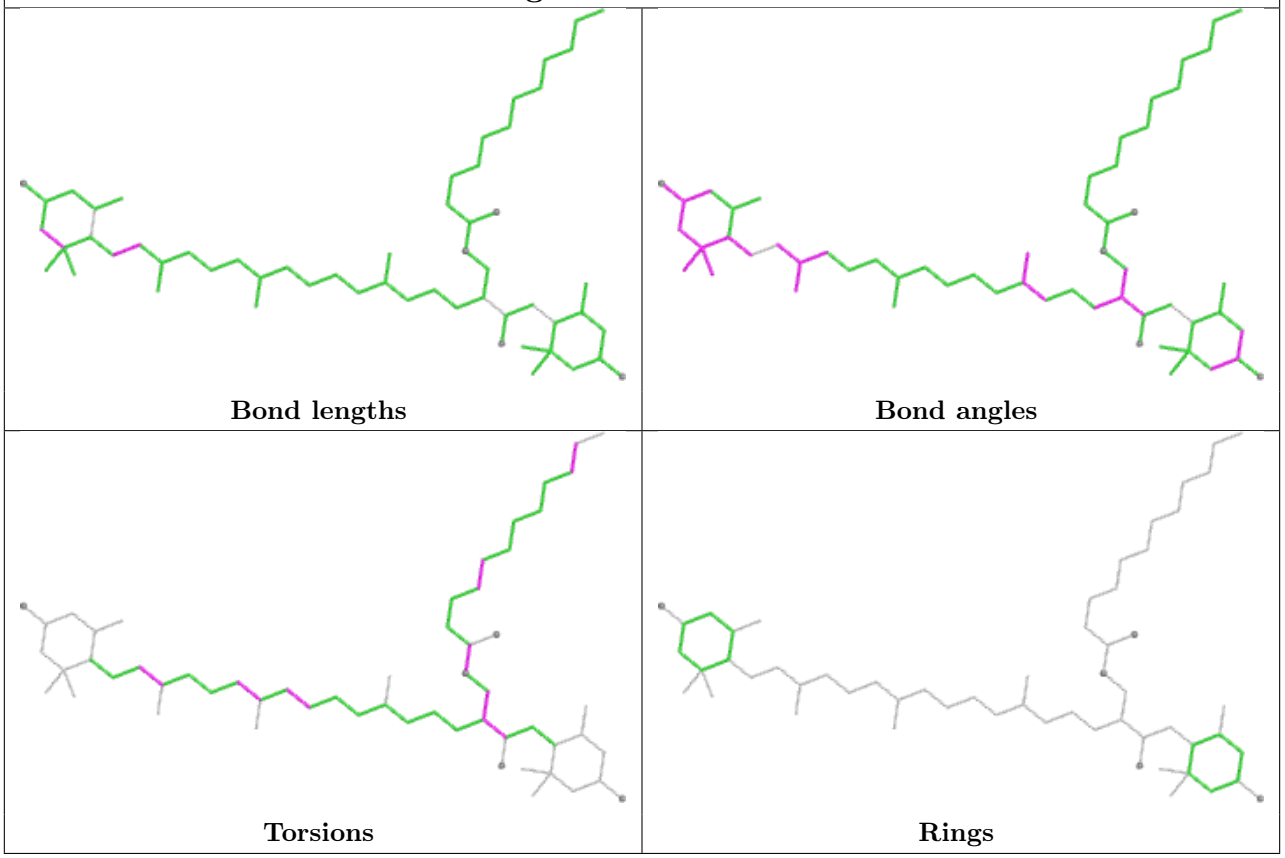


Torsions

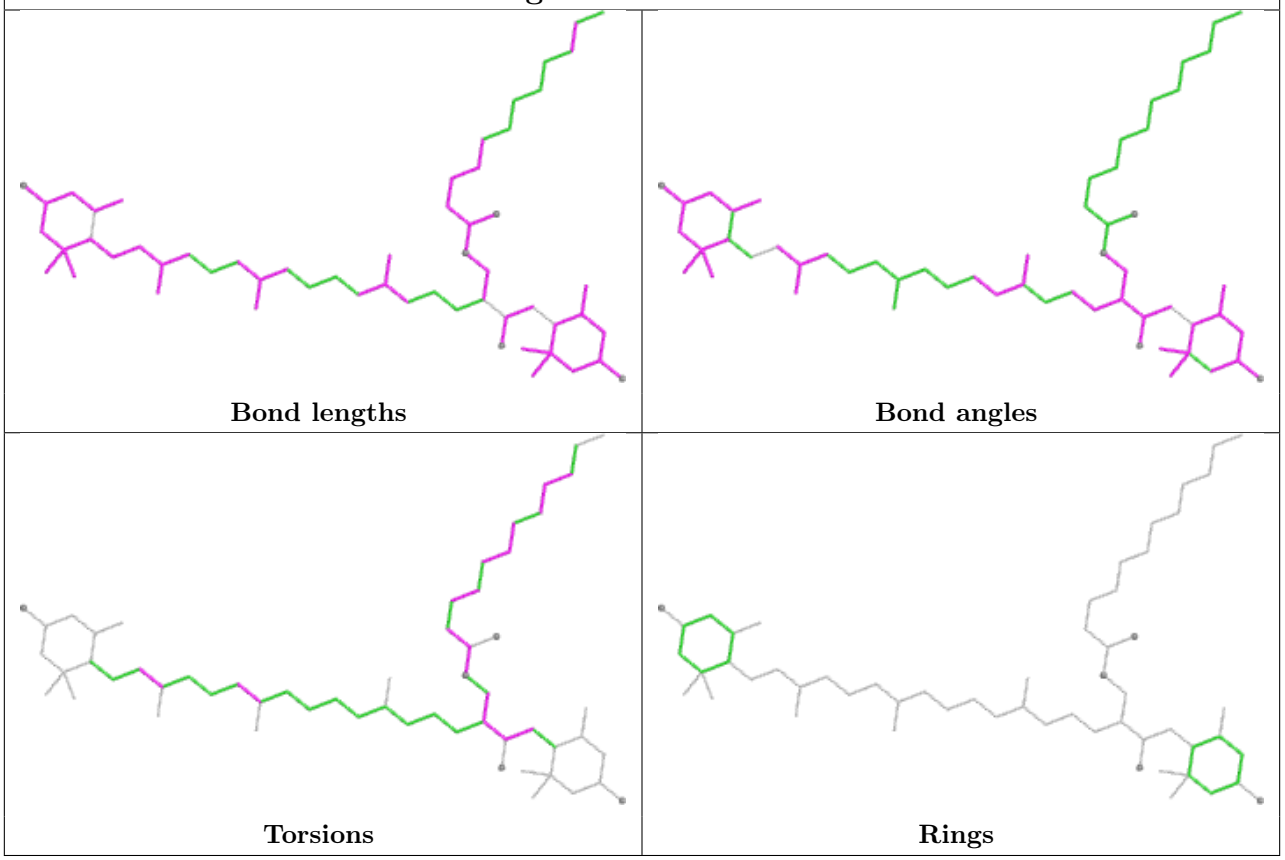


Rings

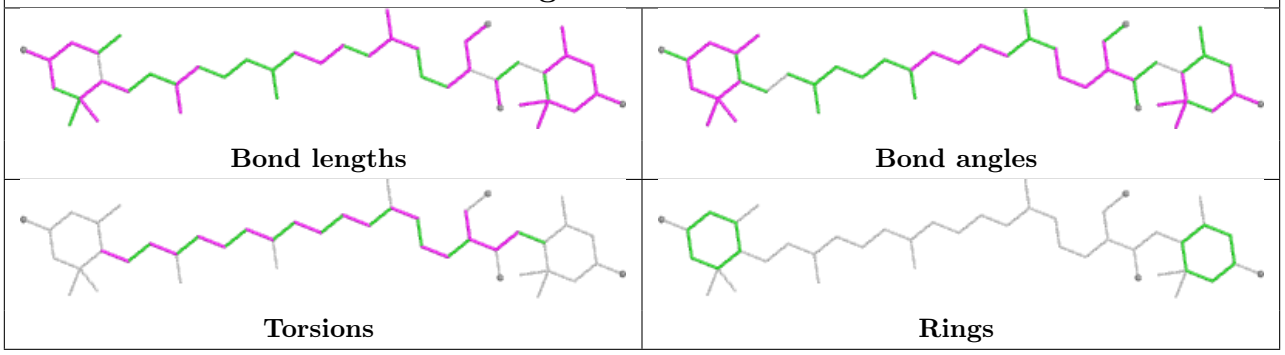
Ligand 0UR Y 323



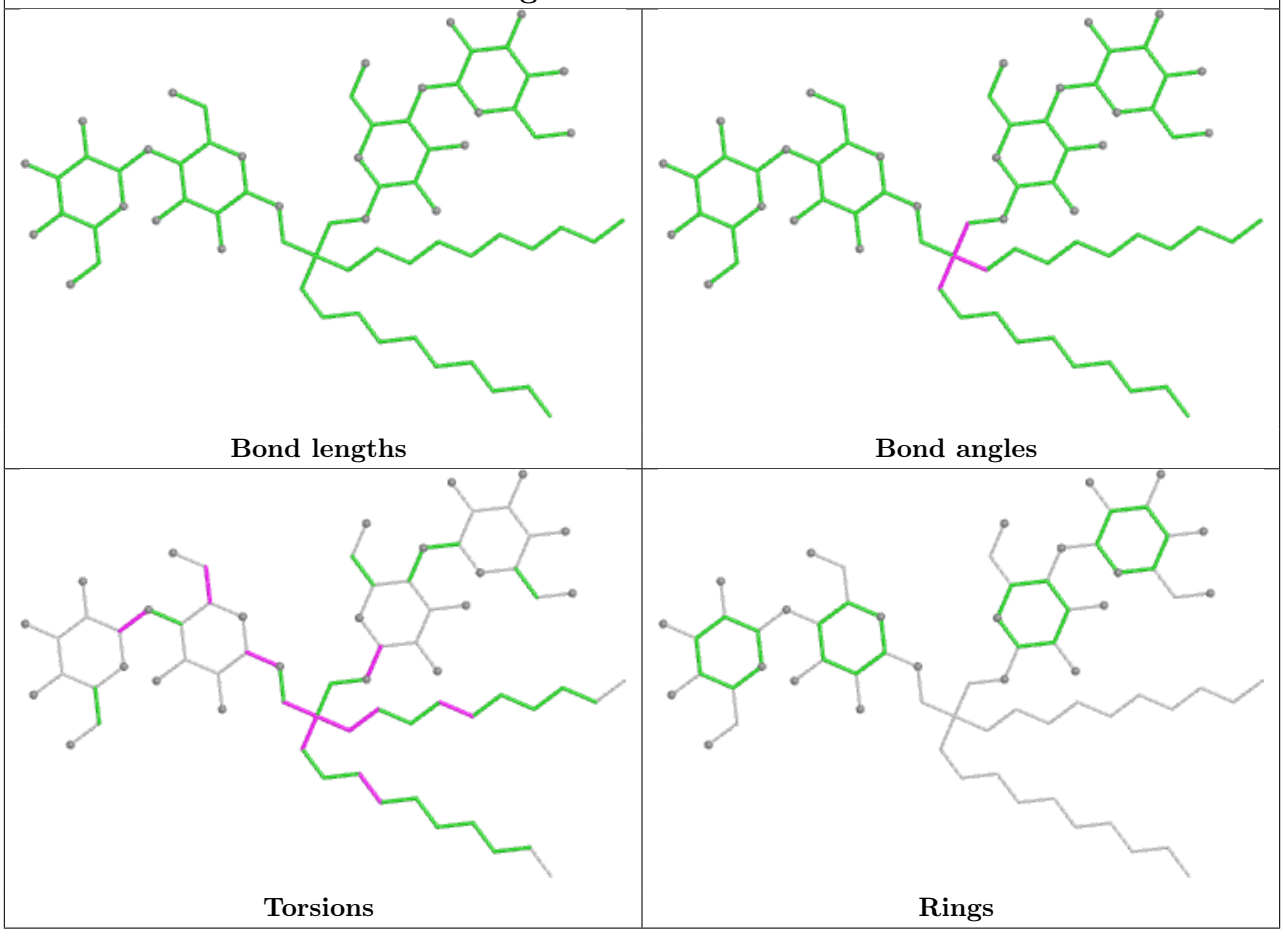
Ligand 0UR Y 322



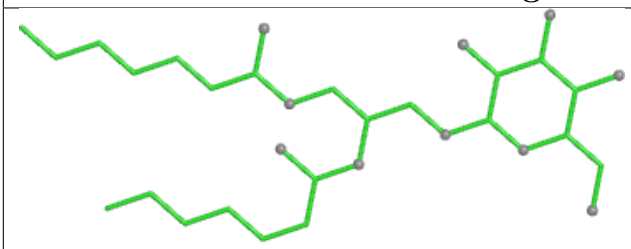
Ligand 0IE 0 312



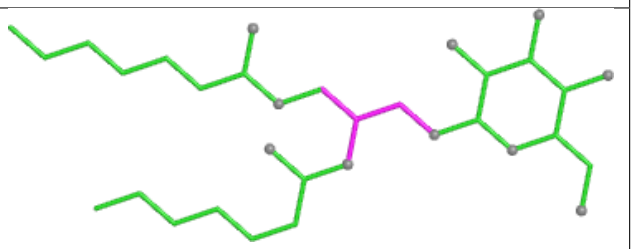
Ligand LMN Y 302



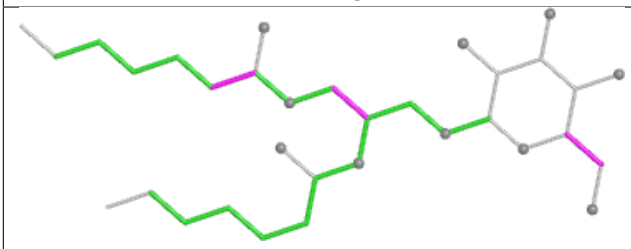
Ligand LMG u 403



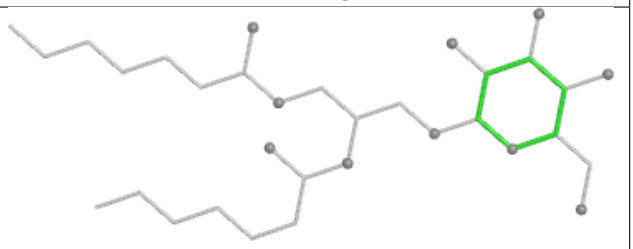
Bond lengths



Bond angles

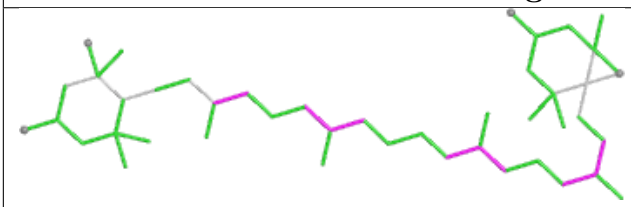


Torsions

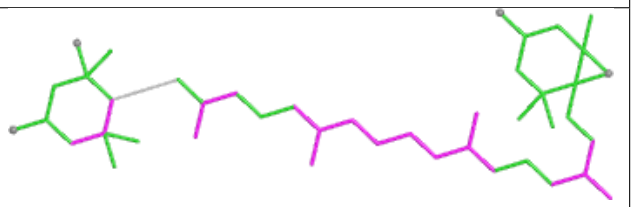


Rings

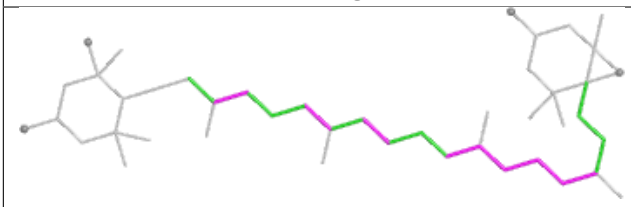
Ligand NEX u 421



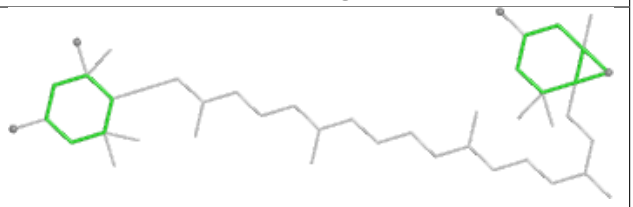
Bond lengths



Bond angles

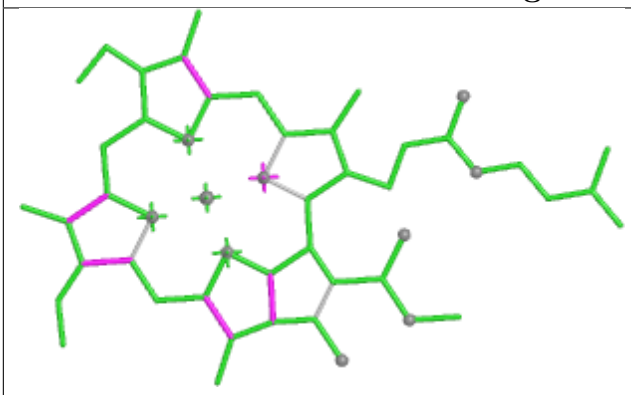


Torsions

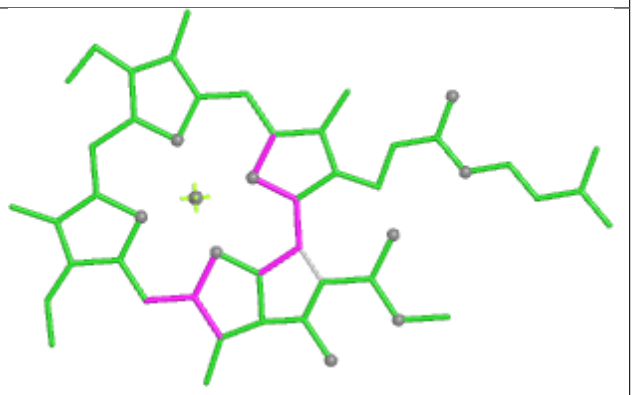


Rings

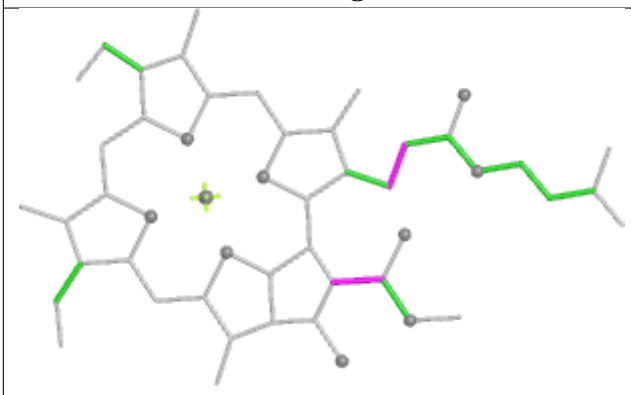
Ligand CLA Y 308



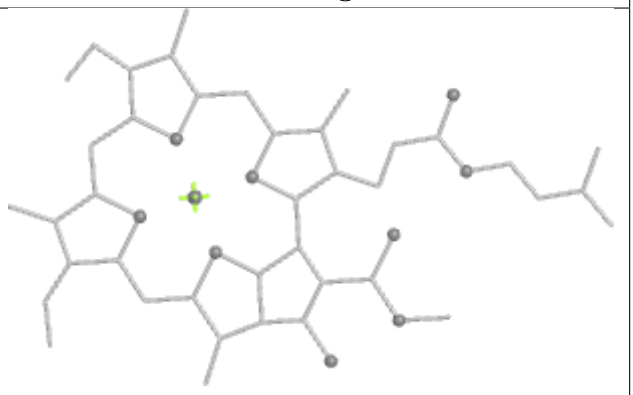
Bond lengths



Bond angles

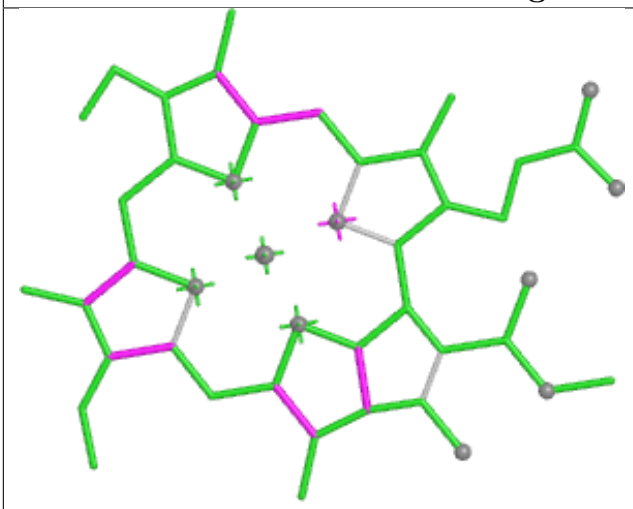


Torsions

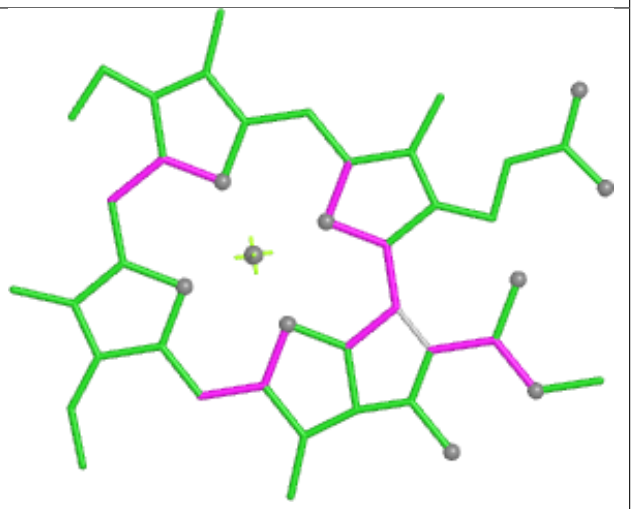


Rings

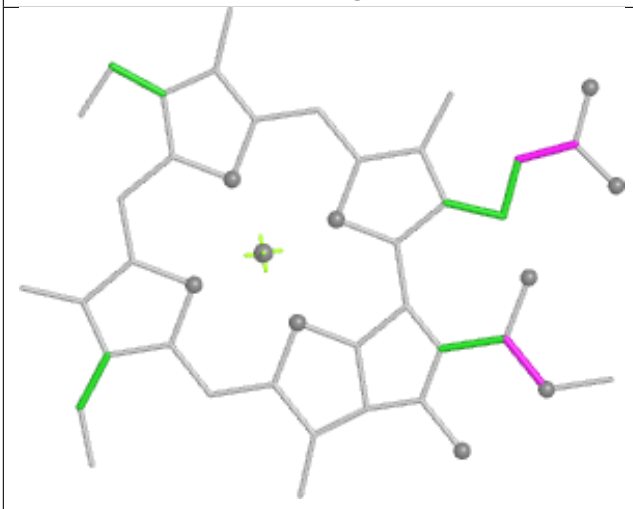
Ligand CLA 0 302



Bond lengths



Bond angles

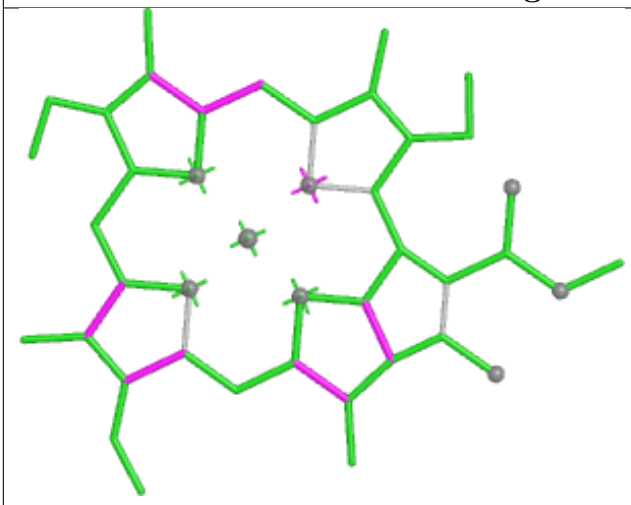


Torsions

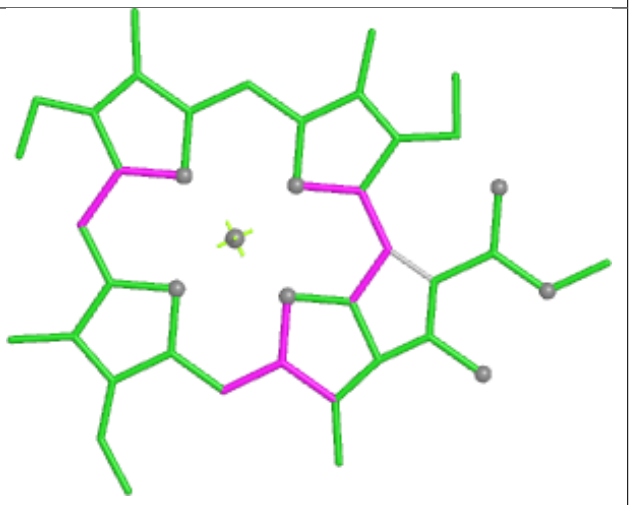


Rings

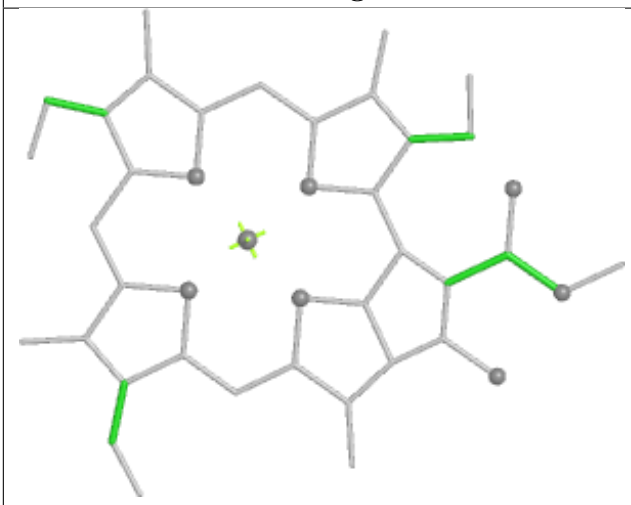
Ligand CLA Y 316



Bond lengths



Bond angles

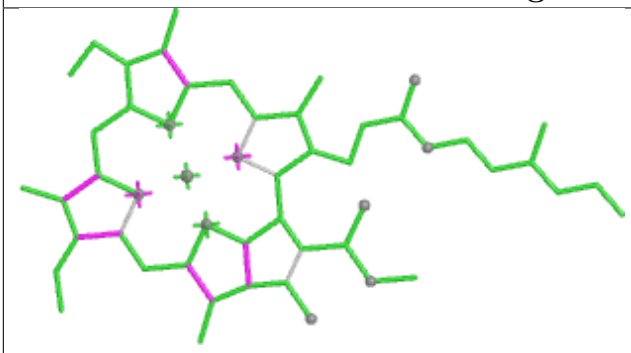


Torsions



Rings

Ligand CLA u 408



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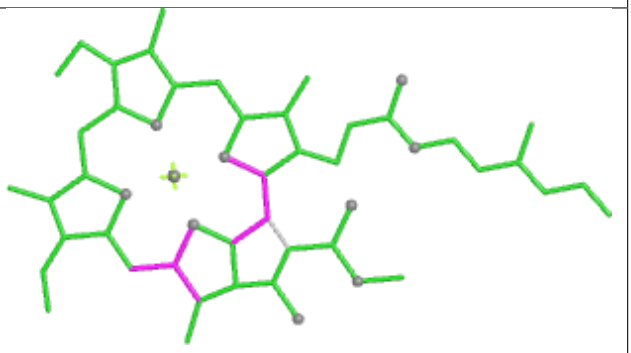
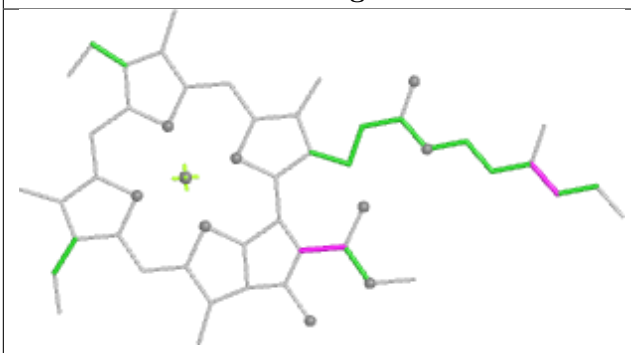


Bond angles



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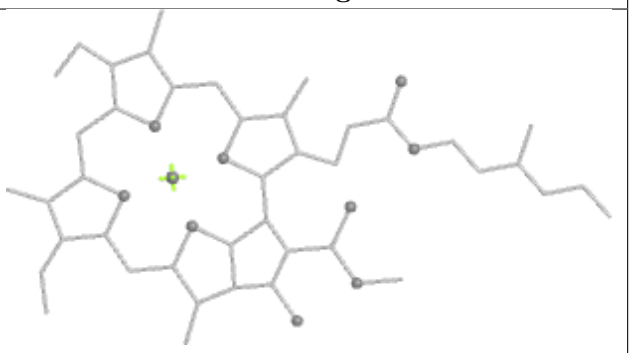
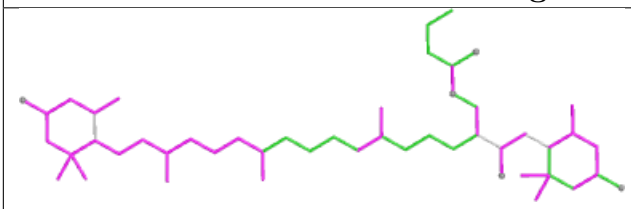


Rings

Ligand 0UR 0 313



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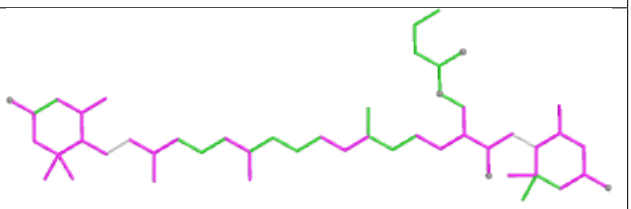
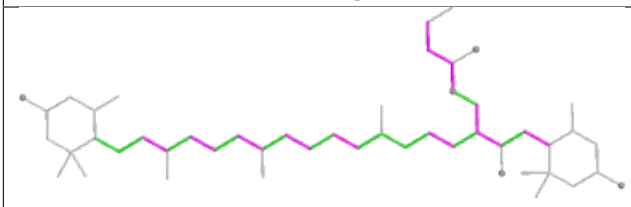


Bond angles



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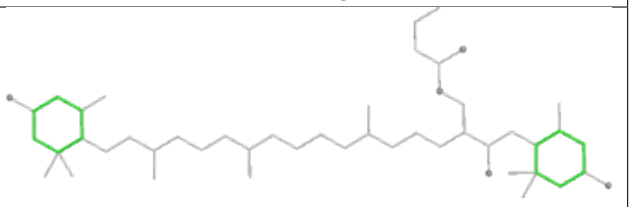
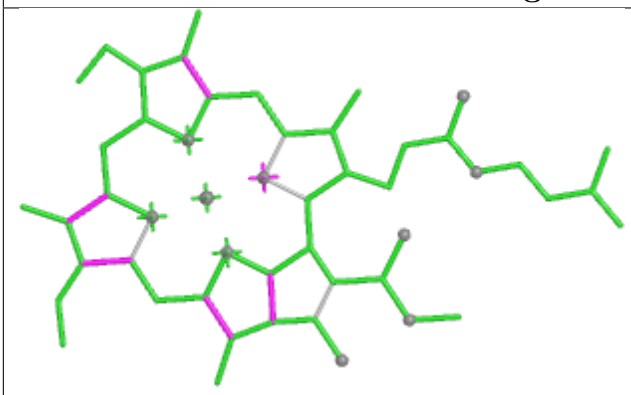


Rings

Ligand CLA Y 309



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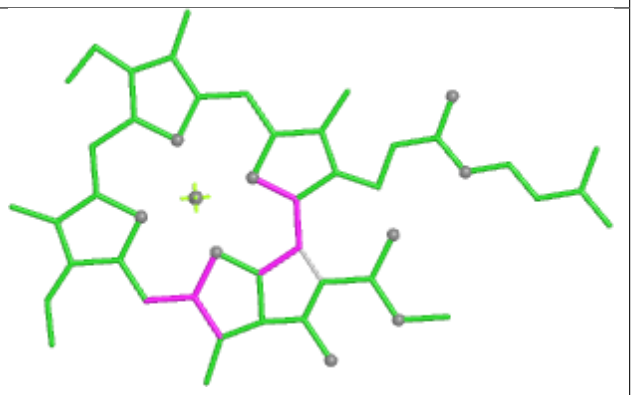

