Full wwPDB EM Validation Report ⓘ

Aug 3, 2026 – 02:37 pm BST

PDB ID	:	9S3E / pdb_00009s3e
EMDB ID	:	EMD-54531
Title	:	Universal Photosystem II Intermediate with Light-Dependent Water-Ferrocyanide Oxydo-reductase activity from Pisum sativum
Authors	:	Nelson, N.; Klaiman, D.; Fadeeva, M.
Deposited on	:	2025-07-24
Resolution	:	2.10 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:

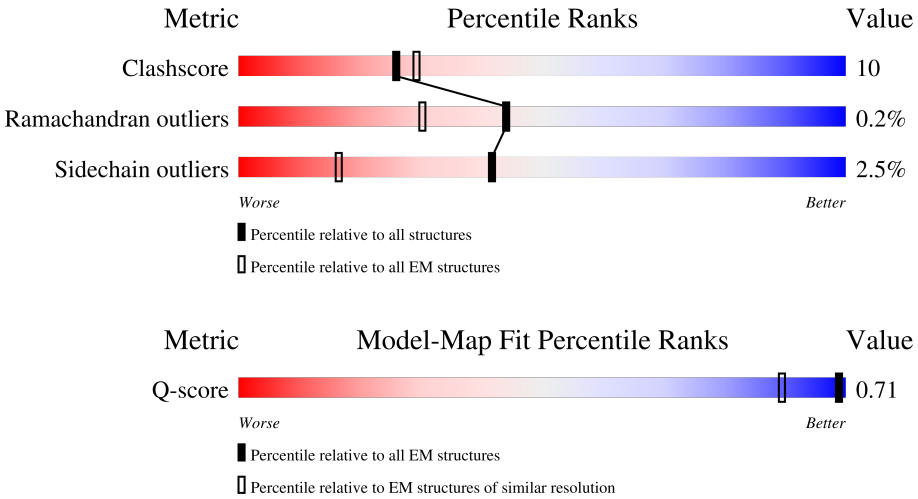
EMDB validation analysis	:	0.0.1.dev133
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data 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)	:	2.50

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 2.10 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	2317 (1.60 - 2.60)

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

Mol	Chain	Length	Quality of chain
1	A	334	9% 76% 23%
2	B	481	80% 19%
3	C	449	80% 20%
4	D	340	83% 16%

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Mol	Chain	Length	Quality of chain
5	E	75	8% 84% 15%
6	F	30	77% 23%
7	H	60	77% 23%
8	I	33	82% 18%
9	J	35	9% 89% 9%
10	K	37	16% 65% 32%
11	L	35	74% 23%
12	M	28	11% 71% 29%
13	O	248	8% 77% 21%
14	P	186	9% 84% 16%
15	Q	148	51% 73% 25%
16	T	30	10% 80% 20%
17	W	47	9% 72% 28%
18	X	36	11% 89% 11%
19	U	28	75% 21%

2 Entry composition

There are 33 unique types of molecules in this entry. The entry contains 25160 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Photosystem II protein D1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	334	Total	C	N	O	S	0	0
			2616	1708	431	464	13		

- Molecule 2 is a protein called Photosystem II CP47 reaction center protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	481	Total	C	N	O	S	0	0
			3771	2471	639	649	12		

- Molecule 3 is a protein called Photosystem II CP43 reaction center protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	449	Total	C	N	O	S	0	0
			3490	2296	582	602	10		

- Molecule 4 is a protein called Photosystem II D2 protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	340	Total	C	N	O	S	0	0
			2704	1786	442	464	12		

- Molecule 5 is a protein called Cytochrome b559 subunit alpha.

Mol	Chain	Residues	Atoms				AltConf	Trace
5	E	75	Total	C	N	O	0	0
			612	400	100	112		

- Molecule 6 is a protein called Cytochrome b559 subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	30	Total	C	N	O	S	0	0
			241	162	41	37	1		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	26	PHE	SER	conflict	UNP P62096

- Molecule 7 is a protein called Photosystem II reaction center protein H.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	H	60	Total	C	N	O	S	0	0
			452	296	72	81	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
8	I	33	Total	C	N	O	S	0	0
			267	185	39	42	1		

- Molecule 9 is a protein called Photosystem II reaction center protein J.

Mol	Chain	Residues	Atoms				AltConf	Trace
9	J	35	Total	C	N	O	0	0
			256	174	39	43		

- Molecule 10 is a protein called Photosystem II reaction center protein K.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	K	37	Total	C	N	O	S	0	0
			306	215	44	46	1		

- Molecule 11 is a protein called Photosystem II reaction center protein L.

Mol	Chain	Residues	Atoms				AltConf	Trace
11	L	35	Total	C	N	O	0	0
			295	196	46	53		

- Molecule 12 is a protein called Photosystem II reaction center protein M.

Mol	Chain	Residues	Atoms				AltConf	Trace
12	M	28	Total	C	N	O	0	0
			217	153	30	34		

- Molecule 13 is a protein called Oxygen-evolving enhancer protein 1, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	O	248	Total	C	N	O	S	0	0
			1870	1179	306	382	3		

- Molecule 14 is a protein called Oxygen-evolving enhancer protein 2, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	P	186	Total	C	N	O	S	0	0
			1434	909	238	286	1		

- Molecule 15 is a protein called Oxygen-evolving enhancer protein 3.

Mol	Chain	Residues	Atoms				AltConf	Trace
15	Q	148	Total	C	N	O	0	0
			1157	742	197	218		

- Molecule 16 is a protein called Photosystem II reaction center protein T.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	T	30	Total	C	N	O	S	0	0
			245	172	34	38	1		

- Molecule 17 is a protein called PSII 6.1 kDa protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	W	47	Total	C	N	O	S	0	0
			368	245	54	68	1		

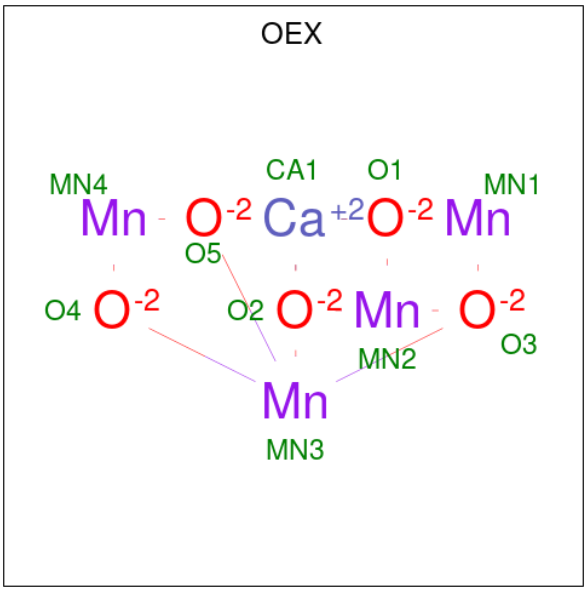
- Molecule 18 is a protein called Ultraviolet-B-repressible protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	X	36	Total	C	N	O	0	0
			249	163	39	47		

- Molecule 19 is a protein called Photosystem II 5 kDa protein, chloroplastic.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	U	28	Total	C	N	O	S	0	0
			212	131	41	37	3		

- Molecule 20 is CA-MN4-O5 CLUSTER (CCD ID: OEX) (formula: $CaMn_4O_5$).



Mol	Chain	Residues	Atoms				AltConf
20	A	1	Total	Ca	Mn	O	0
			10	1	4	5	

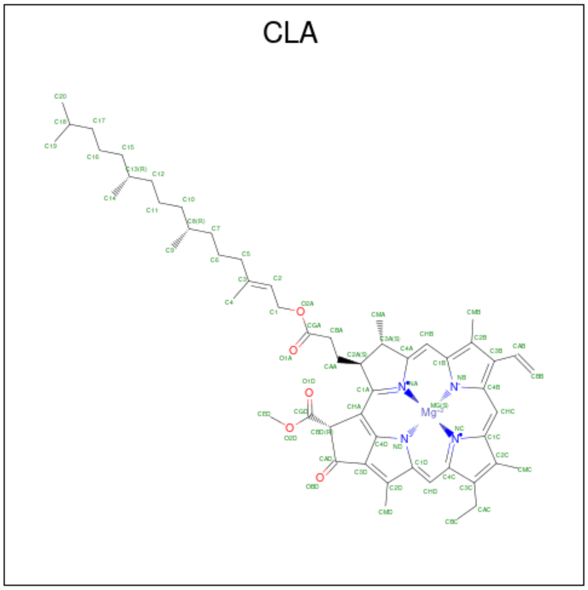
- Molecule 21 is FE (II) ION (CCD ID: FE2) (formula: Fe).

Mol	Chain	Residues	Atoms		AltConf
21	A	1	Total	Fe	0
			1	1	

- Molecule 22 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		AltConf
22	A	2	Total	Cl	0
			2	2	

- Molecule 23 is CHLOROPHYLL A (CCD ID: CLA) (formula: $C_{55}H_{72}MgN_4O_5$).



Mol	Chain	Residues	Atoms	AltConf
23	A	1	Total C Mg N O 65 55 1 4 5	0
23	A	1	Total C Mg N O 50 40 1 4 5	0
23	A	1	Total C Mg N O 60 50 1 4 5	0
23	B	1	Total C Mg N O 65 55 1 4 5	0
23	B	1	Total C Mg N O 65 55 1 4 5	0
23	B	1	Total C Mg N O 65 55 1 4 5	0
23	B	1	Total C Mg N O 65 55 1 4 5	0
23	B	1	Total C Mg N O 65 55 1 4 5	0
23	B	1	Total C Mg N O 65 55 1 4 5	0
23	B	1	Total C Mg N O 65 55 1 4 5	0
23	B	1	Total C Mg N O 65 55 1 4 5	0
23	B	1	Total C Mg N O 65 55 1 4 5	0
23	B	1	Total C Mg N O 65 55 1 4 5	0
23	B	1	Total C Mg N O 65 55 1 4 5	0

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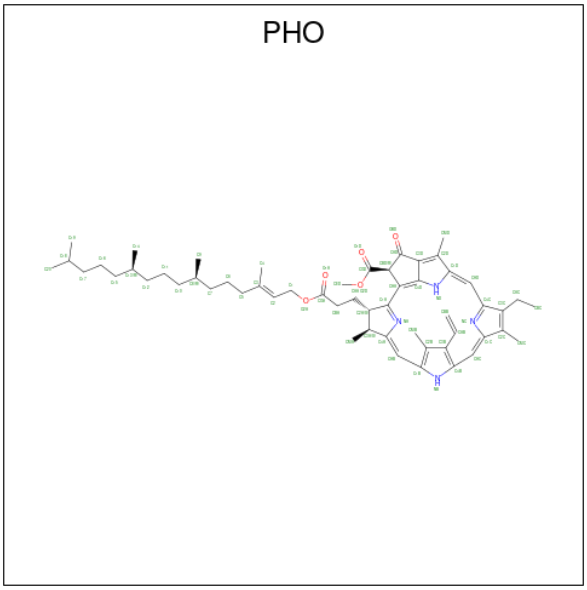
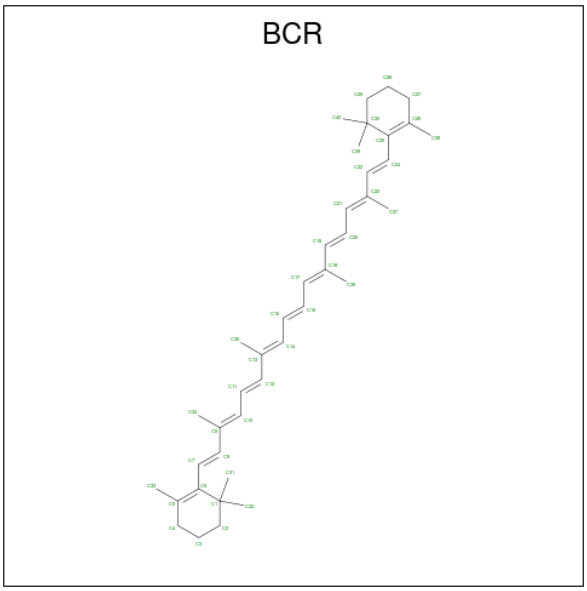
Mol	Chain	Residues	Atoms					AltConf
23	B	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	B	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	B	1	Total 53	C 43	Mg 1	N 4	O 5	0
23	B	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	B	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	C	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	C	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	C	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	C	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	C	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	C	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	C	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	C	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	C	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	C	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	C	1	Total 51	C 41	Mg 1	N 4	O 5	0
23	C	1	Total 57	C 47	Mg 1	N 4	O 5	0
23	C	1	Total 55	C 45	Mg 1	N 4	O 5	0
23	D	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	D	1	Total 65	C 55	Mg 1	N 4	O 5	0
23	D	1	Total 65	C 55	Mg 1	N 4	O 5	0

- Molecule 24 is PHEOPHYTIN A (CCD ID: PHO) (formula: $C_{55}H_{74}N_4O_5$).



Mol	Chain	Residues	Atoms	AltConf
24	A	1	Total C N O 64 55 4 5	0
24	D	1	Total C N O 64 55 4 5	0

- Molecule 25 is BETA-CAROTENE (CCD ID: BCR) (formula: $C_{40}H_{56}$).



Mol	Chain	Residues	Atoms	AltConf
25	A	1	Total C 40 40	0

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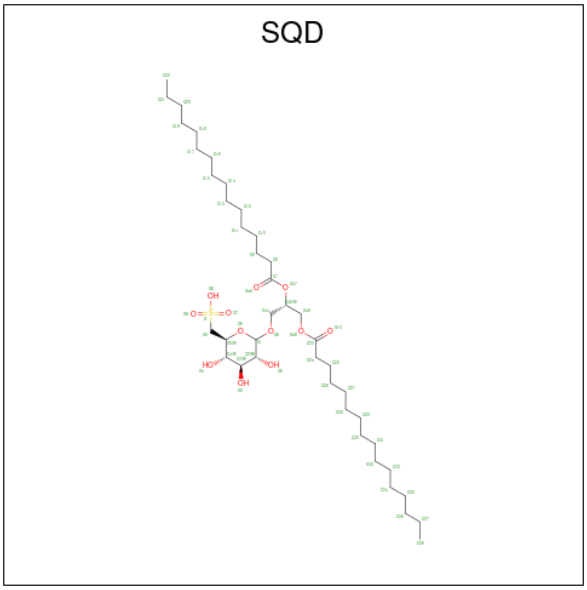
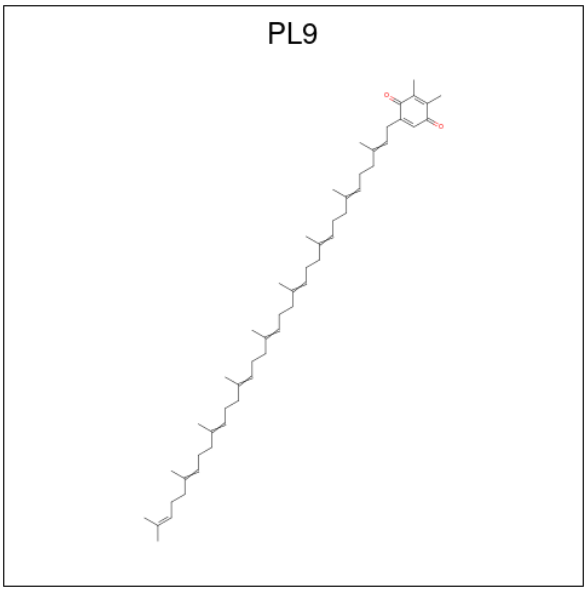
Mol	Chain	Residues	Atoms	AltConf
25	B	1	Total C 40 40	0
25	B	1	Total C 40 40	0
25	B	1	Total C 40 40	0
25	C	1	Total C 40 40	0
25	D	1	Total C 40 40	0
25	H	1	Total C 40 40	0
25	I	1	Total C 40 40	0

- Molecule 26 is 1,2-DI-O-ACYL-3-O-[6-DEOXY-6-SULFO-ALPHA-D-GLUCOPYRANOSYL]-SN-GLYCEROL (CCD ID: SQD) (formula: $C_{41}H_{78}O_{12}S$).



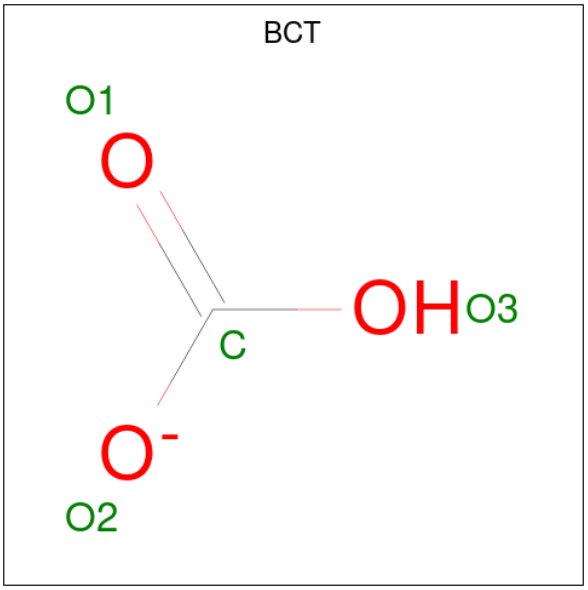
Mol	Chain	Residues	Atoms	AltConf
26	A	1	Total C O S 50 37 12 1	0

- Molecule 27 is 2,3-DIMETHYL-5-(3,7,11,15,19,23,27,31,35-NONAMETHYL-2,6,10,14,18,22,26,30,34-HEXATRIACONTANONAENYL-2,5-CYCLOHEXADIENE-1,4-DIONE-2,3-DIMETHYL-5-SOLANESYL-1,4-BENZOQUINONE (CCD ID: PL9) (formula: $C_{53}H_{80}O_2$).



Mol	Chain	Residues	Atoms	AltConf
27	A	1	Total C O 13 11 2	0
27	D	1	Total C O 55 53 2	0

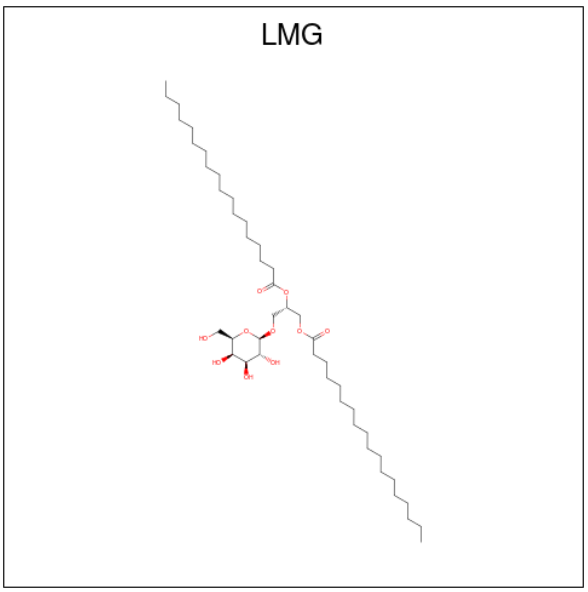
- Molecule 28 is BICARBONATE ION (CCD ID: BCT) (formula: CHO_3).



Mol	Chain	Residues	Atoms	AltConf
28	A	1	Total C O 4 1 3	0

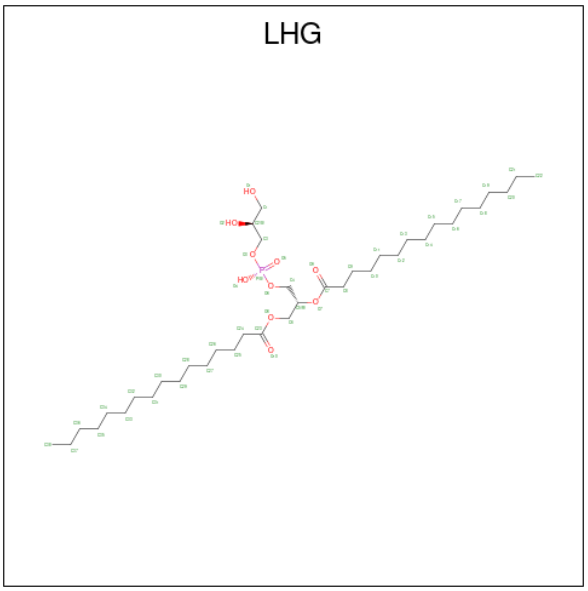
- Molecule 29 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (CCD ID:

LMG) (formula: $C_{45}H_{86}O_{10}$).



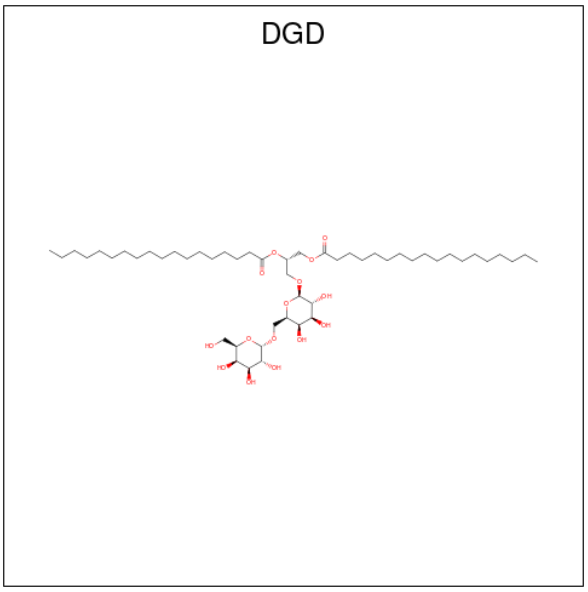
Mol	Chain	Residues	Atoms			AltConf
29	B	1	Total	C	O	0
			51	41	10	
29	B	1	Total	C	O	0
			31	21	10	
29	C	1	Total	C	O	0
			51	41	10	
29	D	1	Total	C	O	0
			46	36	10	
29	I	1	Total	C	O	0
			40	30	10	
29	W	1	Total	C	O	0
			48	38	10	

- Molecule 30 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (CCD ID: LHG) (formula: $C_{38}H_{75}O_{10}P$).



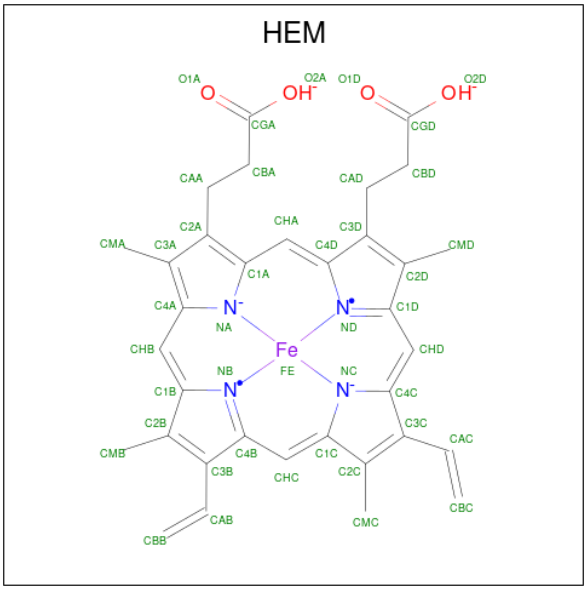
Mol	Chain	Residues	Atoms				AltConf
30	B	1	Total	C	O	P	0
			41	30	10	1	
30	B	1	Total	C	O	P	0
			46	35	10	1	
30	D	1	Total	C	O	P	0
			49	38	10	1	
30	D	1	Total	C	O	P	0
			43	32	10	1	
30	L	1	Total	C	O	P	0
			49	38	10	1	
30	W	1	Total	C	O	P	0
			49	38	10	1	

- Molecule 31 is DIGALACTOSYL DIACYL GLYCEROL (DGDG) (CCD ID: DGD) (formula: $C_{51}H_{96}O_{15}$).



Mol	Chain	Residues	Atoms			AltConf
31	B	1	Total	C	O	0
			62	47	15	
31	C	1	Total	C	O	0
			55	40	15	
31	C	1	Total	C	O	0
			62	47	15	
31	C	1	Total	C	O	0
			60	45	15	

- Molecule 32 is PROTOPORPHYRIN IX CONTAINING FE (CCD ID: HEM) (formula: $C_{34}H_{32}FeN_4O_4$).



Mol	Chain	Residues	Atoms					AltConf
32	E	1	Total	C	Fe	N	O	0
			43	34	1	4	4	

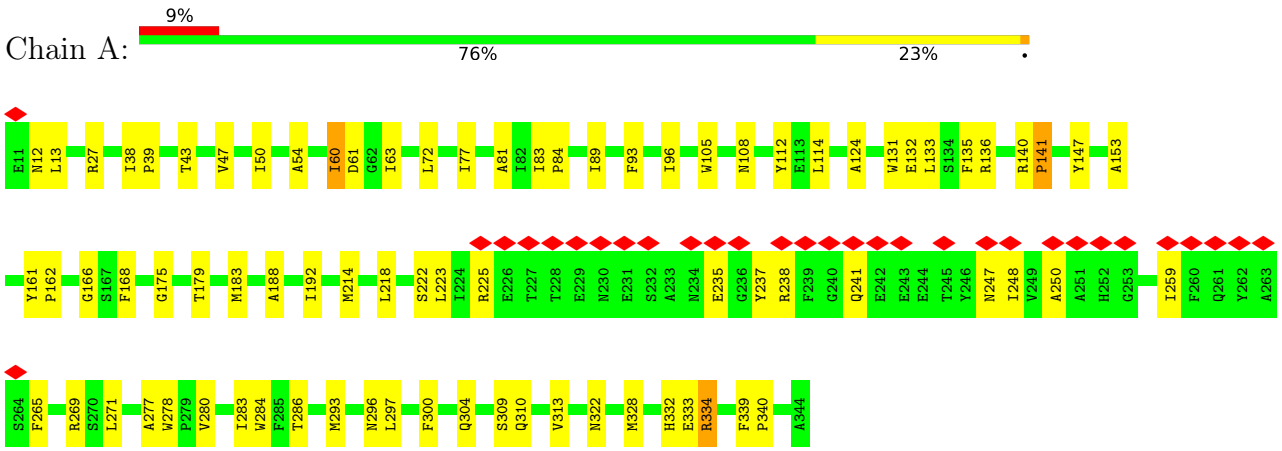
- Molecule 33 is water.

Mol	Chain	Residues	Atoms		AltConf
33	A	121	Total	O	0
			121	121	
33	B	176	Total	O	0
			176	176	
33	C	159	Total	O	0
			159	159	
33	D	123	Total	O	0
			123	123	
33	E	18	Total	O	0
			18	18	
33	F	4	Total	O	0
			4	4	
33	H	14	Total	O	0
			14	14	
33	I	3	Total	O	0
			3	3	
33	J	4	Total	O	0
			4	4	
33	K	4	Total	O	0
			4	4	
33	L	10	Total	O	0
			10	10	
33	M	2	Total	O	0
			2	2	
33	O	54	Total	O	0
			54	54	
33	P	45	Total	O	0
			45	45	
33	Q	19	Total	O	0
			19	19	
33	T	6	Total	O	0
			6	6	
33	W	13	Total	O	0
			13	13	
33	X	1	Total	O	0
			1	1	
33	U	2	Total	O	0
			2	2	

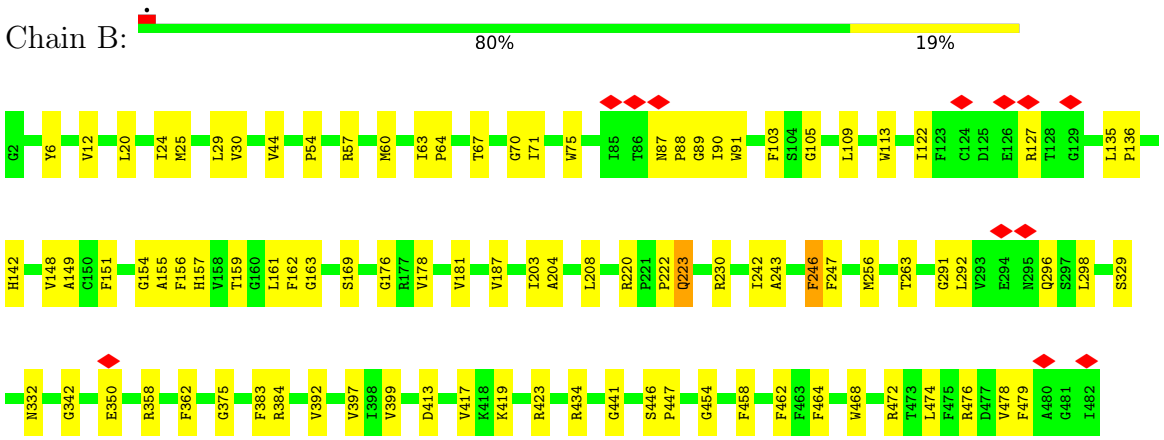
3 Residue-property plots (i)

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

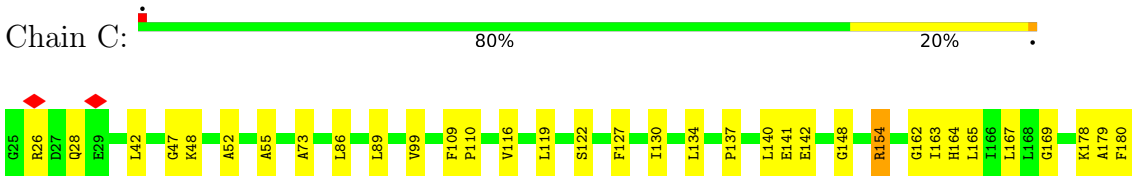
• Molecule 1: Photosystem II protein D1

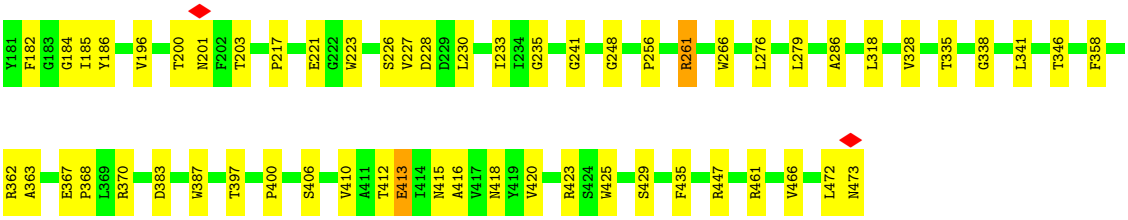


• Molecule 2: Photosystem II CP47 reaction center protein

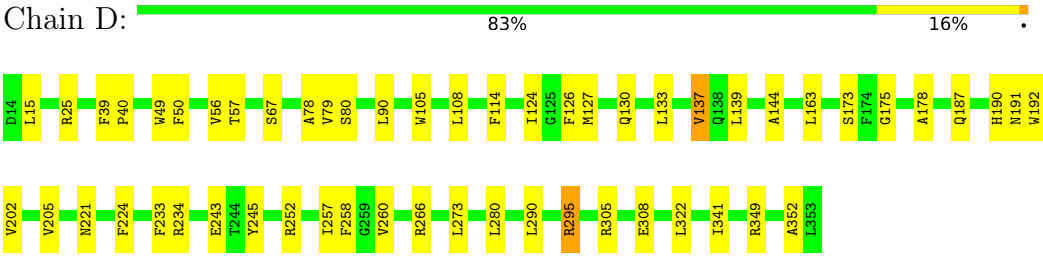


• Molecule 3: Photosystem II CP43 reaction center protein

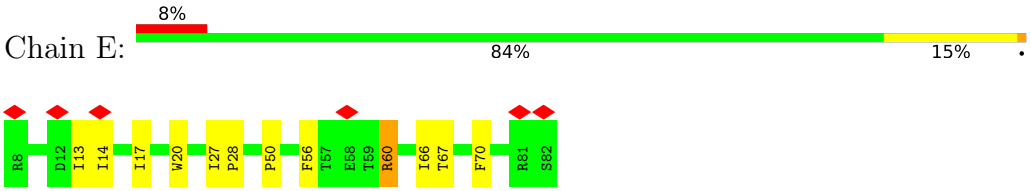




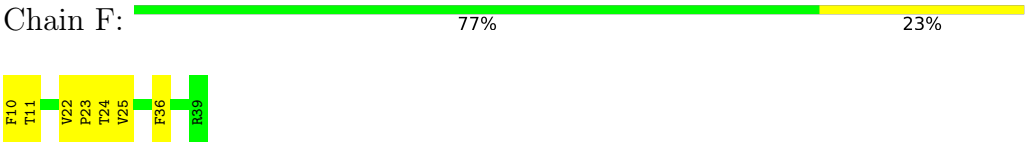
• Molecule 4: Photosystem II D2 protein



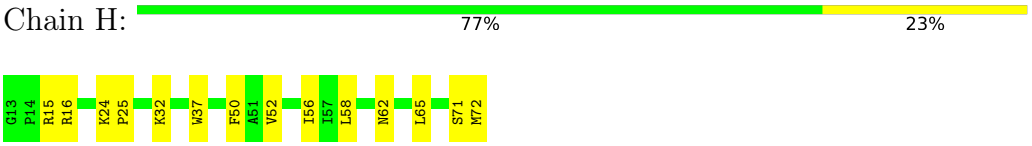
• Molecule 5: Cytochrome b559 subunit alpha



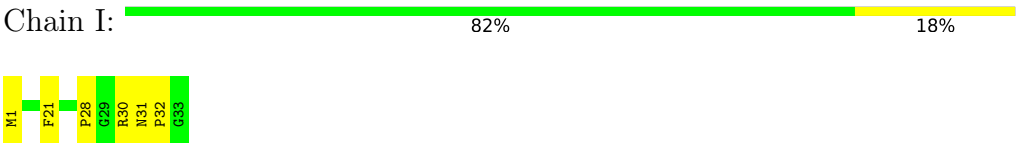
• Molecule 6: Cytochrome b559 subunit beta



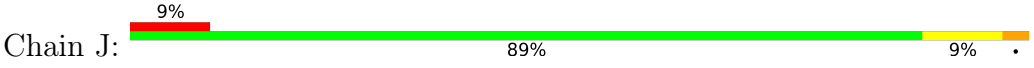
• Molecule 7: Photosystem II reaction center protein H

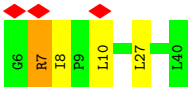


• Molecule 8: Photosystem II reaction center protein I



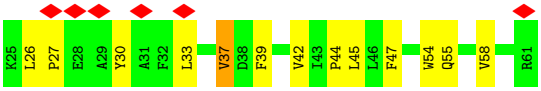
• Molecule 9: Photosystem II reaction center protein J





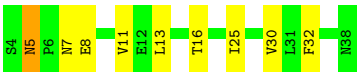
• Molecule 10: Photosystem II reaction center protein K

Chain K:



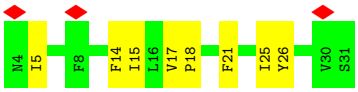
• Molecule 11: Photosystem II reaction center protein L

Chain L:



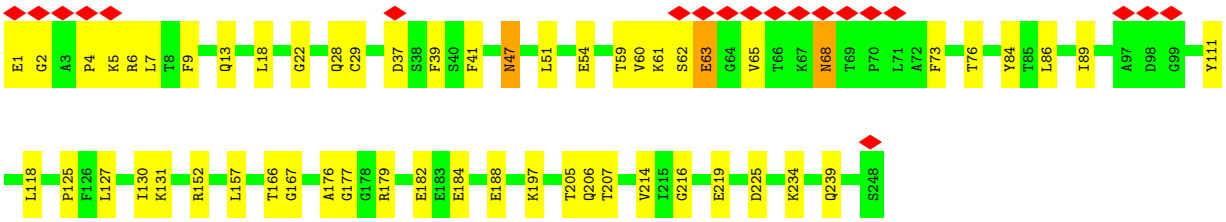
• Molecule 12: Photosystem II reaction center protein M

Chain M:



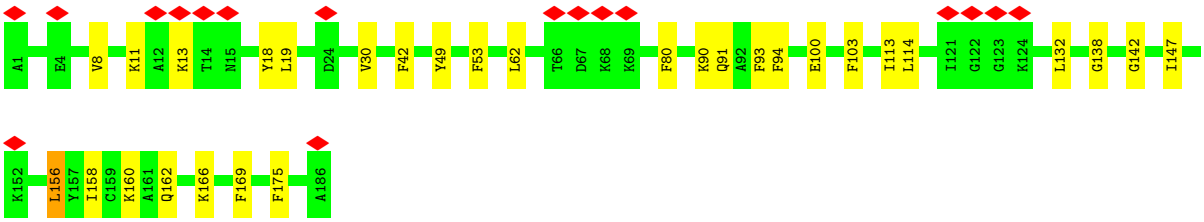
• Molecule 13: Oxygen-evolving enhancer protein 1, chloroplastic

Chain O:



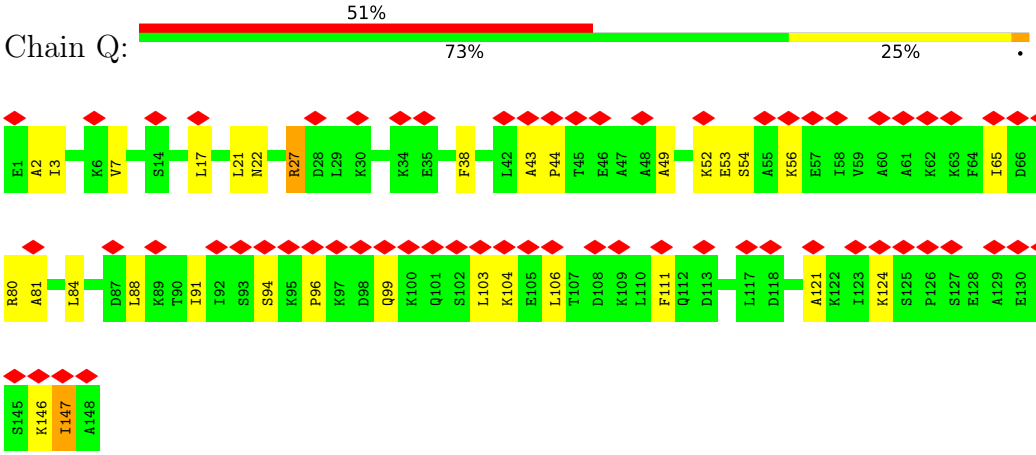
• Molecule 14: Oxygen-evolving enhancer protein 2, chloroplastic

Chain P:



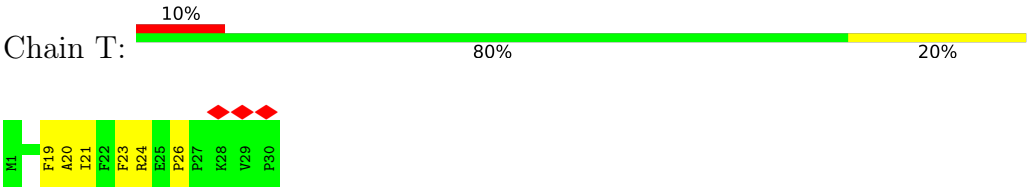
• Molecule 15: Oxygen-evolving enhancer protein 3

Chain Q:



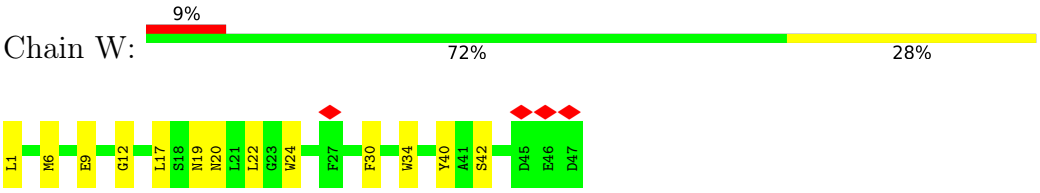
• Molecule 16: Photosystem II reaction center protein T

Chain T:



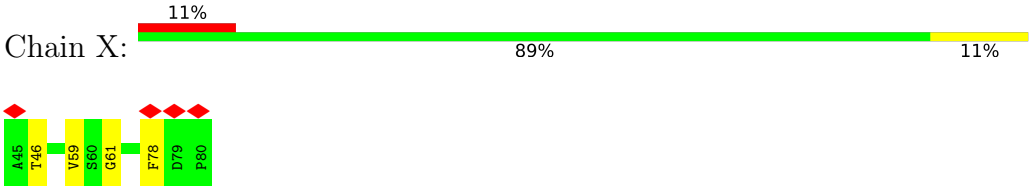
• Molecule 17: PSII 6.1 kDa protein

Chain W:



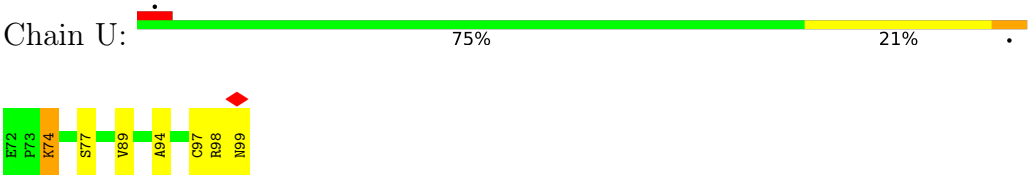
• Molecule 18: Ultraviolet-B-repressible protein

Chain X:



• Molecule 19: Photosystem II 5 kDa protein, chloroplastic

Chain U:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	323534	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	700	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	165000	Depositor
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.147	Depositor
Minimum map value	-0.059	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.02	Depositor
Map size (Å)	263.16, 263.16, 263.16	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.731, 0.731, 0.731	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: LHG, BCT, HEM, CL, PHO, FE2, BCR, DGD, PL9, CLA, LMG, OEX, SQD

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	1.02	0/2697	1.16	1/3677 (0.0%)
2	B	1.02	0/3899	1.17	3/5308 (0.1%)
3	C	1.02	0/3607	1.15	0/4912
4	D	1.00	0/2796	1.16	0/3812
5	E	1.02	0/630	1.16	0/857
6	F	0.99	0/248	1.15	0/335
7	H	1.05	0/461	1.16	0/626
8	I	1.01	0/275	1.20	0/372
9	J	1.03	0/262	1.20	0/354
10	K	1.03	0/318	1.04	0/434
11	L	0.99	0/303	1.08	0/412
12	M	1.03	0/221	1.21	0/303
13	O	1.08	0/1906	1.15	1/2575 (0.0%)
14	P	1.05	0/1464	1.14	1/1978 (0.1%)
15	Q	1.04	0/1179	1.21	0/1591
16	T	0.99	0/253	1.12	0/344
17	W	0.98	0/378	1.14	0/514
18	X	1.06	0/252	1.29	0/345
19	U	1.03	0/216	1.22	0/291
All	All	1.03	0/21365	1.16	6/29040 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	3
2	B	0	4
3	C	0	5
4	D	0	4

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Mol	Chain	#Chirality outliers	#Planarity outliers
7	H	0	2
8	I	0	1
9	J	0	1
13	O	0	1
15	Q	0	3
All	All	0	24

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	342	GLY	CA-C-O	-6.04	118.10	122.45
13	O	2	GLY	CA-C-O	-5.53	118.16	122.52
2	B	89	GLY	CA-C-O	-5.40	118.26	122.52
14	P	142	GLY	CA-C-O	-5.34	118.30	122.52
2	B	246	PHE	CA-CB-CG	5.32	119.12	113.80
1	A	339	PHE	CB-CA-C	5.22	116.72	108.84

There are no chirality outliers.

All (24) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	269	ARG	Sidechain
1	A	27	ARG	Sidechain
1	A	334	ARG	Sidechain
2	B	358	ARG	Sidechain
2	B	423	ARG	Sidechain
2	B	472	ARG	Sidechain
2	B	476	ARG	Sidechain
3	C	154	ARG	Sidechain
3	C	261	ARG	Sidechain
3	C	370	ARG	Sidechain
3	C	423	ARG	Sidechain
3	C	447	ARG	Sidechain
4	D	25	ARG	Sidechain
4	D	295	ARG	Sidechain
4	D	305	ARG	Sidechain
4	D	349	ARG	Sidechain
7	H	15	ARG	Sidechain
7	H	16	ARG	Sidechain
8	I	30	ARG	Sidechain

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Mol	Chain	Res	Type	Group
9	J	7	ARG	Sidechain
13	O	152	ARG	Sidechain
15	Q	27	ARG	Sidechain
15	Q	78	ARG	Sidechain
15	Q	80	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	A	2616	0	2522	59	0
2	B	3771	0	3657	69	0
3	C	3490	0	3415	69	0
4	D	2704	0	2598	41	0
5	E	612	0	595	9	0
6	F	241	0	246	5	0
7	H	452	0	473	13	0
8	I	267	0	278	5	0
9	J	256	0	269	1	0
10	K	306	0	313	10	0
11	L	295	0	284	8	0
12	M	217	0	244	8	0
13	O	1870	0	1849	35	0
14	P	1434	0	1392	23	0
15	Q	1157	0	1210	30	0
16	T	245	0	260	4	0
17	W	368	0	355	10	0
18	X	249	0	266	2	0
19	U	212	0	220	5	0
20	A	10	0	0	0	0
21	A	1	0	0	0	0
22	A	2	0	0	0	0
23	A	175	0	169	10	0
23	B	1028	0	1119	71	0
23	C	813	0	857	63	0
23	D	195	0	214	17	0
24	A	64	0	74	2	0
24	D	64	0	74	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
25	A	40	0	56	5	0
25	B	120	0	168	22	0
25	C	40	0	56	5	0
25	D	40	0	56	6	0
25	H	40	0	56	4	0
25	I	40	0	56	4	0
26	A	50	0	66	4	0
27	A	13	0	7	1	0
27	D	55	0	80	1	0
28	A	4	0	0	0	0
29	B	82	0	104	10	0
29	C	51	0	72	9	0
29	D	46	0	62	8	0
29	I	40	0	50	2	0
29	W	48	0	66	6	0
30	B	87	0	120	11	0
30	D	92	0	130	5	0
30	L	49	0	74	2	0
30	W	49	0	74	9	0
31	B	62	0	82	6	0
31	C	177	0	228	21	0
32	E	43	0	30	4	0
33	A	121	0	0	1	0
33	B	176	0	0	0	0
33	C	159	0	0	0	0
33	D	123	0	0	0	0
33	E	18	0	0	0	0
33	F	4	0	0	0	0
33	H	14	0	0	0	0
33	I	3	0	0	0	0
33	J	4	0	0	0	0
33	K	4	0	0	0	0
33	L	10	0	0	0	0
33	M	2	0	0	0	0
33	O	54	0	0	0	0
33	P	45	0	0	0	0
33	Q	19	0	0	0	0
33	T	6	0	0	0	0
33	U	2	0	0	0	0
33	W	13	0	0	0	0
33	X	1	0	0	0	0
All	All	25160	0	24646	498	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 10.

