Full wwPDB X-ray Structure Validation Report ⓘ

Oct 8, 2022 – 08:29 AM EDT

PDB ID	:	3AG2
Title	:	Bovine Heart Cytochrome c Oxidase in the Carbon Monoxide-bound Fully Reduced State at 100 K
Authors	:	Muramoto, K.; Ohta, K.; Shinzawa-Itoh, K.; Kanda, K.; Taniguchi, M.; Nabekura, H.; Yamashita, E.; Tsukihara, T.; Yoshikawa, S.
Deposited on	:	2010-03-19
Resolution	:	1.80 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp
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:

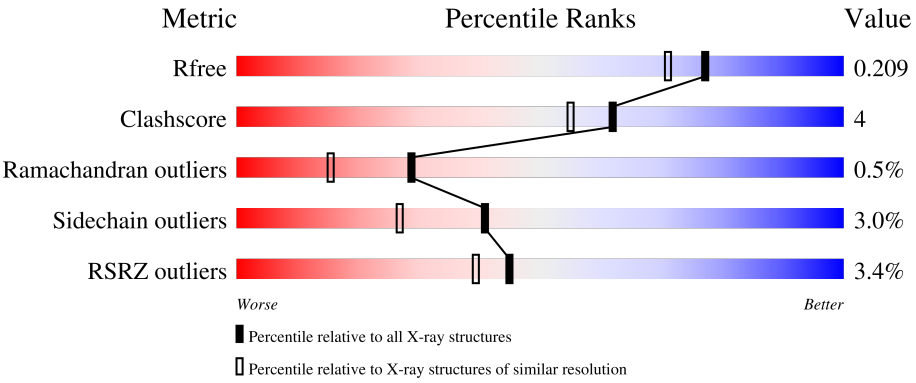
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.31.2
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 1.80 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)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	5950 (1.80-1.80)
Clashscore	141614	6793 (1.80-1.80)
Ramachandran outliers	138981	6697 (1.80-1.80)
Sidechain outliers	138945	6696 (1.80-1.80)
RSRZ outliers	127900	5850 (1.80-1.80)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	514	91% 9%
1	N	514	88% 12%
2	B	227	86% 13%
2	O	227	2% 82% 17%

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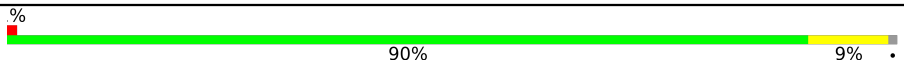
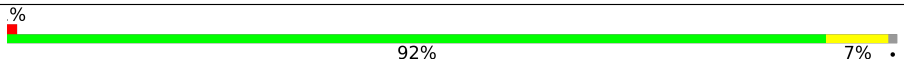
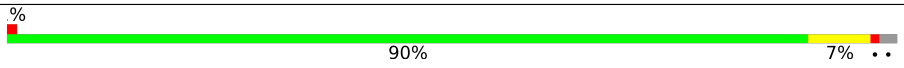
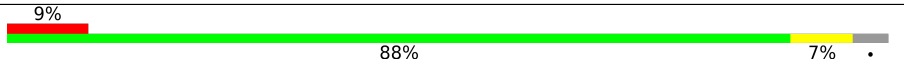
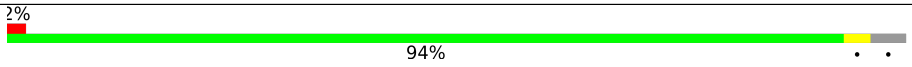
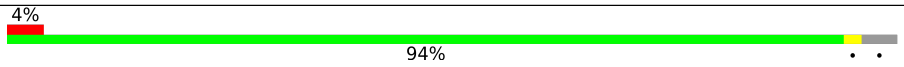
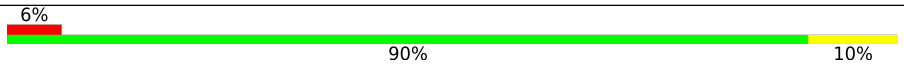
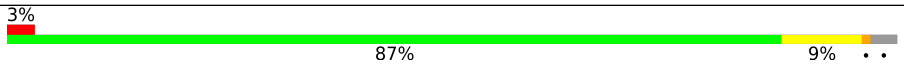
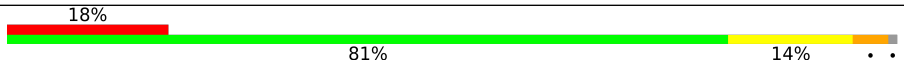
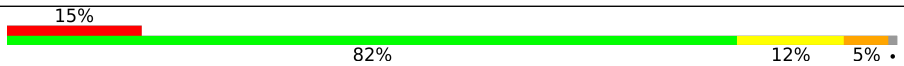
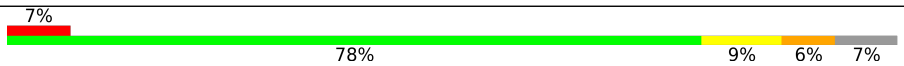
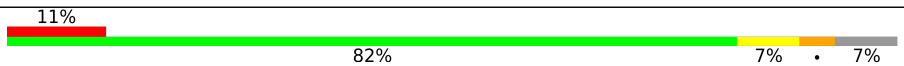
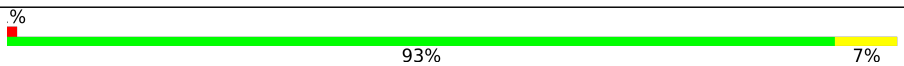
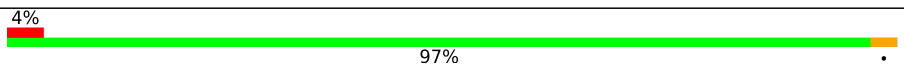
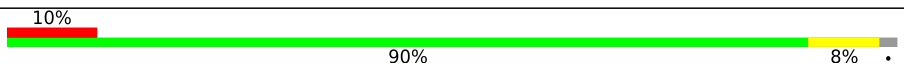
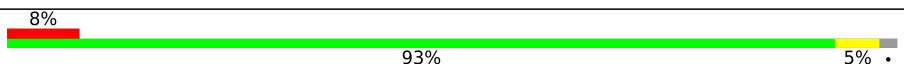
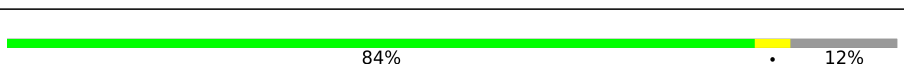
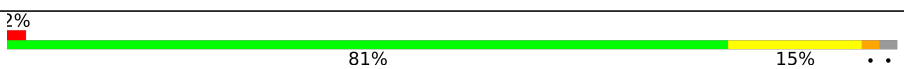
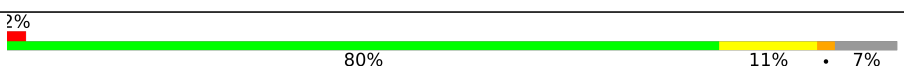
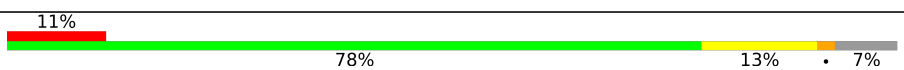
Mol	Chain	Length	Quality of chain
3	C	261	
3	P	261	
4	D	147	
4	Q	147	
5	E	109	
5	R	109	
6	F	98	
6	S	98	
7	G	85	
7	T	85	
8	H	85	
8	U	85	
9	I	73	
9	V	73	
10	J	59	
10	W	59	
11	K	56	
11	X	56	
12	L	47	
12	Y	47	
13	M	46	
13	Z	46	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
14	HEA	A	601[A]	X	-	-	-
14	HEA	A	601[B]	X	-	-	-
14	HEA	A	602	X	-	-	-
14	HEA	N	601[A]	X	-	-	-
14	HEA	N	601[B]	X	-	-	-
14	HEA	N	602	X	-	-	-
21	EDO	A	619	-	-	X	-
24	CHD	J	101	-	-	-	X
9	SAC	V	1	-	-	-	X

2 Entry composition (i)

There are 29 unique types of molecules in this entry. The entry contains 33056 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Cytochrome c oxidase subunit 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	514	Total	C	N	O	S	0	8	0
			4070	2715	631	687	37			
1	N	514	Total	C	N	O	S	0	10	0
			4074	2722	628	687	37			

- Molecule 2 is a protein called Cytochrome c oxidase subunit 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	227	Total	C	N	O	S	0	1	0
			1830	1191	281	340	18			
2	O	227	Total	C	N	O	S	0	2	0
			1834	1192	284	340	18			

- Molecule 3 is a protein called Cytochrome c oxidase subunit 3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	259	Total	C	N	O	S	0	0	0
			2110	1412	336	350	12			
3	P	259	Total	C	N	O	S	0	2	0
			2114	1413	336	353	12			

- Molecule 4 is a protein called Cytochrome c oxidase subunit 4 isoform 1, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	144	Total	C	N	O	S	0	1	0
			1203	785	196	218	4			
4	Q	141	Total	C	N	O	S	0	0	0
			1175	764	193	214	4			

- Molecule 5 is a protein called Cytochrome c oxidase subunit 5A, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	105	Total	C	N	O	S	0	0	0
			852	544	144	162	2			
5	R	105	Total	C	N	O	S	0	0	0
			852	544	144	162	2			

- Molecule 6 is a protein called Cytochrome c oxidase subunit 5B, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	98	Total	C	N	O	S	0	0	0
			748	464	134	145	5			
6	S	95	Total	C	N	O	S	0	1	0
			726	450	129	142	5			

- Molecule 7 is a protein called Cytochrome c oxidase subunit 6A2, mitochondrial.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
7	G	84	Total	C	N	O	P	S	0	0	0
			675	431	129	113	1	1			
7	T	84	Total	C	N	O	P	S	0	0	0
			675	431	129	113	1	1			

- Molecule 8 is a protein called Cytochrome c oxidase subunit 6B1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	79	Total	C	N	O	S	0	0	0
			662	417	121	119	5			
8	U	79	Total	C	N	O	S	0	0	0
			662	417	121	119	5			

- Molecule 9 is a protein called Cytochrome c oxidase subunit 6C.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	73	Total	C	N	O	S	0	0	0
			601	390	107	100	4			
9	V	73	Total	C	N	O	S	0	0	0
			601	390	107	100	4			

- Molecule 10 is a protein called Cytochrome c oxidase subunit 7A1, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	58	Total	C	N	O	S	0	0	0
			460	297	78	82	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	W	58	Total	C	N	O	S	0	0	0
			460	297	78	82	3			

- Molecule 11 is a protein called Cytochrome c oxidase subunit 7B, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	49	Total	C	N	O	S	0	0	0
			384	250	65	67	2			
11	X	49	Total	C	N	O	S	0	0	0
			384	250	65	67	2			

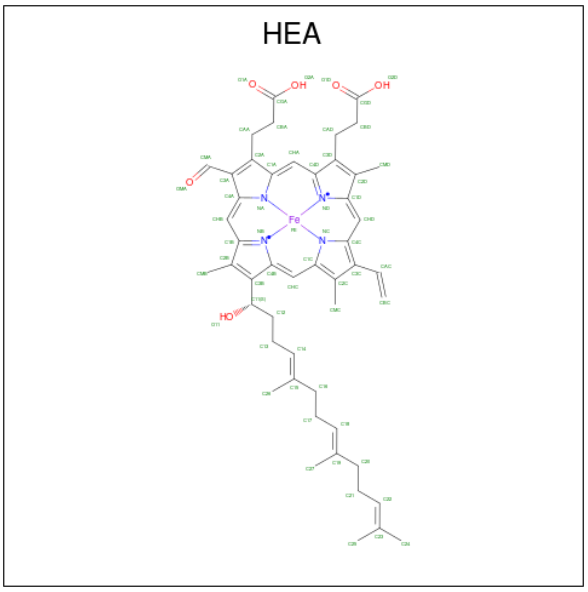
- Molecule 12 is a protein called Cytochrome c oxidase subunit 7C, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	46	Total	C	N	O	S	0	0	0
			380	254	64	60	2			
12	Y	46	Total	C	N	O	S	0	0	0
			380	254	64	60	2			

- Molecule 13 is a protein called Cytochrome c oxidase subunit 8B, mitochondrial.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
13	M	43	Total	C	N	O	0	0	0
			335	223	53	59			
13	Z	43	Total	C	N	O	0	0	0
			335	223	53	59			

- Molecule 14 is HEME-A (three-letter code: HEA) (formula: $C_{49}H_{56}FeN_4O_6$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
14	A	1	Total	C	Fe	N	O	0	1
			78	66	1	4	7		
14	A	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		
14	N	1	Total	C	Fe	N	O	0	1
			78	66	1	4	7		
14	N	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		

- Molecule 15 is COPPER (II) ION (three-letter code: CU) (formula: Cu).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
15	A	1	Total	Cu	0	0
			1	1		
15	N	1	Total	Cu	0	0
			1	1		

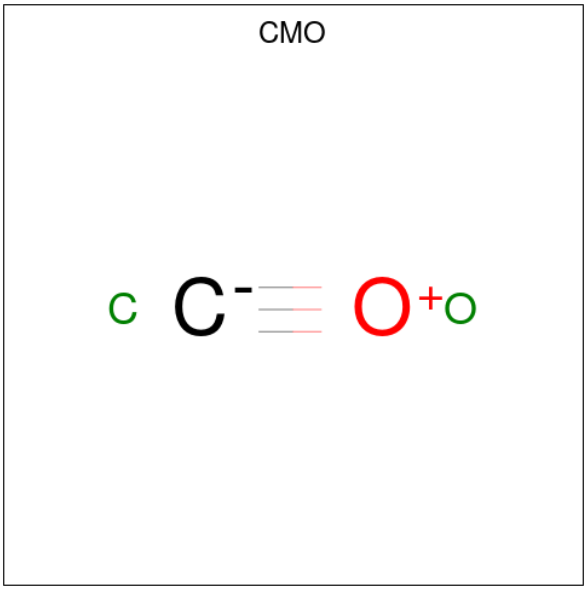
- Molecule 16 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
16	A	1	Total	Mg	0	0
			1	1		
16	N	1	Total	Mg	0	0
			1	1		

- Molecule 17 is SODIUM ION (three-letter code: NA) (formula: Na).

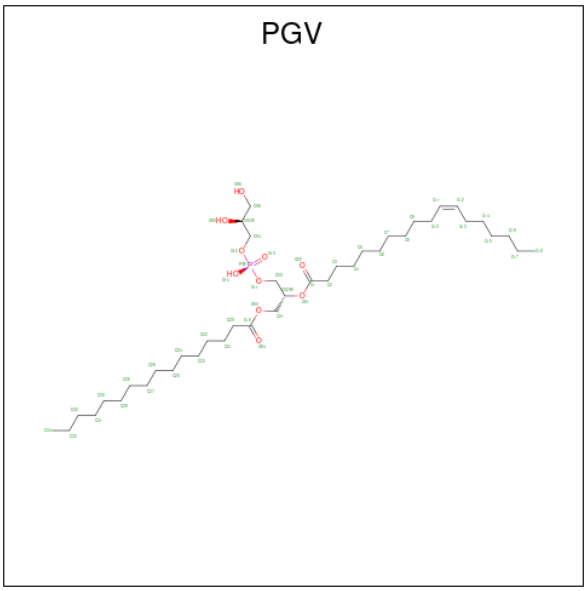
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
17	A	1	Total Na 1 1	0	0
17	C	1	Total Na 1 1	0	0
17	N	1	Total Na 1 1	0	0
17	P	1	Total Na 1 1	0	0

- Molecule 18 is CARBON MONOXIDE (three-letter code: CMO) (formula: CO).



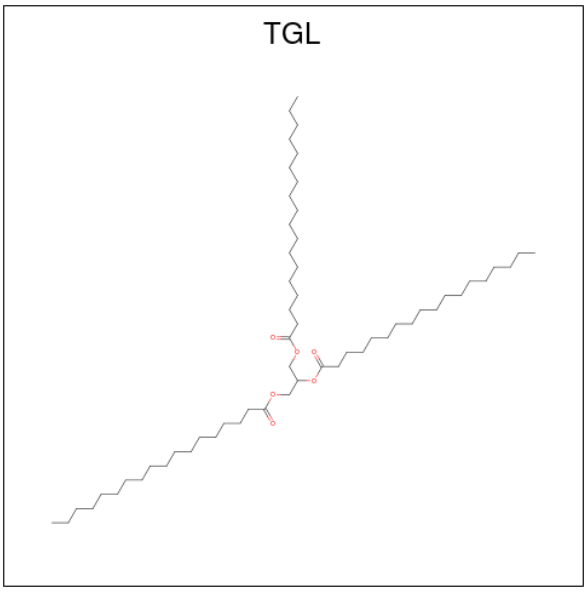
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
18	A	1	Total C O 4 2 2	0	1
18	N	1	Total C O 4 2 2	0	1

- Molecule 19 is (1R)-2-{[{[(2S)-2,3-DIHYDROXYPROPYL]OXY}(HYDROXY)PHOSPHORYL]OXY}-1-[(PALMITOYLOXY)METHYL]ETHYL (11E)-OCTADEC-11-ENOATE (three-letter code: PGV) (formula: $C_{40}H_{77}O_{10}P$).



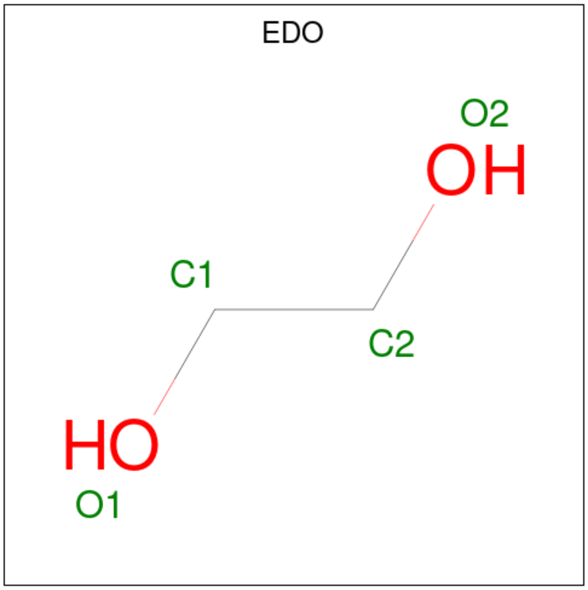
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
19	A	1	Total	C	O	P	0	0
			51	40	10	1		
19	A	1	Total	C	O	P	0	0
			51	40	10	1		
19	C	1	Total	C	O	P	0	0
			47	36	10	1		
19	C	1	Total	C	O	P	0	0
			49	38	10	1		
19	N	1	Total	C	O	P	0	0
			51	40	10	1		
19	P	1	Total	C	O	P	0	0
			47	38	8	1		
19	P	1	Total	C	O	P	0	0
			46	35	10	1		
19	Z	1	Total	C	O	P	0	0
			47	36	10	1		

- Molecule 20 is TRISTEAROYLGLYCEROL (three-letter code: TGL) (formula: $C_{57}H_{110}O_6$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
20	A	1	Total C O 59 53 6	0	0
20	B	1	Total C O 63 57 6	0	0
20	D	1	Total C O 55 49 6	0	0
20	N	1	Total C O 63 57 6	0	0
20	O	1	Total C O 63 57 6	0	0
20	Y	1	Total C O 59 53 6	0	0

- Molecule 21 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: $C_2H_6O_2$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	A	1	Total C O 4 2 2	0	0
21	B	1	Total C O 4 2 2	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
21	B	1	Total	C	O	0	0
			4	2	2		
21	C	1	Total	C	O	0	0
			4	2	2		
21	C	1	Total	C	O	0	0
			4	2	2		
21	C	1	Total	C	O	0	0
			4	2	2		
21	C	1	Total	C	O	0	0
			4	2	2		
21	D	1	Total	C	O	0	0
			4	2	2		
21	D	1	Total	C	O	0	0
			4	2	2		
21	D	1	Total	C	O	0	0
			4	2	2		
21	D	1	Total	C	O	0	0
			4	2	2		
21	E	1	Total	C	O	0	0
			4	2	2		
21	E	1	Total	C	O	0	0
			4	2	2		
21	E	1	Total	C	O	0	0
			4	2	2		
21	E	1	Total	C	O	0	0
			4	2	2		
21	F	1	Total	C	O	0	0
			4	2	2		
21	F	1	Total	C	O	0	0
			4	2	2		
21	F	1	Total	C	O	0	0
			4	2	2		
21	F	1	Total	C	O	0	0
			4	2	2		
21	F	1	Total	C	O	0	0
			4	2	2		
21	G	1	Total	C	O	0	0
			4	2	2		
21	G	1	Total	C	O	0	0
			4	2	2		
21	H	1	Total	C	O	0	0
			4	2	2		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
21	H	1	Total	C	O	0	0
			4	2	2		
21	I	1	Total	C	O	0	0
			4	2	2		
21	K	1	Total	C	O	0	0
			4	2	2		
21	L	1	Total	C	O	0	0
			4	2	2		
21	N	1	Total	C	O	0	0
			4	2	2		
21	N	1	Total	C	O	0	0
			4	2	2		
21	N	1	Total	C	O	0	0
			4	2	2		
21	N	1	Total	C	O	0	0
			4	2	2		
21	N	1	Total	C	O	0	0
			4	2	2		
21	N	1	Total	C	O	0	0
			4	2	2		
21	O	1	Total	C	O	0	0
			4	2	2		
21	O	1	Total	C	O	0	0
			4	2	2		
21	O	1	Total	C	O	0	0
			4	2	2		
21	P	1	Total	C	O	0	0
			4	2	2		
21	P	1	Total	C	O	0	0
			4	2	2		
21	P	1	Total	C	O	0	0
			4	2	2		
21	Q	1	Total	C	O	0	0
			4	2	2		
21	Q	1	Total	C	O	0	0
			4	2	2		
21	R	1	Total	C	O	0	0
			4	2	2		
21	R	1	Total	C	O	0	0
			4	2	2		
21	S	1	Total	C	O	0	0
			4	2	2		

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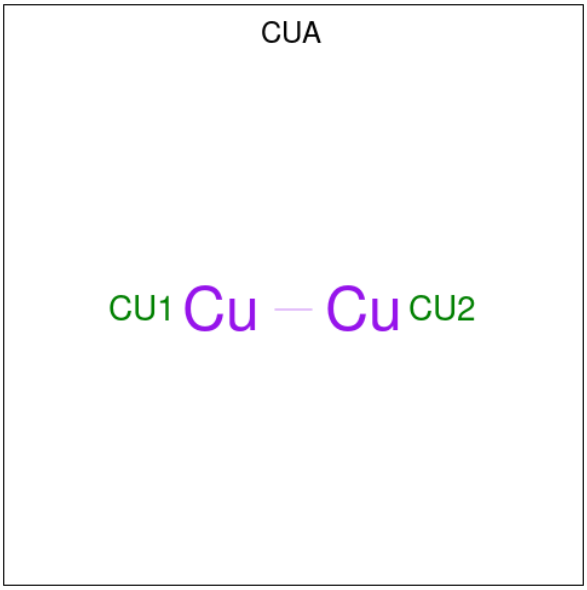
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
21	S	1	Total C O 4 2 2	0	0
21	S	1	Total C O 4 2 2	0	0
21	S	1	Total C O 4 2 2	0	0
21	S	1	Total C O 4 2 2	0	0
21	S	1	Total C O 4 2 2	0	0
21	T	1	Total C O 4 2 2	0	0
21	T	1	Total C O 4 2 2	0	0
21	U	1	Total C O 4 2 2	0	0
21	V	1	Total C O 4 2 2	0	0
21	V	1	Total C O 4 2 2	0	0

- Molecule 22 is DINUCLEAR COPPER ION (three-letter code: CUA) (formula: Cu_2).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
22	B	1	Total Cu 2 2	0	0

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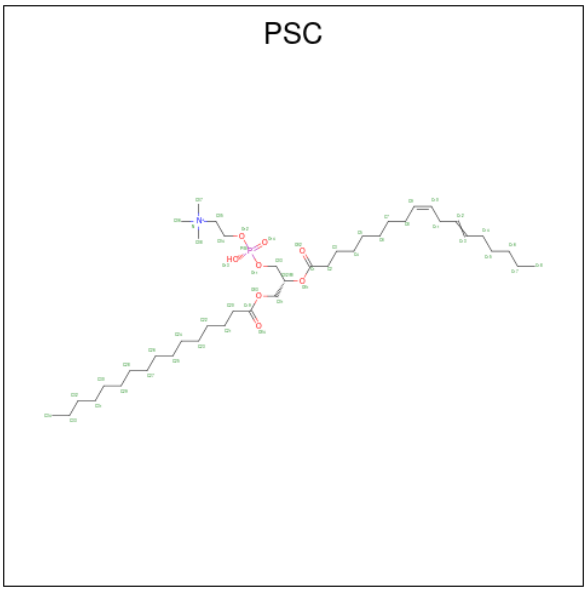
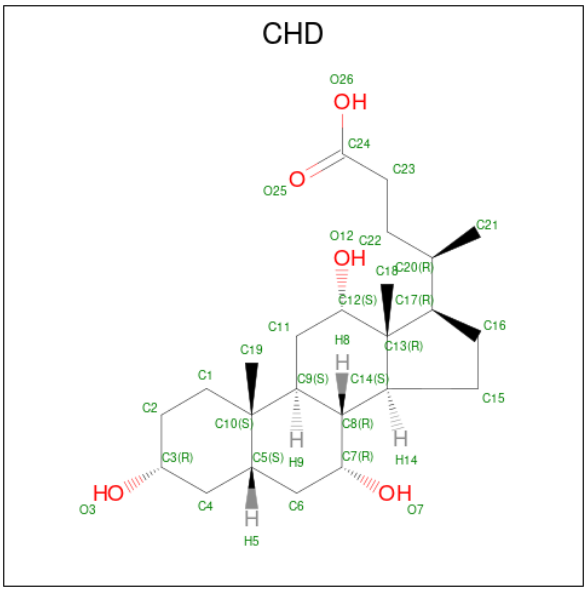
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
22	O	1	Total Cu 2 2	0	0

- Molecule 23 is (7R,17E,20E)-4-HYDROXY-N,N,N-TRIMETHYL-9-OXO-7-[(PALMITOYLOXY)METHYL]-3,5,8-TRIOXA-4-PHOSPHAHEXACOSA-17,20-DIEN-1-AMINIUM 4-OXIDE (three-letter code: PSC) (formula: $C_{42}H_{81}NO_8P$).