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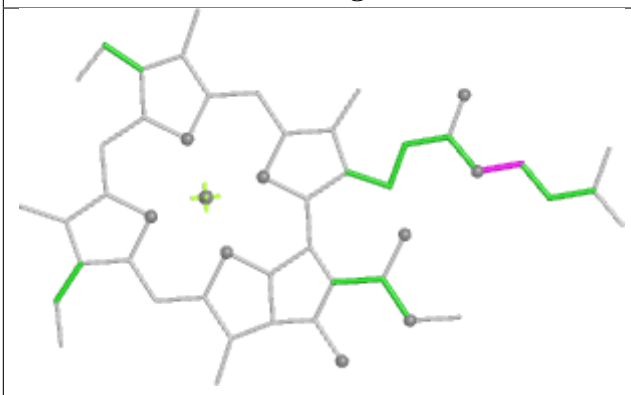

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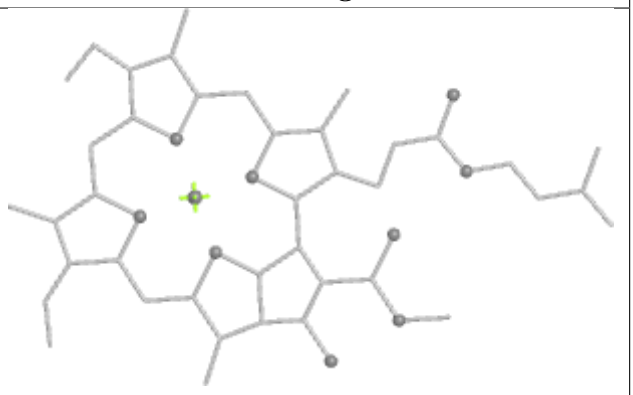
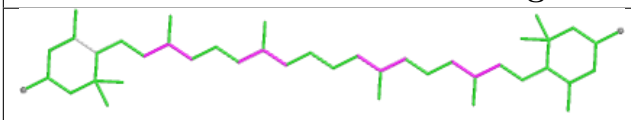


Rings

Ligand LUT u 419



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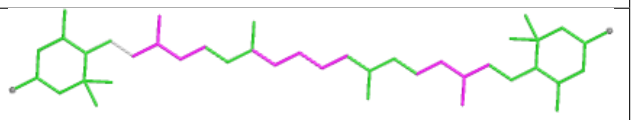
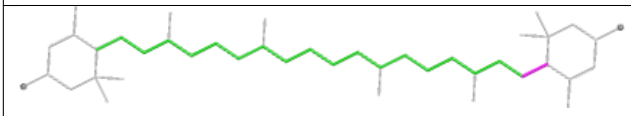


Bond angles



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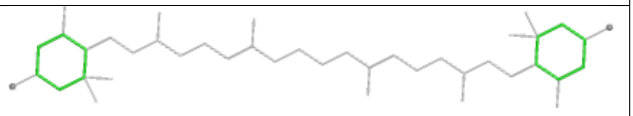
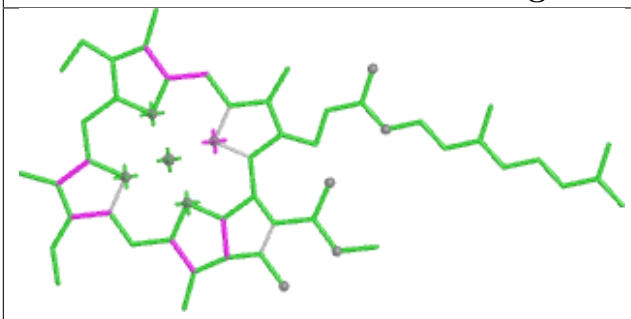


Rings

Ligand CLA 0 309



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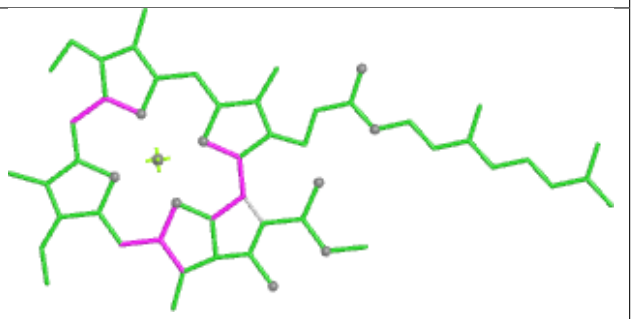
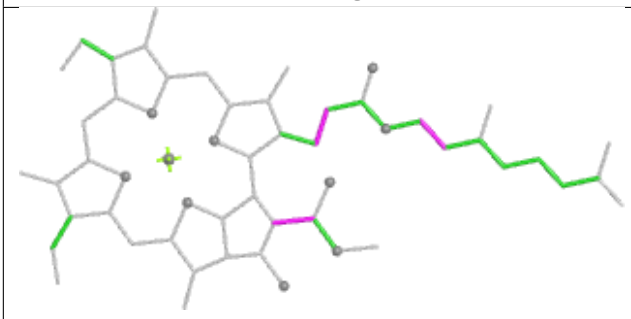


Bond angles



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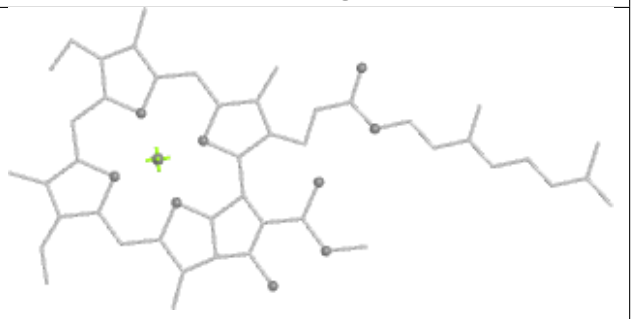
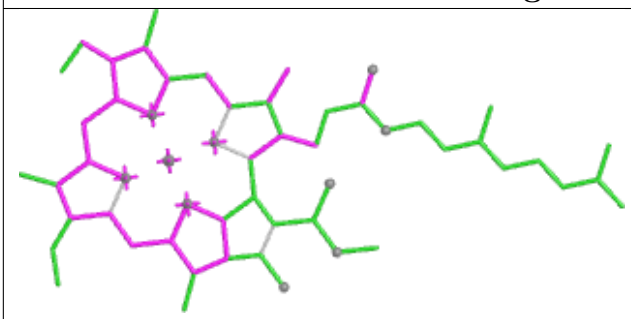


Rings

Ligand CLA Y 303



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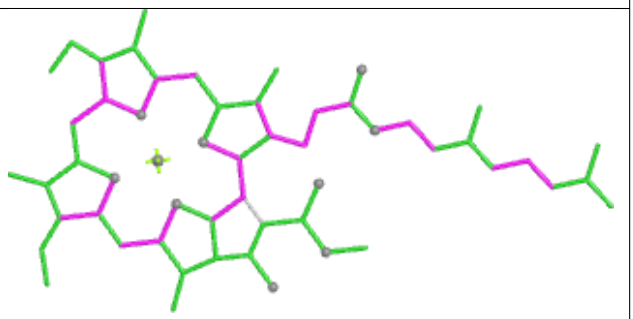
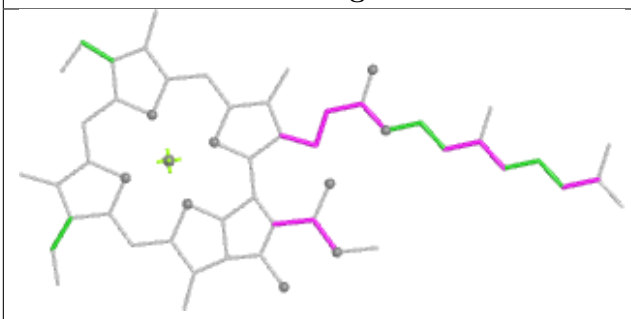


Bond angles



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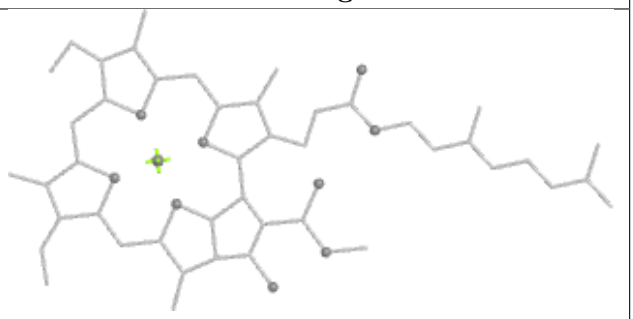
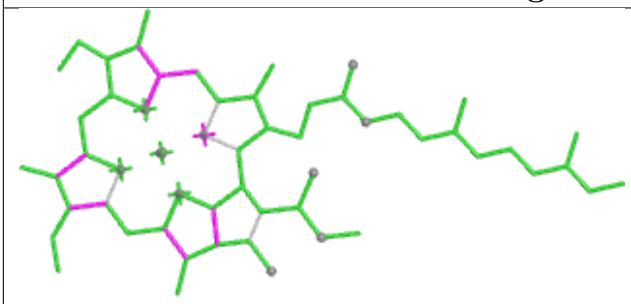


Rings

Ligand CLA u 414



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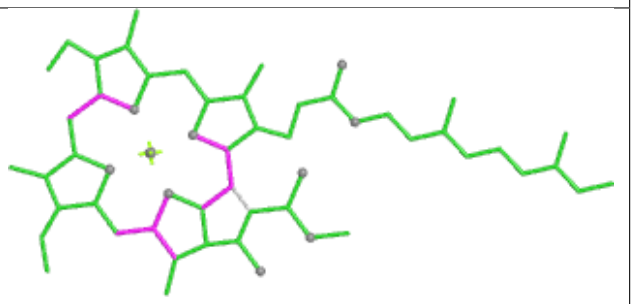
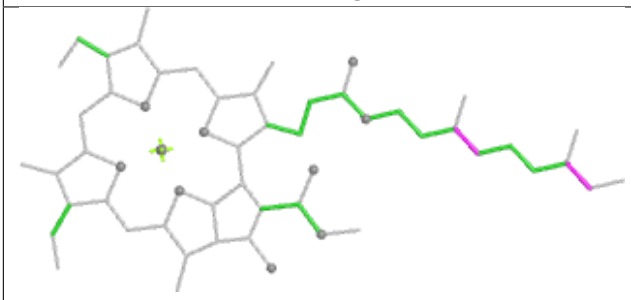


Bond angles



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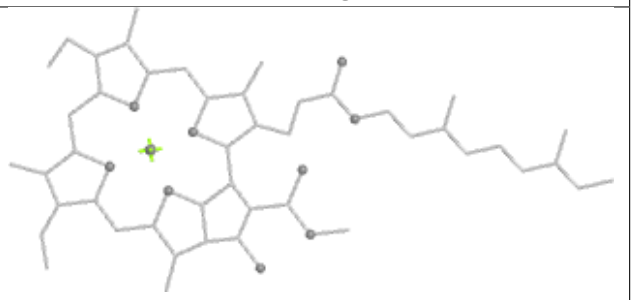
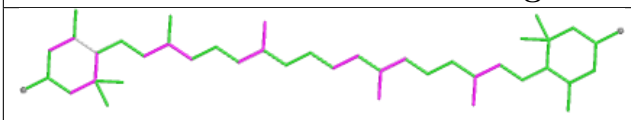


Rings

Ligand LUT Y 320



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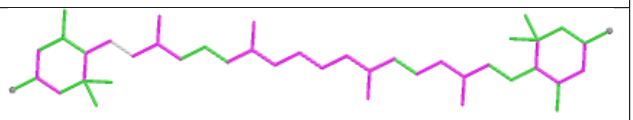
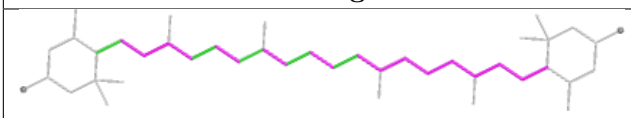


Bond angles



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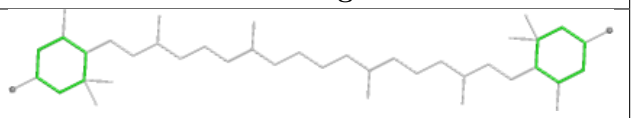
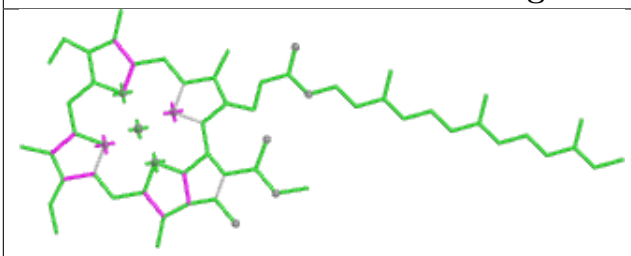
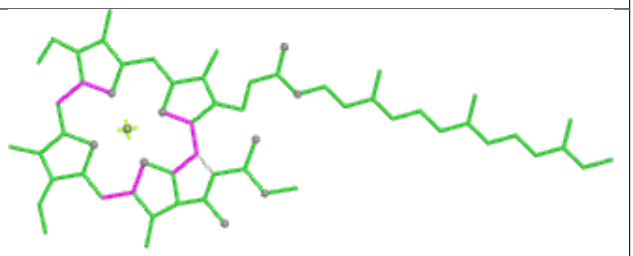


Rings

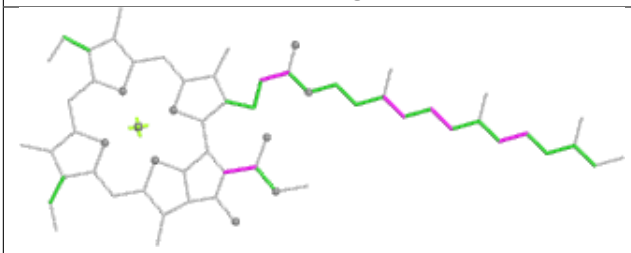
Ligand CLA u 407



Bond lengths



Bond angles



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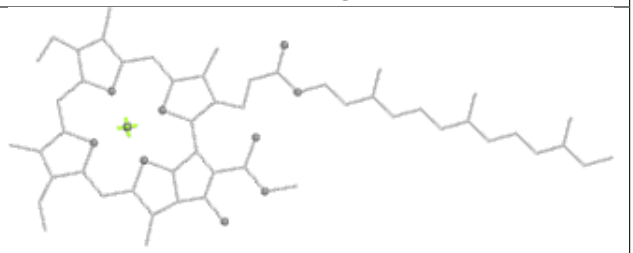
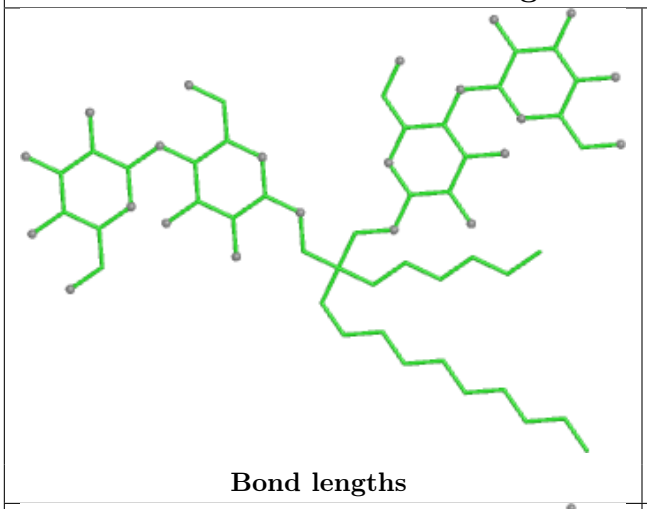