All (498) 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)
3:C:165:LEU:HD21	23:C:506:CLA:HAB	1.54	0.88
23:C:508:CLA:H18	10:K:45:LEU:HD11	1.66	0.78
2:B:25:MET:HG2	25:B:517:BCR:H23C	1.67	0.77
30:D:407:LHG:HC62	11:L:16:THR:HG23	1.67	0.77
1:A:93:PHE:HZ	23:A:408:CLA:HAA1	1.50	0.76
23:B:510:CLA:HHC	23:B:510:CLA:HBB1	1.67	0.76
23:C:504:CLA:H101	31:C:516:DGD:HAW1	1.67	0.75
4:D:193:THR:HG23	23:D:403:CLA:HBC2	1.68	0.74
23:B:506:CLA:H61	25:B:519:BCR:HC7	1.70	0.73
23:B:516:CLA:H8	25:B:519:BCR:H14C	1.70	0.72
23:C:501:CLA:H151	23:C:507:CLA:H8	1.72	0.71
14:P:169:PHE:HB2	15:Q:27:ARG:HD3	1.72	0.71
23:B:516:CLA:HBA1	25:B:519:BCR:H20C	1.71	0.71
4:D:90:LEU:H	7:H:62:ASN:HD21	1.37	0.70
23:C:508:CLA:H171	31:C:516:DGD:HAN1	1.73	0.70
3:C:473:ASN:HA	16:T:26:PRO:HB3	1.75	0.69
13:O:89:ILE:HD13	13:O:130:ILE:HD11	1.75	0.69
4:D:108:LEU:HD23	5:E:66:ILE:HD13	1.75	0.68
23:C:505:CLA:CMD	23:C:507:CLA:HAB	2.24	0.68
31:C:517:DGD:HAT2	29:D:409:LMG:H221	1.76	0.68
14:P:42:PHE:HB3	14:P:62:LEU:HD21	1.76	0.67
2:B:103:PHE:HB2	23:B:506:CLA:H71	1.76	0.67
19:U:74:LYS:HG3	19:U:77:SER:HB3	1.76	0.67
4:D:187:GLN:HB2	23:D:403:CLA:HBC1	1.75	0.67
14:P:91:GLN:HB2	15:Q:3:ILE:HB	1.77	0.67
23:A:408:CLA:HAC1	29:I:101:LMG:H391	1.78	0.66
26:A:410:SQD:H332	23:C:508:CLA:H111	1.77	0.66
2:B:454:GLY:HA2	29:B:520:LMG:H222	1.78	0.66
3:C:163:ILE:HD13	23:C:512:CLA:HAB	1.77	0.65
2:B:122:ILE:HA	7:H:24:LYS:HD3	1.78	0.65
31:B:524:DGD:HAW2	4:D:124:ILE:HD11	1.77	0.65
4:D:173:SER:HB2	4:D:178:ALA:HB1	1.79	0.65
23:B:516:CLA:HBB1	23:B:516:CLA:HMB1	1.78	0.64
23:B:502:CLA:H152	31:B:524:DGD:HA92	1.79	0.64
23:C:506:CLA:H72	30:W:102:LHG:H311	1.79	0.64
13:O:4:PRO:HG2	13:O:28:GLN:HE22	1.62	0.64
1:A:188:ALA:HB2	1:A:328:MET:HB2	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:K:30:TYR:HB3	10:K:33:LEU:HD12	1.80	0.64
3:C:116:VAL:HG22	25:C:514:BCR:H323	1.79	0.64
32:E:101:HEM:HBC2	32:E:101:HEM:HHD	1.78	0.64
23:C:511:CLA:H51	25:C:514:BCR:H402	1.80	0.63
14:P:147:ILE:HG12	14:P:160:LYS:HG3	1.80	0.63
3:C:86:LEU:HD13	3:C:89:LEU:HD12	1.81	0.63
15:Q:17:LEU:HB3	15:Q:21:LEU:HB3	1.81	0.62
3:C:42:LEU:HD21	23:C:511:CLA:H2A	1.82	0.62
4:D:50:PHE:HE1	29:D:409:LMG:H312	1.64	0.62
1:A:140:ARG:HB2	4:D:221:ASN:HA	1.82	0.62
23:C:505:CLA:HMD3	23:C:507:CLA:HAB	1.82	0.61
4:D:57:THR:HG21	5:E:50:PRO:HD3	1.82	0.61
2:B:30:VAL:HG12	23:B:505:CLA:HHD	1.81	0.61
15:Q:49:ALA:HA	15:Q:52:LYS:HE2	1.81	0.61
23:C:504:CLA:H72	31:C:516:DGD:HBN1	1.81	0.61
1:A:225:ARG:HH21	2:B:478:VAL:HA	1.65	0.61
11:L:5:ASN:HD22	11:L:7:ASN:H	1.49	0.61
3:C:154:ARG:HB3	3:C:256:PRO:HG2	1.81	0.61
2:B:75:TRP:HA	2:B:88:PRO:HG3	1.83	0.60
23:B:503:CLA:HAB	23:B:505:CLA:H152	1.83	0.60
2:B:151:PHE:HE1	29:B:522:LMG:H301	1.66	0.60
3:C:406:SER:HA	3:C:420:VAL:HG23	1.83	0.60
31:C:516:DGD:HB71	29:C:518:LMG:H411	1.83	0.60
11:L:5:ASN:HB3	11:L:8:GLU:HG3	1.83	0.60
1:A:223:LEU:HD13	4:D:266:ARG:HD3	1.84	0.60
23:C:504:CLA:H93	31:C:516:DGD:HAT2	1.83	0.60
1:A:192:ILE:HG13	1:A:293:MET:HE1	1.83	0.59
2:B:243:ALA:HA	2:B:246:PHE:CE2	2.36	0.59
1:A:63:ILE:HB	3:C:335:THR:HG21	1.84	0.59
2:B:458:PHE:HB3	23:B:504:CLA:HBC2	1.83	0.59
3:C:397:THR:HG21	15:Q:27:ARG:HG2	1.85	0.59
23:B:505:CLA:HMA2	23:B:506:CLA:HMA2	1.83	0.59
7:H:50:PHE:HB2	25:H:101:BCR:H12C	1.83	0.59
3:C:318:LEU:HG	3:C:328:VAL:HG11	1.85	0.58
14:P:90:LYS:HB3	15:Q:2:ALA:HB3	1.86	0.58
23:C:501:CLA:H102	25:I:102:BCR:H17C	1.84	0.58
13:O:63:GLU:HB2	13:O:234:LYS:HG2	1.85	0.58
13:O:207:THR:HG22	13:O:214:VAL:HG12	1.86	0.58
1:A:283:ILE:HG13	24:A:407:PHO:HBC3	1.86	0.58
12:M:17:VAL:HB	12:M:18:PRO:HD3	1.85	0.57
31:C:517:DGD:HA52	29:D:409:LMG:H132	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:C:505:CLA:H203	31:C:515:DGD:HA61	1.87	0.57
2:B:399:VAL:HG12	2:B:417:VAL:HG22	1.87	0.57
17:W:19:ASN:H	17:W:22:LEU:HD12	1.70	0.57
16:T:19:PHE:HA	16:T:23:PHE:HD1	1.70	0.56
3:C:429:SER:HB3	31:C:516:DGD:HBE2	1.86	0.56
15:Q:17:LEU:HD12	15:Q:22:ASN:HA	1.87	0.56
1:A:334:ARG:HB2	13:O:157:LEU:HD12	1.87	0.56
10:K:27:PRO:HB2	10:K:30:TYR:HD1	1.70	0.56
2:B:30:VAL:HG13	23:B:513:CLA:HMC2	1.88	0.56
23:A:406:CLA:HBA1	23:A:406:CLA:CHA	2.35	0.56
23:B:503:CLA:H2	23:B:505:CLA:H91	1.86	0.56
15:Q:73:LEU:HD23	15:Q:121:ALA:HB2	1.88	0.56
1:A:278:TRP:HA	26:A:410:SQD:H172	1.87	0.56
29:D:409:LMG:H292	29:D:409:LMG:H152	1.87	0.55
2:B:446:SER:HB2	2:B:447:PRO:HD2	1.88	0.55
23:D:401:CLA:CHA	23:D:401:CLA:HBA1	2.36	0.55
1:A:214:MET:HG2	27:A:411:PL9:H102	1.89	0.55
13:O:125:PRO:HG2	13:O:225:ASP:HB3	1.88	0.55
25:B:517:BCR:HC32	29:B:520:LMG:H291	1.88	0.55
3:C:178:LYS:HA	3:C:182:PHE:HB2	1.88	0.55
23:B:505:CLA:H142	23:B:510:CLA:H2	1.90	0.54
2:B:329:SER:H	2:B:332:ASN:HD22	1.56	0.54
2:B:187:VAL:HG23	23:B:501:CLA:HMD2	1.89	0.54
3:C:186:TYR:HA	3:C:196:VAL:HA	1.88	0.54
11:L:25:ILE:HG22	12:M:15:ILE:HD13	1.88	0.54
3:C:26:ARG:HD3	23:C:511:CLA:HBD	1.89	0.54
1:A:38:ILE:HB	1:A:39:PRO:HD3	1.89	0.54
7:H:50:PHE:CB	25:H:101:BCR:H12C	2.37	0.54
13:O:5:LYS:HG2	13:O:6:ARG:H	1.72	0.54
2:B:70:GLY:HA2	2:B:178:VAL:HG11	1.88	0.54
15:Q:65:ILE:HG12	15:Q:73:LEU:HD22	1.90	0.54
32:E:101:HEM:HMB1	32:E:101:HEM:HBB2	1.90	0.54
1:A:304:GLN:HG2	1:A:313:VAL:HG11	1.89	0.54
15:Q:106:LEU:HD22	15:Q:146:LYS:HD3	1.90	0.54
5:E:67:THR:O	19:U:99:ASN:HA	2.08	0.53
3:C:466:VAL:HG13	4:D:252:ARG:HD2	1.90	0.53
23:D:403:CLA:HBB1	23:D:403:CLA:HMB3	1.90	0.53
2:B:148:VAL:HG12	30:B:521:LHG:H351	1.91	0.53
23:C:506:CLA:H8	30:W:102:LHG:H371	1.90	0.53
23:B:501:CLA:HAB	23:B:501:CLA:H18	1.90	0.53
1:A:60:ILE:HD12	1:A:84:PRO:HD2	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:91:TRP:CD1	23:B:506:CLA:HBD	2.44	0.53
2:B:157:HIS:HA	2:B:163:GLY:HA3	1.90	0.53
1:A:238:ARG:HB2	1:A:241:GLN:HB3	1.90	0.53
2:B:434:ARG:HH22	13:O:179:ARG:HD2	1.74	0.53
23:C:501:CLA:H192	23:C:507:CLA:H152	1.90	0.53
23:C:509:CLA:H101	23:C:512:CLA:HAA2	1.90	0.52
5:E:70:PHE:HB2	19:U:98:ARG:HH21	1.73	0.52
3:C:127:PHE:HD2	23:C:513:CLA:HAC2	1.74	0.52
3:C:162:GLY:HA2	3:C:248:GLY:HA2	1.92	0.52
1:A:84:PRO:HA	1:A:112:TYR:CG	2.44	0.52
2:B:247:PHE:HB2	23:B:508:CLA:HBC1	1.90	0.52
3:C:55:ALA:HB1	25:C:514:BCR:H373	1.92	0.52
25:D:405:BCR:H372	29:D:409:LMG:H311	1.90	0.52
4:D:280:LEU:HD22	24:D:402:PHO:HBC3	1.92	0.52
5:E:27:ILE:HB	5:E:28:PRO:HD3	1.91	0.52
6:F:22:VAL:HB	6:F:23:PRO:HD3	1.91	0.52
23:B:502:CLA:H191	31:B:524:DGD:HB91	1.92	0.52
15:Q:70:TRP:CD1	15:Q:124:LYS:HZ2	2.28	0.52
25:B:517:BCR:H322	29:B:520:LMG:H122	1.92	0.52
23:C:506:CLA:HBA2	23:C:507:CLA:H203	1.91	0.52
4:D:56:VAL:O	4:D:67:SER:HB3	2.10	0.51
15:Q:54:SER:HB3	15:Q:81:ALA:HA	1.92	0.51
23:B:513:CLA:H152	25:B:518:BCR:H312	1.91	0.51
10:K:26:LEU:HD11	10:K:37:VAL:HG21	1.91	0.51
25:D:405:BCR:H292	29:D:409:LMG:H201	1.92	0.51
17:W:42:SER:HA	30:W:102:LHG:HC11	1.93	0.51
31:B:524:DGD:HBT1	31:B:524:DGD:HB61	1.92	0.51
3:C:203:THR:O	3:C:235:GLY:HA3	2.10	0.51
13:O:60:VAL:HB	13:O:118:LEU:HD21	1.92	0.51
15:Q:91:ILE:HG21	15:Q:147:ILE:HG13	1.91	0.51
2:B:441:GLY:C	13:O:176:ALA:HB3	2.36	0.51
1:A:54:ALA:HB2	1:A:72:LEU:HD12	1.93	0.51
2:B:208:LEU:HD22	23:B:501:CLA:H201	1.93	0.51
23:B:504:CLA:C4D	23:B:512:CLA:H151	2.40	0.51
29:C:518:LMG:H201	29:C:518:LMG:H312	1.93	0.51
25:D:405:BCR:H19C	6:F:24:THR:HG23	1.93	0.51
4:D:192:TRP:CE3	4:D:290:LEU:HD11	2.46	0.51
3:C:221:GLU:HG2	17:W:12:GLY:HA2	1.92	0.50
5:E:14:ILE:O	5:E:20:TRP:NE1	2.44	0.50
10:K:44:PRO:HA	10:K:47:PHE:HD2	1.76	0.50
31:C:515:DGD:HA22	31:C:515:DGD:HB41	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:368:PRO:HG3	15:Q:78:ARG:HB2	1.93	0.50
23:B:503:CLA:HAB	23:B:505:CLA:H171	1.94	0.50
2:B:242:ILE:HG23	2:B:462:PHE:HD2	1.77	0.50
2:B:29:LEU:HD11	25:B:517:BCR:H19C	1.93	0.50
3:C:122:SER:OG	25:C:514:BCR:H14C	2.12	0.50
4:D:202:VAL:HG13	23:D:403:CLA:HMB2	1.93	0.50
6:F:10:PHE:HD1	6:F:11:THR:HG23	1.76	0.50
1:A:93:PHE:CZ	23:A:408:CLA:HAA1	2.40	0.50
23:A:408:CLA:H12	29:W:101:LMG:H112	1.93	0.50
3:C:346:THR:HG21	13:O:22:GLY:HA2	1.94	0.50
4:D:200:MET:HG2	27:D:406:PL9:H321	1.94	0.49
1:A:133:LEU:HD23	4:D:257:ILE:HG12	1.93	0.49
2:B:113:TRP:HA	25:B:519:BCR:H403	1.95	0.49
8:I:1:MET:HE2	29:I:101:LMG:HC1	1.94	0.49
1:A:96:ILE:HG12	1:A:105:TRP:CE2	2.48	0.49
23:B:515:CLA:H91	23:B:515:CLA:H172	1.94	0.49
23:D:404:CLA:H62	18:X:61:GLY:HA3	1.94	0.49
29:D:409:LMG:H171	29:D:409:LMG:H212	1.95	0.49
13:O:51:LEU:HB3	13:O:89:ILE:HB	1.94	0.49
7:H:71:SER:O	7:H:72:MET:C	2.56	0.49
3:C:383:ASP:HB3	15:Q:79:LEU:HD21	1.94	0.49
3:C:406:SER:HA	3:C:420:VAL:CG2	2.43	0.49
2:B:204:ALA:CB	23:B:502:CLA:HAB	2.43	0.49
3:C:415:ASN:ND2	31:C:517:DGD:O4D	2.46	0.49
23:C:503:CLA:H121	23:C:509:CLA:H43	1.95	0.49
30:L:101:LHG:H112	30:L:101:LHG:H241	1.95	0.49
14:P:80:PHE:HE1	14:P:156:LEU:HD11	1.77	0.49
1:A:60:ILE:HB	1:A:83:ILE:HG22	1.95	0.49
1:A:131:TRP:CH2	23:C:505:CLA:HAA2	2.48	0.49
3:C:461:ARG:HG2	4:D:224:PHE:CD1	2.48	0.49
7:H:24:LYS:N	7:H:25:PRO:HD2	2.27	0.49
2:B:109:LEU:HB2	25:B:519:BCR:H19C	1.95	0.48
23:B:509:CLA:CHC	25:H:101:BCR:HC8	2.43	0.48
3:C:233:ILE:HA	25:I:102:BCR:H282	1.95	0.48
3:C:472:LEU:O	3:C:473:ASN:HB3	2.12	0.48
4:D:90:LEU:N	7:H:62:ASN:HD21	2.08	0.48
30:W:102:LHG:H291	30:W:102:LHG:H262	1.56	0.48
4:D:80:SER:HA	4:D:173:SER:HB3	1.95	0.48
12:M:5:ILE:HD12	12:M:5:ILE:H	1.78	0.48
2:B:105:GLY:CA	25:B:518:BCR:H23C	2.43	0.48
29:C:518:LMG:H222	29:C:518:LMG:H332	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:B:518:BCR:HC41	29:B:520:LMG:H361	1.95	0.48
4:D:127:MET:HE3	4:D:144:ALA:O	2.13	0.48
13:O:5:LYS:HG2	13:O:6:ARG:N	2.28	0.48
4:D:78:ALA:HB2	4:D:175:GLY:HA3	1.95	0.48
4:D:190:HIS:HA	4:D:295:ARG:HD3	1.95	0.48
1:A:284:TRP:CD1	3:C:435:PHE:HZ	2.32	0.48
14:P:114:LEU:HD11	14:P:132:LEU:HB2	1.95	0.48
2:B:392:VAL:HG13	2:B:397:VAL:HB	1.96	0.48
13:O:84:TYR:OH	17:W:1:LEU:HA	2.14	0.48
23:B:512:CLA:HBB1	23:B:512:CLA:HMB1	1.95	0.48
3:C:338:GLY:HA2	13:O:111:TYR:OH	2.13	0.48
11:L:11:VAL:HG11	12:M:25:ILE:HD12	1.95	0.47
13:O:76:THR:HG22	13:O:118:LEU:HD23	1.96	0.47
23:C:512:CLA:H93	23:C:512:CLA:H111	1.65	0.47
2:B:63:ILE:N	2:B:64:PRO:HD2	2.29	0.47
1:A:309:SER:HB2	14:P:13:LYS:HE3	1.97	0.47
2:B:169:SER:HA	2:B:176:GLY:HA2	1.95	0.47
3:C:362:ARG:HD2	13:O:18:LEU:HD21	1.97	0.47
15:Q:88:LEU:HD12	15:Q:111:PHE:HE2	1.80	0.47
23:B:510:CLA:HHC	23:B:510:CLA:CBB	2.43	0.47
23:B:516:CLA:HBA1	25:B:519:BCR:C20	2.44	0.47
31:C:515:DGD:HA71	29:W:101:LMG:H362	1.96	0.47
31:C:516:DGD:HA21	29:C:518:LMG:H302	1.97	0.47
15:Q:69:ALA:HB1	15:Q:72:PHE:CD2	2.49	0.47
2:B:291:GLY:O	2:B:296:GLN:HB2	2.15	0.47
23:C:505:CLA:H151	29:W:101:LMG:H402	1.97	0.47
1:A:131:TRP:HD1	1:A:141:PRO:HB2	1.79	0.46
25:B:519:BCR:HC31	30:B:521:LHG:H242	1.96	0.46
23:C:505:CLA:H72	23:C:505:CLA:H112	1.71	0.46
17:W:30:PHE:HE2	30:W:102:LHG:H132	1.80	0.46
23:A:408:CLA:H112	29:W:101:LMG:H302	1.96	0.46
1:A:310:GLN:HB3	14:P:19:LEU:HD21	1.96	0.46
23:B:501:CLA:C4D	23:B:501:CLA:H72	2.45	0.46
29:B:522:LMG:H112	29:B:522:LMG:HC8	1.56	0.46
30:B:523:LHG:H151	30:L:101:LHG:H281	1.96	0.46
4:D:258:PHE:CE1	30:D:407:LHG:H332	2.50	0.46
23:C:508:CLA:HBB1	23:C:508:CLA:HMB1	1.96	0.46
31:C:516:DGD:HA91	31:C:517:DGD:HB72	1.97	0.46
4:D:39:PHE:HB2	4:D:40:PRO:HD3	1.97	0.46
2:B:156:PHE:HB3	2:B:162:PHE:HB3	1.98	0.46
4:D:114:PHE:HZ	25:D:405:BCR:H323	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:260:VAL:HG13	16:T:21:ILE:HG12	1.97	0.46
5:E:13:ILE:HG21	32:E:101:HEM:HAD2	1.98	0.46
1:A:132:GLU:O	1:A:136:ARG:HG2	2.15	0.46
1:A:340:PRO:HB2	14:P:166:LYS:HB3	1.96	0.46
2:B:105:GLY:HA3	25:B:518:BCR:H23C	1.97	0.46
23:B:505:CLA:H93	23:B:505:CLA:H111	1.75	0.46
30:W:102:LHG:H312	30:W:102:LHG:H351	1.98	0.46
2:B:91:TRP:HB2	30:B:521:LHG:HC11	1.98	0.46
2:B:384:ARG:HG2	13:O:166:THR:HG23	1.98	0.46
23:C:503:CLA:H8	23:C:503:CLA:H51	1.72	0.46
23:B:503:CLA:H62	23:B:503:CLA:H41	1.64	0.46
23:B:516:CLA:H193	25:B:519:BCR:H331	1.98	0.46
3:C:425:TRP:CD1	23:C:504:CLA:HMA3	2.51	0.46
23:C:503:CLA:HBB2	23:C:512:CLA:H101	1.99	0.46
23:D:401:CLA:H203	23:D:401:CLA:H162	1.81	0.46
1:A:12:ASN:OD1	17:W:40:TYR:HB2	2.16	0.45
1:A:250:ALA:HB1	4:D:139:LEU:HD21	1.99	0.45
3:C:73:ALA:HB2	10:K:26:LEU:HG	1.98	0.45
23:C:508:CLA:HMD2	30:D:408:LHG:H112	1.98	0.45
13:O:219:GLU:HG3	13:O:239:GLN:HG2	1.97	0.45
1:A:81:ALA:HB2	1:A:175:GLY:HA3	1.99	0.45
2:B:292:LEU:HD21	2:B:298:LEU:HD23	1.98	0.45
23:B:505:CLA:H3A	23:B:505:CLA:HBA2	1.46	0.45
13:O:111:TYR:HB3	13:O:131:LYS:HE2	1.99	0.45
15:Q:69:ALA:HB1	15:Q:72:PHE:HD2	1.82	0.45
1:A:283:ILE:HA	1:A:286:THR:HG22	1.99	0.45
23:D:401:CLA:HBB1	23:D:401:CLA:HMB3	1.98	0.45
1:A:147:TYR:OH	24:A:407:PHO:O1A	2.34	0.45
1:A:297:LEU:HB2	33:A:505:HOH:O	2.17	0.45
3:C:223:TRP:HE3	31:C:515:DGD:HB21	1.82	0.45
5:E:20:TRP:CD1	9:J:8:ILE:HD13	2.52	0.45
32:E:101:HEM:HMC2	6:F:25:VAL:HG21	1.98	0.45
2:B:67:THR:HA	2:B:71:ILE:O	2.17	0.45
2:B:142:HIS:HB3	23:B:510:CLA:H101	1.97	0.45
2:B:151:PHE:CE1	29:B:522:LMG:H301	2.51	0.45
3:C:140:LEU:O	3:C:141:GLU:C	2.59	0.45
23:A:408:CLA:H122	23:A:408:CLA:H8	1.65	0.45
1:A:50:ILE:HD12	25:A:409:BCR:H21C	1.98	0.45
23:B:501:CLA:H92	23:B:501:CLA:H62	1.70	0.45
25:B:518:BCR:H15C	25:B:518:BCR:H351	1.78	0.45
7:H:52:VAL:O	7:H:56:ILE:HG13	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:Q:53:GLU:HA	15:Q:56:LYS:HD3	1.99	0.45
31:B:524:DGD:HA31	7:H:58:LEU:HD11	1.99	0.45
3:C:26:ARG:H	23:C:511:CLA:HED2	1.82	0.45
1:A:280:VAL:HG11	30:D:408:LHG:H292	1.99	0.45
23:B:501:CLA:H111	23:B:501:CLA:H93	1.67	0.45
23:B:504:CLA:H93	23:B:504:CLA:H112	1.72	0.45
23:C:509:CLA:HAA2	23:C:509:CLA:H143	1.98	0.45
4:D:90:LEU:H	7:H:62:ASN:ND2	2.11	0.45
1:A:300:PHE:HZ	31:C:517:DGD:HB62	1.82	0.44
23:B:516:CLA:H11	23:B:516:CLA:H51	1.72	0.44
23:C:501:CLA:HBB2	23:C:507:CLA:H61	1.99	0.44
2:B:109:LEU:CB	25:B:519:BCR:H19C	2.48	0.44
23:B:516:CLA:H201	30:B:521:LHG:H301	1.99	0.44
25:B:517:BCR:H11C	25:B:517:BCR:H341	1.82	0.44
4:D:133:LEU:O	4:D:137:VAL:HG23	2.17	0.44
8:I:31:ASN:HB2	8:I:32:PRO:HD2	1.99	0.44
3:C:410:VAL:O	3:C:413:GLU:HB2	2.16	0.44
23:C:502:CLA:H72	23:C:503:CLA:NB	2.32	0.44
23:D:404:CLA:H151	23:D:404:CLA:H18	1.79	0.44
13:O:9:PHE:O	13:O:13:GLN:HG2	2.17	0.44
1:A:179:THR:O	1:A:183:MET:HG3	2.18	0.44
4:D:114:PHE:CZ	25:D:405:BCR:H323	2.53	0.44
25:I:102:BCR:H15C	25:I:102:BCR:H351	1.82	0.44
15:Q:17:LEU:HD13	15:Q:21:LEU:HD22	1.99	0.44
2:B:20:LEU:O	2:B:24:ILE:HG13	2.18	0.44
3:C:52:ALA:HB2	23:C:511:CLA:HMA2	1.99	0.44
3:C:228:ASP:HB3	31:C:515:DGD:HE62	2.00	0.44
23:C:507:CLA:H191	30:W:102:LHG:H281	2.00	0.44
4:D:352:ALA:HA	14:P:138:GLY:O	2.17	0.44
2:B:419:LYS:HE2	2:B:419:LYS:HB3	1.84	0.44
2:B:12:VAL:HG23	23:B:512:CLA:HMC2	1.98	0.44
2:B:44:VAL:HG23	2:B:60:MET:HE1	2.00	0.44
2:B:413:ASP:OD1	2:B:413:ASP:N	2.51	0.44
2:B:468:TRP:CH2	30:B:523:LHG:HC42	2.53	0.44
23:B:511:CLA:H71	23:B:511:CLA:H112	1.77	0.44
23:C:501:CLA:C1B	23:C:501:CLA:H2	2.47	0.44
13:O:61:LYS:O	13:O:62:SER:C	2.60	0.44
13:O:111:TYR:HD2	13:O:127:LEU:HD11	1.82	0.44
23:B:503:CLA:HBC1	23:B:504:CLA:H102	1.98	0.44
3:C:180:PHE:CE2	3:C:200:THR:HA	2.53	0.44
23:C:505:CLA:H92	23:C:505:CLA:H61	1.68	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:43:THR:HG23	25:A:409:BCR:H362	2.00	0.43
23:B:508:CLA:H8	23:B:509:CLA:H13	2.00	0.43
3:C:47:GLY:HA3	3:C:137:PRO:O	2.18	0.43
23:C:508:CLA:H142	23:C:510:CLA:HED1	1.99	0.43
2:B:135:LEU:HB2	2:B:136:PRO:HD3	2.01	0.43
2:B:256:MET:HA	2:B:263:THR:HG21	2.01	0.43
2:B:462:PHE:HA	23:B:511:CLA:HMC2	2.00	0.43
23:B:509:CLA:H141	23:B:509:CLA:H161	1.80	0.43
8:I:28:PRO:O	8:I:31:ASN:ND2	2.51	0.43
30:B:523:LHG:H291	30:B:523:LHG:H321	1.76	0.43
3:C:130:ILE:HG23	3:C:134:LEU:HD12	2.01	0.43
3:C:141:GLU:H	3:C:141:GLU:CD	2.25	0.43
14:P:30:VAL:HG11	14:P:49:TYR:CD2	2.53	0.43
14:P:100:GLU:HB2	14:P:103:PHE:HB2	2.01	0.43
1:A:47:VAL:HG21	1:A:114:LEU:HD22	2.00	0.43
1:A:296:ASN:HB2	3:C:400:PRO:O	2.19	0.43
23:A:405:CLA:H111	23:A:405:CLA:H72	1.53	0.43
23:B:504:CLA:H152	23:B:504:CLA:H111	1.50	0.43
23:B:511:CLA:H72	23:B:513:CLA:HED3	2.00	0.43
3:C:164:HIS:HA	3:C:167:LEU:HD12	2.00	0.43
3:C:266:TRP:CZ3	23:C:507:CLA:HMC1	2.53	0.43
24:D:402:PHO:H61	23:D:403:CLA:H111	1.99	0.43
14:P:169:PHE:CB	15:Q:27:ARG:HD3	2.43	0.43
15:Q:106:LEU:CD2	15:Q:146:LYS:HD3	2.49	0.43
23:C:509:CLA:HBB1	23:C:509:CLA:HMB1	2.00	0.43
12:M:21:PHE:O	12:M:25:ILE:HG12	2.19	0.43
13:O:86:LEU:HB3	13:O:89:ILE:HD11	2.01	0.43
3:C:164:HIS:CE1	23:C:509:CLA:H111	2.54	0.43
4:D:126:PHE:CE2	24:D:402:PHO:HBD	2.54	0.43
19:U:94:ALA:O	19:U:99:ASN:ND2	2.52	0.43
3:C:119:LEU:HG	25:C:514:BCR:H12C	1.99	0.43
3:C:217:PRO:HB2	31:C:515:DGD:HA21	2.01	0.43
23:C:511:CLA:H52	10:K:54:TRP:CG	2.53	0.43
2:B:155:ALA:HB1	29:B:522:LMG:C10	2.48	0.43
23:B:503:CLA:HMD3	23:B:506:CLA:HAB	2.00	0.43
3:C:179:ALA:HA	3:C:184:GLY:HA2	2.01	0.43
3:C:286:ALA:HB2	23:C:502:CLA:HMD1	2.00	0.43
4:D:90:LEU:HG	7:H:62:ASN:ND2	2.34	0.43
1:A:135:PHE:CE2	8:I:31:ASN:HB3	2.53	0.43
2:B:223:GLN:HE21	2:B:223:GLN:HB3	1.55	0.43
25:B:519:BCR:H11C	25:B:519:BCR:H341	1.92	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:B:524:DGD:HA21	4:D:163:LEU:HD21	2.01	0.43
3:C:141:GLU:HA	3:C:148:GLY:HA3	2.00	0.43
3:C:185:ILE:HG13	3:C:230:LEU:HD13	2.01	0.43
17:W:30:PHE:CE2	30:W:102:LHG:H132	2.54	0.43
1:A:265:PHE:HB3	1:A:271:LEU:HB2	2.01	0.43
23:C:502:CLA:H92	23:C:512:CLA:H61	2.01	0.43
23:C:504:CLA:H171	23:C:508:CLA:H122	2.00	0.43
3:C:418:ASN:HD21	31:C:516:DGD:C4D	2.32	0.42
23:C:504:CLA:H121	31:C:517:DGD:HBH1	2.00	0.42
23:C:512:CLA:HBA2	23:C:512:CLA:H12	1.59	0.42
23:D:404:CLA:H202	18:X:59:VAL:HG13	2.01	0.42
14:P:113:ILE:HG13	15:Q:7:VAL:HG12	2.01	0.42
15:Q:44:PRO:HG2	15:Q:94:SER:HB3	2.01	0.42
2:B:220:ARG:HG3	7:H:32:LYS:HG2	2.00	0.42
23:B:503:CLA:HBC3	23:B:510:CLA:H52	2.01	0.42
23:B:509:CLA:HMA2	23:B:510:CLA:C2C	2.49	0.42
23:C:507:CLA:CAD	23:C:509:CLA:H152	2.49	0.42
23:D:401:CLA:H162	23:D:401:CLA:H141	1.82	0.42
5:E:56:PHE:HA	5:E:60:ARG:HH12	1.83	0.42
13:O:59:THR:HB	13:O:73:PHE:HB3	2.01	0.42
15:Q:96:PRO:HD2	15:Q:99:GLN:NE2	2.34	0.42
1:A:50:ILE:HG22	25:A:409:BCR:H271	2.02	0.42
1:A:153:ALA:HB3	23:A:405:CLA:H43	2.01	0.42
2:B:159:THR:HA	2:B:181:VAL:O	2.20	0.42
23:B:506:CLA:HMC2	30:B:521:LHG:H332	2.00	0.42
3:C:276:LEU:HD21	23:C:508:CLA:HAB	2.01	0.42
6:F:36:PHE:HB2	14:P:8:VAL:HG13	2.00	0.42
1:A:161:TYR:HB3	1:A:162:PRO:HD3	2.01	0.42
2:B:127:ARG:H	2:B:127:ARG:HG3	1.63	0.42
2:B:464:PHE:HD2	23:B:511:CLA:HAC2	1.84	0.42
3:C:109:PHE:HB3	3:C:110:PRO:HD3	2.02	0.42
3:C:363:ALA:O	3:C:367:GLU:HG2	2.20	0.42
4:D:127:MET:HA	4:D:130:GLN:OE1	2.20	0.42
14:P:94:PHE:CE1	15:Q:2:ALA:HA	2.54	0.42
23:B:505:CLA:H62	23:B:505:CLA:H41	1.74	0.42
14:P:94:PHE:HE1	15:Q:2:ALA:HA	1.84	0.42
1:A:39:PRO:HG3	25:A:409:BCR:HC8	2.02	0.42
1:A:332:HIS:O	1:A:333:GLU:C	2.62	0.42
26:A:410:SQD:H45	26:A:410:SQD:H1	1.75	0.42
4:D:243:GLU:HG3	4:D:245:TYR:H	1.84	0.42
23:D:404:CLA:H12	23:D:404:CLA:HBA1	1.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:O:205:THR:HG23	13:O:216:GLY:HA2	2.01	0.42
15:Q:70:TRP:N	15:Q:71:PRO:HD2	2.35	0.42
23:B:513:CLA:H151	23:B:513:CLA:H112	1.82	0.42
23:B:513:CLA:H72	23:B:513:CLA:H111	1.19	0.42
23:C:506:CLA:H101	23:C:506:CLA:H61	1.75	0.42
1:A:304:GLN:HE21	14:P:53:PHE:HD2	1.66	0.42
23:B:511:CLA:H2	23:B:511:CLA:H61	1.65	0.42
23:C:510:CLA:H3A	23:C:510:CLA:HBA1	1.80	0.42
23:D:403:CLA:H3A	23:D:403:CLA:HBA2	1.57	0.42
8:I:21:PHE:CZ	17:W:34:TRP:HB2	2.55	0.42
13:O:39:PHE:CE2	13:O:41:PHE:HB2	2.55	0.42
2:B:54:PRO:HD2	2:B:57:ARG:HG3	2.02	0.42
23:B:508:CLA:H93	23:B:508:CLA:H62	1.82	0.42
3:C:226:SER:O	3:C:227:VAL:C	2.62	0.42
23:C:506:CLA:H12	25:I:102:BCR:HC8	2.02	0.42
23:B:507:CLA:H203	12:M:14:PHE:CE2	2.55	0.41
23:D:404:CLA:H13	23:D:404:CLA:H102	1.66	0.41
14:P:91:GLN:C	14:P:93:PHE:H	2.28	0.41
2:B:375:GLY:HA2	19:U:89:VAL:CG2	2.50	0.41
2:B:434:ARG:NH1	13:O:182:GLU:OE2	2.52	0.41
2:B:434:ARG:HD2	13:O:177:GLY:HA3	2.02	0.41
23:B:502:CLA:H151	23:B:502:CLA:H18	1.77	0.41
23:B:514:CLA:H51	23:B:514:CLA:C4C	2.50	0.41
30:B:521:LHG:H351	30:B:521:LHG:H382	1.71	0.41
29:C:518:LMG:H172	10:K:42:VAL:HG21	2.01	0.41
14:P:18:TYR:OH	14:P:175:PHE:HA	2.20	0.41
1:A:322:ASN:OD1	3:C:412:THR:HA	2.20	0.41
2:B:203:ILE:HD13	29:B:522:LMG:HC92	2.03	0.41
3:C:26:ARG:HH21	3:C:48:LYS:HE3	1.85	0.41
23:C:501:CLA:C3D	23:C:503:CLA:H2	2.51	0.41
23:D:404:CLA:H52	23:D:404:CLA:H8	1.42	0.41
16:T:20:ALA:O	16:T:24:ARG:HB3	2.20	0.41
30:W:102:LHG:H292	30:W:102:LHG:H321	1.61	0.41
29:C:518:LMG:H142	10:K:39:PHE:HA	2.02	0.41
1:A:166:GLY:HA3	3:C:358:PHE:HE1	1.85	0.41
1:A:222:SER:HB3	1:A:247:ASN:H	1.85	0.41
23:B:511:CLA:C3B	23:B:513:CLA:HMA2	2.50	0.41
13:O:47:ASN:O	13:O:47:ASN:ND2	2.52	0.41
2:B:149:ALA:HA	30:B:521:LHG:H331	2.03	0.41
2:B:474:LEU:HD11	23:B:508:CLA:HAA2	2.02	0.41
23:B:505:CLA:CMA	23:B:506:CLA:HMA2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:H:101:BCR:H15C	25:H:101:BCR:H351	1.91	0.41
10:K:55:GLN:HA	10:K:58:VAL:HG22	2.03	0.41
29:B:520:LMG:H411	12:M:14:PHE:HA	2.03	0.41
23:C:503:CLA:HBB1	23:C:503:CLA:HMB1	2.03	0.41
23:C:512:CLA:H8	23:C:512:CLA:H52	1.43	0.41
4:D:233:PHE:CE2	30:D:408:LHG:HC42	2.56	0.41
14:P:30:VAL:HG11	14:P:49:TYR:CG	2.56	0.41
15:Q:43:ALA:O	15:Q:44:PRO:C	2.64	0.41
1:A:89:ILE:HD11	1:A:108:ASN:HB3	2.03	0.41
25:D:405:BCR:H20C	29:D:409:LMG:H311	2.02	0.41
13:O:1:GLU:HG3	17:W:6:MET:HG3	2.03	0.41
17:W:20:ASN:HD22	17:W:24:TRP:HE1	1.67	0.41
1:A:162:PRO:HB3	1:A:168:PHE:HA	2.02	0.41
1:A:235:GLU:C	1:A:237:TYR:H	2.29	0.41
1:A:277:ALA:HB1	26:A:410:SQD:H162	2.02	0.41
2:B:6:TYR:O	23:B:511:CLA:HBD	2.20	0.41
23:B:501:CLA:HED2	23:B:501:CLA:HBD	1.93	0.41
3:C:387:TRP:HA	15:Q:38:PHE:O	2.20	0.41
23:C:504:CLA:HAB	29:C:518:LMG:H412	2.03	0.41
4:D:49:TRP:HA	4:D:79:VAL:HG21	2.03	0.41
4:D:273:LEU:C	4:D:273:LEU:HD23	2.46	0.41
13:O:37:ASP:HA	13:O:206:GLN:HG2	2.02	0.41
1:A:47:VAL:HG22	25:A:409:BCR:C20	2.51	0.41
23:A:408:CLA:HMA2	29:W:101:LMG:H142	2.03	0.41
3:C:221:GLU:O	3:C:226:SER:HB3	2.21	0.41
1:A:77:ILE:HD13	11:L:30:VAL:HG13	2.03	0.40
23:B:502:CLA:H102	23:B:502:CLA:H61	1.17	0.40
23:B:512:CLA:H62	23:B:512:CLA:H102	1.67	0.40
25:B:519:BCR:H332	30:B:521:LHG:H121	2.02	0.40
3:C:169:GLY:HA2	3:C:241:GLY:HA2	2.02	0.40
29:W:101:LMG:H301	29:W:101:LMG:H332	1.89	0.40
1:A:124:ALA:HB1	23:C:505:CLA:HBB2	2.03	0.40
23:B:507:CLA:H201	11:L:32:PHE:HB2	2.03	0.40
23:C:501:CLA:H111	23:C:501:CLA:H72	1.45	0.40
13:O:29:CYS:SG	13:O:54:GLU:HB2	2.61	0.40
2:B:154:GLY:O	2:B:159:THR:HG23	2.21	0.40
11:L:13:LEU:HD23	12:M:26:TYR:HB2	2.03	0.40
13:O:39:PHE:HA	13:O:207:THR:HG21	2.04	0.40
2:B:222:PRO:HB3	7:H:37:TRP:C	2.47	0.40
23:B:516:CLA:H91	23:B:516:CLA:H111	1.69	0.40
3:C:279:LEU:HD22	23:C:509:CLA:HED2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:338:GLY:HA3	3:C:341:LEU:O	2.22	0.40
23:C:510:CLA:H62	23:C:510:CLA:H2	1.85	0.40
31:C:516:DGD:HB22	29:C:518:LMG:H322	2.03	0.40
14:P:156:LEU:HD13	14:P:158:ILE:HD11	2.03	0.40
2:B:109:LEU:O	25:B:519:BCR:H21C	2.22	0.40
2:B:383:PHE:CZ	13:O:167:GLY:HA2	2.56	0.40
23:B:504:CLA:HBA2	23:B:512:CLA:H152	2.03	0.40
3:C:142:GLU:CD	3:C:142:GLU:H	2.30	0.40
29:C:518:LMG:H152	29:C:518:LMG:H122	1.94	0.40
4:D:105:TRP:HZ2	23:D:404:CLA:HED2	1.87	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	A	332/334 (99%)	324 (98%)	6 (2%)	2 (1%)	21 18
2	B	479/481 (100%)	472 (98%)	7 (2%)	0	100 100
3	C	447/449 (100%)	434 (97%)	12 (3%)	1 (0%)	43 44
4	D	338/340 (99%)	329 (97%)	9 (3%)	0	100 100
5	E	73/75 (97%)	72 (99%)	1 (1%)	0	100 100
6	F	28/30 (93%)	28 (100%)	0	0	100 100
7	H	58/60 (97%)	56 (97%)	2 (3%)	0	100 100
8	I	31/33 (94%)	31 (100%)	0	0	100 100
9	J	33/35 (94%)	33 (100%)	0	0	100 100
10	K	35/37 (95%)	34 (97%)	1 (3%)	0	100 100
11	L	33/35 (94%)	33 (100%)	0	0	100 100
12	M	26/28 (93%)	26 (100%)	0	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
13	O	246/248 (99%)	232 (94%)	12 (5%)	2 (1%)	16 12
14	P	184/186 (99%)	180 (98%)	4 (2%)	0	100 100
15	Q	146/148 (99%)	144 (99%)	2 (1%)	0	100 100
16	T	28/30 (93%)	28 (100%)	0	0	100 100
17	W	45/47 (96%)	45 (100%)	0	0	100 100
18	X	34/36 (94%)	34 (100%)	0	0	100 100
19	U	26/28 (93%)	26 (100%)	0	0	100 100
All	All	2622/2660 (99%)	2561 (98%)	56 (2%)	5 (0%)	44 44

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	C	416	ALA
1	A	141	PRO
1	A	259	ILE
13	O	65	VAL
13	O	68	ASN

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	270/270 (100%)	265 (98%)	5 (2%)	50 58
2	B	381/381 (100%)	373 (98%)	8 (2%)	47 54
3	C	351/351 (100%)	346 (99%)	5 (1%)	59 67
4	D	274/274 (100%)	266 (97%)	8 (3%)	37 42
5	E	67/67 (100%)	65 (97%)	2 (3%)	36 41
6	F	25/25 (100%)	25 (100%)	0	100 100
7	H	49/49 (100%)	48 (98%)	1 (2%)	48 56
8	I	30/30 (100%)	30 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
9	J	26/26 (100%)	23 (88%)	3 (12%)	5 3
10	K	32/32 (100%)	31 (97%)	1 (3%)	35 39
11	L	33/33 (100%)	32 (97%)	1 (3%)	36 41
12	M	24/24 (100%)	24 (100%)	0	100 100
13	O	204/204 (100%)	197 (97%)	7 (3%)	32 35
14	P	150/150 (100%)	147 (98%)	3 (2%)	48 56
15	Q	125/125 (100%)	120 (96%)	5 (4%)	28 29
16	T	27/27 (100%)	27 (100%)	0	100 100
17	W	38/38 (100%)	36 (95%)	2 (5%)	20 19
18	X	29/29 (100%)	27 (93%)	2 (7%)	14 12
19	U	23/23 (100%)	21 (91%)	2 (9%)	9 7
All	All	2158/2158 (100%)	2103 (98%)	55 (2%)	42 48

All (55) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	13	LEU
1	A	60	ILE
1	A	61	ASP
1	A	218	LEU
1	A	248	ILE
2	B	87	ASN
2	B	90	ILE
2	B	161	LEU
2	B	223	GLN
2	B	230	ARG
2	B	350	GLU
2	B	362	PHE
2	B	479	PHE
3	C	28	GLN
3	C	99	VAL
3	C	201	ASN
3	C	261	ARG
3	C	413	GLU
4	D	15	LEU
4	D	137	VAL
4	D	191	ASN
4	D	205	VAL

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Mol	Chain	Res	Type
4	D	234	ARG
4	D	308	GLU
4	D	322	LEU
4	D	341	ILE
5	E	17	ILE
5	E	60	ARG
7	H	65	LEU
9	J	7	ARG
9	J	10	LEU
9	J	27	LEU
10	K	37	VAL
11	L	5	ASN
13	O	7	LEU
13	O	47	ASN
13	O	63	GLU
13	O	68	ASN
13	O	184	GLU
13	O	188	GLU
13	O	197	LYS
14	P	11	LYS
14	P	156	LEU
14	P	162	GLN
15	Q	76	ASP
15	Q	84	LEU
15	Q	103	LEU
15	Q	104	LYS
15	Q	147	ILE
17	W	9	GLU
17	W	17	LEU
18	X	46	THR
18	X	78	PHE
19	U	74	LYS
19	U	97	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (32) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	75	ASN
1	A	241	GLN
1	A	304	GLN
2	B	14	ASN
2	B	223	GLN

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Mol	Chain	Res	Type
2	B	332	ASN
2	B	425	GLN
3	C	44	ASN
3	C	313	GLN
3	C	332	GLN
3	C	415	ASN
3	C	418	ASN
4	D	84	ASN
4	D	143	ASN
4	D	187	GLN
4	D	191	ASN
4	D	335	GLN
4	D	339	ASN
7	H	62	ASN
11	L	5	ASN
11	L	9	GLN
13	O	13	GLN
13	O	28	GLN
13	O	47	ASN
13	O	68	ASN
13	O	74	GLN
14	P	162	GLN
15	Q	99	GLN
15	Q	101	GLN
15	Q	141	ASN
17	W	20	ASN
19	U	99	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 70 ligands modelled in this entry, 3 are monoatomic - leaving 67 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
29	LMG	B	520	-	51,51,55	1.06	6 (11%)	59,59,63	1.09	3 (5%)
23	CLA	B	514	2	57,61,73	1.48	7 (12%)	68,98,113	2.10	18 (26%)
23	CLA	B	506	2	69,73,73	1.34	5 (7%)	83,113,113	1.95	21 (25%)
25	BCR	A	409	-	41,41,41	4.76	27 (65%)	56,56,56	2.25	18 (32%)
29	LMG	B	522	-	31,31,55	0.50	0	39,39,63	1.23	3 (7%)
23	CLA	A	406	33	54,58,73	1.53	7 (12%)	65,95,113	2.18	18 (27%)
23	CLA	B	516	2	69,73,73	1.35	5 (7%)	83,113,113	1.93	20 (24%)
23	CLA	C	505	3	69,73,73	1.35	7 (10%)	83,113,113	1.88	17 (20%)
23	CLA	C	507	33	69,73,73	1.35	7 (10%)	83,113,113	1.98	18 (21%)
25	BCR	B	519	-	41,41,41	4.81	27 (65%)	56,56,56	2.25	18 (32%)
32	HEM	E	101	6,5	50,50,50	1.99	15 (30%)	66,82,82	0.92	0
20	OEX	A	401	3,1,33	0,14,14	-	-	-		
23	CLA	B	501	33	69,73,73	1.34	6 (8%)	83,113,113	1.91	19 (22%)
23	CLA	C	506	3	69,73,73	1.35	7 (10%)	83,113,113	1.96	20 (24%)
25	BCR	B	517	-	41,41,41	4.79	26 (63%)	56,56,56	2.26	22 (39%)
25	BCR	D	405	-	41,41,41	4.79	27 (65%)	56,56,56	2.35	19 (33%)
30	LHG	B	521	-	40,40,48	0.42	0	43,46,54	1.17	3 (6%)
23	CLA	D	401	33	69,73,73	1.34	7 (10%)	83,113,113	1.94	19 (22%)
30	LHG	B	523	-	45,45,48	0.40	0	48,51,54	0.95	2 (4%)
30	LHG	D	408	-	42,42,48	0.40	0	45,48,54	1.13	3 (6%)
23	CLA	B	511	2	69,73,73	1.34	6 (8%)	83,113,113	1.94	19 (22%)
23	CLA	B	504	2	69,73,73	1.35	6 (8%)	83,113,113	1.99	19 (22%)
23	CLA	B	503	2	69,73,73	1.35	6 (8%)	83,113,113	1.88	17 (20%)
23	CLA	C	501	3	69,73,73	1.35	7 (10%)	83,113,113	1.92	17 (20%)
30	LHG	D	407	-	48,48,48	0.39	0	51,54,54	1.01	3 (5%)
31	DGD	C	516	-	63,63,67	1.13	5 (7%)	77,77,81	0.96	2 (2%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
23	CLA	B	507	33	69,73,73	1.34	5 (7%)	83,113,113	2.01	19 (22%)
23	CLA	C	511	3	55,59,73	1.52	6 (10%)	66,96,113	2.14	19 (28%)
25	BCR	B	518	-	41,41,41	4.79	27 (65%)	56,56,56	2.16	18 (32%)
31	DGD	B	524	-	63,63,67	1.12	7 (11%)	77,77,81	0.92	2 (2%)
23	CLA	B	515	2	69,73,73	1.35	5 (7%)	83,113,113	1.89	18 (21%)
23	CLA	B	508	2	69,73,73	1.35	7 (10%)	83,113,113	1.87	18 (21%)
27	PL9	D	406	-	55,55,55	0.69	1 (1%)	68,69,69	0.64	2 (2%)
29	LMG	D	409	-	46,46,55	0.92	4 (8%)	54,54,63	1.03	3 (5%)
23	CLA	C	510	3	69,73,73	1.35	7 (10%)	83,113,113	1.90	18 (21%)
23	CLA	B	509	-	69,73,73	1.34	5 (7%)	83,113,113	1.96	17 (20%)
23	CLA	C	508	3	69,73,73	1.35	6 (8%)	83,113,113	1.96	20 (24%)
25	BCR	C	514	-	41,41,41	4.81	27 (65%)	56,56,56	2.22	20 (35%)
29	LMG	I	101	-	40,40,55	0.92	3 (7%)	48,48,63	1.10	3 (6%)
30	LHG	L	101	-	48,48,48	0.39	0	51,54,54	0.94	2 (3%)
23	CLA	B	512	2	69,73,73	1.34	6 (8%)	83,113,113	1.97	18 (21%)
23	CLA	A	405	1	69,73,73	1.35	6 (8%)	83,113,113	1.89	19 (22%)
23	CLA	D	404	4	69,73,73	1.35	6 (8%)	83,113,113	1.95	20 (24%)
28	BCT	A	412	21	2,3,3	0.96	0	2,3,3	0.38	0
31	DGD	C	515	-	56,56,67	0.99	4 (7%)	70,70,81	0.98	3 (4%)
27	PL9	A	411	-	13,13,55	1.46	1 (7%)	17,17,69	1.08	1 (5%)
23	CLA	C	503	-	69,73,73	1.35	6 (8%)	83,113,113	1.94	19 (22%)
23	CLA	D	403	4	69,73,73	1.35	6 (8%)	83,113,113	1.90	18 (21%)
23	CLA	C	509	3	69,73,73	1.36	7 (10%)	83,113,113	1.92	19 (22%)
23	CLA	C	512	3	61,65,73	1.43	6 (9%)	73,103,113	2.05	19 (26%)
31	DGD	C	517	-	61,61,67	1.09	6 (9%)	75,75,81	0.96	2 (2%)
23	CLA	B	510	33	69,73,73	1.36	6 (8%)	83,113,113	1.90	19 (22%)
29	LMG	W	101	-	48,48,55	1.00	5 (10%)	56,56,63	1.20	4 (7%)
23	CLA	C	513	3	59,63,73	1.46	6 (10%)	71,101,113	2.06	19 (26%)
23	CLA	C	504	33	69,73,73	1.34	6 (8%)	83,113,113	1.94	17 (20%)
23	CLA	B	502	2	69,73,73	1.36	6 (8%)	83,113,113	1.92	20 (24%)
23	CLA	B	513	2	69,73,73	1.35	6 (8%)	83,113,113	1.88	18 (21%)
23	CLA	B	505	2	69,73,73	1.35	6 (8%)	83,113,113	1.95	19 (22%)
24	PHO	A	407	-	58,69,69	0.80	2 (3%)	56,99,99	1.00	3 (5%)
25	BCR	H	101	-	41,41,41	4.82	27 (65%)	56,56,56	2.23	18 (32%)
30	LHG	W	102	-	48,48,48	0.39	0	51,54,54	1.06	3 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
26	SQD	A	410	-	49,50,54	0.82	0	58,61,65	0.95	2 (3%)
29	LMG	C	518	-	51,51,55	1.07	6 (11%)	59,59,63	1.04	3 (5%)
23	CLA	A	408	1	64,68,73	1.40	6 (9%)	77,107,113	1.98	18 (23%)
24	PHO	D	402	-	58,69,69	0.78	2 (3%)	56,99,99	0.99	3 (5%)
23	CLA	C	502	3	69,73,73	1.34	7 (10%)	83,113,113	1.95	20 (24%)
25	BCR	I	102	-	41,41,41	4.83	27 (65%)	56,56,56	2.35	20 (35%)

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
29	LMG	B	520	-	-	13/46/66/70	0/1/1/1
23	CLA	B	514	2	-	6/25/101/115	-
23	CLA	B	506	2	-	15/39/115/115	-
25	BCR	A	409	-	-	13/29/63/63	0/2/2/2
29	LMG	B	522	-	-	7/26/46/70	0/1/1/1
23	CLA	A	406	33	-	11/21/97/115	-
23	CLA	B	516	2	-	10/39/115/115	-
23	CLA	C	505	3	-	13/39/115/115	-
23	CLA	C	507	33	-	12/39/115/115	-
25	BCR	B	519	-	-	9/29/63/63	0/2/2/2
32	HEM	E	101	6,5	-	3/14/54/54	-
25	BCR	B	517	-	-	13/29/63/63	0/2/2/2
23	CLA	B	501	33	-	13/39/115/115	-
23	CLA	C	506	3	-	17/39/115/115	-
25	BCR	D	405	-	-	11/29/63/63	0/2/2/2
30	LHG	B	521	-	-	29/45/45/53	-
23	CLA	D	401	33	-	15/39/115/115	-
30	LHG	B	523	-	-	30/50/50/53	-
30	LHG	D	408	-	-	23/47/47/53	-
23	CLA	B	511	2	-	10/39/115/115	-
23	CLA	B	504	2	-	12/39/115/115	-
23	CLA	B	503	2	-	11/39/115/115	-
23	CLA	C	501	3	-	12/39/115/115	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
30	LHG	D	407	-	-	33/53/53/53	-
31	DGD	C	516	-	-	11/51/91/95	0/2/2/2
23	CLA	B	507	33	-	24/39/115/115	-
23	CLA	C	511	3	-	5/23/99/115	-
25	BCR	B	518	-	-	12/29/63/63	0/2/2/2
31	DGD	B	524	-	-	8/51/91/95	0/2/2/2
23	CLA	B	515	2	-	12/39/115/115	-
23	CLA	B	508	2	-	14/39/115/115	-
27	PL9	D	406	-	-	3/53/73/73	0/1/1/1
29	LMG	D	409	-	-	10/41/61/70	0/1/1/1
23	CLA	C	510	3	-	14/39/115/115	-
23	CLA	B	509	-	-	18/39/115/115	-
23	CLA	C	508	3	-	17/39/115/115	-
25	BCR	C	514	-	-	14/29/63/63	0/2/2/2
29	LMG	I	101	-	-	7/35/55/70	0/1/1/1
30	LHG	L	101	-	-	28/53/53/53	-
23	CLA	B	512	2	-	12/39/115/115	-
23	CLA	A	405	1	-	9/39/115/115	-
23	CLA	D	404	4	-	16/39/115/115	-
31	DGD	C	515	-	-	8/44/84/95	0/2/2/2
27	PL9	A	411	-	-	0/5/18/73	0/1/1/1
23	CLA	C	503	-	-	12/39/115/115	-
23	CLA	D	403	4	-	14/39/115/115	-
23	CLA	C	509	3	-	13/39/115/115	-
23	CLA	C	512	3	-	20/30/106/115	-
31	DGD	C	517	-	-	11/49/89/95	0/2/2/2
23	CLA	B	510	33	-	8/39/115/115	-
29	LMG	W	101	-	-	6/43/63/70	0/1/1/1
23	CLA	C	513	3	-	8/27/103/115	-
23	CLA	C	504	33	-	14/39/115/115	-
23	CLA	B	502	2	-	16/39/115/115	-
23	CLA	B	513	2	-	11/39/115/115	-
23	CLA	B	505	2	-	21/39/115/115	-
24	PHO	A	407	-	-	4/37/103/103	0/5/6/6

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	BCR	H	101	-	-	10/29/63/63	0/2/2/2
30	LHG	W	102	-	-	35/53/53/53	-
26	SQD	A	410	-	-	10/45/65/69	0/1/1/1
29	LMG	C	518	-	-	3/46/66/70	0/1/1/1
23	CLA	A	408	1	-	11/33/109/115	-
24	PHO	D	402	-	-	0/37/103/103	0/5/6/6
23	CLA	C	502	3	-	12/39/115/115	-
25	BCR	I	102	-	-	14/29/63/63	0/2/2/2

All (498) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	B	518	BCR	C26-C25	15.64	1.61	1.34
25	C	514	BCR	C26-C25	15.59	1.61	1.34
25	H	101	BCR	C26-C25	15.50	1.61	1.34
25	B	519	BCR	C26-C25	15.49	1.61	1.34
25	I	102	BCR	C26-C25	15.40	1.61	1.34
25	B	517	BCR	C26-C25	15.37	1.61	1.34
25	D	405	BCR	C26-C25	15.12	1.60	1.34
25	A	409	BCR	C26-C25	15.06	1.60	1.34
25	H	101	BCR	C5-C6	14.28	1.59	1.34
25	I	102	BCR	C5-C6	14.13	1.58	1.34
25	D	405	BCR	C5-C6	14.13	1.58	1.34
25	A	409	BCR	C5-C6	14.12	1.58	1.34
25	B	519	BCR	C5-C6	14.12	1.58	1.34
25	B	518	BCR	C5-C6	14.03	1.58	1.34
25	C	514	BCR	C5-C6	14.02	1.58	1.34
25	B	517	BCR	C5-C6	13.99	1.58	1.34
25	D	405	BCR	C30-C25	-6.94	1.44	1.53
25	A	409	BCR	C30-C25	-6.91	1.44	1.53
25	I	102	BCR	C30-C25	-6.90	1.44	1.53
25	B	519	BCR	C30-C25	-6.85	1.44	1.53
25	C	514	BCR	C30-C25	-6.81	1.44	1.53
25	B	517	BCR	C30-C25	-6.80	1.44	1.53
25	H	101	BCR	C30-C25	-6.74	1.44	1.53
25	A	409	BCR	C2-C3	-6.68	1.36	1.52
25	B	519	BCR	C2-C3	-6.68	1.36	1.52
25	H	101	BCR	C2-C3	-6.67	1.36	1.52
25	I	102	BCR	C2-C3	-6.64	1.36	1.52
25	C	514	BCR	C2-C3	-6.63	1.36	1.52
25	D	405	BCR	C2-C3	-6.63	1.36	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	B	518	BCR	C2-C3	-6.58	1.36	1.52
25	B	517	BCR	C2-C3	-6.55	1.36	1.52
25	B	518	BCR	C30-C25	-6.53	1.44	1.53
25	I	102	BCR	C1-C6	-6.45	1.44	1.53
25	B	518	BCR	C29-C28	-6.41	1.36	1.52
25	C	514	BCR	C29-C28	-6.40	1.36	1.52
25	B	518	BCR	C1-C6	-6.36	1.45	1.53
25	B	519	BCR	C1-C6	-6.35	1.45	1.53
23	C	511	CLA	MG-NA	6.34	2.21	2.06
25	H	101	BCR	C29-C28	-6.33	1.36	1.52
25	B	519	BCR	C29-C28	-6.31	1.37	1.52
23	B	504	CLA	MG-NA	6.30	2.21	2.06
23	A	406	CLA	MG-NA	6.30	2.21	2.06
25	B	517	BCR	C1-C6	-6.28	1.45	1.53
23	B	515	CLA	MG-NA	6.28	2.21	2.06
25	D	405	BCR	C1-C6	-6.28	1.45	1.53
25	B	517	BCR	C29-C28	-6.28	1.37	1.52
23	D	404	CLA	MG-NA	6.27	2.21	2.06
23	B	510	CLA	MG-NA	6.26	2.21	2.06
23	C	512	CLA	MG-NA	6.26	2.21	2.06
25	H	101	BCR	C1-C6	-6.25	1.45	1.53
23	C	503	CLA	MG-NA	6.25	2.21	2.06
23	B	502	CLA	MG-NA	6.23	2.21	2.06
23	D	401	CLA	MG-NA	6.23	2.21	2.06
25	C	514	BCR	C1-C6	-6.23	1.45	1.53
23	B	501	CLA	MG-NA	6.23	2.21	2.06
23	C	502	CLA	MG-NA	6.23	2.21	2.06
23	B	513	CLA	MG-NA	6.22	2.21	2.06
23	B	503	CLA	MG-NA	6.21	2.21	2.06
23	C	509	CLA	MG-NA	6.20	2.21	2.06
23	C	506	CLA	MG-NA	6.20	2.21	2.06
23	B	507	CLA	MG-NA	6.20	2.21	2.06
23	C	507	CLA	MG-NA	6.20	2.21	2.06
23	B	505	CLA	MG-NA	6.20	2.21	2.06
23	D	403	CLA	MG-NA	6.19	2.21	2.06
23	A	405	CLA	MG-NA	6.18	2.20	2.06
23	C	510	CLA	MG-NA	6.16	2.20	2.06
23	B	508	CLA	MG-NA	6.15	2.20	2.06
25	I	102	BCR	C29-C28	-6.15	1.37	1.52
23	A	408	CLA	MG-NA	6.15	2.20	2.06
23	B	511	CLA	MG-NA	6.15	2.20	2.06
23	C	508	CLA	MG-NA	6.14	2.20	2.06