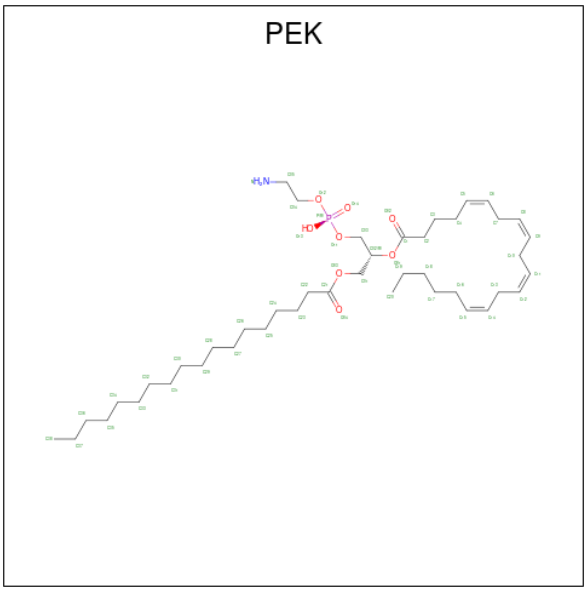
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
23	B	1	Total C N O P 50 40 1 8 1	0	0
23	O	1	Total C N O P 46 36 1 8 1	0	0

- Molecule 24 is CHOLIC ACID (three-letter code: CHD) (formula: $C_{24}H_{40}O_5$).



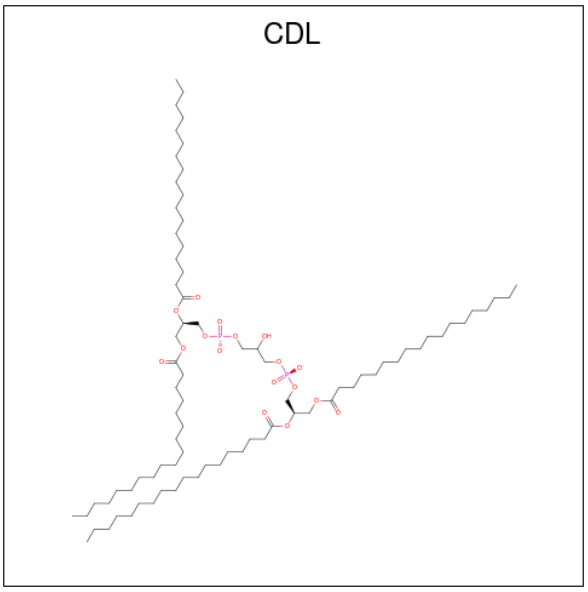
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
24	B	1	Total C O 29 24 5	0	0
24	C	1	Total C O 29 24 5	0	0
24	C	1	Total C O 29 24 5	0	0
24	C	1	Total C O 29 24 5	0	0
24	J	1	Total C O 29 24 5	0	0
24	O	1	Total C O 29 24 5	0	0
24	P	1	Total C O 29 24 5	0	0
24	P	1	Total C O 29 24 5	0	0
24	P	1	Total C O 29 24 5	0	0
24	Y	1	Total C O 28 23 5	0	0

- Molecule 25 is (1S)-2-{[(2-AMINOETHOXY)(HYDROXY)PHOSPHORYL]OXY}-1-[(STEAROYLOXY)METHYL]ETHYL (5E,8E,11E,14E)-ICOSA-5,8,11,14-TETRAENOATE (three-letter code: PEK) (formula: $C_{43}H_{78}NO_8P$).



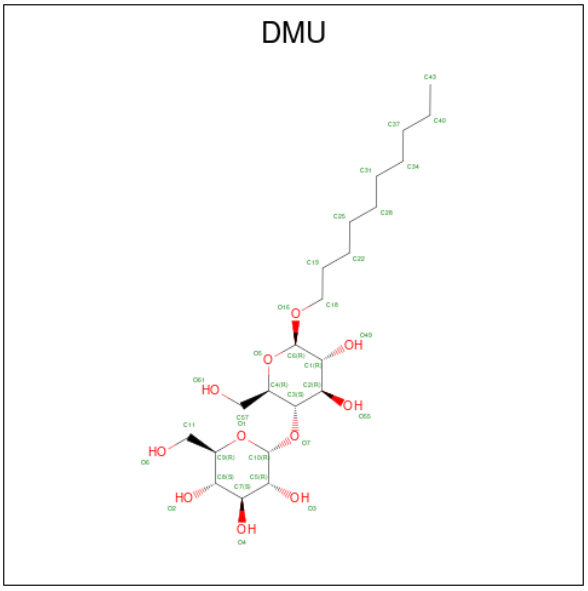
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
25	C	1	Total C N O P 53 43 1 8 1	0	0
25	C	1	Total C N O P 46 36 1 8 1	0	0
25	G	1	Total C O P 50 41 8 1	0	0
25	P	1	Total C O P 40 31 8 1	0	0
25	P	1	Total C N O P 52 42 1 8 1	0	0
25	P	1	Total C N O P 53 43 1 8 1	0	0

- Molecule 26 is CARDIOLIPIN (three-letter code: CDL) (formula: $C_{81}H_{156}O_{17}P_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
26	C	1	Total	C	O	P	0	0
			82	63	17	2		
26	G	1	Total	C	O	P	0	0
			88	69	17	2		
26	P	1	Total	C	O	P	0	0
			91	73	16	2		
26	T	1	Total	C	O	P	0	0
			93	74	17	2		

- Molecule 27 is DECYL-BETA-D-MALTOPYRANOSIDE (three-letter code: DMU) (formula: $C_{22}H_{42}O_{11}$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
27	C	1	Total C O 33 22 11	0	0
27	C	1	Total C O 33 22 11	0	0
27	G	1	Total C O 33 22 11	0	0
27	L	1	Total C O 33 22 11	0	0
27	L	1	Total C O 33 22 11	0	0
27	M	1	Total C O 33 22 11	0	0
27	P	1	Total C O 33 22 11	0	0
27	P	1	Total C O 33 22 11	0	0
27	T	1	Total C O 33 22 11	0	0
27	Z	1	Total C O 33 22 11	0	0
27	Z	1	Total C O 33 22 11	0	0

- Molecule 28 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
28	F	1	Total Zn 1 1	0	0
28	S	1	Total Zn 1 1	0	0

- Molecule 29 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
29	A	222	Total O 222 222	0	0
29	B	157	Total O 157 157	0	0
29	C	122	Total O 122 122	0	0
29	D	99	Total O 99 99	0	1
29	E	69	Total O 69 69	0	0

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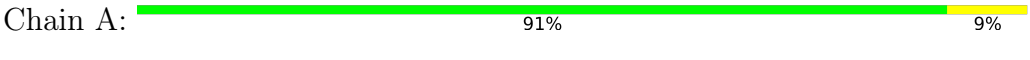
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
29	F	84	Total O 84 84	0	1
29	G	42	Total O 42 42	0	0
29	H	52	Total O 52 52	0	0
29	I	32	Total O 32 32	0	0
29	J	21	Total O 21 21	0	0
29	K	21	Total O 21 21	0	0
29	L	25	Total O 25 25	0	0
29	M	24	Total O 24 24	0	0
29	N	220	Total O 220 220	0	0
29	O	121	Total O 121 121	0	0
29	P	104	Total O 104 104	0	0
29	Q	54	Total O 54 54	0	0
29	R	47	Total O 47 47	0	0
29	S	64	Total O 64 64	0	0
29	T	54	Total O 54 54	0	0
29	U	57	Total O 57 57	0	0
29	V	22	Total O 22 22	0	0
29	W	14	Total O 14 14	0	0
29	X	17	Total O 17 17	0	0
29	Y	12	Total O 12 12	0	0
29	Z	9	Total O 9 9	0	0

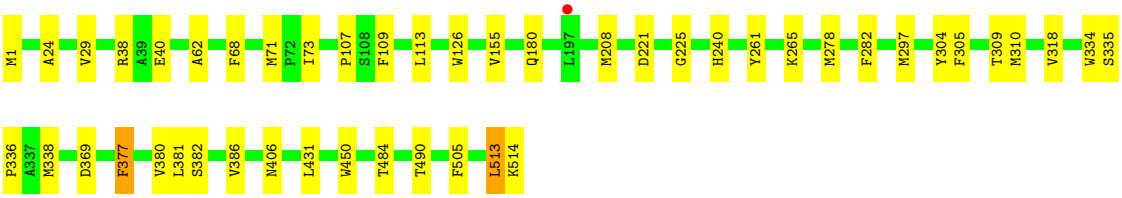
3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron 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 dot above a residue indicates a poor fit to the electron density (RSRZ > 2). 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: Cytochrome c oxidase subunit 1

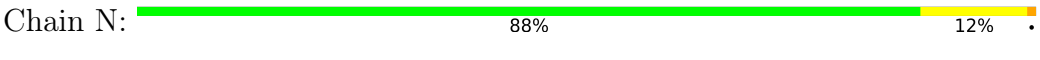
Chain A:

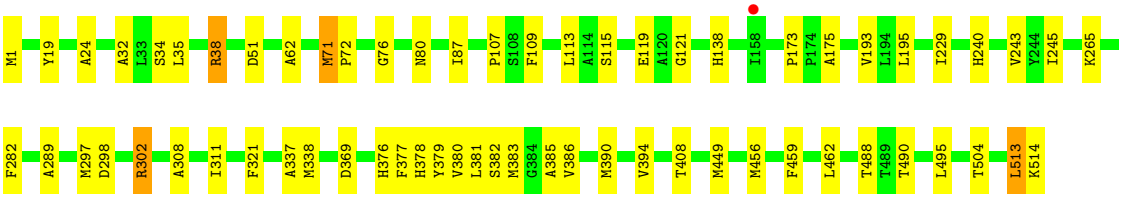




• Molecule 1: Cytochrome c oxidase subunit 1

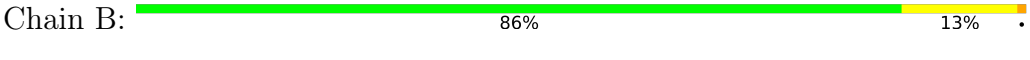
Chain N:

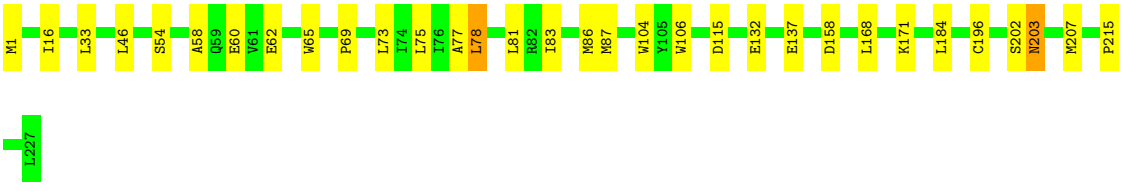




• Molecule 2: Cytochrome c oxidase subunit 2

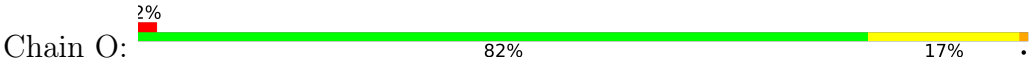
Chain B:

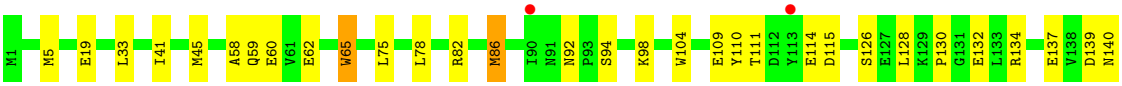


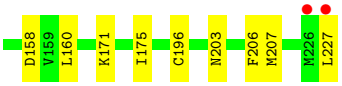


• Molecule 2: Cytochrome c oxidase subunit 2

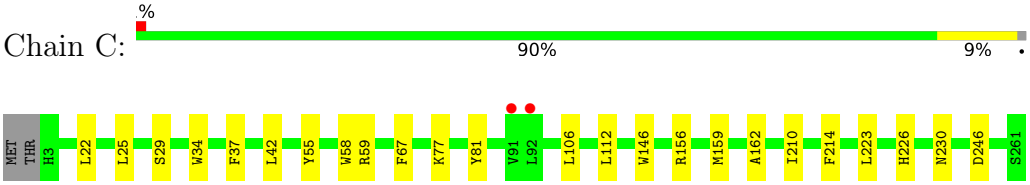
Chain O:



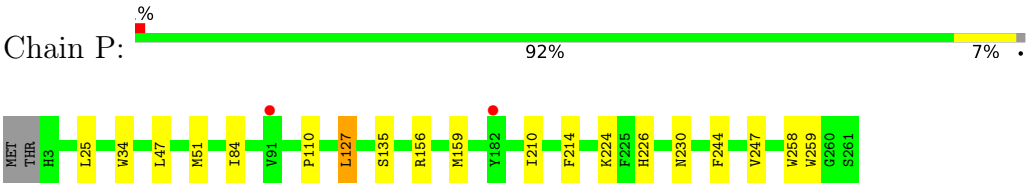




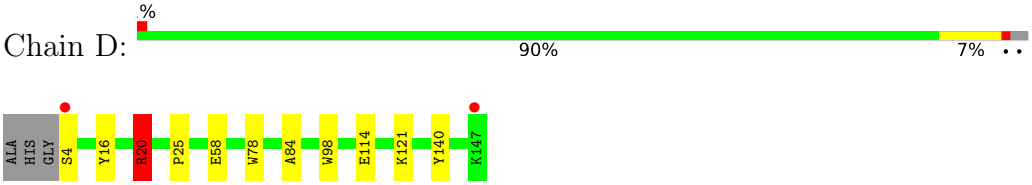
• Molecule 3: Cytochrome c oxidase subunit 3



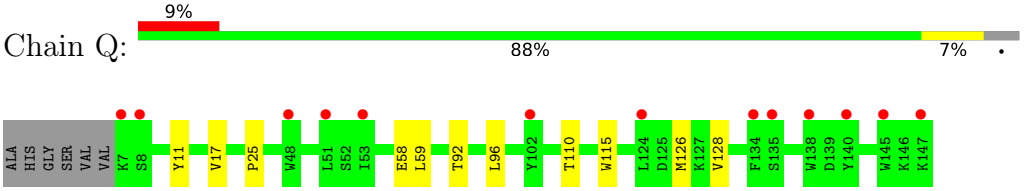
• Molecule 3: Cytochrome c oxidase subunit 3



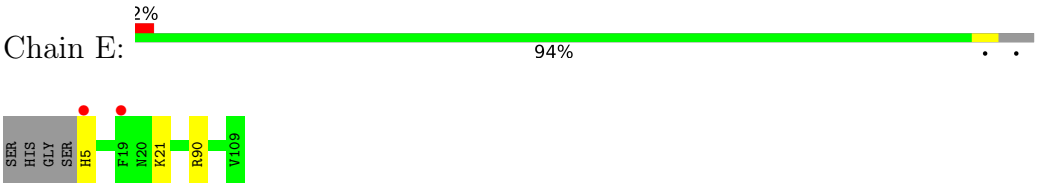
• Molecule 4: Cytochrome c oxidase subunit 4 isoform 1, mitochondrial



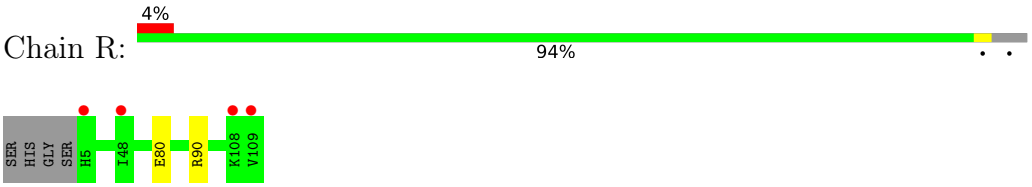
• Molecule 4: Cytochrome c oxidase subunit 4 isoform 1, mitochondrial



• Molecule 5: Cytochrome c oxidase subunit 5A, mitochondrial

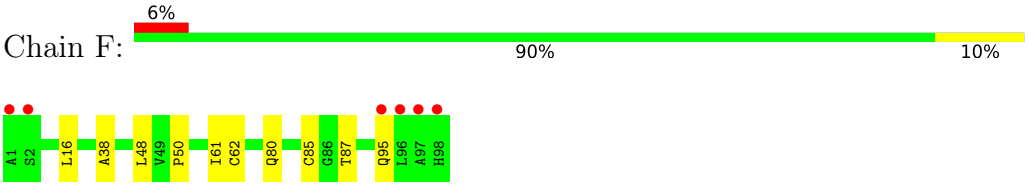


• Molecule 5: Cytochrome c oxidase subunit 5A, mitochondrial



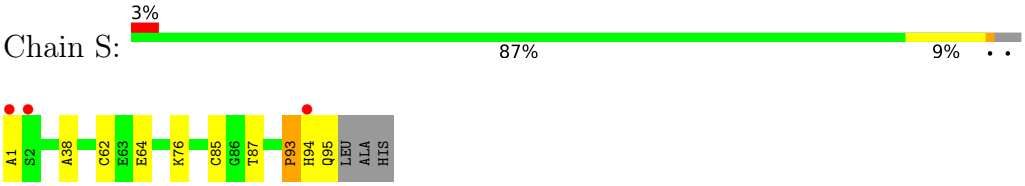
• Molecule 6: Cytochrome c oxidase subunit 5B, mitochondrial

Chain F:



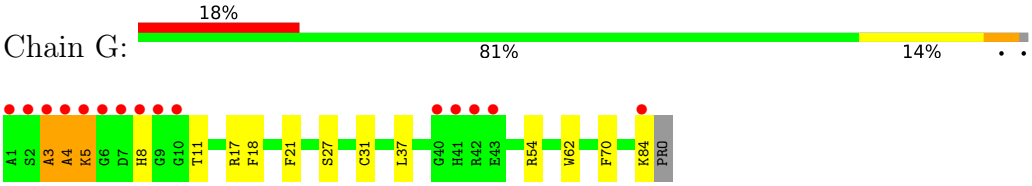
• Molecule 6: Cytochrome c oxidase subunit 5B, mitochondrial

Chain S:



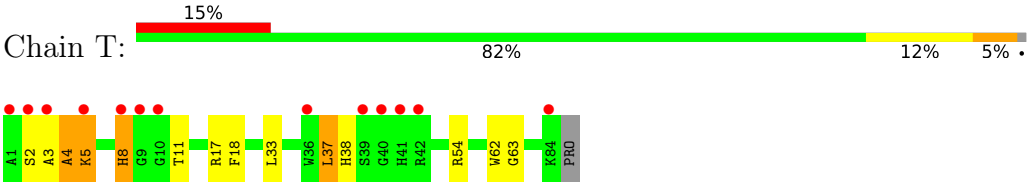
• Molecule 7: Cytochrome c oxidase subunit 6A2, mitochondrial

Chain G:



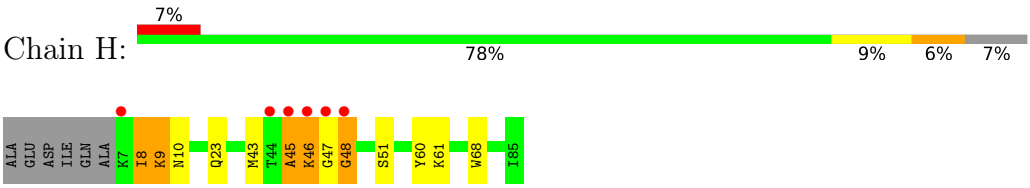
• Molecule 7: Cytochrome c oxidase subunit 6A2, mitochondrial

Chain T:



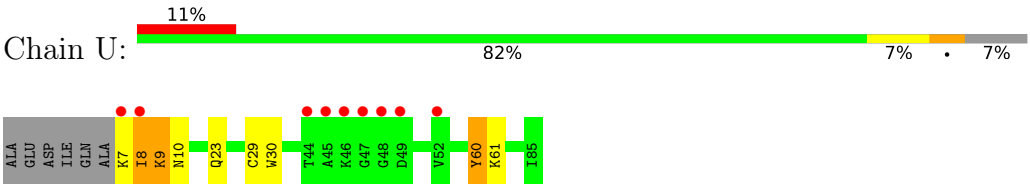
• Molecule 8: Cytochrome c oxidase subunit 6B1

Chain H:



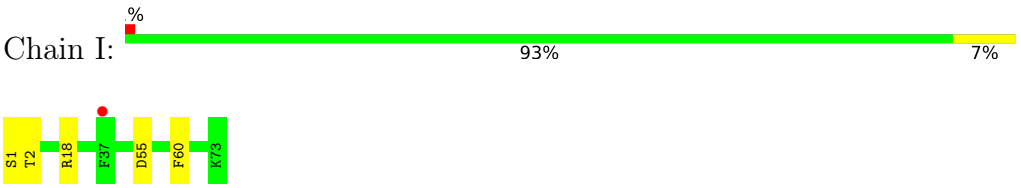
• Molecule 8: Cytochrome c oxidase subunit 6B1

Chain U:

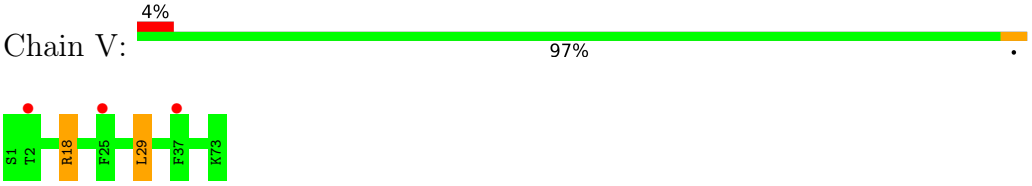


• Molecule 9: Cytochrome c oxidase subunit 6C

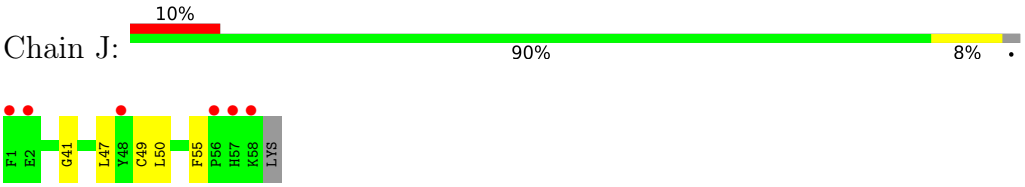
Chain I:



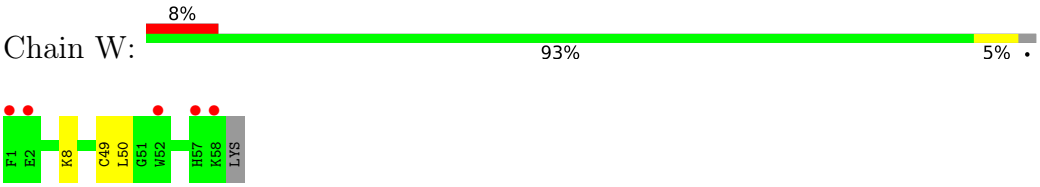
• Molecule 9: Cytochrome c oxidase subunit 6C



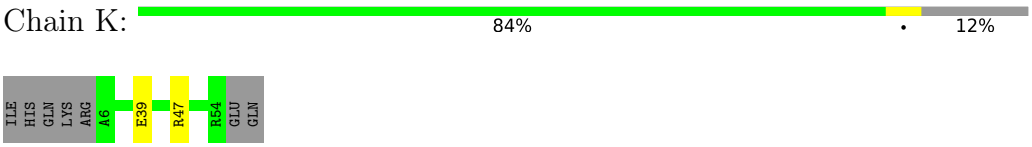
• Molecule 10: Cytochrome c oxidase subunit 7A1, mitochondrial



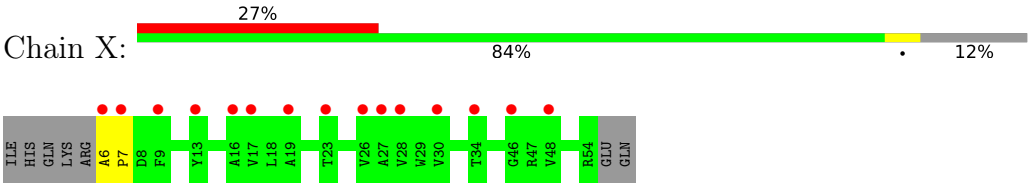
• Molecule 10: Cytochrome c oxidase subunit 7A1, mitochondrial



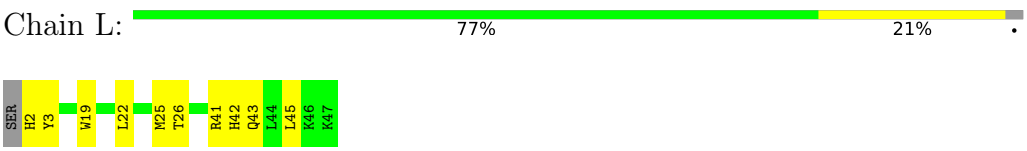
• Molecule 11: Cytochrome c oxidase subunit 7B, mitochondrial



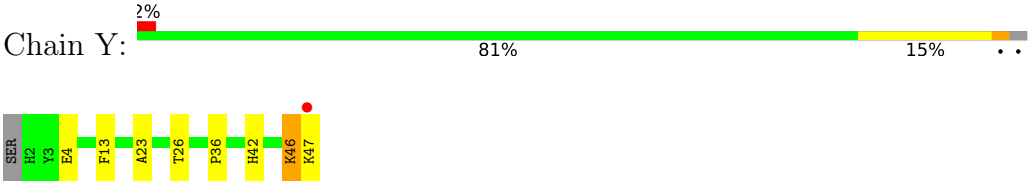
• Molecule 11: Cytochrome c oxidase subunit 7B, mitochondrial



• Molecule 12: Cytochrome c oxidase subunit 7C, mitochondrial

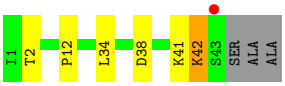


• Molecule 12: Cytochrome c oxidase subunit 7C, mitochondrial



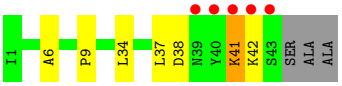
• Molecule 13: Cytochrome c oxidase subunit 8B, mitochondrial

Chain M:



• Molecule 13: Cytochrome c oxidase subunit 8B, mitochondrial

Chain Z:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	182.83Å 206.93Å 178.09Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	39.44 – 1.80 80.36 – 1.80	Depositor EDS
% Data completeness (in resolution range)	99.5 (39.44-1.80) 99.6 (80.36-1.80)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.09 (at 1.81Å)	Xtriage
Refinement program	PHENIX (1.11.1_2575: ???)	Depositor
R, R_{free}	0.176 , 0.208 0.176 , 0.209	Depositor DCC
R_{free} test set	30375 reflections (4.96%)	wwPDB-VP
Wilson B-factor (Å^2)	29.8	Xtriage
Anisotropy	0.485	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 73.9	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	0.012 for l,-k,h	Xtriage
F_o,F_c correlation	0.97	EDS
Total number of atoms	33056	wwPDB-VP
Average B, all atoms (Å^2)	50.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.39% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: CDL, ZN, NA, TPO, PEK, PGV, CHD, CU, SAC, DMU, EDO, MG, TGL, CUA, PSC, FME, CMO, HEA

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	1.10	11/4222 (0.3%)	0.88	4/5765 (0.1%)
1	N	0.87	0/4234	0.79	5/5783 (0.1%)
2	B	0.93	1/1872 (0.1%)	0.90	2/2550 (0.1%)
2	O	0.70	0/1883	0.81	2/2564 (0.1%)
3	C	0.87	1/2197 (0.0%)	0.77	2/3005 (0.1%)
3	P	0.80	0/2211	0.75	1/3024 (0.0%)
4	D	0.88	1/1241 (0.1%)	0.88	2/1674 (0.1%)
4	Q	0.57	0/1209	0.62	0/1630
5	E	0.79	0/871	0.77	0/1182
5	R	0.56	0/871	0.73	1/1182 (0.1%)
6	F	0.82	0/765	0.83	0/1038
6	S	0.73	0/747	0.76	1/1015 (0.1%)
7	G	0.70	0/690	0.77	0/937
7	T	0.65	0/690	0.74	0/937
8	H	0.84	1/682 (0.1%)	0.73	0/921
8	U	0.67	0/682	0.71	0/921
9	I	0.73	0/605	0.73	1/802 (0.1%)
9	V	0.54	0/605	0.64	0/802
10	J	0.56	0/471	0.67	0/636
10	W	0.54	0/471	0.64	0/636
11	K	0.78	1/398 (0.3%)	0.67	0/546
11	X	0.53	0/398	0.59	0/546
12	L	0.92	0/393	0.74	0/526
12	Y	0.64	0/393	0.66	0/526
13	M	0.86	0/345	0.79	0/470
13	Z	0.62	0/345	0.62	0/470
All	All	0.83	16/29491 (0.1%)	0.78	21/40088 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected

by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	N	0	1
8	H	0	1
All	All	0	3

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	29	VAL	CB-CG1	7.04	1.67	1.52
1	A	40	GLU	CB-CG	6.84	1.65	1.52
4	D	114	GLU	CG-CD	6.46	1.61	1.51
1	A	304	TYR	CD1-CE1	6.37	1.48	1.39
1	A	318	VAL	CB-CG1	5.91	1.65	1.52
1	A	505	PHE	CE1-CZ	5.89	1.48	1.37
2	B	106	TRP	CE3-CZ3	5.87	1.48	1.38
1	A	377	PHE	CE1-CZ	5.30	1.47	1.37
3	C	58	TRP	CE3-CZ3	5.29	1.47	1.38
1	A	155	VAL	CB-CG1	5.17	1.63	1.52
1	A	261	TYR	CE2-CZ	5.15	1.45	1.38
1	A	305	PHE	CE2-CZ	5.15	1.47	1.37
8	H	68	TRP	CB-CG	5.11	1.59	1.50
11	K	39	GLU	CB-CG	5.10	1.61	1.52
1	A	68	PHE	CD2-CE2	5.06	1.49	1.39
1	A	126	TRP	CE3-CZ3	5.04	1.47	1.38

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	D	20	ARG	NE-CZ-NH1	12.31	126.46	120.30
4	D	20	ARG	NE-CZ-NH2	-12.20	114.20	120.30
1	A	71	MET	CG-SD-CE	-11.20	82.28	100.20
1	A	208	MET	CG-SD-CE	7.41	112.06	100.20
1	N	71	MET	CG-SD-CE	-7.13	88.79	100.20
1	A	278	MET	CG-SD-CE	-6.91	89.15	100.20
6	S	93	PRO	C-N-CA	6.20	137.21	121.70
1	N	38	ARG	NE-CZ-NH2	-6.16	117.22	120.30
2	O	158	ASP	CB-CG-OD1	5.97	123.67	118.30
1	N	38	ARG	NE-CZ-NH1	5.87	123.23	120.30
5	R	90	ARG	NE-CZ-NH1	-5.74	117.43	120.30
3	C	223	LEU	CB-CG-CD1	-5.65	101.39	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	158	ASP	CB-CG-OD1	5.57	123.31	118.30
3	P	127	LEU	CA-CB-CG	5.48	127.91	115.30
1	A	513	LEU	CA-CB-CG	-5.34	103.02	115.30
2	O	65	TRP	CA-CB-CG	5.32	123.81	113.70
1	N	302	ARG	NE-CZ-NH2	-5.27	117.67	120.30
9	I	55	ASP	CB-CG-OD1	5.22	123.00	118.30
1	N	113	LEU	CB-CG-CD1	5.20	119.83	111.00
3	C	106	LEU	CB-CG-CD2	-5.01	102.48	111.00
2	B	78	LEU	CB-CG-CD2	-5.01	102.49	111.00

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	240	HIS	Sidechain
8	H	9	LYS	Peptide
1	N	240	HIS	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	4070	0	4039	25	0
1	N	4074	0	4057	46	0
2	B	1830	0	1838	16	0
2	O	1834	0	1839	20	0
3	C	2110	0	2027	19	0
3	P	2114	0	2028	16	0
4	D	1203	0	1192	7	0
4	Q	1175	0	1160	8	0
5	E	852	0	845	1	0
5	R	852	0	845	0	0
6	F	748	0	728	6	0
6	S	726	0	708	6	0
7	G	675	0	644	9	0
7	T	675	0	644	12	0
8	H	662	0	623	5	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
8	U	662	0	623	5	0
9	I	601	0	613	1	0
9	V	601	0	613	3	0
10	J	460	0	459	4	0
10	W	460	0	459	2	0
11	K	384	0	366	0	0
11	X	384	0	366	1	0
12	L	380	0	380	12	0
12	Y	380	0	380	7	0
13	M	335	0	352	4	0
13	Z	335	0	352	3	0
14	A	138	0	112	9	0
14	N	138	0	112	9	0
15	A	1	0	0	0	0
15	N	1	0	0	0	0
16	A	1	0	0	0	0
16	N	1	0	0	0	0
17	A	1	0	0	0	0
17	C	1	0	0	0	0
17	N	1	0	0	0	0
17	P	1	0	0	0	0
18	A	4	0	0	0	0
18	N	4	0	0	0	0
19	A	102	0	152	8	0
19	C	96	0	132	5	0
19	N	51	0	76	1	0
19	P	93	0	132	3	0
19	Z	47	0	65	1	0
20	A	59	0	95	3	0
20	B	63	0	110	1	0
20	D	55	0	88	3	0
20	N	63	0	110	2	0
20	O	63	0	110	2	0
20	Y	59	0	99	2	0
21	A	52	0	78	5	0
21	B	8	0	12	0	0
21	C	16	0	24	2	0
21	D	16	0	24	3	0
21	E	16	0	24	1	0
21	F	20	0	30	0	0
21	G	8	0	12	0	0
21	H	8	0	12	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
21	I	4	0	6	0	0
21	K	4	0	6	0	0
21	L	4	0	6	1	0
21	N	24	0	36	1	0
21	O	12	0	18	1	0
21	P	12	0	18	0	0
21	Q	8	0	12	1	0
21	R	8	0	12	0	0
21	S	24	0	36	0	0
21	T	8	0	12	0	0
21	U	4	0	6	0	0
21	V	8	0	12	0	0
22	B	2	0	0	0	0
22	O	2	0	0	0	0
23	B	50	0	71	3	0
23	O	46	0	62	0	0
24	B	29	0	39	0	0
24	C	87	0	117	3	0
24	J	29	0	39	2	0
24	O	29	0	39	2	0
24	P	87	0	117	10	0
24	Y	28	0	33	4	0
25	C	99	0	137	4	0
25	G	50	0	71	4	0
25	P	145	0	197	4	0
26	C	82	0	111	8	0
26	G	88	0	126	5	0
26	P	91	0	134	7	0
26	T	93	0	136	11	0
27	C	66	0	84	5	0
27	G	33	0	42	2	0
27	L	66	0	84	9	0
27	M	33	0	42	1	0
27	P	66	0	84	1	0
27	T	33	0	42	8	0
27	Z	66	0	84	2	0
28	F	1	0	0	0	0
28	S	1	0	0	0	0
29	A	222	0	0	6	0
29	B	157	0	0	1	0
29	C	122	0	0	1	0
29	D	99	0	0	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
29	E	69	0	0	0	0
29	F	84	0	0	1	0
29	G	42	0	0	0	0
29	H	52	0	0	0	0
29	I	32	0	0	0	0
29	J	21	0	0	0	0
29	K	21	0	0	1	0
29	L	25	0	0	0	0
29	M	24	0	0	0	0
29	N	220	0	0	0	0
29	O	121	0	0	1	0
29	P	104	0	0	1	0
29	Q	54	0	0	0	0
29	R	47	0	0	0	0
29	S	64	0	0	0	0
29	T	54	0	0	1	0
29	U	57	0	0	0	0
29	V	22	0	0	1	0
29	W	14	0	0	0	0
29	X	17	0	0	0	0
29	Y	12	0	0	0	0
29	Z	9	0	0	0	0
All	All	33056	0	31860	278	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 4.