Rings

Ligand LMN Y 301



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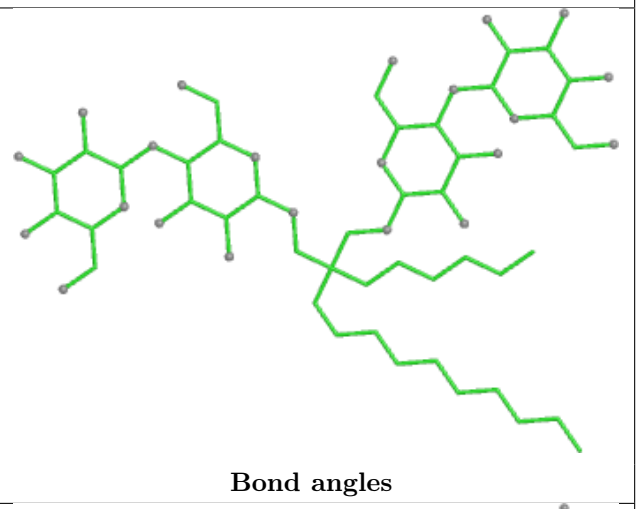
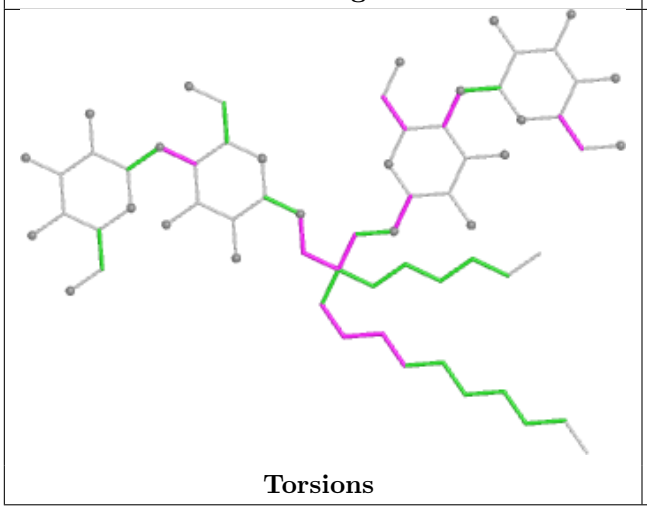


Bond angles



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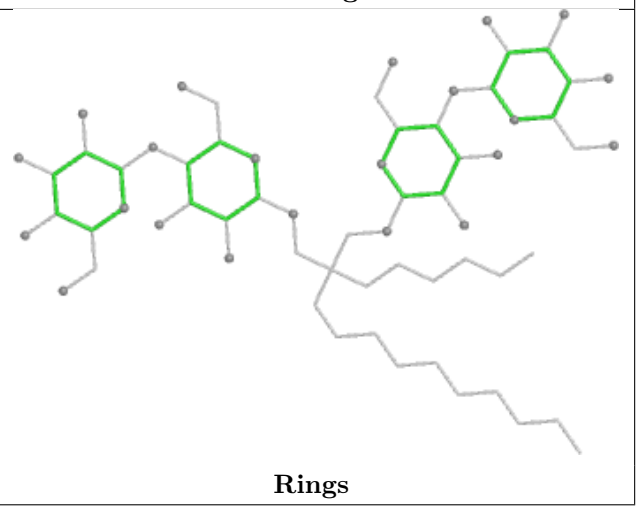
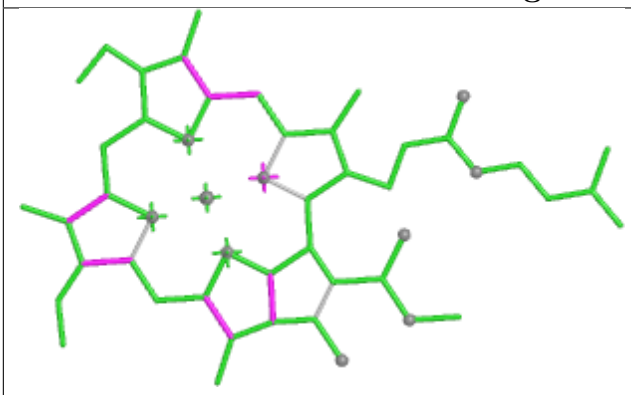


Rings

Ligand CLA Y 310



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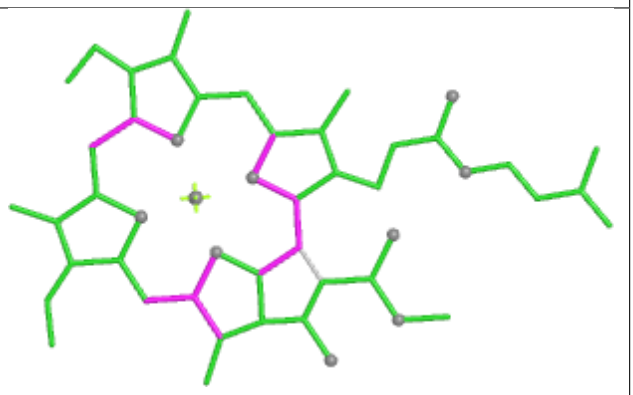
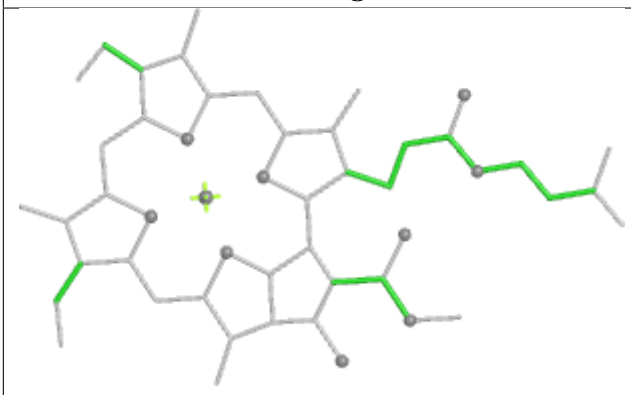


Bond angles



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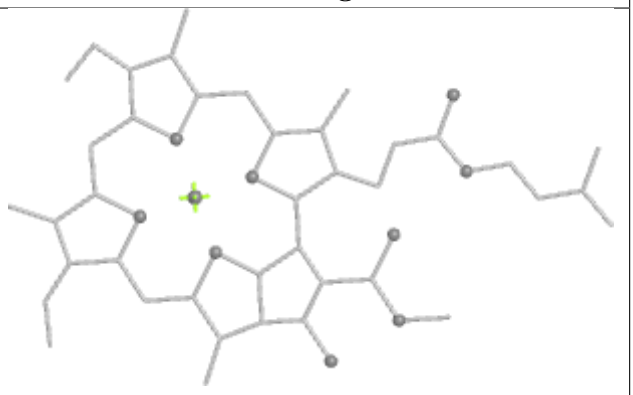
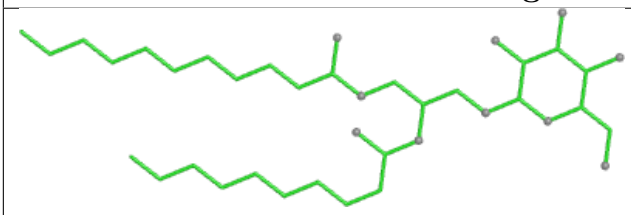


Rings

Ligand LMG u 402



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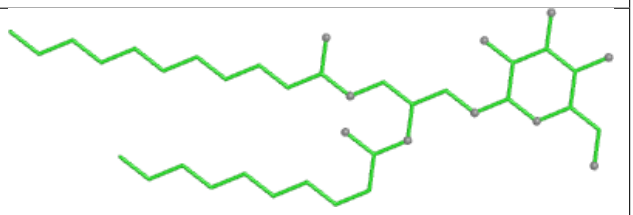
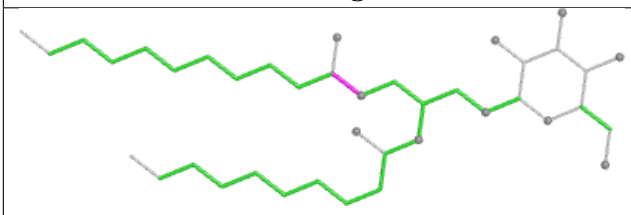


Bond angles



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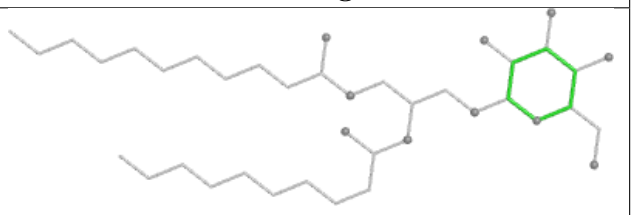
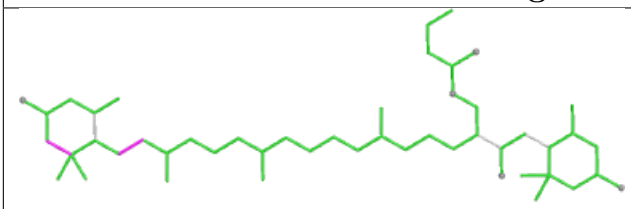


Rings

Ligand 0UR u 420



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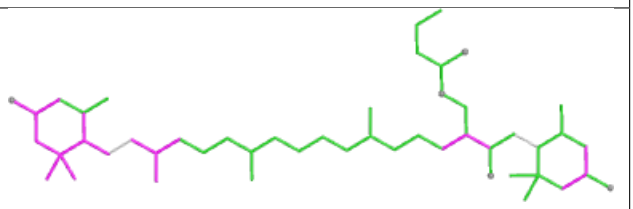
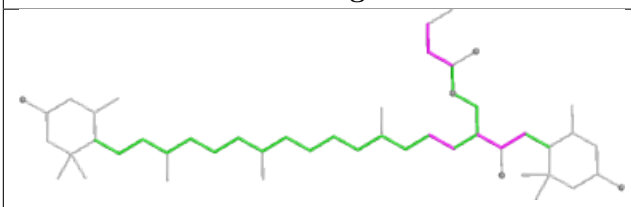


Bond angles



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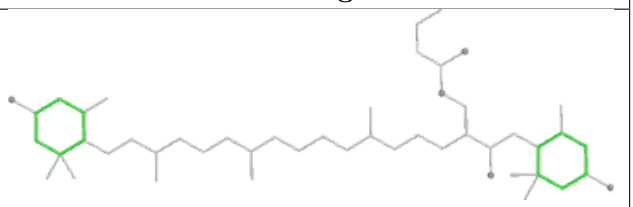
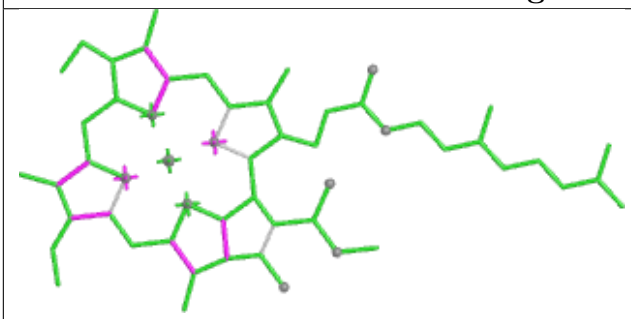


Rings

Ligand CLA u 411



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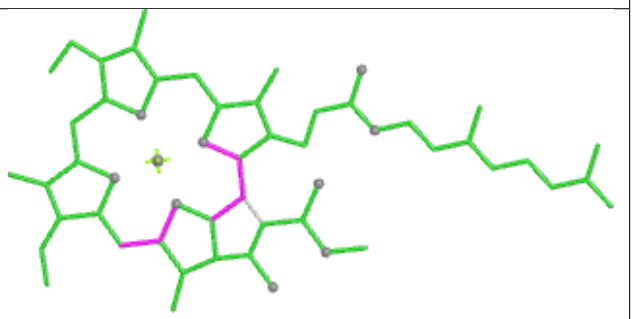
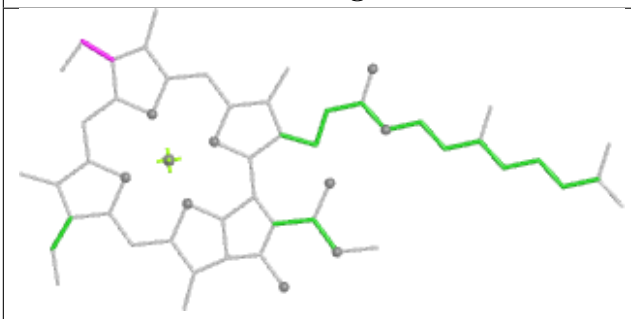


Bond angles



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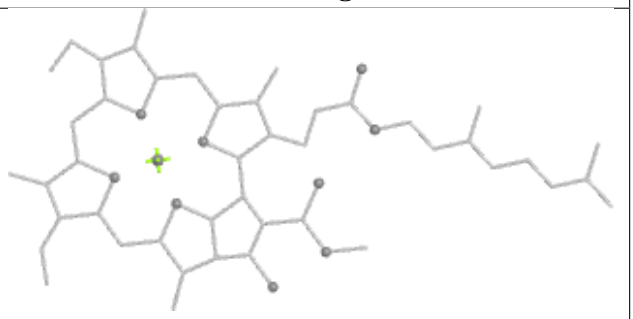
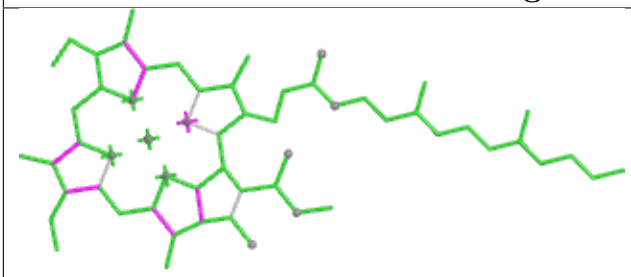
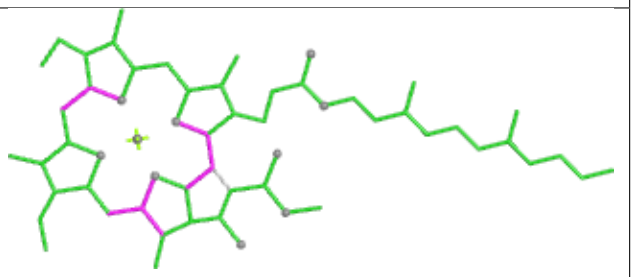


Rings

Ligand CLA Y 305



Bond lengths



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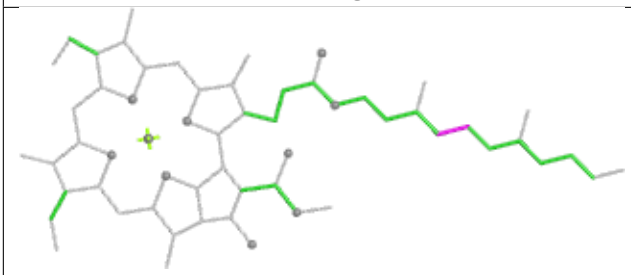
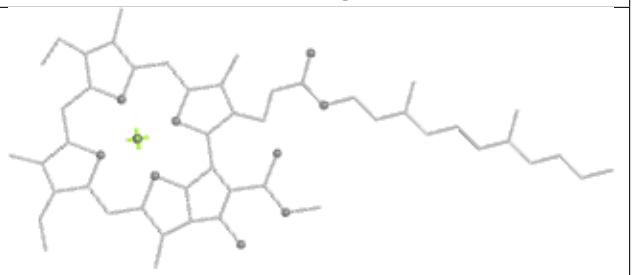
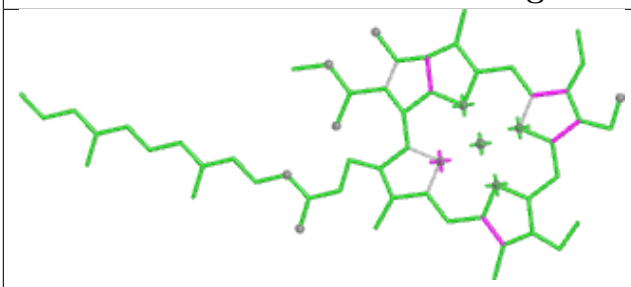


Torsions



Rings

Ligand CHL u 409



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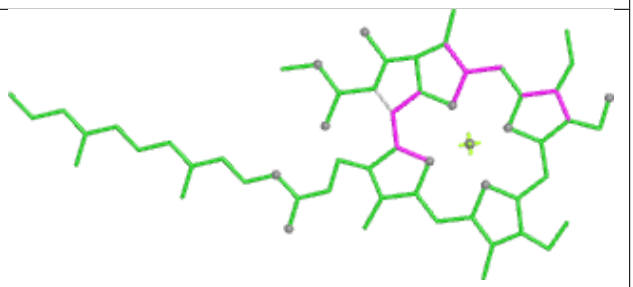

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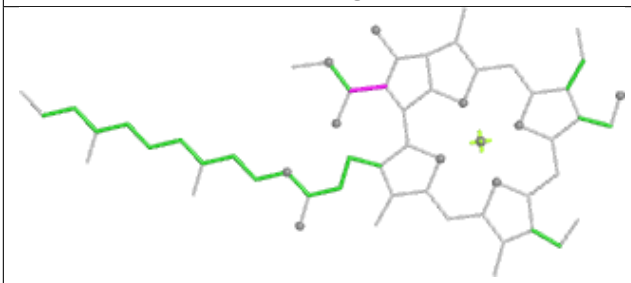

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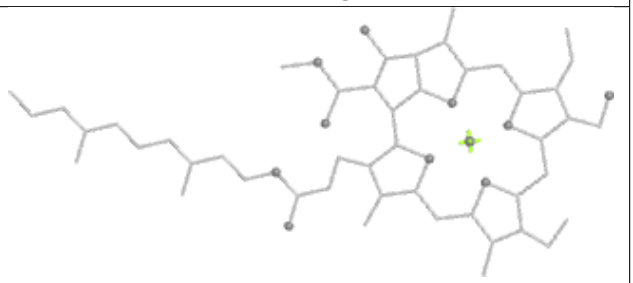
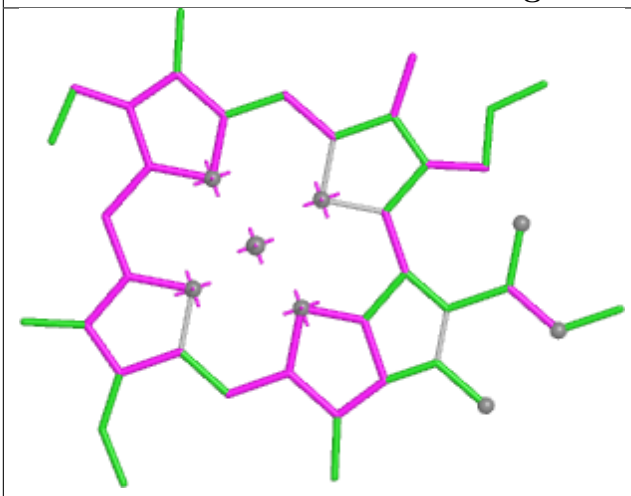


Rings

Ligand CLA Y 313



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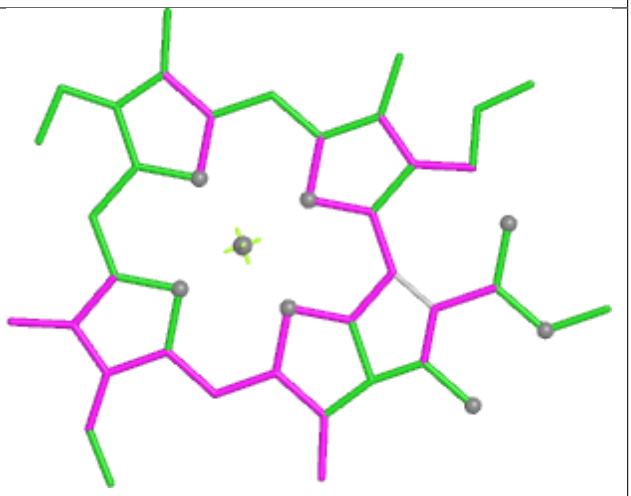

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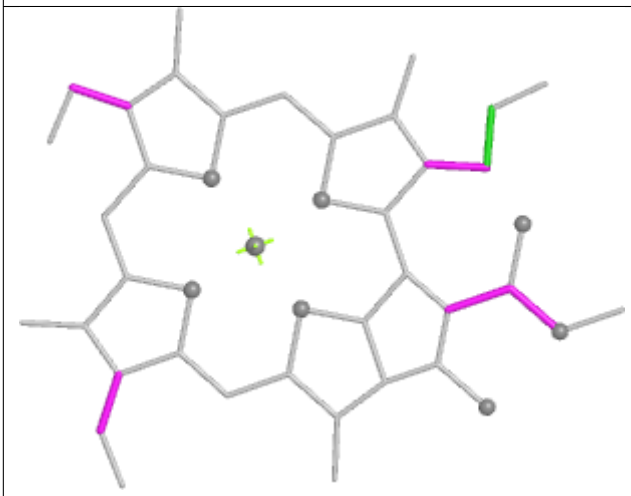

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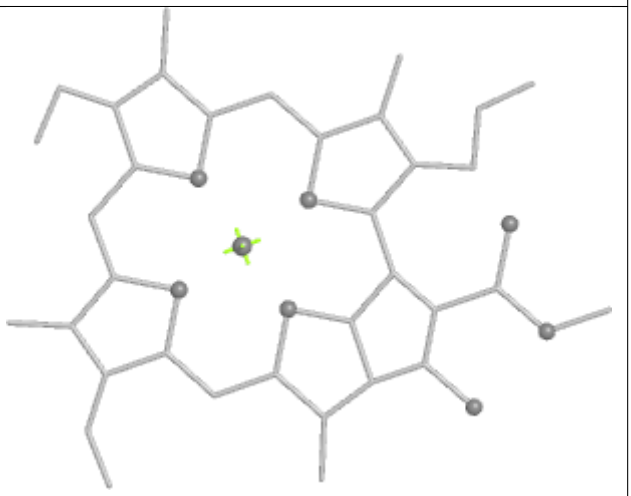
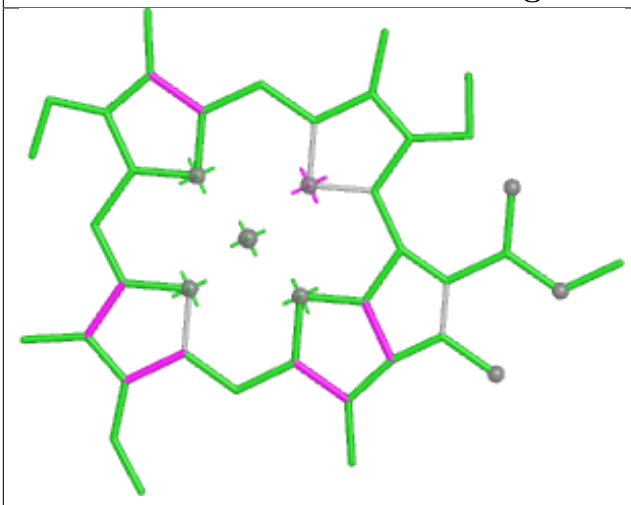