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	A	409	BCR	C1-C6	-6.13	1.45	1.53
25	D	405	BCR	C29-C28	-6.13	1.37	1.52
23	C	513	CLA	MG-NA	6.13	2.20	2.06
23	C	504	CLA	MG-NA	6.12	2.20	2.06
23	B	514	CLA	MG-NA	6.12	2.20	2.06
23	C	505	CLA	MG-NA	6.12	2.20	2.06
25	A	409	BCR	C29-C28	-6.12	1.37	1.52
23	C	501	CLA	MG-NA	6.10	2.20	2.06
23	B	516	CLA	MG-NA	6.09	2.20	2.06
23	B	512	CLA	MG-NA	6.06	2.20	2.06
23	B	506	CLA	MG-NA	6.06	2.20	2.06
23	B	509	CLA	MG-NA	6.02	2.20	2.06
25	I	102	BCR	C12-C13	5.89	1.58	1.45
25	B	517	BCR	C12-C13	5.75	1.58	1.45
25	C	514	BCR	C12-C13	5.72	1.58	1.45
25	D	405	BCR	C12-C13	5.71	1.58	1.45
25	H	101	BCR	C12-C13	5.68	1.58	1.45
25	B	519	BCR	C12-C13	5.68	1.58	1.45
25	A	409	BCR	C12-C13	5.62	1.58	1.45
25	B	518	BCR	C12-C13	5.62	1.58	1.45
25	I	102	BCR	C8-C9	5.60	1.58	1.45
25	B	517	BCR	C8-C9	5.47	1.57	1.45
25	C	514	BCR	C8-C9	5.46	1.57	1.45
25	B	519	BCR	C8-C9	5.45	1.57	1.45
25	D	405	BCR	C8-C9	5.45	1.57	1.45
25	H	101	BCR	C8-C9	5.44	1.57	1.45
25	I	102	BCR	C23-C22	5.33	1.57	1.45
25	A	409	BCR	C8-C9	5.32	1.57	1.45
25	B	518	BCR	C8-C9	5.32	1.57	1.45
25	A	409	BCR	C29-C30	5.30	1.66	1.54
25	D	405	BCR	C29-C30	5.28	1.66	1.54
25	D	405	BCR	C23-C22	5.27	1.57	1.45
25	B	519	BCR	C23-C22	5.27	1.57	1.45
25	I	102	BCR	C29-C30	5.24	1.66	1.54
25	H	101	BCR	C23-C22	5.22	1.57	1.45
25	C	514	BCR	C23-C22	5.22	1.57	1.45
25	B	519	BCR	C29-C30	5.20	1.66	1.54
25	A	409	BCR	C23-C22	5.19	1.57	1.45
25	H	101	BCR	C29-C30	5.19	1.66	1.54
25	B	518	BCR	C29-C30	5.17	1.66	1.54
25	C	514	BCR	C29-C30	5.17	1.66	1.54
25	B	517	BCR	C23-C22	5.16	1.57	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	B	517	BCR	C29-C30	5.15	1.66	1.54
25	B	518	BCR	C23-C22	5.11	1.56	1.45
25	I	102	BCR	C15-C14	4.77	1.58	1.43
25	B	517	BCR	C15-C14	4.77	1.58	1.43
25	C	514	BCR	C15-C14	4.74	1.58	1.43
25	I	102	BCR	C19-C18	4.72	1.56	1.45
25	B	519	BCR	C2-C1	4.69	1.64	1.54
25	H	101	BCR	C15-C14	4.68	1.58	1.43
25	D	405	BCR	C15-C14	4.68	1.58	1.43
25	B	518	BCR	C15-C14	4.67	1.57	1.43
25	A	409	BCR	C15-C14	4.66	1.57	1.43
25	B	519	BCR	C15-C14	4.63	1.57	1.43
25	D	405	BCR	C2-C1	4.62	1.64	1.54
25	C	514	BCR	C2-C1	4.62	1.64	1.54
25	C	514	BCR	C19-C18	4.62	1.55	1.45
25	H	101	BCR	C19-C18	4.60	1.55	1.45
27	A	411	PL9	C3-C4	-4.60	1.42	1.49
25	B	517	BCR	C19-C18	4.59	1.55	1.45
25	B	517	BCR	C2-C1	4.58	1.64	1.54
25	D	405	BCR	C19-C18	4.55	1.55	1.45
25	B	518	BCR	C2-C1	4.54	1.64	1.54
25	I	102	BCR	C2-C1	4.53	1.64	1.54
25	B	518	BCR	C19-C18	4.53	1.55	1.45
25	A	409	BCR	C2-C1	4.52	1.64	1.54
25	H	101	BCR	C2-C1	4.51	1.64	1.54
25	A	409	BCR	C19-C18	4.50	1.55	1.45
25	B	519	BCR	C19-C18	4.47	1.55	1.45
27	D	406	PL9	C3-C4	-4.42	1.42	1.49
32	E	101	HEM	C4D-C3D	-4.36	1.37	1.45
25	I	102	BCR	C20-C21	4.35	1.56	1.43
23	C	507	CLA	CBB-CAB	4.30	1.51	1.30
25	A	409	BCR	C28-C27	4.29	1.66	1.52
23	B	514	CLA	CBB-CAB	4.29	1.51	1.30
23	B	506	CLA	CBB-CAB	4.29	1.51	1.30
23	C	508	CLA	CBB-CAB	4.29	1.51	1.30
23	B	502	CLA	CBB-CAB	4.29	1.51	1.30
23	B	509	CLA	CBB-CAB	4.28	1.51	1.30
23	C	502	CLA	CBB-CAB	4.28	1.51	1.30
23	B	511	CLA	CBB-CAB	4.28	1.51	1.30
25	D	405	BCR	C28-C27	4.28	1.65	1.52
25	C	514	BCR	C20-C21	4.28	1.56	1.43
25	B	519	BCR	C20-C21	4.28	1.56	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	D	404	CLA	CBB-CAB	4.28	1.51	1.30
25	I	102	BCR	C28-C27	4.28	1.65	1.52
23	D	401	CLA	CBB-CAB	4.28	1.51	1.30
25	H	101	BCR	C20-C21	4.28	1.56	1.43
25	D	405	BCR	C20-C21	4.28	1.56	1.43
23	B	510	CLA	CBB-CAB	4.28	1.51	1.30
25	B	517	BCR	C20-C21	4.27	1.56	1.43
23	C	504	CLA	CBB-CAB	4.27	1.51	1.30
23	B	513	CLA	CBB-CAB	4.27	1.51	1.30
23	B	516	CLA	CBB-CAB	4.27	1.51	1.30
23	C	510	CLA	CBB-CAB	4.27	1.51	1.30
23	D	403	CLA	CBB-CAB	4.27	1.51	1.30
23	B	505	CLA	CBB-CAB	4.27	1.51	1.30
23	B	515	CLA	CBB-CAB	4.27	1.51	1.30
23	C	506	CLA	CBB-CAB	4.27	1.51	1.30
23	C	511	CLA	CBB-CAB	4.27	1.51	1.30
23	B	503	CLA	CBB-CAB	4.27	1.51	1.30
23	A	405	CLA	CBB-CAB	4.27	1.51	1.30
31	C	516	DGD	O1G-C1A	4.27	1.45	1.33
23	B	507	CLA	CBB-CAB	4.26	1.51	1.30
23	B	504	CLA	CBB-CAB	4.26	1.51	1.30
23	B	508	CLA	CBB-CAB	4.26	1.51	1.30
23	C	503	CLA	CBB-CAB	4.26	1.51	1.30
23	C	501	CLA	CBB-CAB	4.25	1.51	1.30
23	C	512	CLA	CBB-CAB	4.25	1.51	1.30
23	C	513	CLA	CBB-CAB	4.25	1.51	1.30
23	C	509	CLA	CBB-CAB	4.25	1.51	1.30
23	A	406	CLA	CBB-CAB	4.25	1.51	1.30
23	C	505	CLA	CBB-CAB	4.25	1.51	1.30
31	C	515	DGD	O1G-C1A	4.24	1.45	1.33
23	A	408	CLA	CBB-CAB	4.24	1.51	1.30
23	B	512	CLA	CBB-CAB	4.24	1.51	1.30
32	E	101	HEM	C1D-C2D	-4.22	1.36	1.44
31	C	517	DGD	O1G-C1A	4.21	1.45	1.33
31	B	524	DGD	O1G-C1A	4.21	1.45	1.33
23	B	501	CLA	CBB-CAB	4.19	1.51	1.30
25	B	518	BCR	C20-C21	4.19	1.56	1.43
25	H	101	BCR	C28-C27	4.18	1.65	1.52
25	B	517	BCR	C28-C27	4.18	1.65	1.52
25	B	519	BCR	C28-C27	4.17	1.65	1.52
25	A	409	BCR	C20-C21	4.17	1.56	1.43
25	B	518	BCR	C28-C27	4.12	1.65	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	C	514	BCR	C28-C27	4.12	1.65	1.52
25	B	518	BCR	C3-C4	3.93	1.64	1.52
25	I	102	BCR	C3-C4	3.90	1.64	1.52
25	B	517	BCR	C3-C4	3.88	1.64	1.52
25	C	514	BCR	C3-C4	3.85	1.64	1.52
25	H	101	BCR	C3-C4	3.83	1.64	1.52
25	I	102	BCR	C16-C17	3.83	1.55	1.43
25	D	405	BCR	C3-C4	3.82	1.64	1.52
25	A	409	BCR	C3-C4	3.81	1.64	1.52
32	E	101	HEM	C1C-C2C	-3.80	1.37	1.45
32	E	101	HEM	C3C-C4C	-3.79	1.39	1.46
25	H	101	BCR	C11-C10	3.79	1.55	1.43
25	I	102	BCR	C11-C10	3.79	1.55	1.43
25	B	517	BCR	C16-C17	3.78	1.55	1.43
25	H	101	BCR	C16-C17	3.76	1.55	1.43
25	B	519	BCR	C3-C4	3.75	1.64	1.52
25	C	514	BCR	C16-C17	3.75	1.55	1.43
23	B	508	CLA	MG-ND	-3.73	1.98	2.05
25	B	517	BCR	C11-C10	3.73	1.55	1.43
25	D	405	BCR	C16-C17	3.73	1.55	1.43
25	C	514	BCR	C11-C10	3.71	1.54	1.43
23	C	505	CLA	MG-ND	-3.70	1.98	2.05
25	D	405	BCR	C11-C10	3.69	1.54	1.43
25	B	518	BCR	C16-C17	3.67	1.54	1.43
23	C	512	CLA	MG-ND	-3.66	1.98	2.05
23	C	506	CLA	MG-ND	-3.66	1.98	2.05
32	E	101	HEM	C1A-C2A	-3.65	1.37	1.44
25	A	409	BCR	C16-C17	3.65	1.54	1.43
23	B	512	CLA	MG-ND	-3.64	1.98	2.05
25	B	519	BCR	C16-C17	3.63	1.54	1.43
25	A	409	BCR	C11-C10	3.62	1.54	1.43
23	C	511	CLA	MG-ND	-3.62	1.98	2.05
23	B	514	CLA	MG-ND	-3.62	1.98	2.05
23	D	403	CLA	MG-ND	-3.61	1.98	2.05
25	I	102	BCR	C24-C25	3.60	1.57	1.45
23	A	408	CLA	MG-ND	-3.60	1.98	2.05
23	C	503	CLA	MG-ND	-3.59	1.98	2.05
23	B	503	CLA	MG-ND	-3.59	1.98	2.05
25	B	518	BCR	C24-C25	3.59	1.57	1.45
32	E	101	HEM	FE-ND	3.58	2.05	1.94
25	H	101	BCR	C24-C25	3.58	1.57	1.45
25	C	514	BCR	C24-C25	3.58	1.57	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	B	516	CLA	MG-ND	-3.57	1.98	2.05
23	D	404	CLA	MG-ND	-3.57	1.98	2.05
25	B	517	BCR	C24-C25	3.57	1.57	1.45
25	B	519	BCR	C11-C10	3.57	1.54	1.43
25	D	405	BCR	C24-C25	3.57	1.57	1.45
23	B	504	CLA	MG-ND	-3.56	1.98	2.05
23	B	507	CLA	MG-ND	-3.56	1.98	2.05
25	B	518	BCR	C11-C10	3.56	1.54	1.43
25	B	519	BCR	C24-C25	3.56	1.57	1.45
23	B	505	CLA	MG-ND	-3.56	1.98	2.05
23	B	513	CLA	MG-ND	-3.56	1.98	2.05
23	B	515	CLA	MG-ND	-3.56	1.98	2.05
23	C	507	CLA	MG-ND	-3.55	1.98	2.05
23	C	502	CLA	MG-ND	-3.55	1.98	2.05
23	A	405	CLA	MG-ND	-3.55	1.98	2.05
23	A	406	CLA	MG-ND	-3.55	1.98	2.05
25	A	409	BCR	C24-C25	3.54	1.57	1.45
23	C	510	CLA	MG-ND	-3.54	1.98	2.05
23	B	502	CLA	MG-ND	-3.54	1.98	2.05
23	B	509	CLA	MG-ND	-3.53	1.98	2.05
23	C	508	CLA	MG-ND	-3.53	1.98	2.05
23	C	501	CLA	MG-ND	-3.52	1.98	2.05
23	C	513	CLA	MG-ND	-3.52	1.98	2.05
23	D	401	CLA	MG-ND	-3.51	1.98	2.05
23	B	510	CLA	MG-ND	-3.51	1.98	2.05
23	B	506	CLA	MG-ND	-3.49	1.98	2.05
23	B	501	CLA	MG-ND	-3.48	1.98	2.05
23	C	509	CLA	MG-ND	-3.48	1.98	2.05
32	E	101	HEM	FE-NC	3.48	2.06	1.95
23	C	504	CLA	MG-ND	-3.46	1.98	2.05
23	B	511	CLA	MG-ND	-3.42	1.99	2.05
23	B	516	CLA	C1C-NC	-3.40	1.32	1.37
32	E	101	HEM	FE-NB	3.40	2.05	1.94
25	A	409	BCR	C27-C26	-3.39	1.44	1.51
25	B	519	BCR	C4-C5	-3.39	1.44	1.51
25	D	405	BCR	C27-C26	-3.34	1.44	1.51
23	C	507	CLA	C1C-NC	-3.33	1.32	1.37
25	B	517	BCR	C4-C5	-3.33	1.44	1.51
23	B	506	CLA	C1C-NC	-3.32	1.32	1.37
25	D	405	BCR	C4-C5	-3.30	1.44	1.51
23	C	508	CLA	C1C-NC	-3.30	1.32	1.37
25	B	517	BCR	C27-C26	-3.29	1.44	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	B	518	BCR	C27-C26	-3.29	1.44	1.51
32	E	101	HEM	C1B-C2B	-3.28	1.38	1.44
23	B	509	CLA	C1C-NC	-3.28	1.32	1.37
29	W	101	LMG	C37-C36	-3.27	1.33	1.51
29	B	520	LMG	C37-C36	-3.27	1.33	1.51
29	D	409	LMG	C22-C21	-3.27	1.33	1.51
31	C	517	DGD	CDA-CCA	-3.27	1.33	1.51
23	B	510	CLA	C1C-NC	-3.27	1.32	1.37
29	B	520	LMG	C40-C39	-3.26	1.33	1.51
29	I	101	LMG	C40-C39	-3.26	1.33	1.51
25	I	102	BCR	C27-C26	-3.26	1.44	1.51
29	W	101	LMG	C40-C39	-3.26	1.33	1.51
25	B	518	BCR	C4-C5	-3.26	1.44	1.51
29	I	101	LMG	C37-C36	-3.26	1.33	1.51
31	C	516	DGD	CDB-CCB	-3.25	1.33	1.51
31	C	517	DGD	CAB-C9B	-3.25	1.33	1.51
31	C	516	DGD	CDA-CCA	-3.25	1.33	1.51
25	A	409	BCR	C4-C5	-3.25	1.44	1.51
25	B	519	BCR	C27-C26	-3.25	1.44	1.51
31	C	516	DGD	CAA-C9A	-3.25	1.33	1.51
23	A	405	CLA	C1C-NC	-3.24	1.33	1.37
29	C	518	LMG	C37-C36	-3.24	1.33	1.51
25	C	514	BCR	C27-C26	-3.24	1.44	1.51
29	C	518	LMG	C40-C39	-3.24	1.33	1.51
31	C	516	DGD	CAB-C9B	-3.24	1.33	1.51
29	C	518	LMG	C22-C21	-3.24	1.33	1.51
31	B	524	DGD	CAA-C9A	-3.24	1.33	1.51
31	C	515	DGD	CDB-CCB	-3.23	1.33	1.51
29	C	518	LMG	C19-C18	-3.23	1.33	1.51
29	B	520	LMG	C19-C18	-3.23	1.33	1.51
29	W	101	LMG	C19-C18	-3.22	1.33	1.51
29	B	520	LMG	C22-C21	-3.22	1.33	1.51
31	C	515	DGD	CAB-C9B	-3.22	1.33	1.51
25	C	514	BCR	C4-C5	-3.22	1.44	1.51
31	B	524	DGD	CDA-CCA	-3.21	1.33	1.51
25	H	101	BCR	C4-C5	-3.21	1.44	1.51
31	B	524	DGD	CDB-CCB	-3.21	1.33	1.51
23	B	501	CLA	C1C-NC	-3.20	1.33	1.37
29	D	409	LMG	C19-C18	-3.20	1.33	1.51
31	B	524	DGD	CAB-C9B	-3.20	1.33	1.51
23	B	511	CLA	C1C-NC	-3.20	1.33	1.37
23	B	505	CLA	C1C-NC	-3.20	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	I	102	BCR	C4-C5	-3.19	1.44	1.51
23	C	501	CLA	C1C-NC	-3.18	1.33	1.37
23	B	507	CLA	C1C-NC	-3.18	1.33	1.37
31	C	517	DGD	CAA-C9A	-3.18	1.33	1.51
23	A	406	CLA	C1C-NC	-3.17	1.33	1.37
23	D	401	CLA	C1C-NC	-3.17	1.33	1.37
23	B	504	CLA	C1C-NC	-3.17	1.33	1.37
23	A	408	CLA	C1C-NC	-3.17	1.33	1.37
23	C	506	CLA	C1C-NC	-3.16	1.33	1.37
25	H	101	BCR	C27-C26	-3.16	1.44	1.51
23	C	512	CLA	C1C-NC	-3.15	1.33	1.37
23	D	403	CLA	C1C-NC	-3.15	1.33	1.37
23	C	503	CLA	C1C-NC	-3.15	1.33	1.37
23	C	513	CLA	C1C-NC	-3.15	1.33	1.37
23	B	502	CLA	C1C-NC	-3.15	1.33	1.37
23	C	504	CLA	C1C-NC	-3.14	1.33	1.37
23	C	509	CLA	C1C-NC	-3.14	1.33	1.37
23	C	505	CLA	C1C-NC	-3.14	1.33	1.37
23	C	507	CLA	C4B-NB	-3.14	1.33	1.37
23	B	508	CLA	C1C-NC	-3.13	1.33	1.37
23	C	510	CLA	C1C-NC	-3.13	1.33	1.37
23	B	515	CLA	C1C-NC	-3.13	1.33	1.37
23	B	516	CLA	C4B-NB	-3.11	1.34	1.37
23	B	514	CLA	C1C-NC	-3.11	1.33	1.37
23	C	508	CLA	C4B-NB	-3.11	1.34	1.37
23	D	404	CLA	C1C-NC	-3.10	1.33	1.37
23	B	513	CLA	C1C-NC	-3.10	1.33	1.37
23	B	503	CLA	C1C-NC	-3.10	1.33	1.37
23	C	502	CLA	C1C-NC	-3.10	1.33	1.37
24	A	407	PHO	C4D-CHA	3.09	1.44	1.39
23	C	511	CLA	C1C-NC	-3.08	1.33	1.37
23	C	509	CLA	C4B-NB	-3.08	1.34	1.37
23	A	405	CLA	C4B-NB	-3.07	1.34	1.37
23	B	511	CLA	C4B-NB	-3.07	1.34	1.37
23	B	509	CLA	C4B-NB	-3.06	1.34	1.37
32	E	101	HEM	FE-NA	3.06	2.05	1.95
23	B	512	CLA	C1C-NC	-3.06	1.33	1.37
23	C	504	CLA	C4B-NB	-3.05	1.34	1.37
23	C	505	CLA	C4B-NB	-3.04	1.34	1.37
23	A	406	CLA	C4B-NB	-3.04	1.34	1.37
23	B	512	CLA	C4B-NB	-3.03	1.34	1.37
23	B	514	CLA	C4B-NB	-3.02	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	B	507	CLA	C4B-NB	-3.02	1.34	1.37
23	B	515	CLA	C4B-NB	-3.01	1.34	1.37
23	D	401	CLA	C4B-NB	-3.01	1.34	1.37
23	D	403	CLA	C4B-NB	-3.00	1.34	1.37
23	A	408	CLA	C4B-NB	-3.00	1.34	1.37
23	C	506	CLA	C4B-NB	-3.00	1.34	1.37
23	B	508	CLA	C4B-NB	-2.99	1.34	1.37
23	B	502	CLA	C4B-NB	-2.99	1.34	1.37
23	C	503	CLA	C4B-NB	-2.99	1.34	1.37
23	B	505	CLA	C4B-NB	-2.98	1.34	1.37
23	C	512	CLA	C4B-NB	-2.97	1.34	1.37
23	C	510	CLA	C4B-NB	-2.96	1.34	1.37
23	D	404	CLA	C4B-NB	-2.96	1.34	1.37
32	E	101	HEM	C4A-C3A	-2.95	1.36	1.43
23	B	513	CLA	C4B-NB	-2.95	1.34	1.37
23	C	502	CLA	C4B-NB	-2.95	1.34	1.37
23	C	513	CLA	C4B-NB	-2.94	1.34	1.37
23	C	501	CLA	C4B-NB	-2.94	1.34	1.37
23	B	504	CLA	C4B-NB	-2.94	1.34	1.37
32	E	101	HEM	C3B-C4B	-2.93	1.39	1.44
23	B	503	CLA	C4B-NB	-2.93	1.34	1.37
23	C	511	CLA	C4B-NB	-2.92	1.34	1.37
25	D	405	BCR	C34-C9	2.88	1.56	1.50
25	B	518	BCR	C34-C9	2.88	1.56	1.50
25	I	102	BCR	C34-C9	2.84	1.56	1.50
25	C	514	BCR	C34-C9	2.83	1.56	1.50
25	A	409	BCR	C34-C9	2.78	1.56	1.50
25	H	101	BCR	C34-C9	2.78	1.56	1.50
25	I	102	BCR	C7-C6	2.77	1.54	1.45
25	H	101	BCR	C7-C6	2.77	1.54	1.45
25	B	517	BCR	C34-C9	2.76	1.56	1.50
24	D	402	PHO	C4D-CHA	2.76	1.44	1.39
23	B	506	CLA	C4B-NB	-2.75	1.34	1.37
23	B	501	CLA	C4B-NB	-2.74	1.34	1.37
25	B	519	BCR	C34-C9	2.73	1.56	1.50
25	B	517	BCR	C7-C6	2.73	1.54	1.45
25	B	518	BCR	C7-C6	2.72	1.54	1.45
25	C	514	BCR	C7-C6	2.71	1.54	1.45
25	A	409	BCR	C7-C6	2.71	1.54	1.45
23	B	510	CLA	C4B-NB	-2.70	1.34	1.37
25	D	405	BCR	C7-C6	2.70	1.54	1.45
25	B	519	BCR	C7-C6	2.64	1.54	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	E	101	HEM	C4D-ND	-2.59	1.35	1.40
31	C	517	DGD	CDB-CCB	-2.58	1.33	1.51
29	D	409	LMG	C37-C36	-2.56	1.33	1.51
32	E	101	HEM	C1B-NB	-2.55	1.35	1.40
24	A	407	PHO	C1B-C2B	2.54	1.42	1.39
25	A	409	BCR	C36-C18	2.40	1.55	1.50
25	B	519	BCR	C36-C18	2.40	1.55	1.50
25	H	101	BCR	C36-C18	2.38	1.55	1.50
25	C	514	BCR	C36-C18	2.37	1.55	1.50
25	I	102	BCR	C36-C18	2.35	1.55	1.50
24	D	402	PHO	C1B-C2B	2.34	1.42	1.39
25	B	517	BCR	C36-C18	2.33	1.55	1.50
25	B	518	BCR	C36-C18	2.33	1.55	1.50
25	D	405	BCR	C36-C18	2.33	1.55	1.50
25	B	517	BCR	C39-C30	-2.21	1.49	1.53
23	B	512	CLA	C1C-C2C	2.21	1.48	1.44
23	B	510	CLA	C1C-C2C	2.20	1.48	1.44
23	C	513	CLA	C1C-C2C	2.19	1.48	1.44
25	B	519	BCR	C39-C30	-2.19	1.49	1.53
25	H	101	BCR	C39-C30	-2.18	1.49	1.53
23	B	501	CLA	C1C-C2C	2.18	1.48	1.44
23	C	511	CLA	C1C-C2C	2.17	1.48	1.44
25	C	514	BCR	C38-C26	2.17	1.54	1.50
25	B	518	BCR	C39-C30	-2.16	1.49	1.53
23	D	403	CLA	C1C-C2C	2.16	1.48	1.44
23	B	503	CLA	C1C-C2C	2.15	1.48	1.44
25	D	405	BCR	C39-C30	-2.14	1.49	1.53
25	B	519	BCR	C38-C26	2.14	1.54	1.50
25	D	405	BCR	C37-C22	2.14	1.55	1.50
25	B	517	BCR	C38-C26	2.13	1.54	1.50
25	C	514	BCR	C39-C30	-2.13	1.49	1.53
23	C	510	CLA	C1C-C2C	2.13	1.48	1.44
25	B	519	BCR	C37-C22	2.13	1.55	1.50
23	B	502	CLA	C1C-C2C	2.12	1.48	1.44
25	B	518	BCR	C38-C26	2.12	1.54	1.50
32	E	101	HEM	C1A-NA	-2.12	1.35	1.39
23	B	508	CLA	C1C-C2C	2.12	1.48	1.44
23	C	509	CLA	C1C-C2C	2.11	1.48	1.44
23	C	503	CLA	C1C-C2C	2.10	1.48	1.44
25	A	409	BCR	C37-C22	2.10	1.55	1.50
23	C	512	CLA	C1C-C2C	2.10	1.48	1.44
25	A	409	BCR	C39-C30	-2.09	1.49	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	B	513	CLA	C1C-C2C	2.09	1.48	1.44
23	C	502	CLA	C1C-C2C	2.09	1.48	1.44
23	A	406	CLA	C1C-C2C	2.09	1.48	1.44
25	I	102	BCR	C38-C26	2.09	1.54	1.50
23	C	501	CLA	C1C-C2C	2.09	1.48	1.44
25	A	409	BCR	C38-C26	2.09	1.54	1.50
25	D	405	BCR	C38-C26	2.08	1.54	1.50
23	C	505	CLA	C3D-C4D	-2.08	1.39	1.44
23	B	504	CLA	C1A-CHA	2.08	1.51	1.43
25	H	101	BCR	C37-C22	2.08	1.55	1.50
25	I	102	BCR	C39-C30	-2.08	1.49	1.53
23	C	507	CLA	C1C-C2C	2.08	1.48	1.44
23	D	404	CLA	C1C-C2C	2.07	1.48	1.44
23	B	511	CLA	C1C-C2C	2.07	1.48	1.44
25	B	518	BCR	C37-C22	2.06	1.55	1.50
25	H	101	BCR	C38-C26	2.06	1.54	1.50
23	B	514	CLA	C1C-C2C	2.06	1.48	1.44
23	D	401	CLA	C1A-CHA	2.06	1.51	1.43
23	C	510	CLA	C3D-C4D	-2.05	1.39	1.44
23	C	502	CLA	C1A-CHA	2.05	1.51	1.43
23	C	506	CLA	C1C-C2C	2.05	1.48	1.44
23	B	505	CLA	C1C-C2C	2.03	1.48	1.44
25	I	102	BCR	C37-C22	2.03	1.55	1.50
23	C	504	CLA	C1C-C2C	2.03	1.48	1.44
23	C	506	CLA	C1A-CHA	2.03	1.51	1.43
23	A	405	CLA	C1C-C2C	2.03	1.48	1.44
23	B	508	CLA	C3D-C4D	-2.03	1.39	1.44
23	C	505	CLA	C1C-C2C	2.02	1.48	1.44
23	C	509	CLA	C3D-C4D	-2.02	1.39	1.44
23	A	408	CLA	C1C-C2C	2.02	1.48	1.44
23	D	401	CLA	C1C-C2C	2.02	1.48	1.44
23	A	406	CLA	C1A-CHA	2.01	1.51	1.43
25	C	514	BCR	C37-C22	2.01	1.55	1.50
29	C	518	LMG	C25-C24	-2.01	1.33	1.49
31	B	524	DGD	CGA-CFA	-2.01	1.33	1.49
23	C	501	CLA	C1A-CHA	2.01	1.51	1.43
29	I	101	LMG	C43-C42	-2.01	1.33	1.49
29	B	520	LMG	C43-C42	-2.01	1.33	1.49
31	C	517	DGD	CGA-CFA	-2.01	1.33	1.49
23	C	508	CLA	C1A-CHA	2.01	1.51	1.43
29	W	101	LMG	C43-C42	-2.01	1.33	1.49
29	D	409	LMG	C25-C24	-2.01	1.33	1.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	W	101	LMG	C22-C21	-2.01	1.33	1.49
31	C	515	DGD	CGB-CFB	-2.01	1.33	1.49
29	B	520	LMG	C25-C24	-2.00	1.33	1.49
23	C	507	CLA	C1A-CHA	2.00	1.51	1.43
23	B	514	CLA	C3D-C4D	-2.00	1.39	1.44
31	B	524	DGD	CGB-CFB	-2.00	1.33	1.49
29	C	518	LMG	C43-C42	-2.00	1.33	1.49

All (861) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	B	504	CLA	C4A-NA-C1A	9.54	111.00	106.71
23	B	512	CLA	C4A-NA-C1A	9.53	110.99	106.71
23	B	507	CLA	C4A-NA-C1A	9.48	110.97	106.71
23	B	509	CLA	C4A-NA-C1A	9.38	110.92	106.71
23	C	507	CLA	C4A-NA-C1A	9.26	110.87	106.71
23	A	406	CLA	C4A-NA-C1A	9.20	110.84	106.71
23	D	401	CLA	C4A-NA-C1A	9.18	110.83	106.71
23	B	516	CLA	C4A-NA-C1A	9.12	110.81	106.71
23	B	514	CLA	C4A-NA-C1A	9.07	110.78	106.71
23	C	508	CLA	C4A-NA-C1A	9.02	110.76	106.71
23	A	408	CLA	C4A-NA-C1A	8.99	110.75	106.71
23	C	506	CLA	C4A-NA-C1A	8.93	110.72	106.71
23	C	511	CLA	C4A-NA-C1A	8.91	110.71	106.71
23	C	502	CLA	C4A-NA-C1A	8.89	110.70	106.71
23	C	509	CLA	C4A-NA-C1A	8.85	110.69	106.71
23	C	505	CLA	C4A-NA-C1A	8.85	110.68	106.71
23	C	512	CLA	C4A-NA-C1A	8.81	110.67	106.71
23	D	403	CLA	C4A-NA-C1A	8.78	110.65	106.71
23	C	504	CLA	C4A-NA-C1A	8.77	110.65	106.71
23	B	506	CLA	C4A-NA-C1A	8.77	110.65	106.71
23	B	511	CLA	C4A-NA-C1A	8.76	110.65	106.71
23	B	505	CLA	C4A-NA-C1A	8.75	110.64	106.71
23	B	508	CLA	C4A-NA-C1A	8.71	110.62	106.71
23	C	501	CLA	C4A-NA-C1A	8.71	110.62	106.71
23	B	503	CLA	C4A-NA-C1A	8.67	110.60	106.71
23	C	503	CLA	C4A-NA-C1A	8.66	110.60	106.71
23	A	405	CLA	C4A-NA-C1A	8.51	110.53	106.71
23	B	502	CLA	C4A-NA-C1A	8.48	110.52	106.71
23	D	404	CLA	C4A-NA-C1A	8.43	110.50	106.71
23	C	513	CLA	C4A-NA-C1A	8.38	110.47	106.71
23	B	513	CLA	C4A-NA-C1A	8.36	110.47	106.71

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	B	510	CLA	C4A-NA-C1A	8.33	110.45	106.71
23	B	515	CLA	C4A-NA-C1A	8.28	110.43	106.71
23	C	510	CLA	C4A-NA-C1A	8.17	110.38	106.71
23	B	501	CLA	C4A-NA-C1A	8.02	110.31	106.71
25	I	102	BCR	C15-C14-C13	-6.07	118.64	127.31
25	D	405	BCR	C24-C23-C22	-5.79	117.49	126.23
25	C	514	BCR	C11-C10-C9	-5.74	119.11	127.31
25	A	409	BCR	C38-C26-C25	-5.74	118.08	124.53
23	B	501	CLA	CMD-C2D-C1D	5.72	134.80	124.71
23	B	505	CLA	CMD-C2D-C1D	5.71	134.78	124.71
23	B	502	CLA	CMD-C2D-C1D	5.58	134.54	124.71
25	B	518	BCR	C15-C14-C13	-5.57	119.36	127.31
23	C	510	CLA	CMD-C2D-C1D	5.56	134.51	124.71
23	C	503	CLA	CMD-C2D-C1D	5.55	134.50	124.71
23	C	501	CLA	CMD-C2D-C1D	5.55	134.49	124.71
23	B	514	CLA	CMD-C2D-C1D	5.53	134.45	124.71
23	C	513	CLA	CMD-C2D-C1D	5.49	134.40	124.71
23	C	509	CLA	CMD-C2D-C1D	5.49	134.38	124.71
23	B	505	CLA	O2A-C1-C2	5.46	122.98	108.64
23	B	516	CLA	O2A-C1-C2	5.44	122.92	108.64
23	D	404	CLA	CMD-C2D-C1D	5.43	134.29	124.71
23	A	406	CLA	CMD-C2D-C1D	5.43	134.28	124.71
23	A	405	CLA	CMD-C2D-C1D	5.41	134.25	124.71
23	C	507	CLA	CMD-C2D-C1D	5.41	134.25	124.71
23	B	511	CLA	CMD-C2D-C1D	5.41	134.24	124.71
23	B	507	CLA	CMD-C2D-C1D	5.39	134.22	124.71
25	I	102	BCR	C20-C21-C22	-5.39	119.62	127.31
23	B	515	CLA	CMD-C2D-C1D	5.38	134.19	124.71
23	B	506	CLA	CMD-C2D-C1D	5.37	134.19	124.71
23	C	504	CLA	CMD-C2D-C1D	5.36	134.16	124.71
23	B	513	CLA	CMD-C2D-C1D	5.35	134.14	124.71
23	C	511	CLA	CMD-C2D-C1D	5.34	134.13	124.71
23	C	502	CLA	CMD-C2D-C1D	5.33	134.10	124.71
23	D	401	CLA	CMD-C2D-C1D	5.32	134.10	124.71
23	C	506	CLA	O2A-C1-C2	5.32	122.62	108.64
23	B	504	CLA	CMD-C2D-C1D	5.32	134.08	124.71
23	C	502	CLA	O2D-CGD-CBD	5.31	120.71	111.27
25	B	517	BCR	C11-C10-C9	-5.31	119.73	127.31
23	C	506	CLA	CMD-C2D-C1D	5.31	134.07	124.71
23	B	516	CLA	CMD-C2D-C1D	5.31	134.07	124.71
23	B	503	CLA	CMD-C2D-C1D	5.30	134.06	124.71
23	C	512	CLA	O2D-CGD-CBD	5.30	120.69	111.27

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	B	510	CLA	CMD-C2D-C1D	5.29	134.04	124.71
23	B	506	CLA	O2D-CGD-CBD	5.27	120.62	111.27
23	B	516	CLA	O2D-CGD-CBD	5.26	120.62	111.27
23	C	504	CLA	O2D-CGD-CBD	5.25	120.59	111.27
23	B	504	CLA	O2D-CGD-CBD	5.24	120.59	111.27
23	A	408	CLA	CMD-C2D-C1D	5.23	133.93	124.71
23	B	507	CLA	O2A-C1-C2	5.23	122.37	108.64
23	C	505	CLA	CMD-C2D-C1D	5.22	133.92	124.71
23	D	403	CLA	CMD-C2D-C1D	5.22	133.91	124.71
23	B	505	CLA	O2D-CGD-CBD	5.21	120.53	111.27
23	B	512	CLA	O2D-CGD-CBD	5.21	120.53	111.27
23	B	509	CLA	CMD-C2D-C1D	5.21	133.89	124.71
25	D	405	BCR	C15-C14-C13	-5.20	119.88	127.31
23	B	511	CLA	O2A-C1-C2	5.20	122.30	108.64
23	B	509	CLA	O2D-CGD-CBD	5.18	120.47	111.27
23	D	403	CLA	O2A-C1-C2	5.18	122.25	108.64
23	B	509	CLA	O2A-C1-C2	5.17	122.22	108.64
23	A	405	CLA	O2A-C1-C2	5.16	122.21	108.64
23	C	507	CLA	O2D-CGD-CBD	5.16	120.44	111.27
23	C	505	CLA	O2D-CGD-CBD	5.16	120.43	111.27
25	B	517	BCR	C15-C14-C13	-5.13	120.00	127.31
23	C	510	CLA	O2D-CGD-CBD	5.12	120.36	111.27
23	B	506	CLA	O2A-C1-C2	5.12	122.08	108.64
23	B	508	CLA	CMD-C2D-C1D	5.10	133.71	124.71
23	C	512	CLA	CMD-C2D-C1D	5.09	133.68	124.71
23	C	508	CLA	O2A-C1-C2	5.08	121.99	108.64
23	D	404	CLA	O2D-CGD-CBD	5.07	120.28	111.27
23	C	508	CLA	CMD-C2D-C1D	5.07	133.65	124.71
25	H	101	BCR	C33-C5-C6	-5.06	118.84	124.53
25	B	519	BCR	C15-C14-C13	-5.06	120.09	127.31
23	C	513	CLA	O2A-C1-C2	5.05	121.90	108.64
23	C	506	CLA	O2D-CGD-CBD	5.05	120.23	111.27
23	C	503	CLA	O2D-CGD-CBD	5.03	120.21	111.27
23	B	503	CLA	O2D-CGD-CBD	5.01	120.17	111.27
25	C	514	BCR	C33-C5-C6	-4.99	118.92	124.53
25	H	101	BCR	C16-C17-C18	-4.99	120.19	127.31
23	B	507	CLA	O2D-CGD-CBD	4.99	120.13	111.27
23	B	514	CLA	O2A-C1-C2	4.99	121.74	108.64
23	B	510	CLA	O2D-CGD-CBD	4.98	120.12	111.27
23	B	501	CLA	O2A-C1-C2	4.98	121.73	108.64
25	H	101	BCR	C15-C14-C13	-4.98	120.20	127.31
25	I	102	BCR	C16-C17-C18	-4.98	120.21	127.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	B	502	CLA	O2D-CGD-CBD	4.96	120.07	111.27
25	D	405	BCR	C30-C25-C26	-4.94	115.65	122.61
25	H	101	BCR	C38-C26-C25	-4.94	118.98	124.53
23	A	406	CLA	O2D-CGD-CBD	4.91	119.99	111.27
23	B	502	CLA	O2A-C1-C2	4.91	121.53	108.64
25	B	519	BCR	C16-C17-C18	-4.91	120.31	127.31
23	A	408	CLA	O2D-CGD-CBD	4.89	119.95	111.27
25	A	409	BCR	C33-C5-C6	-4.88	119.05	124.53
23	C	508	CLA	O2D-CGD-CBD	4.88	119.93	111.27
23	B	513	CLA	O2D-CGD-CBD	4.83	119.86	111.27
23	B	513	CLA	O2A-C1-C2	4.83	121.32	108.64
23	B	515	CLA	O2D-CGD-CBD	4.82	119.83	111.27
23	C	503	CLA	O2A-C1-C2	4.81	121.28	108.64
23	B	508	CLA	O2D-CGD-CBD	4.81	119.82	111.27
23	C	511	CLA	O2D-CGD-CBD	4.81	119.81	111.27
23	C	512	CLA	O2A-C1-C2	4.79	121.23	108.64
23	B	511	CLA	O2D-CGD-CBD	4.79	119.77	111.27
23	C	501	CLA	O2D-CGD-CBD	4.78	119.77	111.27
25	C	514	BCR	C15-C14-C13	-4.78	120.48	127.31
23	C	509	CLA	O2D-CGD-CBD	4.78	119.76	111.27
23	D	403	CLA	O2D-CGD-CBD	4.78	119.75	111.27
23	C	501	CLA	O2A-C1-C2	4.77	121.18	108.64
29	B	522	LMG	O7-C10-C11	4.76	121.77	111.50
23	C	511	CLA	O2A-C1-C2	4.76	121.15	108.64
23	C	502	CLA	O2A-C1-C2	4.75	121.11	108.64
23	A	405	CLA	O2D-CGD-CBD	4.74	119.69	111.27
23	B	512	CLA	CMD-C2D-C1D	4.73	133.05	124.71
23	C	513	CLA	O2D-CGD-CBD	4.72	119.66	111.27
23	D	401	CLA	O2D-CGD-CBD	4.70	119.61	111.27
29	W	101	LMG	O7-C10-C11	4.68	121.59	111.50
23	B	515	CLA	O2A-C1-C2	4.66	120.89	108.64
23	D	404	CLA	O2A-C1-C2	4.65	120.87	108.64
25	I	102	BCR	C33-C5-C6	-4.64	119.31	124.53
23	C	507	CLA	O2A-C1-C2	4.61	120.75	108.64
23	C	504	CLA	O2A-C1-C2	4.61	120.74	108.64
23	C	510	CLA	O2A-C1-C2	4.60	120.73	108.64
23	A	406	CLA	O2A-C1-C2	4.60	120.72	108.64
23	B	512	CLA	O2A-C1-C2	4.57	120.66	108.64
23	B	501	CLA	O2D-CGD-CBD	4.57	119.39	111.27
25	A	409	BCR	C11-C10-C9	-4.56	120.80	127.31
25	D	405	BCR	C11-C10-C9	-4.56	120.81	127.31
30	W	102	LHG	O7-C7-C8	4.53	121.26	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	A	408	CLA	O2A-C1-C2	4.52	120.51	108.64
23	B	504	CLA	O2A-C1-C2	4.52	120.51	108.64
25	B	518	BCR	C11-C10-C9	-4.49	120.90	127.31
23	B	508	CLA	O2A-C1-C2	4.46	120.36	108.64
25	H	101	BCR	C11-C10-C9	-4.46	120.95	127.31
25	B	518	BCR	C1-C6-C5	-4.45	116.34	122.61
25	B	519	BCR	C4-C5-C6	-4.45	116.27	122.73
25	H	101	BCR	C20-C21-C22	-4.45	120.96	127.31
23	B	514	CLA	O2D-CGD-CBD	4.45	119.17	111.27
25	B	519	BCR	C7-C8-C9	-4.43	119.53	126.23
23	B	503	CLA	O2A-C1-C2	4.43	120.28	108.64
25	D	405	BCR	C38-C26-C25	-4.42	119.57	124.53
23	B	510	CLA	O2A-C1-C2	4.36	120.10	108.64
23	D	401	CLA	O2A-C1-C2	4.32	119.99	108.64
24	A	407	PHO	C4D-CHA-CBD	-4.32	106.56	108.52
29	I	101	LMG	O7-C10-C11	4.31	120.80	111.50
25	C	514	BCR	C24-C23-C22	-4.31	119.72	126.23
25	A	409	BCR	C27-C26-C25	-4.31	116.48	122.73
25	A	409	BCR	C15-C14-C13	-4.30	121.17	127.31
30	D	408	LHG	O7-C7-C8	4.30	120.77	111.50
23	C	509	CLA	O2A-C1-C2	4.29	119.91	108.64
24	D	402	PHO	C4D-CHA-CBD	-4.26	106.59	108.52
25	A	409	BCR	C16-C17-C18	-4.20	121.31	127.31
25	B	519	BCR	C33-C5-C6	-4.20	119.81	124.53
25	H	101	BCR	C24-C23-C22	-4.19	119.91	126.23
25	I	102	BCR	C24-C23-C22	-4.15	119.97	126.23
25	D	405	BCR	C27-C26-C25	-4.13	116.73	122.73
25	C	514	BCR	C16-C17-C18	-4.13	121.42	127.31
25	D	405	BCR	C7-C8-C9	-4.12	120.01	126.23
25	I	102	BCR	C27-C26-C25	-4.11	116.77	122.73
23	B	507	CLA	C1-C2-C3	-4.10	118.96	126.04
30	B	521	LHG	O7-C7-C8	4.09	120.31	111.50
25	B	517	BCR	C30-C25-C26	-4.09	116.86	122.61
25	B	518	BCR	C33-C5-C6	-4.07	119.96	124.53
27	D	406	PL9	C7-C3-C4	4.04	120.16	116.88
25	B	517	BCR	C16-C17-C18	-4.04	121.55	127.31
25	B	517	BCR	C38-C26-C25	-4.02	120.01	124.53
31	C	516	DGD	O2G-C1B-C2B	3.98	120.08	111.50
25	I	102	BCR	C30-C25-C26	-3.98	117.01	122.61
31	C	515	DGD	O2G-C1B-C2B	3.96	120.05	111.50
25	B	517	BCR	C1-C6-C5	-3.93	117.08	122.61
23	A	406	CLA	C1-C2-C3	-3.93	120.40	126.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	B	519	BCR	C38-C26-C25	-3.91	120.14	124.53
31	C	517	DGD	O2G-C1B-C2B	3.90	119.91	111.50
25	I	102	BCR	C11-C10-C9	-3.85	121.82	127.31
25	I	102	BCR	C38-C26-C25	-3.85	120.21	124.53
25	B	519	BCR	C24-C23-C22	-3.83	120.45	126.23
23	B	515	CLA	C1-C2-C3	-3.82	119.44	126.04
23	B	511	CLA	C1-C2-C3	-3.81	119.45	126.04
23	B	504	CLA	C1-C2-C3	-3.79	119.48	126.04
25	C	514	BCR	C7-C8-C9	-3.79	120.51	126.23
26	A	410	SQD	O7-S-C6	-3.77	102.46	106.94
25	D	405	BCR	C33-C5-C6	-3.76	120.30	124.53
30	D	407	LHG	O7-C7-C8	3.72	119.53	111.50
29	B	520	LMG	O7-C10-C11	3.72	119.53	111.50
23	B	514	CLA	C1-C2-C3	-3.72	119.61	126.04
23	C	508	CLA	C1-C2-C3	-3.70	119.64	126.04
29	C	518	LMG	O7-C10-C11	3.69	119.46	111.50
25	B	518	BCR	C20-C21-C22	-3.69	122.04	127.31
23	C	505	CLA	O2A-C1-C2	3.69	118.33	108.64
25	A	409	BCR	C30-C25-C26	-3.69	117.42	122.61
25	B	517	BCR	C27-C26-C25	-3.68	117.38	122.73
23	C	511	CLA	C1-C2-C3	-3.68	119.67	126.04
23	C	513	CLA	C1-C2-C3	-3.67	119.69	126.04
23	D	404	CLA	C1-C2-C3	-3.66	119.70	126.04
25	B	518	BCR	C4-C5-C6	-3.66	117.42	122.73
23	B	512	CLA	C1-C2-C3	-3.65	119.73	126.04
23	C	502	CLA	C1-C2-C3	-3.64	119.75	126.04
29	D	409	LMG	O7-C10-C11	3.63	119.33	111.50
23	B	513	CLA	C1-C2-C3	-3.63	119.77	126.04
23	B	506	CLA	C1-C2-C3	-3.61	119.80	126.04
25	B	517	BCR	C33-C5-C6	-3.60	120.48	124.53
25	B	519	BCR	C2-C1-C6	3.58	115.99	110.48
25	B	517	BCR	C4-C5-C6	-3.57	117.55	122.73
23	C	506	CLA	C1-C2-C3	-3.54	119.91	126.04
25	A	409	BCR	C24-C23-C22	-3.54	120.89	126.23
31	B	524	DGD	O2G-C1B-C2B	3.54	119.12	111.50
25	H	101	BCR	C7-C8-C9	-3.53	120.90	126.23
23	B	504	CLA	C2C-C1C-NC	3.53	113.28	109.97
25	C	514	BCR	C4-C5-C6	-3.53	117.61	122.73
25	B	518	BCR	C16-C17-C18	-3.51	122.31	127.31
23	C	512	CLA	C1-C2-C3	-3.50	119.99	126.04
25	B	518	BCR	C38-C26-C25	-3.49	120.60	124.53
25	B	517	BCR	C24-C23-C22	-3.47	120.99	126.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	B	509	CLA	C1-C2-C3	-3.46	120.06	126.04
25	C	514	BCR	C20-C21-C22	-3.44	122.39	127.31
25	D	405	BCR	C1-C6-C5	-3.43	117.78	122.61
23	B	512	CLA	C2D-C1D-ND	3.43	112.63	110.10
24	A	407	PHO	C2B-C1B-NB	-3.41	107.17	109.53
23	C	508	CLA	C2D-C1D-ND	3.41	112.62	110.10
25	B	519	BCR	C20-C21-C22	-3.40	122.45	127.31
30	B	523	LHG	O7-C7-C8	3.40	118.82	111.50
30	L	101	LHG	O7-C7-C8	3.40	118.82	111.50
25	B	517	BCR	C33-C5-C4	3.39	120.12	113.62
23	D	403	CLA	C2D-C1D-ND	3.38	112.60	110.10
23	C	513	CLA	C2D-C1D-ND	3.37	112.59	110.10
25	B	519	BCR	C27-C26-C25	-3.37	117.83	122.73
23	B	506	CLA	C2D-C1D-ND	3.36	112.58	110.10
23	C	507	CLA	C2D-C1D-ND	3.35	112.58	110.10
23	B	511	CLA	C2D-C1D-ND	3.35	112.57	110.10
23	B	510	CLA	C2D-C1D-ND	3.35	112.57	110.10
23	B	507	CLA	C2C-C1C-NC	3.34	113.10	109.97
23	C	509	CLA	C1-C2-C3	-3.34	120.28	126.04
23	B	509	CLA	C2D-C1D-ND	3.33	112.56	110.10
25	D	405	BCR	C20-C19-C18	-3.33	117.06	126.42
25	B	519	BCR	C11-C10-C9	-3.32	122.57	127.31
23	C	510	CLA	C1-C2-C3	-3.32	120.30	126.04
23	C	512	CLA	C2D-C1D-ND	3.31	112.54	110.10
23	B	501	CLA	CHD-C1D-ND	-3.31	121.41	124.45
23	C	511	CLA	C2D-C1D-ND	3.30	112.54	110.10
25	B	517	BCR	C7-C8-C9	-3.29	121.26	126.23
23	C	510	CLA	CHD-C1D-ND	-3.29	121.43	124.45
23	B	501	CLA	C1-C2-C3	-3.29	120.36	126.04
23	B	515	CLA	C2C-C1C-NC	3.28	113.04	109.97
23	B	505	CLA	CHD-C1D-ND	-3.27	121.44	124.45
23	D	401	CLA	C1-C2-C3	-3.27	120.39	126.04
25	B	517	BCR	C20-C21-C22	-3.26	122.65	127.31
23	C	503	CLA	C1-C2-C3	-3.26	120.41	126.04
24	D	402	PHO	C2B-C1B-NB	-3.25	107.28	109.53
25	B	517	BCR	C38-C26-C27	3.25	119.86	113.62
25	A	409	BCR	C7-C8-C9	-3.25	121.33	126.23
23	B	516	CLA	C2D-C1D-ND	3.24	112.49	110.10
23	A	408	CLA	C1-C2-C3	-3.24	120.45	126.04
23	C	502	CLA	C2D-C1D-ND	3.21	112.47	110.10
23	C	512	CLA	C2C-C1C-NC	3.21	112.98	109.97
23	C	504	CLA	C1-C2-C3	-3.20	120.50	126.04

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	D	405	BCR	C38-C26-C27	3.20	119.75	113.62
25	B	518	BCR	C23-C24-C25	-3.19	118.25	127.20
23	A	408	CLA	C2D-C1D-ND	3.18	112.44	110.10
23	C	506	CLA	C2C-C1C-NC	3.17	112.94	109.97
23	D	401	CLA	C2C-C1C-NC	3.17	112.94	109.97
25	I	102	BCR	C4-C5-C6	-3.17	118.13	122.73
23	C	505	CLA	C2C-C1C-NC	3.17	112.94	109.97
23	C	507	CLA	C2C-C1C-NC	3.17	112.94	109.97
30	B	521	LHG	C5-O7-C7	-3.16	110.02	117.79
23	D	401	CLA	C2D-C1D-ND	3.16	112.43	110.10
23	B	502	CLA	CHD-C1D-ND	-3.15	121.56	124.45
23	A	406	CLA	C2C-C1C-NC	3.15	112.92	109.97
25	D	405	BCR	C16-C17-C18	-3.15	122.82	127.31
23	A	406	CLA	C2D-C1D-ND	3.15	112.42	110.10
25	D	405	BCR	C33-C5-C4	3.14	119.65	113.62
23	C	504	CLA	C2D-C1D-ND	3.14	112.42	110.10
25	D	405	BCR	C20-C21-C22	-3.14	122.83	127.31
25	B	519	BCR	C38-C26-C27	3.13	119.62	113.62
23	C	502	CLA	C2C-C1C-NC	3.12	112.90	109.97
23	B	512	CLA	C1D-ND-C4D	-3.12	104.12	106.33
23	C	506	CLA	C2D-C1D-ND	3.12	112.40	110.10
23	C	511	CLA	CMA-C3A-C4A	3.11	120.14	111.77
23	B	510	CLA	CHD-C1D-ND	-3.11	121.59	124.45
23	B	511	CLA	CHD-C1D-ND	-3.11	121.60	124.45
23	D	401	CLA	CHD-C1D-ND	-3.11	121.60	124.45
23	B	503	CLA	C2D-C1D-ND	3.10	112.39	110.10
23	C	507	CLA	C1-C2-C3	-3.10	120.68	126.04
23	C	509	CLA	CHD-C1D-ND	-3.10	121.61	124.45
25	B	518	BCR	C8-C7-C6	-3.10	118.50	127.20
25	C	514	BCR	C27-C26-C25	-3.10	118.23	122.73
23	B	511	CLA	C1D-ND-C4D	-3.10	104.13	106.33
23	C	503	CLA	C2D-C1D-ND	3.10	112.39	110.10
23	B	514	CLA	C2D-C1D-ND	3.09	112.38	110.10
23	A	405	CLA	C2D-C1D-ND	3.09	112.38	110.10
23	D	404	CLA	C2C-C1C-NC	3.09	112.87	109.97
25	I	102	BCR	C1-C6-C5	-3.09	118.27	122.61
23	B	505	CLA	C2D-C1D-ND	3.09	112.38	110.10
23	A	408	CLA	C2C-C1C-NC	3.08	112.86	109.97
25	B	518	BCR	C33-C5-C4	3.08	119.54	113.62
23	D	404	CLA	C2D-C1D-ND	3.08	112.37	110.10
29	W	101	LMG	C8-O7-C10	-3.07	110.24	117.79
23	C	509	CLA	C2D-C1D-ND	3.06	112.36	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	B	501	CLA	C3B-C4B-NB	-3.06	107.67	110.52
25	I	102	BCR	C7-C8-C9	-3.06	121.61	126.23
23	B	510	CLA	C1D-ND-C4D	-3.06	104.16	106.33
23	C	509	CLA	C2C-C1C-NC	3.06	112.83	109.97
23	D	403	CLA	CHD-C1D-ND	-3.05	121.65	124.45
23	B	513	CLA	CHD-C1D-ND	-3.05	121.65	124.45
25	B	518	BCR	C38-C26-C27	3.05	119.47	113.62
23	C	502	CLA	CHD-C1D-ND	-3.04	121.66	124.45
25	B	519	BCR	C30-C25-C26	-3.04	118.33	122.61
23	B	507	CLA	C2D-C1D-ND	3.04	112.35	110.10
23	C	501	CLA	C2C-C1C-NC	3.04	112.82	109.97
23	B	506	CLA	C1D-ND-C4D	-3.04	104.17	106.33
23	B	509	CLA	C2C-C1C-NC	3.03	112.81	109.97
23	C	513	CLA	CHD-C1D-ND	-3.03	121.67	124.45
23	C	504	CLA	CHD-C1D-ND	-3.03	121.67	124.45
25	C	514	BCR	C38-C26-C27	3.02	119.42	113.62
23	B	510	CLA	C3B-C4B-NB	-3.02	107.71	110.52
25	A	409	BCR	C38-C26-C27	3.02	119.42	113.62
23	D	404	CLA	CHD-C1D-ND	-3.02	121.68	124.45
23	B	505	CLA	C1D-ND-C4D	-3.02	104.19	106.33
23	B	509	CLA	C1D-ND-C4D	-3.02	104.19	106.33
23	B	502	CLA	C2D-C1D-ND	3.01	112.33	110.10
23	C	505	CLA	O2D-CGD-O1D	-3.01	117.95	123.84
23	D	403	CLA	C2C-C1C-NC	3.01	112.79	109.97
23	B	502	CLA	C1-C2-C3	-3.01	120.84	126.04
23	B	501	CLA	C2D-C1D-ND	3.00	112.32	110.10
23	B	513	CLA	C2C-C1C-NC	3.00	112.78	109.97
23	B	513	CLA	C2D-C1D-ND	2.99	112.31	110.10
23	B	508	CLA	C2C-C1C-NC	2.99	112.78	109.97
25	C	514	BCR	C38-C26-C25	-2.99	121.17	124.53
23	C	510	CLA	C2D-C1D-ND	2.99	112.31	110.10
25	H	101	BCR	C27-C26-C25	-2.99	118.40	122.73
23	C	501	CLA	C2D-C1D-ND	2.98	112.30	110.10
23	B	504	CLA	CMA-C3A-C4A	2.98	119.79	111.77
23	C	503	CLA	C2C-C1C-NC	2.98	112.77	109.97
25	C	514	BCR	C30-C25-C26	-2.98	118.42	122.61
23	A	406	CLA	CHD-C1D-ND	-2.98	121.72	124.45
23	C	510	CLA	C1D-ND-C4D	-2.97	104.22	106.33
23	C	513	CLA	C1D-ND-C4D	-2.97	104.22	106.33
23	B	510	CLA	C2C-C1C-NC	2.97	112.75	109.97
23	B	506	CLA	CHD-C1D-ND	-2.96	121.73	124.45
23	D	401	CLA	C1C-C2C-C3C	-2.96	103.84	106.96

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	B	509	CLA	CHD-C1D-ND	-2.96	121.74	124.45
23	D	403	CLA	C1D-ND-C4D	-2.96	104.23	106.33
23	C	511	CLA	C2C-C1C-NC	2.95	112.74	109.97
23	B	516	CLA	CHD-C1D-ND	-2.95	121.74	124.45
23	C	512	CLA	CMA-C3A-C4A	2.95	119.70	111.77
23	C	503	CLA	CHD-C1D-ND	-2.95	121.75	124.45
23	B	507	CLA	CMA-C3A-C4A	2.94	119.69	111.77
25	D	405	BCR	C4-C5-C6	-2.94	118.46	122.73
23	D	401	CLA	CMA-C3A-C4A	2.94	119.67	111.77
23	B	504	CLA	C2D-C1D-ND	2.94	112.27	110.10
23	B	508	CLA	CMA-C3A-C4A	2.94	119.66	111.77
23	B	502	CLA	C2C-C1C-NC	2.93	112.72	109.97
23	B	504	CLA	C1C-C2C-C3C	-2.93	103.88	106.96
23	C	508	CLA	C1D-ND-C4D	-2.93	104.26	106.33
23	A	408	CLA	CHD-C1D-ND	-2.92	121.77	124.45
23	B	507	CLA	CHD-C1D-ND	-2.92	121.77	124.45
23	B	502	CLA	CMA-C3A-C4A	2.92	119.63	111.77
23	A	405	CLA	CHD-C1D-ND	-2.92	121.77	124.45
23	C	507	CLA	C3B-C4B-NB	-2.92	107.81	110.52
23	C	510	CLA	C2C-C1C-NC	2.92	112.70	109.97
23	D	404	CLA	CMA-C3A-C4A	2.91	119.59	111.77
23	A	406	CLA	CMA-C3A-C4A	2.91	119.58	111.77
23	C	504	CLA	C2C-C1C-NC	2.91	112.69	109.97
23	C	507	CLA	C1D-ND-C4D	-2.90	104.27	106.33
23	B	506	CLA	C3B-C4B-NB	-2.90	107.82	110.52
23	A	408	CLA	CMA-C3A-C4A	2.89	119.55	111.77
23	C	501	CLA	C3B-C4B-NB	-2.89	107.83	110.52
23	C	508	CLA	C2C-C1C-NC	2.89	112.68	109.97
23	C	509	CLA	C1D-ND-C4D	-2.89	104.28	106.33
23	B	505	CLA	C2C-C1C-NC	2.88	112.67	109.97
23	C	508	CLA	CHD-C1D-ND	-2.88	121.81	124.45
23	B	514	CLA	CHD-C1D-ND	-2.87	121.81	124.45
23	B	515	CLA	CHD-C1D-ND	-2.87	121.81	124.45
23	B	501	CLA	C2C-C1C-NC	2.87	112.66	109.97
23	B	514	CLA	C2C-C1C-NC	2.87	112.66	109.97
23	D	403	CLA	C1-C2-C3	-2.87	121.08	126.04
23	B	501	CLA	CMA-C3A-C4A	2.86	119.47	111.77
23	B	515	CLA	C2D-C1D-ND	2.86	112.21	110.10
23	C	501	CLA	CHD-C1D-ND	-2.86	121.83	124.45
23	C	504	CLA	C1D-ND-C4D	-2.85	104.31	106.33
23	C	512	CLA	C1C-C2C-C3C	-2.85	103.96	106.96
25	C	514	BCR	C15-C16-C17	-2.85	117.64	123.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	B	503	CLA	CMA-C3A-C4A	2.84	119.41	111.77
23	C	508	CLA	CMA-C3A-C4A	2.84	119.41	111.77
23	C	506	CLA	CHD-C1D-ND	-2.84	121.85	124.45
23	C	502	CLA	CMA-C3A-C4A	2.84	119.40	111.77
23	B	510	CLA	CMA-C3A-C4A	2.84	119.40	111.77
23	C	509	CLA	CMA-C3A-C4A	2.84	119.39	111.77
23	C	512	CLA	CHD-C1D-ND	-2.83	121.85	124.45
25	B	517	BCR	C23-C24-C25	-2.83	119.26	127.20
23	B	503	CLA	C1D-ND-C4D	-2.83	104.33	106.33
23	A	406	CLA	C1D-ND-C4D	-2.83	104.33	106.33
25	A	409	BCR	C33-C5-C4	2.82	119.03	113.62
23	B	503	CLA	C3B-C4B-NB	-2.81	107.91	110.52
23	B	503	CLA	CHD-C1D-ND	-2.81	121.88	124.45
23	C	507	CLA	CHD-C1D-ND	-2.81	121.88	124.45
23	B	507	CLA	C1C-C2C-C3C	-2.80	104.01	106.96
23	B	514	CLA	C1D-ND-C4D	-2.80	104.34	106.33
23	C	501	CLA	CMA-C3A-C4A	2.80	119.30	111.77
23	C	511	CLA	C1D-ND-C4D	-2.80	104.35	106.33
23	B	512	CLA	C2C-C1C-NC	2.80	112.59	109.97
23	D	401	CLA	C1D-ND-C4D	-2.80	104.35	106.33
23	B	508	CLA	C1-C2-C3	-2.80	121.21	126.04
23	A	406	CLA	C1C-C2C-C3C	-2.79	104.02	106.96
23	C	502	CLA	C1D-ND-C4D	-2.79	104.35	106.33
23	C	506	CLA	CMA-C3A-C4A	2.78	119.26	111.77
23	C	513	CLA	C2C-C1C-NC	2.78	112.58	109.97
23	B	516	CLA	C1D-ND-C4D	-2.78	104.36	106.33
23	B	501	CLA	C1D-ND-C4D	-2.78	104.36	106.33
23	A	405	CLA	C1D-ND-C4D	-2.77	104.36	106.33
23	B	508	CLA	C2D-C1D-ND	2.77	112.15	110.10
29	C	518	LMG	O8-C28-C29	2.77	120.60	111.91
23	B	515	CLA	C1C-C2C-C3C	-2.77	104.05	106.96
25	I	102	BCR	C38-C26-C27	2.77	118.93	113.62
23	B	513	CLA	C1D-ND-C4D	-2.77	104.37	106.33
23	C	513	CLA	CMA-C3A-C4A	2.76	119.19	111.77
23	B	503	CLA	C2C-C1C-NC	2.76	112.56	109.97
23	B	505	CLA	CMA-C3A-C4A	2.76	119.18	111.77
23	B	510	CLA	C4B-CHC-C1C	2.75	132.87	126.34
25	A	409	BCR	C23-C24-C25	-2.75	119.47	127.20
23	C	511	CLA	CHD-C1D-ND	-2.75	121.93	124.45
23	B	511	CLA	CMA-C3A-C4A	2.75	119.17	111.77
23	C	507	CLA	C1C-C2C-C3C	-2.75	104.06	106.96
29	W	101	LMG	O8-C28-C29	2.75	120.53	111.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	C	502	CLA	O2D-CGD-O1D	-2.75	118.47	123.84
25	H	101	BCR	C2-C1-C6	2.74	114.71	110.48
25	I	102	BCR	C33-C5-C4	2.74	118.88	113.62
23	C	501	CLA	C1C-C2C-C3C	-2.74	104.08	106.96
23	C	504	CLA	C1C-C2C-C3C	-2.74	104.08	106.96
23	C	501	CLA	O2D-CGD-O1D	-2.73	118.50	123.84
23	B	512	CLA	C1C-C2C-C3C	-2.73	104.09	106.96
23	D	404	CLA	C1D-ND-C4D	-2.72	104.40	106.33
25	H	101	BCR	C4-C5-C6	-2.72	118.78	122.73
23	B	516	CLA	C1-C2-C3	-2.72	121.34	126.04
23	C	512	CLA	C1D-ND-C4D	-2.72	104.40	106.33
23	C	502	CLA	C1C-C2C-C3C	-2.72	104.10	106.96
23	B	502	CLA	C1D-ND-C4D	-2.72	104.41	106.33
23	C	506	CLA	C1C-C2C-C3C	-2.71	104.10	106.96
23	B	513	CLA	C1C-C2C-C3C	-2.71	104.10	106.96
23	A	405	CLA	C2C-C1C-NC	2.71	112.51	109.97
23	B	516	CLA	C2C-C1C-NC	2.71	112.51	109.97
23	C	501	CLA	C1D-ND-C4D	-2.71	104.41	106.33
23	B	508	CLA	CHD-C1D-ND	-2.70	121.97	124.45
23	C	510	CLA	C1C-C2C-C3C	-2.70	104.12	106.96
23	D	404	CLA	C1C-C2C-C3C	-2.70	104.12	106.96
23	C	505	CLA	C1C-C2C-C3C	-2.69	104.12	106.96
23	C	504	CLA	CMA-C3A-C4A	2.69	119.02	111.77
25	I	102	BCR	C35-C13-C14	-2.69	119.15	122.92
25	C	514	BCR	C33-C5-C4	2.69	118.79	113.62
23	B	510	CLA	C1-C2-C3	-2.69	121.39	126.04
23	A	408	CLA	C1D-ND-C4D	-2.69	104.42	106.33
30	W	102	LHG	O8-C23-C24	2.69	120.34	111.91
23	C	505	CLA	CHD-C1D-ND	-2.69	121.98	124.45
23	B	511	CLA	C2C-C1C-NC	2.68	112.49	109.97
23	D	403	CLA	C1C-C2C-C3C	-2.68	104.14	106.96
23	B	501	CLA	C1C-C2C-C3C	-2.68	104.14	106.96
23	C	503	CLA	C1D-ND-C4D	-2.68	104.43	106.33
25	B	518	BCR	C29-C30-C25	2.68	114.60	110.48
23	B	510	CLA	C1C-C2C-C3C	-2.68	104.14	106.96
23	B	502	CLA	C1C-C2C-C3C	-2.67	104.15	106.96
25	A	409	BCR	C20-C21-C22	-2.67	123.50	127.31
31	C	515	DGD	O1G-C1A-C2A	2.67	120.28	111.91
25	D	405	BCR	C16-C15-C14	-2.67	118.01	123.47
23	B	509	CLA	O2D-CGD-O1D	-2.67	118.63	123.84
23	A	408	CLA	C1C-C2C-C3C	-2.66	104.16	106.96
30	B	521	LHG	O8-C23-C24	2.66	120.27	111.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
31	C	516	DGD	O1G-C1A-C2A	2.66	120.27	111.91
23	C	507	CLA	CMA-C3A-C4A	2.66	118.93	111.77
23	A	405	CLA	CMA-C3A-C4A	2.66	118.93	111.77
23	B	502	CLA	C3B-C4B-NB	-2.66	108.05	110.52
23	B	508	CLA	C1C-C2C-C3C	-2.66	104.16	106.96
23	B	501	CLA	C4B-CHC-C1C	2.66	132.64	126.34
23	C	501	CLA	C4B-CHC-C1C	2.66	132.64	126.34
25	H	101	BCR	C38-C26-C27	2.65	118.71	113.62
23	C	509	CLA	C1C-C2C-C3C	-2.65	104.17	106.96
23	C	513	CLA	C3B-C4B-NB	-2.65	108.06	110.52
23	B	506	CLA	C2C-C1C-NC	2.65	112.45	109.97
23	C	503	CLA	CMA-C3A-C4A	2.64	118.87	111.77
23	B	509	CLA	C1C-C2C-C3C	-2.64	104.18	106.96
23	B	512	CLA	C6-C5-C3	-2.63	106.56	113.45
23	B	505	CLA	C1-C2-C3	-2.63	121.50	126.04
31	B	524	DGD	O1G-C1A-C2A	2.62	120.14	111.91
25	B	519	BCR	C16-C15-C14	-2.62	118.11	123.47
23	C	512	CLA	C3B-C4B-NB	-2.62	108.09	110.52
23	C	506	CLA	O2D-CGD-O1D	-2.62	118.72	123.84
23	C	511	CLA	C3B-C4B-NB	-2.62	108.09	110.52
23	B	507	CLA	C1D-ND-C4D	-2.62	104.48	106.33
23	C	505	CLA	C3B-C4B-NB	-2.61	108.09	110.52
30	D	407	LHG	O8-C23-C24	2.61	120.10	111.91
25	B	519	BCR	C23-C24-C25	-2.61	119.88	127.20
23	C	503	CLA	C1C-C2C-C3C	-2.61	104.22	106.96
23	A	408	CLA	CAA-C2A-C3A	-2.60	105.67	112.78
23	C	505	CLA	C2D-C1D-ND	2.59	112.02	110.10
23	D	404	CLA	C3B-C4B-NB	-2.59	108.11	110.52
23	C	513	CLA	CAA-C2A-C3A	-2.59	105.68	112.78
23	B	514	CLA	CHA-C4D-ND	2.59	137.92	132.50
23	C	504	CLA	C3B-C4B-NB	-2.58	108.12	110.52
23	C	506	CLA	C1D-ND-C4D	-2.58	104.50	106.33
23	C	505	CLA	CHA-C4D-ND	2.57	137.87	132.50
23	B	515	CLA	CMA-C3A-C4A	2.57	118.67	111.77
23	B	508	CLA	C1D-ND-C4D	-2.56	104.52	106.33
23	C	504	CLA	O2D-CGD-O1D	-2.56	118.83	123.84
23	B	506	CLA	C4B-CHC-C1C	2.56	132.41	126.34
29	B	520	LMG	O8-C28-C29	2.56	119.94	111.91
23	C	511	CLA	C1C-C2C-C3C	-2.55	104.27	106.96
23	C	510	CLA	O2D-CGD-O1D	-2.55	118.85	123.84
23	C	505	CLA	C1D-ND-C4D	-2.55	104.52	106.33
25	A	409	BCR	C4-C5-C6	-2.55	119.03	122.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	C	508	CLA	CAA-C2A-C3A	-2.54	105.81	112.78
23	C	513	CLA	C1C-C2C-C3C	-2.54	104.28	106.96
23	B	504	CLA	CHD-C1D-ND	-2.54	122.12	124.45
23	B	504	CLA	O2A-CGA-CBA	2.54	119.88	111.91
25	D	405	BCR	C8-C7-C6	-2.54	120.07	127.20
25	A	409	BCR	C8-C7-C6	-2.53	120.09	127.20
23	B	503	CLA	C1C-C2C-C3C	-2.53	104.29	106.96
30	L	101	LHG	O8-C23-C24	2.53	119.85	111.91
23	C	513	CLA	C4B-CHC-C1C	2.53	132.34	126.34
23	C	501	CLA	CHA-C4D-ND	2.53	137.79	132.50
23	B	512	CLA	CHD-C1D-ND	-2.53	122.13	124.45
23	D	403	CLA	CMA-C3A-C4A	2.53	118.56	111.77
25	H	101	BCR	C23-C24-C25	-2.52	120.11	127.20
23	B	514	CLA	O2D-CGD-O1D	-2.52	118.90	123.84
23	A	405	CLA	C1-C2-C3	-2.52	121.68	126.04
23	C	507	CLA	C4B-CHC-C1C	2.52	132.32	126.34
23	B	511	CLA	C1C-C2C-C3C	-2.51	104.31	106.96
23	B	511	CLA	C4B-CHC-C1C	2.51	132.29	126.34
23	B	505	CLA	C3B-C4B-NB	-2.51	108.19	110.52
23	C	508	CLA	C4B-CHC-C1C	2.51	132.29	126.34
23	B	512	CLA	C3B-C4B-NB	-2.51	108.19	110.52
29	B	522	LMG	O8-C28-C29	2.51	119.78	111.91
23	B	505	CLA	C1C-C2C-C3C	-2.51	104.32	106.96
23	C	503	CLA	CHA-C4D-ND	2.50	137.74	132.50
23	A	406	CLA	C3B-C4B-NB	-2.50	108.19	110.52
23	B	504	CLA	C1D-ND-C4D	-2.50	104.56	106.33
23	C	509	CLA	C4B-CHC-C1C	2.50	132.27	126.34
23	B	508	CLA	C3B-C4B-NB	-2.50	108.20	110.52
23	C	506	CLA	CHA-C4D-ND	2.50	137.72	132.50
25	B	517	BCR	C11-C12-C13	-2.50	119.40	126.42
23	B	514	CLA	C1C-C2C-C3C	-2.50	104.33	106.96
23	B	505	CLA	C1-O2A-CGA	2.49	122.99	116.44
23	B	511	CLA	C3B-C4B-NB	-2.48	108.21	110.52
23	B	504	CLA	CHA-C4D-ND	2.48	137.69	132.50
23	B	503	CLA	O2A-CGA-CBA	2.48	119.67	111.91
23	B	514	CLA	C3B-C4B-NB	-2.47	108.22	110.52
23	B	509	CLA	C4B-CHC-C1C	2.47	132.20	126.34
23	C	510	CLA	O2A-CGA-CBA	2.47	119.65	111.91
23	B	503	CLA	CHA-C4D-ND	2.47	137.66	132.50
23	B	501	CLA	CHA-C4D-ND	2.46	137.65	132.50
31	C	517	DGD	O1G-C1A-C2A	2.46	119.64	111.91
23	C	505	CLA	C1-C2-C3	-2.46	121.78	126.04