All (278) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:406:ASN:HD21	19:A:607:PGV:H21	1.45	0.80
7:T:37:LEU:HD23	26:T:102:CDL:H381	1.63	0.80
1:A:282:PHE:HA	7:T:4:ALA:HB3	1.68	0.75
21:D:204:EDO:H11	29:D:320:HOH:O	1.87	0.75
7:T:63:GLY:HA2	27:T:101:DMU:H34	1.70	0.74
19:A:607:PGV:H221	19:A:607:PGV:H012	1.70	0.73
12:L:19:TRP:HE1	27:L:103:DMU:H40	1.53	0.73
12:Y:42:HIS:HB2	24:Y:102:CHD:H12	1.71	0.73
5:E:21:LYS:HE2	21:E:203:EDO:H11	1.71	0.73
21:O:305:EDO:H22	8:U:23:GLN:HG2	1.75	0.68
8:H:45:ALA:O	8:H:47:GLY:N	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Y:42:HIS:HB2	24:Y:102:CHD:H212	1.75	0.67
1:N:514:LYS:HA	6:S:38:ALA:HB3	1.75	0.67
1:A:381[B]:LEU:HB2	14:A:602:HEA:CAC	2.27	0.65
1:N:175:ALA:HB1	1:N:513:LEU:HD13	1.80	0.63
13:M:42:LYS:HG2	13:M:42:LYS:O	1.97	0.63
12:L:26:THR:HG21	27:L:103:DMU:H21	1.81	0.62
12:L:2:HIS:CG	12:L:3:TYR:H	2.17	0.62
7:G:62:TRP:HB2	27:G:101:DMU:H36	1.83	0.61
3:C:226:HIS:CE1	26:C:306:CDL:HB31	2.36	0.61
7:T:5:LYS:NZ	29:T:202:HOH:O	2.33	0.61
3:C:226:HIS:HE1	26:C:306:CDL:HB31	1.65	0.60
7:T:62:TRP:HB3	27:T:101:DMU:H30	1.82	0.60
4:D:78:TRP:HB3	20:D:201:TGL:HB22	1.83	0.60
2:B:202:SER:C	2:B:203:ASN:HD22	2.05	0.60
6:F:85:CYS:SG	6:F:87:THR:HG23	2.41	0.60
1:N:390:MET:O	1:N:394[A]:VAL:HG22	2.02	0.60
3:P:224:LYS:HD3	26:P:308:CDL:HB31	1.83	0.60
3:P:226:HIS:CE1	26:P:308:CDL:HB32	2.38	0.59
3:P:34:TRP:HE1	27:T:101:DMU:H29	1.68	0.59
1:A:514:LYS:HA	6:F:38:ALA:HB3	1.84	0.59
3:C:67:PHE:HE2	26:C:306:CDL:HB21	1.67	0.59
8:H:45:ALA:C	8:H:47:GLY:H	2.06	0.59
14:N:602:HEA:HBC1	14:N:602:HEA:HMC1	1.85	0.58
2:O:58:ALA:O	2:O:62:GLU:HG3	2.04	0.58
2:B:132:GLU:HB3	2:B:137:GLU:HG3	1.85	0.58
1:N:297[B]:MET:HG2	1:N:302:ARG:HG3	1.85	0.58
20:O:303:TGL:HC22	29:V:220:HOH:O	2.04	0.57
19:C:305:PGV:H62	24:P:315:CHD:H20	1.86	0.57
2:O:196:CYS:HB2	2:O:207:MET:HG3	1.86	0.57
1:N:456:MET:HG2	4:Q:96:LEU:HD13	1.86	0.57
19:A:607:PGV:H151	19:A:607:PGV:H322	1.85	0.56
27:T:101:DMU:H38	27:T:101:DMU:H28	1.51	0.56
3:C:67:PHE:CE2	26:C:306:CDL:HB21	2.41	0.56
27:T:101:DMU:O55	27:T:101:DMU:O3	2.14	0.56
7:G:31:CYS:SG	26:G:103:CDL:H551	2.46	0.56
1:N:378:HIS:O	1:N:382[B]:SER:HB2	2.06	0.56
7:G:27:SER:HB3	26:G:103:CDL:H562	1.89	0.55
2:B:83:ILE:O	2:B:87:MET:HG3	2.06	0.55
12:L:42:HIS:HB2	27:L:102:DMU:H6	1.87	0.55
1:N:265:LYS:HB2	1:N:490:THR:HG21	1.89	0.54
3:P:226:HIS:HE1	26:P:308:CDL:HB32	1.70	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:G:103:CDL:H361	26:G:103:CDL:H141	1.89	0.54
3:P:247:VAL:HG12	25:P:301:PEK:H131	1.90	0.54
21:A:619:EDO:H21	29:A:735:HOH:O	2.08	0.54
1:N:377:PHE:HA	1:N:380[B]:VAL:HG12	1.89	0.54
1:A:382[B]:SER:O	1:A:386:VAL:HB	2.07	0.53
2:B:196:CYS:HB2	2:B:207:MET:HG3	1.91	0.53
12:L:19:TRP:HE1	27:L:103:DMU:C11	2.20	0.53
8:H:43:MET:HE3	8:H:48:GLY:HA3	1.90	0.53
3:C:246:ASP:HB2	29:C:494:HOH:O	2.09	0.52
2:O:128:LEU:HD11	2:O:134:ARG:HA	1.91	0.52
2:O:19:GLU:OE2	2:O:82[A]:ARG:NH2	2.42	0.52
8:U:9:LYS:HA	8:U:10:ASN:HB2	1.92	0.52
1:N:382[B]:SER:O	1:N:386:VAL:HB	2.09	0.51
14:A:601[B]:HEA:H122	29:A:741:HOH:O	2.10	0.51
24:Y:102:CHD:H12	24:Y:102:CHD:H212	1.91	0.51
19:C:305:PGV:H42	24:P:315:CHD:H183	1.93	0.51
7:T:37:LEU:CD2	26:T:102:CDL:H381	2.37	0.51
4:D:140:TYR:CD1	21:D:204:EDO:H21	2.45	0.51
27:C:314:DMU:H11	10:J:49:CYS:HB3	1.91	0.51
2:B:81:LEU:HD12	26:T:102:CDL:H371	1.93	0.51
2:B:168:LEU:HD13	2:B:184:LEU:HG	1.93	0.51
1:A:221:ASP:OD1	21:A:619:EDO:H11	2.11	0.51
10:J:55:PHE:HE1	27:L:102:DMU:H29	1.75	0.51
1:N:24:ALA:HB2	14:N:601[A]:HEA:H253	1.92	0.51
26:T:102:CDL:H732	26:T:102:CDL:H552	1.92	0.51
3:C:55:TYR:OH	26:C:306:CDL:OA3	2.23	0.50
3:P:259:TRP:O	24:P:315:CHD:O12	2.23	0.50
7:G:5:LYS:O	1:N:193:VAL:HG21	2.11	0.50
26:P:308:CDL:OB2	10:W:8:LYS:HE3	2.11	0.50
1:A:514:LYS:HE3	6:F:61:ILE:O	2.10	0.50
6:S:62:CYS:HB3	6:S:85:CYS:HB3	1.93	0.50
29:A:837:HOH:O	8:H:23:GLN:HG3	2.12	0.49
21:N:611:EDO:H12	4:Q:11:TYR:HB2	1.95	0.49
1:A:73:ILE:HD13	14:A:601[B]:HEA:H22	1.95	0.49
25:P:306:PEK:H042	7:T:17:ARG:HH22	1.78	0.49
7:T:38:HIS:NE2	26:T:102:CDL:C11	2.76	0.49
3:C:37:PHE:CE2	27:C:314:DMU:H13	2.48	0.49
1:A:431:LEU:HD21	1:A:450:TRP:HB2	1.94	0.49
14:A:602:HEA:H243	2:B:69:PRO:HB3	1.95	0.49
4:D:121:LYS:NZ	21:D:203:EDO:O2	2.46	0.48
2:O:41:ILE:O	2:O:45:MET:HG2	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:O:98:LYS:HB2	2:O:109:GLU:HB2	1.95	0.48
3:P:156:ARG:HE	24:P:309:CHD:C24	2.26	0.48
1:A:113:LEU:HB3	27:L:102:DMU:H23	1.94	0.48
20:A:609:TGL:HA62	12:L:25:MET:HG2	1.95	0.48
1:A:265:LYS:HB2	1:A:490:THR:HG21	1.96	0.48
14:A:602:HEA:HBC1	14:A:602:HEA:HMC1	1.94	0.48
24:C:315:CHD:H181	19:P:302:PGV:H31	1.96	0.48
4:D:20:ARG:HG2	29:D:377:HOH:O	2.13	0.48
1:N:386:VAL:HG21	14:N:601[A]:HEA:H261	1.95	0.47
27:C:313:DMU:H2	27:C:314:DMU:H32	1.96	0.47
20:D:201:TGL:HA52	20:D:201:TGL:HB72	1.95	0.47
29:A:920:HOH:O	23:B:303:PSC:H52	2.13	0.47
1:N:381[B]:LEU:HB2	14:N:602:HEA:CAC	2.45	0.47
1:N:390:MET:O	1:N:394[B]:VAL:HG12	2.13	0.47
7:T:38:HIS:NE2	26:T:102:CDL:H112	2.28	0.47
12:L:41:ARG:HH12	27:L:102:DMU:H2	1.79	0.47
1:N:379:TYR:O	1:N:383[B]:MET:HB2	2.15	0.47
1:A:73:ILE:CD1	14:A:601[B]:HEA:H22	2.44	0.47
14:N:602:HEA:HMC1	14:N:602:HEA:CBC	2.44	0.47
23:B:303:PSC:H31	23:B:303:PSC:H231	1.96	0.47
9:V:18:ARG:HG2	9:V:18:ARG:HH11	1.80	0.47
2:B:104:TRP:CG	2:B:203:ASN:HB2	2.50	0.46
7:G:17:ARG:NH1	25:G:102:PEK:O13	2.48	0.46
3:P:47:LEU:O	3:P:51:MET:HG2	2.15	0.46
1:N:308:ALA:HA	1:N:311:ILE:HD12	1.97	0.46
7:G:4:ALA:HB3	1:N:282:PHE:HA	1.98	0.46
3:P:258:TRP:CD1	24:P:315:CHD:H161	2.50	0.46
3:C:59:ARG:HB2	26:C:306:CDL:H511	1.97	0.46
24:Y:102:CHD:H231	24:Y:102:CHD:H211	1.61	0.46
26:P:308:CDL:H521	26:P:308:CDL:HB62	1.98	0.46
24:C:315:CHD:H112	24:C:315:CHD:H12A	1.53	0.46
1:N:321:PHE:CD2	2:O:65:TRP:HB2	2.51	0.46
1:N:449:MET:SD	2:O:5:MET:HG2	2.56	0.46
3:C:37:PHE:CD2	27:C:314:DMU:H13	2.51	0.46
20:N:607:TGL:HC72	29:O:3080:HOH:O	2.16	0.46
24:P:315:CHD:H182	24:P:315:CHD:H8	1.64	0.46
6:S:95:GLN:OE1	6:S:95:GLN:N	2.48	0.46
25:G:102:PEK:H282	24:O:301:CHD:H11	1.99	0.45
24:P:309:CHD:H212	24:P:309:CHD:H12	1.98	0.45
4:Q:17:VAL:O	4:Q:25:PRO:HG3	2.15	0.45
3:C:156:ARG:HE	24:C:307:CHD:C24	2.29	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:289:ALA:HB1	1:N:297[B]:MET:HE1	1.99	0.45
24:P:309:CHD:H232	24:P:309:CHD:H162	1.98	0.45
1:A:107:PRO:HB3	3:C:25:LEU:HB2	1.96	0.45
2:O:104:TRP:CD2	2:O:203:ASN:HB2	2.51	0.45
3:P:84:ILE:HG12	25:P:301:PEK:H32	1.99	0.45
7:T:62:TRP:CB	27:T:101:DMU:H30	2.46	0.45
19:A:607:PGV:H131	19:A:607:PGV:H302	1.99	0.45
26:G:103:CDL:HA62	26:G:103:CDL:H311	1.47	0.45
12:L:2:HIS:CG	12:L:3:TYR:N	2.84	0.45
19:A:607:PGV:H02	29:K:207:HOH:O	2.16	0.45
24:J:101:CHD:H183	24:J:101:CHD:H20	1.85	0.45
1:N:119:GLU:O	12:Y:46:LYS:HE2	2.17	0.45
25:G:102:PEK:H282	25:G:102:PEK:H252	1.74	0.45
1:N:337:ALA:HB2	1:N:394[B]:VAL:HG13	1.99	0.45
1:A:377:PHE:O	1:A:381[B]:LEU:HB3	2.17	0.44
2:O:111:THR:HA	2:O:114:GLU:O	2.17	0.44
2:B:69:PRO:HG2	29:B:421:HOH:O	2.18	0.44
3:P:135:SER:HB3	26:T:102:CDL:H582	1.99	0.44
6:S:76:LYS:HE3	6:S:93:PRO:HG2	1.98	0.44
2:O:104:TRP:CG	2:O:203:ASN:HB2	2.52	0.44
1:A:24:ALA:HB2	14:A:601[A]:HEA:H253	2.00	0.44
27:P:313:DMU:H6	10:W:49:CYS:SG	2.57	0.44
1:N:381[B]:LEU:O	1:N:385:ALA:HB3	2.18	0.44
2:B:104:TRP:CD2	2:B:203:ASN:HB2	2.53	0.44
20:D:201:TGL:OG1	20:D:201:TGL:HB31	2.16	0.44
1:N:76:GLY:O	1:N:80:ASN:HB2	2.17	0.44
1:N:297[B]:MET:SD	1:N:302:ARG:HG2	2.57	0.44
27:C:313:DMU:H23	10:J:41:GLY:HA3	1.99	0.44
19:A:607:PGV:H012	19:A:607:PGV:H22	1.99	0.44
2:O:227:LEU:HD23	2:O:227:LEU:HA	1.89	0.44
24:O:301:CHD:H212	24:O:301:CHD:H12	2.00	0.44
26:T:102:CDL:H111	26:T:102:CDL:H362	2.00	0.44
27:Z:103:DMU:H8	27:Z:103:DMU:H15	1.72	0.44
1:A:334:TRP:CH2	2:B:46:LEU:HD13	2.53	0.43
19:N:608:PGV:H42	19:N:608:PGV:H71	1.75	0.43
13:Z:37:LEU:HD23	13:Z:37:LEU:HA	1.83	0.43
2:B:16:ILE:HA	2:B:16:ILE:HD13	1.85	0.43
3:P:210:ILE:HG23	19:P:307:PGV:H91	2.00	0.43
1:A:113:LEU:HD12	20:A:609:TGL:H141	2.00	0.43
1:A:377:PHE:HA	1:A:380[B]:VAL:HG12	1.99	0.43
1:N:71:MET:HE3	1:N:195:LEU:HD21	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:195:LEU:HD23	1:N:245:ILE:HD13	1.99	0.43
9:V:18:ARG:HG2	9:V:18:ARG:NH1	2.33	0.43
2:B:58:ALA:O	2:B:62:GLU:HG3	2.18	0.43
25:C:308:PEK:H051	7:T:8:HIS:NE2	2.33	0.43
13:M:41:LYS:O	13:M:42:LYS:HB3	2.18	0.43
1:N:376:HIS:CE1	1:N:380[B]:VAL:HG11	2.54	0.43
3:P:110:PRO:HB3	8:U:30:TRP:CE3	2.54	0.43
6:S:1:ALA:HB2	7:T:17:ARG:HH12	1.82	0.43
2:O:132:GLU:HB3	2:O:137:GLU:HG3	2.01	0.43
24:P:315:CHD:H211	24:P:315:CHD:H231	1.64	0.43
6:S:85:CYS:SG	6:S:87:THR:HG23	2.59	0.43
26:T:102:CDL:H521	26:T:102:CDL:H551	1.86	0.43
4:D:16:TYR:CE1	4:D:25:PRO:HG2	2.54	0.43
26:T:102:CDL:H332	26:T:102:CDL:HA62	2.00	0.43
1:A:310:MET:HE2	2:B:73:LEU:HD22	2.01	0.43
1:A:513:LEU:HD23	1:A:513:LEU:HA	1.63	0.43
14:A:601[A]:HEA:H271	14:A:601[A]:HEA:H211	1.74	0.43
3:C:55:TYR:CE1	26:C:306:CDL:H512	2.53	0.43
3:P:244:PHE:HA	25:P:301:PEK:H9	2.01	0.43
6:F:50:PRO:HG2	29:F:240:HOH:O	2.19	0.42
1:A:309:THR:HG22	14:A:602:HEA:HMB2	2.01	0.42
20:N:607:TGL:H192	20:N:607:TGL:H351	1.74	0.42
4:D:98:TRP:CE3	27:M:101:DMU:H12	2.54	0.42
1:A:335:SER:HB2	1:A:336:PRO:HD2	2.01	0.42
1:N:243:VAL:HB	14:N:602:HEA:CAC	2.49	0.42
21:A:619:EDO:C2	29:A:735:HOH:O	2.66	0.42
1:A:484:THR:HB	13:M:2:THR:OG1	2.20	0.42
21:C:312:EDO:H11	6:F:16:LEU:HD13	2.00	0.42
25:C:303:PEK:H161	25:C:303:PEK:H132	1.51	0.42
1:N:32:ALA:HB3	12:Y:36:PRO:HG2	2.01	0.42
19:A:607:PGV:H231	13:M:12:PRO:HG3	2.02	0.42
12:L:41:ARG:NH2	27:L:102:DMU:O3	2.53	0.42
13:Z:42:LYS:HE2	13:Z:42:LYS:HB2	1.88	0.42
12:Y:13:PHE:HA	20:Y:101:TGL:HC22	2.01	0.42
24:J:101:CHD:H222	24:J:101:CHD:H162	1.49	0.42
12:L:22:LEU:HD23	27:L:103:DMU:H13	2.00	0.42
1:N:408:THR:HB	19:Z:101:PGV:H41	2.02	0.42
2:O:130:PRO:HA	4:Q:115:TRP:CH2	2.55	0.42
26:P:308:CDL:H182	26:P:308:CDL:H372	2.01	0.42
2:B:215:PRO:HD3	9:I:60:PHE:CD1	2.56	0.41
3:C:210:ILE:HG23	19:C:304:PGV:H91	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:Q:59:LEU:HD23	4:Q:59:LEU:HA	1.82	0.41
27:T:101:DMU:H26	27:T:101:DMU:H18	1.77	0.41
9:V:29:LEU:HA	9:V:29:LEU:HD12	1.81	0.41
23:B:303:PSC:H221	23:B:303:PSC:H251	1.87	0.41
19:C:305:PGV:H71	24:P:315:CHD:H20	2.02	0.41
6:F:62:CYS:HB3	6:F:85:CYS:HB3	2.02	0.41
11:X:6:ALA:HA	11:X:7:PRO:HD3	1.95	0.41
1:A:225:GLY:HA3	3:C:112:LEU:HD21	2.01	0.41
10:J:47:LEU:HA	10:J:47:LEU:HD23	1.86	0.41
1:N:51:ASP:OD2	2:O:206:PHE:HE2	2.03	0.41
1:N:87:ILE:O	1:N:173:PRO:HD3	2.19	0.41
19:C:305:PGV:H241	19:C:305:PGV:H272	1.85	0.41
1:N:115:SER:O	1:N:121:GLY:HA2	2.20	0.41
1:N:380[A]:VAL:HG21	14:N:602:HEA:C4C	2.50	0.41
20:A:609:TGL:H221	20:A:609:TGL:HA92	1.94	0.41
25:C:303:PEK:H041	7:G:70:PHE:HB2	2.03	0.41
12:L:43:GLN:OE1	21:L:101:EDO:H12	2.21	0.41
1:N:459:PHE:HB3	4:Q:92:THR:HG23	2.03	0.41
8:H:46:LYS:H	8:H:46:LYS:HG2	1.72	0.41
2:O:86:MET:HB2	2:O:86:MET:HE2	1.76	0.41
2:O:134:ARG:HB2	4:Q:110:THR:HG21	2.03	0.41
1:N:229:ILE:HD11	2:O:175:ILE:HD13	2.03	0.41
2:B:77:ALA:O	2:B:81:LEU:HG	2.20	0.41
3:C:22:LEU:HD23	3:C:22:LEU:HA	1.92	0.41
3:C:146:TRP:CD2	3:C:162:ALA:HB2	2.55	0.41
1:N:19:TYR:CD1	1:N:76:GLY:HA3	2.55	0.41
1:N:71:MET:HB2	1:N:72:PRO:HD3	2.02	0.41
1:N:380[A]:VAL:HG21	14:N:602:HEA:C3C	2.51	0.41
3:P:34:TRP:NE1	27:T:101:DMU:H29	2.34	0.41
26:P:308:CDL:H852	26:P:308:CDL:H822	1.78	0.41
4:Q:126:MET:HG3	4:Q:128:VAL:HG23	2.01	0.41
13:Z:6:ALA:HB3	13:Z:9:PRO:HG3	2.02	0.41
19:A:607:PGV:H11	4:D:84:ALA:CB	2.51	0.41
3:C:81:TYR:HD1	25:C:308:PEK:H272	1.86	0.41
12:L:45:LEU:HD23	12:L:45:LEU:HA	1.92	0.41
1:N:488:THR:HB	1:N:495:LEU:HD13	2.03	0.41
19:P:302:PGV:H331	29:P:504:HOH:O	2.19	0.41
8:U:7:LYS:HE2	8:U:7:LYS:HB3	1.74	0.41
12:Y:13:PHE:CZ	20:Y:101:TGL:HA72	2.56	0.41
26:C:306:CDL:H331	26:C:306:CDL:H141	2.03	0.40
7:G:3:ALA:O	7:G:4:ALA:HB2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:O:160:LEU:HD22	2:O:175:ILE:HG12	2.03	0.40
26:T:102:CDL:H202	26:T:102:CDL:H531	2.01	0.40
1:N:107:PRO:HB3	3:P:25:LEU:HB2	2.04	0.40
21:Q:201:EDO:H11	21:Q:202:EDO:H22	2.03	0.40
20:B:302:TGL:H241	20:B:302:TGL:H211	1.82	0.40
7:G:21:PHE:CD1	25:G:102:PEK:H222	2.55	0.40
26:G:103:CDL:H381	26:G:103:CDL:H161	2.03	0.40
1:N:35:LEU:HD11	1:N:462:LEU:HB2	2.03	0.40
1:N:377:PHE:HA	1:N:380[A]:VAL:HG22	2.04	0.40
12:Y:23:ALA:HB2	27:Z:103:DMU:H17	2.03	0.40
21:A:619:EDO:O1	21:C:309:EDO:H12	2.21	0.40
3:C:29:SER:HB3	3:C:42:LEU:HD13	2.03	0.40
2:O:139:ASP:OD1	2:O:140:ASN:N	2.55	0.40
21:A:619:EDO:H22	29:A:887:HOH:O	2.21	0.40
3:C:34:TRP:HE1	27:G:101:DMU:H29	1.86	0.40
20:O:303:TGL:HA62	20:O:303:TGL:H112	2.03	0.40
8:U:60:TYR:CD1	8:U:60:TYR:C	2.95	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 X-ray entries followed by that with respect to entries of similar resolution.

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	521/514 (101%)	508 (98%)	13 (2%)	0	100 100
1	N	523/514 (102%)	514 (98%)	9 (2%)	0	100 100
2	B	226/227 (100%)	221 (98%)	5 (2%)	0	100 100
2	O	227/227 (100%)	218 (96%)	7 (3%)	2 (1%)	17 6
3	C	257/261 (98%)	253 (98%)	4 (2%)	0	100 100
3	P	259/261 (99%)	254 (98%)	5 (2%)	0	100 100
4	D	143/147 (97%)	140 (98%)	3 (2%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
4	Q	139/147 (95%)	133 (96%)	6 (4%)	0	100 100
5	E	103/109 (94%)	103 (100%)	0	0	100 100
5	R	103/109 (94%)	102 (99%)	1 (1%)	0	100 100
6	F	96/98 (98%)	93 (97%)	2 (2%)	1 (1%)	15 5
6	S	94/98 (96%)	89 (95%)	4 (4%)	1 (1%)	14 4
7	G	81/85 (95%)	69 (85%)	9 (11%)	3 (4%)	3 0
7	T	81/85 (95%)	69 (85%)	9 (11%)	3 (4%)	3 0
8	H	77/85 (91%)	69 (90%)	3 (4%)	5 (6%)	1 0
8	U	77/85 (91%)	74 (96%)	2 (3%)	1 (1%)	12 3
9	I	71/73 (97%)	69 (97%)	2 (3%)	0	100 100
9	V	71/73 (97%)	69 (97%)	2 (3%)	0	100 100
10	J	56/59 (95%)	56 (100%)	0	0	100 100
10	W	56/59 (95%)	56 (100%)	0	0	100 100
11	K	47/56 (84%)	46 (98%)	1 (2%)	0	100 100
11	X	47/56 (84%)	46 (98%)	1 (2%)	0	100 100
12	L	44/47 (94%)	42 (96%)	2 (4%)	0	100 100
12	Y	44/47 (94%)	43 (98%)	1 (2%)	0	100 100
13	M	41/46 (89%)	39 (95%)	2 (5%)	0	100 100
13	Z	41/46 (89%)	40 (98%)	0	1 (2%)	6 1
All	All	3525/3614 (98%)	3415 (97%)	93 (3%)	17 (0%)	29 15

All (17) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
7	G	4	ALA
8	H	10	ASN
6	S	94	HIS
8	U	8	ILE
8	H	8	ILE
8	H	45	ALA
8	H	46	LYS
8	H	48	GLY
6	F	95	GLN
7	G	8	HIS
7	G	3	ALA

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Mol	Chain	Res	Type
2	O	126	SER
7	T	4	ALA
7	T	8	HIS
7	T	3	ALA
13	Z	41	LYS
2	O	92	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 X-ray entries followed by that with respect to entries of similar resolution.

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	434/426 (102%)	428 (99%)	6 (1%)	67	59
1	N	436/426 (102%)	427 (98%)	9 (2%)	53	42
2	B	211/210 (100%)	201 (95%)	10 (5%)	26	12
2	O	212/210 (101%)	202 (95%)	10 (5%)	26	12
3	C	224/226 (99%)	220 (98%)	4 (2%)	59	48
3	P	226/226 (100%)	222 (98%)	4 (2%)	59	48
4	D	129/129 (100%)	126 (98%)	3 (2%)	50	37
4	Q	125/129 (97%)	124 (99%)	1 (1%)	81	78
5	E	92/95 (97%)	90 (98%)	2 (2%)	52	39
5	R	92/95 (97%)	91 (99%)	1 (1%)	73	68
6	F	81/81 (100%)	79 (98%)	2 (2%)	47	34
6	S	80/81 (99%)	79 (99%)	1 (1%)	69	62
7	G	67/68 (98%)	62 (92%)	5 (8%)	13	4
7	T	67/68 (98%)	61 (91%)	6 (9%)	9	2
8	H	71/75 (95%)	66 (93%)	5 (7%)	15	5
8	U	71/75 (95%)	66 (93%)	5 (7%)	15	5
9	I	57/57 (100%)	55 (96%)	2 (4%)	36	21
9	V	57/57 (100%)	55 (96%)	2 (4%)	36	21
10	J	49/50 (98%)	48 (98%)	1 (2%)	55	44

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
10	W	49/50 (98%)	48 (98%)	1 (2%)	55 44
11	K	39/46 (85%)	38 (97%)	1 (3%)	46 32
11	X	39/46 (85%)	39 (100%)	0	100 100
12	L	39/40 (98%)	39 (100%)	0	100 100
12	Y	39/40 (98%)	35 (90%)	4 (10%)	7 2
13	M	37/38 (97%)	34 (92%)	3 (8%)	11 3
13	Z	37/38 (97%)	34 (92%)	3 (8%)	11 3
All	All	3060/3082 (99%)	2969 (97%)	91 (3%)	41 27

All (91) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	38	ARG
1	A	109	PHE
1	A	180	GLN
1	A	297	MET
1	A	338	MET
1	A	369	ASP
2	B	33	LEU
2	B	54	SER
2	B	60	GLU
2	B	65	TRP
2	B	75	LEU
2	B	78	LEU
2	B	86	MET
2	B	115	ASP
2	B	171	LYS
2	B	203	ASN
3	C	77	LYS
3	C	159	MET
3	C	214	PHE
3	C	230	ASN
4	D	4	SER
4	D	20	ARG
4	D	58	GLU
5	E	5	HIS
5	E	90	ARG
6	F	48	LEU
6	F	80	GLN
7	G	5	LYS

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Mol	Chain	Res	Type
7	G	18	PHE
7	G	37	LEU
7	G	54	ARG
7	G	84	LYS
8	H	8	ILE
8	H	9	LYS
8	H	51	SER
8	H	60	TYR
8	H	61	LYS
9	I	2	THR
9	I	18	ARG
10	J	50	LEU
11	K	47	ARG
13	M	34	LEU
13	M	38	ASP
13	M	42	LYS
1	N	38	ARG
1	N	109	PHE
1	N	138	HIS
1	N	298[A]	ASP
1	N	298[B]	ASP
1	N	338	MET
1	N	369	ASP
1	N	504	THR
1	N	513	LEU
2	O	33	LEU
2	O	59	GLN
2	O	60	GLU
2	O	75	LEU
2	O	78	LEU
2	O	86	MET
2	O	94	SER
2	O	110	TYR
2	O	115	ASP
2	O	171	LYS
3	P	127	LEU
3	P	159	MET
3	P	214	PHE
3	P	230	ASN
4	Q	58	GLU
5	R	80	GLU
6	S	64	GLU

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Mol	Chain	Res	Type
7	T	2	SER
7	T	5	LYS
7	T	18	PHE
7	T	33	LEU
7	T	37	LEU
7	T	54	ARG
8	U	8	ILE
8	U	9	LYS
8	U	29	CYS
8	U	60	TYR
8	U	61	LYS
9	V	18	ARG
9	V	29	LEU
10	W	50	LEU
12	Y	4	GLU
12	Y	26	THR
12	Y	46	LYS
12	Y	47	LYS
13	Z	34	LEU
13	Z	38	ASP
13	Z	41	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
4	D	32	ASN
2	O	91	ASN
5	R	78	HIS
7	T	34	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

8 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The

Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
7	TPO	T	11	7	8,10,11	1.33	1 (12%)	10,14,16	0.73	0
9	SAC	I	1	9	7,8,9	0.87	0	8,9,11	1.26	1 (12%)
9	SAC	V	1	9	7,8,9	0.61	0	8,9,11	0.82	0
2	FME	O	1	2	8,9,10	0.64	0	7,9,11	1.00	0
2	FME	B	1	2	8,9,10	0.99	0	7,9,11	1.93	2 (28%)
1	FME	N	1	1	8,9,10	0.49	0	7,9,11	1.41	2 (28%)
7	TPO	G	11	7	8,10,11	1.30	1 (12%)	10,14,16	0.87	0
1	FME	A	1	1	8,9,10	0.76	0	7,9,11	1.49	1 (14%)

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
7	TPO	T	11	7	-	4/9/11/13	-
9	SAC	I	1	9	-	2/7/8/10	-
9	SAC	V	1	9	-	4/7/8/10	-
2	FME	O	1	2	-	0/7/9/11	-
2	FME	B	1	2	-	0/7/9/11	-
1	FME	N	1	1	-	5/7/9/11	-
7	TPO	G	11	7	-	7/9/11/13	-
1	FME	A	1	1	-	5/7/9/11	-

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	T	11	TPO	P-O1P	2.85	1.59	1.50
7	G	11	TPO	P-O1P	2.83	1.59	1.50

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	1	FME	CG-CB-CA	-3.37	103.59	112.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	N	1	FME	CE-SD-CG	2.49	108.96	100.40
1	A	1	FME	O1-CN-N	-2.41	118.91	125.27
9	I	1	SAC	O-C-CA	-2.41	118.46	124.78
2	B	1	FME	O1-CN-N	-2.33	119.15	125.27
1	N	1	FME	O-C-CA	-2.05	119.41	124.78

There are no chirality outliers.