Rings

Ligand CLA Y 306



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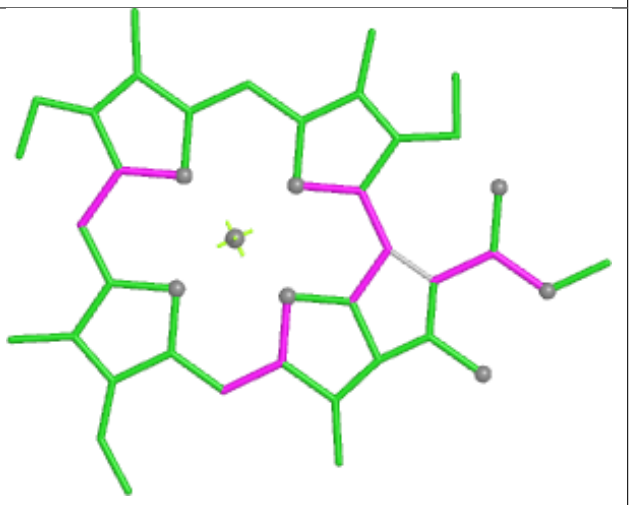

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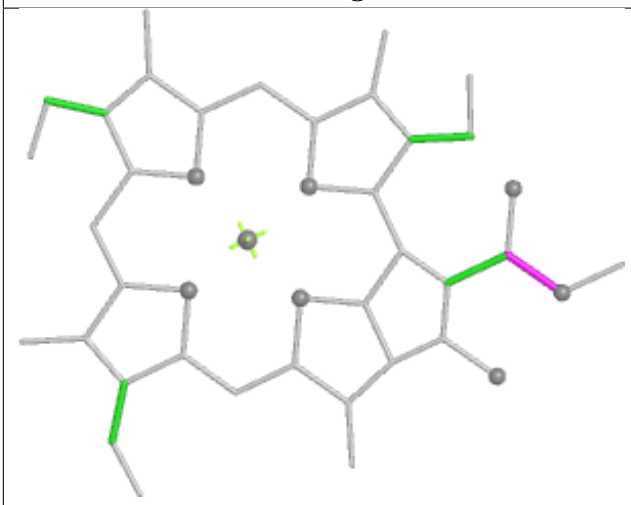
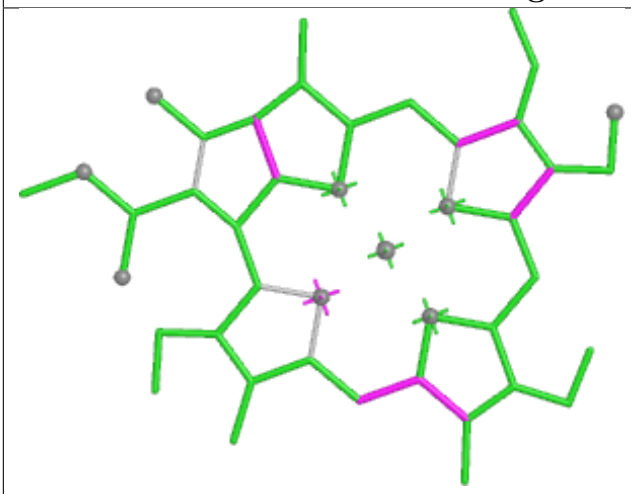


Torsions



Rings

Ligand CHL 0 310



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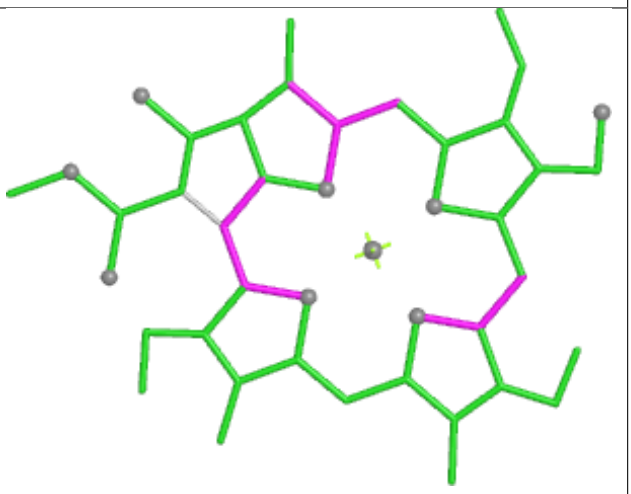

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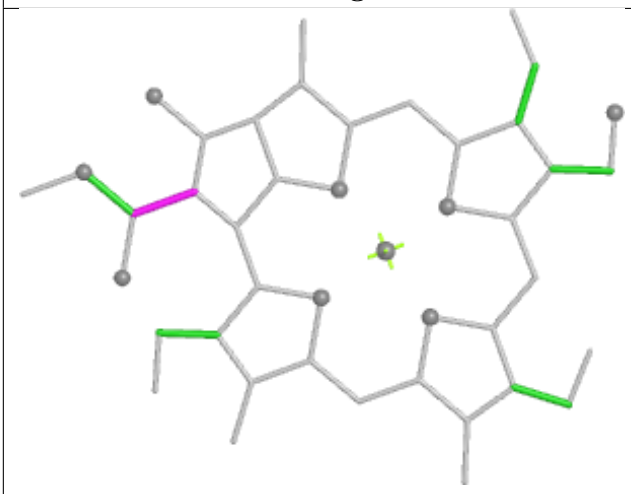
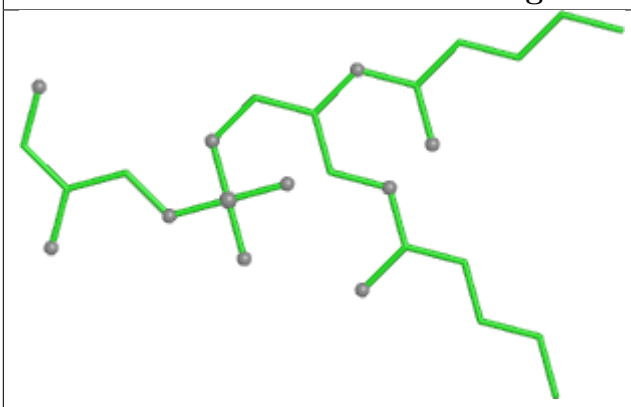


Torsions



Rings

Ligand LHG u 401



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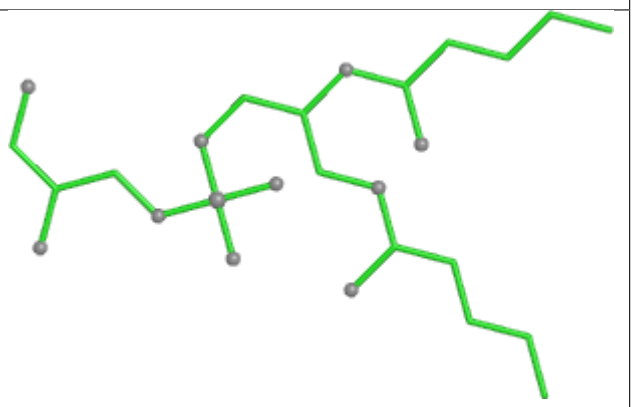

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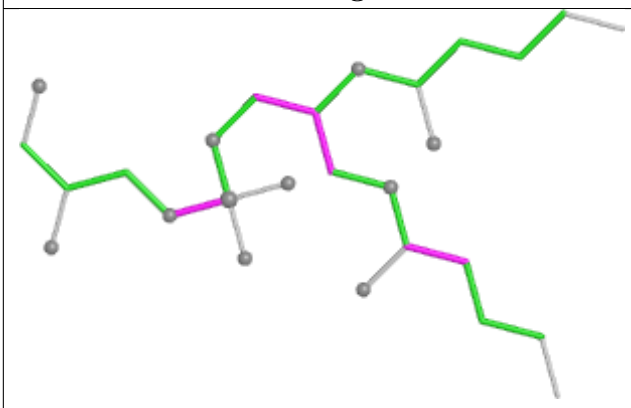

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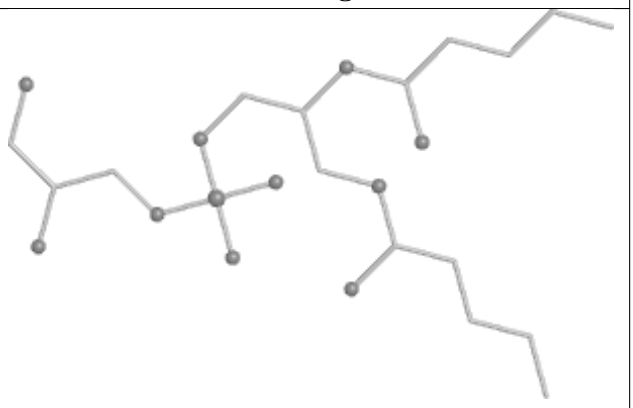

Rings

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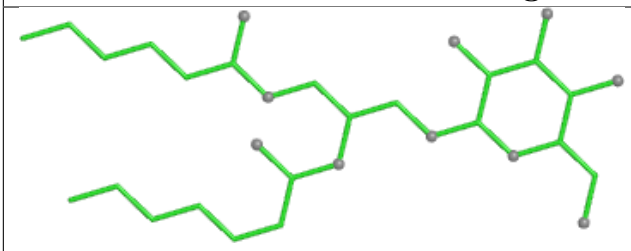

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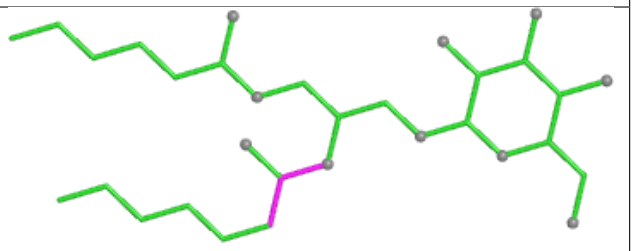

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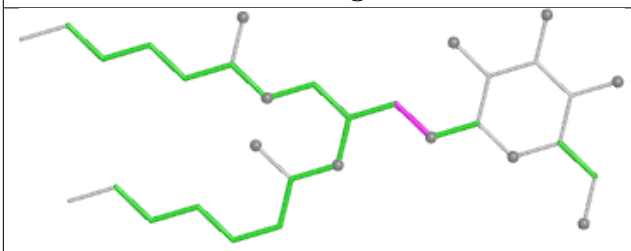

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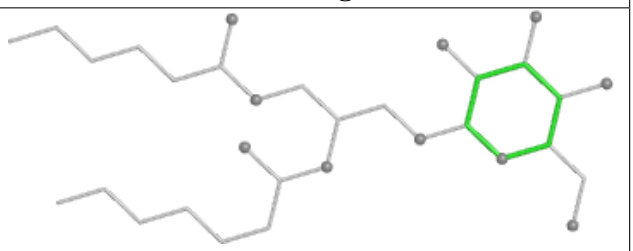
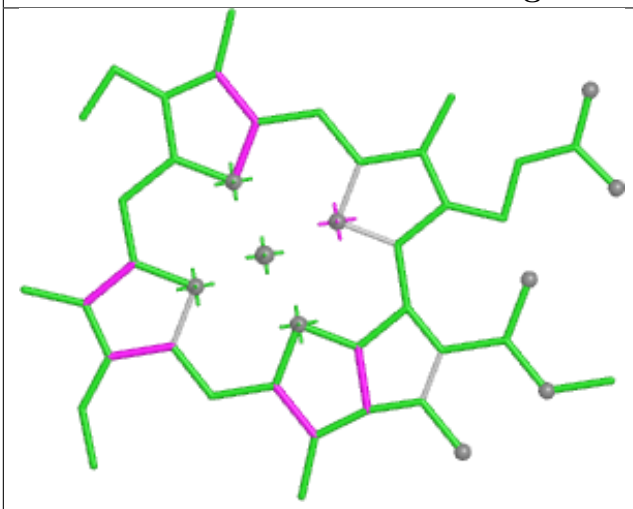


Rings

Ligand CLA Y 304



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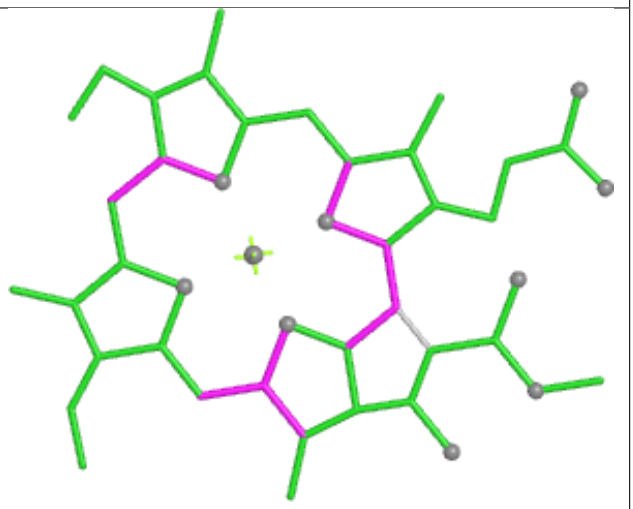

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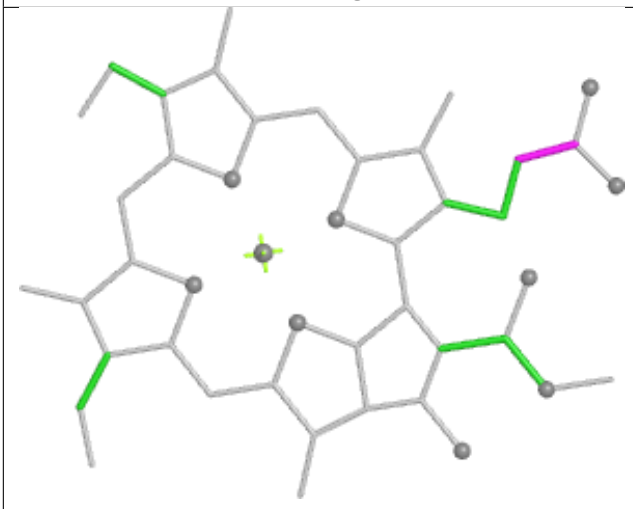
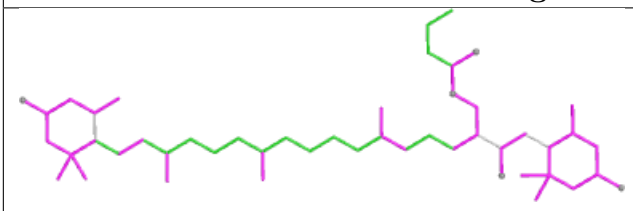


Torsions



Rings

Ligand 0UR 0 314



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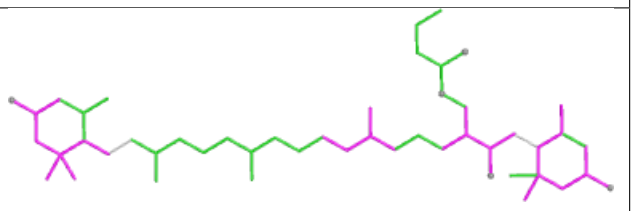

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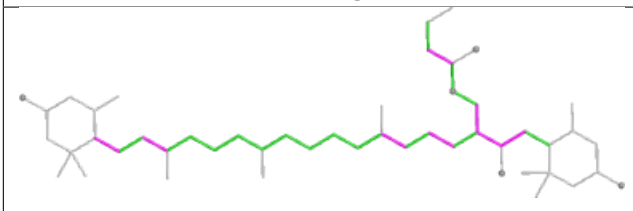

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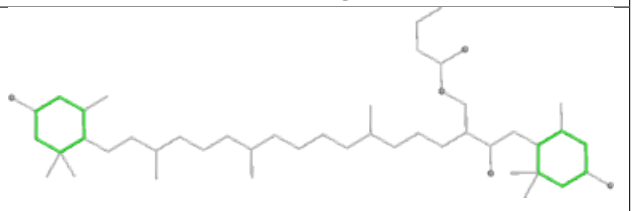
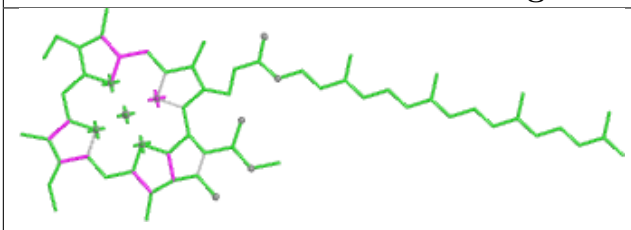


Rings

Ligand CLA u 405



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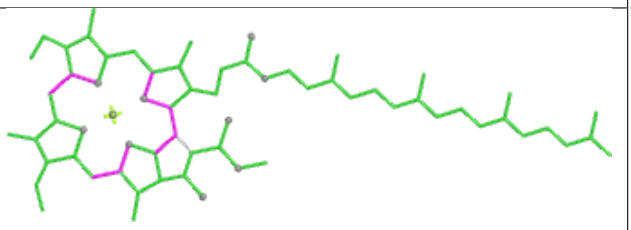
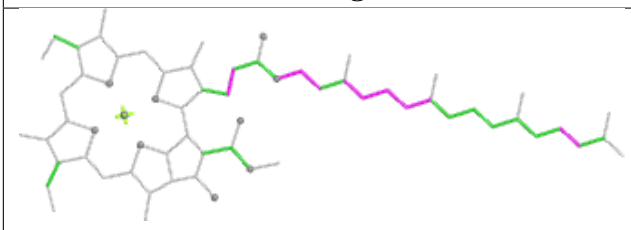


Bond angles



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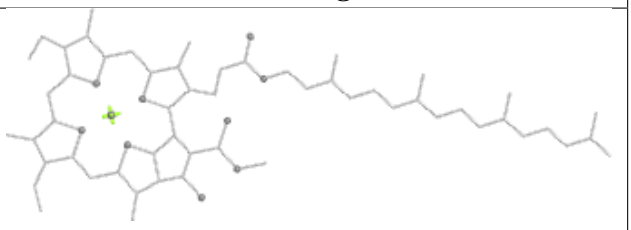
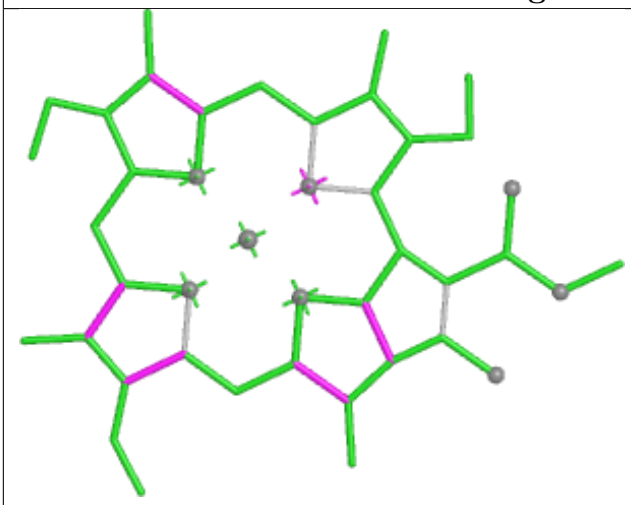


Rings

Ligand CLA 0 305



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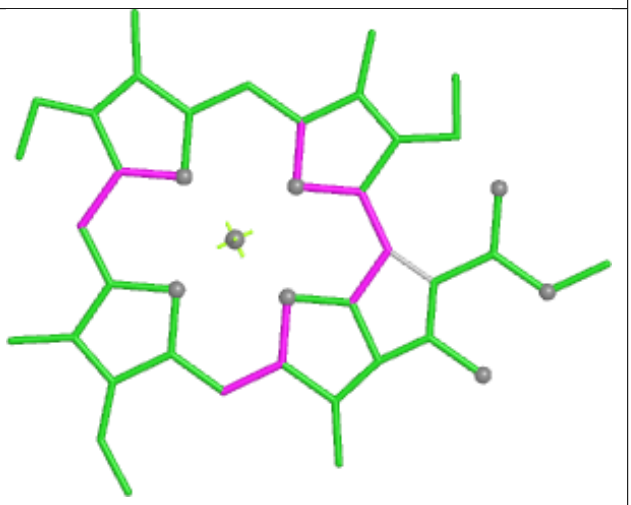
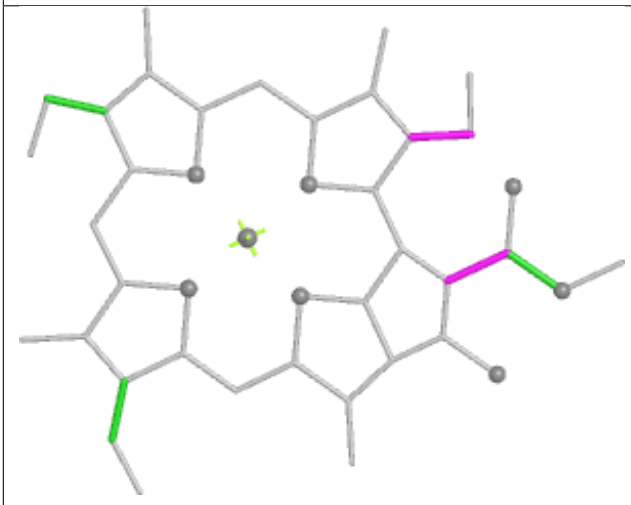


Bond angles



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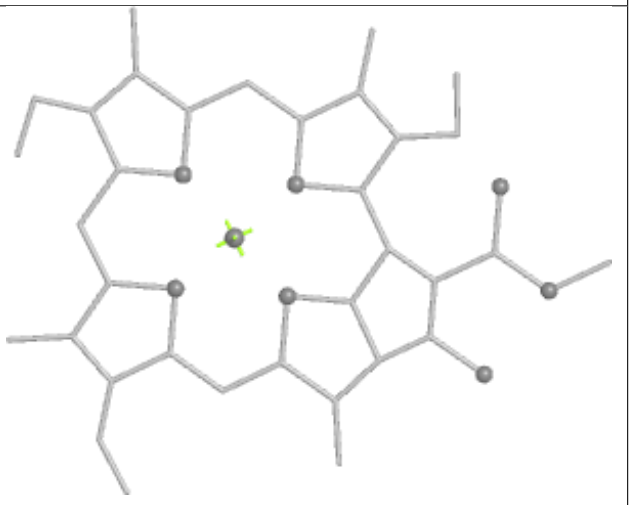
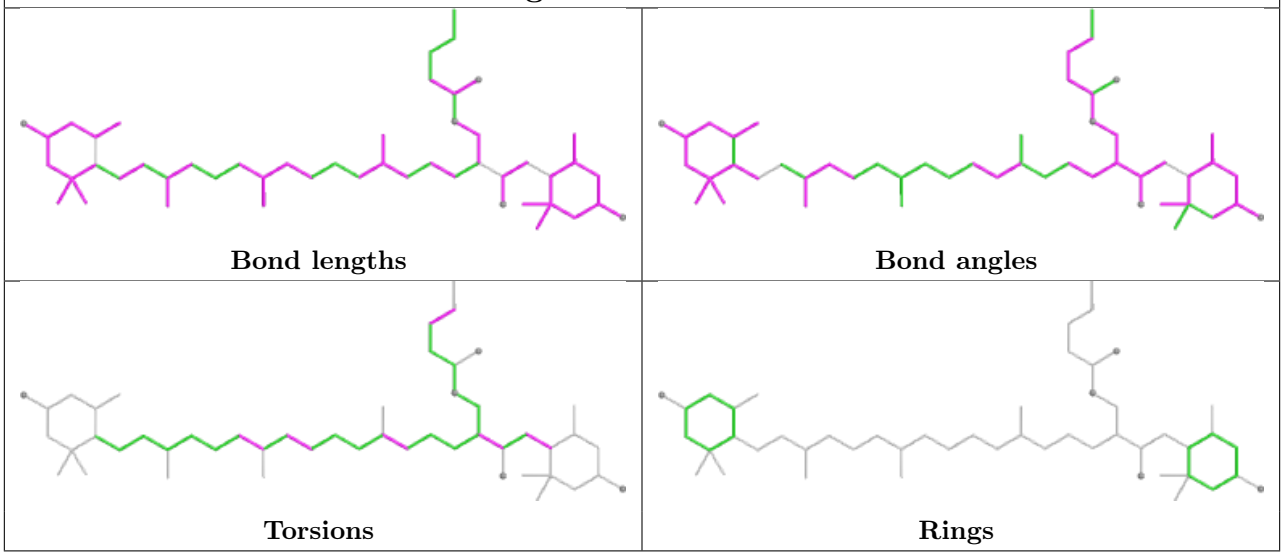