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	A	409	BCR	C30-C25-C24	2.46	122.74	115.78
25	B	518	BCR	C15-C16-C17	-2.46	118.43	123.47
30	D	407	LHG	C5-O7-C7	-2.46	111.73	117.79
23	B	507	CLA	CHA-C4D-ND	2.46	137.64	132.50
23	C	511	CLA	O2A-CGA-CBA	2.46	119.62	111.91
23	C	510	CLA	C3B-C4B-NB	-2.46	108.24	110.52
23	C	504	CLA	C4B-CHC-C1C	2.46	132.16	126.34
23	B	509	CLA	O2A-CGA-CBA	2.45	119.59	111.91
23	B	510	CLA	O2D-CGD-O1D	-2.45	119.05	123.84
23	B	502	CLA	CHA-C4D-ND	2.45	137.62	132.50
30	B	523	LHG	O8-C23-C24	2.45	119.59	111.91
23	C	511	CLA	C4B-CHC-C1C	2.45	132.14	126.34
23	B	514	CLA	CMA-C3A-C4A	2.45	118.35	111.77
25	B	517	BCR	C8-C7-C6	-2.45	120.33	127.20
23	D	404	CLA	O2D-CGD-O1D	-2.44	119.06	123.84
23	B	505	CLA	CHA-C4D-ND	2.44	137.61	132.50
23	B	506	CLA	CHA-C4D-ND	2.44	137.61	132.50
23	A	405	CLA	CHA-C4D-ND	2.44	137.61	132.50
23	C	503	CLA	C3B-C4B-NB	-2.44	108.25	110.52
23	A	406	CLA	C4B-CHC-C1C	2.44	132.13	126.34
23	B	506	CLA	CMA-C3A-C4A	2.44	118.33	111.77
23	B	502	CLA	C4B-CHC-C1C	2.44	132.12	126.34
23	D	401	CLA	C6-C5-C3	-2.44	107.06	113.45
23	B	515	CLA	O2D-CGD-O1D	-2.43	119.09	123.84
23	D	404	CLA	CHA-C4D-ND	2.43	137.58	132.50
23	C	510	CLA	C4B-CHC-C1C	2.43	132.10	126.34
23	A	405	CLA	C4B-CHC-C1C	2.43	132.10	126.34
23	B	513	CLA	O2D-CGD-O1D	-2.43	119.09	123.84
23	C	509	CLA	O2A-CGA-CBA	2.42	119.51	111.91
23	B	515	CLA	C1D-ND-C4D	-2.42	104.61	106.33
23	B	515	CLA	C3B-C4B-NB	-2.42	108.27	110.52
25	B	519	BCR	C1-C6-C5	-2.42	119.20	122.61
29	I	101	LMG	O8-C28-C29	2.42	119.50	111.91
23	B	505	CLA	C4B-CHC-C1C	2.42	132.08	126.34
23	C	511	CLA	CHA-C4D-ND	2.42	137.56	132.50
23	B	516	CLA	C4B-CHC-C1C	2.42	132.08	126.34
23	B	516	CLA	CHA-C4D-ND	2.42	137.56	132.50
23	B	505	CLA	CMD-C2D-C3D	-2.42	122.05	127.61
23	A	405	CLA	O2A-CGA-CBA	2.42	119.50	111.91
23	C	509	CLA	CHA-C4D-ND	2.42	137.56	132.50
23	C	512	CLA	O2A-CGA-CBA	2.42	119.49	111.91
23	C	503	CLA	C4B-CHC-C1C	2.42	132.07	126.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	B	508	CLA	CHA-C4D-ND	2.41	137.55	132.50
25	B	518	BCR	C27-C26-C25	-2.41	119.23	122.73
23	B	515	CLA	CHA-C4D-ND	2.41	137.54	132.50
23	C	504	CLA	CHA-C4D-ND	2.41	137.54	132.50
29	B	520	LMG	C8-O7-C10	-2.41	111.86	117.79
23	C	502	CLA	C4B-CHC-C1C	2.41	132.04	126.34
23	C	506	CLA	C4B-CHC-C1C	2.40	132.04	126.34
23	B	501	CLA	CMD-C2D-C3D	-2.40	122.08	127.61
23	A	406	CLA	CHA-C4D-ND	2.40	137.53	132.50
23	B	513	CLA	C4B-CHC-C1C	2.40	132.03	126.34
23	B	514	CLA	C4B-CHC-C1C	2.40	132.03	126.34
23	B	503	CLA	C4B-CHC-C1C	2.40	132.03	126.34
23	C	507	CLA	O2D-CGD-O1D	-2.40	119.15	123.84
23	C	502	CLA	CHA-C4D-ND	2.40	137.52	132.50
23	B	512	CLA	CHA-C4D-ND	2.40	137.52	132.50
23	B	512	CLA	C4B-CHC-C1C	2.40	132.03	126.34
23	C	502	CLA	C3B-C4B-NB	-2.40	108.29	110.52
23	B	505	CLA	O2D-CGD-O1D	-2.39	119.16	123.84
23	C	508	CLA	C1C-C2C-C3C	-2.39	104.44	106.96
23	D	401	CLA	C4B-CHC-C1C	2.39	132.01	126.34
23	A	408	CLA	CHA-C4D-ND	2.39	137.50	132.50
23	C	513	CLA	CHA-C4D-ND	2.39	137.50	132.50
25	C	514	BCR	C1-C6-C5	-2.39	119.25	122.61
23	C	505	CLA	C4B-CHC-C1C	2.39	132.00	126.34
23	C	510	CLA	CHA-C4D-ND	2.39	137.50	132.50
23	A	408	CLA	C4B-CHC-C1C	2.39	132.00	126.34
23	D	404	CLA	C4B-CHC-C1C	2.38	131.99	126.34
23	D	403	CLA	C4B-CHC-C1C	2.38	131.99	126.34
23	D	403	CLA	CHA-C4D-ND	2.38	137.48	132.50
23	B	513	CLA	CHA-C4D-ND	2.38	137.48	132.50
30	D	408	LHG	O8-C23-C24	2.38	119.37	111.91
23	C	507	CLA	CHA-C4D-ND	2.38	137.47	132.50
25	I	102	BCR	C8-C7-C6	-2.37	120.53	127.20
29	D	409	LMG	O8-C28-C29	2.37	119.35	111.91
23	B	508	CLA	C4B-CHC-C1C	2.37	131.96	126.34
23	B	511	CLA	O2A-CGA-CBA	2.37	119.35	111.91
23	D	401	CLA	CHA-C4D-ND	2.37	137.46	132.50
23	B	509	CLA	CHA-C4D-ND	2.37	137.46	132.50
23	C	512	CLA	CHA-C4D-ND	2.37	137.45	132.50
23	B	516	CLA	O2D-CGD-O1D	-2.37	119.21	123.84
23	B	502	CLA	O2D-CGD-O1D	-2.37	119.21	123.84
23	B	503	CLA	O2D-CGD-O1D	-2.37	119.21	123.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	H	101	BCR	C1-C6-C5	-2.36	119.29	122.61
23	B	510	CLA	CHA-C4D-ND	2.36	137.44	132.50
24	A	407	PHO	C1C-C2C-C3C	-2.36	106.65	108.61
23	B	504	CLA	C4B-CHC-C1C	2.36	131.93	126.34
23	B	515	CLA	C4B-CHC-C1C	2.35	131.92	126.34
23	B	513	CLA	CMA-C3A-C4A	2.35	118.10	111.77
23	A	408	CLA	O2D-CGD-O1D	-2.35	119.24	123.84
23	C	503	CLA	O2D-CGD-O1D	-2.35	119.24	123.84
23	C	501	CLA	O2A-CGA-CBA	2.35	119.29	111.91
23	A	405	CLA	C1C-C2C-C3C	-2.35	104.49	106.96
25	C	514	BCR	C8-C7-C6	-2.35	120.60	127.20
23	C	510	CLA	CMD-C2D-C3D	-2.35	122.22	127.61
23	C	508	CLA	C3B-C4B-NB	-2.35	108.34	110.52
23	A	408	CLA	C3B-C4B-NB	-2.34	108.34	110.52
25	B	518	BCR	C24-C23-C22	-2.34	122.70	126.23
23	B	507	CLA	O2D-CGD-O1D	-2.34	119.27	123.84
23	C	512	CLA	C4B-CHC-C1C	2.33	131.87	126.34
23	B	514	CLA	O2A-CGA-CBA	2.33	119.22	111.91
23	C	509	CLA	C3B-C4B-NB	-2.33	108.35	110.52
23	B	506	CLA	O2D-CGD-O1D	-2.33	119.29	123.84
23	A	405	CLA	C3B-C4B-NB	-2.33	108.36	110.52
23	B	512	CLA	O2D-CGD-O1D	-2.33	119.29	123.84
23	B	511	CLA	CHA-C4D-ND	2.32	137.36	132.50
23	C	503	CLA	O2A-CGA-CBA	2.32	119.19	111.91
25	C	514	BCR	C20-C19-C18	-2.32	119.90	126.42
23	B	501	CLA	O2D-CGD-O1D	-2.32	119.31	123.84
23	B	509	CLA	C3B-C4B-NB	-2.32	108.37	110.52
23	B	512	CLA	O2A-CGA-CBA	2.31	119.17	111.91
23	D	404	CLA	O2A-CGA-CBA	2.31	119.17	111.91
23	D	403	CLA	O2A-CGA-CBA	2.31	119.16	111.91
23	C	508	CLA	CHA-C4D-ND	2.31	137.33	132.50
23	C	501	CLA	CMD-C2D-C3D	-2.31	122.31	127.61
23	C	513	CLA	O2D-CGD-O1D	-2.31	119.33	123.84
25	C	514	BCR	C2-C1-C6	2.31	114.03	110.48
23	C	512	CLA	O2D-CGD-O1D	-2.31	119.33	123.84
23	B	516	CLA	CMA-C3A-C4A	2.30	117.97	111.77
23	B	513	CLA	C3B-C4B-NB	-2.30	108.38	110.52
23	B	507	CLA	C6-C5-C3	-2.30	107.42	113.45
23	C	501	CLA	C1-C2-C3	-2.30	122.06	126.04
23	C	506	CLA	C3B-C4B-NB	-2.30	108.38	110.52
23	C	508	CLA	O2D-CGD-O1D	-2.30	119.34	123.84
25	C	514	BCR	C34-C9-C10	-2.30	119.70	122.92

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	I	102	BCR	C23-C24-C25	-2.29	120.76	127.20
23	C	506	CLA	CAA-C2A-C3A	-2.29	106.51	112.78
23	B	516	CLA	C1-O2A-CGA	2.29	122.44	116.44
23	A	405	CLA	O2D-CGD-O1D	-2.28	119.37	123.84
23	B	507	CLA	C4B-CHC-C1C	2.28	131.75	126.34
23	C	510	CLA	CMA-C3A-C4A	2.28	117.91	111.77
25	I	102	BCR	C36-C18-C17	-2.28	119.73	122.92
23	B	514	CLA	CMD-C2D-C3D	-2.28	122.37	127.61
29	I	101	LMG	O7-C10-O9	-2.28	118.20	123.70
23	B	502	CLA	CMD-C2D-C3D	-2.28	122.38	127.61
23	B	511	CLA	O2D-CGD-O1D	-2.28	119.39	123.84
25	A	409	BCR	C15-C16-C17	-2.27	118.81	123.47
23	B	506	CLA	O2A-CGA-CBA	2.27	119.04	111.91
23	D	403	CLA	C3B-C4B-NB	-2.27	108.41	110.52
23	D	403	CLA	O2D-CGD-O1D	-2.27	119.41	123.84
23	B	512	CLA	CMA-C3A-C4A	2.26	117.85	111.77
23	B	510	CLA	O2A-CGA-CBA	2.26	119.00	111.91
26	A	410	SQD	O3-C3-C2	-2.26	105.14	110.35
23	B	504	CLA	O2D-CGD-O1D	-2.25	119.44	123.84
23	B	506	CLA	C1C-C2C-C3C	-2.25	104.59	106.96
23	A	406	CLA	O2D-CGD-O1D	-2.25	119.44	123.84
25	B	517	BCR	C34-C9-C10	-2.25	119.77	122.92
23	C	509	CLA	CMD-C2D-C3D	-2.25	122.44	127.61
23	B	501	CLA	O2A-CGA-CBA	2.25	118.96	111.91
25	B	517	BCR	C15-C16-C17	-2.24	118.88	123.47
23	B	507	CLA	C3B-C4B-NB	-2.24	108.43	110.52
25	B	517	BCR	C30-C25-C24	2.24	122.11	115.78
25	C	514	BCR	C23-C24-C25	-2.24	120.92	127.20
23	C	503	CLA	CHA-C1A-NA	-2.24	121.28	126.40
23	C	503	CLA	CMD-C2D-C3D	-2.23	122.47	127.61
23	C	505	CLA	CMD-C2D-C3D	-2.23	122.48	127.61
23	C	512	CLA	CHA-C1A-NA	-2.23	121.28	126.40
25	A	409	BCR	C1-C6-C5	-2.23	119.47	122.61
25	B	518	BCR	C30-C25-C26	-2.23	119.48	122.61
23	B	504	CLA	C3B-C4B-NB	-2.22	108.45	110.52
23	B	508	CLA	O2D-CGD-O1D	-2.22	119.49	123.84
23	C	509	CLA	O2D-CGD-O1D	-2.22	119.50	123.84
25	B	519	BCR	C33-C5-C4	2.22	117.88	113.62
23	C	506	CLA	O2A-CGA-CBA	2.22	118.86	111.91
23	D	404	CLA	CHA-C1A-NA	-2.21	121.33	126.40
25	H	101	BCR	C8-C7-C6	-2.21	120.99	127.20
23	C	511	CLA	O2D-CGD-O1D	-2.21	119.51	123.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	B	504	CLA	O1D-CGD-CBD	-2.21	119.97	124.48
23	C	508	CLA	CHA-C1A-NA	-2.20	121.35	126.40
23	C	512	CLA	O1D-CGD-CBD	-2.20	119.98	124.48
23	B	509	CLA	CMA-C3A-C4A	2.20	117.67	111.77
25	D	405	BCR	C2-C1-C6	2.19	113.86	110.48
23	B	516	CLA	C3B-C4B-NB	-2.19	108.48	110.52
23	A	406	CLA	CHA-C1A-NA	-2.19	121.38	126.40
29	W	101	LMG	O7-C10-O9	-2.18	118.43	123.70
25	B	517	BCR	C1-C6-C7	2.18	121.94	115.78
23	C	511	CLA	CHA-C1A-NA	-2.18	121.41	126.40
23	C	507	CLA	C3D-C2D-C1D	-2.18	102.86	105.83
23	D	404	CLA	CAA-C2A-C3A	-2.18	106.82	112.78
30	D	408	LHG	C5-O7-C7	-2.18	112.44	117.79
23	D	404	CLA	CMD-C2D-C3D	-2.17	122.62	127.61
23	A	406	CLA	CMD-C2D-C3D	-2.17	122.62	127.61
23	C	508	CLA	O2A-CGA-CBA	2.17	118.71	111.91
23	C	513	CLA	CMD-C2D-C3D	-2.17	122.63	127.61
24	D	402	PHO	C1C-C2C-C3C	-2.16	106.81	108.61
23	B	503	CLA	CMD-C2D-C3D	-2.16	122.63	127.61
25	H	101	BCR	C29-C30-C25	2.16	113.81	110.48
23	B	515	CLA	CMD-C2D-C3D	-2.16	122.65	127.61
23	B	507	CLA	CMD-C2D-C3D	-2.16	122.65	127.61
31	C	515	DGD	O6D-C5D-C6D	2.16	111.02	106.67
25	H	101	BCR	C30-C25-C26	-2.15	119.58	122.61
25	B	518	BCR	C10-C11-C12	-2.15	116.50	123.22
23	A	405	CLA	CMD-C2D-C3D	-2.15	122.66	127.61
23	B	513	CLA	CMD-C2D-C3D	-2.15	122.67	127.61
30	W	102	LHG	O7-C7-O9	-2.15	118.51	123.70
23	B	506	CLA	O1D-CGD-CBD	-2.15	120.09	124.48
23	B	515	CLA	CHA-C1A-NA	-2.15	121.48	126.40
23	C	502	CLA	CAA-C2A-C3A	-2.14	106.91	112.78
23	D	401	CLA	CHA-C1A-NA	-2.14	121.50	126.40
23	C	504	CLA	CMD-C2D-C3D	-2.13	122.70	127.61
23	B	502	CLA	C6-C5-C3	-2.13	107.86	113.45
23	B	504	CLA	CHA-C1A-NA	-2.13	121.52	126.40
23	C	506	CLA	CHA-C1A-NA	-2.13	121.52	126.40
23	B	502	CLA	CHA-C1A-NA	-2.13	121.53	126.40
23	B	505	CLA	O2A-CGA-CBA	2.13	118.58	111.91
29	B	522	LMG	O7-C10-O9	-2.12	118.57	123.70
23	B	504	CLA	CMD-C2D-C3D	-2.12	122.73	127.61
23	C	502	CLA	O2A-CGA-CBA	2.12	118.56	111.91
23	B	508	CLA	O2A-CGA-CBA	2.12	118.55	111.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	B	506	CLA	CMD-C2D-C3D	-2.11	122.75	127.61
25	I	102	BCR	C37-C22-C21	-2.11	119.96	122.92
27	D	406	PL9	C7-C3-C2	-2.11	120.52	123.30
23	B	511	CLA	CMD-C2D-C3D	-2.11	122.76	127.61
23	B	516	CLA	O1D-CGD-CBD	-2.11	120.17	124.48
23	B	512	CLA	O1D-CGD-CBD	-2.11	120.17	124.48
23	C	502	CLA	CHA-C1A-NA	-2.11	121.57	126.40
23	B	501	CLA	CHA-C1A-NA	-2.11	121.57	126.40
23	B	510	CLA	CHA-C1A-NA	-2.10	121.58	126.40
23	C	513	CLA	C3D-C2D-C1D	-2.10	102.97	105.83
23	C	511	CLA	C3D-C2D-C1D	-2.09	102.98	105.83
25	B	519	BCR	C8-C7-C6	-2.09	121.34	127.20
23	B	508	CLA	CMD-C2D-C3D	-2.09	122.81	127.61
23	D	401	CLA	CMD-C2D-C3D	-2.09	122.81	127.61
23	C	509	CLA	CHA-C1A-NA	-2.09	121.62	126.40
23	C	508	CLA	C3D-C2D-C1D	-2.09	102.98	105.83
23	B	513	CLA	O2A-CGA-CBA	2.08	118.45	111.91
25	I	102	BCR	C15-C16-C17	-2.08	119.21	123.47
23	C	502	CLA	CMD-C2D-C3D	-2.08	122.83	127.61
23	B	503	CLA	CHA-C1A-NA	-2.08	121.63	126.40
23	B	511	CLA	C3D-C2D-C1D	-2.08	103.00	105.83
23	B	511	CLA	CHA-C1A-NA	-2.07	121.65	126.40
23	D	401	CLA	C3B-C4B-NB	-2.07	108.59	110.52
23	B	507	CLA	O2A-CGA-CBA	2.07	118.40	111.91
25	B	517	BCR	C35-C13-C14	-2.07	120.03	122.92
23	A	405	CLA	CHA-C1A-NA	-2.07	121.66	126.40
23	C	513	CLA	CHA-C1A-NA	-2.07	121.67	126.40
23	D	401	CLA	O2D-CGD-O1D	-2.07	119.80	123.84
23	C	504	CLA	O2A-CGA-CBA	2.06	118.39	111.91
23	A	408	CLA	CHA-C1A-NA	-2.06	121.67	126.40
23	B	510	CLA	C3D-C2D-C1D	-2.06	103.02	105.83
23	C	507	CLA	CHA-C1A-NA	-2.06	121.68	126.40
23	B	506	CLA	CAA-C2A-C3A	-2.06	107.14	112.78
23	C	506	CLA	CMD-C2D-C3D	-2.06	122.88	127.61
23	B	515	CLA	O2A-CGA-CBA	2.06	118.37	111.91
23	B	501	CLA	C11-C12-C13	-2.06	109.27	115.92
23	B	516	CLA	C3D-C2D-C1D	-2.06	103.02	105.83
23	C	503	CLA	C3D-C2D-C1D	-2.06	103.02	105.83
23	C	507	CLA	CMD-C2D-C3D	-2.05	122.89	127.61
23	C	511	CLA	CMD-C2D-C3D	-2.05	122.89	127.61
23	C	512	CLA	C3D-C2D-C1D	-2.05	103.03	105.83
23	B	513	CLA	CHA-C1A-NA	-2.05	121.70	126.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	H	101	BCR	C35-C13-C14	-2.05	120.05	122.92
23	C	508	CLA	C16-C15-C13	-2.05	109.30	115.92
23	B	516	CLA	CMD-C2D-C3D	-2.05	122.91	127.61
23	B	516	CLA	C1C-C2C-C3C	-2.05	104.81	106.96
23	C	510	CLA	CHA-C1A-NA	-2.05	121.71	126.40
23	B	506	CLA	CHA-C1A-NA	-2.04	121.72	126.40
23	C	509	CLA	C11-C12-C13	-2.04	109.31	115.92
23	B	505	CLA	O1D-CGD-CBD	-2.04	120.31	124.48
27	A	411	PL9	C7-C3-C2	-2.04	120.62	123.30
23	C	506	CLA	C3D-C2D-C1D	-2.04	103.05	105.83
23	C	505	CLA	C6-C5-C3	-2.04	108.11	113.45
23	B	510	CLA	CMD-C2D-C3D	-2.03	122.94	127.61
29	C	518	LMG	C8-O7-C10	-2.03	112.80	117.79
23	B	506	CLA	C3D-C2D-C1D	-2.03	103.06	105.83
23	B	507	CLA	C6-C7-C8	-2.03	109.37	115.92
25	D	405	BCR	C35-C13-C14	-2.02	120.09	122.92
29	D	409	LMG	O7-C10-O9	-2.02	118.81	123.70
23	A	408	CLA	CMD-C2D-C3D	-2.02	122.96	127.61
23	D	403	CLA	C3D-C2D-C1D	-2.02	103.07	105.83
23	C	502	CLA	C3D-C2D-C1D	-2.02	103.07	105.83
23	D	403	CLA	CHA-C1A-NA	-2.02	121.77	126.40
23	C	505	CLA	CMA-C3A-C4A	2.02	117.20	111.77
23	B	502	CLA	C3D-C2D-C1D	-2.01	103.08	105.83
23	A	405	CLA	C3D-C2D-C1D	-2.01	103.09	105.83
23	B	508	CLA	CHA-C1A-NA	-2.01	121.79	126.40
23	B	516	CLA	CHA-C1A-NA	-2.01	121.80	126.40
23	B	502	CLA	CAA-C2A-C3A	-2.01	107.28	112.78
23	D	401	CLA	C3D-C2D-C1D	-2.01	103.09	105.83
23	B	509	CLA	C3D-C2D-C1D	-2.01	103.09	105.83
23	D	404	CLA	C3D-C2D-C1D	-2.00	103.09	105.83
23	B	514	CLA	CHA-C1A-NA	-2.00	121.81	126.40
23	A	406	CLA	C3D-C2D-C1D	-2.00	103.10	105.83

There are no chirality outliers.

All (836) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
23	A	405	CLA	CBD-CGD-O2D-CED
23	A	406	CLA	C1A-C2A-CAA-CBA
23	B	501	CLA	CBD-CGD-O2D-CED
23	B	502	CLA	CHA-CBD-CGD-O1D
23	B	502	CLA	CHA-CBD-CGD-O2D

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Mol	Chain	Res	Type	Atoms
23	B	503	CLA	CBD-CGD-O2D-CED
23	B	503	CLA	C4-C3-C5-C6
23	B	504	CLA	C11-C10-C8-C9
23	B	505	CLA	C1A-C2A-CAA-CBA
23	B	505	CLA	C3A-C2A-CAA-CBA
23	B	506	CLA	CHA-CBD-CGD-O1D
23	B	506	CLA	CHA-CBD-CGD-O2D
23	B	507	CLA	C1A-C2A-CAA-CBA
23	B	507	CLA	C3A-C2A-CAA-CBA
23	B	507	CLA	CHA-CBD-CGD-O1D
23	B	507	CLA	CHA-CBD-CGD-O2D
23	B	507	CLA	CAD-CBD-CGD-O1D
23	B	509	CLA	C1A-C2A-CAA-CBA
23	B	509	CLA	C3A-C2A-CAA-CBA
23	B	509	CLA	CHA-CBD-CGD-O1D
23	B	509	CLA	CHA-CBD-CGD-O2D
23	B	509	CLA	CAD-CBD-CGD-O1D
23	B	509	CLA	CAD-CBD-CGD-O2D
23	B	512	CLA	C1A-C2A-CAA-CBA
23	B	512	CLA	C3A-C2A-CAA-CBA
23	B	513	CLA	CBD-CGD-O2D-CED
23	B	513	CLA	C11-C10-C8-C7
23	B	514	CLA	CAD-CBD-CGD-O1D
23	B	516	CLA	C2-C1-O2A-CGA
23	B	516	CLA	C11-C10-C8-C9
23	C	501	CLA	CAD-CBD-CGD-O1D
23	C	501	CLA	CAD-CBD-CGD-O2D
23	C	502	CLA	CHA-CBD-CGD-O1D
23	C	502	CLA	CHA-CBD-CGD-O2D
23	C	502	CLA	CAD-CBD-CGD-O1D
23	C	502	CLA	CAD-CBD-CGD-O2D
23	C	503	CLA	CBD-CGD-O2D-CED
23	C	504	CLA	CHA-CBD-CGD-O1D
23	C	504	CLA	CHA-CBD-CGD-O2D
23	C	504	CLA	CAD-CBD-CGD-O1D
23	C	505	CLA	CAD-CBD-CGD-O1D
23	C	505	CLA	CAD-CBD-CGD-O2D
23	C	506	CLA	CHA-CBD-CGD-O1D
23	C	506	CLA	CHA-CBD-CGD-O2D
23	C	506	CLA	CAD-CBD-CGD-O1D
23	C	506	CLA	CBD-CGD-O2D-CED
23	C	508	CLA	C1A-C2A-CAA-CBA

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Mol	Chain	Res	Type	Atoms
23	C	508	CLA	CHA-CBD-CGD-O1D
23	C	509	CLA	C2-C1-O2A-CGA
23	C	512	CLA	CBA-CGA-O2A-C1
23	C	512	CLA	O1A-CGA-O2A-C1
23	D	401	CLA	C1A-C2A-CAA-CBA
23	D	403	CLA	C1A-C2A-CAA-CBA
23	D	403	CLA	C3A-C2A-CAA-CBA
23	D	403	CLA	C6-C7-C8-C9
23	D	404	CLA	CBA-CGA-O2A-C1
23	D	404	CLA	CBD-CGD-O2D-CED
24	A	407	PHO	CBA-CGA-O2A-C1
24	A	407	PHO	O1A-CGA-O2A-C1
24	A	407	PHO	C1-C2-C3-C4
25	A	409	BCR	C7-C8-C9-C10
25	A	409	BCR	C7-C8-C9-C34
25	A	409	BCR	C21-C22-C23-C24
25	A	409	BCR	C37-C22-C23-C24
25	A	409	BCR	C23-C24-C25-C26
25	B	517	BCR	C1-C6-C7-C8
25	B	517	BCR	C15-C16-C17-C18
25	B	517	BCR	C21-C22-C23-C24
25	B	517	BCR	C37-C22-C23-C24
25	B	518	BCR	C11-C12-C13-C14
25	B	518	BCR	C11-C12-C13-C35
25	B	519	BCR	C7-C8-C9-C34
25	B	519	BCR	C19-C20-C21-C22
25	B	519	BCR	C23-C24-C25-C30
25	C	514	BCR	C7-C8-C9-C10
25	C	514	BCR	C7-C8-C9-C34
25	C	514	BCR	C11-C12-C13-C14
25	C	514	BCR	C11-C12-C13-C35
25	C	514	BCR	C15-C16-C17-C18
25	C	514	BCR	C17-C18-C19-C20
25	C	514	BCR	C36-C18-C19-C20
25	D	405	BCR	C23-C24-C25-C26
25	H	101	BCR	C7-C8-C9-C10
25	H	101	BCR	C7-C8-C9-C34
25	H	101	BCR	C11-C12-C13-C14
25	H	101	BCR	C11-C12-C13-C35
25	H	101	BCR	C36-C18-C19-C20
26	A	410	SQD	O5-C5-C6-S
29	B	522	LMG	O9-C10-O7-C8

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Mol	Chain	Res	Type	Atoms
29	B	522	LMG	C11-C10-O7-C8
29	I	101	LMG	O9-C10-O7-C8
29	I	101	LMG	C11-C10-O7-C8
30	B	521	LHG	C1-C2-C3-O3
30	B	521	LHG	C8-C7-O7-C5
30	B	523	LHG	C1-C2-C3-O3
30	B	523	LHG	C3-O3-P-O4
30	D	407	LHG	O1-C1-C2-C3
30	D	407	LHG	C3-O3-P-O5
30	D	407	LHG	C4-O6-P-O4
30	D	408	LHG	C4-O6-P-O4
30	D	408	LHG	C4-O6-P-O5
30	L	101	LHG	C3-O3-P-O4
30	L	101	LHG	C3-O3-P-O5
30	L	101	LHG	C4-O6-P-O4
30	L	101	LHG	C4-O6-P-O5
30	W	102	LHG	C1-C2-C3-O3
30	W	102	LHG	C4-O6-P-O3
30	W	102	LHG	C4-O6-P-O4
30	W	102	LHG	C4-O6-P-O5
30	W	102	LHG	O9-C7-O7-C5
23	B	501	CLA	O1D-CGD-O2D-CED
23	A	405	CLA	O1D-CGD-O2D-CED
23	B	502	CLA	CBD-CGD-O2D-CED
23	B	505	CLA	CBD-CGD-O2D-CED
23	B	509	CLA	CBD-CGD-O2D-CED
23	C	502	CLA	CBD-CGD-O2D-CED
23	C	511	CLA	CBD-CGD-O2D-CED
23	D	403	CLA	CBD-CGD-O2D-CED
23	D	404	CLA	O1A-CGA-O2A-C1
29	B	520	LMG	O10-C28-O8-C9
23	C	503	CLA	O1D-CGD-O2D-CED
23	D	404	CLA	O1D-CGD-O2D-CED
23	C	510	CLA	CBD-CGD-O2D-CED
23	C	511	CLA	O1A-CGA-O2A-C1
23	B	513	CLA	O1D-CGD-O2D-CED
23	B	504	CLA	C5-C6-C7-C8
23	B	510	CLA	CBD-CGD-O2D-CED
23	C	512	CLA	CBD-CGD-O2D-CED
23	B	503	CLA	O1D-CGD-O2D-CED
23	C	506	CLA	O1D-CGD-O2D-CED
29	B	520	LMG	O9-C10-O7-C8

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Mol	Chain	Res	Type	Atoms
30	B	521	LHG	O9-C7-O7-C5
23	B	505	CLA	O1D-CGD-O2D-CED
23	B	511	CLA	C3-C5-C6-C7
23	B	513	CLA	C3-C5-C6-C7
23	B	514	CLA	C3-C5-C6-C7
23	C	508	CLA	C3-C5-C6-C7
23	D	401	CLA	C3-C5-C6-C7
23	D	403	CLA	C3-C5-C6-C7
23	D	404	CLA	C3-C5-C6-C7
23	C	509	CLA	CBA-CGA-O2A-C1
29	B	520	LMG	C29-C28-O8-C9
29	B	520	LMG	C11-C10-O7-C8
30	W	102	LHG	C8-C7-O7-C5
23	C	511	CLA	O1D-CGD-O2D-CED
23	B	503	CLA	C2-C3-C5-C6
23	C	513	CLA	CBD-CGD-O2D-CED
23	C	511	CLA	C2A-CAA-CBA-CGA
29	B	520	LMG	C35-C36-C37-C38
29	C	518	LMG	C17-C18-C19-C20
29	D	409	LMG	C17-C18-C19-C20
29	D	409	LMG	C20-C21-C22-C23
30	B	521	LHG	C28-C29-C30-C31
31	B	524	DGD	C8A-C9A-CAA-CBA
31	C	516	DGD	C8A-C9A-CAA-CBA
31	C	516	DGD	CBA-CCA-CDA-CEA
31	C	517	DGD	C8A-C9A-CAA-CBA
23	A	408	CLA	C3-C5-C6-C7
23	B	508	CLA	C3-C5-C6-C7
23	B	507	CLA	CBA-CGA-O2A-C1
23	C	510	CLA	CBA-CGA-O2A-C1
23	C	511	CLA	CBA-CGA-O2A-C1
30	B	523	LHG	C11-C12-C13-C14
23	C	509	CLA	O1A-CGA-O2A-C1
23	C	510	CLA	O1A-CGA-O2A-C1
25	B	517	BCR	C13-C14-C15-C16
25	H	101	BCR	C9-C10-C11-C12
30	W	102	LHG	O2-C2-C3-O3
23	B	502	CLA	C3-C5-C6-C7
23	B	504	CLA	C3-C5-C6-C7
23	C	513	CLA	C3-C5-C6-C7
23	B	504	CLA	CBA-CGA-O2A-C1
30	B	521	LHG	C24-C23-O8-C6

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Mol	Chain	Res	Type	Atoms
30	D	408	LHG	C24-C23-O8-C6
31	C	517	DGD	C2A-C1A-O1G-C1G
23	B	507	CLA	O1A-CGA-O2A-C1
23	C	502	CLA	O1D-CGD-O2D-CED
23	D	404	CLA	C5-C6-C7-C8
29	W	101	LMG	C11-C10-O7-C8
23	D	403	CLA	O1D-CGD-O2D-CED
30	W	102	LHG	C11-C12-C13-C14
23	C	503	CLA	C3-C5-C6-C7
23	C	512	CLA	C3-C5-C6-C7
23	B	502	CLA	O1D-CGD-O2D-CED
30	B	521	LHG	O10-C23-O8-C6
23	C	512	CLA	C5-C6-C7-C8
23	B	506	CLA	C2A-CAA-CBA-CGA
23	B	504	CLA	O1A-CGA-O2A-C1
23	B	505	CLA	C3-C5-C6-C7
23	B	512	CLA	CBA-CGA-O2A-C1
23	C	503	CLA	CBA-CGA-O2A-C1
30	W	102	LHG	C26-C27-C28-C29
23	B	509	CLA	O1D-CGD-O2D-CED
23	B	512	CLA	O1A-CGA-O2A-C1
30	D	408	LHG	O10-C23-O8-C6
23	A	408	CLA	CBD-CGD-O2D-CED
30	D	408	LHG	C1-C2-C3-O3
31	C	517	DGD	O1A-C1A-O1G-C1G
23	C	507	CLA	C3-C5-C6-C7
23	A	408	CLA	CBA-CGA-O2A-C1
23	C	502	CLA	CBA-CGA-O2A-C1
23	C	508	CLA	CBA-CGA-O2A-C1
23	B	502	CLA	C5-C6-C7-C8
23	C	510	CLA	O1D-CGD-O2D-CED
25	B	518	BCR	C19-C20-C21-C22
25	D	405	BCR	C19-C20-C21-C22
25	H	101	BCR	C15-C16-C17-C18
25	H	101	BCR	C19-C20-C21-C22
23	A	408	CLA	C8-C10-C11-C12
30	B	523	LHG	O2-C2-C3-O3
30	D	408	LHG	O2-C2-C3-O3
30	L	101	LHG	C33-C34-C35-C36
23	C	502	CLA	O1A-CGA-O2A-C1
23	B	507	CLA	C11-C10-C8-C9
23	B	508	CLA	C6-C7-C8-C9

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Mol	Chain	Res	Type	Atoms
23	B	509	CLA	C6-C7-C8-C9
23	B	511	CLA	C6-C7-C8-C9
23	B	515	CLA	C11-C10-C8-C9
23	C	501	CLA	C14-C13-C15-C16
23	C	502	CLA	C6-C7-C8-C9
23	C	504	CLA	C11-C12-C13-C14
23	C	508	CLA	C6-C7-C8-C9
23	C	509	CLA	C6-C7-C8-C9
23	C	510	CLA	C11-C12-C13-C14
23	D	401	CLA	C6-C7-C8-C9
23	D	404	CLA	C11-C10-C8-C9
25	B	518	BCR	C7-C8-C9-C34
25	B	519	BCR	C36-C18-C19-C20
25	C	514	BCR	C37-C22-C23-C24
25	I	102	BCR	C7-C8-C9-C34
25	I	102	BCR	C11-C12-C13-C35
25	B	518	BCR	C7-C8-C9-C10
25	B	519	BCR	C7-C8-C9-C10
25	B	519	BCR	C17-C18-C19-C20
25	D	405	BCR	C21-C22-C23-C24
25	H	101	BCR	C17-C18-C19-C20
25	I	102	BCR	C11-C12-C13-C14
23	C	508	CLA	O1A-CGA-O2A-C1
23	B	516	CLA	C3-C5-C6-C7
31	C	515	DGD	C2A-C1A-O1G-C1G
23	C	510	CLA	C13-C15-C16-C17
23	C	508	CLA	C8-C10-C11-C12
24	A	407	PHO	C1-C2-C3-C5
30	B	523	LHG	C23-C24-C25-C26
30	D	408	LHG	C7-C8-C9-C10
30	L	101	LHG	C23-C24-C25-C26
23	B	507	CLA	C13-C15-C16-C17
23	B	505	CLA	CBA-CGA-O2A-C1
23	B	511	CLA	CBA-CGA-O2A-C1
23	B	510	CLA	O1D-CGD-O2D-CED
29	W	101	LMG	O9-C10-O7-C8
23	B	505	CLA	C2-C1-O2A-CGA
23	C	512	CLA	O1D-CGD-O2D-CED
23	A	408	CLA	C6-C7-C8-C10
23	B	502	CLA	C6-C7-C8-C10
23	B	507	CLA	C12-C13-C15-C16
23	B	512	CLA	C6-C7-C8-C10

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Mol	Chain	Res	Type	Atoms
23	C	501	CLA	C11-C10-C8-C7
23	C	508	CLA	C11-C10-C8-C7
25	B	518	BCR	C9-C10-C11-C12
25	C	514	BCR	C9-C10-C11-C12
25	C	514	BCR	C13-C14-C15-C16
25	C	514	BCR	C19-C20-C21-C22
23	B	501	CLA	C2A-CAA-CBA-CGA
23	B	512	CLA	C8-C10-C11-C12
30	W	102	LHG	C29-C30-C31-C32
23	C	503	CLA	O1A-CGA-O2A-C1
23	A	406	CLA	CBD-CGD-O2D-CED
30	B	521	LHG	O2-C2-C3-O3
30	D	407	LHG	O2-C2-C3-O3
30	L	101	LHG	O2-C2-C3-O3
23	B	511	CLA	C10-C11-C12-C13
23	B	515	CLA	C8-C10-C11-C12
29	W	101	LMG	C34-C35-C36-C37
23	A	408	CLA	O1A-CGA-O2A-C1
23	B	505	CLA	O1A-CGA-O2A-C1
31	C	515	DGD	O1A-C1A-O1G-C1G
30	D	407	LHG	C23-C24-C25-C26
31	C	517	DGD	CBB-CCB-CDB-CEB
23	B	504	CLA	C8-C10-C11-C12
23	B	507	CLA	C10-C11-C12-C13
30	B	521	LHG	C4-O6-P-O3
30	D	408	LHG	C4-O6-P-O3
30	L	101	LHG	C3-O3-P-O6
30	L	101	LHG	C4-O6-P-O3
30	D	408	LHG	C23-C24-C25-C26
23	B	515	CLA	C3-C5-C6-C7
23	C	505	CLA	C5-C6-C7-C8
23	C	506	CLA	C5-C6-C7-C8
29	B	520	LMG	C28-C29-C30-C31
30	D	407	LHG	C1-C2-C3-O3
30	L	101	LHG	C1-C2-C3-O3
30	D	407	LHG	C24-C23-O8-C6
31	C	516	DGD	C2A-C1A-O1G-C1G
25	I	102	BCR	C19-C20-C21-C22
30	B	523	LHG	C7-C8-C9-C10
30	D	408	LHG	C28-C29-C30-C31
23	C	508	CLA	CBD-CGD-O2D-CED
30	W	102	LHG	C25-C26-C27-C28

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Mol	Chain	Res	Type	Atoms
30	D	407	LHG	C28-C29-C30-C31
23	C	506	CLA	C8-C10-C11-C12
23	C	510	CLA	C8-C10-C11-C12
30	D	407	LHG	C13-C14-C15-C16
30	D	408	LHG	C13-C14-C15-C16
29	B	522	LMG	C2-C1-O1-C7
31	C	516	DGD	C2E-C1E-O5D-C6D
30	L	101	LHG	C28-C29-C30-C31
23	B	511	CLA	O1A-CGA-O2A-C1
23	C	513	CLA	O1D-CGD-O2D-CED
23	B	501	CLA	C11-C10-C8-C9
23	B	504	CLA	C6-C7-C8-C9
23	B	513	CLA	C11-C10-C8-C9
23	C	504	CLA	C6-C7-C8-C9
23	C	507	CLA	C6-C7-C8-C9
30	B	521	LHG	C7-C8-C9-C10
30	W	102	LHG	C23-C24-C25-C26
30	B	523	LHG	C13-C14-C15-C16
30	D	407	LHG	C11-C12-C13-C14
25	B	517	BCR	C36-C18-C19-C20
25	B	518	BCR	C36-C18-C19-C20
25	D	405	BCR	C36-C18-C19-C20
25	D	405	BCR	C37-C22-C23-C24
25	I	102	BCR	C36-C18-C19-C20
30	B	521	LHG	O1-C1-C2-C3
30	B	523	LHG	O1-C1-C2-C3
30	W	102	LHG	O1-C1-C2-C3
25	B	517	BCR	C17-C18-C19-C20
25	B	518	BCR	C17-C18-C19-C20
25	D	405	BCR	C17-C18-C19-C20
25	I	102	BCR	C7-C8-C9-C10
25	I	102	BCR	C17-C18-C19-C20
23	A	405	CLA	C3-C5-C6-C7
30	D	407	LHG	C7-C8-C9-C10
30	W	102	LHG	C7-C8-C9-C10
29	B	520	LMG	C32-C33-C34-C35
23	C	507	CLA	C4B-C3B-CAB-CBB
29	B	522	LMG	O6-C1-O1-C7
30	W	102	LHG	C13-C14-C15-C16
30	D	407	LHG	C25-C26-C27-C28
23	B	507	CLA	C5-C6-C7-C8
30	D	407	LHG	O10-C23-O8-C6

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Mol	Chain	Res	Type	Atoms
30	L	101	LHG	C11-C10-C9-C8
30	L	101	LHG	C11-C12-C13-C14
30	W	102	LHG	C28-C29-C30-C31
23	A	406	CLA	C3A-C2A-CAA-CBA
23	C	509	CLA	C3A-C2A-CAA-CBA
23	C	512	CLA	C3A-C2A-CAA-CBA
23	D	401	CLA	C3A-C2A-CAA-CBA
30	D	407	LHG	C30-C31-C32-C33
23	B	506	CLA	C4-C3-C5-C6
30	B	521	LHG	O1-C1-C2-O2
30	B	523	LHG	O1-C1-C2-O2
30	W	102	LHG	O1-C1-C2-O2
30	W	102	LHG	C31-C32-C33-C34
23	C	513	CLA	C6-C7-C8-C9
30	B	523	LHG	C26-C27-C28-C29
23	C	507	CLA	C2B-C3B-CAB-CBB
31	C	516	DGD	O1A-C1A-O1G-C1G
30	D	407	LHG	C9-C10-C11-C12
23	B	512	CLA	C2-C1-O2A-CGA
23	B	513	CLA	C2-C1-O2A-CGA
30	B	523	LHG	C30-C31-C32-C33
30	L	101	LHG	C13-C14-C15-C16
25	A	409	BCR	C1-C6-C7-C8
25	A	409	BCR	C5-C6-C7-C8
25	A	409	BCR	C23-C24-C25-C30
25	B	517	BCR	C5-C6-C7-C8
25	B	517	BCR	C23-C24-C25-C26
25	B	518	BCR	C1-C6-C7-C8
25	B	518	BCR	C5-C6-C7-C8
25	B	519	BCR	C5-C6-C7-C8
25	C	514	BCR	C1-C6-C7-C8
25	C	514	BCR	C5-C6-C7-C8
25	D	405	BCR	C5-C6-C7-C8
23	B	509	CLA	CBA-CGA-O2A-C1
23	B	505	CLA	C8-C10-C11-C12
29	C	518	LMG	C11-C10-O7-C8
30	B	521	LHG	C35-C36-C37-C38
23	A	405	CLA	C11-C10-C8-C7
23	B	504	CLA	C11-C10-C8-C7
23	B	506	CLA	C2-C3-C5-C6
23	B	506	CLA	C6-C7-C8-C10
23	B	507	CLA	C11-C10-C8-C7

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Mol	Chain	Res	Type	Atoms
23	B	516	CLA	C6-C7-C8-C10
23	C	501	CLA	C12-C13-C15-C16
23	C	504	CLA	C11-C12-C13-C15
30	D	408	LHG	C11-C10-C9-C8
23	C	509	CLA	C8-C10-C11-C12
25	A	409	BCR	C9-C10-C11-C12
25	B	519	BCR	C13-C14-C15-C16
29	I	101	LMG	C28-C29-C30-C31
30	B	523	LHG	C24-C23-O8-C6
30	L	101	LHG	C34-C35-C36-C37
31	C	516	DGD	O6E-C1E-O5D-C6D
29	D	409	LMG	C11-C10-O7-C8
30	D	408	LHG	O6-C4-C5-O7
32	E	101	HEM	C4C-C3C-CAC-CBC
23	B	508	CLA	CBD-CGD-O2D-CED
30	B	523	LHG	C11-C10-C9-C8
29	D	409	LMG	O9-C10-O7-C8
23	B	506	CLA	C3-C5-C6-C7
30	D	408	LHG	O7-C5-C6-O8
23	C	504	CLA	C8-C10-C11-C12
30	B	521	LHG	C31-C32-C33-C34
23	B	507	CLA	C6-C7-C8-C9
23	B	507	CLA	C14-C13-C15-C16
23	B	510	CLA	C14-C13-C15-C16
23	B	515	CLA	C14-C13-C15-C16
23	B	516	CLA	C6-C7-C8-C9
23	C	512	CLA	C6-C7-C8-C9
30	W	102	LHG	C10-C11-C12-C13
23	C	510	CLA	C2A-CAA-CBA-CGA
29	D	409	LMG	O6-C5-C6-O5
23	C	507	CLA	CBA-CGA-O2A-C1
30	D	408	LHG	C11-C12-C13-C14
23	B	509	CLA	O1A-CGA-O2A-C1
23	A	408	CLA	C1A-C2A-CAA-CBA
23	B	503	CLA	C1A-C2A-CAA-CBA
23	C	501	CLA	C1A-C2A-CAA-CBA
23	C	502	CLA	C1A-C2A-CAA-CBA
23	C	503	CLA	C1A-C2A-CAA-CBA
23	C	506	CLA	C1A-C2A-CAA-CBA
23	C	509	CLA	C1A-C2A-CAA-CBA
23	C	512	CLA	C1A-C2A-CAA-CBA
23	C	513	CLA	C1A-C2A-CAA-CBA

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Mol	Chain	Res	Type	Atoms
23	D	404	CLA	C1A-C2A-CAA-CBA
29	C	518	LMG	O9-C10-O7-C8
30	W	102	LHG	C30-C31-C32-C33
30	B	523	LHG	C3-O3-P-O6
30	B	523	LHG	O10-C23-O8-C6
23	C	503	CLA	C5-C6-C7-C8
23	A	405	CLA	CBA-CGA-O2A-C1
30	D	407	LHG	O6-C4-C5-C6
30	L	101	LHG	O6-C4-C5-C6
23	B	514	CLA	C5-C6-C7-C8
23	B	513	CLA	C8-C10-C11-C12
31	B	524	DGD	O6E-C5E-C6E-O5E
30	D	407	LHG	C10-C11-C12-C13
23	C	507	CLA	O1A-CGA-O2A-C1
29	D	409	LMG	C12-C13-C14-C15
26	A	410	SQD	O6-C44-C45-C46
30	B	521	LHG	C4-C5-C6-O8
30	W	102	LHG	C4-C5-C6-O8
31	C	517	DGD	O1G-C1G-C2G-C3G
26	A	410	SQD	C45-C44-O6-C1
31	C	516	DGD	C2G-C3G-O3G-C1D
31	C	516	DGD	C5D-C6D-O5D-C1E
30	B	521	LHG	C11-C12-C13-C14
31	C	515	DGD	C6B-C7B-C8B-C9B
23	C	507	CLA	C8-C10-C11-C12
29	B	520	LMG	C11-C12-C13-C14
30	B	523	LHG	C28-C29-C30-C31
30	W	102	LHG	C19-C20-C21-C22
23	B	501	CLA	CAA-CBA-CGA-O2A
26	A	410	SQD	C13-C14-C15-C16
30	D	407	LHG	O1-C1-C2-O2
31	C	515	DGD	O6E-C5E-C6E-O5E
30	D	407	LHG	C11-C10-C9-C8
23	B	506	CLA	C16-C17-C18-C20
23	C	513	CLA	CBA-CGA-O2A-C1
31	B	524	DGD	C2A-C1A-O1G-C1G
23	A	408	CLA	O1D-CGD-O2D-CED
23	B	503	CLA	C5-C6-C7-C8
23	C	505	CLA	C8-C10-C11-C12
23	C	506	CLA	C15-C16-C17-C18
23	A	408	CLA	C2-C1-O2A-CGA
30	W	102	LHG	C33-C34-C35-C36

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Mol	Chain	Res	Type	Atoms
30	B	521	LHG	C33-C34-C35-C36
30	D	407	LHG	C26-C27-C28-C29
29	B	520	LMG	O1-C7-C8-O7
30	D	407	LHG	C31-C32-C33-C34
23	D	401	CLA	C15-C16-C17-C18
23	B	503	CLA	C6-C7-C8-C10
23	B	504	CLA	C11-C12-C13-C15
23	B	506	CLA	C11-C10-C8-C7
23	B	507	CLA	C6-C7-C8-C10
23	B	510	CLA	C11-C10-C8-C7
23	B	515	CLA	C11-C10-C8-C7
23	B	515	CLA	C12-C13-C15-C16
23	C	508	CLA	C6-C7-C8-C10
23	C	508	CLA	C11-C12-C13-C15
23	C	510	CLA	C11-C12-C13-C15
23	C	512	CLA	C6-C7-C8-C10
23	D	403	CLA	C6-C7-C8-C10
23	D	404	CLA	C11-C10-C8-C7
30	L	101	LHG	C31-C32-C33-C34
23	B	502	CLA	C6-C7-C8-C9
23	B	503	CLA	C6-C7-C8-C9
23	B	506	CLA	C6-C7-C8-C9
23	B	512	CLA	C6-C7-C8-C9
23	C	503	CLA	C11-C10-C8-C9
23	C	512	CLA	C11-C10-C8-C9
30	D	408	LHG	C26-C27-C28-C29
30	L	101	LHG	C16-C17-C18-C19
23	B	508	CLA	C8-C10-C11-C12
30	B	523	LHG	C34-C35-C36-C37
25	B	517	BCR	C7-C8-C9-C34
25	C	514	BCR	C21-C22-C23-C24
26	A	410	SQD	C8-C7-O47-C45
23	B	516	CLA	CBA-CGA-O2A-C1
23	C	504	CLA	CBA-CGA-O2A-C1
23	B	506	CLA	C13-C15-C16-C17
23	A	406	CLA	C4B-C3B-CAB-CBB
30	D	408	LHG	O6-C4-C5-C6
30	B	521	LHG	C30-C31-C32-C33
30	L	101	LHG	C7-C8-C9-C10
30	B	523	LHG	C29-C30-C31-C32
23	A	406	CLA	O1D-CGD-O2D-CED
23	C	506	CLA	CBA-CGA-O2A-C1

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Mol	Chain	Res	Type	Atoms
30	D	408	LHG	C30-C31-C32-C33
23	C	504	CLA	C3A-C2A-CAA-CBA
31	B	524	DGD	O1A-C1A-O1G-C1G
30	L	101	LHG	C35-C36-C37-C38
30	D	408	LHG	C4-C5-C6-O8
23	A	405	CLA	O1A-CGA-O2A-C1
23	C	513	CLA	O1A-CGA-O2A-C1
23	B	505	CLA	C4-C3-C5-C6
30	L	101	LHG	O1-C1-C2-O2
23	B	510	CLA	C5-C6-C7-C8
30	B	523	LHG	O6-C4-C5-O7
23	B	508	CLA	O1D-CGD-O2D-CED
23	B	506	CLA	C16-C17-C18-C19
23	B	501	CLA	C8-C10-C11-C12
30	D	408	LHG	C24-C25-C26-C27
30	W	102	LHG	C34-C35-C36-C37
29	B	522	LMG	O7-C8-C9-O8
30	W	102	LHG	O7-C5-C6-O8
30	W	102	LHG	C11-C10-C9-C8
23	C	506	CLA	C2-C1-O2A-CGA
23	C	510	CLA	C2-C1-O2A-CGA
23	D	403	CLA	C2-C1-O2A-CGA
23	A	408	CLA	C6-C7-C8-C9
23	B	502	CLA	C11-C10-C8-C9
23	B	505	CLA	C6-C7-C8-C9
23	B	515	CLA	C11-C12-C13-C14
23	C	501	CLA	C11-C10-C8-C9
23	C	509	CLA	C11-C10-C8-C9
23	C	508	CLA	O1D-CGD-O2D-CED
23	B	511	CLA	C8-C10-C11-C12
23	B	516	CLA	O1A-CGA-O2A-C1
23	C	513	CLA	C6-C7-C8-C10
23	B	512	CLA	C3-C5-C6-C7
25	B	517	BCR	C23-C24-C25-C30
25	B	519	BCR	C1-C6-C7-C8
25	D	405	BCR	C23-C24-C25-C30
25	I	102	BCR	C1-C6-C7-C8
25	I	102	BCR	C5-C6-C7-C8
23	B	506	CLA	C8-C10-C11-C12
30	D	408	LHG	C31-C32-C33-C34
30	B	523	LHG	O6-C4-C5-C6
30	B	523	LHG	C25-C26-C27-C28

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Mol	Chain	Res	Type	Atoms
23	B	502	CLA	C11-C10-C8-C7
23	B	504	CLA	C6-C7-C8-C10
23	B	505	CLA	C6-C7-C8-C10
23	B	505	CLA	C11-C12-C13-C15
23	B	508	CLA	C6-C7-C8-C10
23	B	508	CLA	C11-C12-C13-C15
23	B	513	CLA	C6-C7-C8-C10
23	B	515	CLA	C6-C7-C8-C10
23	B	515	CLA	C11-C12-C13-C15
23	B	516	CLA	C11-C10-C8-C7
23	C	509	CLA	C6-C7-C8-C10
23	C	509	CLA	C11-C10-C8-C7
25	A	409	BCR	C19-C20-C21-C22
25	B	517	BCR	C19-C20-C21-C22
25	I	102	BCR	C15-C16-C17-C18
26	A	410	SQD	O49-C7-O47-C45
26	A	410	SQD	C14-C15-C16-C17
23	C	512	CLA	C8-C10-C11-C12
23	B	502	CLA	CBA-CGA-O2A-C1
23	C	507	CLA	C5-C6-C7-C8
23	B	507	CLA	CAD-CBD-CGD-O2D
23	B	510	CLA	CAD-CBD-CGD-O2D
23	B	514	CLA	CAD-CBD-CGD-O2D
23	C	506	CLA	CAD-CBD-CGD-O2D
30	B	521	LHG	C34-C35-C36-C37
30	L	101	LHG	C26-C27-C28-C29
29	B	522	LMG	C7-C8-C9-O8
23	D	401	CLA	C5-C6-C7-C8
23	B	510	CLA	C16-C17-C18-C20
31	C	517	DGD	C9A-CAA-CBA-CCA
23	B	516	CLA	CHA-CBD-CGD-O1D
23	B	516	CLA	CHA-CBD-CGD-O2D
23	C	507	CLA	CHA-CBD-CGD-O1D
23	C	507	CLA	CHA-CBD-CGD-O2D
23	C	508	CLA	CHA-CBD-CGD-O2D
31	C	516	DGD	C2A-C3A-C4A-C5A
23	C	504	CLA	O1A-CGA-O2A-C1
23	C	506	CLA	O1A-CGA-O2A-C1
30	D	407	LHG	O7-C5-C6-O8
31	C	517	DGD	O1G-C1G-C2G-O2G
31	C	517	DGD	O6D-C5D-C6D-O5D
23	B	515	CLA	C6-C7-C8-C9

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Mol	Chain	Res	Type	Atoms
23	C	501	CLA	C6-C7-C8-C9
23	B	509	CLA	C5-C6-C7-C8
23	C	506	CLA	C10-C11-C12-C13
25	I	102	BCR	C37-C22-C23-C24
25	B	517	BCR	C7-C8-C9-C10
25	I	102	BCR	C21-C22-C23-C24
25	D	405	BCR	C9-C10-C11-C12
30	D	407	LHG	C4-O6-P-O3
29	D	409	LMG	C14-C15-C16-C17
30	B	523	LHG	C9-C10-C11-C12
23	B	502	CLA	O1A-CGA-O2A-C1
30	B	521	LHG	C4-O6-P-O4
30	B	521	LHG	C4-O6-P-O5
30	B	523	LHG	C3-O3-P-O5
31	C	516	DGD	C6A-C7A-C8A-C9A
29	B	520	LMG	O6-C1-O1-C7
30	B	521	LHG	O6-C4-C5-C6
30	W	102	LHG	O6-C4-C5-C6
23	B	503	CLA	C16-C17-C18-C19
23	B	505	CLA	CAD-CBD-CGD-O1D
23	C	503	CLA	CAD-CBD-CGD-O1D
23	B	513	CLA	CBA-CGA-O2A-C1
23	B	509	CLA	C6-C7-C8-C10
23	B	511	CLA	C6-C7-C8-C10
23	B	511	CLA	C11-C10-C8-C7
23	C	501	CLA	C6-C7-C8-C10
23	C	507	CLA	C11-C10-C8-C7
23	C	509	CLA	C11-C12-C13-C15
23	D	401	CLA	C6-C7-C8-C10
23	D	401	CLA	C11-C10-C8-C7
23	D	403	CLA	C11-C10-C8-C7
23	D	404	CLA	C11-C12-C13-C15
30	B	521	LHG	O6-C4-C5-O7
30	D	407	LHG	O6-C4-C5-O7
30	W	102	LHG	O6-C4-C5-O7
30	W	102	LHG	C35-C36-C37-C38
30	D	407	LHG	C34-C35-C36-C37
26	A	410	SQD	O6-C44-C45-O47
31	C	517	DGD	C2A-C3A-C4A-C5A
23	B	511	CLA	C13-C15-C16-C17
23	B	513	CLA	O1A-CGA-O2A-C1
27	D	406	PL9	C45-C44-C46-C47