All (27) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	1	FME	O1-CN-N-CA
1	A	1	FME	N-CA-CB-CG
7	G	11	TPO	N-CA-CB-OG1
7	G	11	TPO	O-C-CA-CB
7	G	11	TPO	CA-CB-OG1-P
7	G	11	TPO	CB-OG1-P-O1P
9	I	1	SAC	C2A-C1A-N-CA
9	I	1	SAC	OAC-C1A-N-CA
1	N	1	FME	N-CA-CB-CG
7	T	11	TPO	N-CA-CB-OG1
7	T	11	TPO	C-CA-CB-CG2
7	T	11	TPO	O-C-CA-CB
9	V	1	SAC	C2A-C1A-N-CA
9	V	1	SAC	OAC-C1A-N-CA
9	V	1	SAC	C-CA-N-C1A
9	V	1	SAC	CB-CA-N-C1A
1	A	1	FME	CA-CB-CG-SD
1	N	1	FME	CA-CB-CG-SD
7	G	11	TPO	C-CA-CB-CG2
1	A	1	FME	C-CA-CB-CG
1	N	1	FME	C-CA-CB-CG
1	N	1	FME	O1-CN-N-CA
7	G	11	TPO	N-CA-CB-CG2
7	T	11	TPO	N-CA-CB-CG2
1	N	1	FME	CB-CG-SD-CE
7	G	11	TPO	CB-OG1-P-O3P
1	A	1	FME	CB-CA-N-CN

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 135 ligands modelled in this entry, 10 are monoatomic - leaving 125 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	$\#\|Z\| > 2$
14	HEA	N	601[B]	-	57,67,67	1.41	7 (12%)	61,103,103	2.22	17 (27%)
21	EDO	D	204	-	3,3,3	0.53	0	2,2,2	0.42	0
21	EDO	E	203	-	3,3,3	0.52	0	2,2,2	0.12	0
26	CDL	G	103	-	87,87,99	1.33	10 (11%)	93,99,111	1.28	6 (6%)
21	EDO	N	610	-	3,3,3	0.63	0	2,2,2	0.41	0
21	EDO	S	107	-	3,3,3	0.60	0	2,2,2	0.57	0
20	TGL	A	609	-	57,57,62	1.16	3 (5%)	59,59,65	1.58	9 (15%)
19	PGV	A	607	-	50,50,50	0.96	2 (4%)	53,56,56	1.31	5 (9%)
24	CHD	C	315	-	32,32,32	0.80	1 (3%)	51,51,51	2.25	15 (29%)
21	EDO	A	611	-	3,3,3	0.55	0	2,2,2	0.92	0
27	DMU	Z	102	-	34,34,34	0.50	0	45,45,45	1.05	5 (11%)
21	EDO	V	102	-	3,3,3	0.60	0	2,2,2	0.10	0
21	EDO	H	102	-	3,3,3	0.46	0	2,2,2	0.39	0
25	PEK	C	308	-	45,45,52	1.06	2 (4%)	48,50,57	1.12	4 (8%)
21	EDO	T	104	-	3,3,3	0.44	0	2,2,2	0.36	0
24	CHD	B	304	-	32,32,32	1.03	3 (9%)	51,51,51	1.63	12 (23%)
19	PGV	A	608	-	50,50,50	1.07	5 (10%)	53,56,56	1.27	6 (11%)
20	TGL	Y	101	-	58,58,62	1.24	3 (5%)	61,61,65	1.41	7 (11%)
19	PGV	Z	101	-	46,46,50	1.01	2 (4%)	49,52,56	1.38	5 (10%)
21	EDO	S	103	-	3,3,3	0.59	0	2,2,2	1.26	0
24	CHD	P	304	-	32,32,32	0.85	0	51,51,51	1.69	11 (21%)
27	DMU	P	314	-	34,34,34	0.57	1 (2%)	45,45,45	1.10	4 (8%)
21	EDO	E	204	-	3,3,3	0.51	0	2,2,2	0.31	0
27	DMU	G	101	-	34,34,34	0.76	1 (2%)	45,45,45	2.24	12 (26%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
27	DMU	P	313	-	34,34,34	0.46	0	45,45,45	1.50	9 (20%)
21	EDO	N	614	-	3,3,3	0.52	0	2,2,2	0.17	0
21	EDO	Q	201	-	3,3,3	0.30	0	2,2,2	0.68	0
26	CDL	P	308	-	89,89,99	1.37	12 (13%)	96,99,111	1.64	13 (13%)
21	EDO	T	103	-	3,3,3	0.55	0	2,2,2	0.60	0
27	DMU	C	314	-	34,34,34	0.59	1 (2%)	45,45,45	0.99	0
21	EDO	S	106	-	3,3,3	0.60	0	2,2,2	0.28	0
19	PGV	P	302	-	46,46,50	1.11	2 (4%)	49,51,56	1.73	7 (14%)
18	CMO	A	606[B]	15	0,1,1	-	-	-		
21	EDO	N	612	-	3,3,3	0.66	0	2,2,2	0.55	0
14	HEA	A	602	1	57,67,67	1.71	9 (15%)	61,103,103	2.40	24 (39%)
18	CMO	N	606[A]	-	0,1,1	-	-	-		
21	EDO	A	610	-	3,3,3	1.07	0	2,2,2	0.62	0
21	EDO	F	106	-	3,3,3	0.56	0	2,2,2	0.40	0
21	EDO	A	619	-	3,3,3	0.16	0	2,2,2	0.20	0
21	EDO	Q	202	-	3,3,3	0.37	0	2,2,2	0.23	0
21	EDO	S	102	-	3,3,3	0.81	0	2,2,2	0.77	0
21	EDO	F	102	-	3,3,3	0.90	0	2,2,2	0.43	0
22	CUA	B	301	2	0,1,1	-	-	-		
21	EDO	C	309	-	3,3,3	0.68	0	2,2,2	0.27	0
21	EDO	P	310	-	3,3,3	0.20	0	2,2,2	0.68	0
26	CDL	T	102	-	92,92,99	1.38	11 (11%)	98,104,111	1.44	12 (12%)
24	CHD	C	301	-	32,32,32	1.32	4 (12%)	51,51,51	1.50	11 (21%)
22	CUA	O	302	2	0,1,1	-	-	-		
27	DMU	Z	103	-	34,34,34	0.55	0	45,45,45	0.97	2 (4%)
19	PGV	P	307	-	45,45,50	0.82	2 (4%)	48,51,56	1.12	4 (8%)
27	DMU	T	101	-	34,34,34	0.57	0	45,45,45	2.43	11 (24%)
21	EDO	U	101	-	3,3,3	0.47	0	2,2,2	0.58	0
24	CHD	C	307	-	32,32,32	0.74	0	51,51,51	1.23	4 (7%)
21	EDO	A	616	-	3,3,3	0.89	0	2,2,2	0.56	0
21	EDO	A	614	-	3,3,3	0.72	0	2,2,2	0.93	0
21	EDO	R	202	-	3,3,3	0.52	0	2,2,2	0.24	0
19	PGV	N	608	-	50,50,50	0.93	2 (4%)	53,56,56	1.35	5 (9%)
24	CHD	J	101	-	32,32,32	0.72	0	51,51,51	1.79	11 (21%)
27	DMU	M	101	-	34,34,34	0.49	0	45,45,45	1.61	10 (22%)
21	EDO	O	306	-	3,3,3	0.55	0	2,2,2	0.15	0
21	EDO	A	621	-	3,3,3	0.93	0	2,2,2	0.87	0
21	EDO	G	105	-	3,3,3	0.70	0	2,2,2	0.31	0
24	CHD	P	309	-	32,32,32	0.91	1 (3%)	51,51,51	1.99	16 (31%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
21	EDO	D	202	-	3,3,3	0.53	0	2,2,2	0.13	0
21	EDO	O	307	-	3,3,3	0.79	0	2,2,2	0.22	0
14	HEA	A	601[A]	-	57,67,67	1.83	13 (22%)	61,103,103	2.12	22 (36%)
21	EDO	R	201	-	3,3,3	0.64	0	2,2,2	0.32	0
21	EDO	I	101	-	3,3,3	0.72	0	2,2,2	0.19	0
21	EDO	A	612	-	3,3,3	0.91	0	2,2,2	0.63	0
24	CHD	O	301	-	32,32,32	0.95	1 (3%)	51,51,51	1.42	5 (9%)
21	EDO	N	611	-	3,3,3	0.53	0	2,2,2	0.34	0
14	HEA	N	602	1	57,67,67	1.49	9 (15%)	61,103,103	1.94	15 (24%)
21	EDO	B	305	-	3,3,3	0.66	0	2,2,2	0.67	0
14	HEA	N	601[A]	-	57,67,67	1.39	7 (12%)	61,103,103	2.11	21 (34%)
21	EDO	D	203	-	3,3,3	0.44	0	2,2,2	0.55	0
26	CDL	C	306	-	81,81,99	1.30	9 (11%)	87,93,111	1.59	17 (19%)
21	EDO	C	312	-	3,3,3	0.67	0	2,2,2	0.30	0
24	CHD	Y	102	-	30,30,32	0.83	0	45,47,51	2.33	15 (33%)
27	DMU	C	313	-	34,34,34	0.61	0	45,45,45	1.30	6 (13%)
20	TGL	D	201	-	54,54,62	1.24	4 (7%)	57,57,65	1.14	7 (12%)
21	EDO	S	104	-	3,3,3	0.70	0	2,2,2	0.11	0
23	PSC	O	304	-	45,45,51	1.16	3 (6%)	48,50,59	1.26	3 (6%)
21	EDO	L	101	-	3,3,3	0.92	0	2,2,2	0.36	0
25	PEK	C	303	-	52,52,52	0.87	2 (3%)	55,57,57	1.72	7 (12%)
19	PGV	C	305	-	47,47,50	1.36	4 (8%)	47,51,56	1.52	4 (8%)
25	PEK	G	102	-	49,49,52	1.04	2 (4%)	53,54,57	1.40	6 (11%)
21	EDO	D	205	-	3,3,3	0.66	0	2,2,2	0.13	0
21	EDO	P	311	-	3,3,3	0.78	0	2,2,2	0.57	0
21	EDO	A	615	-	3,3,3	0.67	0	2,2,2	0.14	0
21	EDO	B	306	-	3,3,3	0.56	0	2,2,2	0.27	0
21	EDO	N	613	-	3,3,3	0.51	0	2,2,2	0.34	0
21	EDO	C	310	-	3,3,3	0.50	0	2,2,2	0.34	0
21	EDO	S	105	-	3,3,3	0.40	0	2,2,2	0.51	0
27	DMU	L	102	-	34,34,34	0.72	1 (2%)	45,45,45	1.28	4 (8%)
21	EDO	A	620	-	3,3,3	0.60	0	2,2,2	0.82	0
25	PEK	P	305	-	51,51,52	0.82	2 (3%)	54,56,57	1.45	5 (9%)
21	EDO	A	622	-	3,3,3	0.47	0	2,2,2	0.24	0
21	EDO	A	617	-	3,3,3	0.38	0	2,2,2	0.72	0
21	EDO	N	609	-	3,3,3	0.84	0	2,2,2	0.63	0
20	TGL	N	607	-	62,62,62	1.06	3 (4%)	65,65,65	1.16	7 (10%)
21	EDO	K	101	-	3,3,3	0.68	0	2,2,2	0.40	0
18	CMO	A	606[A]	-	0,1,1	-	-	-		

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
21	EDO	E	201	-	3,3,3	0.44	0	2,2,2	0.50	0
21	EDO	P	312	-	3,3,3	0.71	0	2,2,2	0.19	0
21	EDO	V	101	-	3,3,3	0.67	0	2,2,2	0.21	0
21	EDO	G	104	-	3,3,3	0.72	0	2,2,2	0.17	0
21	EDO	H	101	-	3,3,3	0.51	0	2,2,2	0.26	0
23	PSC	B	303	-	48,48,51	1.15	3 (6%)	51,54,59	1.04	2 (3%)
21	EDO	F	104	-	3,3,3	0.64	0	2,2,2	0.62	0
25	PEK	P	306	-	52,52,52	1.03	2 (3%)	55,57,57	1.15	4 (7%)
25	PEK	P	301	-	39,39,52	1.13	2 (5%)	43,44,57	1.76	7 (16%)
21	EDO	C	311	-	3,3,3	0.50	0	2,2,2	0.23	0
21	EDO	A	618	-	3,3,3	0.71	0	2,2,2	0.38	0
21	EDO	A	613	-	3,3,3	0.64	0	2,2,2	0.15	0
19	PGV	C	304	-	46,46,50	0.83	1 (2%)	48,52,56	1.11	5 (10%)
20	TGL	B	302	-	62,62,62	1.12	3 (4%)	65,65,65	1.22	3 (4%)
24	CHD	P	315	-	32,32,32	0.83	0	51,51,51	2.48	20 (39%)
21	EDO	E	202	-	3,3,3	0.66	0	2,2,2	0.21	0
21	EDO	F	105	-	3,3,3	0.62	0	2,2,2	0.53	0
27	DMU	L	103	-	34,34,34	0.76	1 (2%)	45,45,45	1.07	4 (8%)
21	EDO	F	103	-	3,3,3	0.76	0	2,2,2	0.19	0
14	HEA	A	601[B]	-	57,67,67	1.84	13 (22%)	61,103,103	2.27	23 (37%)
18	CMO	N	606[B]	15	0,1,1	-	-	-		
20	TGL	O	303	-	62,62,62	1.08	3 (4%)	65,65,65	1.16	5 (7%)
21	EDO	O	305	-	3,3,3	0.52	0	2,2,2	0.52	0

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
14	HEA	N	601[B]	-	3/3/7/16	3/32/76/76	-
21	EDO	D	204	-	-	1/1/1/1	-
21	EDO	E	203	-	-	0/1/1/1	-
26	CDL	G	103	-	-	36/98/98/110	-
21	EDO	N	610	-	-	0/1/1/1	-
21	EDO	S	107	-	-	0/1/1/1	-
20	TGL	A	609	-	-	28/57/57/65	-
19	PGV	A	607	-	-	32/55/55/55	-
24	CHD	C	315	-	-	3/9/74/74	0/4/4/4

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
21	EDO	A	611	-	-	1/1/1/1	-
27	DMU	Z	102	-	-	5/19/59/59	0/2/2/2
21	EDO	V	102	-	-	0/1/1/1	-
21	EDO	H	102	-	-	0/1/1/1	-
25	PEK	C	308	-	-	16/49/49/56	-
21	EDO	T	104	-	-	0/1/1/1	-
24	CHD	B	304	-	-	2/9/74/74	0/4/4/4
19	PGV	A	608	-	-	6/55/55/55	-
20	TGL	Y	101	-	-	29/61/61/65	-
19	PGV	Z	101	-	-	12/51/51/55	-
21	EDO	S	103	-	-	1/1/1/1	-
24	CHD	P	304	-	-	1/9/74/74	0/4/4/4
27	DMU	P	314	-	-	7/19/59/59	0/2/2/2
21	EDO	E	204	-	-	0/1/1/1	-
27	DMU	G	101	-	-	14/19/59/59	0/2/2/2
27	DMU	P	313	-	-	6/19/59/59	0/2/2/2
21	EDO	N	614	-	-	1/1/1/1	-
21	EDO	Q	201	-	-	0/1/1/1	-
26	CDL	P	308	-	-	51/95/95/110	-
21	EDO	T	103	-	-	0/1/1/1	-
27	DMU	C	314	-	-	4/19/59/59	0/2/2/2
21	EDO	S	106	-	-	1/1/1/1	-
19	PGV	P	302	-	-	12/50/50/55	-
21	EDO	N	612	-	-	0/1/1/1	-
14	HEA	A	602	1	3/3/7/16	4/32/76/76	-
21	EDO	A	610	-	-	1/1/1/1	-
21	EDO	F	106	-	-	0/1/1/1	-
21	EDO	A	619	-	-	0/1/1/1	-
21	EDO	Q	202	-	-	0/1/1/1	-
21	EDO	S	102	-	-	0/1/1/1	-
21	EDO	F	102	-	-	0/1/1/1	-
21	EDO	C	309	-	-	0/1/1/1	-
21	EDO	P	310	-	-	1/1/1/1	-
26	CDL	T	102	-	-	38/103/103/110	-
24	CHD	C	301	-	-	1/9/74/74	0/4/4/4
27	DMU	Z	103	-	-	9/19/59/59	0/2/2/2
19	PGV	P	307	-	-	6/50/50/55	-
27	DMU	T	101	-	-	8/19/59/59	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
21	EDO	U	101	-	-	1/1/1/1	-
24	CHD	C	307	-	-	4/9/74/74	0/4/4/4
21	EDO	A	616	-	-	0/1/1/1	-
21	EDO	A	614	-	-	0/1/1/1	-
21	EDO	R	202	-	-	0/1/1/1	-
19	PGV	N	608	-	-	11/55/55/55	-
24	CHD	J	101	-	-	8/9/74/74	1/4/4/4
27	DMU	M	101	-	-	5/19/59/59	0/2/2/2
21	EDO	O	306	-	-	0/1/1/1	-
21	EDO	A	621	-	-	0/1/1/1	-
21	EDO	G	105	-	-	0/1/1/1	-
24	CHD	P	309	-	-	4/9/74/74	0/4/4/4
21	EDO	D	202	-	-	1/1/1/1	-
21	EDO	O	307	-	-	0/1/1/1	-
14	HEA	A	601[A]	-	3/3/7/16	7/32/76/76	-
21	EDO	R	201	-	-	0/1/1/1	-
21	EDO	I	101	-	-	1/1/1/1	-
21	EDO	A	612	-	-	0/1/1/1	-
24	CHD	O	301	-	-	2/9/74/74	0/4/4/4
21	EDO	N	611	-	-	0/1/1/1	-
14	HEA	N	602	1	3/3/7/16	5/32/76/76	-
21	EDO	B	305	-	-	0/1/1/1	-
14	HEA	N	601[A]	-	3/3/7/16	6/32/76/76	-
21	EDO	D	203	-	-	0/1/1/1	-
26	CDL	C	306	-	-	46/92/92/110	-
21	EDO	C	312	-	-	0/1/1/1	-
24	CHD	Y	102	-	-	2/12/67/74	0/3/3/4
27	DMU	C	313	-	-	4/19/59/59	0/2/2/2
20	TGL	D	201	-	-	18/57/57/65	-
21	EDO	S	104	-	-	0/1/1/1	-
23	PSC	O	304	-	-	14/49/49/55	-
21	EDO	L	101	-	-	1/1/1/1	-
25	PEK	C	303	-	-	20/56/56/56	-
19	PGV	C	305	-	-	19/49/49/55	-
25	PEK	G	102	-	-	25/51/51/56	-
21	EDO	D	205	-	-	0/1/1/1	-
21	EDO	P	311	-	-	1/1/1/1	-
21	EDO	A	615	-	-	0/1/1/1	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
21	EDO	B	306	-	-	0/1/1/1	-
21	EDO	N	613	-	-	0/1/1/1	-
21	EDO	C	310	-	-	0/1/1/1	-
21	EDO	S	105	-	-	1/1/1/1	-
27	DMU	L	102	-	-	5/19/59/59	0/2/2/2
21	EDO	A	620	-	-	1/1/1/1	-
25	PEK	P	305	-	-	10/55/55/56	-
21	EDO	A	622	-	-	0/1/1/1	-
21	EDO	A	617	-	-	0/1/1/1	-
21	EDO	N	609	-	-	0/1/1/1	-
20	TGL	N	607	-	-	23/65/65/65	-
21	EDO	K	101	-	-	0/1/1/1	-
21	EDO	E	201	-	-	1/1/1/1	-
21	EDO	P	312	-	-	1/1/1/1	-
21	EDO	V	101	-	-	1/1/1/1	-
21	EDO	G	104	-	-	1/1/1/1	-
21	EDO	H	101	-	-	0/1/1/1	-
23	PSC	B	303	-	-	15/49/49/55	-
21	EDO	F	104	-	-	0/1/1/1	-
25	PEK	P	306	-	-	25/56/56/56	-
25	PEK	P	301	-	-	17/41/41/56	-
21	EDO	C	311	-	-	0/1/1/1	-
21	EDO	A	618	-	-	0/1/1/1	-
21	EDO	A	613	-	-	1/1/1/1	-
19	PGV	C	304	-	-	8/51/51/55	-
20	TGL	B	302	-	-	19/65/65/65	-
24	CHD	P	315	-	-	3/9/74/74	0/4/4/4
21	EDO	E	202	-	-	1/1/1/1	-
21	EDO	F	105	-	-	0/1/1/1	-
27	DMU	L	103	-	-	10/19/59/59	0/2/2/2
21	EDO	F	103	-	-	0/1/1/1	-
14	HEA	A	601[B]	-	3/3/7/16	4/32/76/76	-
20	TGL	O	303	-	-	28/65/65/65	-
21	EDO	O	305	-	-	0/1/1/1	-