Rings

Ligand 0UR Y 318



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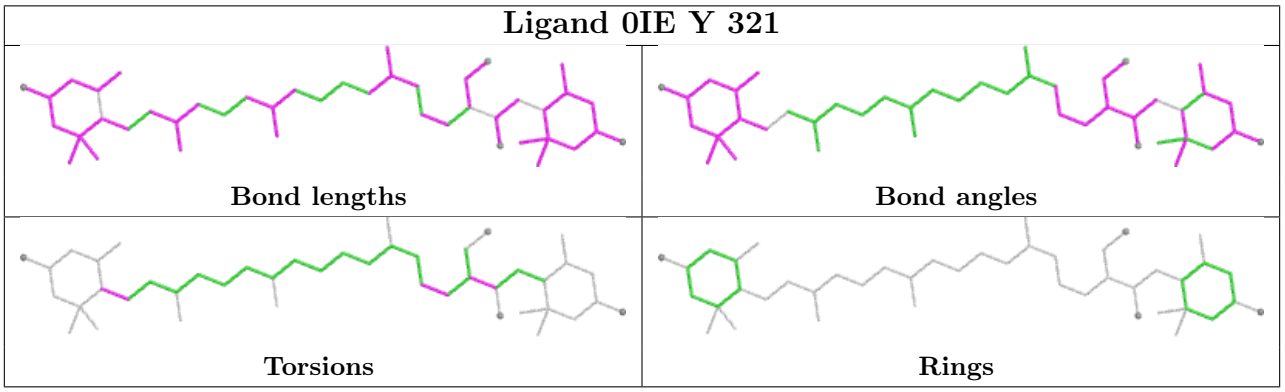
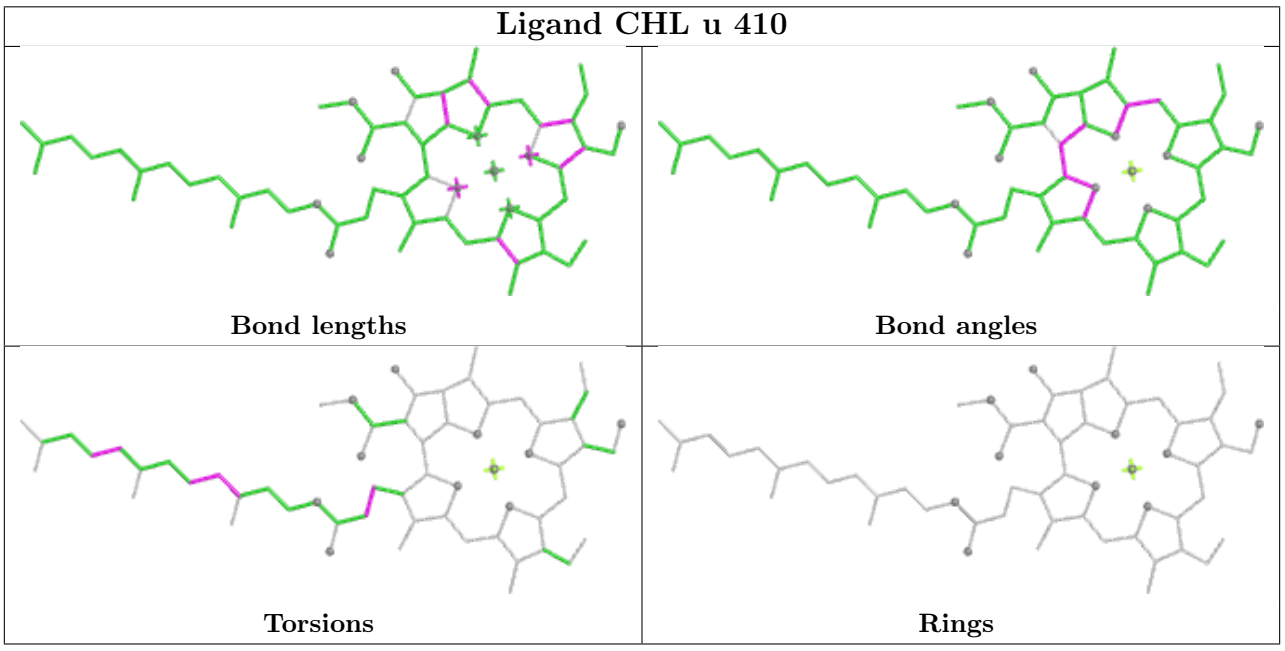


Ligand CHL u 410



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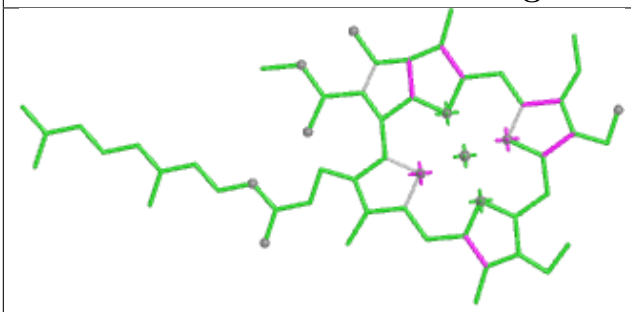
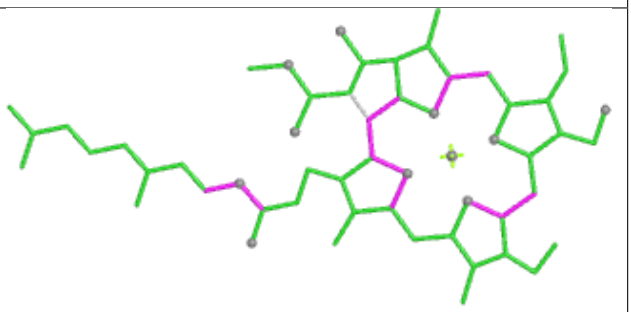
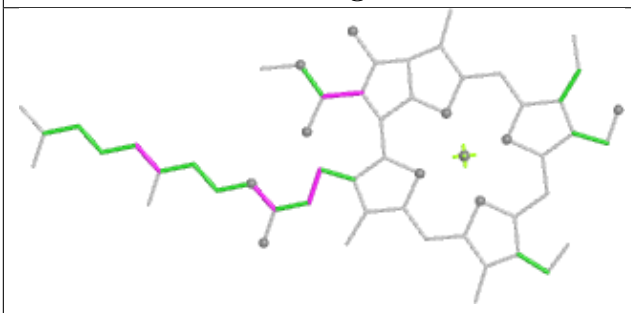
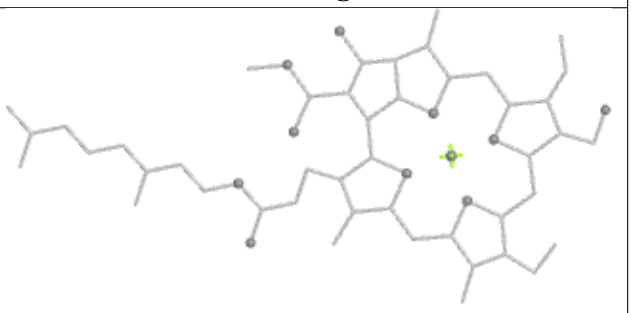
 Bond lengths	 Bond angles
 Torsions	 Rings

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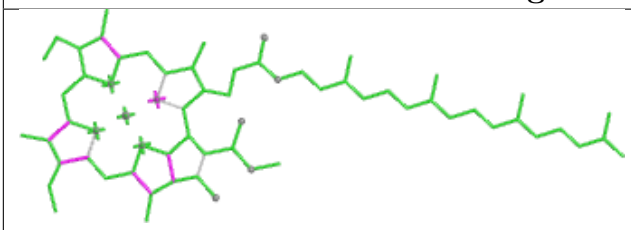
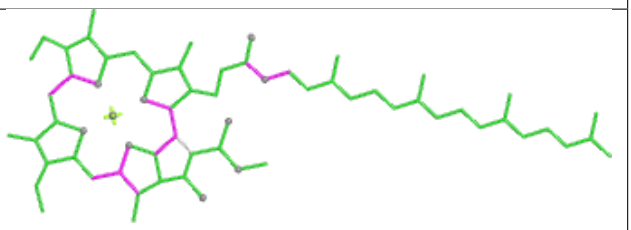
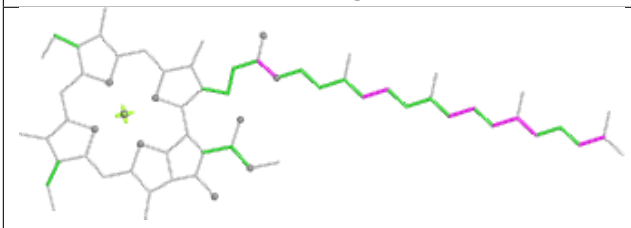
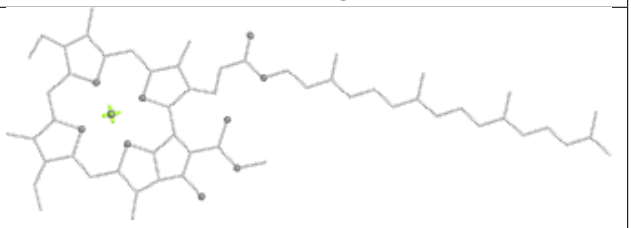
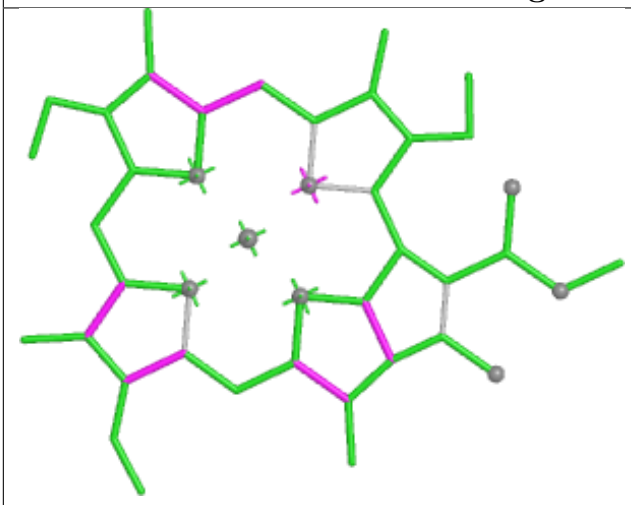
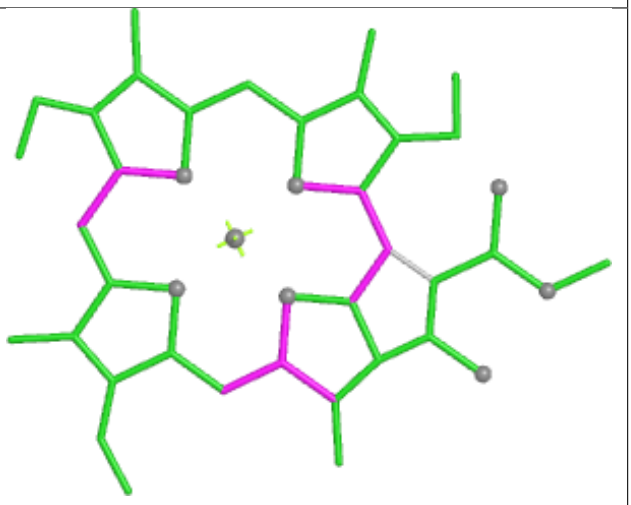
 Bond lengths	 Bond angles
 Torsions	 Rings

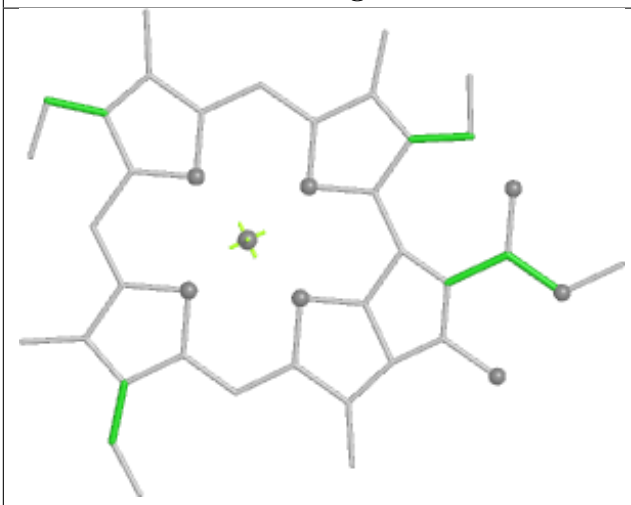
Ligand CLA 0 308



Bond lengths



Bond angles

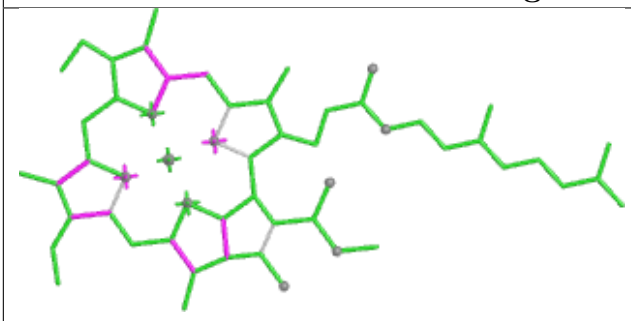


Torsions



Rings

Ligand CLA Y 314



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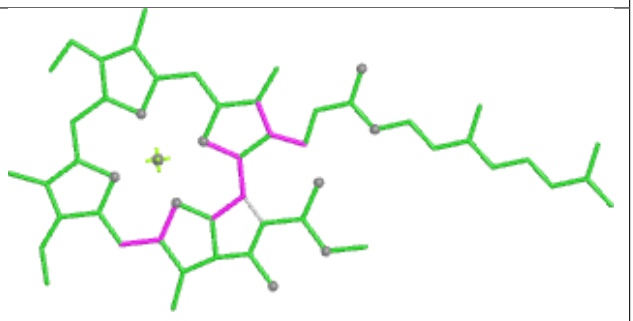
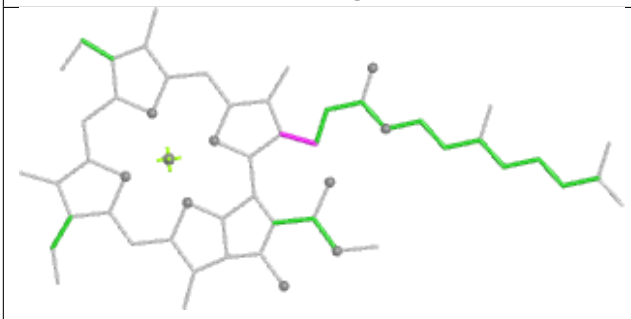
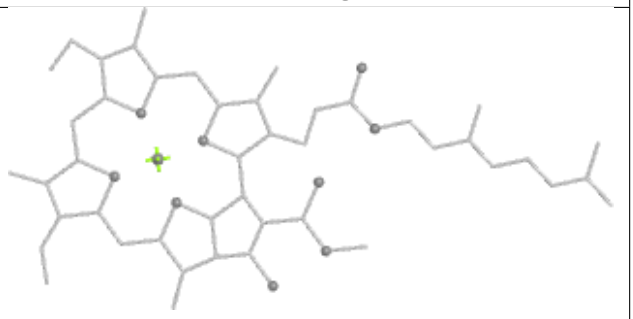


Bond angles

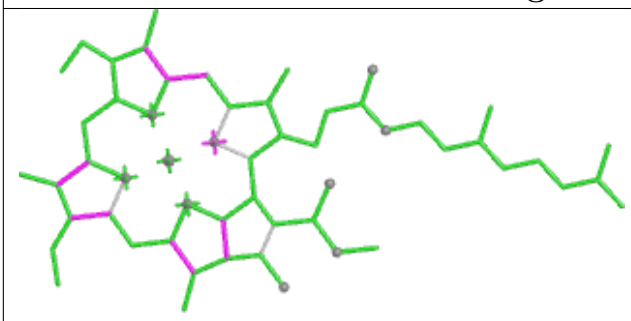


Torsions

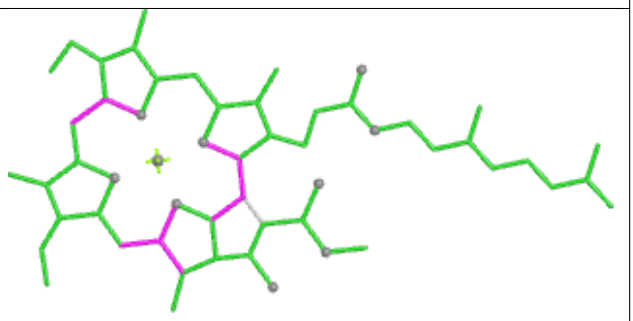


Rings

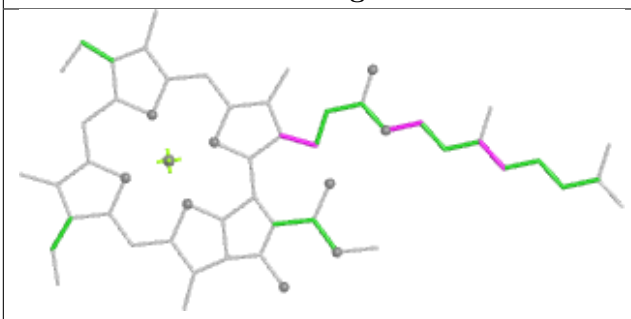
Ligand CLA u 416



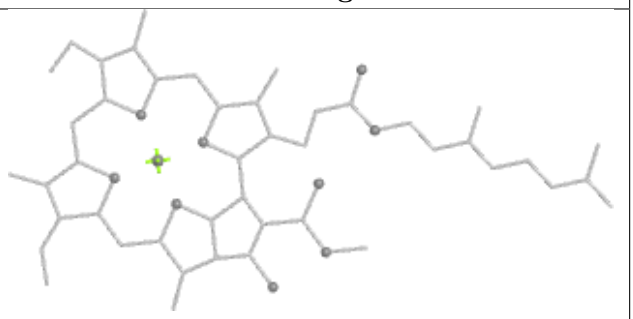
Bond lengths



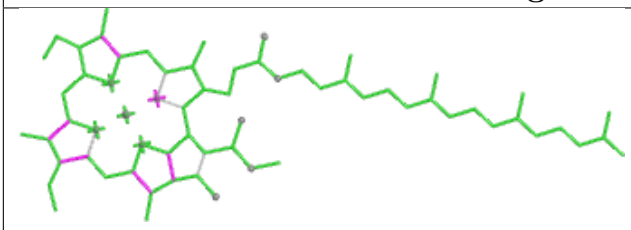
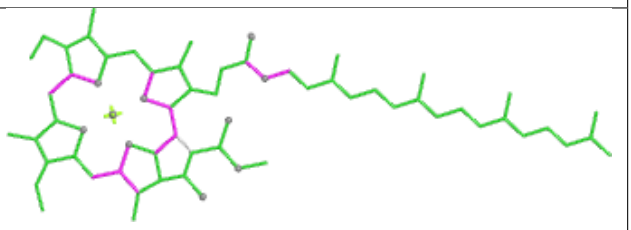
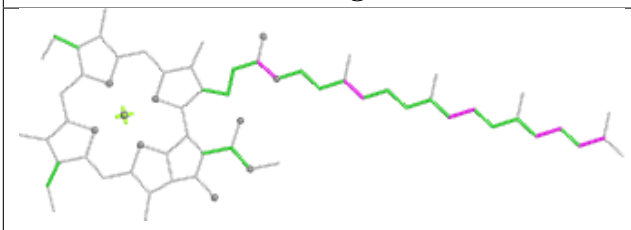
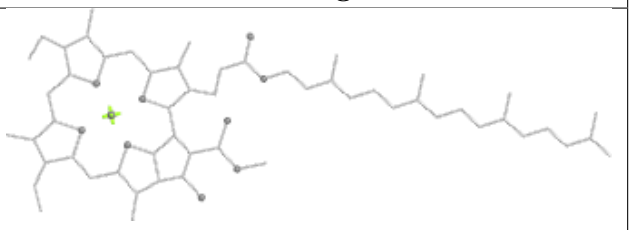
Bond angles

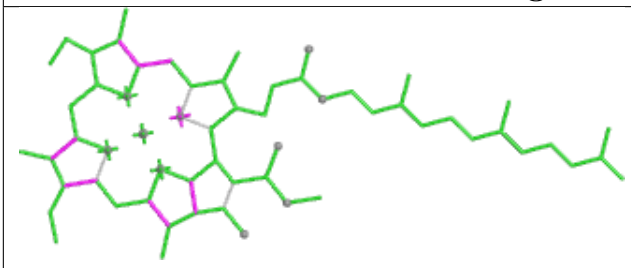
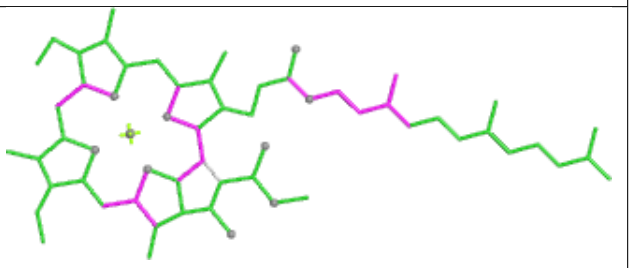
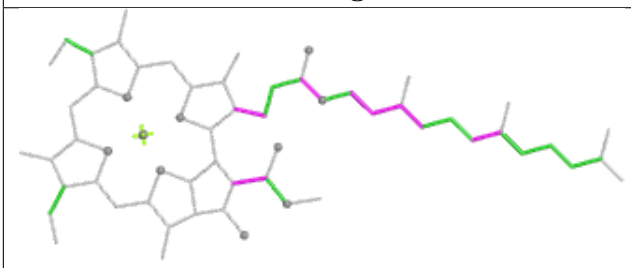
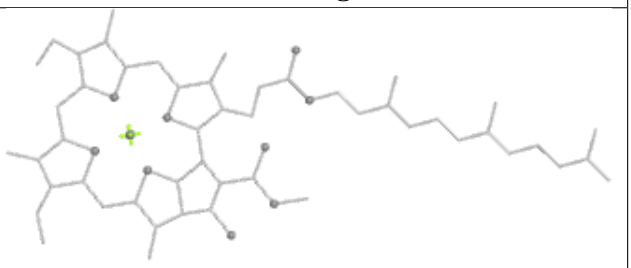


Torsions

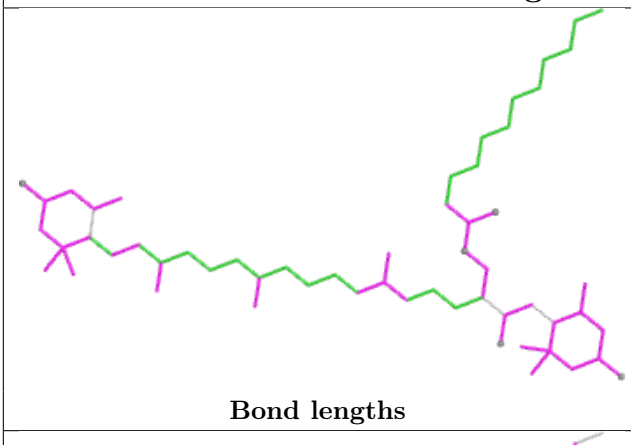


Rings

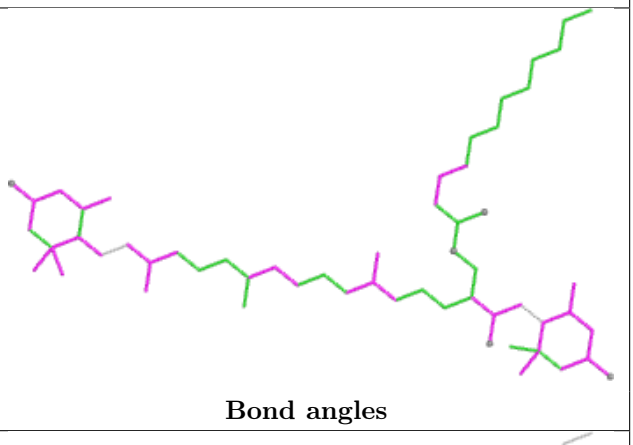
Ligand CLA u 412	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand CLA u 417	
	