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Mol	Chain	Res	Type	Atoms
23	B	505	CLA	C11-C12-C13-C14
23	B	508	CLA	C11-C12-C13-C14
23	B	513	CLA	C6-C7-C8-C9
23	C	508	CLA	C11-C10-C8-C9
23	C	508	CLA	C11-C12-C13-C14
30	B	523	LHG	C35-C36-C37-C38
23	B	507	CLA	C15-C16-C17-C18
29	I	101	LMG	C34-C35-C36-C37
23	A	406	CLA	C2B-C3B-CAB-CBB
23	D	404	CLA	C2B-C3B-CAB-CBB
31	B	524	DGD	O2G-C1B-C2B-C3B
30	B	521	LHG	C11-C10-C9-C8
23	A	405	CLA	C2A-CAA-CBA-CGA
23	B	502	CLA	C2-C1-O2A-CGA
23	B	507	CLA	C2-C1-O2A-CGA
29	D	409	LMG	C28-C29-C30-C31
30	L	101	LHG	C25-C26-C27-C28
26	A	410	SQD	O47-C7-C8-C9
30	W	102	LHG	C2-C3-O3-P
30	L	101	LHG	O6-C4-C5-O7
23	B	501	CLA	C3-C5-C6-C7
30	B	521	LHG	O7-C5-C6-O8
30	B	521	LHG	C3-O3-P-O6
30	B	523	LHG	C4-O6-P-O3
30	D	407	LHG	C3-O3-P-O6
29	B	520	LMG	O1-C7-C8-C9
30	B	521	LHG	C9-C10-C11-C12
23	C	503	CLA	C11-C10-C8-C7
23	C	505	CLA	C11-C10-C8-C7
23	D	401	CLA	C11-C12-C13-C15
23	D	403	CLA	CAA-CBA-CGA-O2A
23	B	506	CLA	C11-C10-C8-C9
23	C	507	CLA	C11-C10-C8-C9
25	B	518	BCR	C15-C16-C17-C18
25	D	405	BCR	C13-C14-C15-C16
25	A	409	BCR	C11-C12-C13-C35
27	D	406	PL9	C16-C17-C18-C19
23	B	503	CLA	C16-C17-C18-C20
30	W	102	LHG	C24-C23-O8-C6
30	W	102	LHG	C24-C25-C26-C27
30	B	523	LHG	C33-C34-C35-C36
23	D	404	CLA	C4B-C3B-CAB-CBB

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Mol	Chain	Res	Type	Atoms
23	A	406	CLA	C2A-CAA-CBA-CGA
23	D	401	CLA	C2A-CAA-CBA-CGA
25	D	405	BCR	C15-C16-C17-C18
25	I	102	BCR	C9-C10-C11-C12
25	I	102	BCR	C13-C14-C15-C16
23	A	408	CLA	C11-C12-C13-C15
23	B	501	CLA	CAA-CBA-CGA-O1A
23	B	501	CLA	C5-C6-C7-C8
23	D	401	CLA	C2-C1-O2A-CGA
29	I	101	LMG	C30-C31-C32-C33
23	B	505	CLA	C2A-CAA-CBA-CGA
23	B	508	CLA	C3A-C2A-CAA-CBA
30	W	102	LHG	O10-C23-O8-C6
23	B	501	CLA	C14-C13-C15-C16
23	D	404	CLA	C11-C12-C13-C14
23	B	509	CLA	C13-C15-C16-C17
30	D	407	LHG	C4-C5-C6-O8
23	C	508	CLA	C2A-CAA-CBA-CGA
23	B	502	CLA	O2A-C1-C2-C3
31	C	517	DGD	CAB-CBB-CCB-CDB
23	A	405	CLA	C6-C7-C8-C10
23	B	501	CLA	C11-C10-C8-C7
23	B	510	CLA	C12-C13-C15-C16
23	B	512	CLA	C11-C10-C8-C7
23	C	512	CLA	C11-C10-C8-C7
30	D	407	LHG	C35-C36-C37-C38
29	B	520	LMG	O7-C10-C11-C12
23	B	502	CLA	C2A-CAA-CBA-CGA
23	C	506	CLA	C2A-CAA-CBA-CGA
23	B	502	CLA	C8-C10-C11-C12
23	B	503	CLA	C13-C15-C16-C17
23	B	507	CLA	C8-C10-C11-C12
23	C	502	CLA	C3-C5-C6-C7
31	B	524	DGD	CCB-CDB-CEB-CFB
23	B	504	CLA	C10-C11-C12-C13
30	L	101	LHG	O7-C5-C6-O8
23	C	512	CLA	C2A-CAA-CBA-CGA
31	C	515	DGD	O6D-C5D-C6D-O5D
27	D	406	PL9	C43-C44-C46-C47
30	B	521	LHG	C29-C30-C31-C32
23	C	505	CLA	C13-C15-C16-C17
25	B	518	BCR	C23-C24-C25-C30

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Mol	Chain	Res	Type	Atoms
23	C	505	CLA	C10-C11-C12-C13
30	L	101	LHG	O1-C1-C2-C3
25	H	101	BCR	C13-C14-C15-C16
29	B	522	LMG	C8-C7-O1-C1
31	C	515	DGD	C5D-C6D-O5D-C1E
23	D	403	CLA	C15-C16-C17-C18
32	E	101	HEM	CAD-CBD-CGD-O2D
23	B	515	CLA	C4B-C3B-CAB-CBB
23	C	505	CLA	C4B-C3B-CAB-CBB
23	C	512	CLA	C4B-C3B-CAB-CBB
23	C	506	CLA	C16-C17-C18-C19
23	B	505	CLA	C2-C3-C5-C6
30	D	407	LHG	C12-C13-C14-C15
23	B	509	CLA	C2-C3-C5-C6
23	A	405	CLA	C6-C7-C8-C9
23	B	512	CLA	C11-C10-C8-C9
23	C	509	CLA	C11-C12-C13-C14
23	D	401	CLA	C11-C10-C8-C9
23	D	403	CLA	C11-C10-C8-C9
30	B	521	LHG	C24-C25-C26-C27
23	C	505	CLA	C3A-C2A-CAA-CBA
23	B	511	CLA	C5-C6-C7-C8
23	C	504	CLA	C3-C5-C6-C7
25	A	409	BCR	C11-C12-C13-C14
23	B	507	CLA	CAA-CBA-CGA-O2A
23	C	501	CLA	C2A-CAA-CBA-CGA
30	B	523	LHG	C16-C17-C18-C19
32	E	101	HEM	CAD-CBD-CGD-O1D
23	A	406	CLA	CHA-CBD-CGD-O1D
23	A	406	CLA	CHA-CBD-CGD-O2D
23	B	501	CLA	CHA-CBD-CGD-O1D
23	B	501	CLA	CHA-CBD-CGD-O2D
23	B	505	CLA	CHA-CBD-CGD-O1D
23	B	508	CLA	CHA-CBD-CGD-O2D
23	B	512	CLA	CHA-CBD-CGD-O1D
23	C	503	CLA	CHA-CBD-CGD-O1D
23	C	509	CLA	CHA-CBD-CGD-O1D
23	C	510	CLA	CHA-CBD-CGD-O1D
23	C	510	CLA	CHA-CBD-CGD-O2D
23	C	512	CLA	CHA-CBD-CGD-O1D
23	C	512	CLA	CHA-CBD-CGD-O2D
23	D	401	CLA	CHA-CBD-CGD-O1D

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Mol	Chain	Res	Type	Atoms
23	D	401	CLA	CHA-CBD-CGD-O2D
23	D	403	CLA	CHA-CBD-CGD-O2D
23	B	506	CLA	C5-C6-C7-C8
30	W	102	LHG	C14-C15-C16-C17
29	W	101	LMG	O7-C8-C9-O8
29	I	101	LMG	O7-C10-C11-C12
23	C	502	CLA	C6-C7-C8-C10
23	C	505	CLA	C2-C3-C5-C6
30	W	102	LHG	C5-C4-O6-P
31	C	517	DGD	CAA-CBA-CCA-CDA
23	B	509	CLA	C11-C10-C8-C9
23	D	404	CLA	C6-C7-C8-C9
31	C	515	DGD	C2G-C1G-O1G-C1A
23	B	515	CLA	C2B-C3B-CAB-CBB
26	A	410	SQD	C17-C18-C19-C20
23	C	504	CLA	C2A-CAA-CBA-CGA
30	B	523	LHG	C31-C32-C33-C34
23	B	508	CLA	C1A-C2A-CAA-CBA
23	C	504	CLA	C1A-C2A-CAA-CBA
23	C	505	CLA	C1A-C2A-CAA-CBA
23	C	510	CLA	C1A-C2A-CAA-CBA
23	C	512	CLA	C2-C1-O2A-CGA
30	D	407	LHG	C29-C30-C31-C32
29	W	101	LMG	C7-C8-C9-O8
23	C	512	CLA	CAA-CBA-CGA-O2A
30	D	408	LHG	O8-C23-C24-C25
30	L	101	LHG	C2-C3-O3-P
23	C	501	CLA	C4B-C3B-CAB-CBB
30	B	521	LHG	C3-O3-P-O5
30	D	407	LHG	C4-O6-P-O5
23	B	514	CLA	CAA-CBA-CGA-O2A
23	B	505	CLA	CAA-CBA-CGA-O2A
23	C	501	CLA	C16-C17-C18-C20
23	C	506	CLA	C16-C17-C18-C20
23	B	507	CLA	CAA-CBA-CGA-O1A
23	D	404	CLA	C8-C10-C11-C12
23	B	504	CLA	CAD-CBD-CGD-O1D
23	B	508	CLA	CAD-CBD-CGD-O1D
23	D	403	CLA	CAD-CBD-CGD-O1D
23	B	505	CLA	C11-C10-C8-C9
23	B	507	CLA	C11-C12-C13-C14
23	C	510	CLA	C6-C7-C8-C9

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Mol	Chain	Res	Type	Atoms
31	B	524	DGD	CAB-CBB-CCB-CDB
23	B	508	CLA	CAA-CBA-CGA-O2A
23	C	505	CLA	CAA-CBA-CGA-O2A
30	B	523	LHG	O8-C23-C24-C25
29	B	520	LMG	C15-C16-C17-C18
31	C	516	DGD	C2G-C1G-O1G-C1A
29	D	409	LMG	O7-C10-C11-C12
23	C	512	CLA	CAA-CBA-CGA-O1A
29	I	101	LMG	O9-C10-C11-C12
23	B	509	CLA	C4-C3-C5-C6
23	B	509	CLA	C11-C10-C8-C7
23	C	503	CLA	C11-C12-C13-C15
23	C	508	CLA	C3A-C2A-CAA-CBA
23	D	404	CLA	C6-C7-C8-C10
23	A	406	CLA	CAA-CBA-CGA-O2A
23	D	401	CLA	CAA-CBA-CGA-O2A
31	C	515	DGD	O1G-C1A-C2A-C3A
30	D	408	LHG	O10-C23-C24-C25
25	A	409	BCR	C13-C14-C15-C16
30	D	407	LHG	O8-C23-C24-C25
23	A	406	CLA	CAA-CBA-CGA-O1A
23	B	514	CLA	CAA-CBA-CGA-O1A
29	W	101	LMG	O7-C10-C11-C12
30	L	101	LHG	O7-C7-C8-C9
23	B	505	CLA	CAA-CBA-CGA-O1A
23	B	508	CLA	CAA-CBA-CGA-O1A
30	B	523	LHG	O10-C23-C24-C25
23	B	507	CLA	C2A-CAA-CBA-CGA
29	D	409	LMG	C30-C31-C32-C33
30	D	407	LHG	C27-C28-C29-C30
23	C	505	CLA	C4-C3-C5-C6
31	B	524	DGD	C3B-C4B-C5B-C6B
23	C	504	CLA	CAA-CBA-CGA-O2A

There are no ring outliers.

65 monomers are involved in 264 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
29	B	520	LMG	5	0
23	B	514	CLA	1	0
23	B	506	CLA	7	0
25	A	409	BCR	5	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
29	B	522	LMG	5	0
23	A	406	CLA	1	0
23	B	516	CLA	8	0
23	C	505	CLA	8	0
23	C	507	CLA	9	0
25	B	519	BCR	12	0
32	E	101	HEM	4	0
23	B	501	CLA	7	0
23	C	506	CLA	6	0
25	B	517	BCR	5	0
25	D	405	BCR	6	0
30	B	521	LHG	8	0
23	D	401	CLA	4	0
30	B	523	LHG	3	0
30	D	408	LHG	3	0
23	B	511	CLA	7	0
23	B	504	CLA	6	0
23	B	503	CLA	7	0
23	C	501	CLA	7	0
30	D	407	LHG	2	0
31	C	516	DGD	10	0
23	B	507	CLA	2	0
23	C	511	CLA	6	0
25	B	518	BCR	5	0
31	B	524	DGD	6	0
23	B	515	CLA	1	0
23	B	508	CLA	4	0
27	D	406	PL9	1	0
29	D	409	LMG	8	0
23	C	510	CLA	3	0
23	B	509	CLA	4	0
23	C	508	CLA	8	0
25	C	514	BCR	5	0
29	I	101	LMG	2	0
30	L	101	LHG	2	0
23	B	512	CLA	5	0
23	A	405	CLA	2	0
23	D	404	CLA	7	0
31	C	515	DGD	6	0
27	A	411	PL9	1	0
23	C	503	CLA	6	0
23	D	403	CLA	6	0

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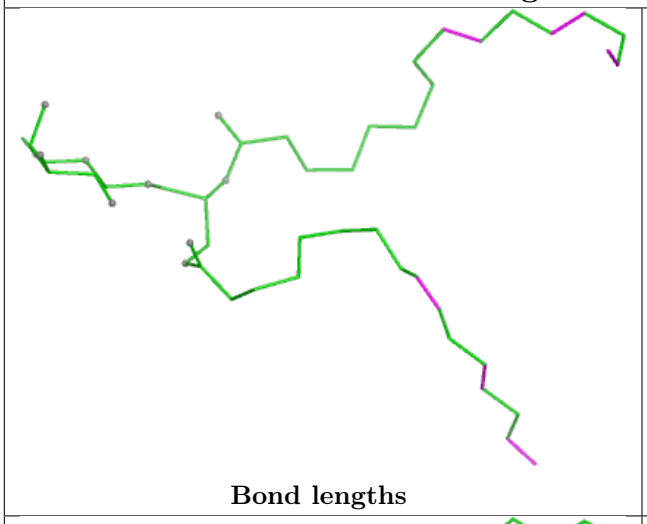
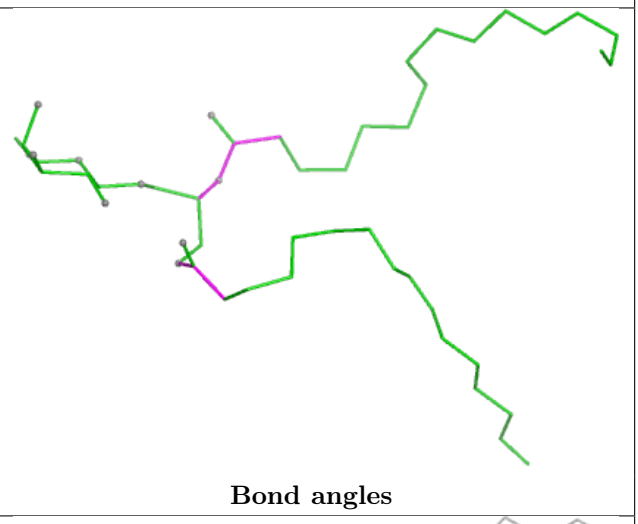
Mol	Chain	Res	Type	Clashes	Symm-Clashes
23	C	509	CLA	7	0
23	C	512	CLA	7	0
31	C	517	DGD	6	0
23	B	510	CLA	6	0
29	W	101	LMG	6	0
23	C	513	CLA	1	0
23	C	504	CLA	7	0
23	B	502	CLA	5	0
23	B	513	CLA	6	0
23	B	505	CLA	10	0
24	A	407	PHO	2	0
25	H	101	BCR	4	0
30	W	102	LHG	9	0
26	A	410	SQD	4	0
29	C	518	LMG	9	0
23	A	408	CLA	7	0
24	D	402	PHO	3	0
23	C	502	CLA	3	0
25	I	102	BCR	4	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.

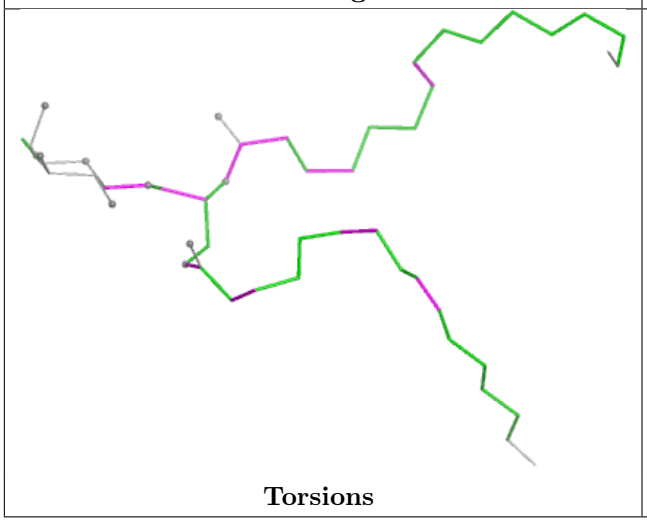
Ligand LMG B 520



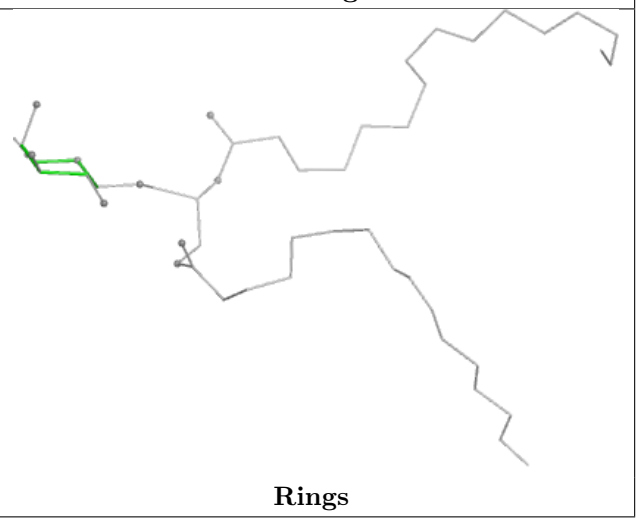
Bond lengths



Bond angles

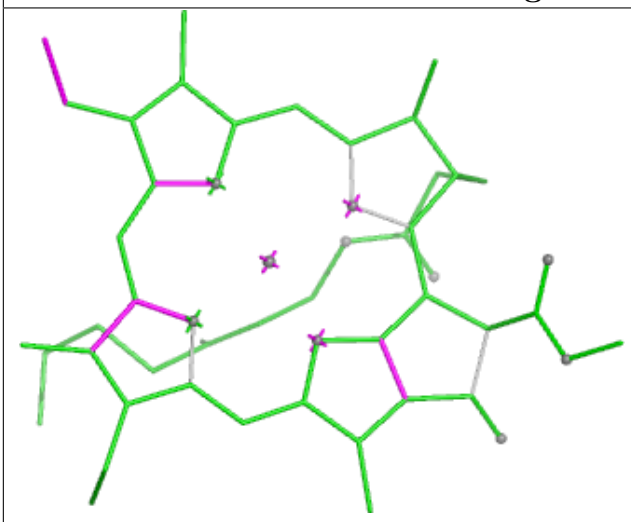


Torsions

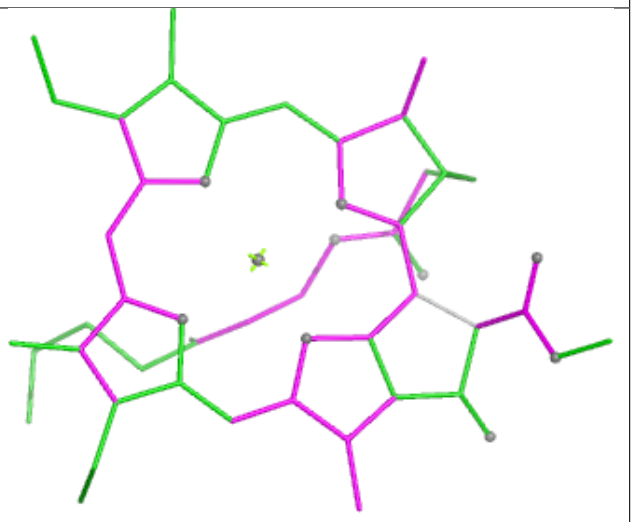


Rings

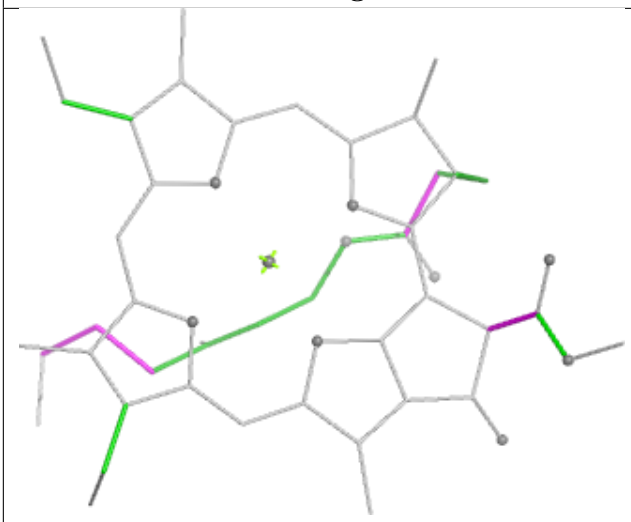
Ligand CLA B 514



Bond lengths



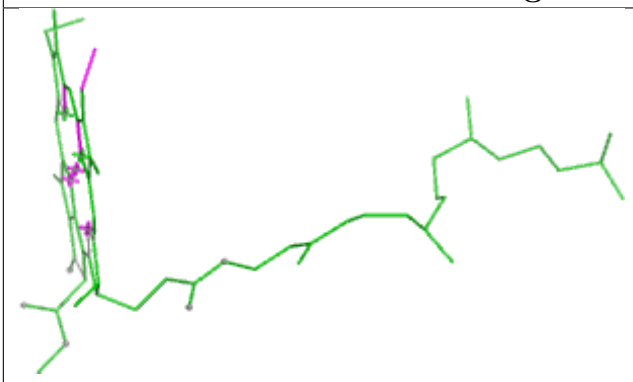
Bond angles



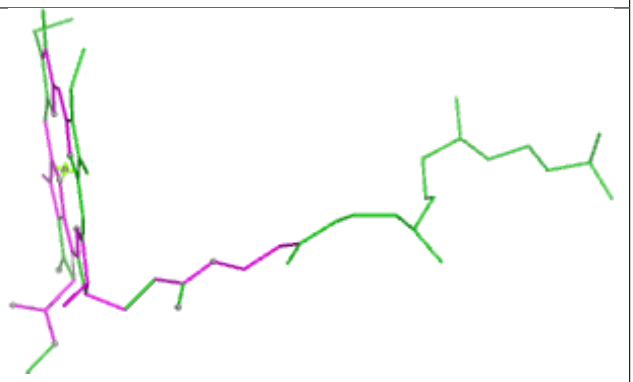
Torsions

Rings

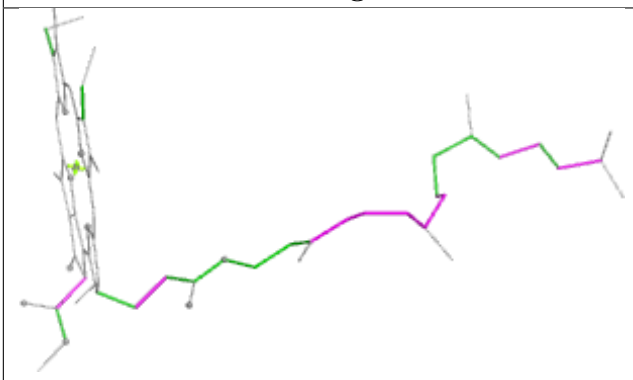
Ligand CLA B 506



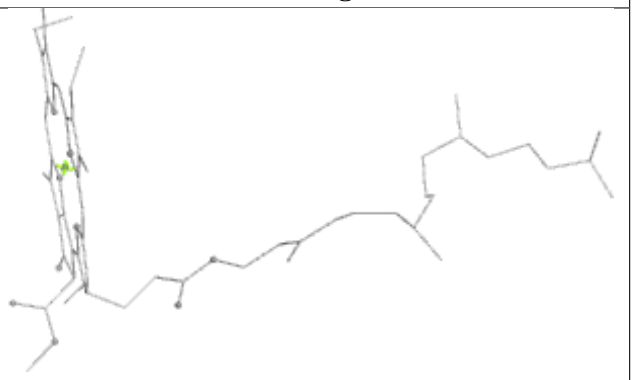
Bond lengths



Bond angles

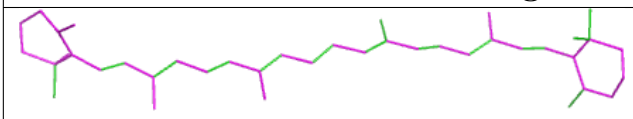


Torsions

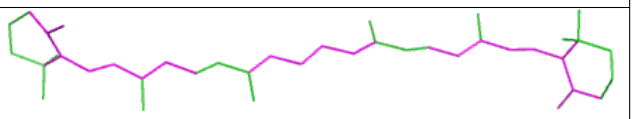


Rings

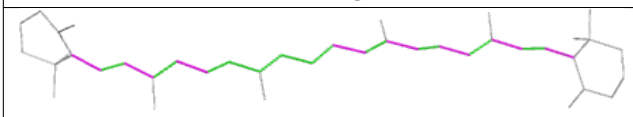
Ligand BCR A 409



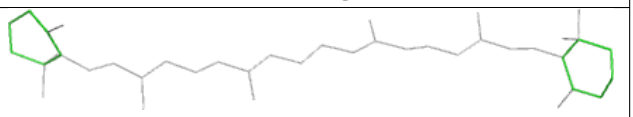
Bond lengths



Bond angles

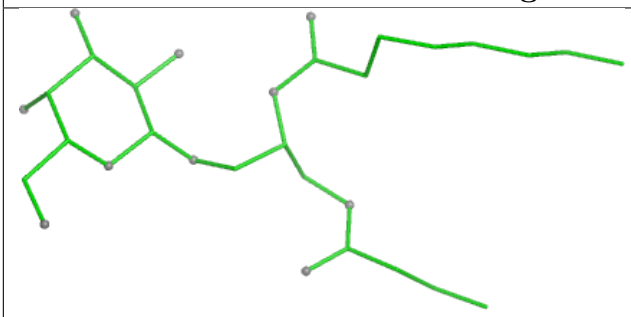


Torsions

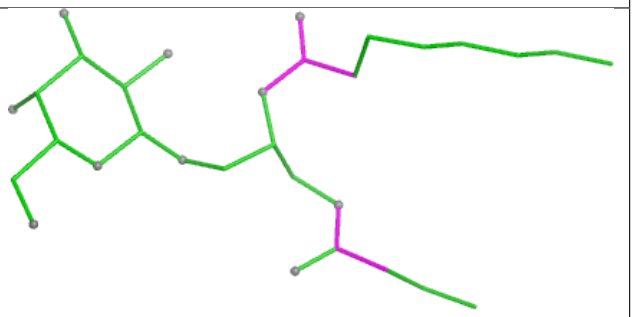


Rings

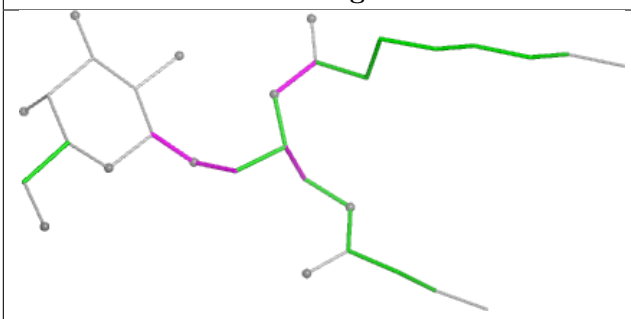
Ligand LMG B 522



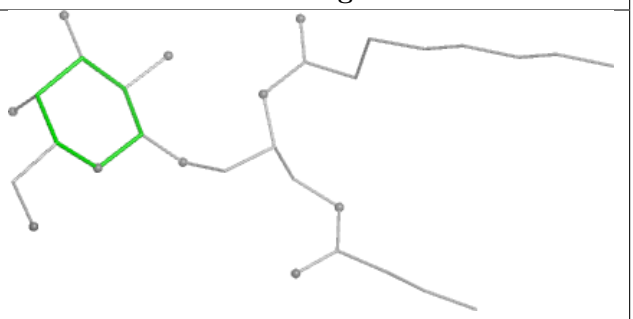
Bond lengths



Bond angles

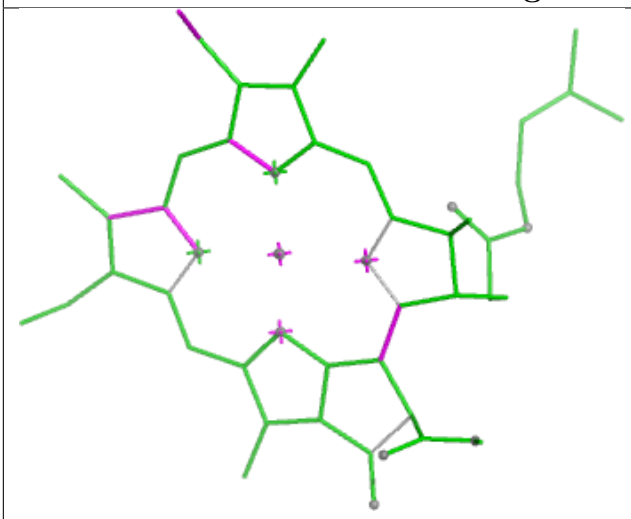


Torsions

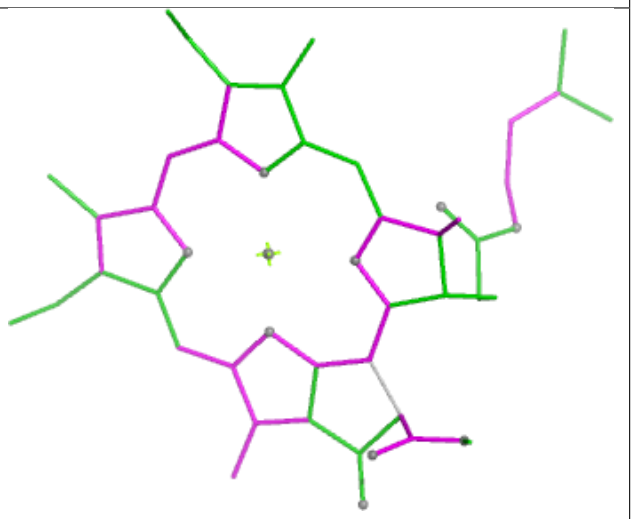


Rings

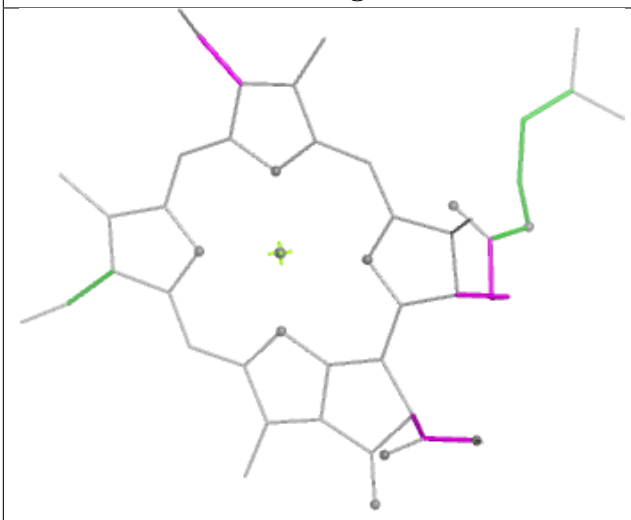
Ligand CLA A 406



Bond lengths



Bond angles



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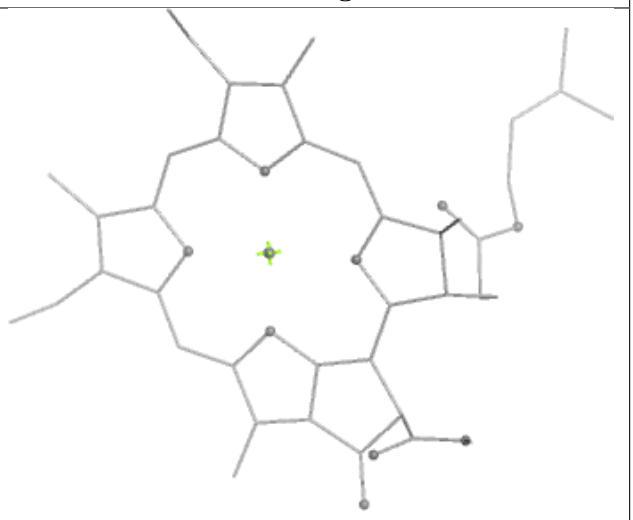
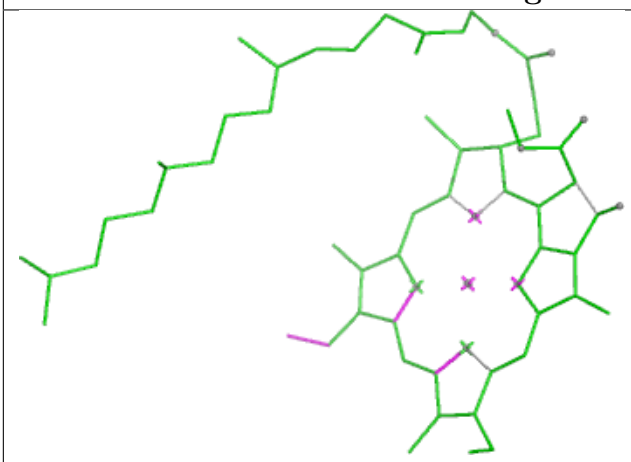
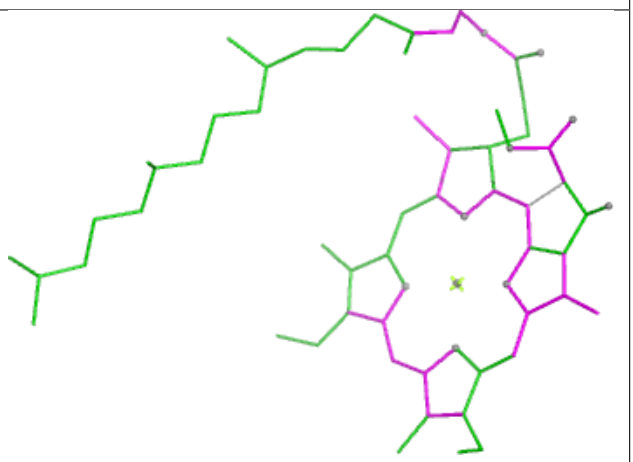


Rings

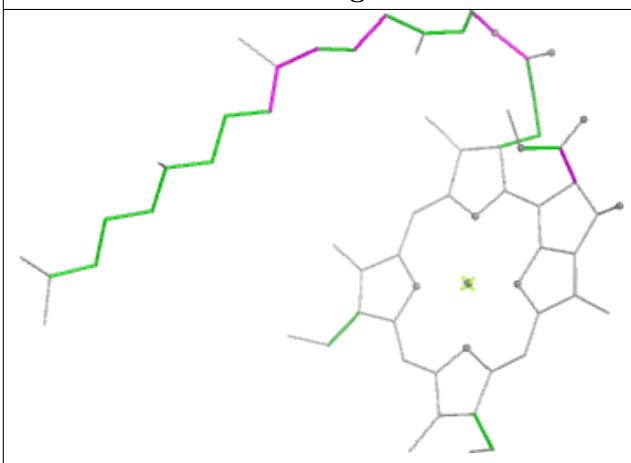
Ligand CLA B 516



Bond lengths



Bond angles



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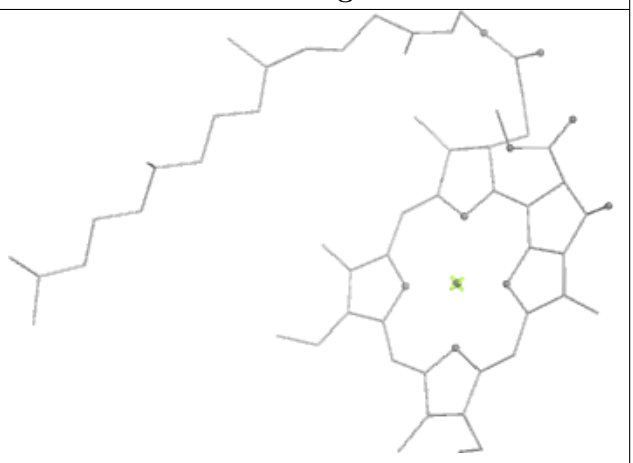
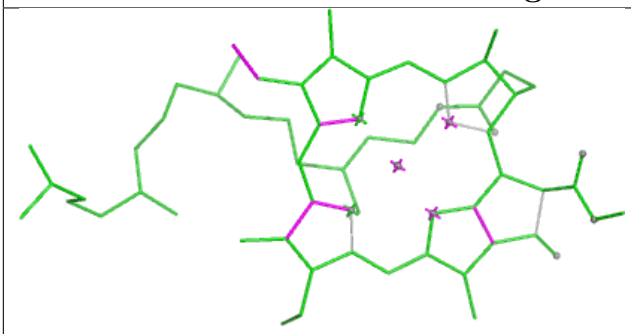
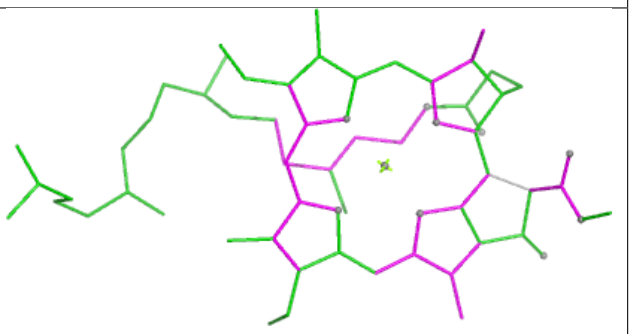


Rings

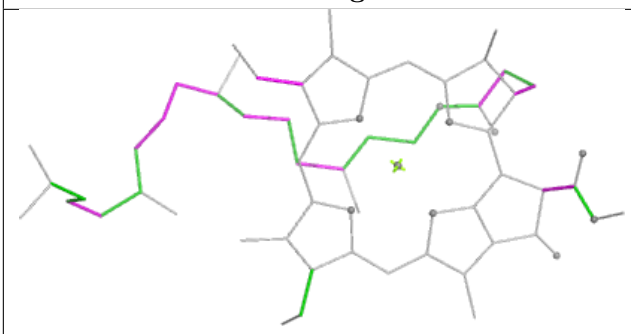
Ligand CLA C 505



Bond lengths



Bond angles



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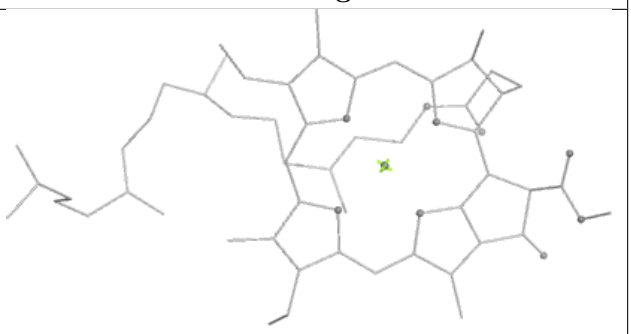
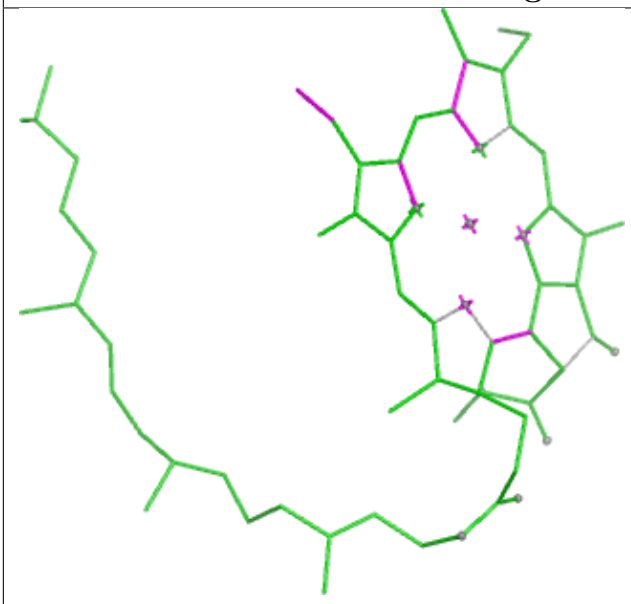
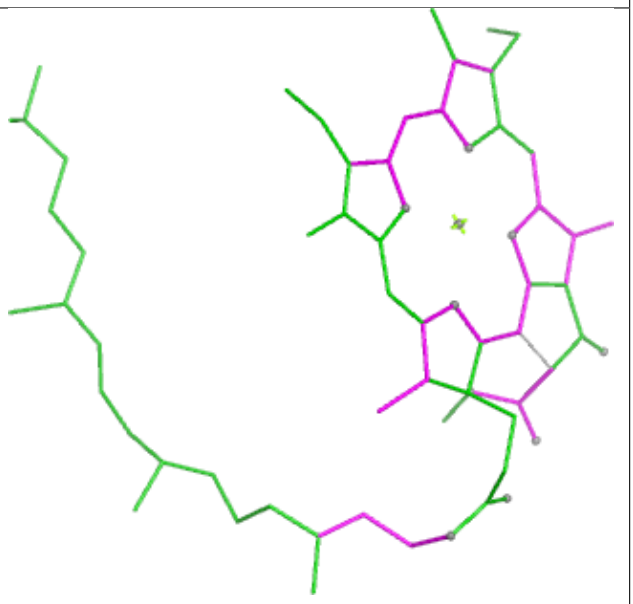