All (172) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	C	305	PGV	O01-C1	5.63	1.45	1.33
20	Y	101	TGL	OG2-CB1	5.53	1.49	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	A	609	TGL	OG2-CB1	5.23	1.49	1.34
23	B	303	PSC	O01-C1	5.22	1.49	1.34
20	Y	101	TGL	OG3-CC1	5.20	1.48	1.33
14	A	602	HEA	CHD-C1D	5.20	1.48	1.35
20	D	201	TGL	OG2-CB1	5.18	1.48	1.34
20	B	302	TGL	OG1-CA1	4.96	1.47	1.33
26	T	102	CDL	OB8-CB7	4.92	1.47	1.33
14	A	601[A]	HEA	C4D-C3D	-4.88	1.36	1.45
14	A	601[B]	HEA	C4D-C3D	-4.88	1.36	1.45
19	P	302	PGV	O03-C19	4.87	1.47	1.33
25	P	301	PEK	O03-C21	4.82	1.47	1.33
20	B	302	TGL	OG2-CB1	4.77	1.47	1.34
20	D	201	TGL	OG1-CA1	4.76	1.47	1.33
20	O	303	TGL	OG2-CB1	4.71	1.47	1.34
19	C	305	PGV	O03-C19	4.68	1.47	1.33
25	C	308	PEK	O03-C21	4.65	1.46	1.33
19	P	302	PGV	O01-C1	4.65	1.47	1.34
23	O	304	PSC	O01-C1	4.64	1.47	1.34
20	Y	101	TGL	OG1-CA1	4.61	1.46	1.33
26	P	308	CDL	OA8-CA7	4.59	1.46	1.33
14	A	602	HEA	CHC-C4B	4.58	1.46	1.35
26	P	308	CDL	OB8-CB7	4.57	1.46	1.33
20	N	607	TGL	OG1-CA1	4.56	1.46	1.33
19	Z	101	PGV	O03-C19	4.54	1.46	1.33
26	C	306	CDL	OA8-CA7	4.53	1.46	1.33
20	O	303	TGL	OG1-CA1	4.51	1.46	1.33
26	G	103	CDL	OA6-CA5	4.51	1.47	1.34
26	G	103	CDL	OB8-CB7	4.50	1.46	1.33
26	C	306	CDL	OA6-CA5	4.49	1.47	1.34
19	A	607	PGV	O01-C1	4.48	1.46	1.34
25	G	102	PEK	O03-C21	4.47	1.46	1.33
20	N	607	TGL	OG2-CB1	4.47	1.46	1.34
20	O	303	TGL	OG3-CC1	4.47	1.46	1.33
25	P	306	PEK	O03-C21	4.47	1.46	1.33
14	A	601[A]	HEA	CHD-C1D	4.45	1.46	1.35
14	A	601[B]	HEA	CHD-C1D	4.45	1.46	1.35
25	P	306	PEK	O01-C1	4.42	1.46	1.34
26	T	102	CDL	OA8-CA7	4.42	1.46	1.33
20	A	609	TGL	OG1-CA1	4.40	1.46	1.33
20	B	302	TGL	OG3-CC1	4.39	1.46	1.33
26	G	103	CDL	OA8-CA7	4.36	1.46	1.33
25	C	308	PEK	O01-C1	4.35	1.46	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	G	102	PEK	O01-C1	4.33	1.46	1.34
26	C	306	CDL	OB8-CB7	4.28	1.45	1.33
26	T	102	CDL	OA6-CA5	4.27	1.46	1.34
26	P	308	CDL	OB6-CB5	4.19	1.46	1.34
23	O	304	PSC	O03-C19	4.18	1.45	1.33
14	A	602	HEA	C4D-C3D	-4.15	1.37	1.45
20	N	607	TGL	OG3-CC1	4.15	1.45	1.33
26	G	103	CDL	OB6-CB5	4.14	1.46	1.34
19	A	607	PGV	O03-C19	4.06	1.45	1.33
26	P	308	CDL	OA6-CA5	4.02	1.45	1.34
26	T	102	CDL	OB6-CB5	3.98	1.45	1.34
14	A	601[A]	HEA	CBD-CGD	3.96	1.59	1.50
14	A	601[B]	HEA	CBD-CGD	3.96	1.59	1.50
25	P	301	PEK	O01-C1	3.95	1.45	1.34
14	N	601[A]	HEA	CHC-C4B	3.90	1.45	1.35
14	N	601[B]	HEA	CHC-C4B	3.90	1.45	1.35
19	N	608	PGV	O03-C19	3.89	1.44	1.33
19	A	608	PGV	O03-C19	3.89	1.44	1.33
20	A	609	TGL	OG3-CC1	3.83	1.52	1.33
23	B	303	PSC	C13-C12	3.81	1.53	1.31
19	Z	101	PGV	O01-C1	3.72	1.44	1.34
14	N	601[A]	HEA	C4B-NB	-3.72	1.33	1.40
14	N	601[B]	HEA	C4B-NB	-3.72	1.33	1.40
26	C	306	CDL	OB6-CB5	3.69	1.44	1.34
25	C	303	PEK	O03-C21	3.68	1.44	1.33
14	A	601[A]	HEA	CMC-C2C	3.65	1.59	1.51
14	A	601[B]	HEA	CMC-C2C	3.65	1.59	1.51
19	N	608	PGV	O01-C1	3.62	1.44	1.34
23	O	304	PSC	C13-C12	3.61	1.52	1.31
14	N	602	HEA	C1D-C2D	-3.57	1.37	1.44
14	N	601[A]	HEA	CHD-C1D	3.54	1.44	1.35
14	N	601[B]	HEA	CHD-C1D	3.54	1.44	1.35
26	T	102	CDL	C59-C58	-3.42	1.32	1.51
25	C	303	PEK	O01-C1	3.42	1.43	1.34
20	D	201	TGL	OG3-CC1	3.41	1.43	1.33
14	A	601[A]	HEA	CHC-C4B	3.40	1.43	1.35
14	A	601[B]	HEA	CHC-C4B	3.40	1.43	1.35
26	G	103	CDL	C59-C58	-3.38	1.32	1.51
14	N	602	HEA	C4B-C3B	-3.33	1.39	1.44
26	T	102	CDL	C42-C41	-3.31	1.33	1.51
26	G	103	CDL	C62-C61	-3.30	1.33	1.51
26	T	102	CDL	C19-C18	-3.29	1.33	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	C	305	PGV	C12-C11	3.28	1.50	1.31
26	T	102	CDL	C39-C38	-3.27	1.33	1.51
19	A	608	PGV	O01-C1	3.24	1.43	1.34
26	P	308	CDL	C59-C58	-3.24	1.33	1.51
26	P	308	CDL	C79-C78	-3.23	1.33	1.51
23	B	303	PSC	O03-C19	3.22	1.45	1.33
26	P	308	CDL	C19-C18	-3.21	1.33	1.51
25	P	305	PEK	O03-C21	3.21	1.42	1.33
26	T	102	CDL	C82-C81	-3.20	1.33	1.51
26	T	102	CDL	C79-C78	-3.19	1.33	1.51
14	N	602	HEA	CHC-C4B	3.18	1.43	1.35
14	A	601[A]	HEA	C4B-C3B	-3.18	1.39	1.44
14	A	601[B]	HEA	C4B-C3B	-3.18	1.39	1.44
26	C	306	CDL	C42-C41	-3.17	1.33	1.51
26	C	306	CDL	C39-C38	-3.15	1.33	1.51
26	P	308	CDL	C22-C21	-3.14	1.33	1.51
26	T	102	CDL	C62-C61	-3.14	1.34	1.51
26	C	306	CDL	C79-C78	-3.12	1.34	1.51
26	C	306	CDL	C82-C81	-3.11	1.34	1.51
24	C	301	CHD	O12-C12	3.10	1.48	1.43
27	G	101	DMU	O16-C6	3.10	1.45	1.40
26	P	308	CDL	C82-C81	-3.10	1.34	1.51
26	P	308	CDL	C39-C38	-3.09	1.34	1.51
14	N	602	HEA	C1B-C2B	-3.06	1.38	1.44
25	P	305	PEK	O01-C1	3.06	1.42	1.34
26	G	103	CDL	C42-C41	-3.04	1.34	1.51
26	G	103	CDL	C82-C81	-3.04	1.34	1.51
26	P	308	CDL	C42-C41	-3.00	1.34	1.51
26	G	103	CDL	C39-C38	-2.98	1.34	1.51
14	N	602	HEA	CHD-C1D	2.95	1.42	1.35
19	P	307	PGV	O01-C1	2.92	1.42	1.34
14	A	602	HEA	C1D-C2D	-2.92	1.38	1.44
14	A	601[A]	HEA	C1D-C2D	-2.92	1.38	1.44
14	A	601[B]	HEA	C1D-C2D	-2.92	1.38	1.44
14	N	602	HEA	C4D-C3D	-2.92	1.40	1.45
26	G	103	CDL	C79-C78	-2.89	1.35	1.51
14	A	601[A]	HEA	C3D-C2D	2.86	1.42	1.36
14	A	601[B]	HEA	C3D-C2D	2.86	1.42	1.36
14	A	601[A]	HEA	C3A-C2A	-2.85	1.36	1.40
14	A	601[B]	HEA	C3A-C2A	-2.85	1.36	1.40
24	C	301	CHD	C11-C9	2.82	1.58	1.53
19	C	305	PGV	C10-C11	-2.82	1.34	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
27	L	103	DMU	O16-C6	2.74	1.44	1.40
19	C	304	PGV	O03-C19	2.69	1.41	1.33
14	A	602	HEA	C4B-C3B	-2.68	1.40	1.44
20	D	201	TGL	OB1-CB1	2.68	1.30	1.22
14	A	602	HEA	C3C-C2C	-2.67	1.36	1.40
26	C	306	CDL	C59-C58	-2.63	1.33	1.51
24	C	301	CHD	C4-C5	2.59	1.58	1.53
27	L	102	DMU	O16-C6	2.55	1.44	1.40
19	P	307	PGV	O03-C19	2.54	1.40	1.33
14	A	601[A]	HEA	O11-C11	2.53	1.48	1.42
14	N	601[A]	HEA	C4B-C3B	-2.50	1.40	1.44
14	N	601[B]	HEA	C4B-C3B	-2.50	1.40	1.44
14	A	602	HEA	CMC-C2C	2.50	1.56	1.51
24	B	304	CHD	C13-C12	-2.49	1.50	1.54
14	N	602	HEA	C4B-NB	-2.45	1.36	1.40
14	N	601[A]	HEA	C1B-C2B	-2.43	1.39	1.44
14	N	601[B]	HEA	C1B-C2B	-2.43	1.39	1.44
14	A	601[A]	HEA	CBA-CGA	2.40	1.56	1.50
14	A	601[B]	HEA	CBA-CGA	2.40	1.56	1.50
24	B	304	CHD	C11-C12	2.39	1.57	1.53
14	A	601[A]	HEA	CAD-C3D	2.39	1.57	1.51
14	A	601[B]	HEA	CAD-C3D	2.39	1.57	1.51
27	C	314	DMU	O16-C6	2.38	1.44	1.40
14	A	601[A]	HEA	CMB-C2B	2.34	1.55	1.50
14	A	601[B]	HEA	CMB-C2B	2.34	1.55	1.50
24	O	301	CHD	O7-C7	2.32	1.48	1.43
19	A	608	PGV	O03-C01	2.30	1.50	1.45
14	A	602	HEA	CMB-C2B	2.29	1.55	1.50
19	A	608	PGV	O01-C02	-2.28	1.40	1.46
14	N	601[A]	HEA	CMD-C2D	2.23	1.55	1.50
14	N	601[B]	HEA	CMD-C2D	2.23	1.55	1.50
24	C	301	CHD	C13-C12	-2.22	1.51	1.54
24	C	315	CHD	C10-C9	-2.21	1.52	1.56
14	A	602	HEA	C12-C11	2.20	1.56	1.52
14	N	601[A]	HEA	CBD-CGD	2.12	1.55	1.50
14	N	601[B]	HEA	CBD-CGD	2.12	1.55	1.50
14	A	601[B]	HEA	O11-C11	2.12	1.47	1.42
14	N	602	HEA	O11-C11	2.11	1.47	1.42
24	P	309	CHD	C10-C9	-2.11	1.52	1.56
19	A	608	PGV	C20-C19	2.11	1.56	1.50
27	P	314	DMU	O16-C6	2.08	1.43	1.40
14	N	602	HEA	C1D-ND	-2.04	1.36	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
26	P	308	CDL	PA1-OA2	2.03	1.62	1.54
24	B	304	CHD	C6-C7	2.01	1.56	1.52

All (474) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
14	N	601[B]	HEA	C13-C12-C11	-8.05	102.26	114.35
27	T	101	DMU	O4-C7-C5	-7.48	93.06	110.35
25	C	303	PEK	C2-C3-C4	7.30	126.25	113.23
19	P	302	PGV	O01-C1-C2	7.26	127.14	111.50
25	P	301	PEK	O01-C1-C2	6.64	125.81	111.50
19	C	305	PGV	O01-C1-O02	-6.50	117.29	125.57
24	C	315	CHD	C5-C4-C3	-6.43	103.31	112.76
27	G	101	DMU	O4-C7-C5	-6.31	95.77	110.35
14	N	601[A]	HEA	C13-C12-C11	-6.15	105.11	114.35
26	P	308	CDL	OB6-CB5-C51	6.01	124.45	111.50
26	P	308	CDL	CA4-OA6-CA5	5.98	132.51	117.79
14	N	601[B]	HEA	C27-C19-C20	5.94	125.27	115.27
24	C	315	CHD	C1-C10-C5	5.75	116.28	107.77
20	A	609	TGL	OG3-CC1-CC2	5.75	137.44	112.38
20	B	302	TGL	OG2-CB1-CB2	5.70	123.78	111.50
14	A	601[B]	HEA	C13-C12-C11	-5.65	105.86	114.35
14	A	602	HEA	C27-C19-C20	5.61	124.71	115.27
24	P	315	CHD	C13-C14-C8	-5.60	107.58	114.74
14	A	601[A]	HEA	C3D-C4D-ND	5.57	115.75	110.36
14	A	601[B]	HEA	C3D-C4D-ND	5.57	115.75	110.36
27	T	101	DMU	O2-C8-C9	-5.56	95.48	109.30
20	O	303	TGL	OG2-CB1-CB2	5.56	123.49	111.50
14	N	602	HEA	C27-C19-C20	5.54	124.59	115.27
26	G	103	CDL	OA6-CA5-C11	5.50	123.36	111.50
27	G	101	DMU	C18-O16-C6	5.48	122.93	113.84
24	P	315	CHD	C6-C5-C4	-5.46	104.90	111.19
27	T	101	DMU	O1-C10-C5	5.35	121.68	110.35
24	Y	102	CHD	C5-C6-C7	5.25	120.26	114.46
19	Z	101	PGV	O01-C1-C2	5.22	122.75	111.50
24	J	101	CHD	C6-C5-C4	-5.22	105.18	111.19
14	N	602	HEA	CHB-C1B-NB	5.18	130.06	124.43
24	J	101	CHD	C5-C6-C7	5.10	120.09	114.46
23	O	304	PSC	O01-C1-C2	5.04	122.36	111.50
19	C	305	PGV	O03-C19-C20	5.03	127.69	111.91
20	Y	101	TGL	OG2-CB1-CB2	5.00	122.27	111.50
26	T	102	CDL	OA6-CA5-C11	4.99	122.27	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	G	102	PEK	O01-C1-C2	4.98	122.24	111.50
14	A	602	HEA	C4B-NB-C1B	-4.97	99.94	105.07
20	N	607	TGL	OG2-CB1-CB2	4.96	122.20	111.50
24	Y	102	CHD	C6-C7-C8	4.96	116.77	111.48
26	T	102	CDL	OB6-CB5-C51	4.95	122.17	111.50
14	A	602	HEA	C2B-C1B-NB	4.94	115.80	109.88
19	P	302	PGV	O03-C19-C20	4.88	127.23	111.91
26	P	308	CDL	OA6-CA4-CA3	4.88	126.06	108.40
14	N	602	HEA	CHB-C1B-C2B	-4.87	117.38	124.98
24	C	315	CHD	C22-C20-C17	-4.84	100.28	110.28
19	A	608	PGV	O03-C19-O04	-4.80	111.49	123.59
24	C	315	CHD	C11-C9-C10	-4.79	108.79	113.73
26	C	306	CDL	CB4-OB6-CB5	-4.78	106.01	117.79
24	Y	102	CHD	C13-C17-C20	-4.77	113.80	119.50
24	P	315	CHD	C1-C2-C3	4.68	116.47	110.47
24	Y	102	CHD	O12-C12-C11	4.62	118.54	109.12
24	C	315	CHD	C21-C20-C17	4.61	119.98	112.92
27	T	101	DMU	O1-C9-C8	4.60	118.05	109.69
25	C	303	PEK	O01-C1-O02	-4.59	112.62	123.70
14	A	602	HEA	C1D-ND-C4D	-4.59	100.34	105.07
27	T	101	DMU	C10-O7-C3	-4.57	106.64	117.96
27	G	101	DMU	C10-O7-C3	-4.55	106.71	117.96
14	A	602	HEA	C13-C12-C11	-4.55	107.52	114.35
14	N	601[A]	HEA	C2D-C1D-ND	4.52	115.19	109.84
14	N	601[B]	HEA	C2D-C1D-ND	4.52	115.19	109.84
24	P	315	CHD	C11-C9-C10	-4.47	109.11	113.73
14	A	601[A]	HEA	C4B-NB-C1B	-4.45	100.47	105.07
14	A	601[B]	HEA	C4B-NB-C1B	-4.45	100.47	105.07
24	P	304	CHD	C22-C20-C17	-4.44	101.10	110.28
27	G	101	DMU	O7-C10-C5	4.44	119.62	108.10
24	P	315	CHD	C9-C8-C7	4.44	117.19	111.88
14	A	601[A]	HEA	C1D-ND-C4D	-4.44	100.49	105.07
14	A	601[B]	HEA	C1D-ND-C4D	-4.44	100.49	105.07
26	C	306	CDL	O1-C1-CA2	-4.43	94.01	109.56
26	P	308	CDL	OB8-CB7-C71	4.43	125.82	111.91
14	A	602	HEA	C3D-C4D-ND	4.42	114.64	110.36
14	A	601[A]	HEA	C2B-C1B-NB	4.36	115.10	109.88
14	A	601[B]	HEA	C2B-C1B-NB	4.36	115.10	109.88
14	N	601[A]	HEA	C3D-C4D-ND	4.32	114.54	110.36
14	N	601[B]	HEA	C3D-C4D-ND	4.32	114.54	110.36
20	A	609	TGL	OG2-CB1-CB2	4.32	120.81	111.50
24	P	309	CHD	C11-C9-C10	-4.32	109.28	113.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
27	G	101	DMU	O5-C6-O16	4.29	120.14	109.97
14	N	601[A]	HEA	C1D-ND-C4D	-4.26	100.67	105.07
14	N	601[B]	HEA	C1D-ND-C4D	-4.26	100.67	105.07
24	P	315	CHD	C10-C9-C8	4.26	116.40	111.82
20	A	609	TGL	OC1-CC1-CC2	-4.25	109.32	124.81
27	T	101	DMU	C7-C8-C9	4.25	117.82	110.24
14	A	601[A]	HEA	CAD-CBD-CGD	-4.25	104.46	113.60
14	A	601[B]	HEA	CAD-CBD-CGD	-4.25	104.46	113.60
26	T	102	CDL	CA4-OA6-CA5	-4.24	107.36	117.79
25	P	305	PEK	O03-C21-O04	-4.21	112.97	123.59
24	Y	102	CHD	C17-C13-C14	4.21	104.33	100.09
26	G	103	CDL	OB6-CB5-C51	4.19	120.54	111.50
26	C	306	CDL	OB6-CB5-C51	4.18	120.51	111.50
19	A	608	PGV	O03-C19-C20	4.17	124.99	111.91
24	P	315	CHD	C17-C13-C14	4.14	104.27	100.09
24	Y	102	CHD	C6-C5-C4	-4.10	105.72	111.74
25	G	102	PEK	O03-C21-C22	4.09	124.73	111.91
27	T	101	DMU	C10-C5-C7	4.06	118.46	110.00
24	P	309	CHD	C21-C20-C22	-4.02	104.05	110.36
26	P	308	CDL	CB4-OB6-CB5	-3.98	107.98	117.79
19	Z	101	PGV	C02-O01-C1	-3.98	107.99	117.79
20	Y	101	TGL	OG3-CC1-CC2	3.98	124.39	111.91
24	P	309	CHD	C15-C14-C13	3.94	107.42	103.55
14	N	602	HEA	C3C-C4C-NC	3.94	114.31	109.21
27	T	101	DMU	C10-O1-C9	3.94	121.42	113.69
26	C	306	CDL	OA6-CA5-C11	3.94	119.98	111.50
24	C	301	CHD	C22-C20-C17	-3.93	102.16	110.28
27	C	313	DMU	O1-C9-C11	3.93	116.20	106.44
14	A	602	HEA	C20-C19-C18	-3.93	113.17	121.12
19	A	607	PGV	O03-C19-C20	3.92	124.21	111.91
27	P	313	DMU	C10-O1-C9	3.92	121.38	113.69
24	P	315	CHD	C19-C10-C1	-3.91	101.96	108.26
24	P	315	CHD	C6-C5-C10	3.91	116.81	112.66
24	Y	102	CHD	C13-C14-C8	-3.90	109.75	114.74
19	N	608	PGV	O03-C19-O04	-3.89	113.77	123.59
24	J	101	CHD	C6-C7-C8	3.88	115.62	111.48
19	N	608	PGV	O03-C19-C20	3.85	123.99	111.91
26	G	103	CDL	CB4-OB6-CB5	-3.84	108.33	117.79
25	P	305	PEK	O03-C21-C22	3.84	123.95	111.91
27	G	101	DMU	C7-C8-C9	3.83	117.08	110.24
23	B	303	PSC	O01-C1-C2	3.80	119.70	111.50
14	A	602	HEA	CMB-C2B-C1B	3.79	130.81	125.04

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	P	306	PEK	O03-C21-C22	3.78	123.77	111.91
24	P	315	CHD	O3-C3-C4	-3.77	102.34	109.85
19	A	607	PGV	C3-C2-C1	-3.76	99.95	113.62
24	C	315	CHD	C1-C10-C9	-3.75	105.45	111.35
27	M	101	DMU	O7-C10-C5	3.74	117.80	108.10
24	P	315	CHD	C4-C3-C2	3.72	115.00	110.55
24	O	301	CHD	C6-C5-C4	-3.70	106.93	111.19
24	P	309	CHD	C13-C17-C20	-3.70	115.08	119.50
19	A	607	PGV	O03-C19-O04	-3.69	114.28	123.59
26	C	306	CDL	CA6-CA4-CA3	-3.65	103.15	111.79
14	N	601[A]	HEA	CMC-C2C-C3C	3.65	131.50	124.68
14	N	601[B]	HEA	CMC-C2C-C3C	3.65	131.50	124.68
14	A	601[A]	HEA	CAA-CBA-CGA	-3.61	103.63	113.76
14	A	601[B]	HEA	CAA-CBA-CGA	-3.61	103.63	113.76
25	P	306	PEK	O01-C1-C2	3.61	119.28	111.50
24	P	309	CHD	C1-C2-C3	3.58	115.06	110.47
14	A	601[A]	HEA	O2A-CGA-CBA	3.58	125.53	114.03
14	A	601[B]	HEA	O2A-CGA-CBA	3.58	125.53	114.03
26	T	102	CDL	CB4-OB6-CB5	-3.57	109.00	117.79
24	P	304	CHD	C15-C14-C13	3.56	107.04	103.55
24	P	309	CHD	C16-C17-C20	3.55	117.64	112.15
24	C	301	CHD	C15-C14-C13	3.55	107.03	103.55
27	P	314	DMU	C10-O1-C9	3.55	120.65	113.69
26	T	102	CDL	OA8-CA7-C31	3.54	123.03	111.91
25	P	301	PEK	C02-O01-C1	-3.54	109.08	117.79
24	P	309	CHD	C13-C14-C8	-3.53	110.23	114.74
27	L	102	DMU	C10-C5-C7	3.52	117.33	110.00
14	A	602	HEA	C2D-C1D-ND	3.50	113.98	109.84
24	O	301	CHD	C1-C2-C3	-3.48	106.00	110.47
24	Y	102	CHD	C10-C9-C8	-3.48	108.08	111.82
14	N	601[A]	HEA	C4A-CHB-C1B	3.48	127.15	122.56
14	N	601[B]	HEA	C4A-CHB-C1B	3.48	127.15	122.56
24	P	315	CHD	C1-C10-C5	3.46	112.89	107.77
27	L	102	DMU	O1-C10-C5	3.41	117.56	110.35
24	P	304	CHD	C1-C10-C5	3.40	112.80	107.77
14	N	602	HEA	C4A-CHB-C1B	-3.40	118.07	122.56
25	P	301	PEK	O03-C21-C22	3.40	122.57	111.91
27	L	102	DMU	C10-O1-C9	3.40	120.36	113.69
25	P	305	PEK	O01-C1-C2	3.39	118.81	111.50
19	P	302	PGV	C21-C20-C19	-3.39	101.29	113.62
20	N	607	TGL	OG1-CA1-CA2	3.39	122.55	111.91
27	G	101	DMU	C8-C7-C5	3.39	116.74	110.82