Bond lengths	Bond angles
	
Torsions	Rings

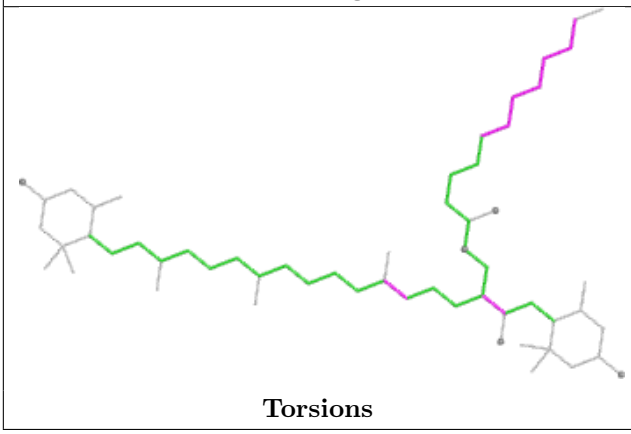
Ligand 0UR Y 317



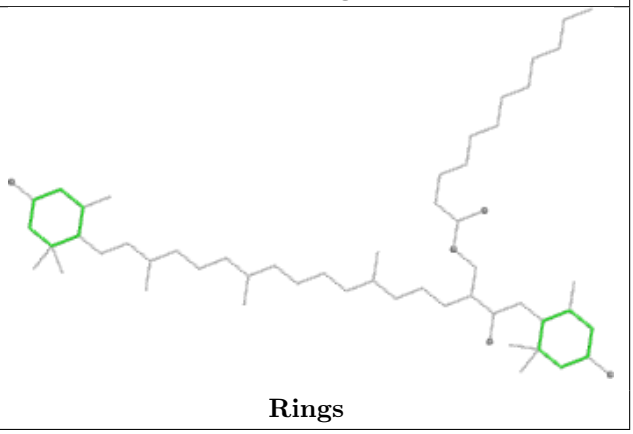
Bond lengths



Bond angles

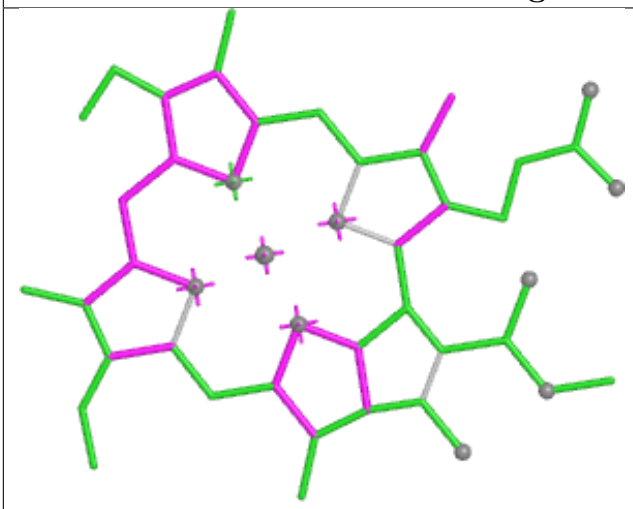


Torsions

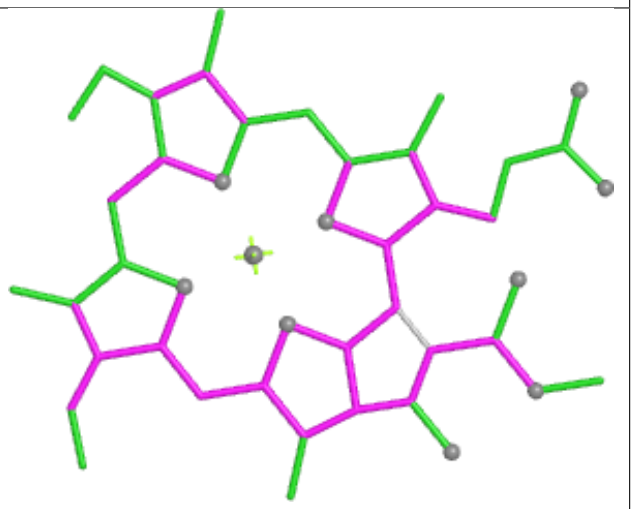


Rings

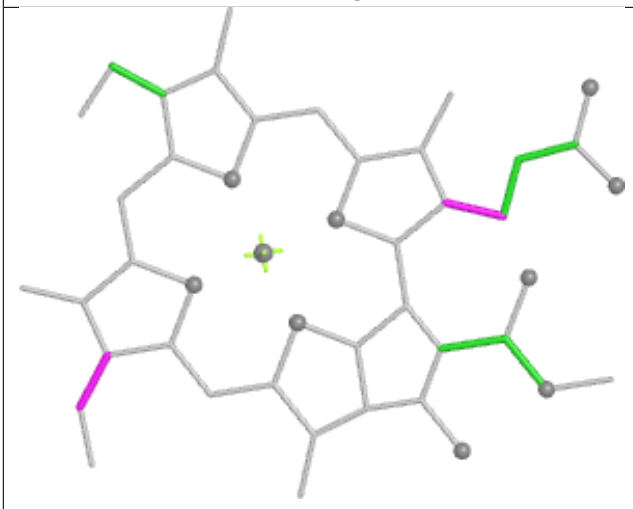
Ligand CLA 0 307



Bond lengths



Bond angles

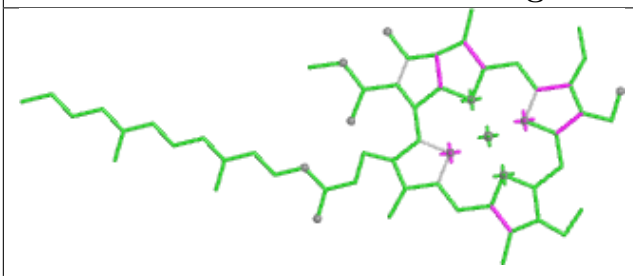


Torsions

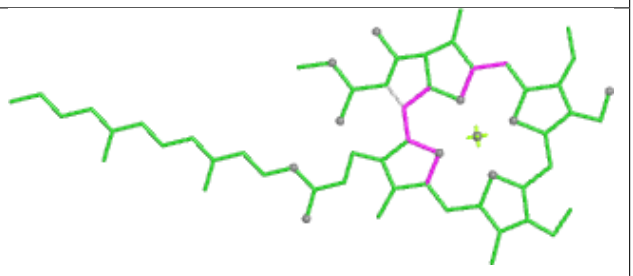


Rings

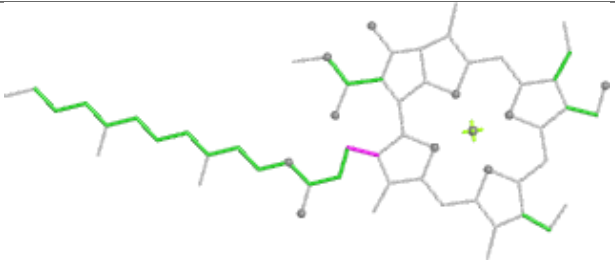
Ligand CHL u 406



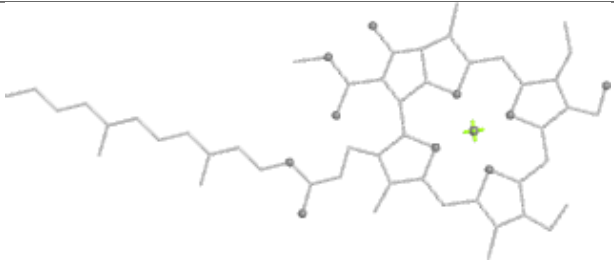
Bond lengths



Bond angles

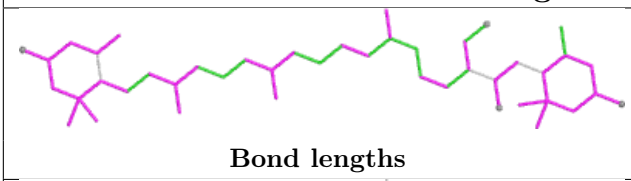


Torsions



Rings

Ligand 0IE Y 319



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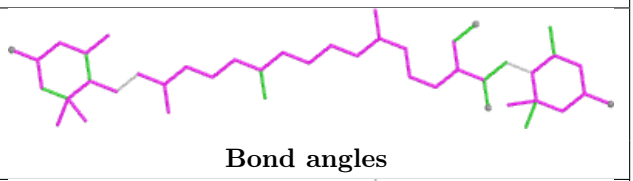
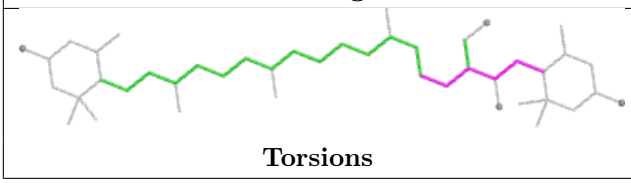


Bond angles



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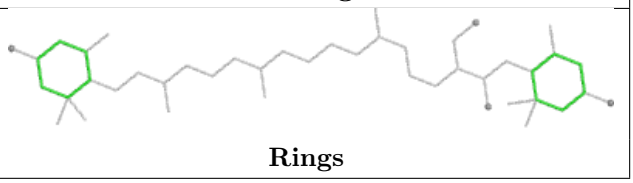
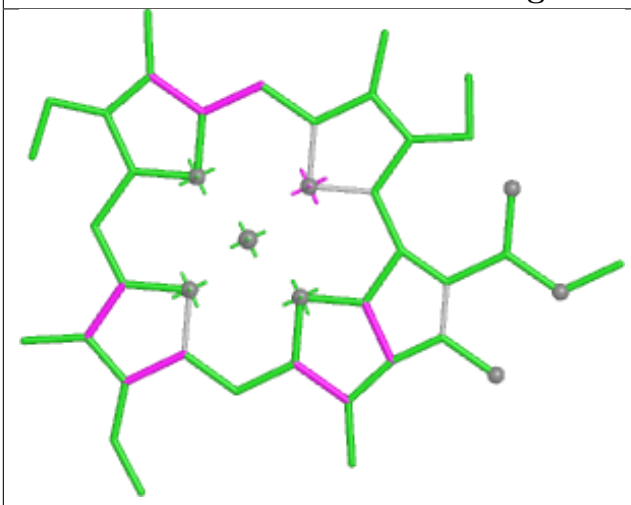
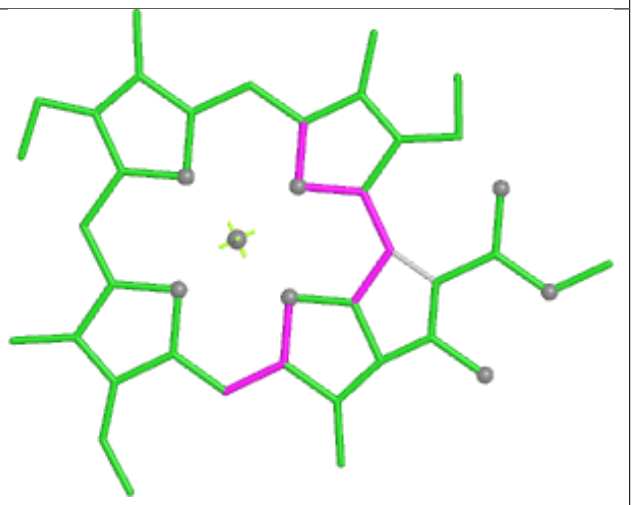


Rings

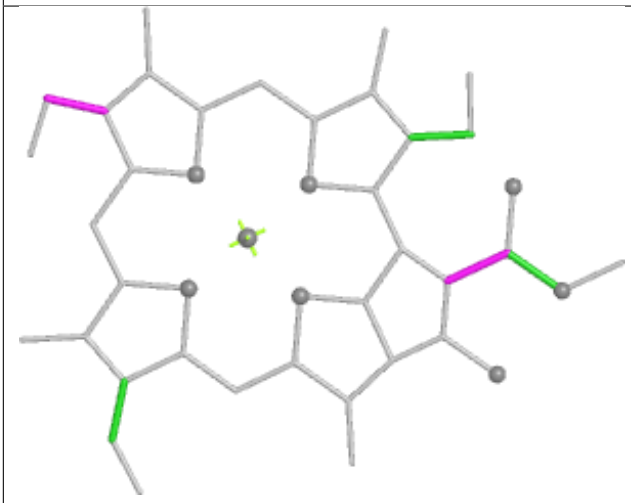
Ligand CLA u 418



Bond lengths



Bond angles

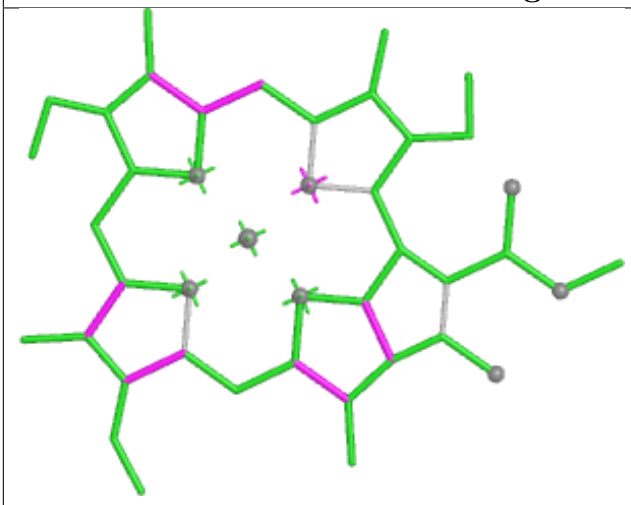


Torsions



Rings

Ligand CLA Y 312



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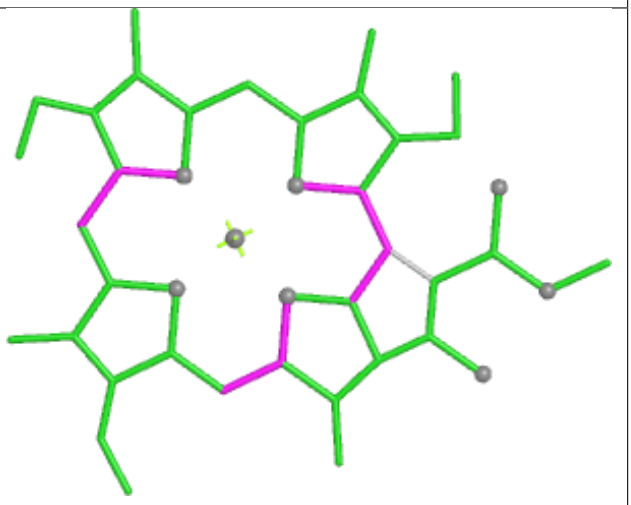
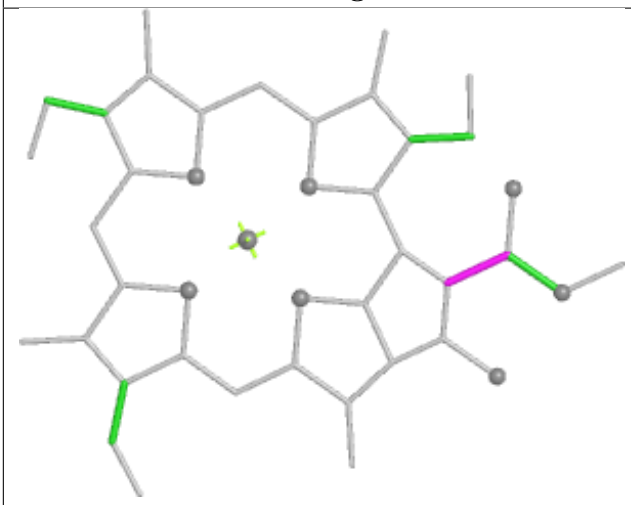


Bond angles

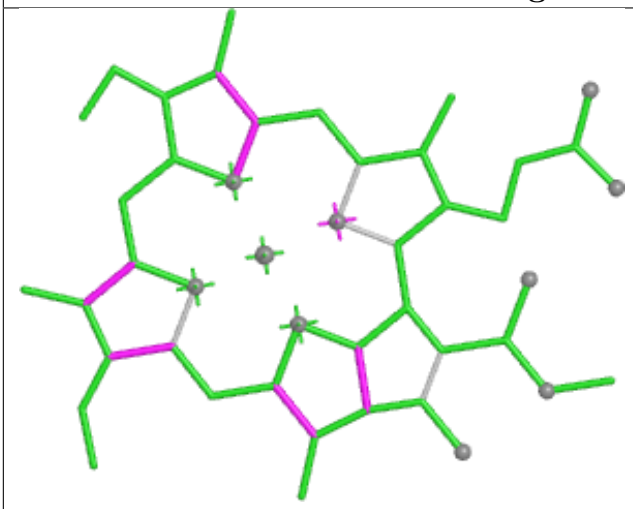


Torsions

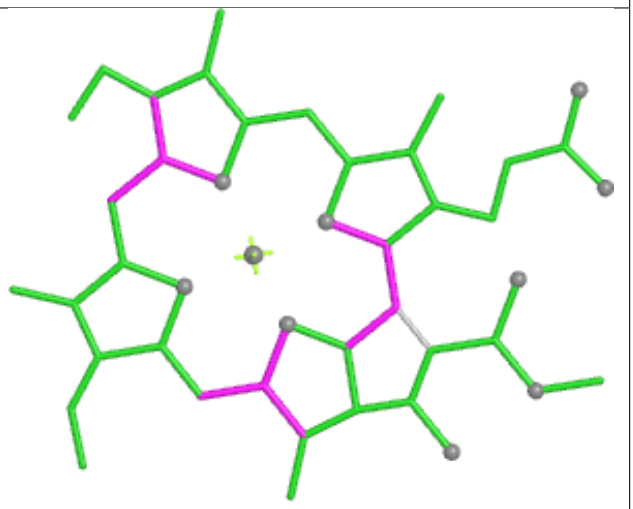


Rings

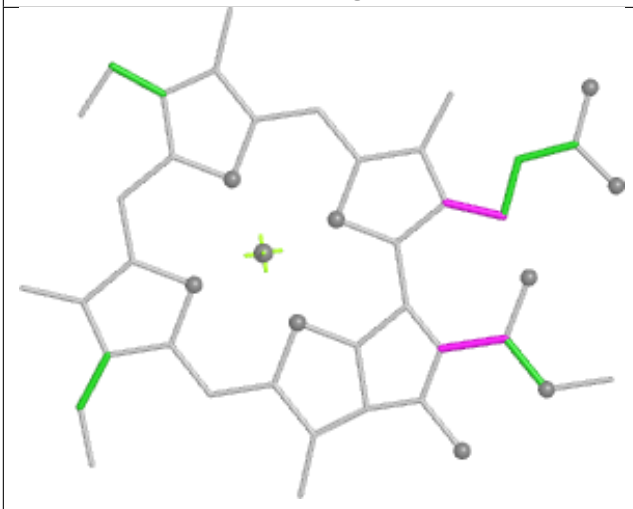
Ligand CLA 0 301



Bond lengths



Bond angles

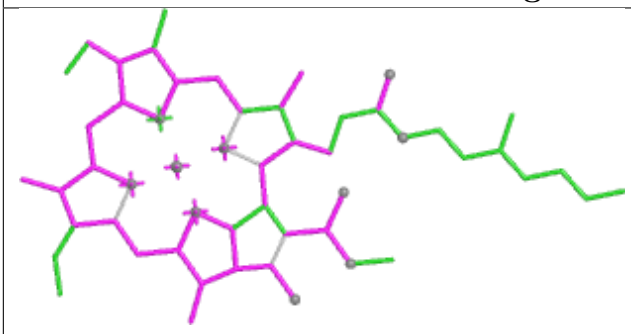


Torsions

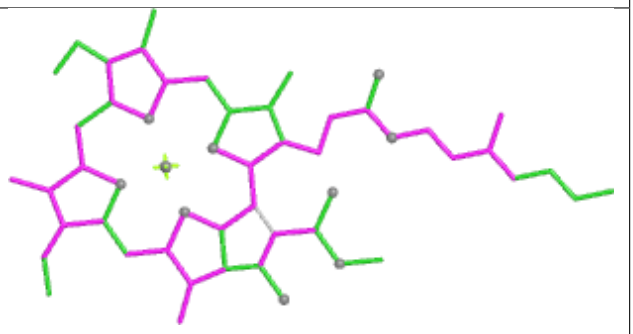


Rings

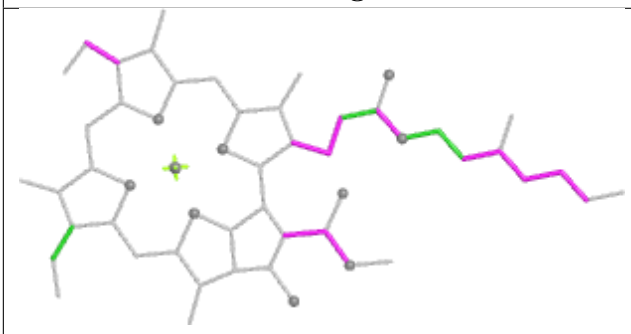
Ligand CLA Y 311



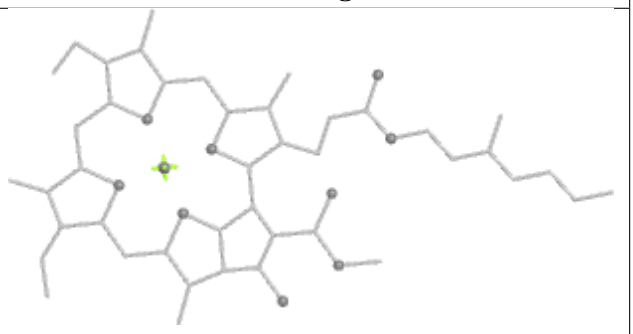
Bond lengths



Bond angles

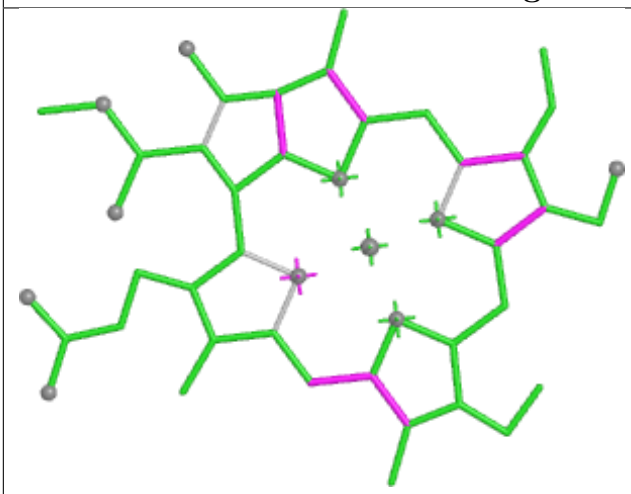


Torsions



Rings

Ligand CHL Y 315



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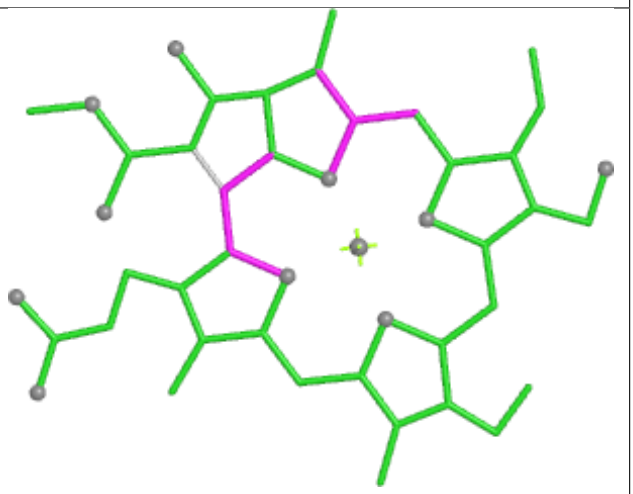
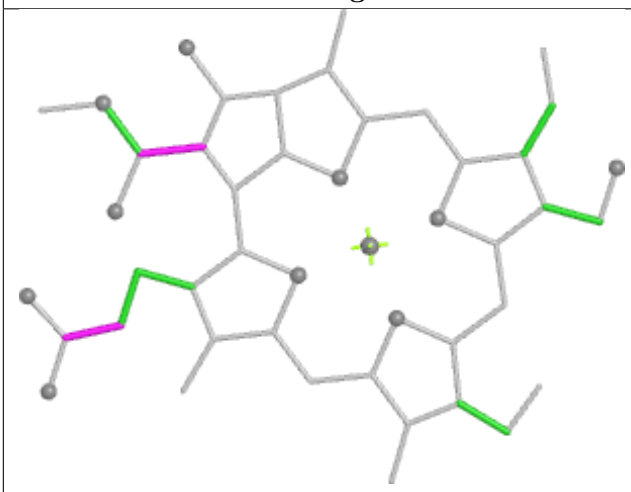
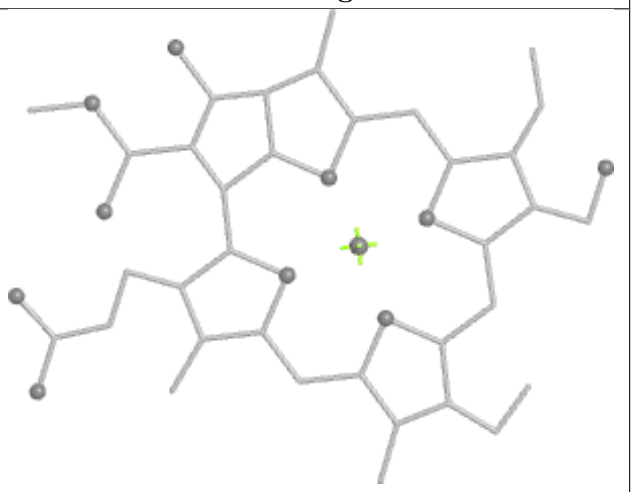