Rings

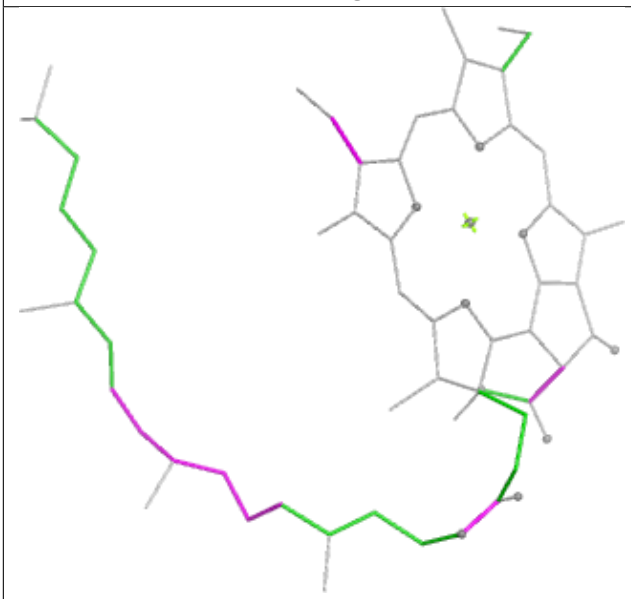
Ligand CLA C 507



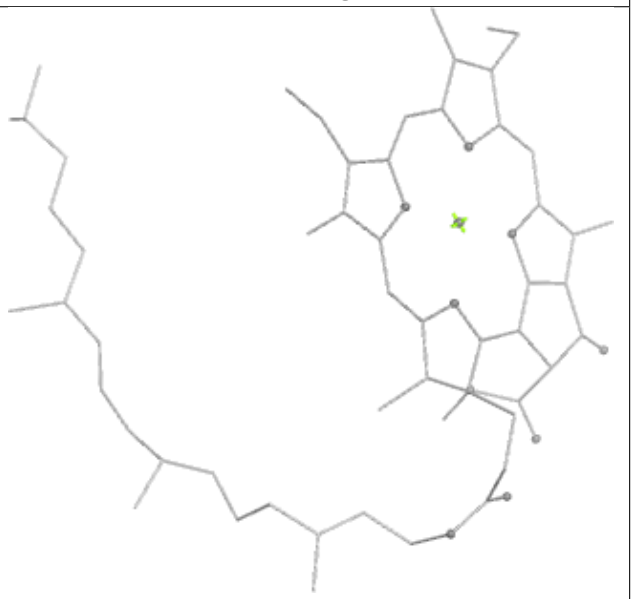
Bond lengths



Bond angles

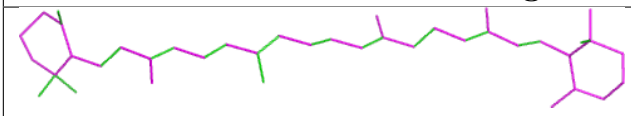


Torsions

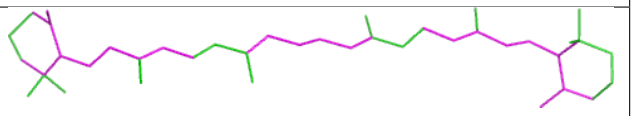


Rings

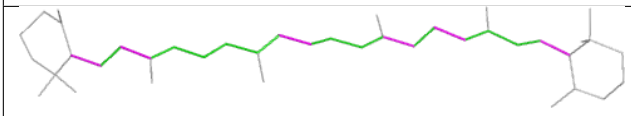
Ligand BCR B 519



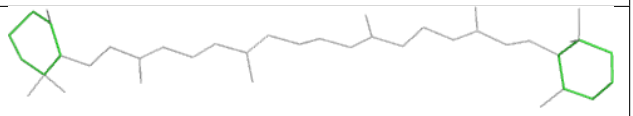
Bond lengths



Bond angles

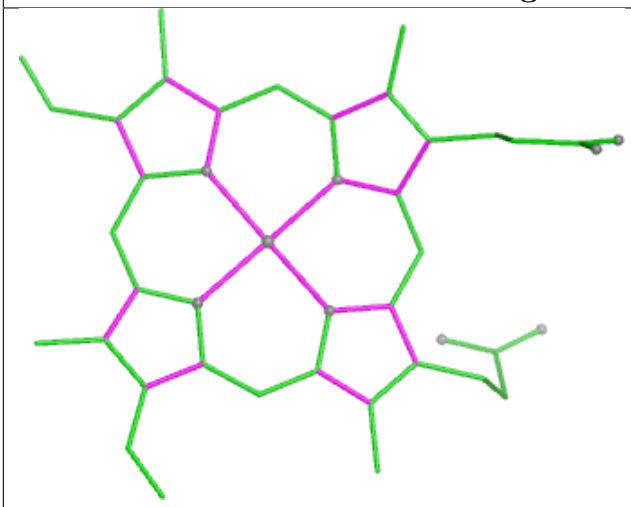


Torsions

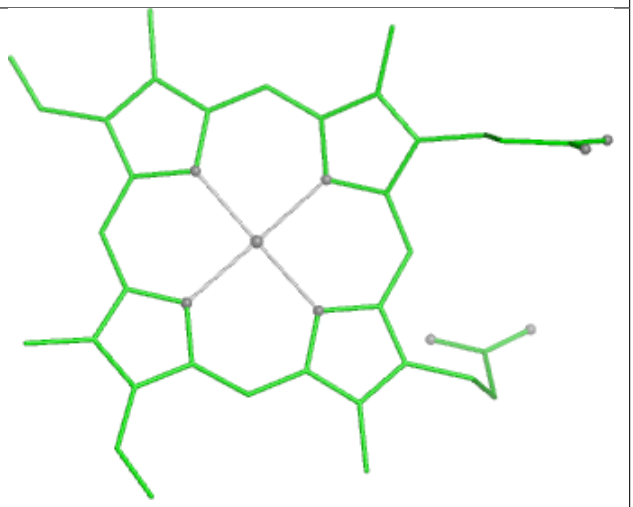


Rings

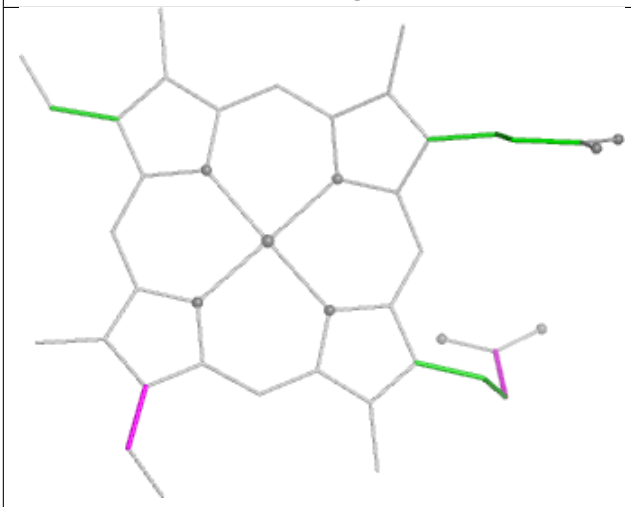
Ligand HEM E 101



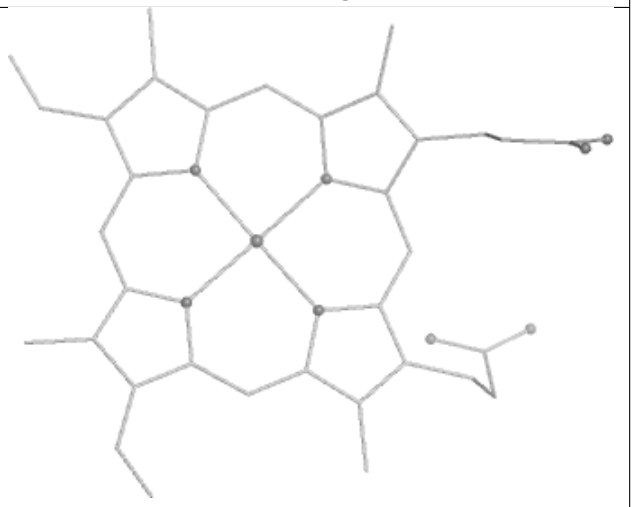
Bond lengths



Bond angles

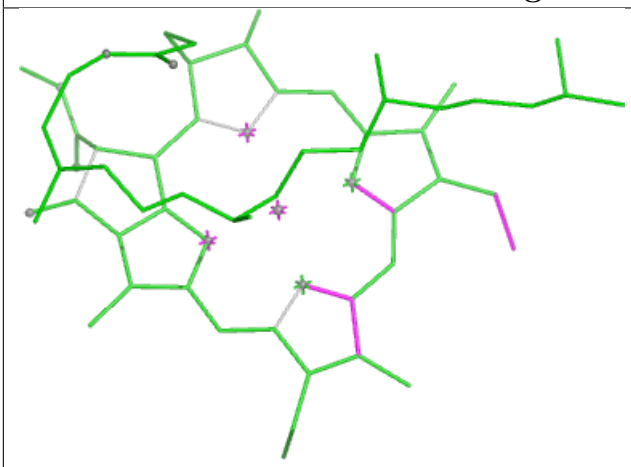


Torsions

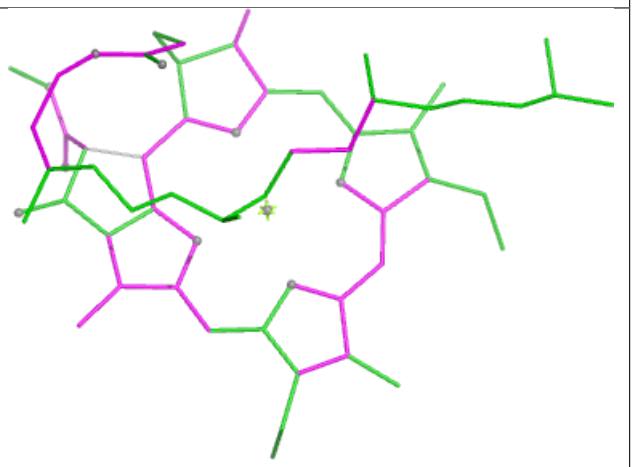


Rings

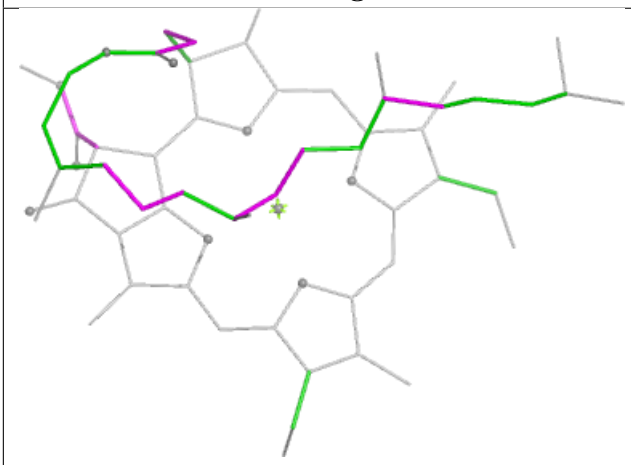
Ligand CLA B 501



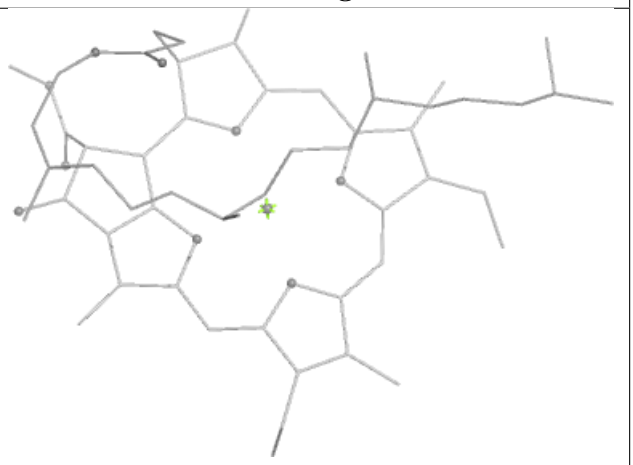
Bond lengths



Bond angles

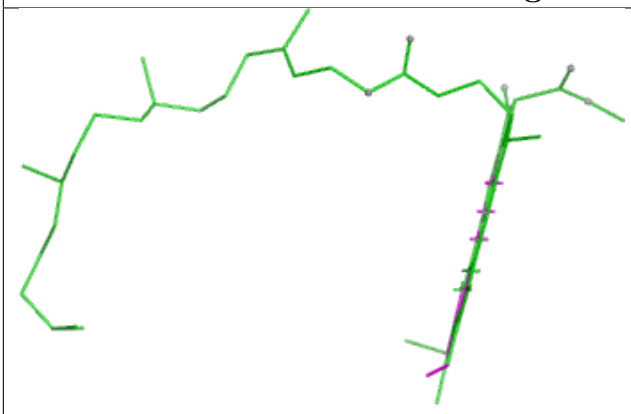


Torsions

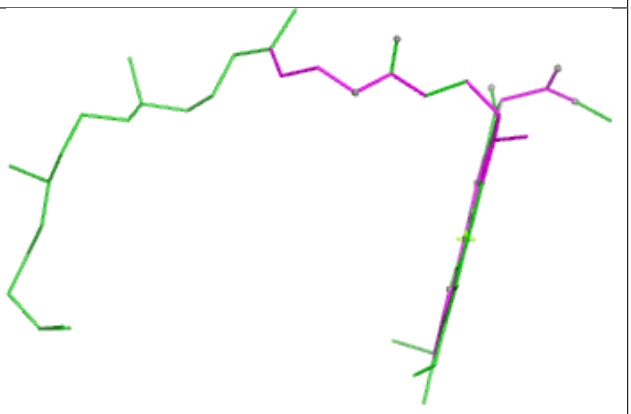


Rings

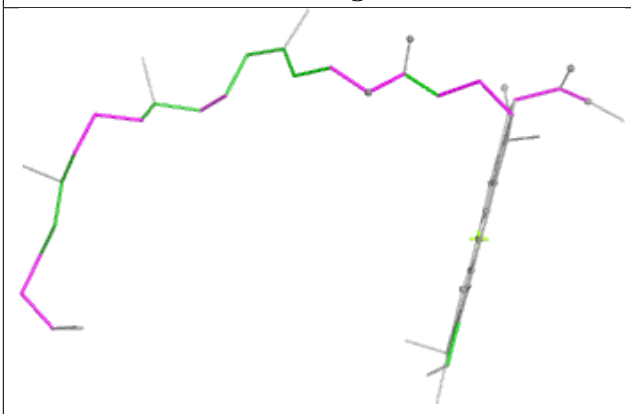
Ligand CLA C 506



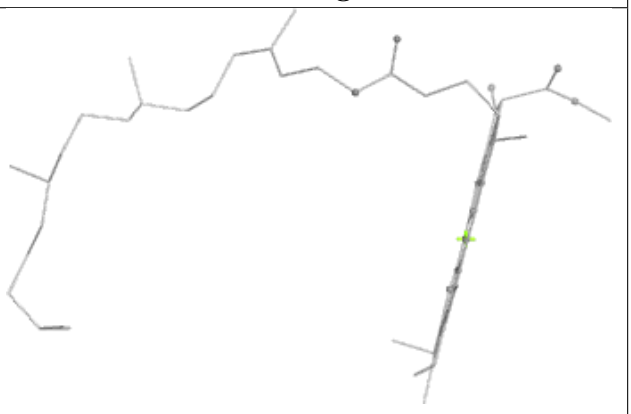
Bond lengths



Bond angles

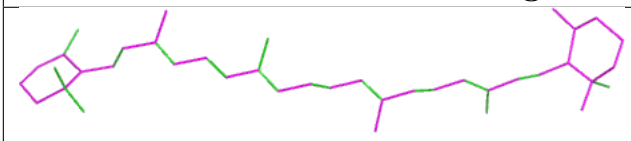


Torsions



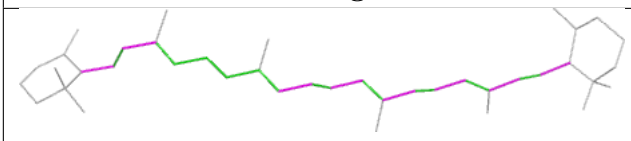
Rings

Ligand BCR B 517

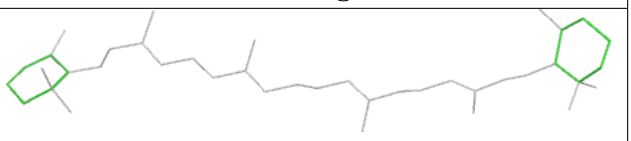


Bond lengths

Bond angles

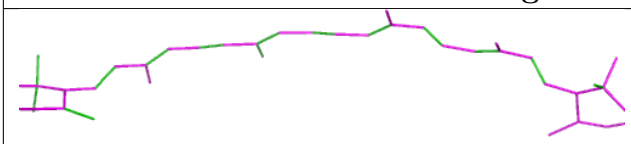


Torsions

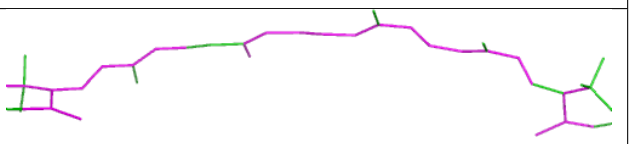


Rings

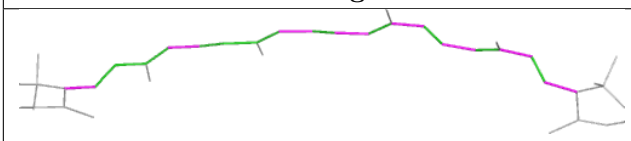
Ligand BCR D 405



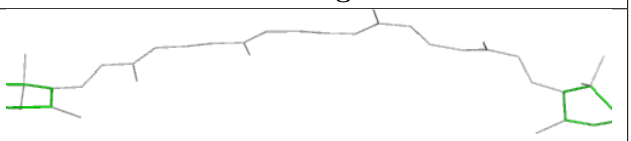
Bond lengths



Bond angles

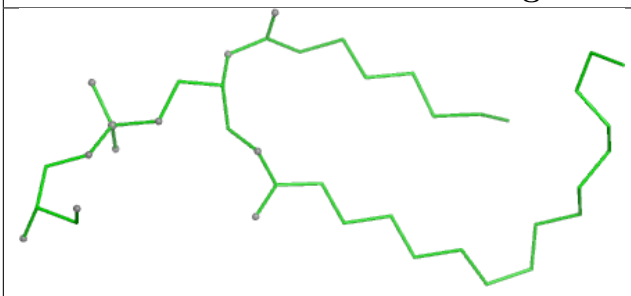


Torsions

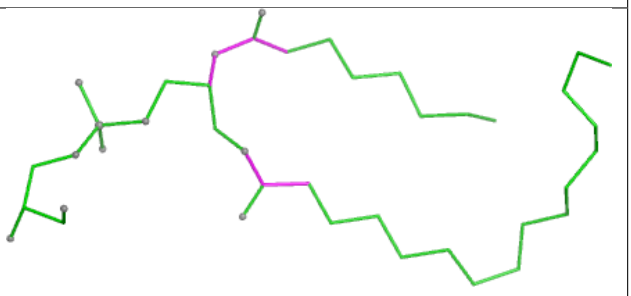


Rings

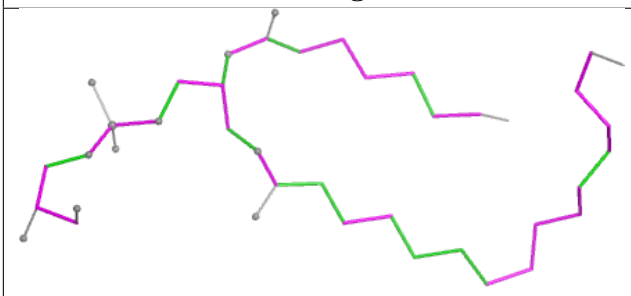
Ligand LHG B 521



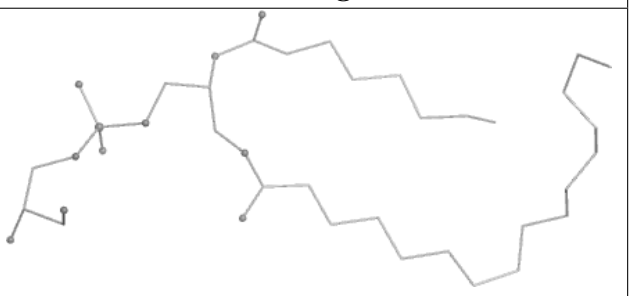
Bond lengths



Bond angles

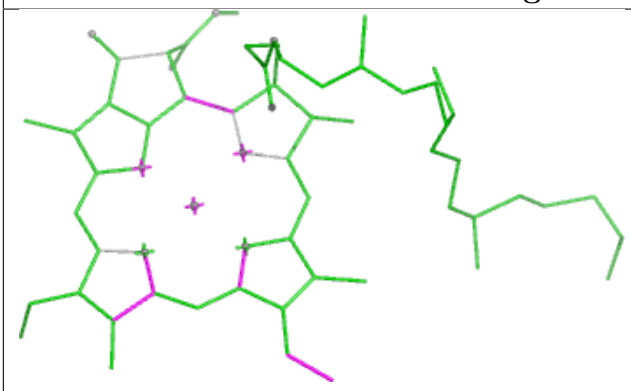


Torsions

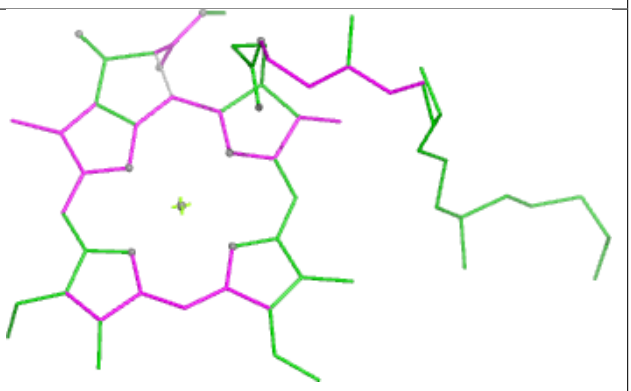


Rings

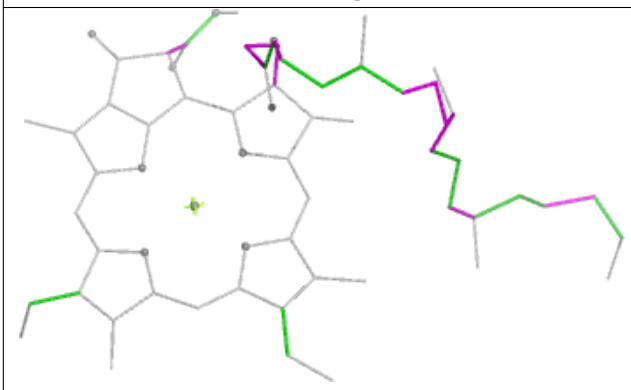
Ligand CLA D 401



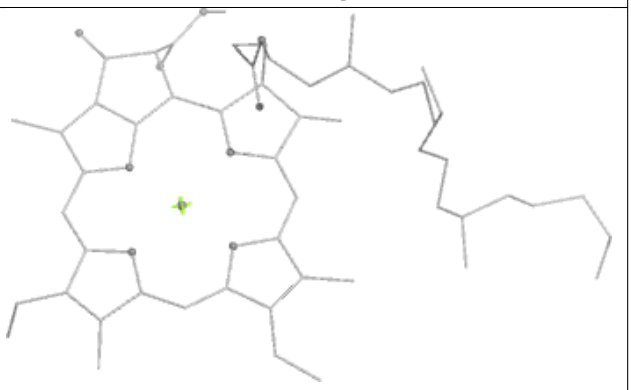
Bond lengths



Bond angles

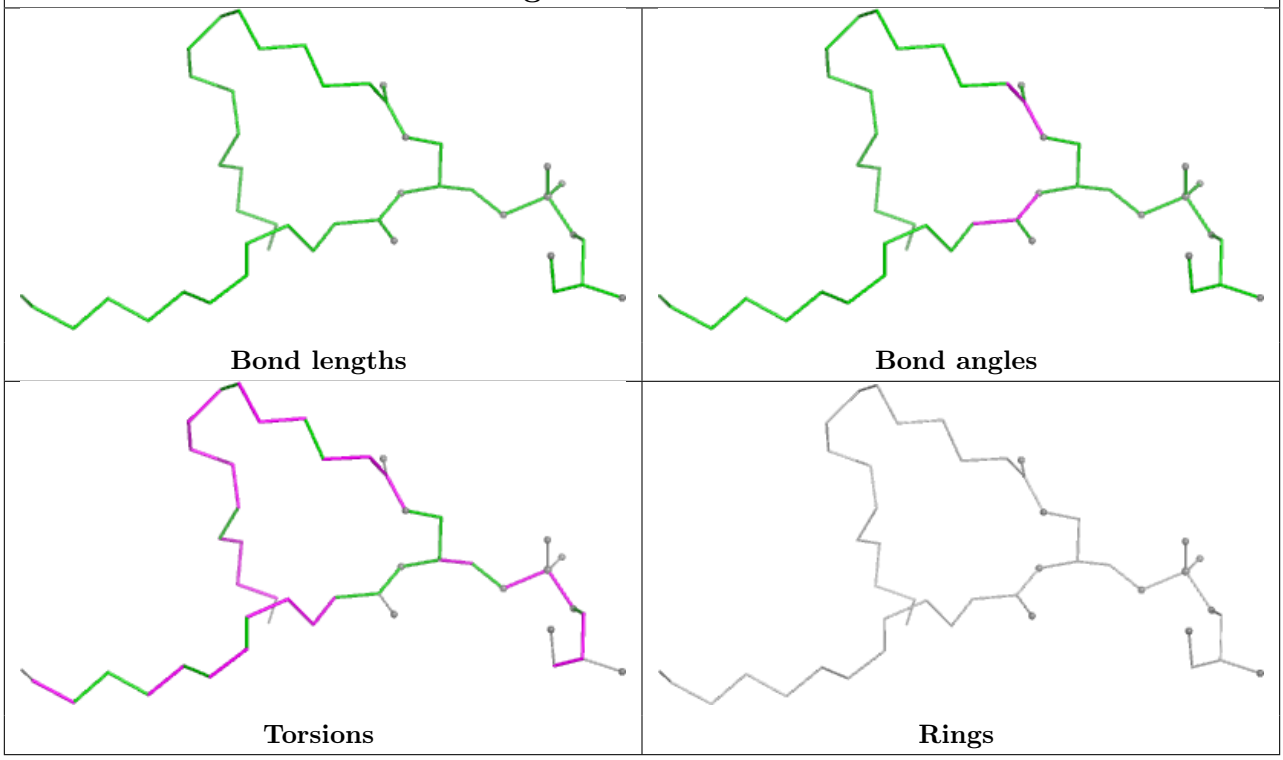


Torsions

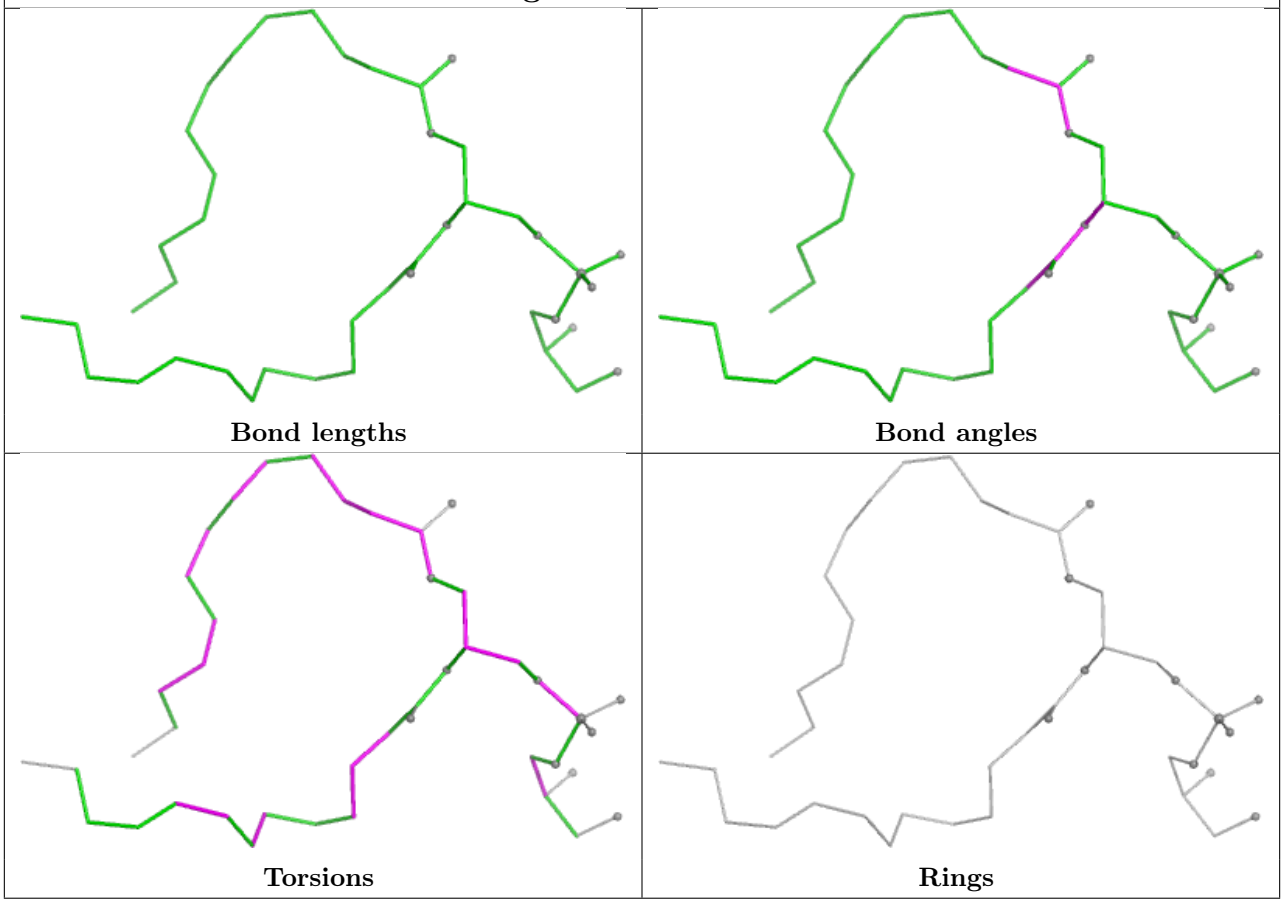


Rings

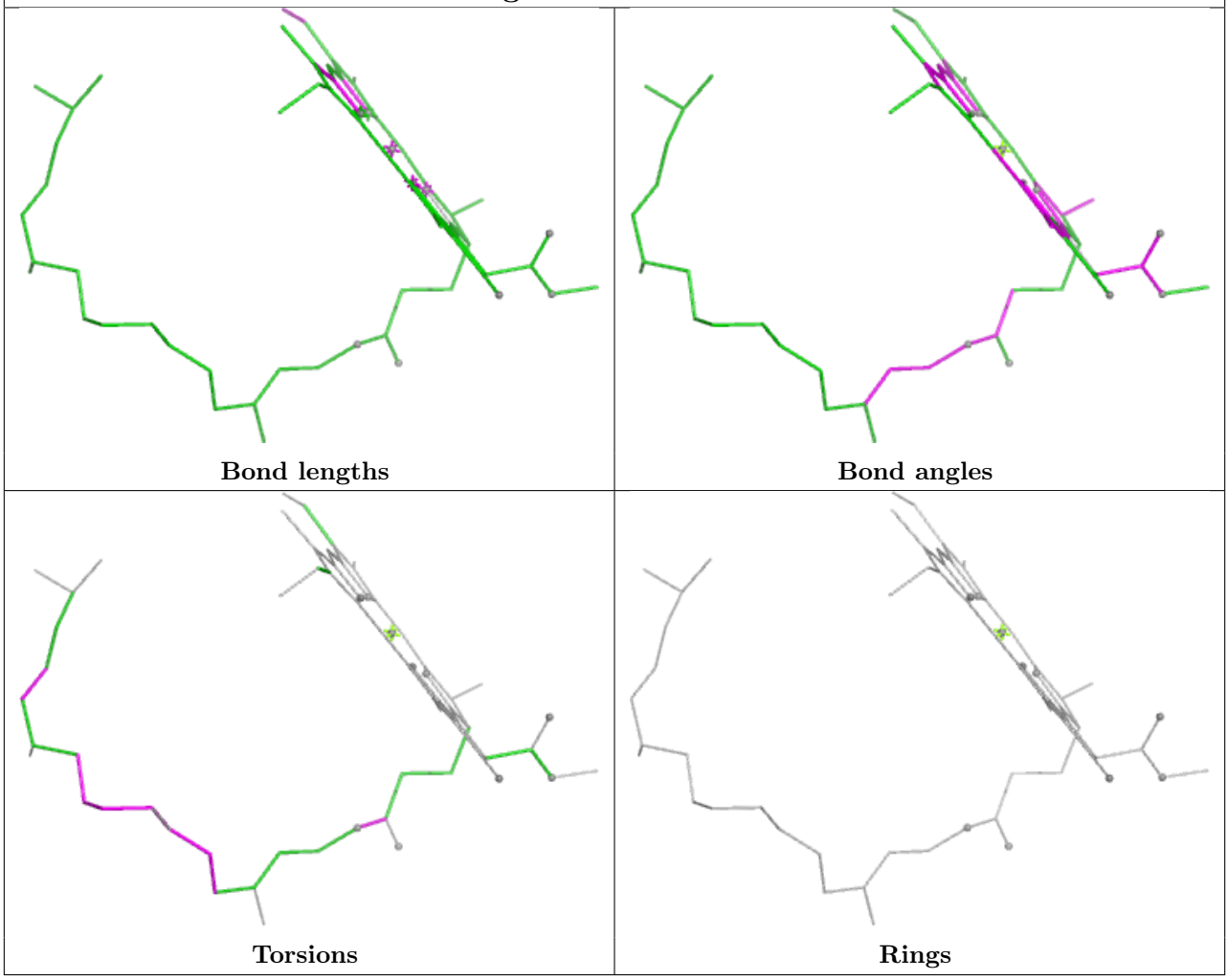
Ligand LHG B 523



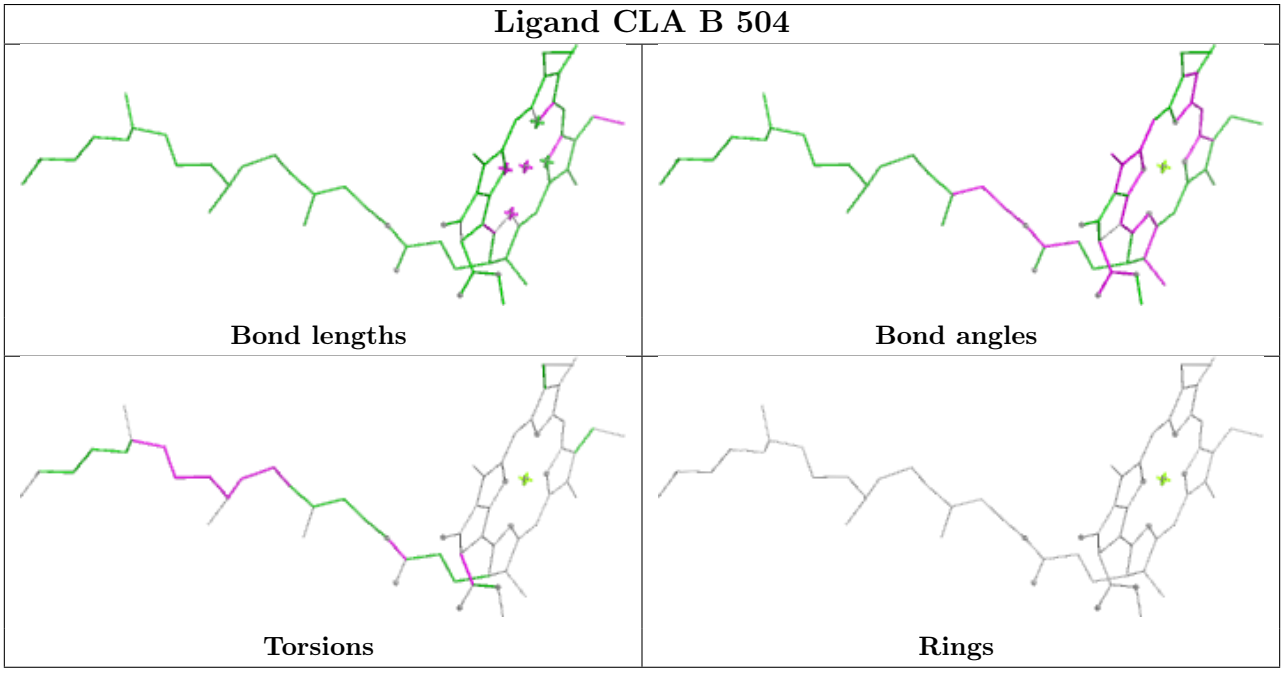
Ligand LHG D 408



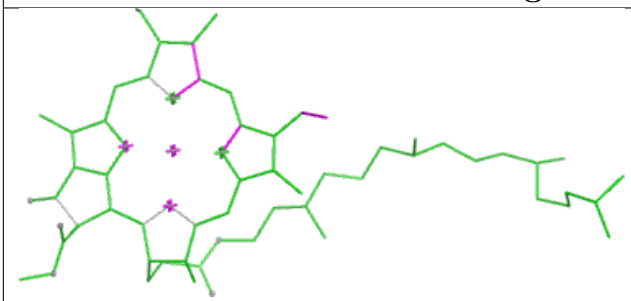
Ligand CLA B 511



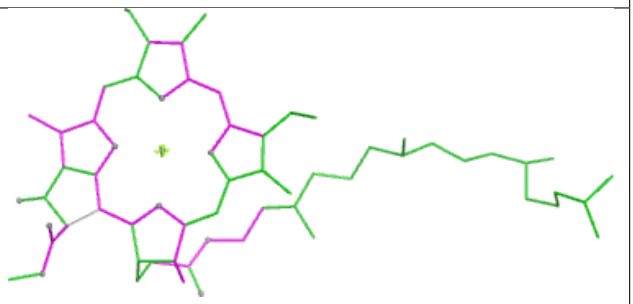
Ligand CLA B 504



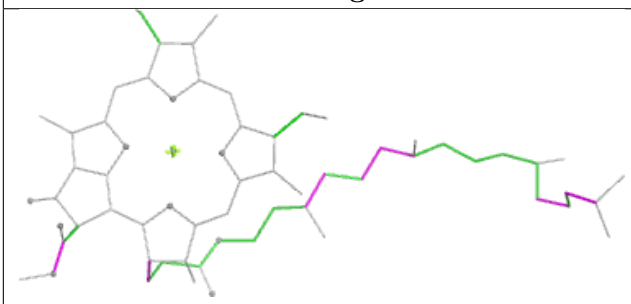
Ligand CLA B 503



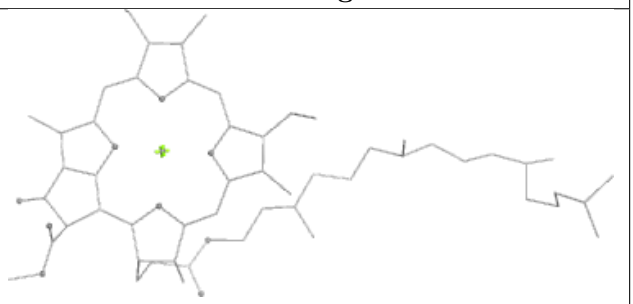
Bond lengths



Bond angles

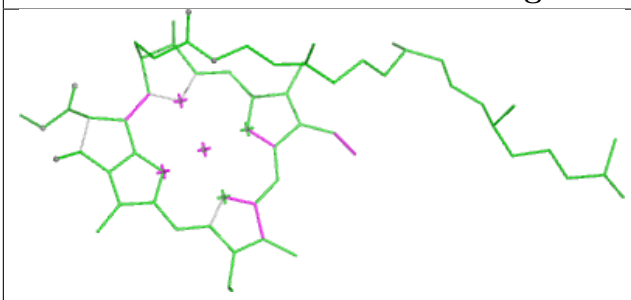


Torsions

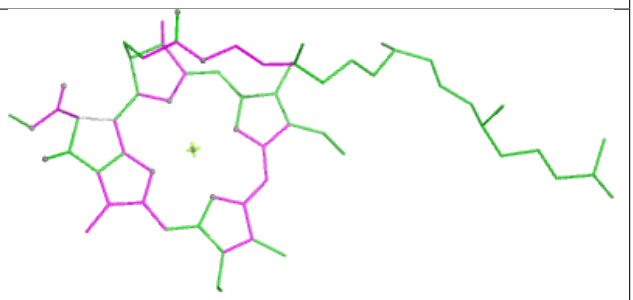


Rings

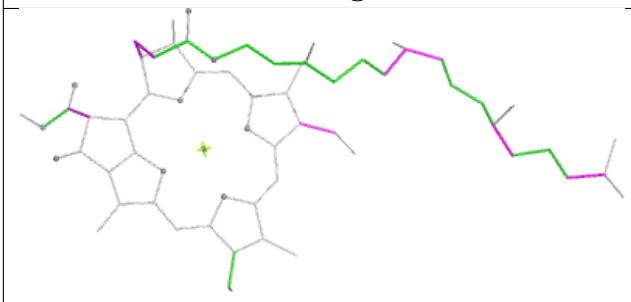
Ligand CLA C 501



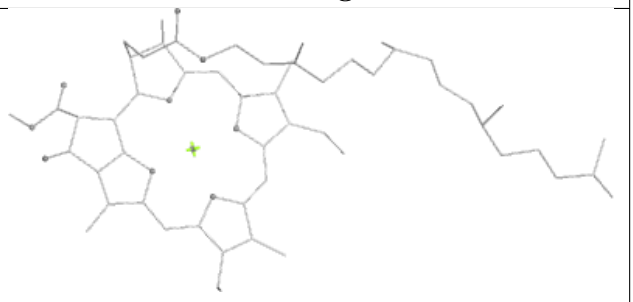
Bond lengths



Bond angles

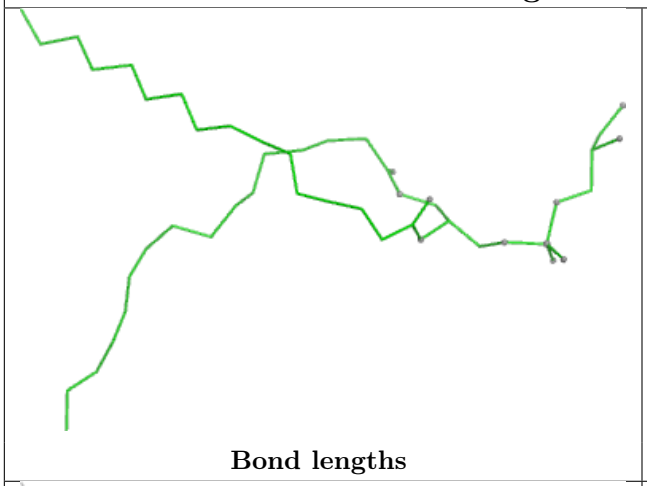


Torsions

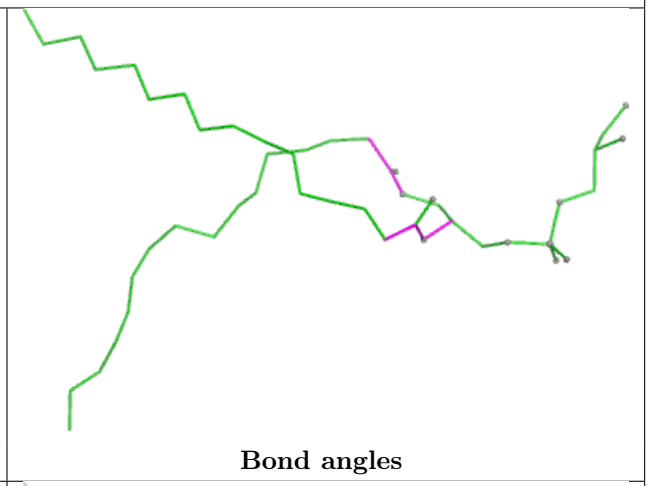


Rings

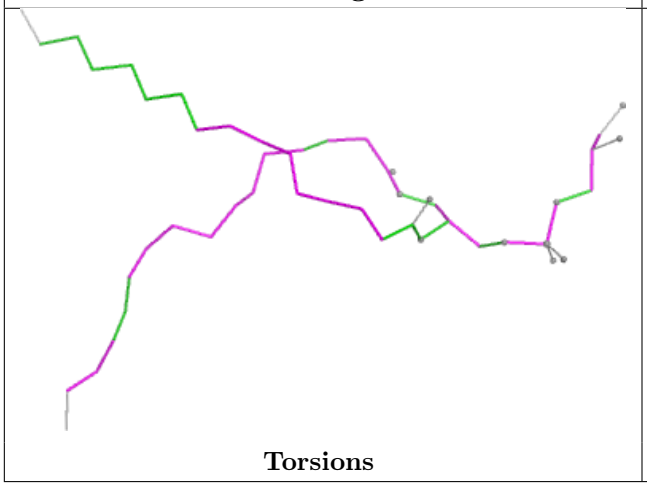
Ligand LHG D 407



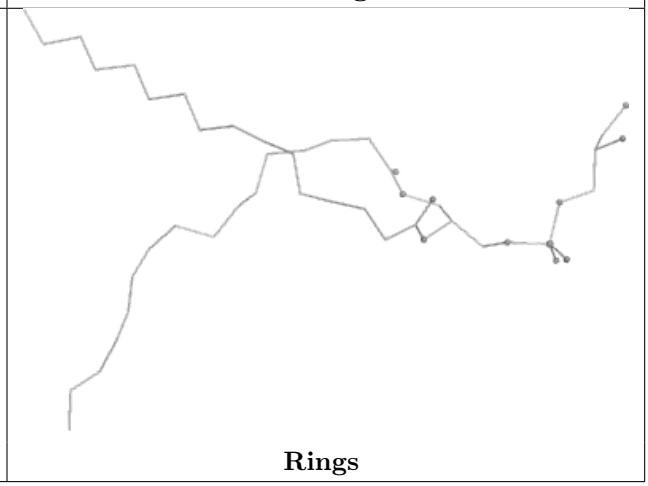
Bond lengths



Bond angles

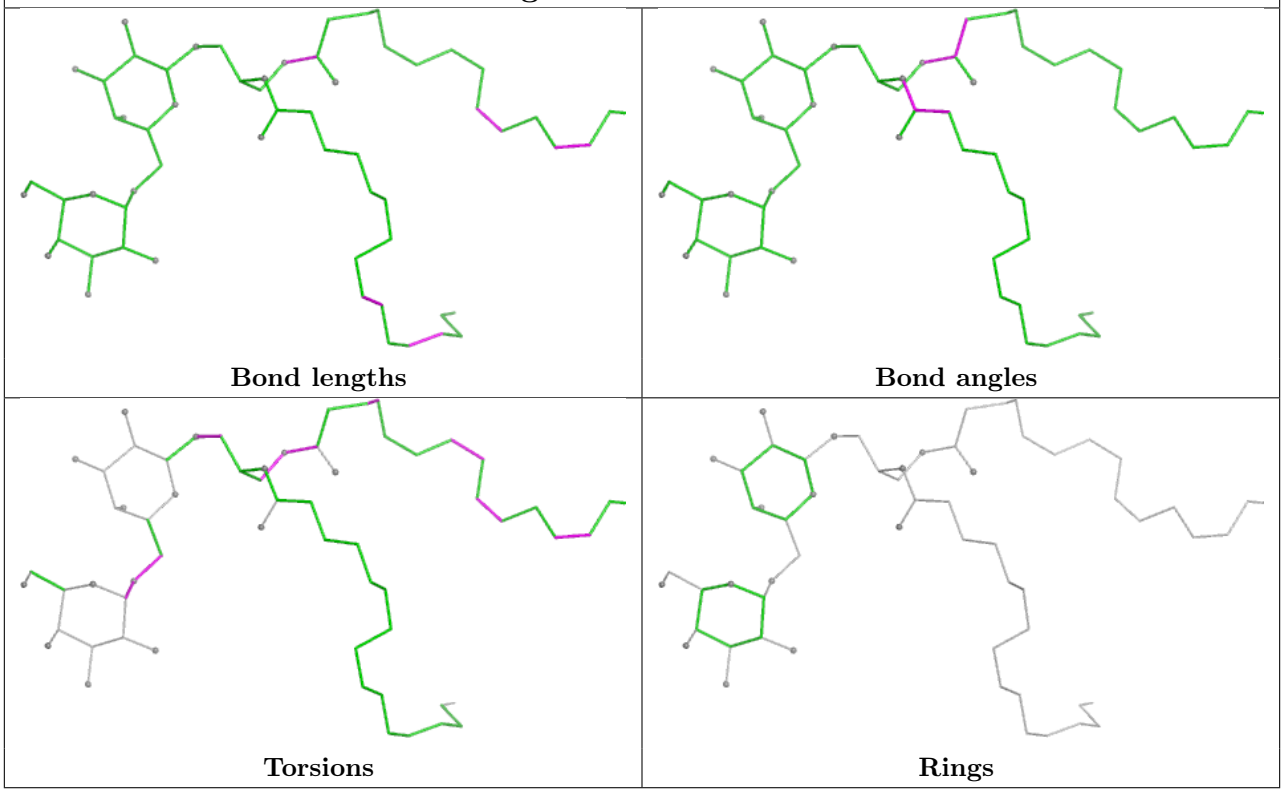


Torsions

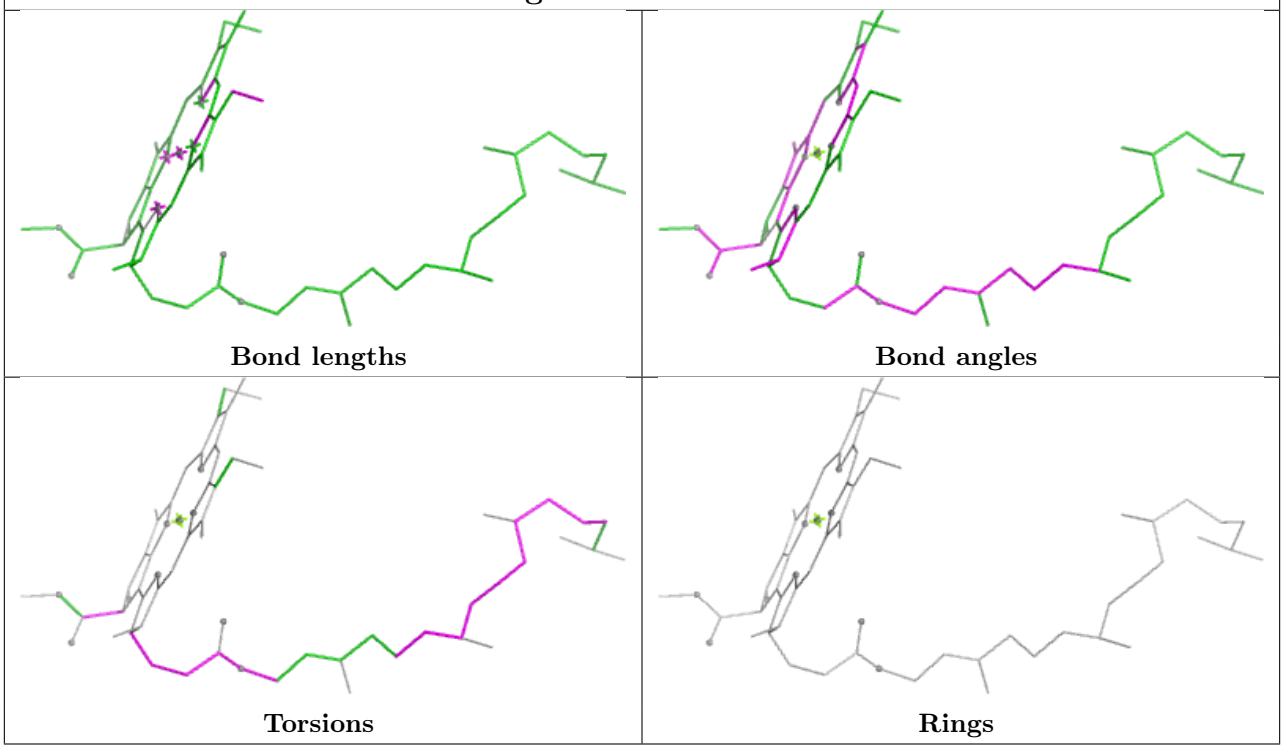


Rings

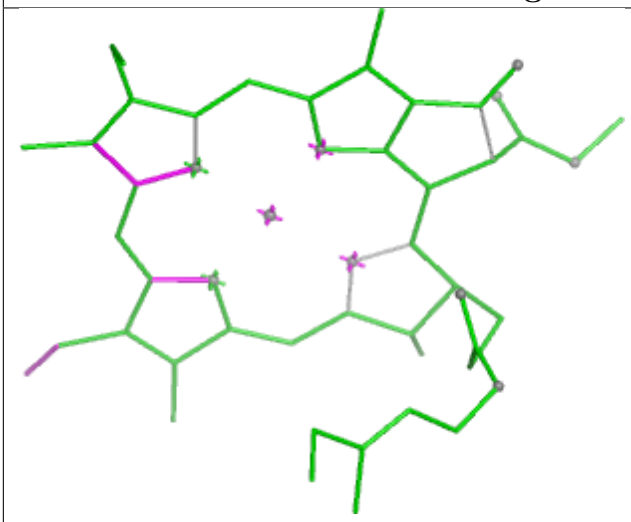
Ligand DGD C 516



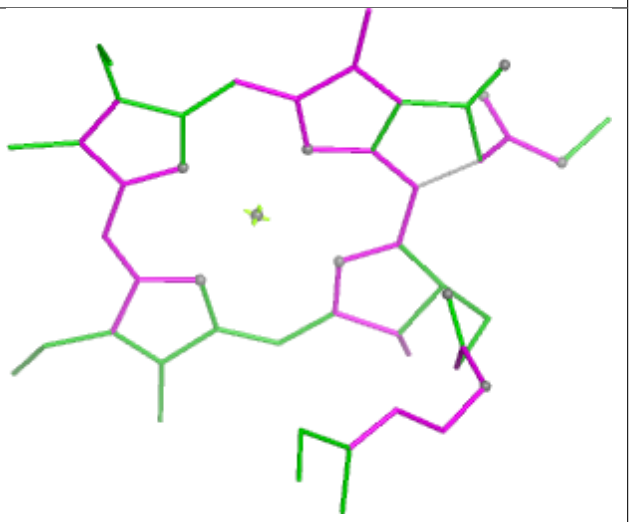
Ligand CLA B 507



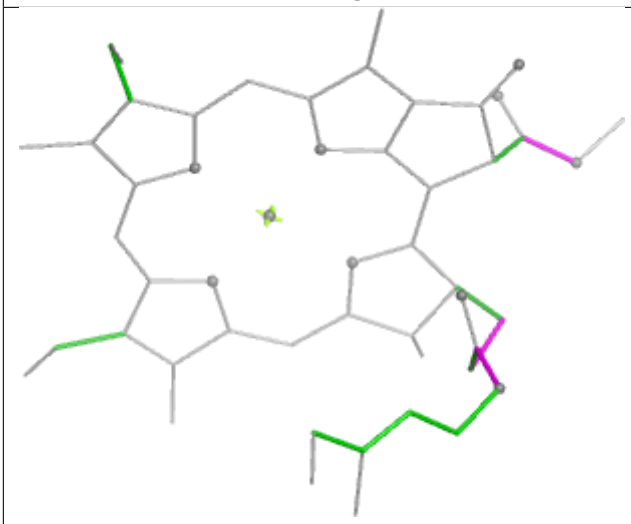
Ligand CLA C 511



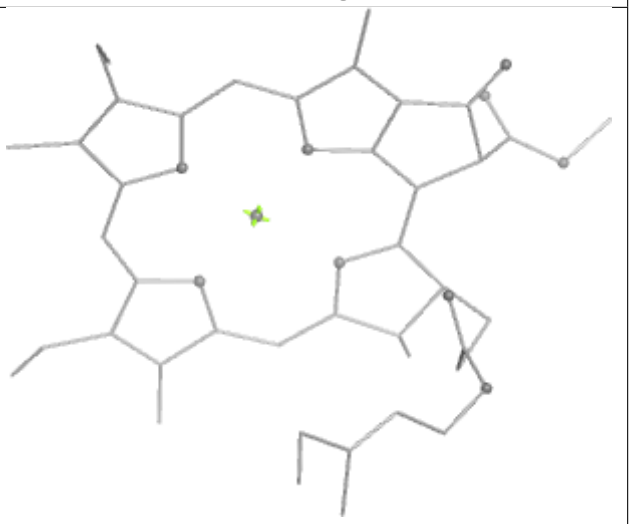
Bond lengths



Bond angles

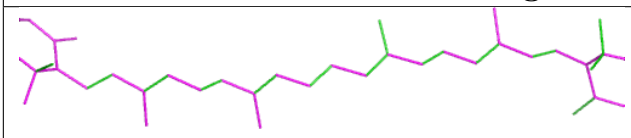


Torsions

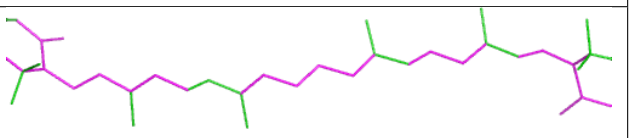


Rings

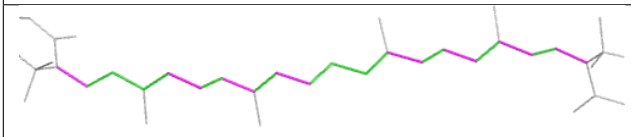
Ligand BCR B 518



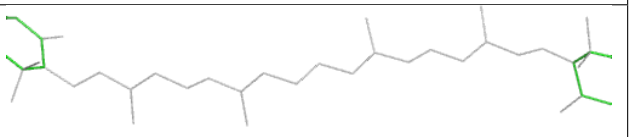
Bond lengths



Bond angles

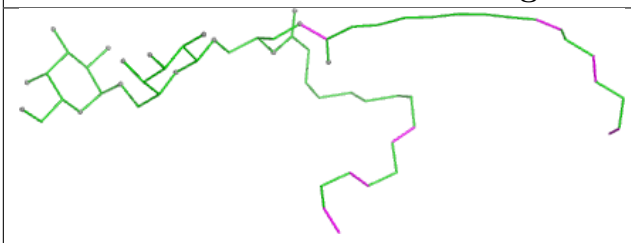


Torsions

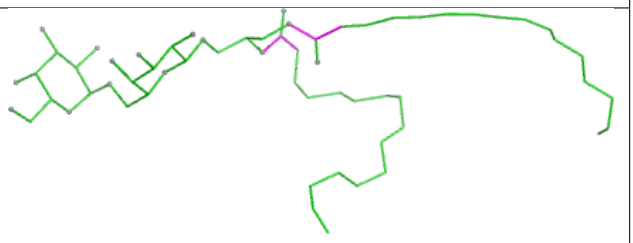


Rings

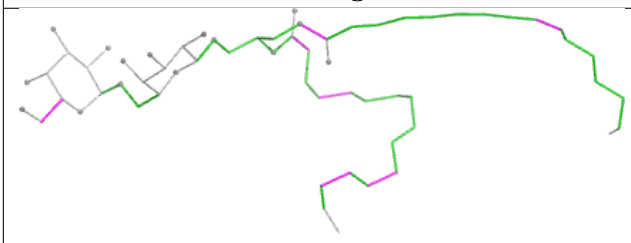
Ligand DGD B 524



Bond lengths



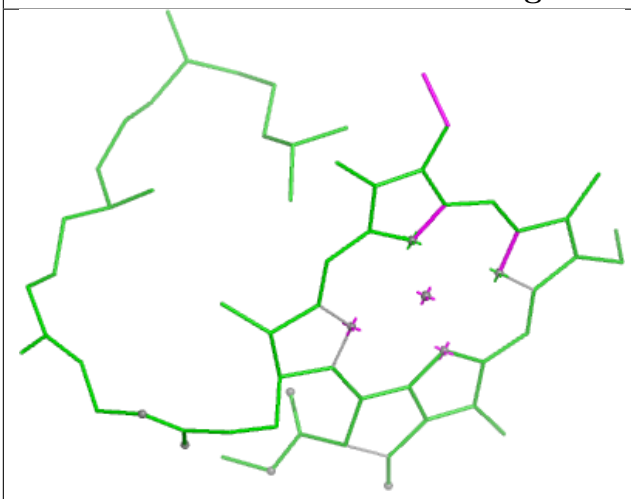
Bond angles



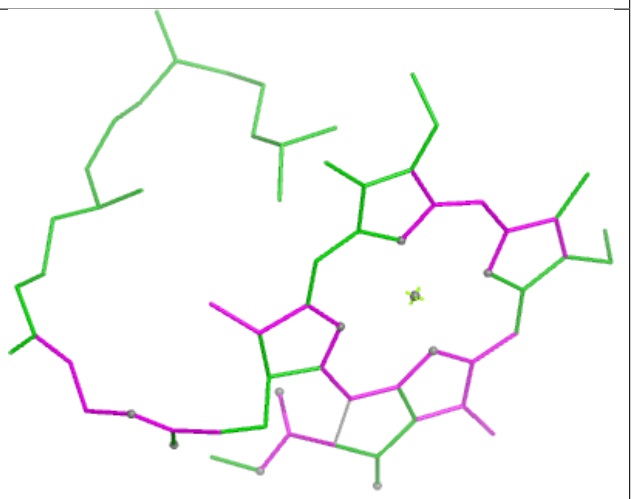
Torsions

Rings

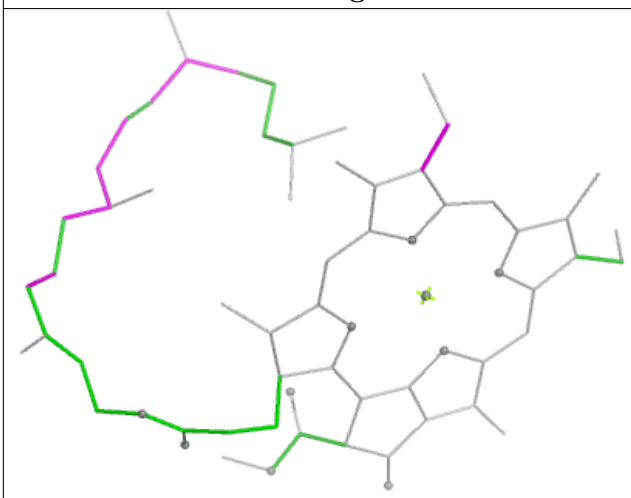
Ligand CLA B 515



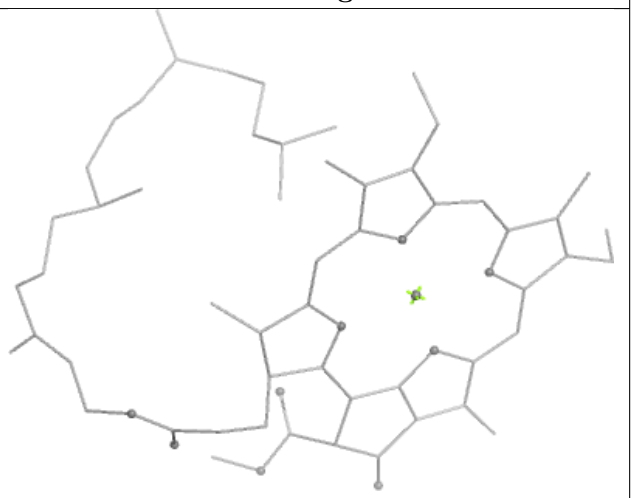
Bond lengths



Bond angles

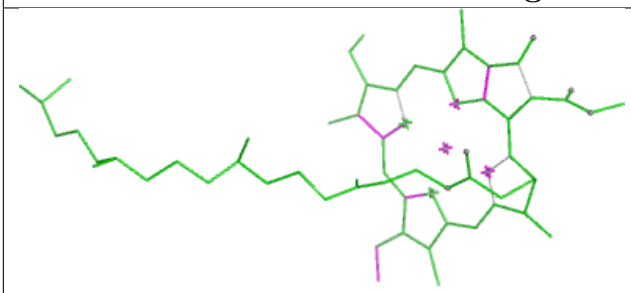


Torsions

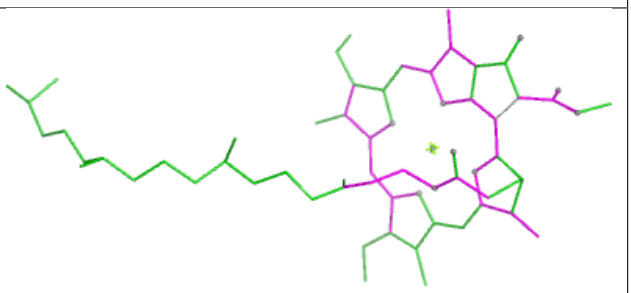


Rings

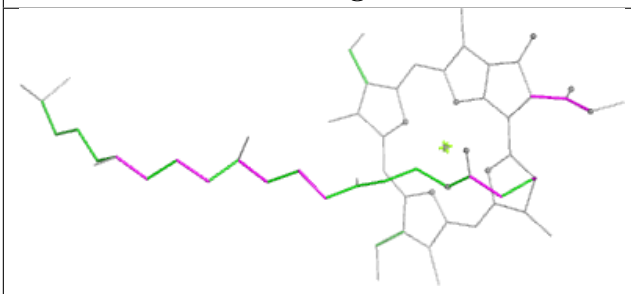
Ligand CLA B 508



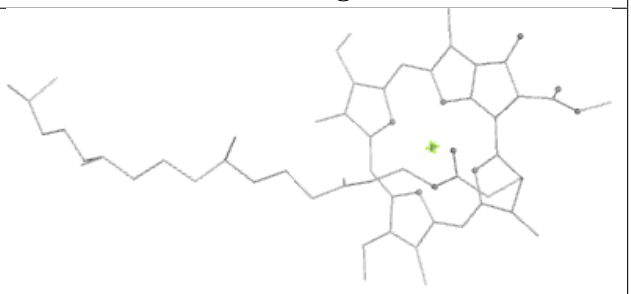
Bond lengths



Bond angles

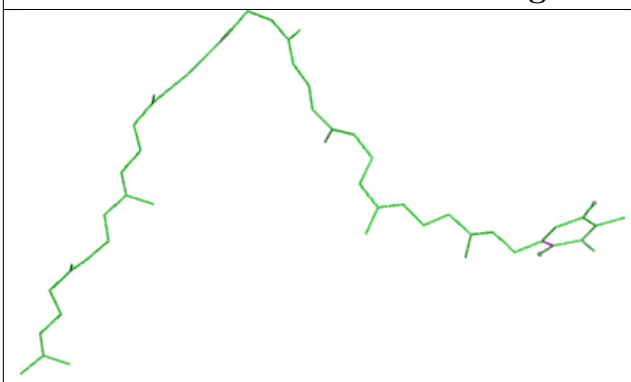


Torsions

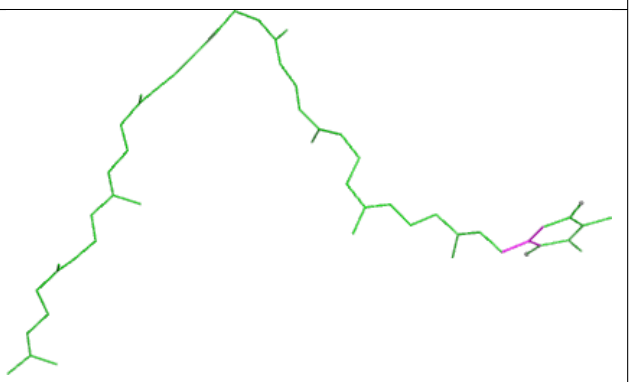


Rings

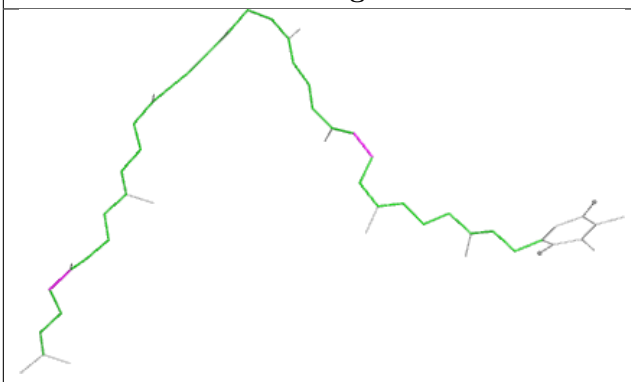
Ligand PL9 D 406



Bond lengths



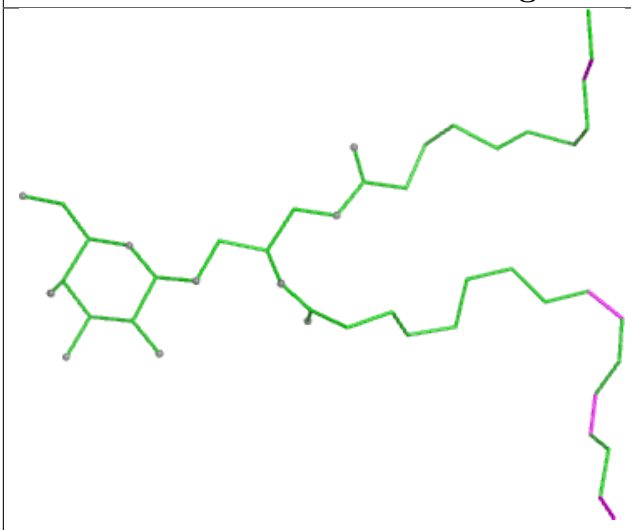
Bond angles



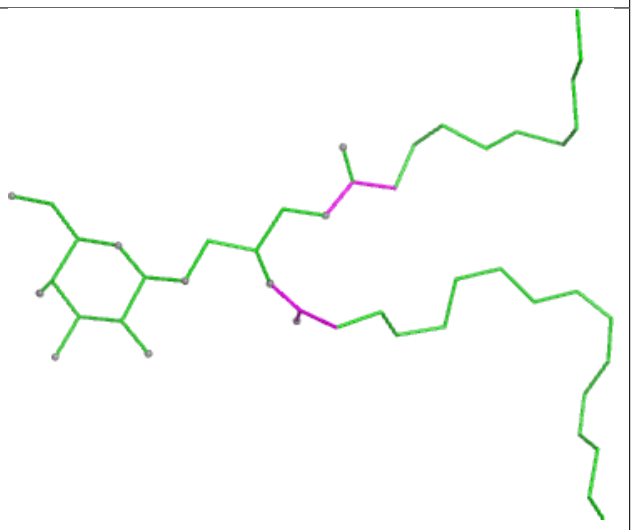
Torsions

Rings

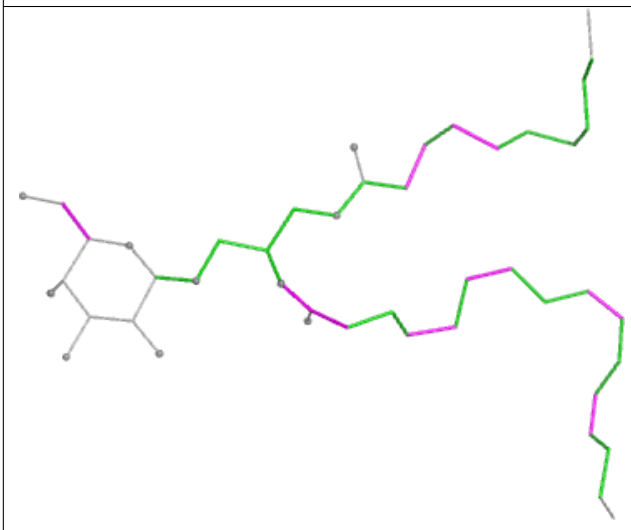
Ligand LMG D 409



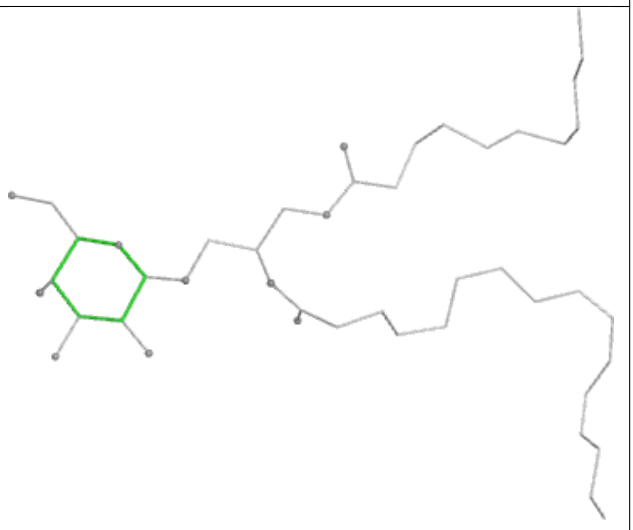
Bond lengths



Bond angles

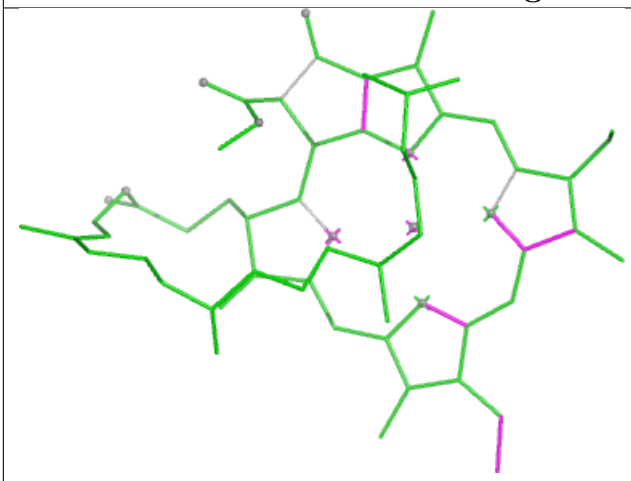


Torsions



Rings

Ligand CLA C 510



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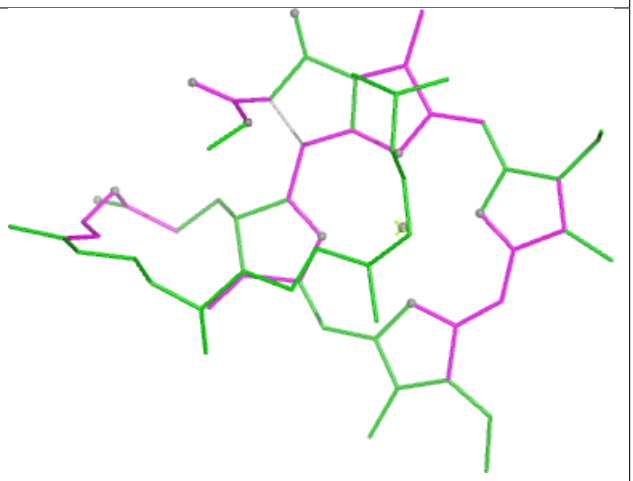
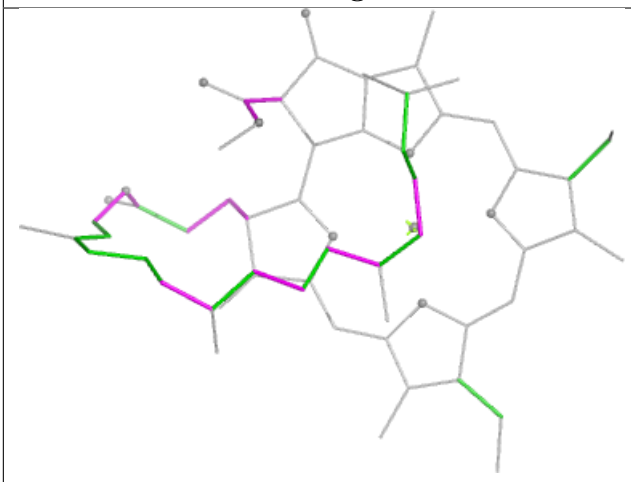
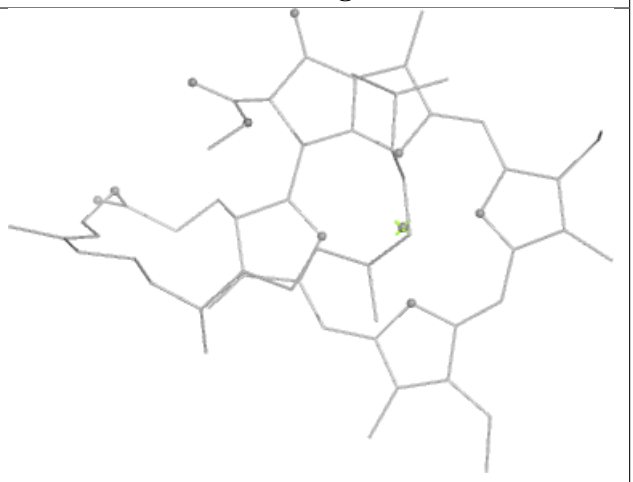


Bond angles

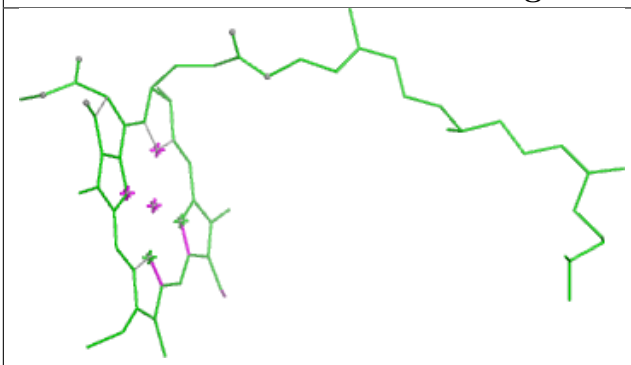


Torsions

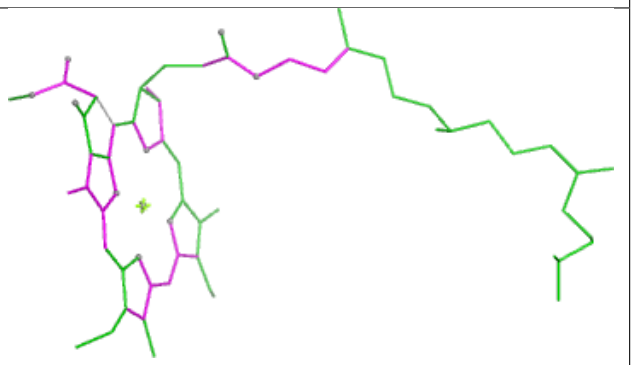


Rings

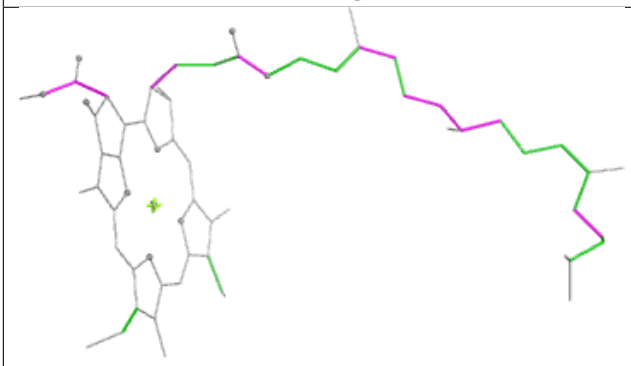
Ligand CLA B 509



Bond lengths



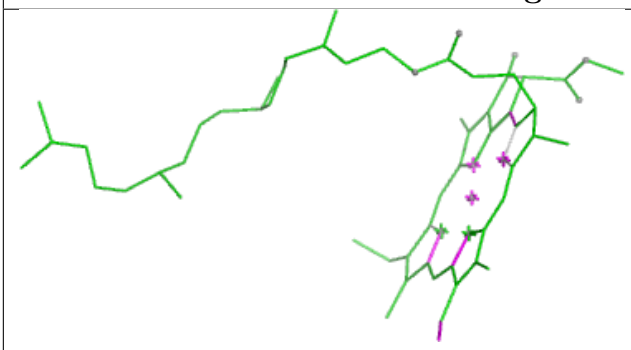
Bond angles



Torsions

Rings

Ligand CLA C 508



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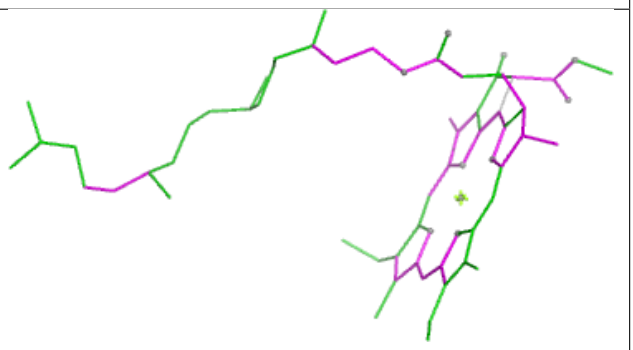
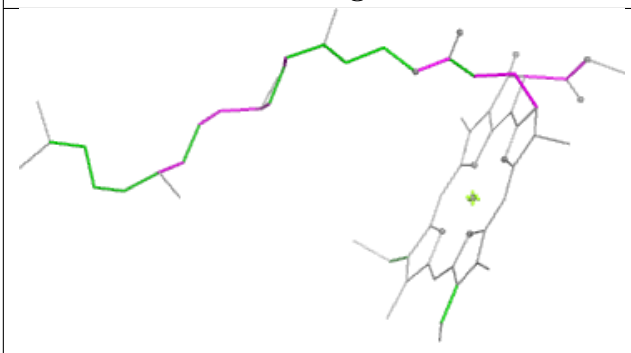