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	B	304	CHD	C17-C13-C12	3.39	120.76	117.67
24	Y	102	CHD	C21-C20-C22	-3.38	105.06	110.36
20	B	302	TGL	OG1-CA1-CA2	3.38	122.51	111.91
14	A	602	HEA	C3B-C4B-NB	3.38	113.84	109.84
27	P	313	DMU	O1-C10-C5	3.37	117.48	110.35
24	P	304	CHD	C21-C20-C22	-3.35	105.11	110.36
14	A	602	HEA	C25-C23-C24	3.35	121.99	114.60
14	A	601[A]	HEA	C13-C12-C11	-3.34	109.33	114.35
24	B	304	CHD	C1-C10-C5	3.34	112.70	107.77
14	N	602	HEA	CBD-CAD-C3D	3.34	121.89	112.63
25	P	305	PEK	O01-C1-O02	-3.33	115.66	123.70
14	A	602	HEA	O1A-CGA-CBA	-3.31	112.43	123.08
24	J	101	CHD	C13-C17-C20	-3.31	115.54	119.50
26	P	308	CDL	OA8-CA7-C31	3.31	122.30	111.91
19	P	302	PGV	O01-C1-O02	-3.31	115.70	123.70
24	J	101	CHD	C14-C8-C7	3.30	116.19	111.81
14	A	601[B]	HEA	C27-C19-C20	3.28	120.79	115.27
24	Y	102	CHD	C17-C13-C12	-3.28	114.67	117.67
27	G	101	DMU	O3-C5-C10	3.27	118.00	110.05
24	C	307	CHD	C4-C5-C10	3.26	116.12	112.66
25	C	303	PEK	O01-C1-C2	3.26	118.52	111.50
20	N	607	TGL	OG3-CC1-CC2	3.23	122.04	111.91
27	T	101	DMU	O7-C10-C5	3.21	116.42	108.10
25	C	308	PEK	C2-C3-C4	3.19	118.92	113.23
24	B	304	CHD	O12-C12-C13	-3.19	105.63	111.03
20	O	303	TGL	OG1-CA1-CA2	3.18	121.88	111.91
20	D	201	TGL	OG3-CG3-CG2	-3.16	99.23	108.43
25	P	301	PEK	C2-C3-C4	-3.14	107.63	113.23
19	N	608	PGV	C03-C02-C01	-3.14	104.37	111.79
14	A	601[A]	HEA	O1A-CGA-CBA	-3.13	113.01	123.08
14	A	601[B]	HEA	O1A-CGA-CBA	-3.13	113.01	123.08
25	C	308	PEK	O01-C1-C2	3.12	118.22	111.50
26	C	306	CDL	OB8-CB7-C71	3.10	121.65	111.91
14	N	602	HEA	C20-C19-C18	-3.10	114.85	121.12
24	P	309	CHD	C14-C8-C9	-3.10	105.46	109.71
19	P	307	PGV	O01-C1-O02	-3.06	116.30	123.70
20	D	201	TGL	OG1-CA1-CA2	3.06	121.50	111.91
25	G	102	PEK	C02-O01-C1	-3.05	110.29	117.79
14	A	601[B]	HEA	C25-C23-C24	3.04	121.32	114.60
19	A	607	PGV	O01-C1-C2	3.04	118.05	111.50
25	P	306	PEK	O03-C21-O04	-3.04	115.93	123.59
23	B	303	PSC	C03-C02-C01	-3.03	104.62	111.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
19	P	302	PGV	O03-C19-O04	-3.02	115.97	123.59
27	P	313	DMU	C10-O7-C3	-3.01	110.51	117.96
14	N	601[A]	HEA	C26-C15-C16	3.00	120.32	115.27
19	C	305	PGV	O03-C19-O04	-3.00	116.03	123.59
25	G	102	PEK	O03-C21-O04	-2.99	116.06	123.59
14	A	601[A]	HEA	C3B-C4B-NB	2.96	113.34	109.84
14	A	601[B]	HEA	C3B-C4B-NB	2.96	113.34	109.84
27	T	101	DMU	O3-C5-C10	2.96	117.23	110.05
24	C	315	CHD	C11-C12-C13	-2.95	108.21	111.24
27	P	314	DMU	O7-C3-C4	2.95	117.53	109.45
24	C	301	CHD	C6-C5-C4	-2.94	107.81	111.19
26	C	306	CDL	OB2-PB2-OB3	2.93	120.53	109.07
14	A	602	HEA	CMB-C2B-C3B	-2.93	124.76	130.34
19	Z	101	PGV	O03-C19-C20	2.93	121.10	111.91
24	C	301	CHD	C23-C22-C20	-2.93	109.17	114.52
24	B	304	CHD	C15-C14-C8	-2.89	114.29	118.33
24	C	315	CHD	C13-C14-C8	-2.89	111.04	114.74
24	J	101	CHD	C6-C5-C10	2.89	115.73	112.66
14	N	601[A]	HEA	C27-C19-C20	2.89	120.13	115.27
24	B	304	CHD	C2-C1-C10	-2.88	107.85	112.78
27	M	101	DMU	O16-C18-C19	-2.88	99.48	109.56
24	C	315	CHD	O3-C3-C4	2.87	115.56	109.85
14	N	601[A]	HEA	C3C-C4C-NC	2.85	112.90	109.21
14	N	601[B]	HEA	C3C-C4C-NC	2.85	112.90	109.21
14	N	601[B]	HEA	C27-C19-C18	-2.85	116.37	123.68
27	P	313	DMU	O1-C9-C11	2.85	113.51	106.44
24	B	304	CHD	C6-C5-C4	-2.84	107.92	111.19
19	P	302	PGV	C01-O03-C19	2.83	127.59	117.12
14	A	601[A]	HEA	CHB-C1B-NB	-2.82	121.37	124.43
14	A	601[B]	HEA	CHB-C1B-NB	-2.82	121.37	124.43
27	M	101	DMU	O1-C10-C5	-2.79	104.44	110.35
27	M	101	DMU	C10-O7-C3	-2.78	111.07	117.96
14	A	601[B]	HEA	C20-C19-C18	-2.78	115.49	121.12
25	C	308	PEK	O03-C21-C22	2.78	120.62	111.91
24	P	315	CHD	C2-C1-C10	2.78	117.54	112.78
25	C	303	PEK	C3-C2-C1	-2.77	103.53	113.62
26	C	306	CDL	PA1-OA2-CA2	-2.77	105.43	121.68
27	P	313	DMU	C7-C8-C9	2.77	115.18	110.24
24	P	309	CHD	C21-C20-C17	2.77	117.16	112.92
25	C	303	PEK	O03-C21-C22	2.76	120.58	111.91
27	G	101	DMU	C6-C1-C2	-2.75	104.26	110.00
24	P	315	CHD	O7-C7-C8	2.74	115.56	109.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	A	609	TGL	OG3-CG3-CG2	2.74	116.42	108.43
24	P	304	CHD	C18-C13-C12	2.74	111.86	109.07
25	P	301	PEK	O01-C1-O02	-2.73	117.10	123.70
14	N	601[A]	HEA	CAA-CBA-CGA	-2.72	106.14	113.76
14	N	601[B]	HEA	CAA-CBA-CGA	-2.72	106.14	113.76
14	A	602	HEA	CBD-CAD-C3D	2.71	120.17	112.63
27	M	101	DMU	O5-C4-C57	2.71	113.17	106.44
26	P	308	CDL	OB8-CB7-OB9	-2.70	116.77	123.59
27	C	313	DMU	C10-O1-C9	2.70	118.99	113.69
25	C	303	PEK	C24-C23-C22	-2.68	103.57	113.19
27	M	101	DMU	C31-C28-C25	-2.67	100.86	114.42
25	P	301	PEK	O13-P-O14	2.67	121.14	110.68
24	C	307	CHD	C6-C5-C4	-2.67	108.12	111.19
20	Y	101	TGL	CG3-CG2-CG1	-2.67	105.48	111.79
14	A	602	HEA	CAD-CBD-CGD	-2.66	107.88	113.60
20	N	607	TGL	OG2-CB1-OB1	-2.64	117.31	123.70
14	N	601[A]	HEA	C1B-C2B-C3B	-2.64	103.64	106.80
14	N	601[B]	HEA	C1B-C2B-C3B	-2.64	103.64	106.80
20	A	609	TGL	CG3-CG2-CG1	-2.64	105.54	111.79
26	P	308	CDL	OA8-CA7-OA9	-2.63	116.94	123.59
27	P	313	DMU	O1-C9-C8	2.63	114.46	109.69
14	A	602	HEA	C26-C15-C16	2.62	119.69	115.27
20	D	201	TGL	CB4-CB3-CB2	-2.62	103.77	113.19
14	N	602	HEA	O2D-CGD-O1D	2.62	129.83	123.30
24	P	315	CHD	C6-C7-C8	-2.62	108.69	111.48
24	B	304	CHD	C5-C4-C3	-2.61	108.92	112.76
27	Z	103	DMU	O1-C10-C5	2.61	115.87	110.35
14	A	601[A]	HEA	C4D-C3D-C2D	-2.60	103.10	106.90
14	A	601[B]	HEA	C4D-C3D-C2D	-2.60	103.10	106.90
24	Y	102	CHD	C11-C12-C13	-2.60	108.57	111.24
19	N	608	PGV	O01-C1-O02	-2.60	117.42	123.70
24	O	301	CHD	C13-C17-C20	-2.60	116.39	119.50
14	N	602	HEA	CMD-C2D-C1D	2.60	129.00	125.04
14	A	602	HEA	CMD-C2D-C1D	2.60	128.99	125.04
19	C	304	PGV	C21-C20-C19	-2.59	104.20	113.62
19	C	304	PGV	O03-C19-C20	2.59	120.03	111.91
14	N	601[A]	HEA	O2A-CGA-CBA	2.59	122.34	114.03
14	N	601[B]	HEA	O2A-CGA-CBA	2.59	122.34	114.03
24	C	315	CHD	C6-C5-C10	2.59	115.40	112.66
24	P	309	CHD	C19-C10-C9	-2.58	107.62	111.18
26	C	306	CDL	CA4-OA6-CA5	-2.58	111.43	117.79
14	N	602	HEA	C2D-C1D-ND	2.57	112.89	109.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
14	A	602	HEA	CHA-C4D-C3D	-2.57	121.06	124.84
14	N	601[A]	HEA	CHD-C1D-C2D	-2.57	119.62	126.72
14	N	601[B]	HEA	CHD-C1D-C2D	-2.57	119.62	126.72
14	A	601[A]	HEA	CHA-C4D-ND	-2.56	121.64	124.43
14	A	601[B]	HEA	CHA-C4D-ND	-2.56	121.64	124.43
14	N	601[A]	HEA	C13-C14-C15	-2.56	121.49	127.66
26	C	306	CDL	OB8-CB7-OB9	-2.56	117.14	123.59
19	Z	101	PGV	O03-C01-C02	2.55	115.86	108.43
20	A	609	TGL	OG1-CA1-CA2	2.55	119.91	111.91
26	P	308	CDL	C80-C79-C78	2.55	127.37	114.42
20	Y	101	TGL	OG3-CC1-OC1	-2.55	117.16	123.59
14	A	601[A]	HEA	C2D-C1D-ND	2.54	112.85	109.84
14	A	601[B]	HEA	C2D-C1D-ND	2.54	112.85	109.84
14	N	601[A]	HEA	C21-C22-C23	-2.54	119.08	127.75
26	C	306	CDL	OA8-CA7-C31	2.53	119.86	111.91
26	C	306	CDL	C81-C80-C79	-2.53	101.57	114.42
24	C	301	CHD	C16-C17-C20	-2.53	108.23	112.15
27	M	101	DMU	O3-C5-C7	2.53	116.19	110.35
20	N	607	TGL	OG1-CA1-OA1	-2.52	117.22	123.59
26	C	306	CDL	OB6-CB5-OB7	-2.52	117.61	123.70
24	Y	102	CHD	C16-C17-C20	2.52	116.05	112.15
14	A	601[B]	HEA	C16-C15-C14	2.52	126.21	121.12
24	B	304	CHD	C19-C10-C1	-2.52	104.20	108.26
20	A	609	TGL	OG1-CG1-CG2	2.51	115.73	108.43
27	T	101	DMU	O16-C6-C1	2.50	112.21	108.30
14	A	601[A]	HEA	C16-C15-C14	-2.50	116.07	121.12
26	T	102	CDL	OB6-CB5-OB7	-2.49	117.68	123.70
24	P	309	CHD	C1-C10-C5	2.49	111.45	107.77
24	P	315	CHD	C4-C5-C10	-2.49	110.01	112.66
24	C	315	CHD	C15-C14-C13	2.49	105.99	103.55
14	A	601[A]	HEA	C20-C19-C18	-2.49	116.09	121.12
27	L	103	DMU	C6-C1-C2	2.48	115.16	110.00
14	N	601[A]	HEA	O2D-CGD-CBD	2.48	122.00	114.03
14	N	601[B]	HEA	O2D-CGD-CBD	2.48	122.00	114.03
14	N	601[A]	HEA	C17-C18-C19	-2.48	121.69	127.66
19	P	307	PGV	O03-C19-O04	-2.48	117.34	123.59
19	P	307	PGV	O01-C1-C2	2.48	116.84	111.50
14	A	602	HEA	CAD-C3D-C4D	2.48	128.98	124.66
26	T	102	CDL	OA8-CA7-OA9	-2.47	117.35	123.59
27	Z	102	DMU	O1-C9-C8	2.47	114.19	109.69
14	A	602	HEA	C4D-CHA-C1A	2.47	125.82	122.56
27	C	313	DMU	C7-C8-C9	2.46	114.63	110.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
27	C	313	DMU	C1-C2-C3	2.46	115.30	109.68
14	N	602	HEA	C3B-C4B-NB	2.46	112.75	109.84
24	P	309	CHD	C15-C16-C17	2.45	109.98	105.13
24	P	304	CHD	C16-C15-C14	-2.44	100.30	105.13
20	Y	101	TGL	OG3-CG3-CG2	2.44	115.53	108.43
14	N	601[A]	HEA	C21-C20-C19	-2.43	104.98	112.98
19	C	305	PGV	C21-C20-C19	-2.42	104.80	113.62
24	B	304	CHD	C16-C17-C13	2.42	105.92	103.55
27	L	102	DMU	C6-O5-C4	2.41	118.42	113.69
20	D	201	TGL	CG2-OG2-CB1	2.41	123.72	117.79
26	T	102	CDL	C19-C18-C17	-2.40	102.23	114.42
26	P	308	CDL	C53-C52-C51	-2.40	104.57	113.19
23	O	304	PSC	C03-C02-C01	-2.40	106.12	111.79
24	P	304	CHD	C5-C6-C7	2.39	117.10	114.46
19	A	608	PGV	C21-C20-C19	-2.39	104.93	113.62
27	M	101	DMU	O49-C1-C2	-2.39	104.82	110.35
24	Y	102	CHD	C11-C9-C8	2.38	114.37	110.88
24	C	301	CHD	C5-C4-C3	-2.38	109.26	112.76
14	A	601[A]	HEA	CHC-C4B-NB	-2.38	121.44	124.38
14	A	601[B]	HEA	CHC-C4B-NB	-2.38	121.44	124.38
20	N	607	TGL	CG2-OG2-CB1	-2.37	111.94	117.79
24	J	101	CHD	C17-C13-C14	2.37	102.48	100.09
14	A	601[A]	HEA	C21-C22-C23	-2.37	119.66	127.75
19	C	304	PGV	O14-P-O13	2.37	123.94	112.24
24	P	304	CHD	C19-C10-C1	-2.36	104.46	108.26
20	N	607	TGL	OG3-CC1-OC1	-2.35	117.65	123.59
24	C	301	CHD	C15-C16-C17	2.35	109.80	105.13
27	C	313	DMU	O1-C10-C5	2.34	115.30	110.35
26	G	103	CDL	OA6-CA5-OA7	-2.34	118.05	123.70
24	O	301	CHD	C11-C12-C13	2.34	113.65	111.24
25	P	301	PEK	C03-C02-C01	-2.34	106.26	111.79
27	M	101	DMU	C6-O5-C4	-2.33	109.11	113.69
19	C	304	PGV	O03-C19-O04	-2.33	117.71	123.59
20	D	201	TGL	OG1-CA1-OA1	-2.33	117.72	123.59
24	C	307	CHD	C19-C10-C9	-2.33	107.98	111.18
20	O	303	TGL	CG3-OG3-CC1	2.32	125.73	117.12
24	J	101	CHD	C1-C10-C5	2.32	111.20	107.77
25	C	303	PEK	C3-C4-C5	-2.32	99.12	112.43
24	P	304	CHD	O7-C7-C8	2.32	114.61	109.43
24	P	309	CHD	C22-C23-C24	-2.32	106.36	112.51
20	Y	101	TGL	OG1-CA1-CA2	2.31	119.16	111.91
24	J	101	CHD	C11-C9-C10	-2.31	111.35	113.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
14	A	601[A]	HEA	CBD-CAD-C3D	-2.30	106.23	112.63
14	A	601[B]	HEA	CBD-CAD-C3D	-2.30	106.23	112.63
24	C	307	CHD	C17-C13-C14	2.30	102.41	100.09
14	A	601[A]	HEA	C21-C20-C19	-2.29	105.44	112.98
20	A	609	TGL	CG2-OG2-CB1	2.29	123.42	117.79
14	A	601[A]	HEA	C26-C15-C16	2.28	119.11	115.27
26	C	306	CDL	C77-C76-C75	-2.28	102.84	114.42
24	Y	102	CHD	C19-C10-C1	-2.28	104.47	107.72
24	B	304	CHD	C11-C9-C10	-2.28	111.38	113.73
14	A	601[A]	HEA	CMC-C2C-C3C	2.28	128.94	124.68
14	A	601[B]	HEA	CMC-C2C-C3C	2.28	128.94	124.68
24	C	301	CHD	C16-C15-C14	-2.27	100.64	105.13
25	P	305	PEK	C32-C31-C30	-2.26	102.94	114.42
24	P	309	CHD	C4-C3-C2	2.25	113.24	110.55
27	P	313	DMU	O55-C2-C3	2.25	115.91	109.94
27	C	313	DMU	C6-C1-C2	2.25	114.67	110.00
20	B	302	TGL	OG3-CC1-CC2	2.25	118.95	111.91
27	Z	102	DMU	C31-C28-C25	-2.24	103.04	114.42
24	P	304	CHD	O26-C24-O25	-2.24	117.72	123.30
19	Z	101	PGV	O01-C1-O02	-2.24	118.29	123.70
25	G	102	PEK	O13-P-O14	2.24	119.44	110.68
19	C	304	PGV	O01-C1-C2	2.23	116.31	111.50
14	N	602	HEA	C2B-C1B-NB	2.23	112.55	109.88
24	C	301	CHD	C1-C2-C3	-2.23	107.61	110.47
24	P	315	CHD	C18-C13-C17	-2.23	107.73	111.21
14	N	601[A]	HEA	OMA-CMA-C3A	-2.22	120.08	124.91
14	N	601[B]	HEA	OMA-CMA-C3A	-2.22	120.08	124.91
14	A	602	HEA	O1D-CGD-CBD	-2.22	115.96	123.08
14	A	602	HEA	O2A-CGA-CBA	2.21	121.13	114.03
26	T	102	CDL	C20-C19-C18	2.21	125.63	114.42
24	C	315	CHD	C21-C20-C22	2.20	113.81	110.36
24	P	309	CHD	O25-C24-C23	-2.20	116.01	123.08
23	O	304	PSC	C3-C2-C1	-2.20	105.62	113.62
27	P	313	DMU	C1-C2-C3	-2.20	104.67	109.68
14	N	602	HEA	CHD-C1D-C2D	-2.19	120.66	126.72
20	O	303	TGL	OG2-CB1-OB1	-2.19	118.41	123.70
24	P	315	CHD	C15-C14-C13	2.19	105.70	103.55
20	D	201	TGL	OG3-CC1-OC1	-2.19	118.07	123.59
27	P	314	DMU	O1-C10-C5	2.18	114.97	110.35
19	A	607	PGV	O14-P-O13	2.18	123.03	112.24
26	T	102	CDL	OA6-CA5-OA7	-2.18	118.43	123.70
27	M	101	DMU	C8-C7-C5	-2.18	107.02	110.82

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
27	G	101	DMU	O3-C5-C7	2.18	115.38	110.35
20	D	201	TGL	OG2-CB1-OB1	2.18	128.96	123.70
27	G	101	DMU	O7-C3-C4	2.17	115.40	109.45
24	P	309	CHD	C17-C13-C14	2.17	102.28	100.09
14	A	601[B]	HEA	C21-C22-C23	-2.17	120.33	127.75
26	C	306	CDL	OA6-CA4-CA3	2.17	116.24	108.40
26	P	308	CDL	OB8-CB6-CB4	2.16	114.71	108.43
19	P	302	PGV	O14-P-O13	2.15	122.89	112.24
24	C	315	CHD	C1-C2-C3	-2.15	107.71	110.47
19	A	608	PGV	O01-C1-C2	2.15	116.12	111.50
27	P	314	DMU	O1-C9-C8	2.14	113.59	109.69
27	Z	102	DMU	C7-C8-C9	2.14	114.06	110.24
14	N	601[A]	HEA	CHA-C4D-ND	-2.14	122.11	124.43
14	N	601[B]	HEA	CHA-C4D-ND	-2.14	122.11	124.43
24	P	315	CHD	O12-C12-C13	-2.13	107.42	111.03
26	P	308	CDL	OA4-PA1-OA3	2.13	119.03	110.68
20	O	303	TGL	OG1-CA1-OA1	-2.13	118.22	123.59
27	Z	102	DMU	O16-C6-C1	2.13	111.62	108.30
14	A	601[B]	HEA	C26-C15-C14	-2.12	118.23	123.68
27	L	103	DMU	C10-O7-C3	-2.12	112.71	117.96
26	G	103	CDL	CB6-OB8-CB7	2.12	124.97	117.12
24	B	304	CHD	C18-C13-C14	2.12	114.53	111.21
14	A	602	HEA	CHB-C1B-C2B	-2.11	121.68	124.98
20	A	609	TGL	CA5-CA4-CA3	-2.10	103.76	114.42
24	C	315	CHD	C11-C9-C8	2.10	113.94	110.88
26	T	102	CDL	CB6-OB8-CB7	2.09	124.87	117.12
14	N	601[A]	HEA	C2B-C1B-NB	2.09	112.39	109.88
14	N	601[B]	HEA	C2B-C1B-NB	2.09	112.39	109.88
19	A	608	PGV	C9-C10-C11	-2.09	100.45	112.43
14	A	602	HEA	C1B-C2B-C3B	-2.09	104.30	106.80
27	L	103	DMU	O5-C6-C1	2.09	114.77	110.35
20	Y	101	TGL	CG2-OG2-CB1	2.09	122.93	117.79
26	T	102	CDL	C33-C32-C31	-2.08	105.70	113.19
24	P	304	CHD	C18-C13-C17	-2.08	107.96	111.21
27	L	103	DMU	O7-C3-C2	2.08	112.80	107.28
26	C	306	CDL	OA4-PA1-OA5	2.08	117.38	107.75
24	C	315	CHD	C14-C13-C12	2.07	109.33	107.40
24	C	301	CHD	C17-C13-C12	-2.07	115.78	117.67
24	J	101	CHD	C15-C14-C8	2.07	121.22	118.33
14	N	602	HEA	O2A-CGA-CBA	2.06	120.66	114.03
26	P	308	CDL	C21-C20-C19	-2.06	103.96	114.42
19	P	307	PGV	O12-P-O13	-2.06	101.01	109.07

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	P	306	PEK	C01-O03-C21	2.06	124.74	117.12
19	A	608	PGV	O01-C1-O02	-2.05	118.75	123.70
24	J	101	CHD	C23-C22-C20	-2.04	110.78	114.52
26	C	306	CDL	CB2-C1-CA2	-2.04	106.78	112.79
27	Z	103	DMU	C10-O7-C3	-2.04	112.91	117.96
24	B	304	CHD	C18-C13-C17	-2.04	108.02	111.21
19	N	608	PGV	C7-C6-C5	-2.04	104.08	114.42
14	N	602	HEA	C4B-NB-C1B	-2.03	102.97	105.07
25	G	102	PEK	P-O11-C03	2.03	123.87	118.30
24	P	315	CHD	C18-C13-C14	-2.02	108.04	111.21
24	C	301	CHD	O12-C12-C13	-2.02	107.61	111.03
27	P	313	DMU	C18-O16-C6	-2.02	110.49	113.84
27	Z	102	DMU	C1-C2-C3	2.01	114.27	109.68
24	Y	102	CHD	C22-C23-C24	-2.01	107.17	112.51
26	G	103	CDL	OB6-CB5-OB7	-2.01	118.85	123.70
24	O	301	CHD	C5-C4-C3	-2.01	109.81	112.76
27	G	101	DMU	C1-C2-C3	-2.00	105.11	109.68
25	C	308	PEK	O11-P-O14	-2.00	101.24	109.07

All (18) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
14	A	601[A]	HEA	NB
14	A	601[A]	HEA	NA
14	A	601[A]	HEA	ND
14	A	601[B]	HEA	NB
14	A	601[B]	HEA	NA
14	A	601[B]	HEA	ND
14	A	602	HEA	NB
14	A	602	HEA	NA
14	A	602	HEA	ND
14	N	601[A]	HEA	NB
14	N	601[A]	HEA	NA
14	N	601[A]	HEA	ND
14	N	601[B]	HEA	NB
14	N	601[B]	HEA	NA
14	N	601[B]	HEA	ND
14	N	602	HEA	NB
14	N	602	HEA	NA
14	N	602	HEA	ND

All (720) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
14	N	601[A]	HEA	C12-C11-C3B-C2B
14	N	601[A]	HEA	C18-C19-C20-C21
14	N	601[A]	HEA	C27-C19-C20-C21
19	A	607	PGV	C03-O11-P-O13
19	A	607	PGV	C04-O12-P-O14
19	A	607	PGV	O12-C04-C05-C06
19	A	607	PGV	O02-C1-O01-C02
19	A	607	PGV	O04-C19-O03-C01
19	C	305	PGV	C03-O11-P-O13
19	C	305	PGV	O02-C1-O01-C02
19	C	305	PGV	O04-C19-O03-C01
19	C	305	PGV	C20-C19-O03-C01
19	Z	101	PGV	O04-C19-O03-C01
19	Z	101	PGV	C20-C19-O03-C01
20	A	609	TGL	OB1-CB1-OG2-CG2
20	D	201	TGL	CB2-CB1-OG2-CG2
20	Y	101	TGL	OB1-CB1-OG2-CG2
23	B	303	PSC	C04-O12-P-O13
23	B	303	PSC	O02-C1-O01-C02
23	B	303	PSC	C2-C1-O01-C02
23	B	303	PSC	C11-C12-C13-C14
23	O	304	PSC	C04-O12-P-O13
23	O	304	PSC	O12-C04-C05-N
23	O	304	PSC	C2-C1-O01-C02
25	C	303	PEK	O12-C04-C05-N
25	C	308	PEK	O04-C21-O03-C01
25	C	308	PEK	C22-C21-O03-C01
25	G	102	PEK	C03-O11-P-O12
25	G	102	PEK	C03-O11-P-O13
25	G	102	PEK	O04-C21-O03-C01
25	G	102	PEK	C22-C21-O03-C01
25	P	301	PEK	O04-C21-O03-C01
25	P	301	PEK	C22-C21-O03-C01
25	P	305	PEK	O12-C04-C05-N
25	P	305	PEK	C4-C5-C6-C7
25	P	306	PEK	C03-O11-P-O13
25	P	306	PEK	O12-C04-C05-N
25	P	306	PEK	O04-C21-O03-C01
25	P	306	PEK	C22-C21-O03-C01
25	P	306	PEK	C11-C12-C13-C14
26	C	306	CDL	CA3-OA5-PA1-OA2
26	C	306	CDL	OA7-CA5-OA6-CA4
26	C	306	CDL	C11-CA5-OA6-CA4