Bond angles

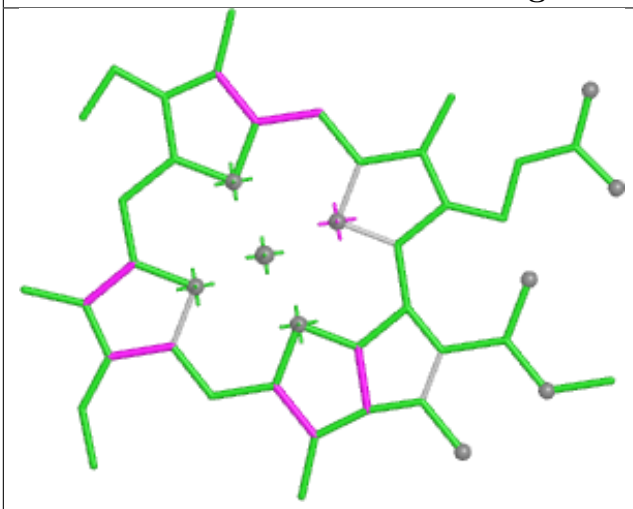


Torsions

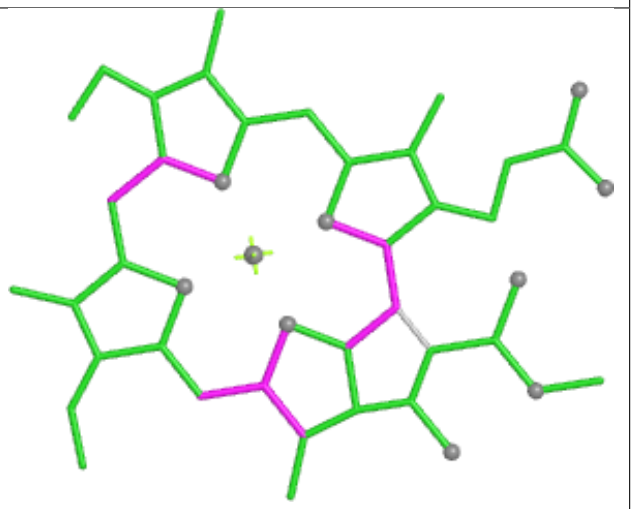


Rings

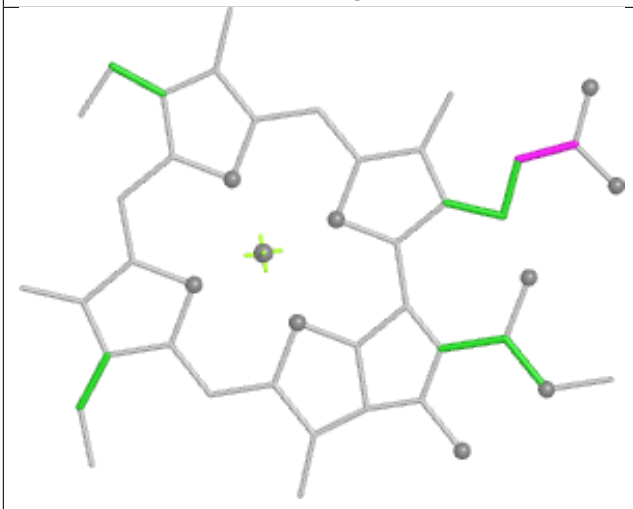
Ligand CLA 0 311



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.

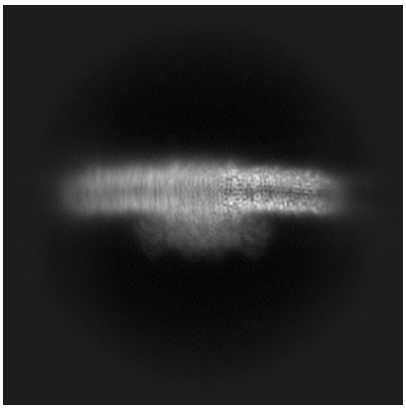
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-69049. These allow visual inspection of the internal detail of the map and identification of artifacts.

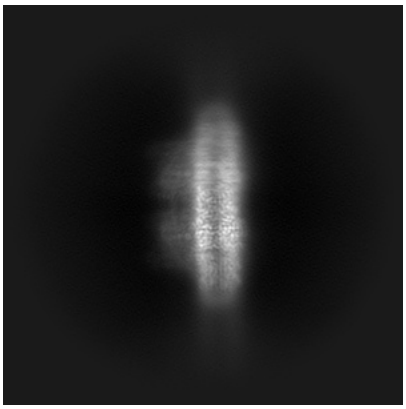
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

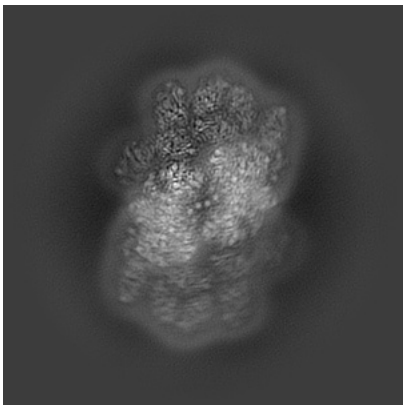
6.1.1 Primary map



X

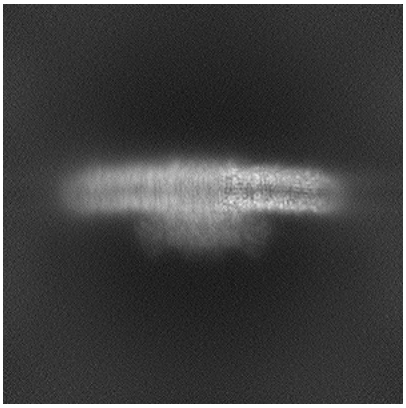


Y

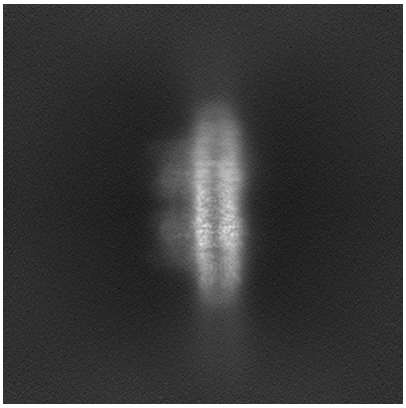


Z

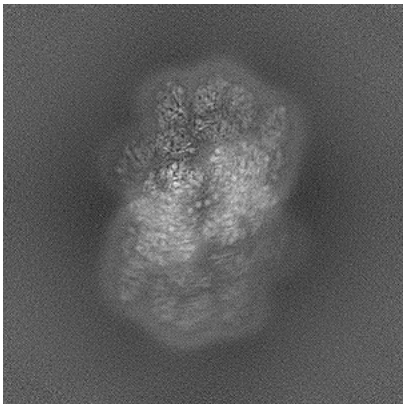
6.1.2 Raw map



X



Y

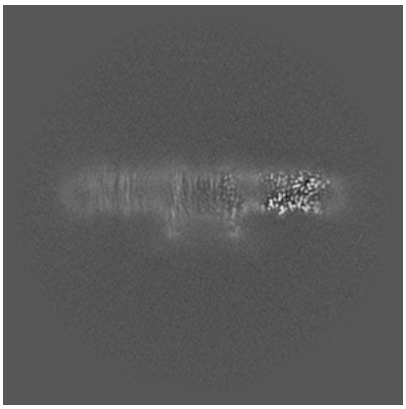


Z

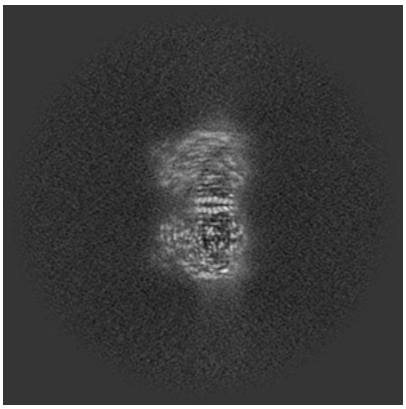
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

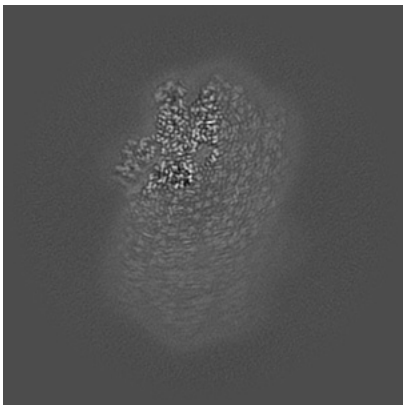
6.2.1 Primary map



X Index: 256

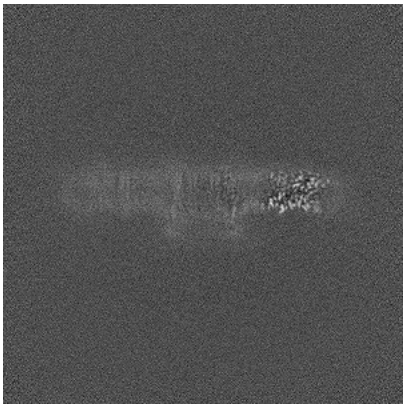


Y Index: 256

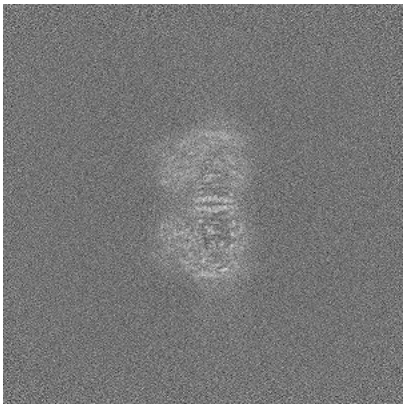


Z Index: 256

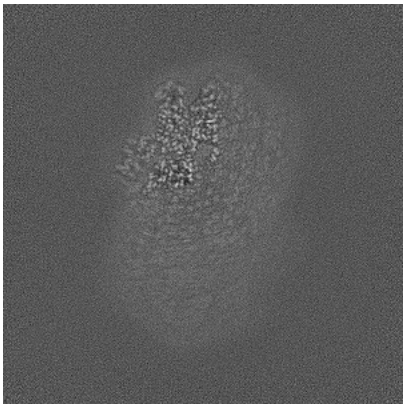
6.2.2 Raw map



X Index: 256



Y Index: 256

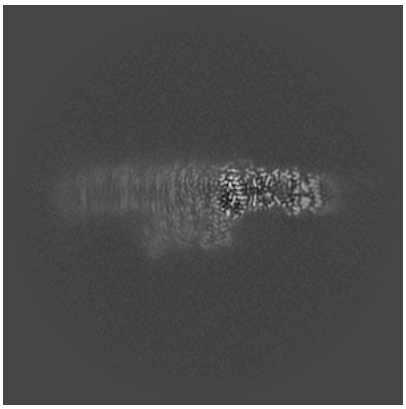


Z Index: 256

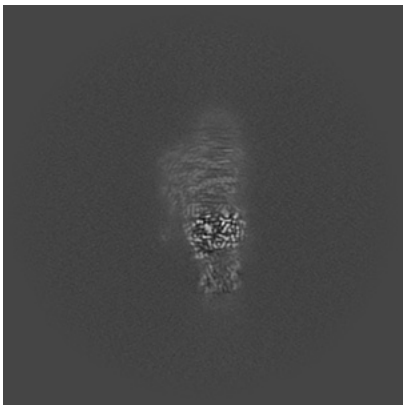
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

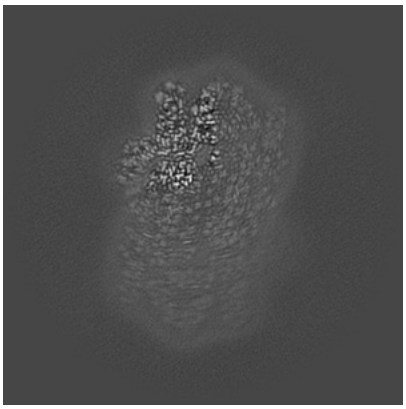
6.3.1 Primary map



X Index: 226

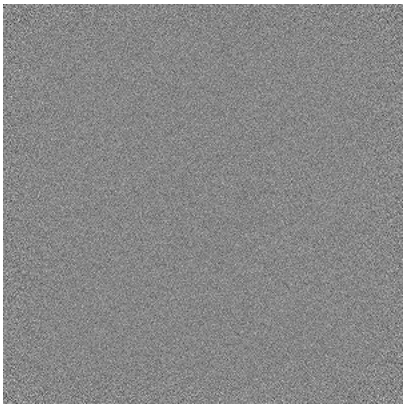


Y Index: 295

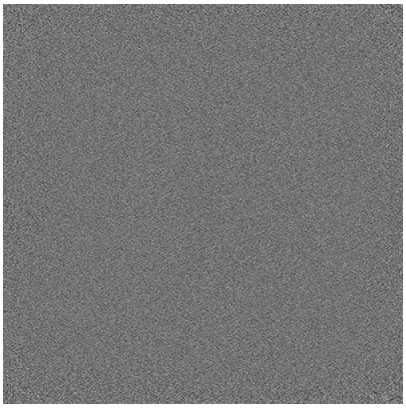


Z Index: 258

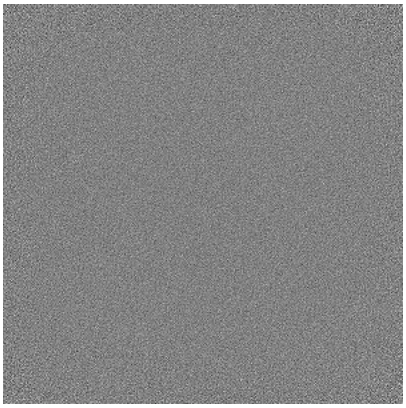
6.3.2 Raw map



X Index: 0



Y Index: 0

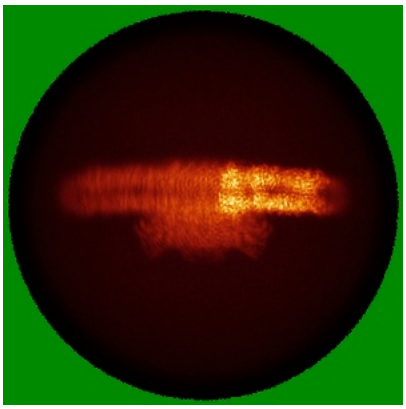


Z Index: 511

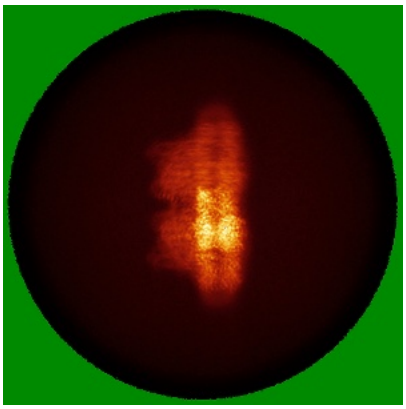
The images above show the largest variance slices of the map in three orthogonal directions.

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

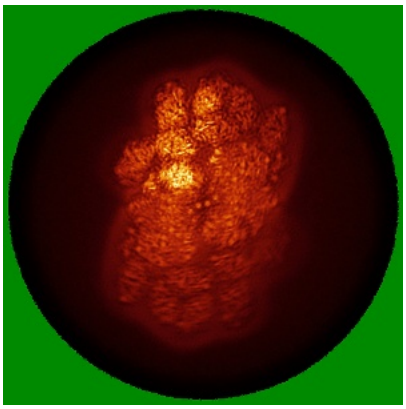
6.4.1 Primary map



X

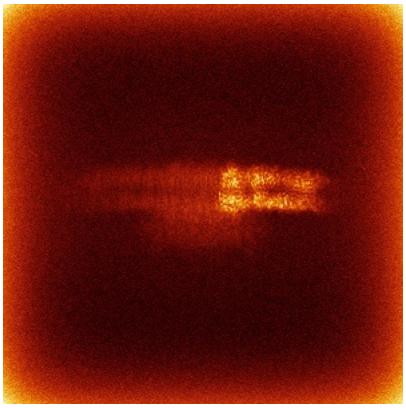


Y

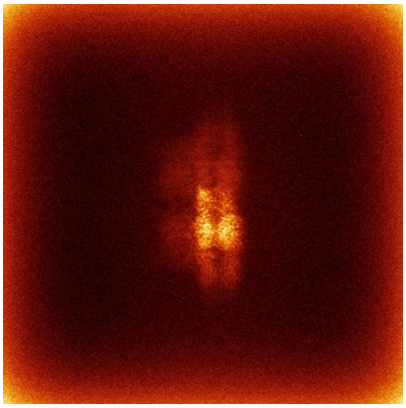


Z

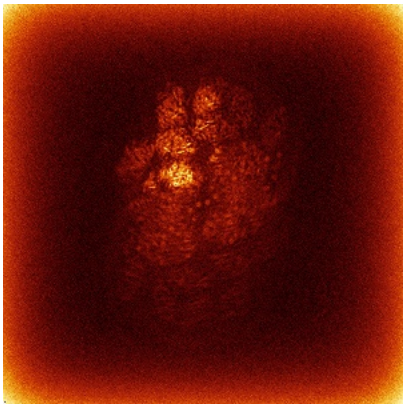
6.4.2 Raw map



X



Y

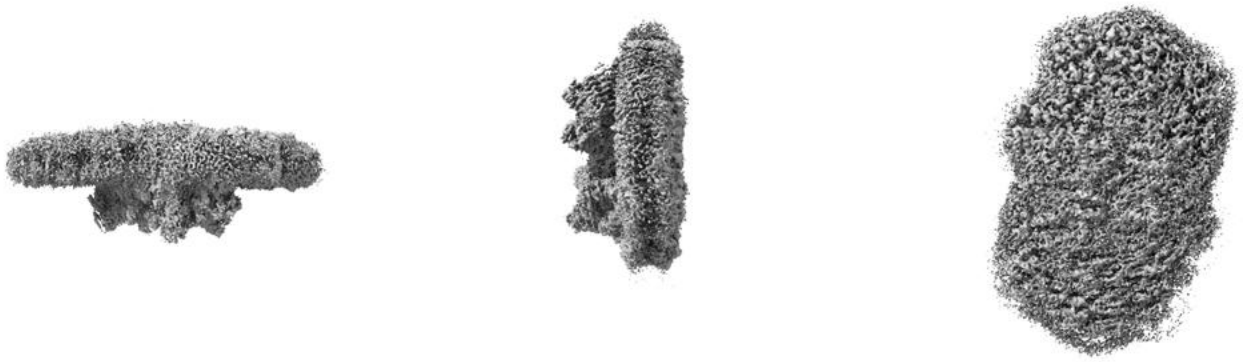


Z

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)

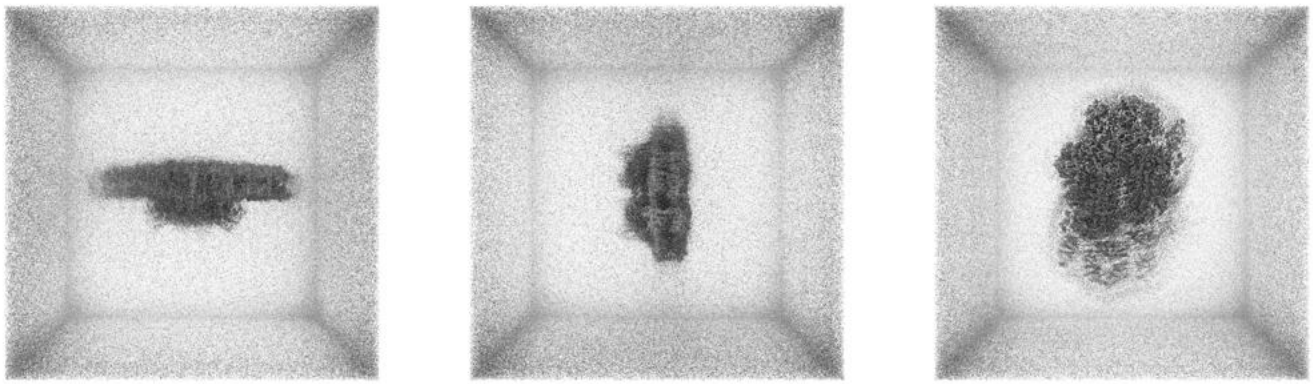
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.05. 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.