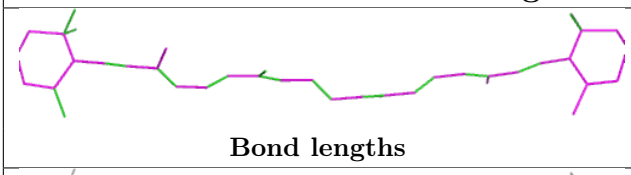
Bond angles



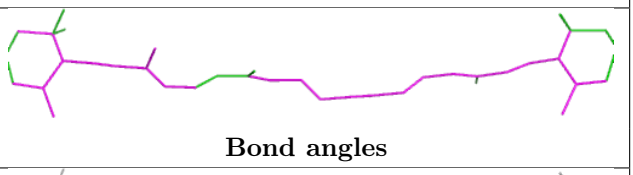
Torsions

Rings

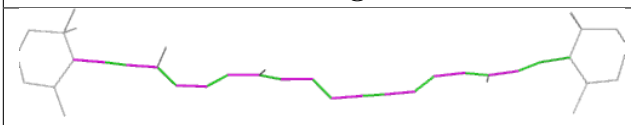
Ligand BCR C 514



Bond lengths



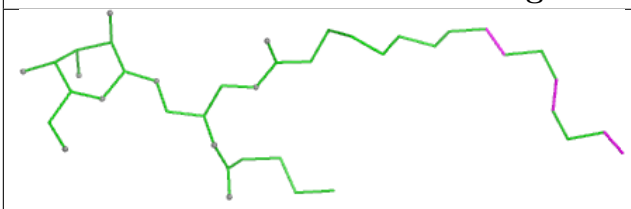
Bond angles



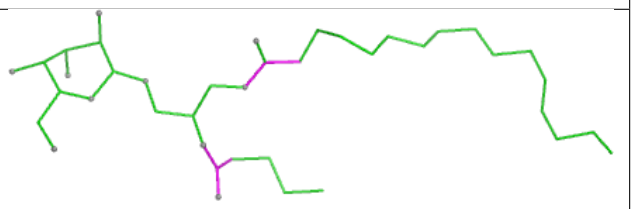
Torsions

Rings

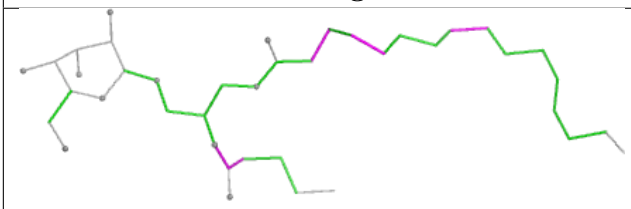
Ligand LMG I 101



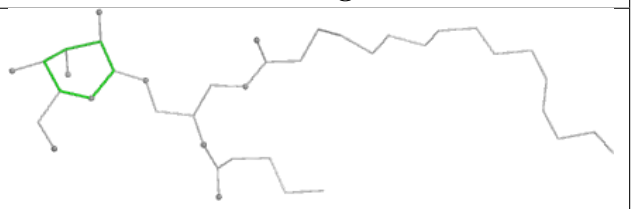
Bond lengths



Bond angles

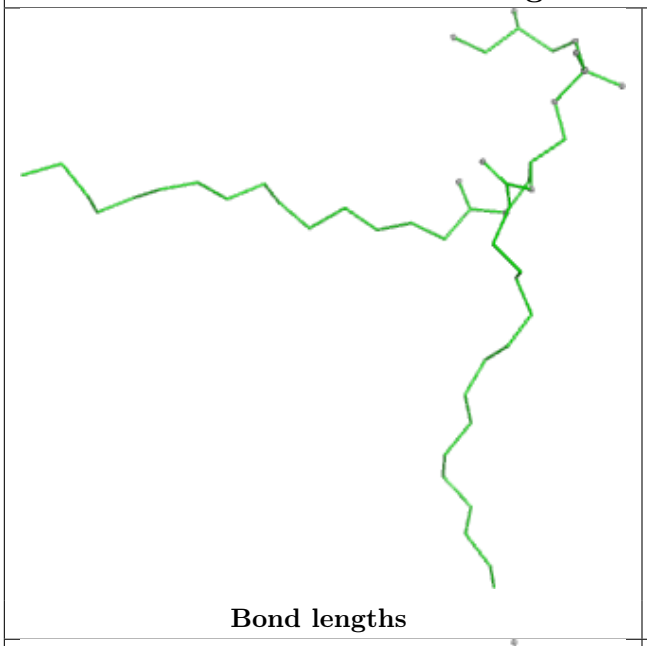


Torsions

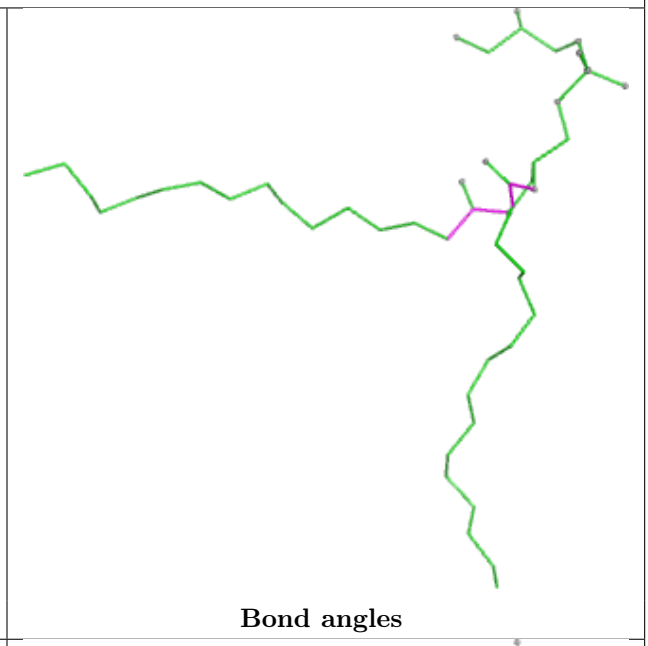


Rings

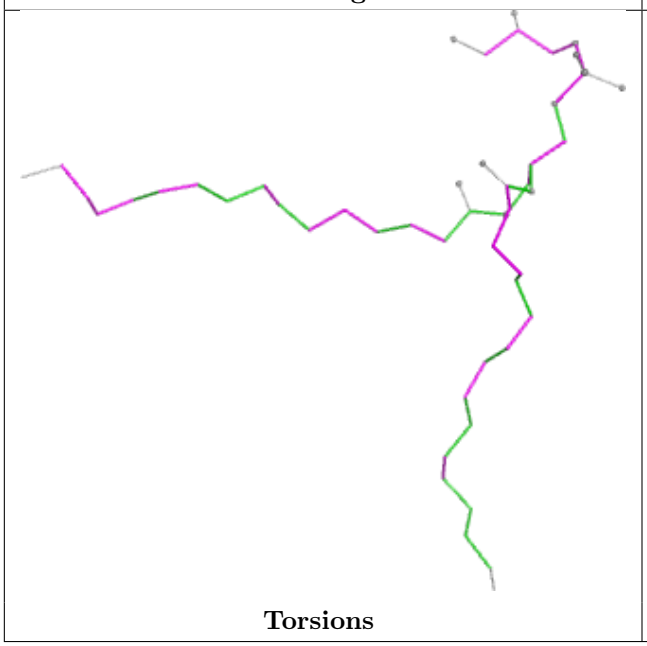
Ligand LHG L 101



Bond lengths



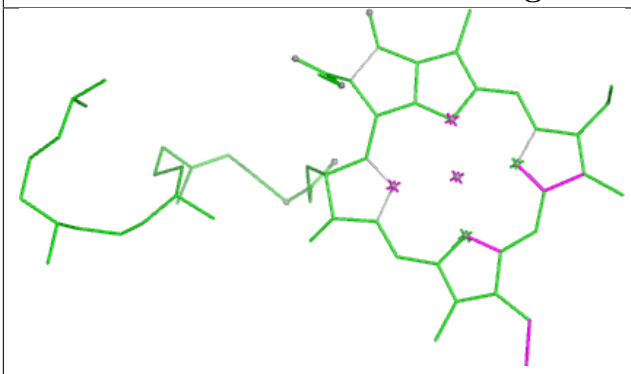
Bond angles



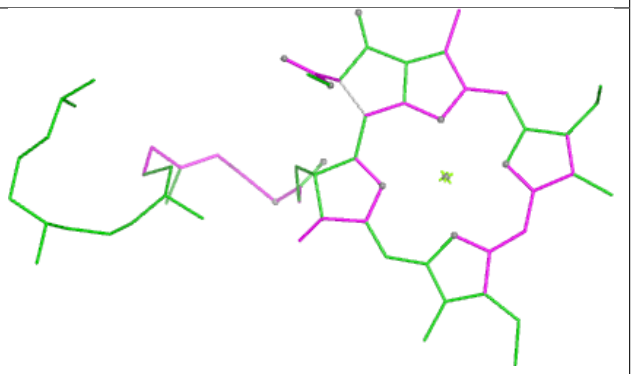
Torsions

Rings

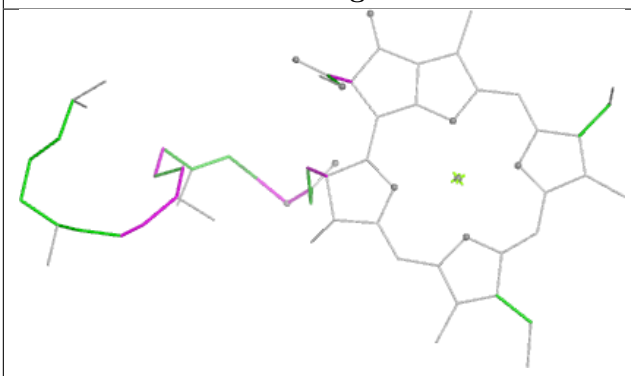
Ligand CLA B 512



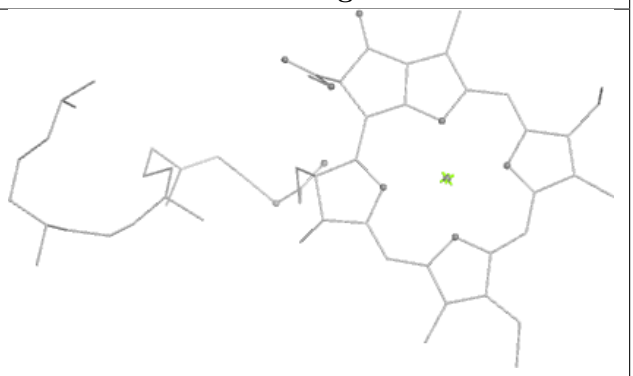
Bond lengths



Bond angles

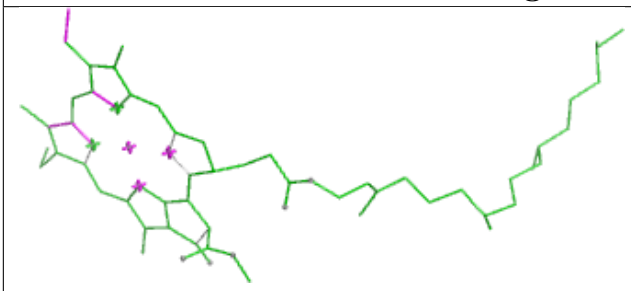


Torsions

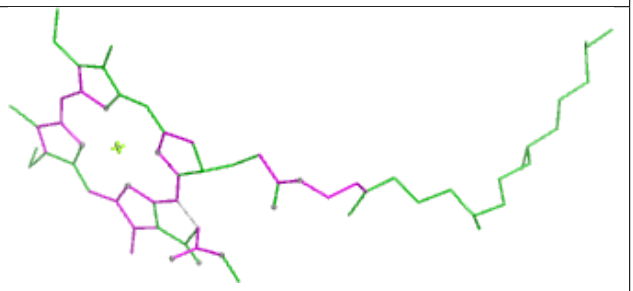


Rings

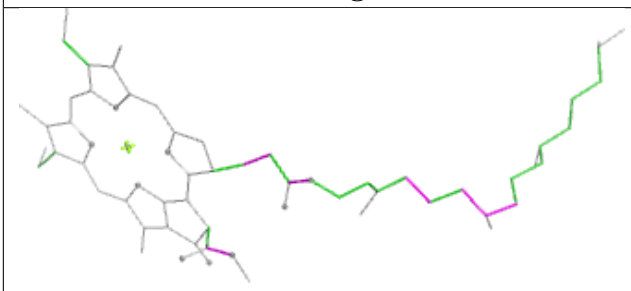
Ligand CLA A 405



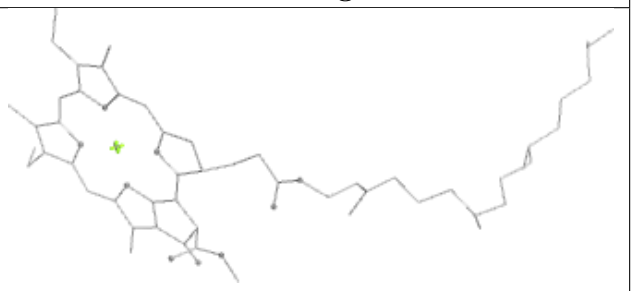
Bond lengths



Bond angles

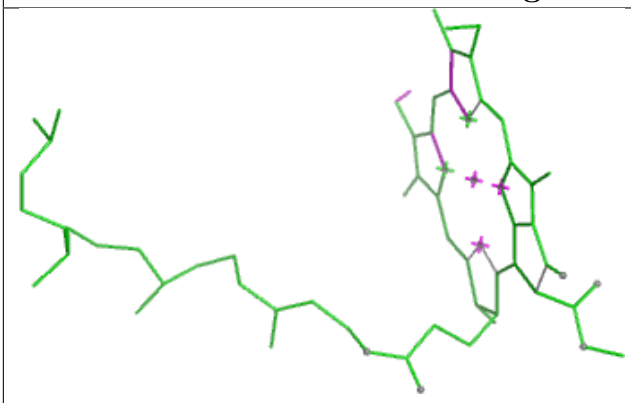


Torsions

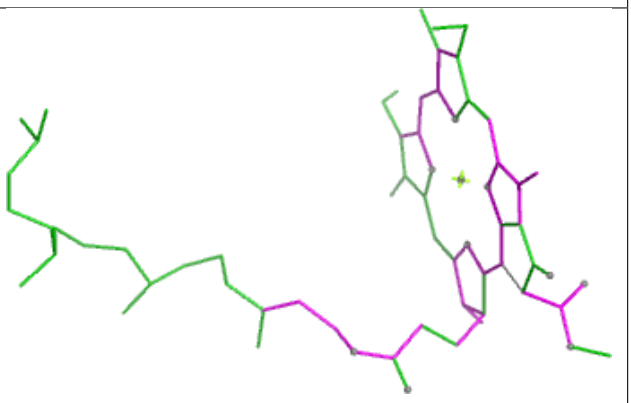


Rings

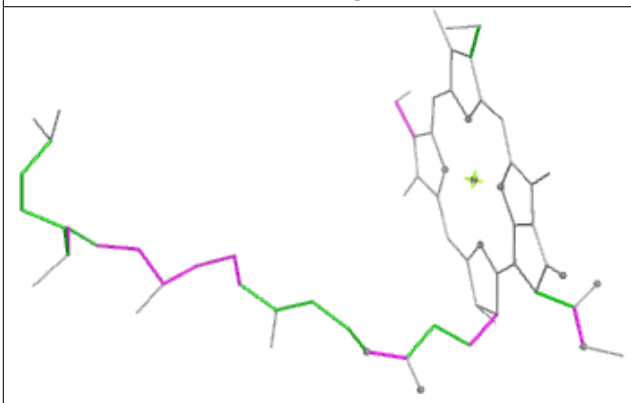
Ligand CLA D 404



Bond lengths



Bond angles

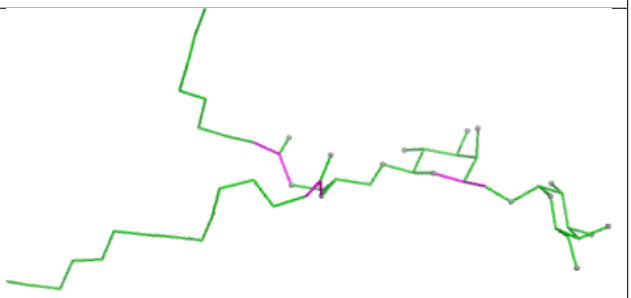


Torsions

Rings

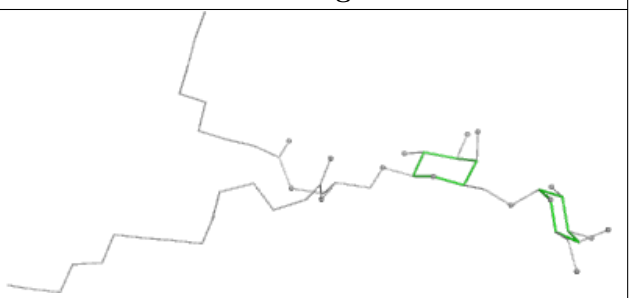
Ligand DGD C 515

Bond lengths



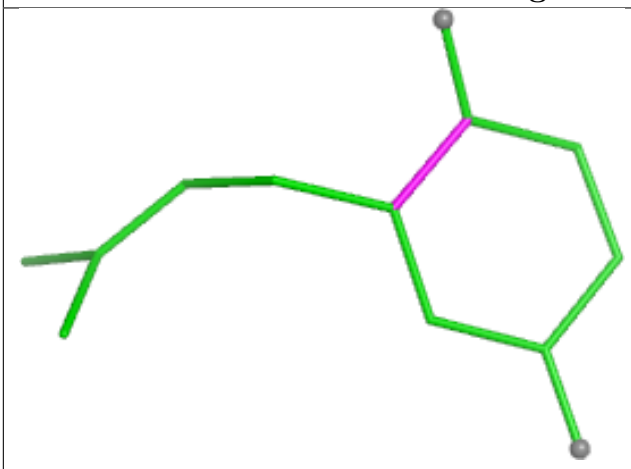
Bond angles

Torsions

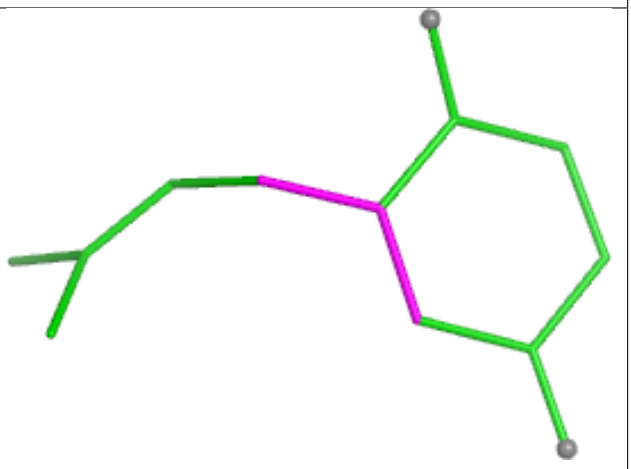


Rings

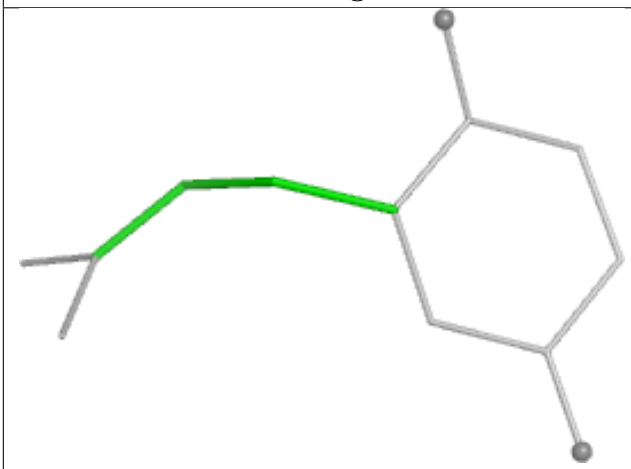
Ligand PL9 A 411



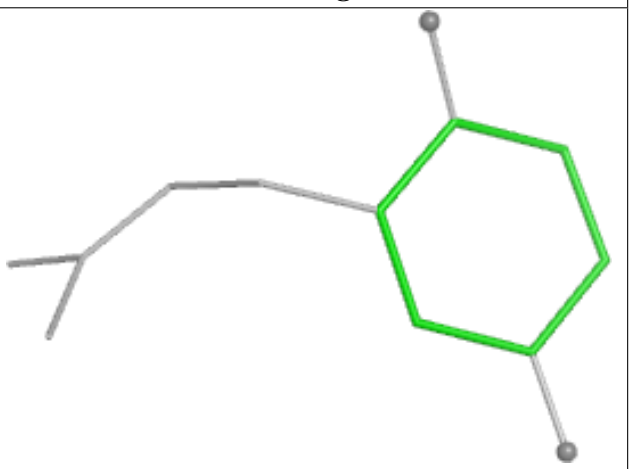
Bond lengths



Bond angles

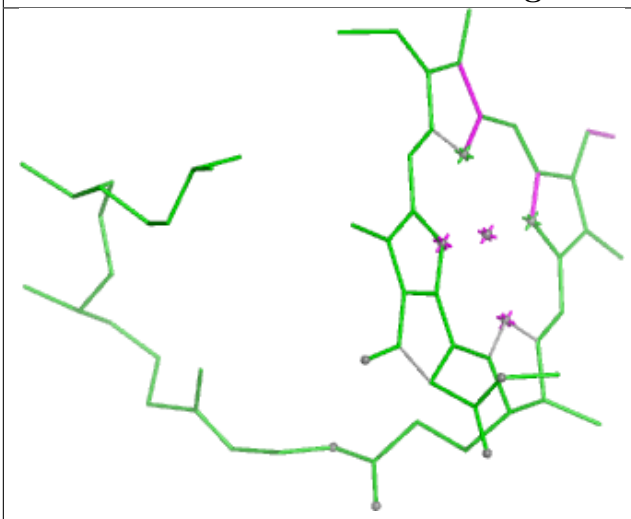


Torsions

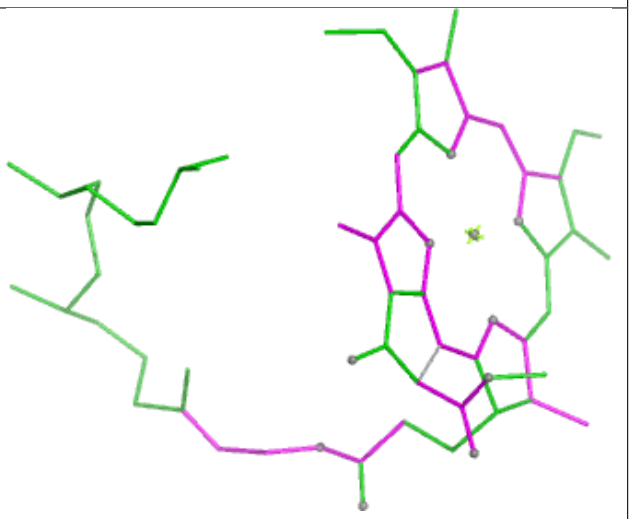


Rings

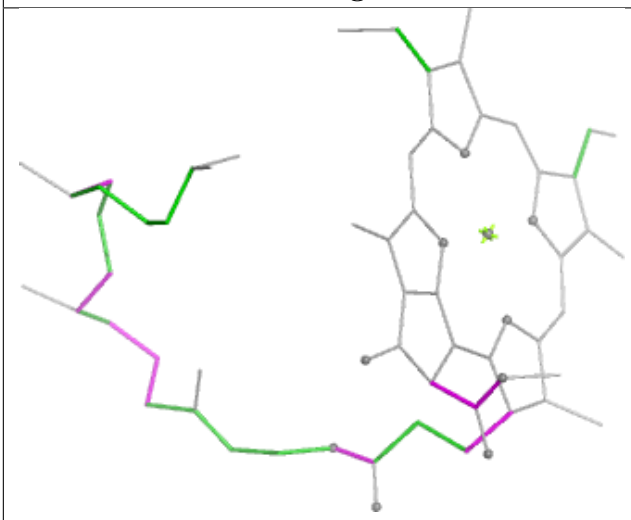
Ligand CLA C 503



Bond lengths



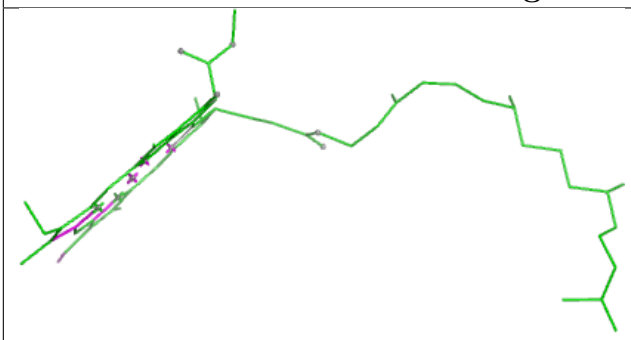
Bond angles



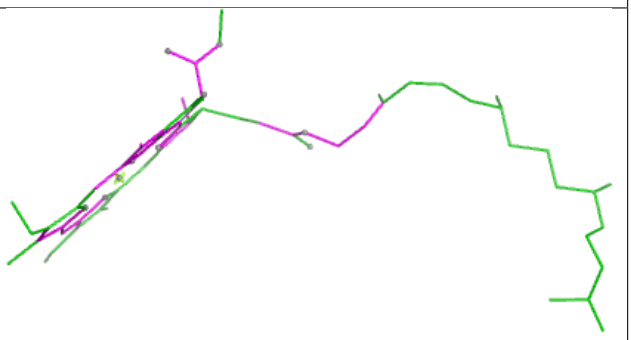
Torsions

Rings

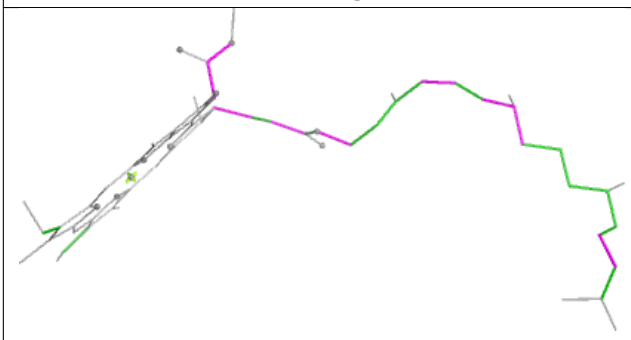
Ligand CLA D 403



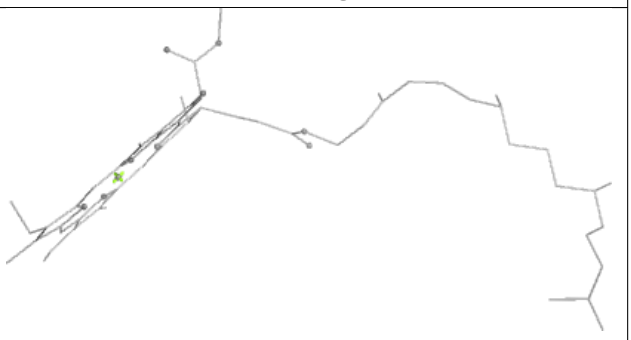
Bond lengths



Bond angles

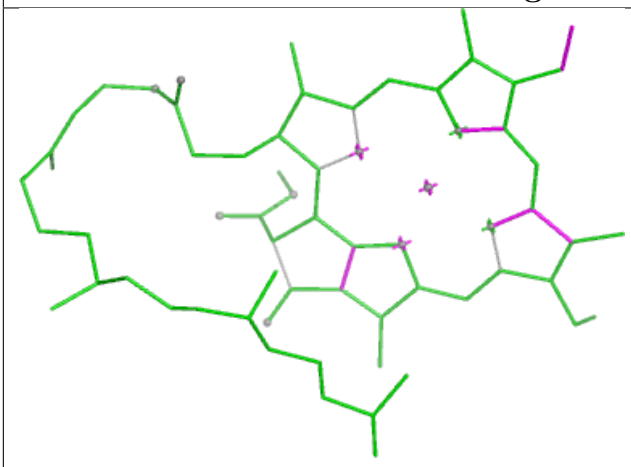


Torsions

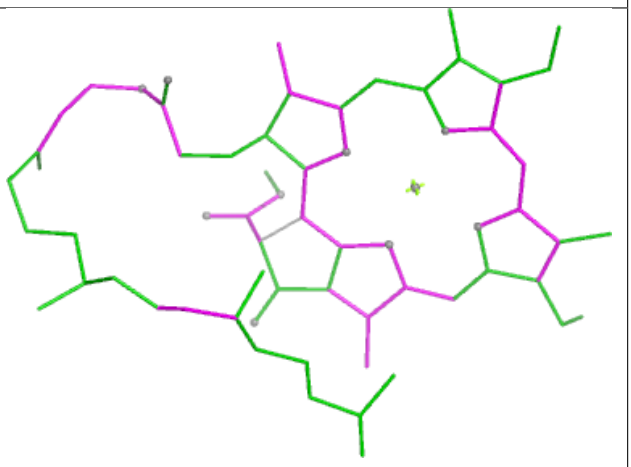


Rings

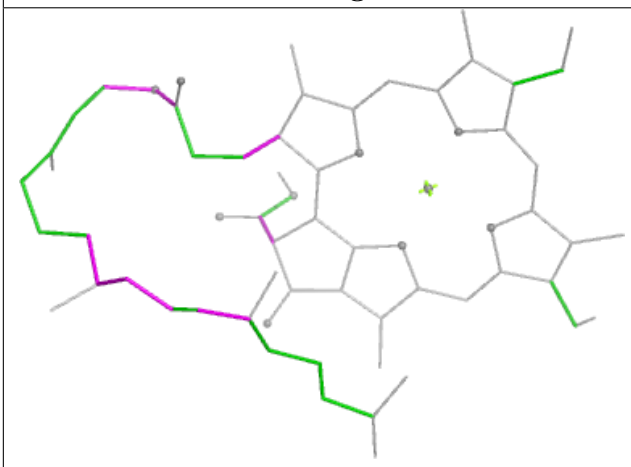
Ligand CLA C 509



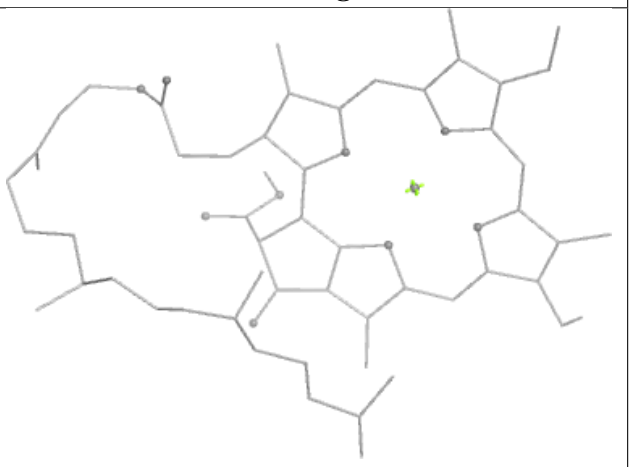
Bond lengths



Bond angles

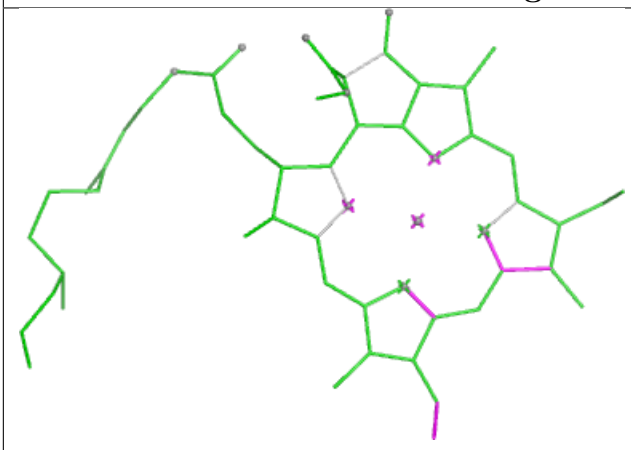


Torsions

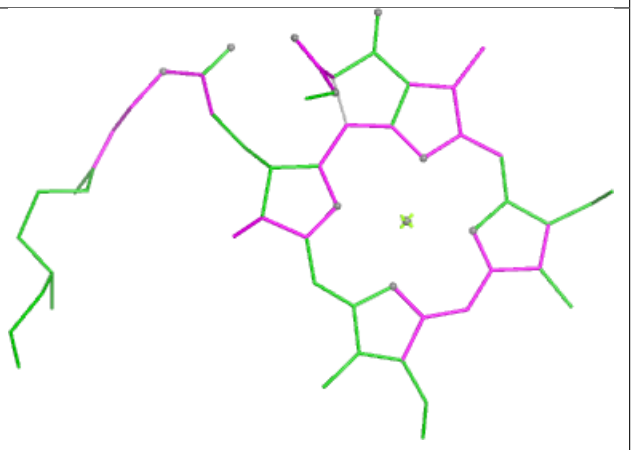


Rings

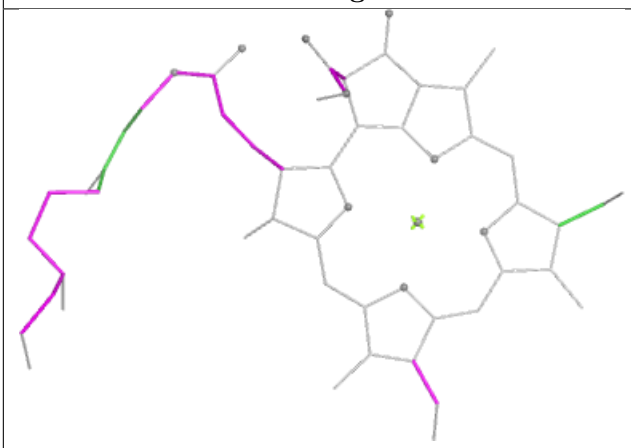
Ligand CLA C 512



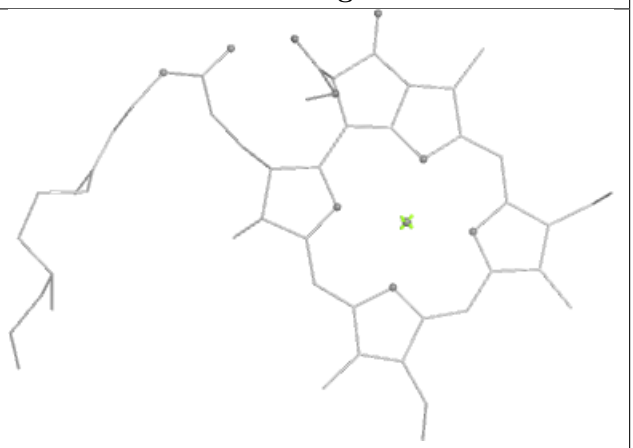
Bond lengths



Bond angles

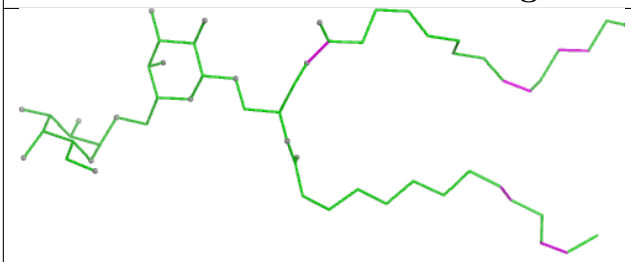


Torsions

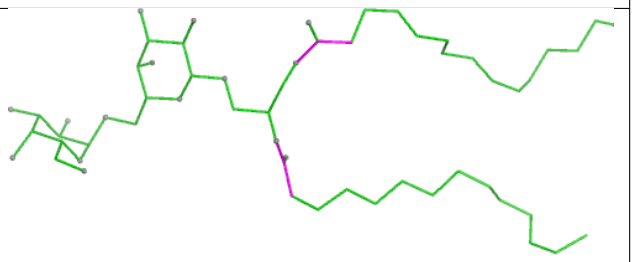


Rings

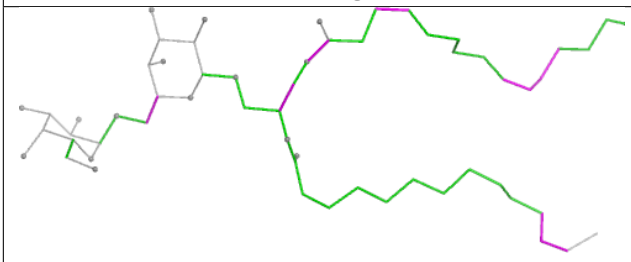
Ligand DGD C 517



Bond lengths



Bond angles



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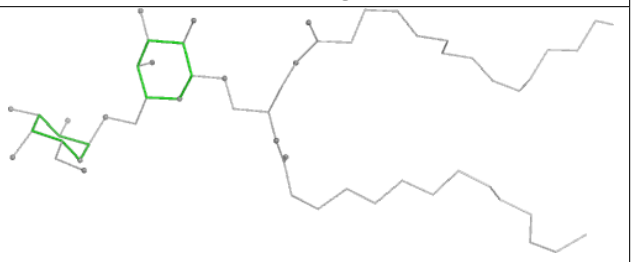
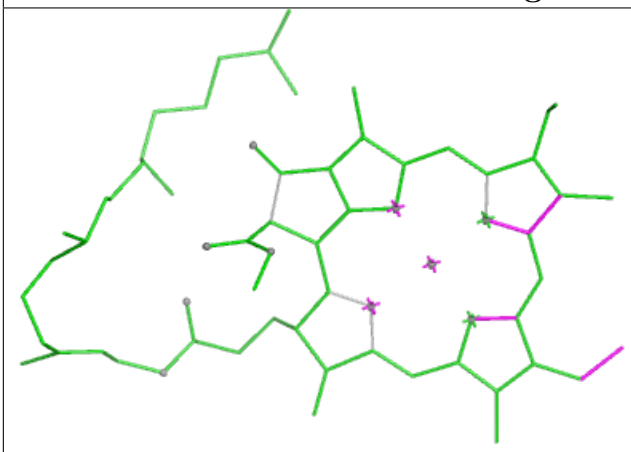
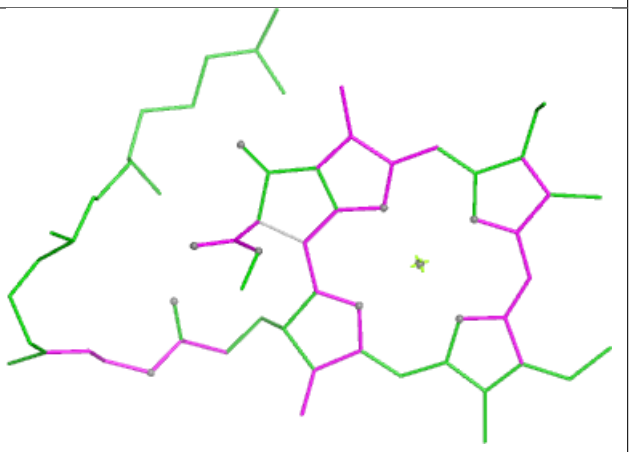


Rings

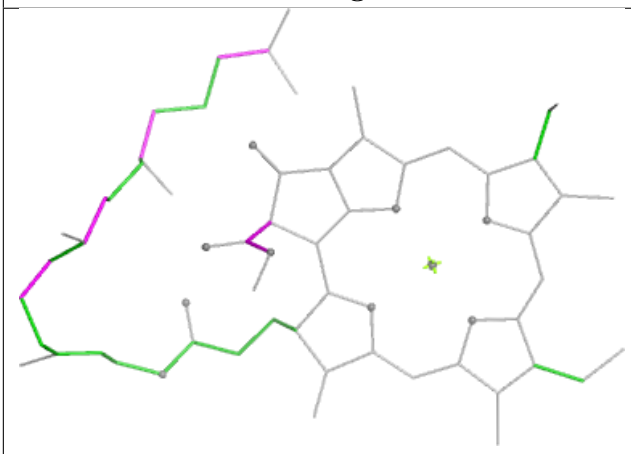
Ligand CLA B 510



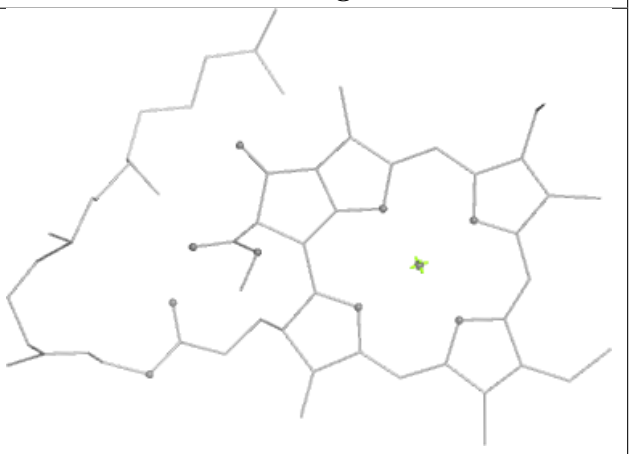
Bond lengths



Bond angles

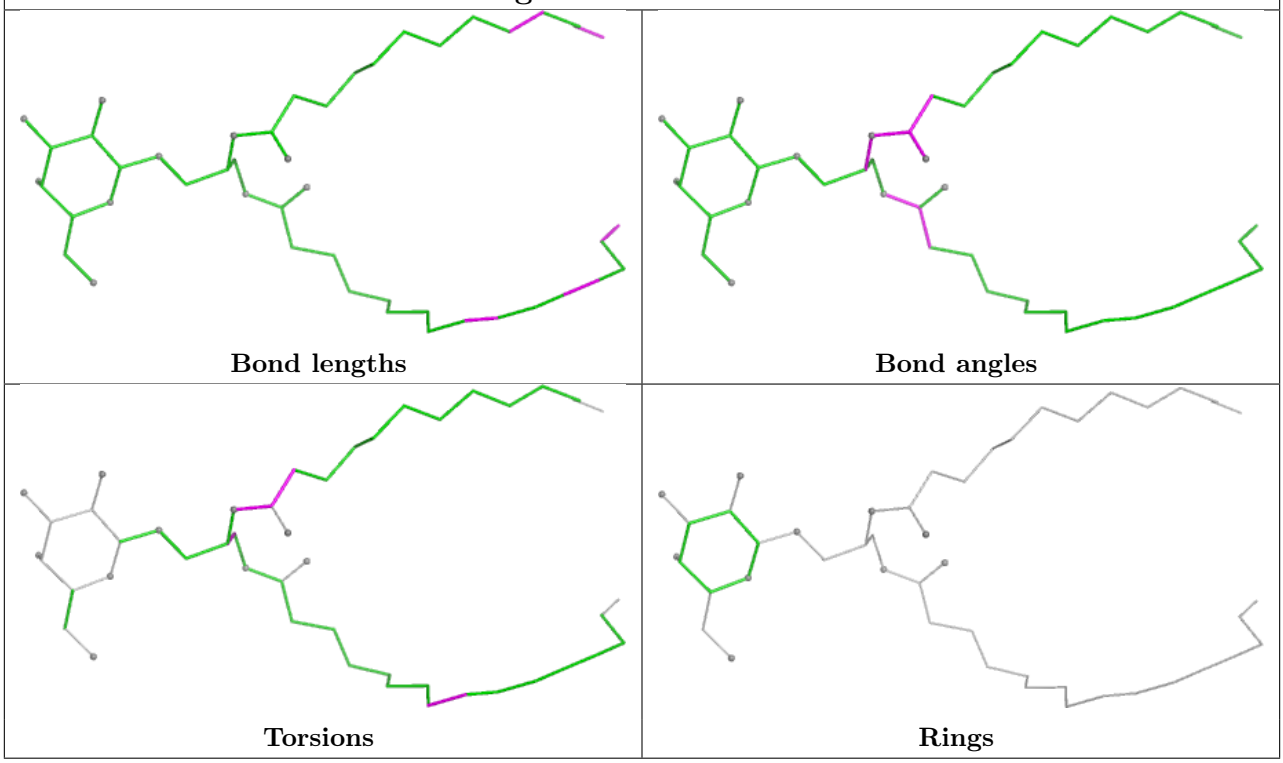


Torsions

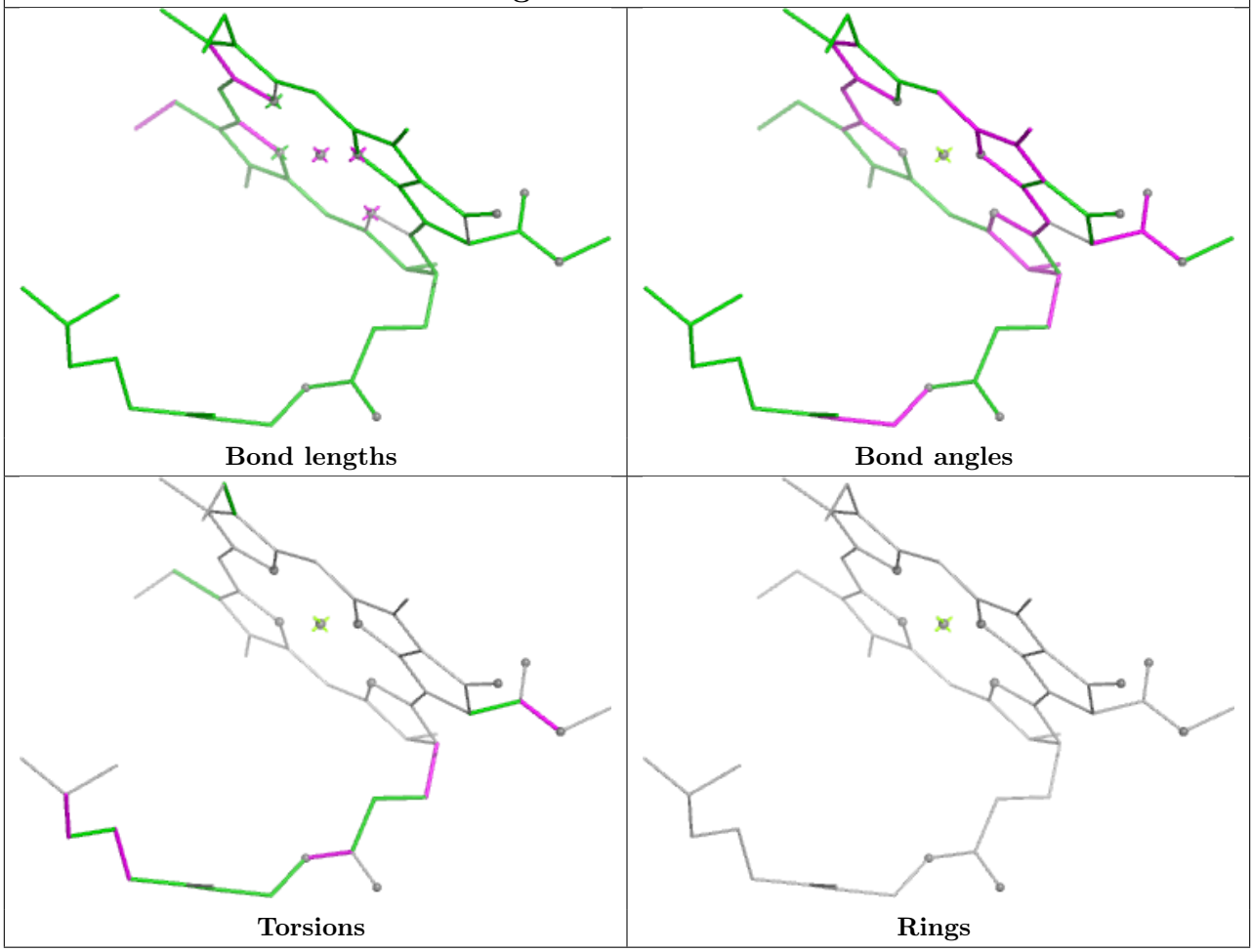


Rings

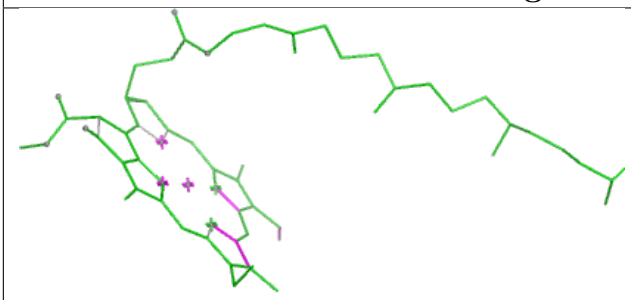
Ligand LMG W 101



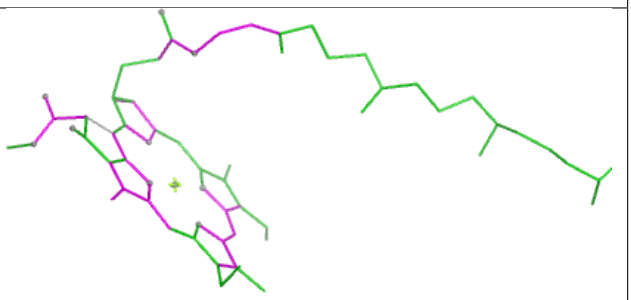
Ligand CLA C 513



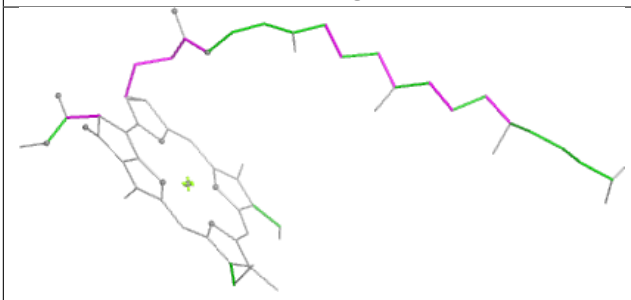
Ligand CLA C 504



Bond lengths



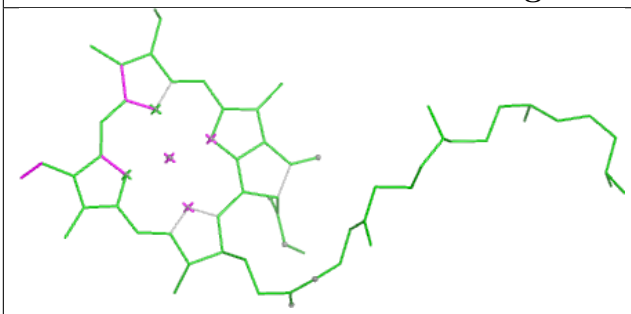
Bond angles



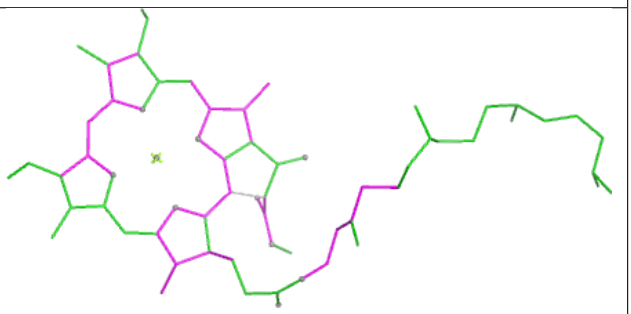
Torsions

Rings

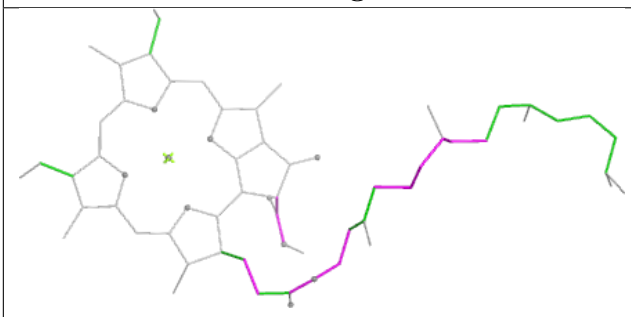
Ligand CLA B 502



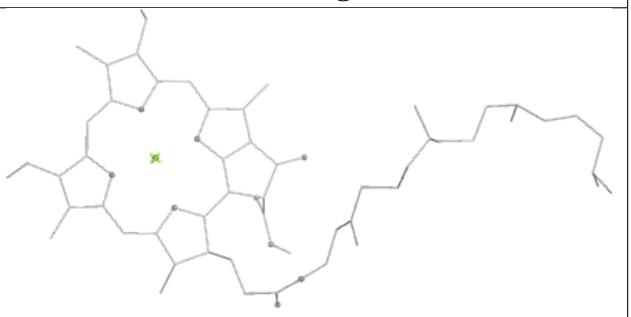
Bond lengths



Bond angles

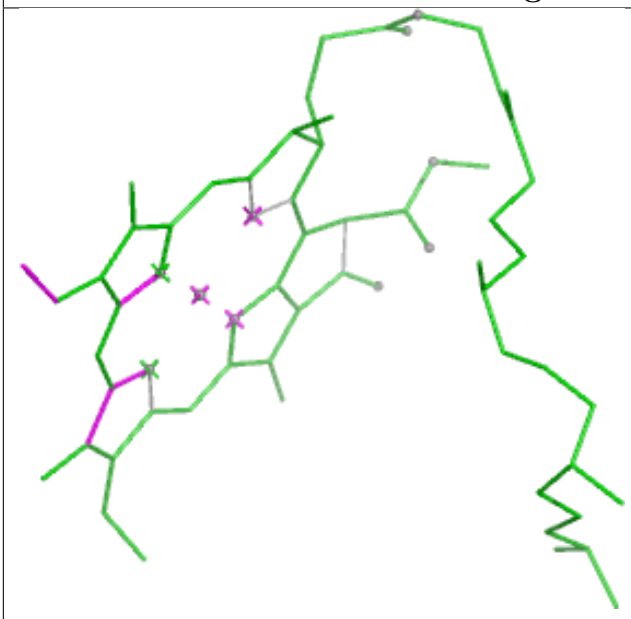


Torsions

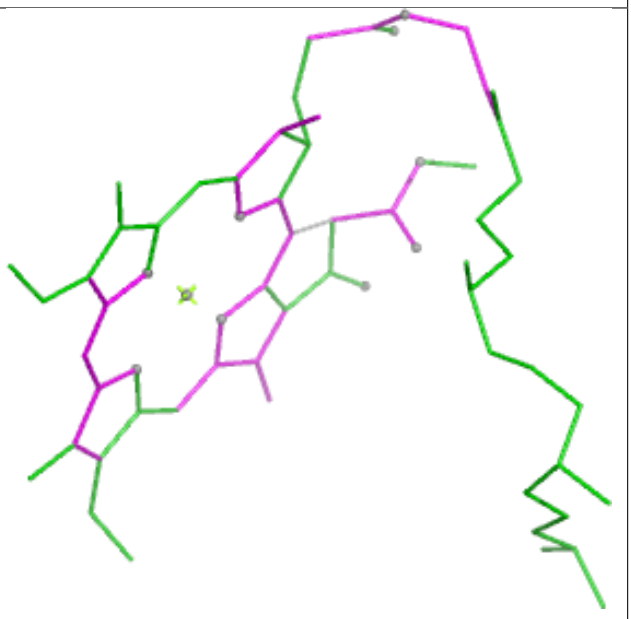


Rings

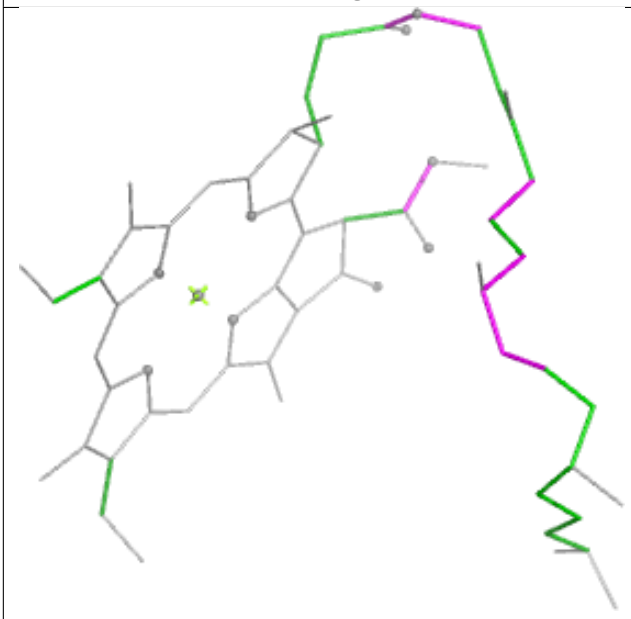
Ligand CLA B 513



Bond lengths



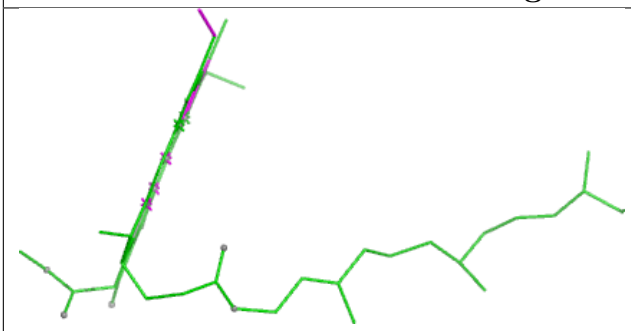
Bond angles



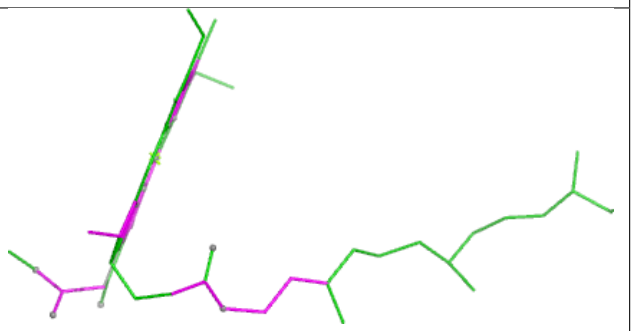
Torsions

Rings

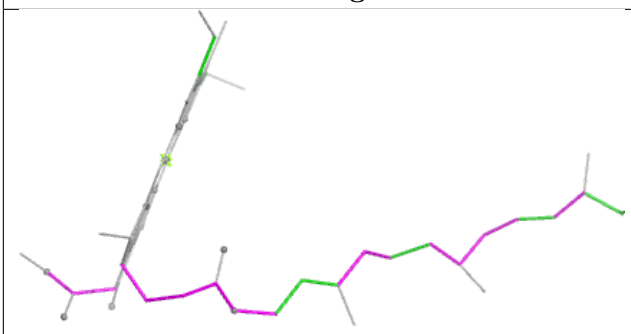
Ligand CLA B 505



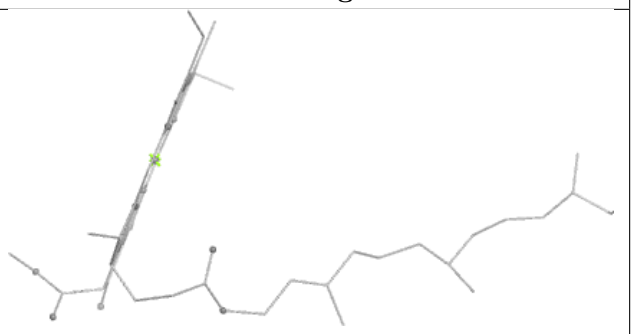
Bond lengths



Bond angles

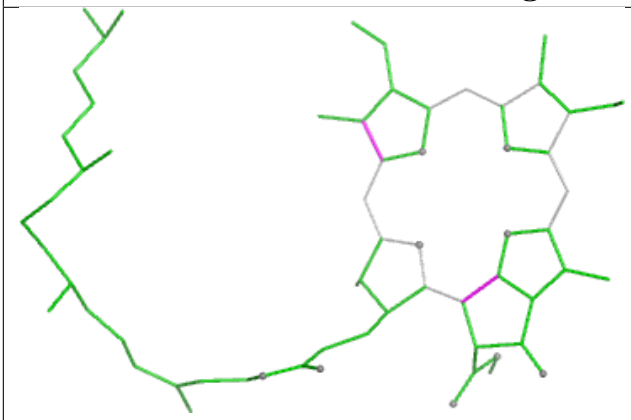


Torsions

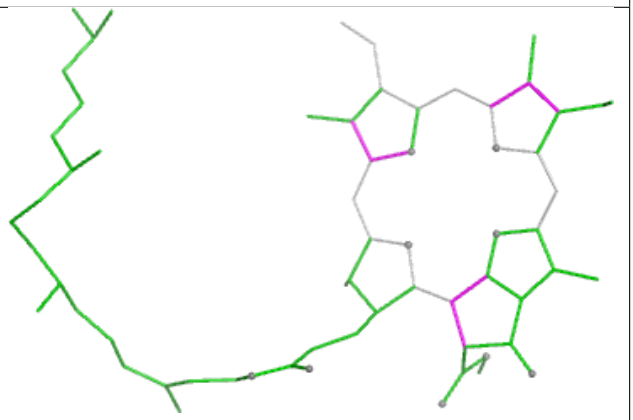


Rings

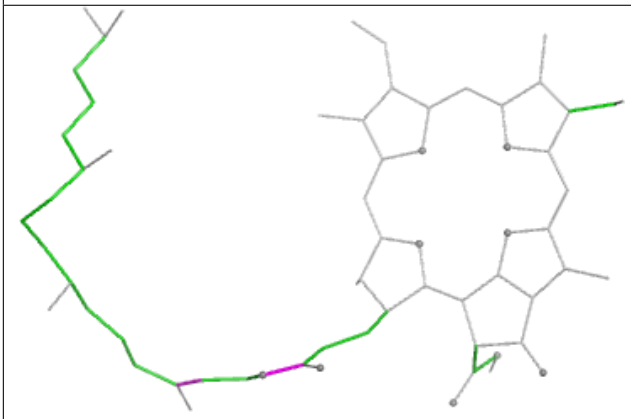
Ligand PHO A 407



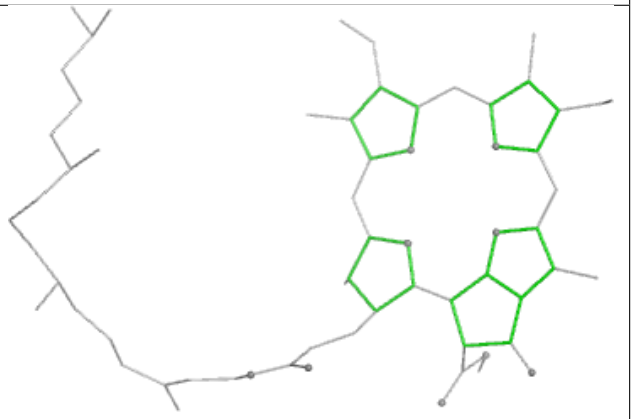
Bond lengths



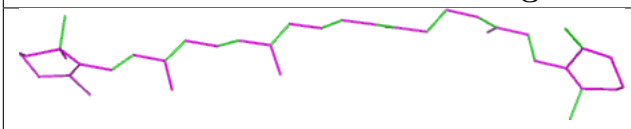
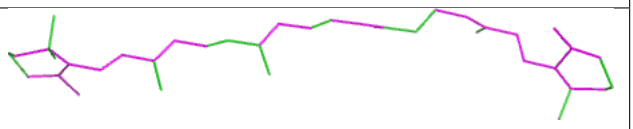
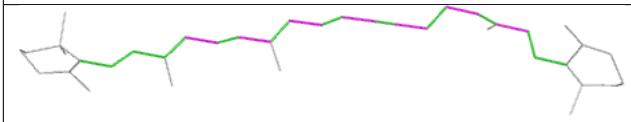
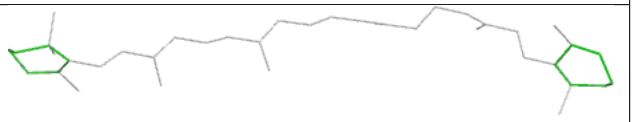
Bond angles

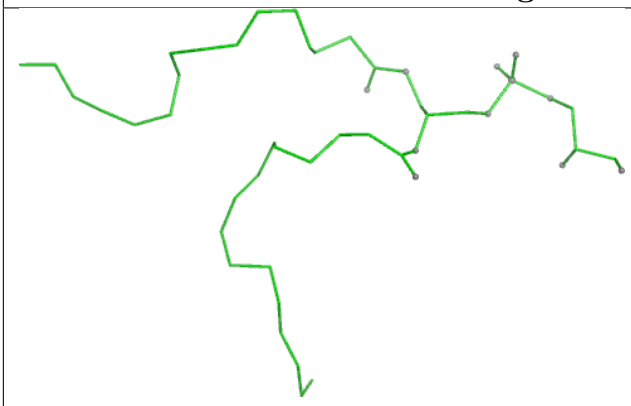
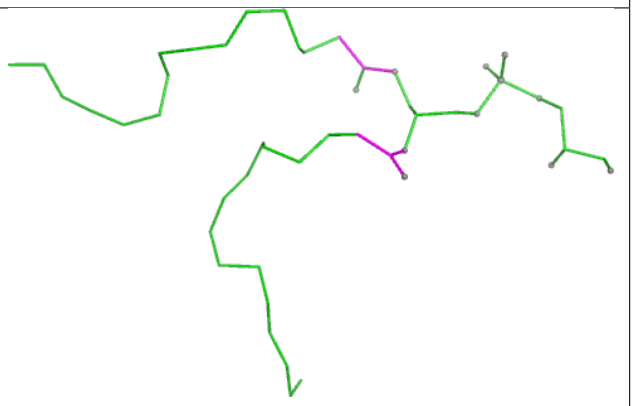
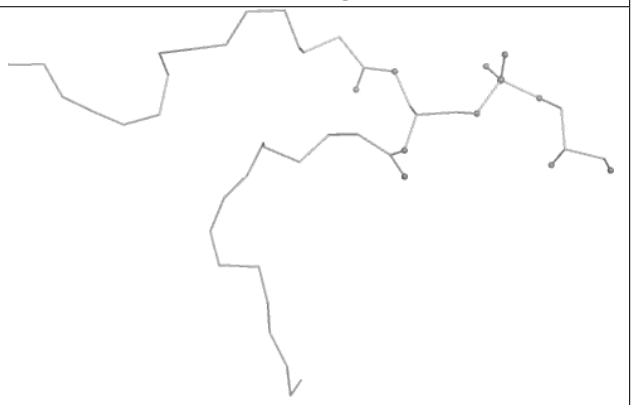


Torsions

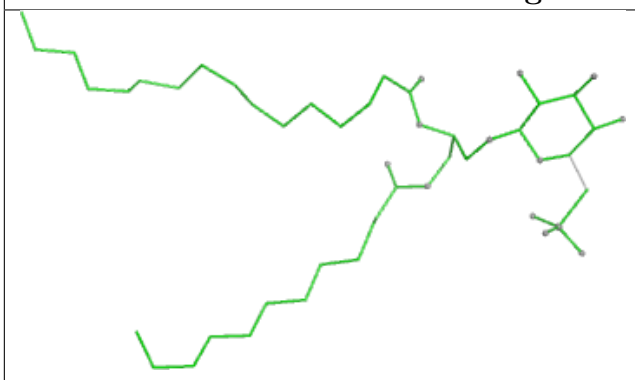


Rings

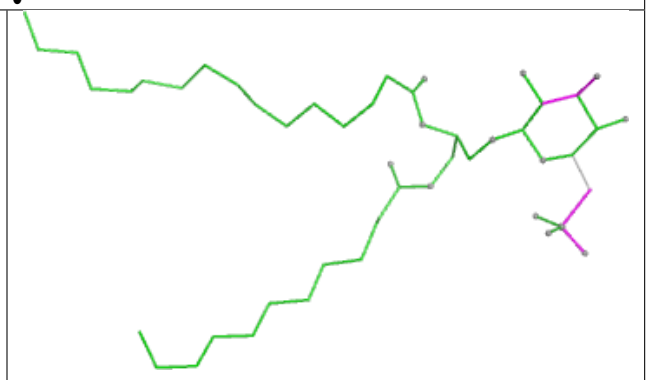
Ligand BCR H 101	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand LHG W 102	
 Bond lengths	 Bond angles
 Torsions	 Rings

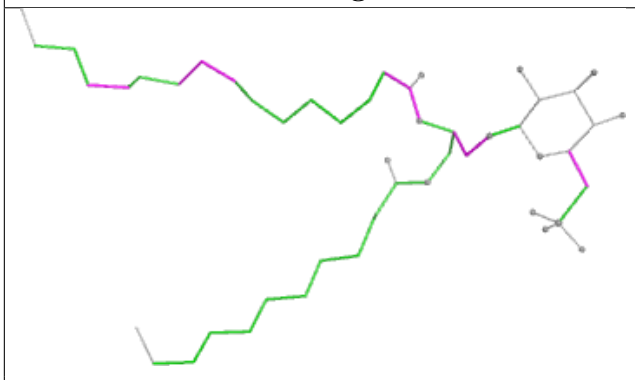
Ligand SQD A 410



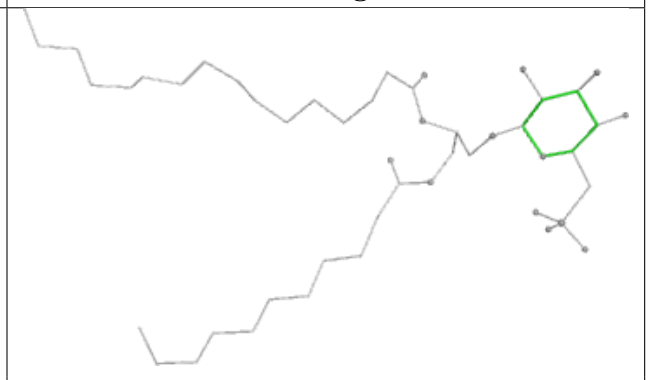
Bond lengths



Bond angles



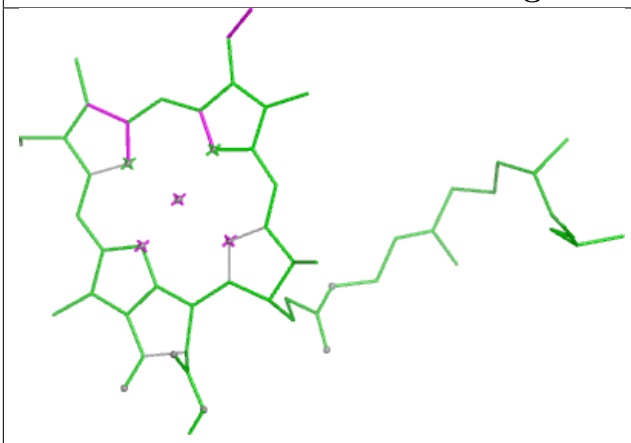
Torsions



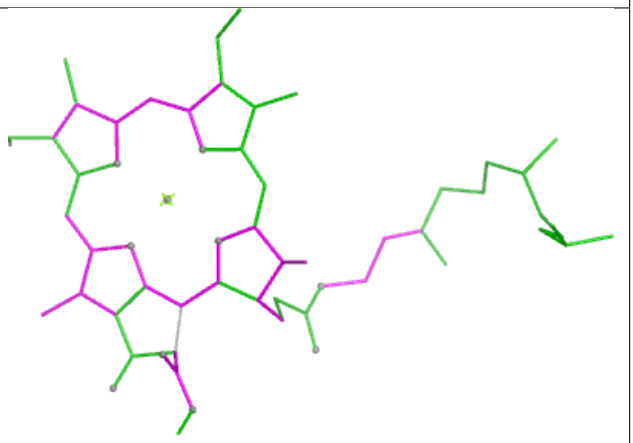
Rings

Ligand LMG C 518

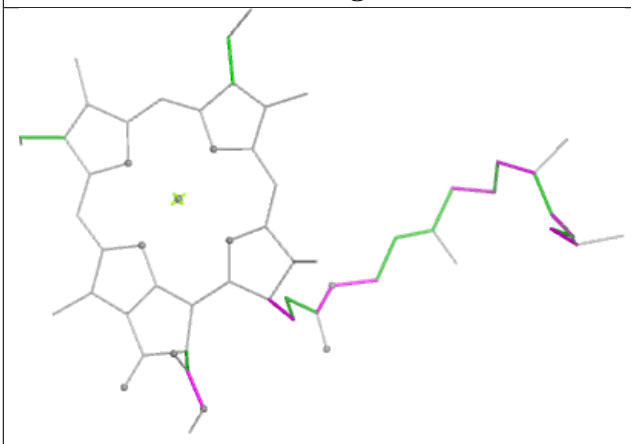
Ligand CLA A 408



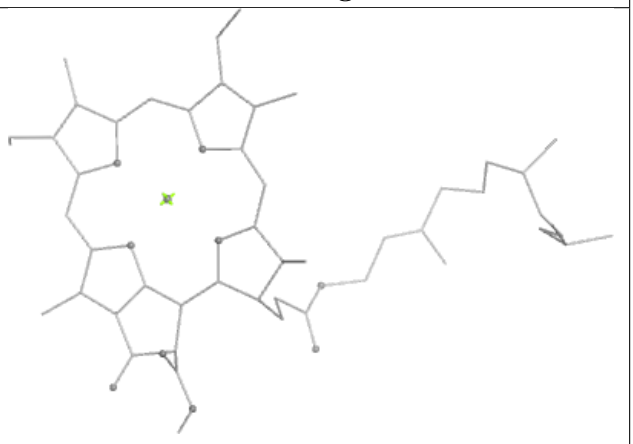
Bond lengths



Bond angles

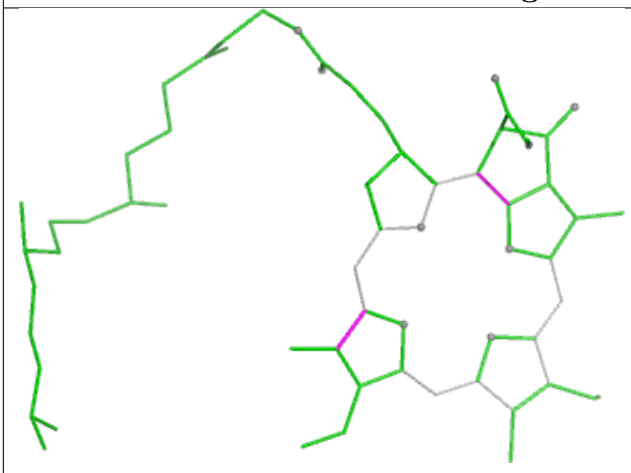


Torsions

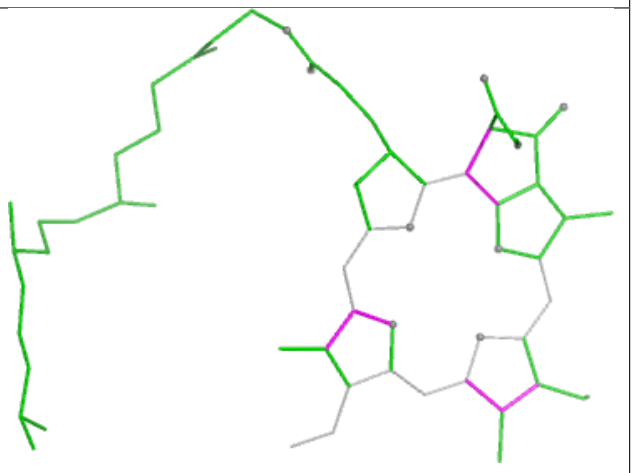


Rings

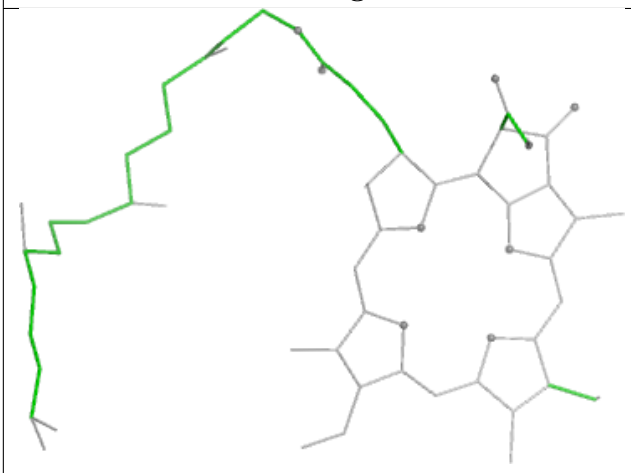
Ligand PHO D 402



Bond lengths



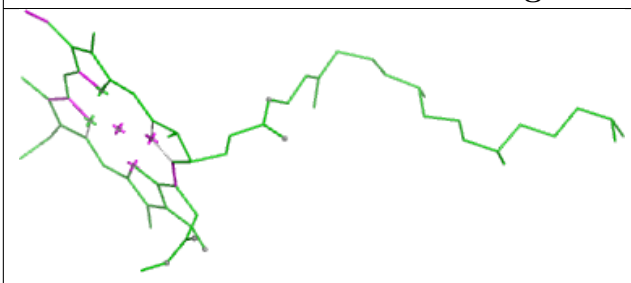
Bond angles



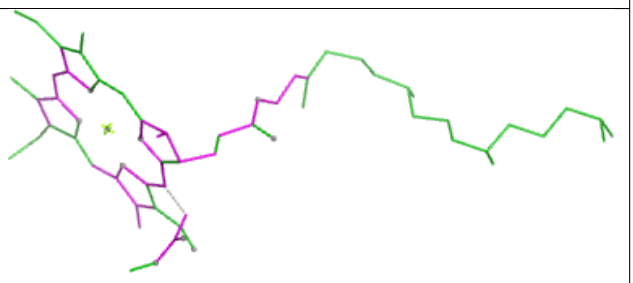
Torsions

Rings

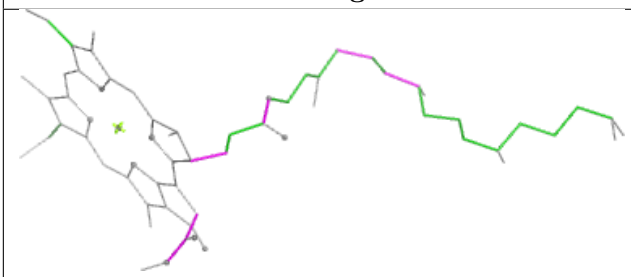
Ligand CLA C 502



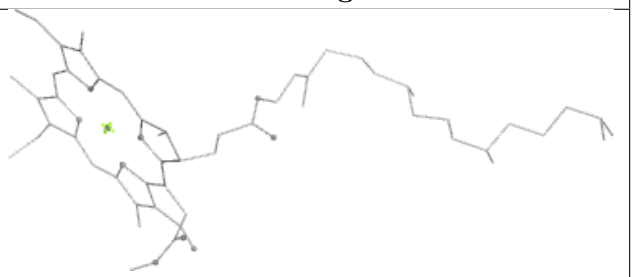
Bond lengths



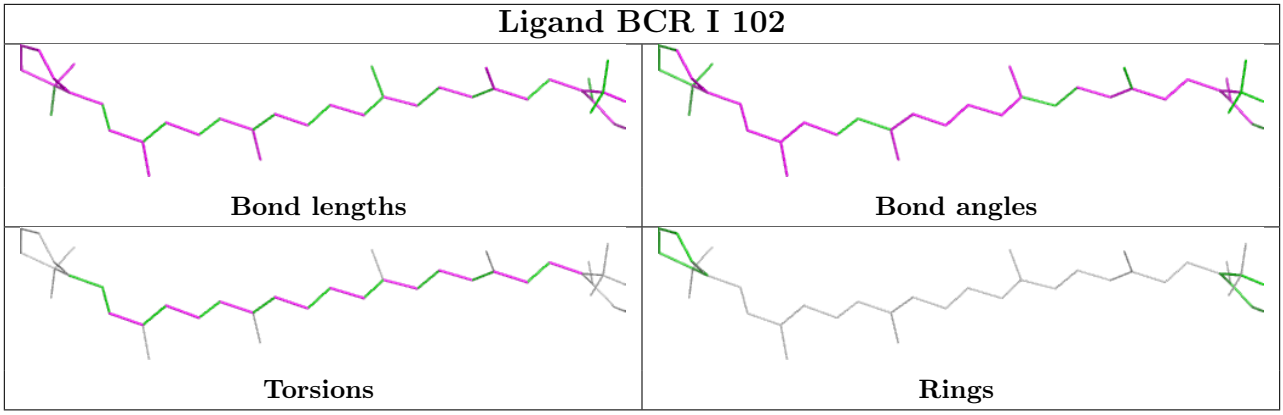
Bond angles



Torsions



Rings



5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

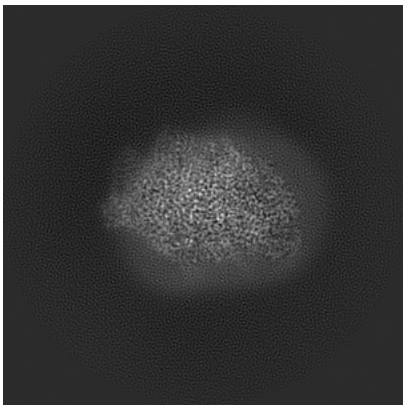
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-54531. These allow visual inspection of the internal detail of the map and identification of artifacts.

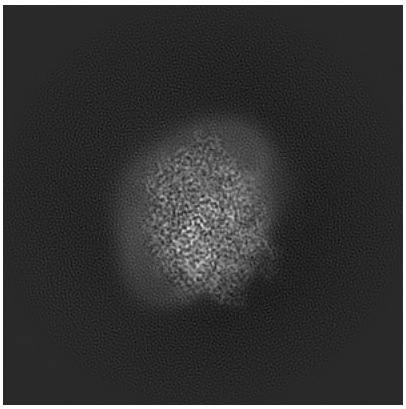
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

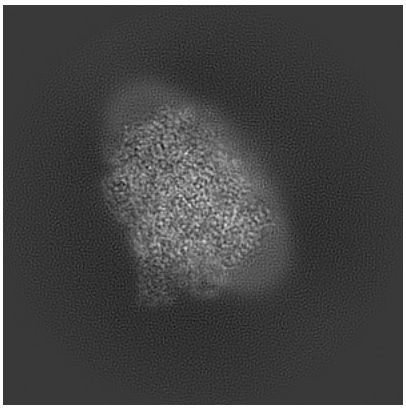
6.1.1 Primary map



X

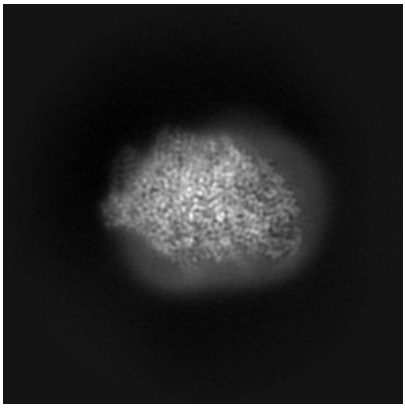


Y

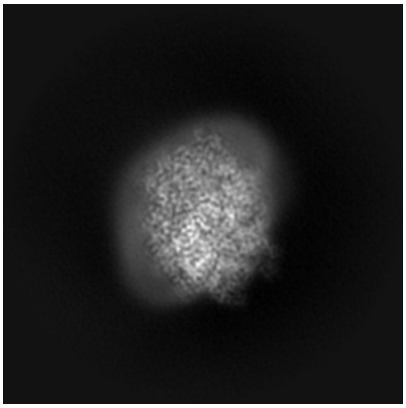


Z

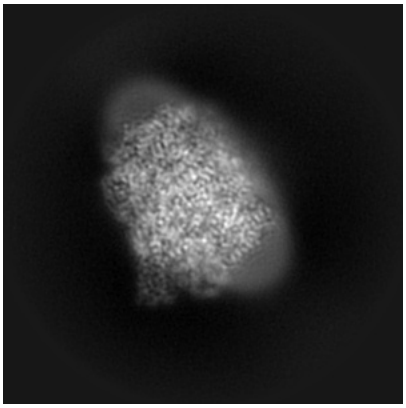
6.1.2 Raw map



X



Y

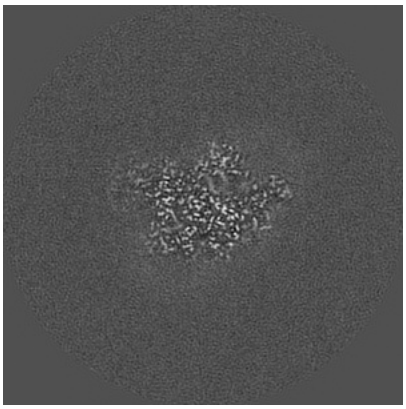


Z

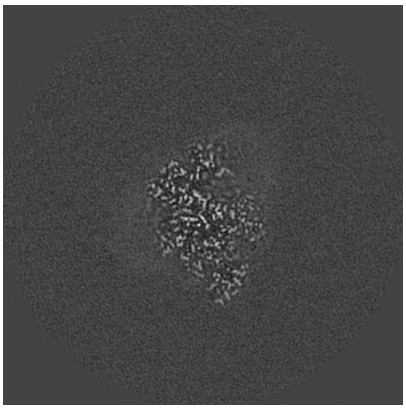
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

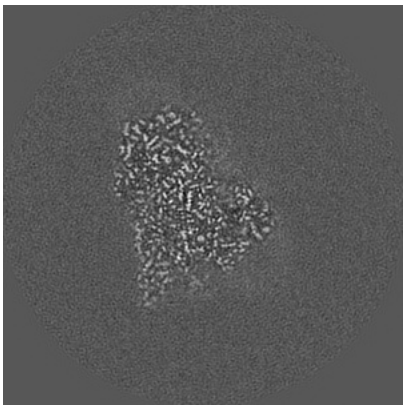
6.2.1 Primary map



X Index: 180

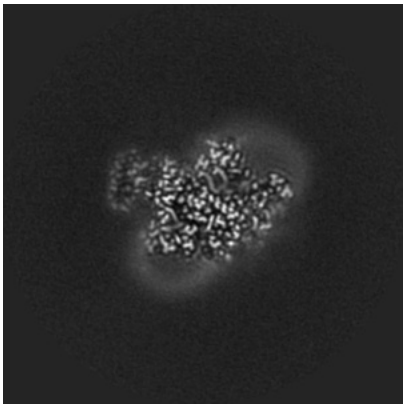


Y Index: 180

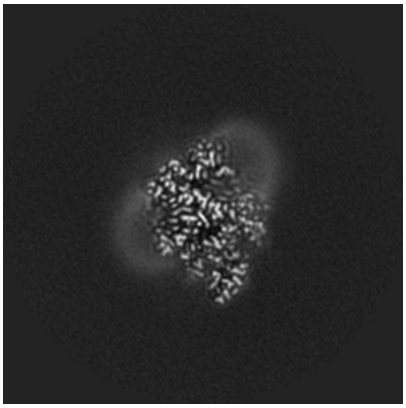


Z Index: 180

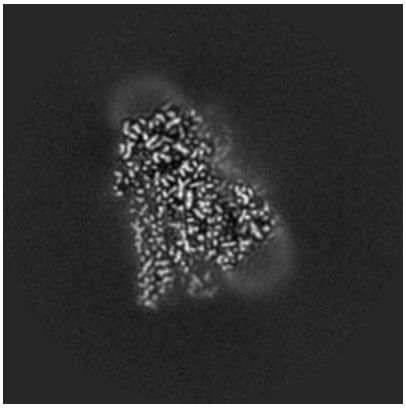
6.2.2 Raw map



X Index: 180



Y Index: 180

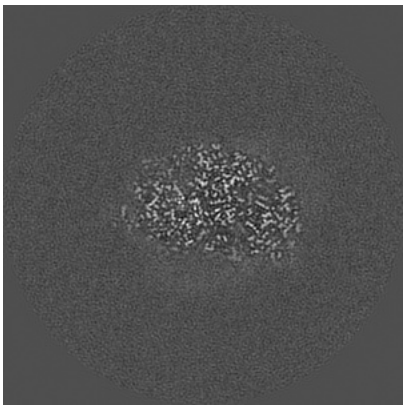


Z Index: 180

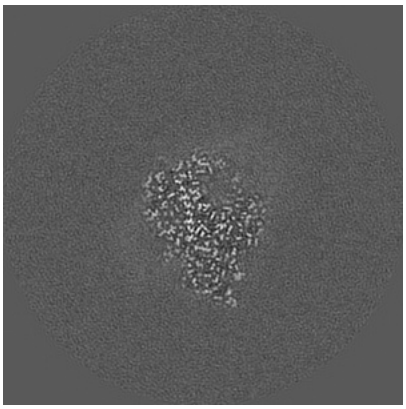
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

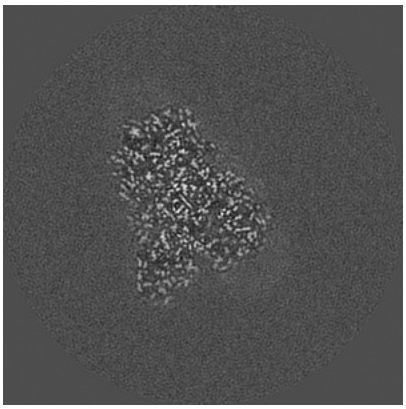
6.3.1 Primary map



X Index: 157

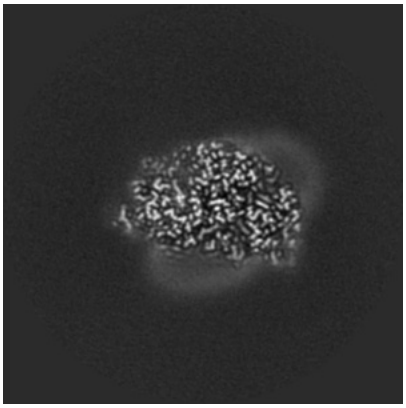


Y Index: 193

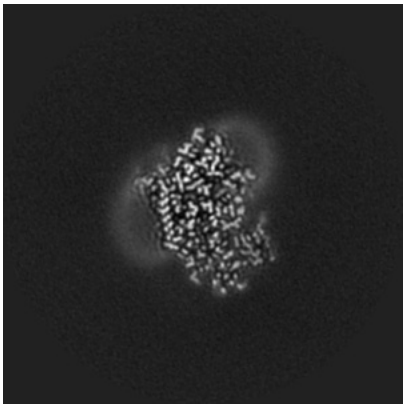


Z Index: 170

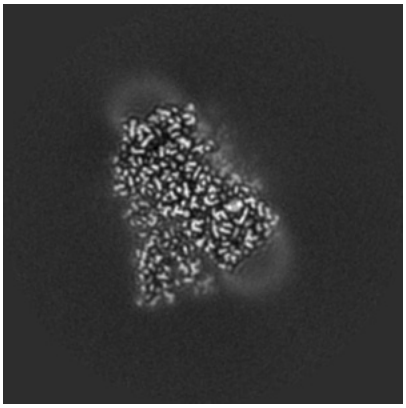
6.3.2 Raw map



X Index: 158



Y Index: 168

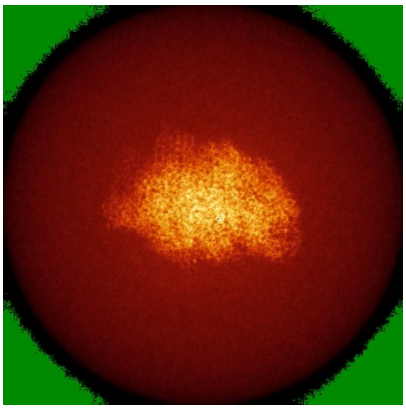


Z Index: 176

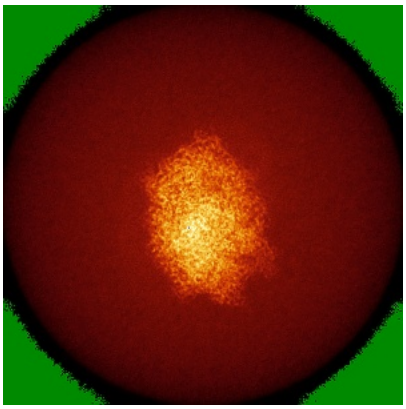
The images above show the largest variance slices of the map in three orthogonal directions.

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

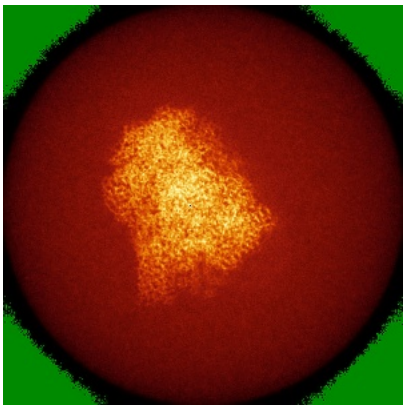
6.4.1 Primary map



X

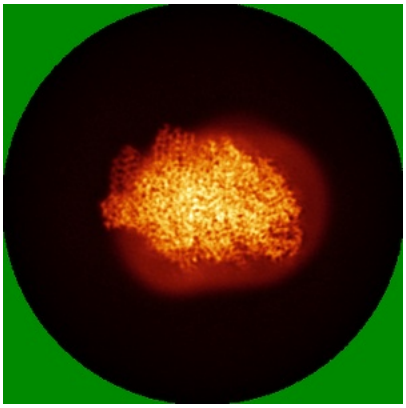


Y

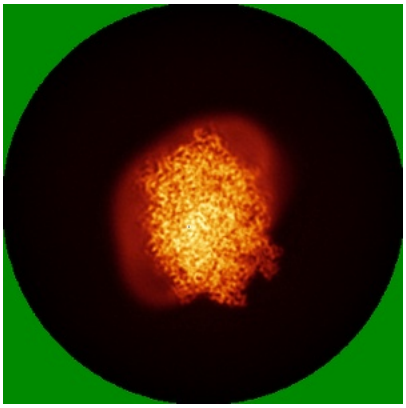


Z

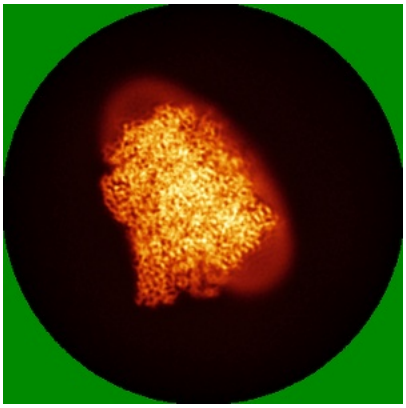
6.4.2 Raw map



X



Y

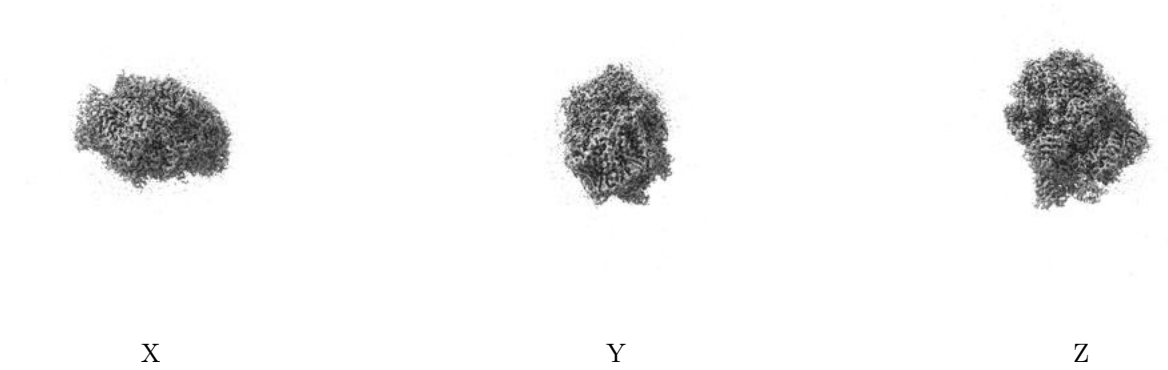


Z

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 0.02. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

X Y Z

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

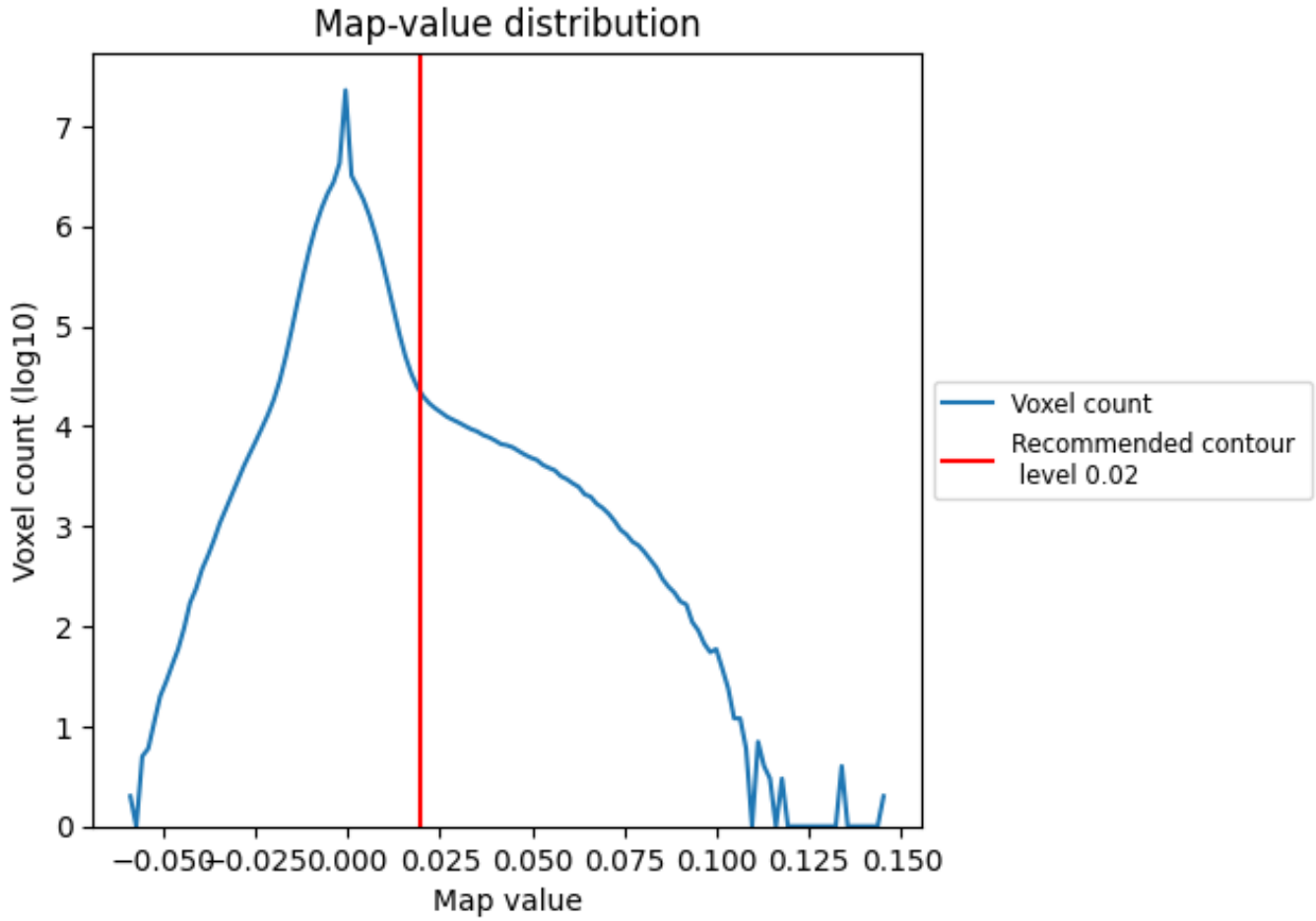
6.6 Mask visualisation (i)

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

7 Map analysis

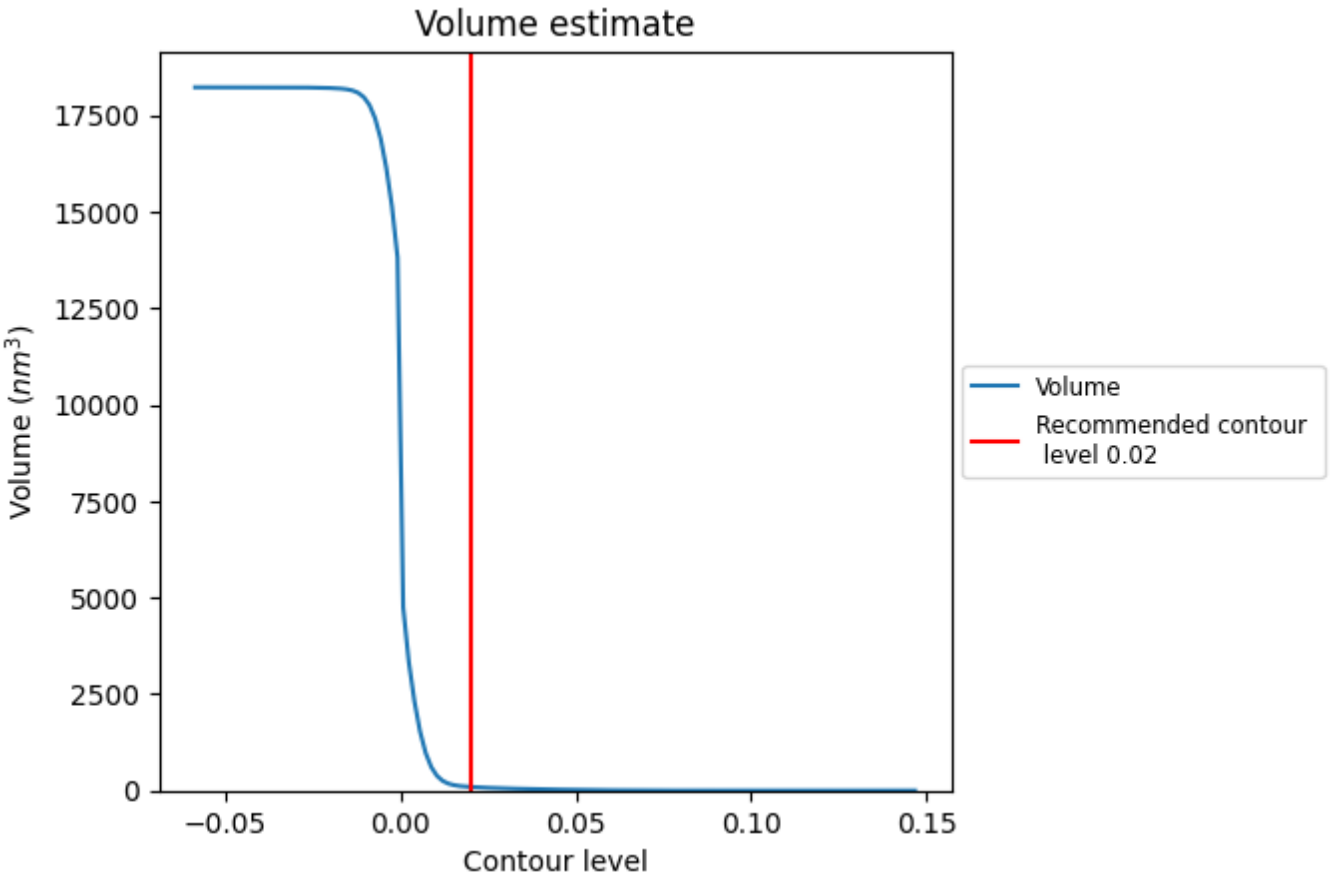
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

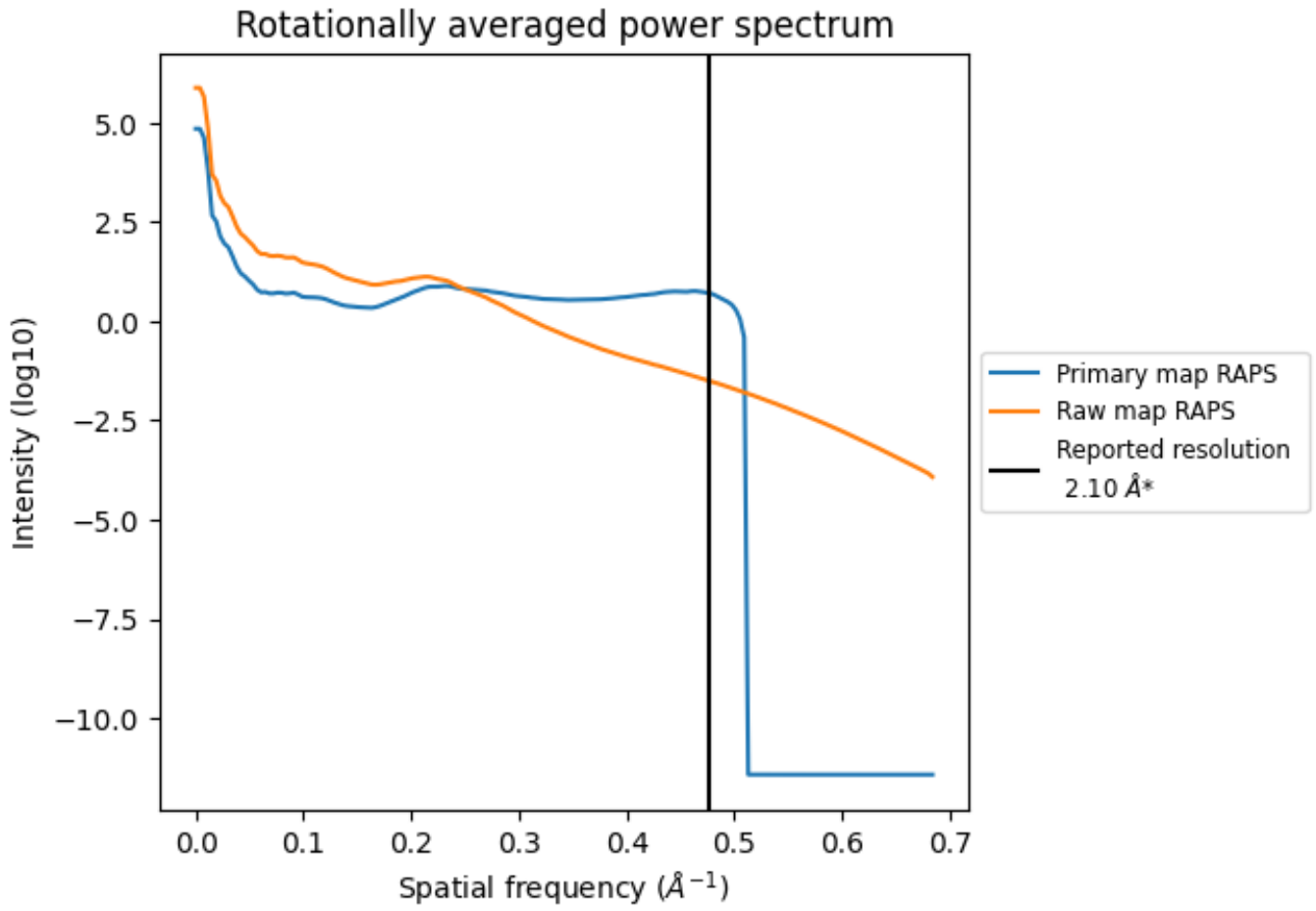
7.2 Volume estimate (i)



The volume at the recommended contour level is 93 nm^3; this corresponds to an approximate mass of 84 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)

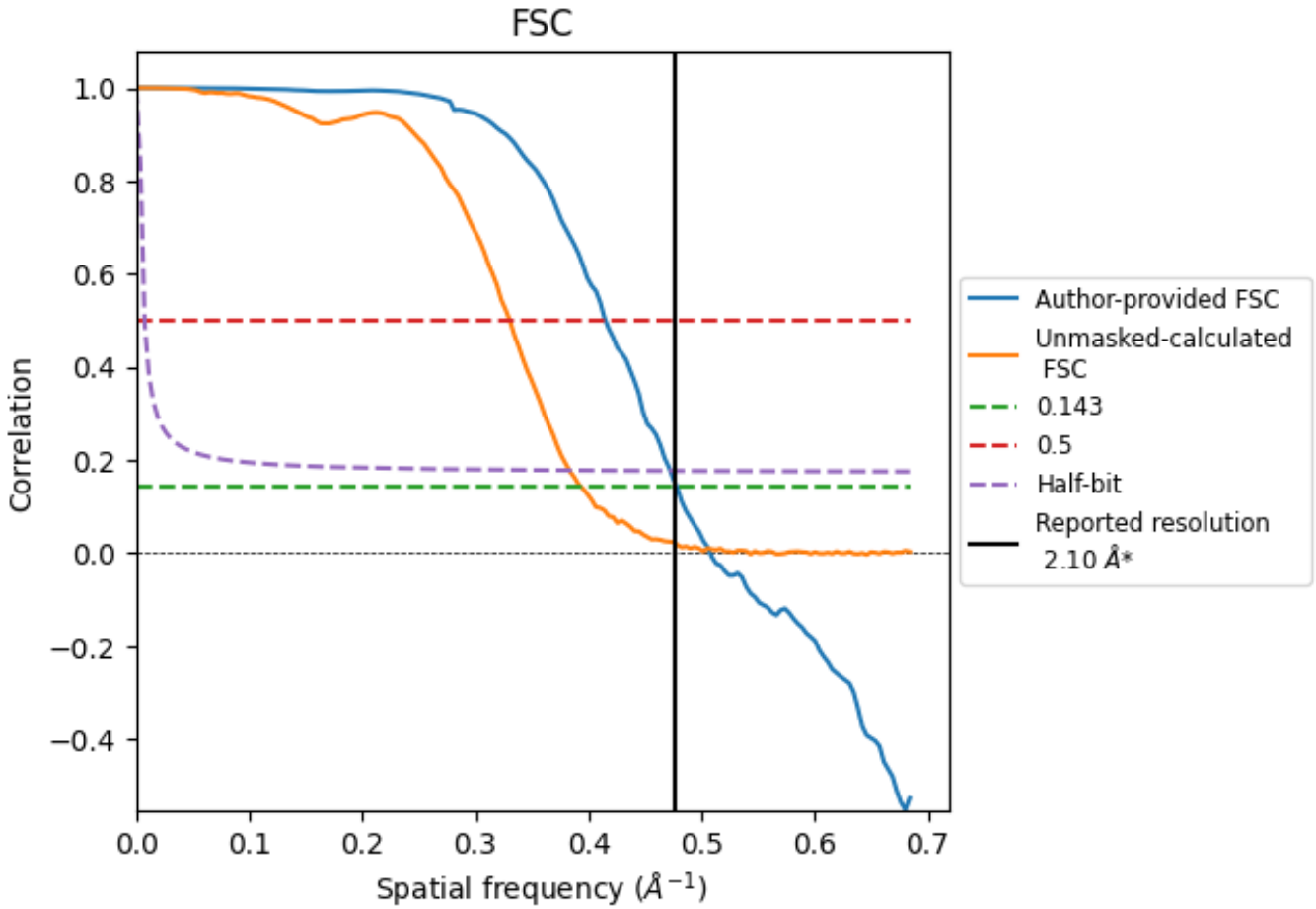


*Reported resolution corresponds to spatial frequency of 0.476 Å^{-1}

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 0.476 Å^{-1}

8.2 Resolution estimates (i)

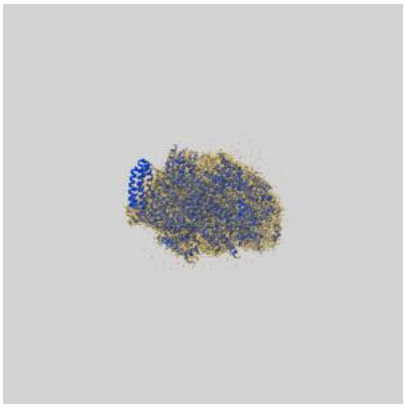
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.10	-	-
Author-provided FSC curve	2.09	2.41	2.12
Unmasked-calculated*	2.54	3.03	2.61

*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 2.54 differs from the reported value 2.1 by more than 10 %

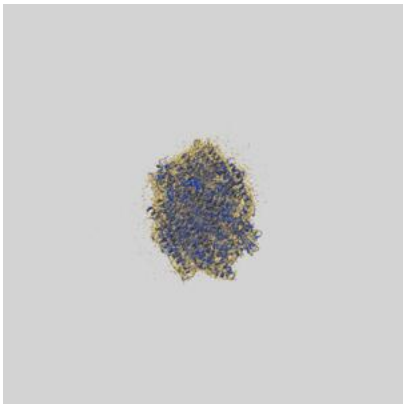
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-54531 and PDB model 9S3E. Per-residue inclusion information can be found in section 3 on page 17.

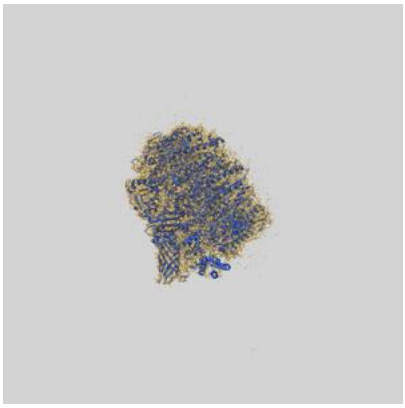
9.1 Map-model overlay



X



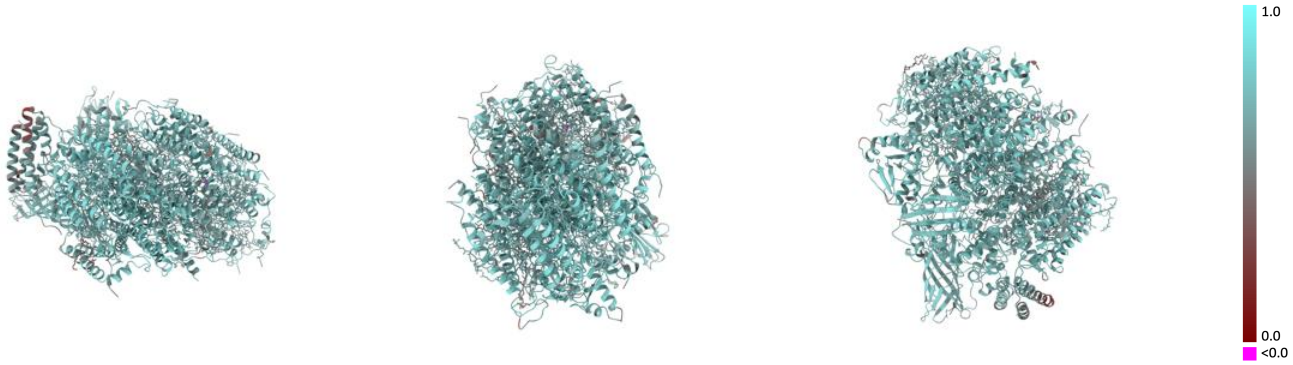
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.02 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.

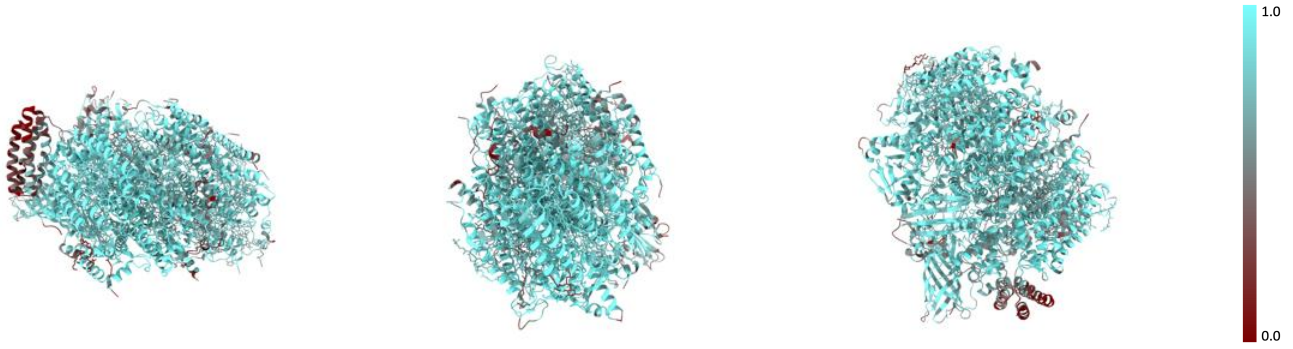
9.2 Q-score mapped to coordinate model (i)



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.

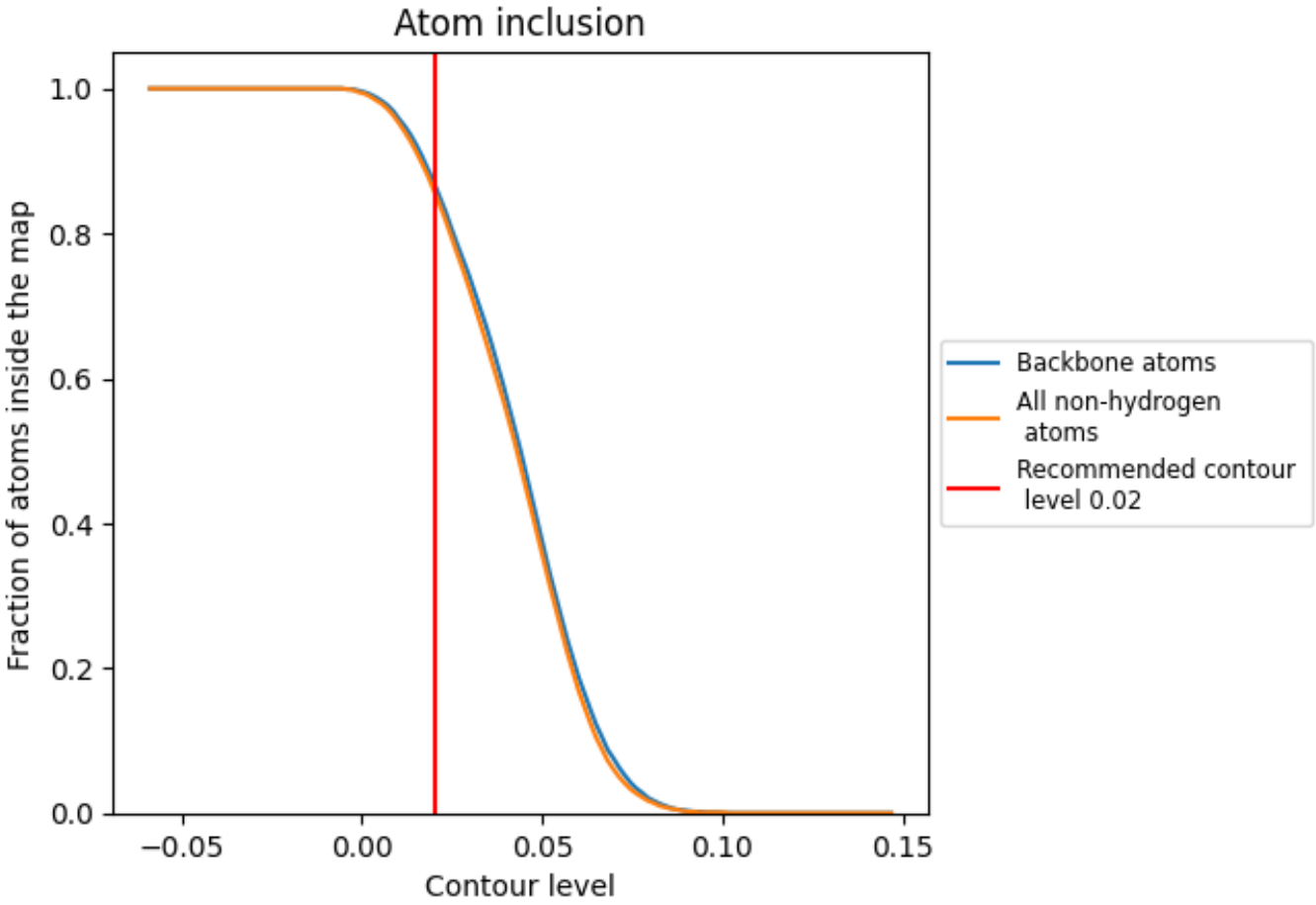
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.02).

9.4 Atom inclusion (i)



At the recommended contour level, 87% of all backbone atoms, 86% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.02) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8590	0.7100
A	0.8890	0.7320
B	0.8990	0.7150
C	0.9170	0.7200
D	0.9520	0.7490
E	0.8310	0.6770
F	0.9280	0.7200
H	0.9030	0.7100
I	0.8580	0.6970
J	0.7810	0.6920
K	0.7680	0.6580
L	0.9170	0.7310
M	0.6480	0.6460
O	0.8380	0.6950
P	0.7900	0.7020
Q	0.3970	0.6010
T	0.8550	0.7170
U	0.8290	0.6470
W	0.6670	0.6190
X	0.8430	0.7000