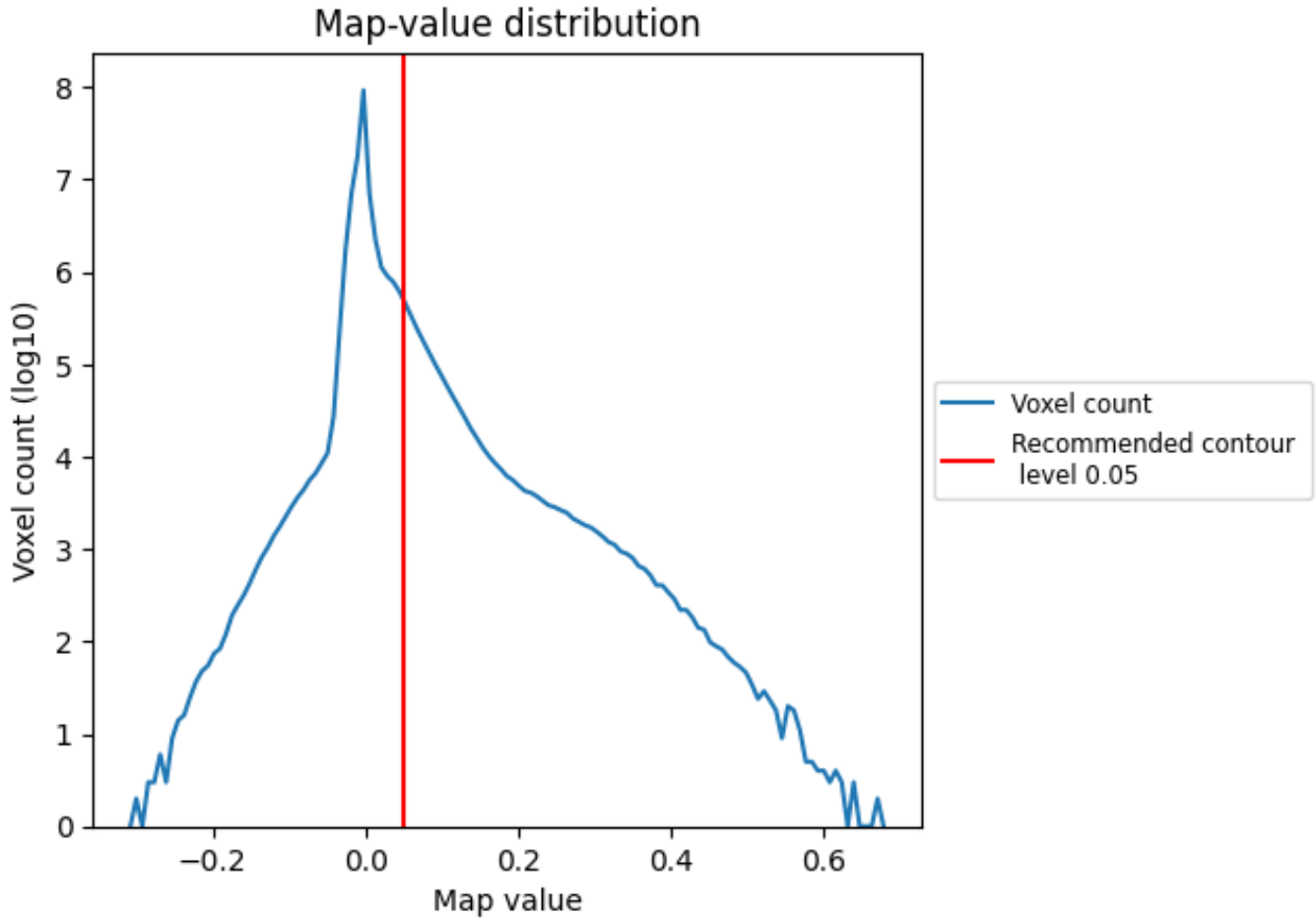
6.6 Mask visualisation (i)

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

7 Map analysis

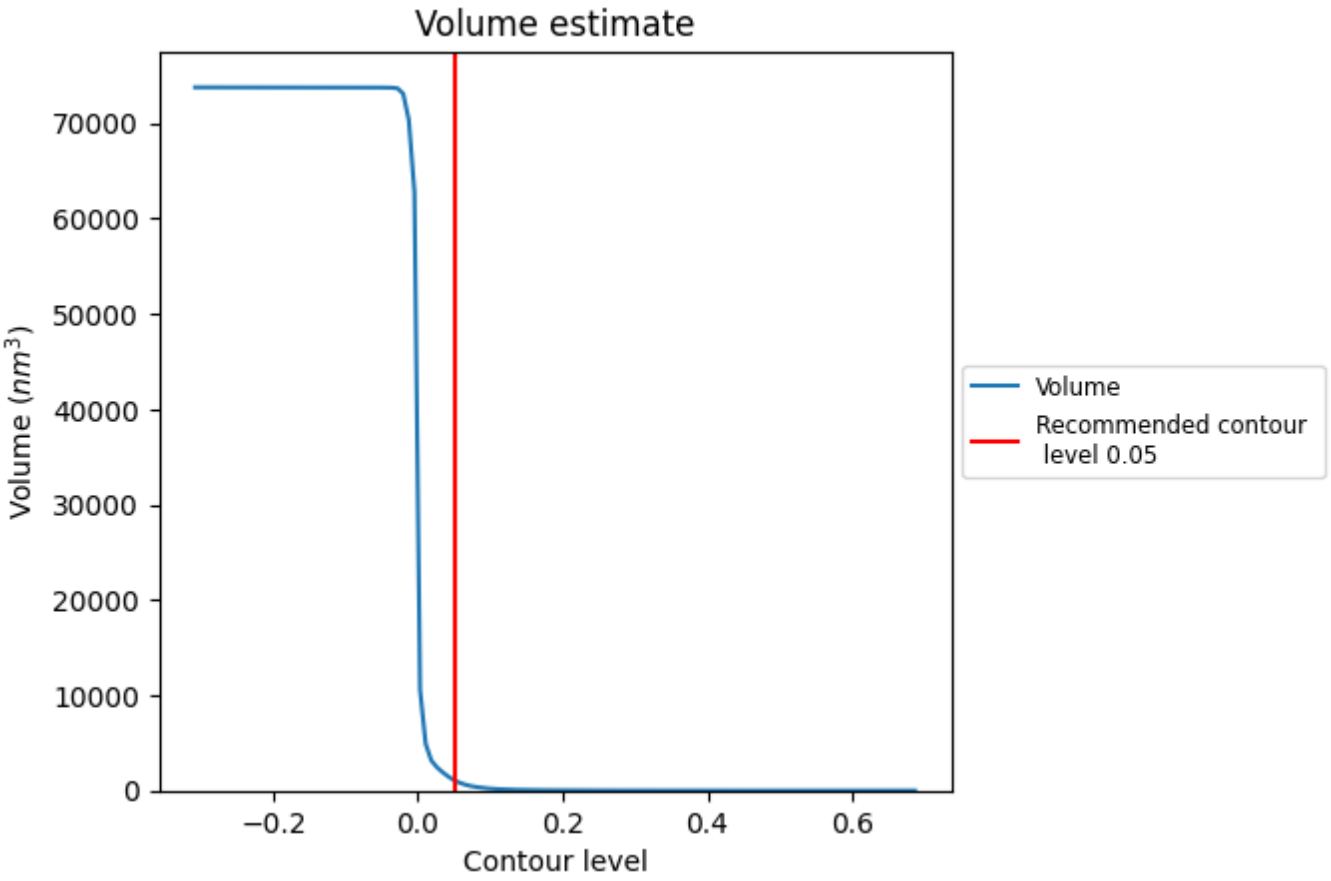
This section contains the results of statistical analysis of the map.

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.

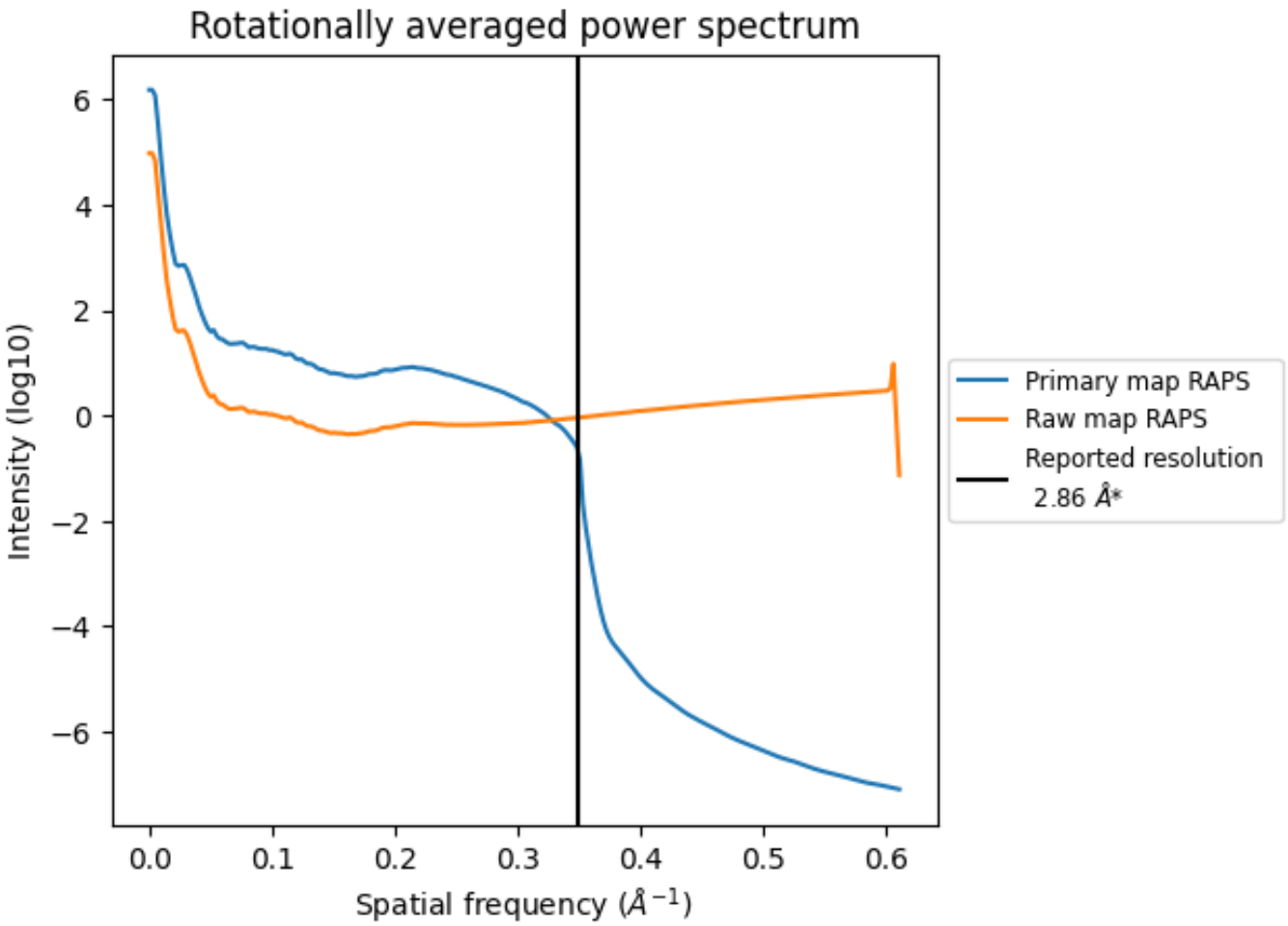
7.2 Volume estimate



The volume at the recommended contour level is 1093 nm^3; this corresponds to an approximate mass of 987 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)

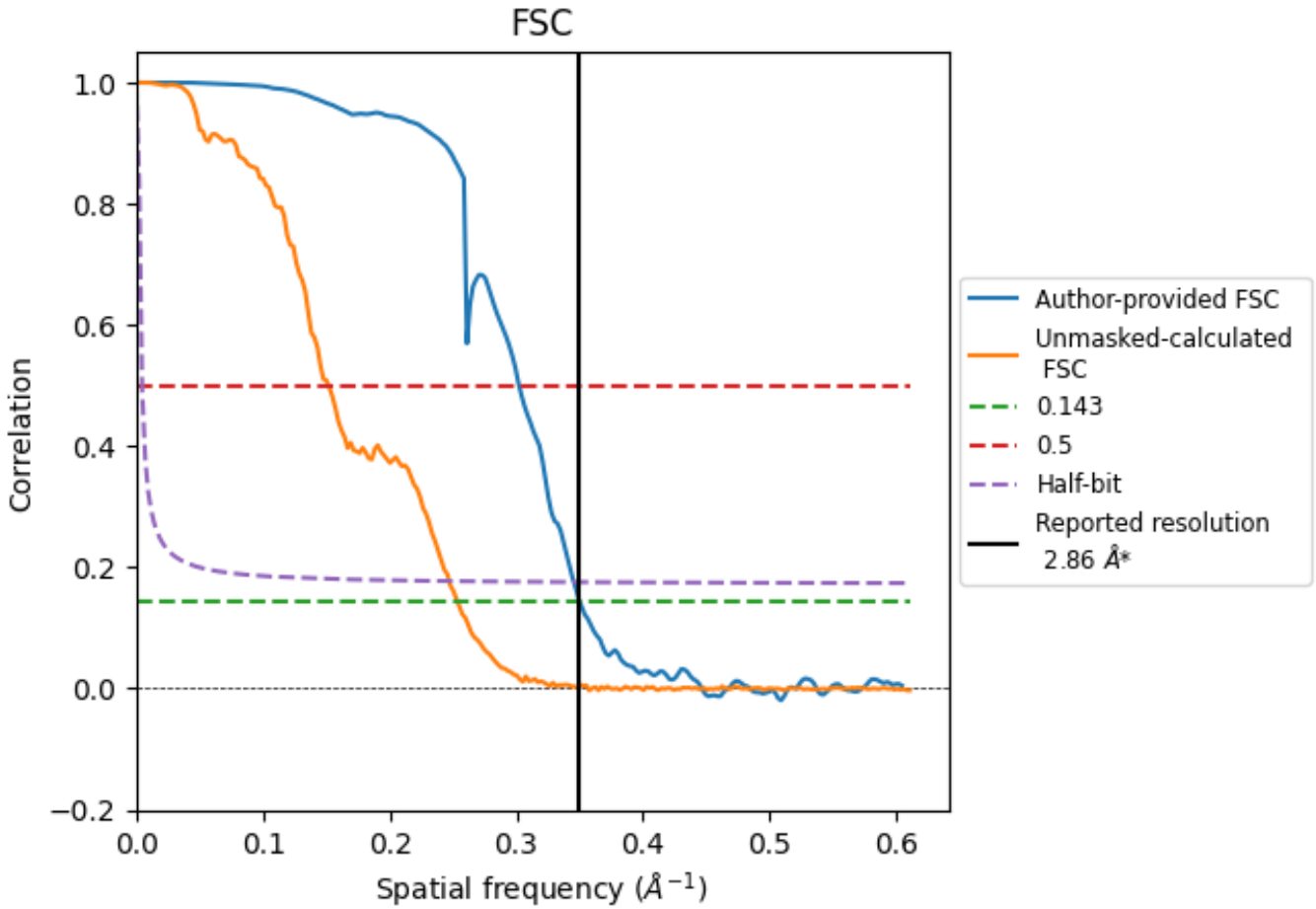


*Reported resolution corresponds to spatial frequency of 0.350 Å^{-1}

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 0.350 Å^{-1}

8.2 Resolution estimates (i)

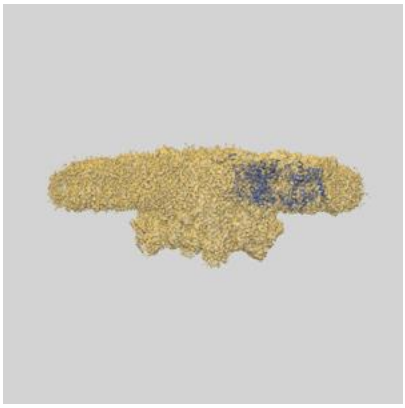
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.86	-	-
Author-provided FSC curve	2.86	3.31	2.90
Unmasked-calculated*	3.94	6.58	4.05

*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 3.94 differs from the reported value 2.86 by more than 10 %

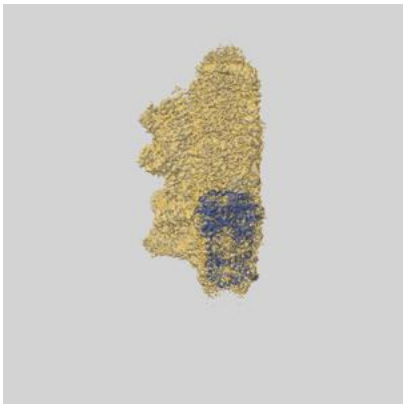
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-69049 and PDB model 23KK. Per-residue inclusion information can be found in section 3 on page 12.

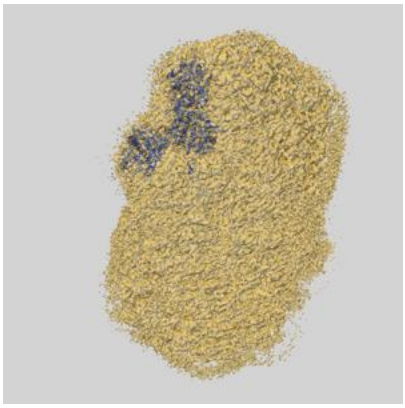
9.1 Map-model overlay



X



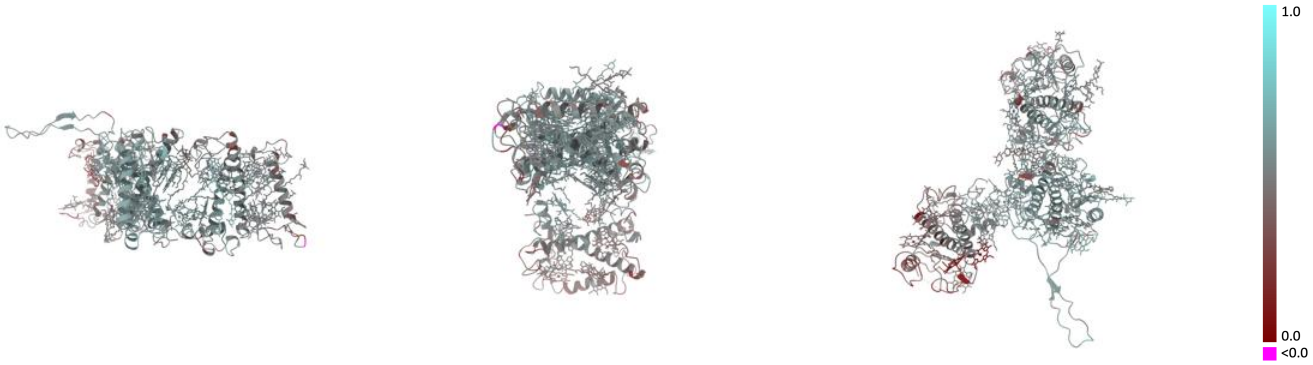
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.05 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.

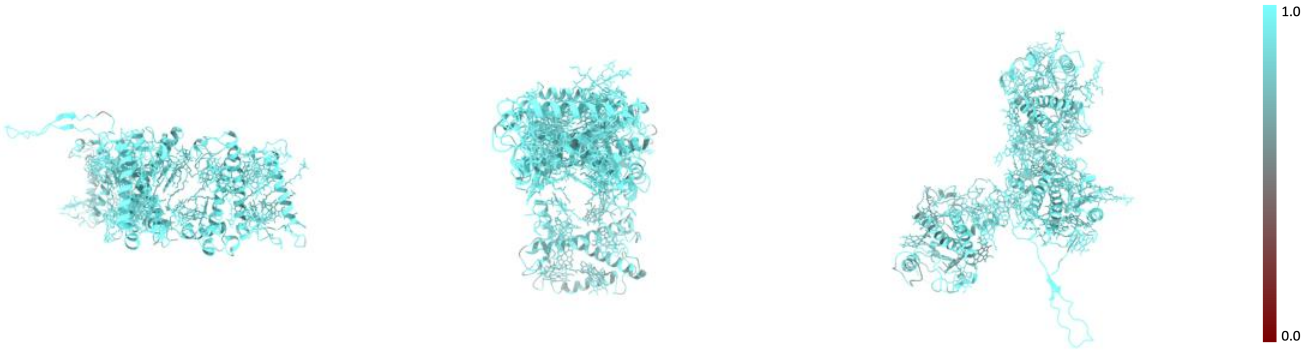
9.2 Q-score mapped to coordinate model



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.

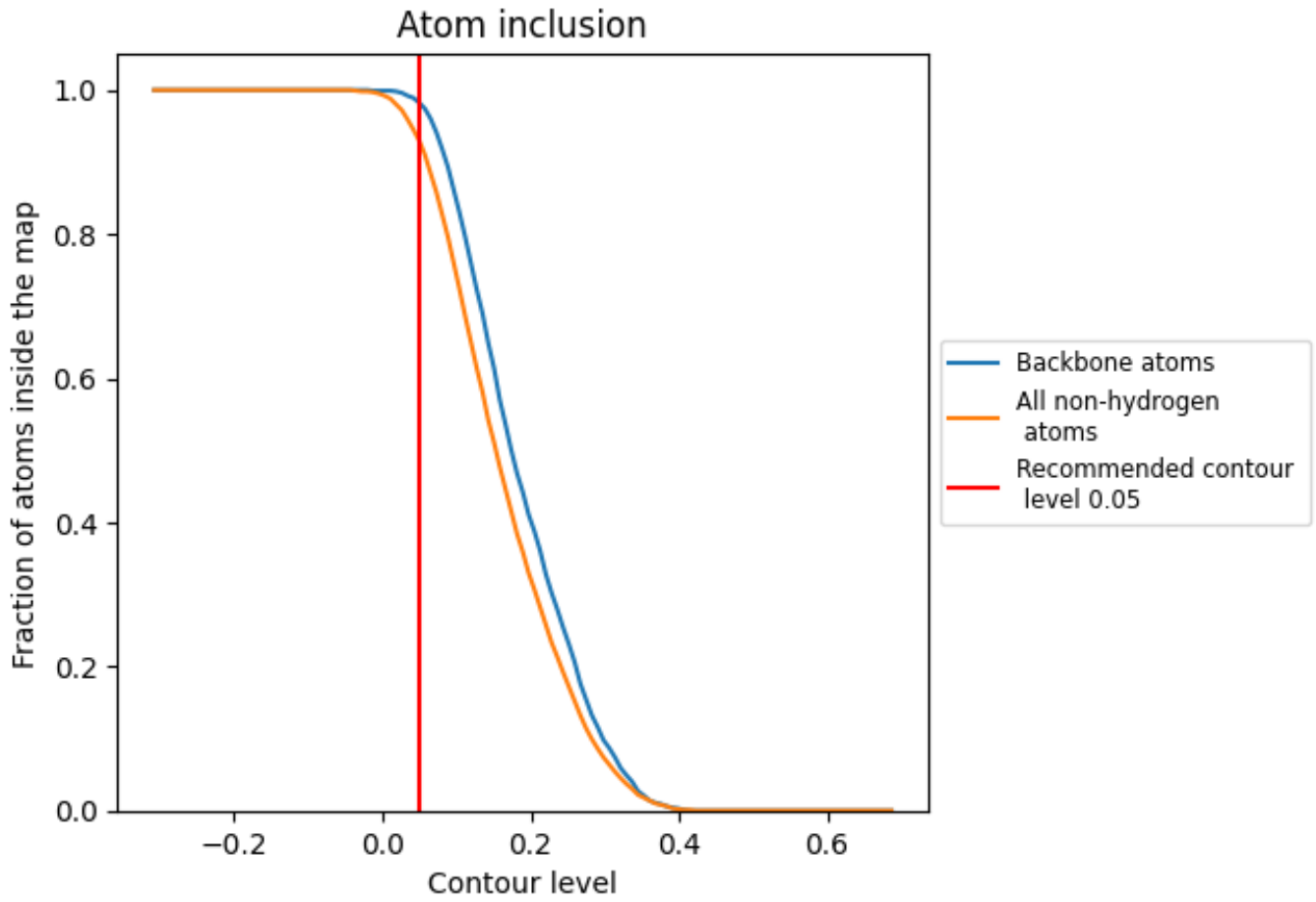
9.3 Atom inclusion mapped to coordinate model



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 (0.05).

9.4 Atom inclusion (i)



At the recommended contour level, 98% of all backbone atoms, 93% 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 (0.05) and Q-score for the entire model and for each chain.



Chain	Atom inclusion	Q-score
All	0.9290	0.4940
0	0.8630	0.4070
Y	0.9460	0.5050
u	0.9630	0.5530