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Mol	Chain	Res	Type	Atoms
26	C	306	CDL	CB2-OB2-PB2-OB3
26	G	103	CDL	CA3-OA5-PA1-OA2
26	G	103	CDL	CA3-OA5-PA1-OA3
26	G	103	CDL	OA9-CA7-OA8-CA6
26	G	103	CDL	C31-CA7-OA8-CA6
26	G	103	CDL	CB2-OB2-PB2-OB3
26	G	103	CDL	CB3-OB5-PB2-OB3
26	P	308	CDL	CA3-OA5-PA1-OA2
26	P	308	CDL	CA3-OA5-PA1-OA4
26	P	308	CDL	OA6-CA4-CA6-OA8
26	P	308	CDL	CB2-OB2-PB2-OB3
26	P	308	CDL	C51-CB5-OB6-CB4
26	T	102	CDL	CA2-OA2-PA1-OA3
26	T	102	CDL	CA3-OA5-PA1-OA3
26	T	102	CDL	OA9-CA7-OA8-CA6
26	T	102	CDL	C31-CA7-OA8-CA6
26	T	102	CDL	CB3-OB5-PB2-OB3
27	G	101	DMU	O5-C6-O16-C18
27	L	102	DMU	C1-C6-O16-C18
27	L	102	DMU	O5-C6-O16-C18
27	P	313	DMU	C1-C6-O16-C18
27	P	313	DMU	O5-C6-O16-C18
27	Z	103	DMU	C1-C6-O16-C18
27	Z	103	DMU	O5-C6-O16-C18
19	P	302	PGV	O04-C19-O03-C01
19	P	302	PGV	C20-C19-O03-C01
24	J	101	CHD	C13-C17-C20-C21
20	D	201	TGL	OB1-CB1-OG2-CG2
23	O	304	PSC	O02-C1-O01-C02
26	P	308	CDL	OB7-CB5-OB6-CB4
19	A	607	PGV	C20-C19-O03-C01
26	P	308	CDL	C31-CA7-OA8-CA6
19	A	607	PGV	C2-C1-O01-C02
20	A	609	TGL	CB2-CB1-OG2-CG2
20	Y	101	TGL	CB2-CB1-OG2-CG2
24	P	315	CHD	C21-C20-C22-C23
24	Y	102	CHD	C21-C20-C22-C23
24	J	101	CHD	C16-C17-C20-C21
24	J	101	CHD	C13-C17-C20-C22
27	P	314	DMU	C4-C3-O7-C10
27	Z	103	DMU	O5-C4-C57-O61
24	P	309	CHD	C20-C22-C23-C24

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Mol	Chain	Res	Type	Atoms
25	G	102	PEK	C10-C11-C12-C13
25	P	301	PEK	C7-C8-C9-C10
25	P	301	PEK	C13-C14-C15-C16
25	P	306	PEK	C4-C5-C6-C7
24	J	101	CHD	C16-C17-C20-C22
27	L	103	DMU	O1-C10-O7-C3
26	T	102	CDL	C57-C58-C59-C60
19	A	607	PGV	O12-C04-C05-O05
20	Y	101	TGL	CA2-CA1-OG1-CG1
26	P	308	CDL	OA9-CA7-OA8-CA6
24	P	309	CHD	C21-C20-C22-C23
26	P	308	CDL	C17-C18-C19-C20
27	T	101	DMU	O5-C4-C57-O61
27	Z	103	DMU	C3-C4-C57-O61
27	G	101	DMU	C5-C10-O7-C3
24	P	315	CHD	C17-C20-C22-C23
20	O	303	TGL	CA4-CA5-CA6-CA7
20	Y	101	TGL	OA1-CA1-OG1-CG1
26	G	103	CDL	C80-C81-C82-C83
27	G	101	DMU	O5-C4-C57-O61
24	C	307	CHD	C21-C20-C22-C23
27	T	101	DMU	O6-C11-C9-O1
27	M	101	DMU	O5-C6-O16-C18
27	G	101	DMU	O1-C10-O7-C3
27	L	103	DMU	O5-C4-C57-O61
24	C	307	CHD	C17-C20-C22-C23
19	Z	101	PGV	C19-C20-C21-C22
25	G	102	PEK	C25-C26-C27-C28
24	P	309	CHD	C17-C20-C22-C23
27	G	101	DMU	C3-C4-C57-O61
26	T	102	CDL	C52-C53-C54-C55
26	T	102	CDL	OB6-CB4-CB6-OB8
26	P	308	CDL	C82-C83-C84-C85
20	A	609	TGL	CA1-CA2-CA3-CA4
20	Y	101	TGL	CB1-CB2-CB3-CB4
27	T	101	DMU	C5-C10-O7-C3
25	C	303	PEK	C4-C5-C6-C7
25	C	308	PEK	C4-C5-C6-C7
25	P	306	PEK	C7-C8-C9-C10
25	P	306	PEK	C10-C11-C12-C13
25	P	306	PEK	C13-C14-C15-C16
20	B	302	TGL	CB1-CB2-CB3-CB4

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Mol	Chain	Res	Type	Atoms
20	O	303	TGL	CA1-CA2-CA3-CA4
27	P	314	DMU	O16-C18-C19-C22
26	P	308	CDL	CB2-OB2-PB2-OB5
26	C	306	CDL	CA7-C31-C32-C33
26	C	306	CDL	CB7-C71-C72-C73
26	T	102	CDL	CA7-C31-C32-C33
20	D	201	TGL	CC4-CC5-CC6-CC7
27	T	101	DMU	O5-C6-O16-C18
27	C	314	DMU	O16-C18-C19-C22
27	T	101	DMU	C3-C4-C57-O61
19	A	607	PGV	C03-O11-P-O12
19	A	607	PGV	C04-O12-P-O11
19	C	305	PGV	C03-O11-P-O12
23	B	303	PSC	C04-O12-P-O11
23	O	304	PSC	C04-O12-P-O11
26	C	306	CDL	CB2-OB2-PB2-OB5
26	G	103	CDL	CA2-OA2-PA1-OA5
26	G	103	CDL	CB2-OB2-PB2-OB5
26	G	103	CDL	CB3-OB5-PB2-OB2
20	Y	101	TGL	CC2-CC1-OG3-CG3
27	L	103	DMU	O16-C18-C19-C22
20	N	607	TGL	C19-C33-C34-C35
24	C	315	CHD	C13-C17-C20-C21
20	N	607	TGL	CC6-CC7-CC8-CC9
26	P	308	CDL	C31-C32-C33-C34
27	Z	102	DMU	C28-C31-C34-C37
20	B	302	TGL	C20-C21-C22-C23
26	C	306	CDL	C42-C43-C44-C45
26	G	103	CDL	C60-C61-C62-C63
26	P	308	CDL	CA3-CA4-OA6-CA5
26	P	308	CDL	C57-C58-C59-C60
23	O	304	PSC	C11-C10-C9-C8
25	P	305	PEK	C13-C14-C15-C16
20	A	609	TGL	C21-C20-CA9-CA8
26	P	308	CDL	C19-C20-C21-C22
19	A	607	PGV	C13-C14-C15-C16
20	O	303	TGL	C15-C16-C17-C18
26	T	102	CDL	C77-C78-C79-C80
20	B	302	TGL	CA5-CA6-CA7-CA8
20	D	201	TGL	C21-C20-CA9-CA8
20	D	201	TGL	CB2-CB3-CB4-CB5
27	G	101	DMU	C28-C31-C34-C37

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Mol	Chain	Res	Type	Atoms
20	A	609	TGL	CA5-CA6-CA7-CA8
20	Y	101	TGL	C11-C12-C13-C14
24	P	315	CHD	C20-C22-C23-C24
20	O	303	TGL	CA5-CA6-CA7-CA8
20	Y	101	TGL	C21-C22-C23-C24
26	P	308	CDL	C35-C36-C37-C38
19	C	305	PGV	C04-C05-C06-O06
20	O	303	TGL	CB2-CB1-OG2-CG2
25	P	301	PEK	C2-C1-O01-C02
20	Y	101	TGL	CA9-C20-C21-C22
26	T	102	CDL	C53-C54-C55-C56
19	N	608	PGV	C29-C30-C31-C32
20	A	609	TGL	C10-C11-C12-C13
20	O	303	TGL	CC7-CC8-CC9-C15
20	Y	101	TGL	C13-C14-C29-C30
26	P	308	CDL	C36-C37-C38-C39
27	Z	102	DMU	C22-C25-C28-C31
26	P	308	CDL	C21-C22-C23-C24
27	T	101	DMU	C28-C31-C34-C37
20	D	201	TGL	CC6-CC7-CC8-CC9
26	C	306	CDL	C79-C80-C81-C82
20	D	201	TGL	C16-C17-C18-C19
20	O	303	TGL	C12-C13-C14-C29
23	B	303	PSC	C4-C5-C6-C7
27	P	313	DMU	C19-C18-O16-C6
20	A	609	TGL	C24-C25-C26-C27
20	N	607	TGL	C23-C24-C25-C26
26	P	308	CDL	C76-C77-C78-C79
25	G	102	PEK	C7-C8-C9-C10
25	P	305	PEK	C10-C11-C12-C13
26	P	308	CDL	C20-C21-C22-C23
25	C	303	PEK	C21-C22-C23-C24
20	B	302	TGL	CB6-CB7-CB8-CB9
20	N	607	TGL	C21-C20-CA9-CA8
25	P	305	PEK	C23-C24-C25-C26
26	C	306	CDL	C37-C38-C39-C40
19	A	607	PGV	C14-C15-C16-C17
20	N	607	TGL	CC7-CC8-CC9-C15
26	C	306	CDL	C39-C40-C41-C42
26	T	102	CDL	C16-C17-C18-C19
26	C	306	CDL	OA9-CA7-OA8-CA6
19	N	608	PGV	C23-C24-C25-C26

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Mol	Chain	Res	Type	Atoms
26	C	306	CDL	C40-C41-C42-C43
26	C	306	CDL	C11-C12-C13-C14
19	A	607	PGV	C7-C8-C9-C10
25	G	102	PEK	C24-C25-C26-C27
20	O	303	TGL	OB1-CB1-OG2-CG2
25	P	301	PEK	O02-C1-O01-C02
26	C	306	CDL	C36-C37-C38-C39
27	P	314	DMU	C19-C22-C25-C28
20	Y	101	TGL	OC1-CC1-OG3-CG3
27	C	314	DMU	C18-C19-C22-C25
19	A	607	PGV	C3-C4-C5-C6
19	A	607	PGV	C29-C30-C31-C32
20	A	609	TGL	C21-C22-C23-C24
20	Y	101	TGL	CC1-CC2-CC3-CC4
21	A	610	EDO	O1-C1-C2-O2
21	A	611	EDO	O1-C1-C2-O2
21	D	204	EDO	O1-C1-C2-O2
21	S	106	EDO	O1-C1-C2-O2
21	U	101	EDO	O1-C1-C2-O2
26	T	102	CDL	C15-C16-C17-C18
20	B	302	TGL	CC2-CC1-OG3-CG3
26	C	306	CDL	C31-CA7-OA8-CA6
20	B	302	TGL	CB2-CB1-OG2-CG2
25	G	102	PEK	C2-C1-O01-C02
26	T	102	CDL	C37-C38-C39-C40
26	P	308	CDL	C43-C44-C45-C46
25	P	306	PEK	C25-C26-C27-C28
19	P	307	PGV	C10-C11-C12-C13
19	A	608	PGV	C10-C11-C12-C13
19	Z	101	PGV	C10-C11-C12-C13
25	G	102	PEK	C13-C14-C15-C16
23	O	304	PSC	C23-C24-C25-C26
26	T	102	CDL	C42-C43-C44-C45
20	N	607	TGL	OB1-CB1-OG2-CG2
26	C	306	CDL	OB7-CB5-OB6-CB4
19	A	607	PGV	C19-C20-C21-C22
19	A	607	PGV	C21-C22-C23-C24
19	Z	101	PGV	C2-C3-C4-C5
20	N	607	TGL	C20-C21-C22-C23
20	Y	101	TGL	CA4-CA5-CA6-CA7
27	C	313	DMU	C22-C25-C28-C31
20	O	303	TGL	C16-C17-C18-C19

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Mol	Chain	Res	Type	Atoms
27	L	103	DMU	C3-C4-C57-O61
27	G	101	DMU	C25-C28-C31-C34
20	N	607	TGL	CB2-CB1-OG2-CG2
26	C	306	CDL	C51-CB5-OB6-CB4
19	Z	101	PGV	O12-C04-C05-O05
25	G	102	PEK	O02-C1-O01-C02
26	T	102	CDL	OA7-CA5-OA6-CA4
19	N	608	PGV	C7-C8-C9-C10
25	G	102	PEK	C27-C28-C29-C30
26	G	103	CDL	C34-C35-C36-C37
27	Z	102	DMU	C25-C28-C31-C34
27	G	101	DMU	C1-C6-O16-C18
20	N	607	TGL	CA9-C20-C21-C22
20	O	303	TGL	C10-C11-C12-C13
26	T	102	CDL	C14-C15-C16-C17
19	A	607	PGV	C11-C10-C9-C8
19	C	305	PGV	C12-C13-C14-C15
14	A	601[A]	HEA	C27-C19-C20-C21
20	N	607	TGL	CB9-C10-C11-C12
20	B	302	TGL	CC7-CC8-CC9-C15
20	O	303	TGL	C20-C21-C22-C23
19	Z	101	PGV	C20-C21-C22-C23
26	P	308	CDL	C73-C74-C75-C76
20	Y	101	TGL	C24-C25-C26-C27
27	G	101	DMU	C18-C19-C22-C25
19	Z	101	PGV	O02-C1-O01-C02
20	B	302	TGL	OB1-CB1-OG2-CG2
26	G	103	CDL	OB7-CB5-OB6-CB4
26	G	103	CDL	C51-CB5-OB6-CB4
26	T	102	CDL	C11-CA5-OA6-CA4
25	P	306	PEK	C26-C27-C28-C29
19	P	302	PGV	C03-O11-P-O12
26	C	306	CDL	CB3-OB5-PB2-OB2
25	P	301	PEK	C22-C23-C24-C25
27	Z	103	DMU	O16-C18-C19-C22
26	T	102	CDL	OB5-CB3-CB4-CB6
25	C	303	PEK	C16-C17-C18-C19
26	P	308	CDL	C77-C78-C79-C80
27	G	101	DMU	C19-C22-C25-C28
25	C	303	PEK	C22-C23-C24-C25
25	P	305	PEK	C22-C23-C24-C25
26	P	308	CDL	C22-C23-C24-C25

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Mol	Chain	Res	Type	Atoms
20	B	302	TGL	OC1-CC1-OG3-CG3
27	T	101	DMU	C34-C37-C40-C43
19	C	304	PGV	C28-C29-C30-C31
20	A	609	TGL	CC7-CC8-CC9-C15
26	C	306	CDL	CA3-CA4-CA6-OA8
26	C	306	CDL	CB3-CB4-CB6-OB8
26	T	102	CDL	CB3-CB4-CB6-OB8
20	Y	101	TGL	C25-C26-C27-C28
27	Z	103	DMU	C19-C22-C25-C28
20	A	609	TGL	CC4-CC5-CC6-CC7
20	O	303	TGL	C17-C18-C19-C33
19	C	305	PGV	C19-C20-C21-C22
20	N	607	TGL	CC1-CC2-CC3-CC4
26	P	308	CDL	CA5-C11-C12-C13
20	N	607	TGL	C11-C10-CB9-CB8
20	D	201	TGL	CB9-C10-C11-C12
27	P	313	DMU	O6-C11-C9-C8
19	A	607	PGV	C12-C13-C14-C15
27	L	103	DMU	O6-C11-C9-O1
20	Y	101	TGL	C16-C17-C18-C19
19	Z	101	PGV	C2-C1-O01-C02
26	C	306	CDL	C82-C83-C84-C85
27	G	101	DMU	C22-C25-C28-C31
19	C	305	PGV	C6-C7-C8-C9
20	A	609	TGL	CA2-CA1-OG1-CG1
27	L	102	DMU	O6-C11-C9-O1
27	C	314	DMU	O6-C11-C9-O1
25	G	102	PEK	C03-O11-P-O14
26	P	308	CDL	CA3-OA5-PA1-OA3
19	C	304	PGV	C20-C21-C22-C23
27	Z	102	DMU	C34-C37-C40-C43
24	J	101	CHD	C17-C20-C22-C23
25	C	303	PEK	C7-C8-C9-C10
25	C	303	PEK	C10-C11-C12-C13
25	C	303	PEK	O03-C21-C22-C23
19	P	307	PGV	C1-C2-C3-C4
26	P	308	CDL	C40-C41-C42-C43
27	Z	102	DMU	O16-C18-C19-C22
27	P	314	DMU	C1-C6-O16-C18
27	M	101	DMU	C19-C22-C25-C28
20	A	609	TGL	OG1-CG1-CG2-OG2
20	O	303	TGL	OG2-CG2-CG3-OG3

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Mol	Chain	Res	Type	Atoms
20	N	607	TGL	C12-C13-C14-C29
20	A	609	TGL	OA1-CA1-OG1-CG1
20	A	609	TGL	C11-C12-C13-C14
26	G	103	CDL	C81-C82-C83-C84
20	A	609	TGL	C29-C30-C31-C32
24	Y	102	CHD	C17-C20-C22-C23
19	A	608	PGV	C19-C20-C21-C22
19	A	607	PGV	C6-C7-C8-C9
19	A	607	PGV	C24-C25-C26-C27
19	C	305	PGV	C4-C5-C6-C7
20	A	609	TGL	CB3-CB4-CB5-CB6
26	P	308	CDL	C24-C25-C26-C27
25	C	303	PEK	C13-C14-C15-C16
25	P	301	PEK	C4-C5-C6-C7
19	C	305	PGV	C3-C4-C5-C6
19	N	608	PGV	C26-C27-C28-C29
20	O	303	TGL	CC9-C15-C16-C17
25	P	306	PEK	C29-C30-C31-C32
19	C	305	PGV	C01-C02-C03-O11
23	B	303	PSC	C01-C02-C03-O11
25	G	102	PEK	C01-C02-C03-O11
26	P	308	CDL	C84-C85-C86-C87
27	L	103	DMU	C19-C22-C25-C28
27	G	101	DMU	C19-C18-O16-C6
27	M	101	DMU	C19-C18-O16-C6
20	O	303	TGL	CB6-CB7-CB8-CB9
27	L	103	DMU	C34-C37-C40-C43
19	N	608	PGV	C31-C32-C33-C34
25	P	306	PEK	O03-C01-C02-C03
26	G	103	CDL	CA3-CA4-CA6-OA8
26	P	308	CDL	CB3-CB4-CB6-OB8
26	T	102	CDL	CA3-CA4-CA6-OA8
19	A	607	PGV	C4-C5-C6-C7
20	D	201	TGL	C23-C24-C25-C26
19	P	302	PGV	C10-C11-C12-C13
19	N	608	PGV	C5-C6-C7-C8
27	M	101	DMU	C34-C37-C40-C43
26	P	308	CDL	C58-C59-C60-C61
19	A	608	PGV	C29-C30-C31-C32
20	B	302	TGL	CC5-CC6-CC7-CC8
20	O	303	TGL	C13-C14-C29-C30
23	B	303	PSC	C9-C10-C11-C12

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Mol	Chain	Res	Type	Atoms
23	B	303	PSC	C10-C11-C12-C13
23	O	304	PSC	C9-C10-C11-C12
23	O	304	PSC	C10-C11-C12-C13
25	C	303	PEK	C11-C10-C9-C8
25	C	303	PEK	C9-C10-C11-C12
25	C	303	PEK	C11-C12-C13-C14
25	C	303	PEK	C12-C13-C14-C15
25	C	308	PEK	C5-C6-C7-C8
25	C	308	PEK	C11-C10-C9-C8
25	C	308	PEK	C9-C10-C11-C12
25	C	308	PEK	C11-C12-C13-C14
25	C	308	PEK	C12-C13-C14-C15
25	G	102	PEK	C5-C6-C7-C8
25	G	102	PEK	C6-C7-C8-C9
25	G	102	PEK	C11-C10-C9-C8
25	G	102	PEK	C9-C10-C11-C12
25	G	102	PEK	C11-C12-C13-C14
25	G	102	PEK	C12-C13-C14-C15
25	P	301	PEK	C5-C6-C7-C8
25	P	301	PEK	C6-C7-C8-C9
25	P	301	PEK	C11-C10-C9-C8
25	P	301	PEK	C9-C10-C11-C12
25	P	301	PEK	C11-C12-C13-C14
25	P	301	PEK	C12-C13-C14-C15
25	P	305	PEK	C12-C13-C14-C15
25	P	306	PEK	C5-C6-C7-C8
25	P	306	PEK	C6-C7-C8-C9
25	P	306	PEK	C11-C10-C9-C8
25	P	306	PEK	C9-C10-C11-C12
25	P	306	PEK	C12-C13-C14-C15
26	G	103	CDL	C57-C58-C59-C60
25	P	306	PEK	C33-C34-C35-C36
26	T	102	CDL	C60-C61-C62-C63
27	M	101	DMU	C25-C28-C31-C34
23	B	303	PSC	O01-C02-C03-O11
26	C	306	CDL	C31-C32-C33-C34
19	Z	101	PGV	C22-C23-C24-C25
20	D	201	TGL	CA4-CA5-CA6-CA7
23	O	304	PSC	C28-C29-C30-C31
20	B	302	TGL	OG1-CG1-CG2-OG2
20	O	303	TGL	OG1-CG1-CG2-OG2
20	Y	101	TGL	OG2-CG2-CG3-OG3

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Mol	Chain	Res	Type	Atoms
25	P	306	PEK	O03-C01-C02-O01
26	C	306	CDL	OA6-CA4-CA6-OA8
26	C	306	CDL	OB6-CB4-CB6-OB8
26	G	103	CDL	OA6-CA4-CA6-OA8
26	P	308	CDL	OB6-CB4-CB6-OB8
26	T	102	CDL	OA6-CA4-CA6-OA8
27	P	313	DMU	C22-C25-C28-C31
26	G	103	CDL	C1-CB2-OB2-PB2
24	C	315	CHD	C16-C17-C20-C22
19	A	607	PGV	C25-C26-C27-C28
21	A	620	EDO	O1-C1-C2-O2
21	I	101	EDO	O1-C1-C2-O2
26	C	306	CDL	C52-C53-C54-C55
23	O	304	PSC	C19-C20-C21-C22
25	C	308	PEK	O02-C1-O01-C02
26	G	103	CDL	C37-C38-C39-C40
19	C	304	PGV	C11-C12-C13-C14
27	Z	103	DMU	C18-C19-C22-C25
26	C	306	CDL	OA5-CA3-CA4-CA6
26	C	306	CDL	OB5-CB3-CB4-CB6
26	P	308	CDL	OA5-CA3-CA4-CA6
20	O	303	TGL	C21-C22-C23-C24
20	Y	101	TGL	CB2-CB3-CB4-CB5
26	G	103	CDL	C55-C56-C57-C58
24	J	101	CHD	C21-C20-C22-C23
20	B	302	TGL	C13-C14-C29-C30
20	Y	101	TGL	C10-C11-C12-C13
25	C	308	PEK	C2-C1-O01-C02
20	A	609	TGL	C11-C10-CB9-CB8
20	N	607	TGL	CC2-CC1-OG3-CG3
26	T	102	CDL	C71-CB7-OB8-CB6
26	G	103	CDL	C11-C12-C13-C14
26	G	103	CDL	C52-C53-C54-C55
19	N	608	PGV	C24-C25-C26-C27
26	P	308	CDL	C74-C75-C76-C77
20	D	201	TGL	CA9-C20-C21-C22
26	G	103	CDL	C39-C40-C41-C42
19	C	304	PGV	C02-C03-O11-P
19	P	302	PGV	O03-C01-C02-C03
20	O	303	TGL	CG1-CG2-CG3-OG3
20	Y	101	TGL	CG1-CG2-CG3-OG3
26	P	308	CDL	CA4-CA3-OA5-PA1

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Mol	Chain	Res	Type	Atoms
20	A	609	TGL	C15-C16-C17-C18
26	C	306	CDL	OB5-CB3-CB4-OB6
26	T	102	CDL	OB5-CB3-CB4-OB6
19	A	607	PGV	C26-C27-C28-C29
20	A	609	TGL	CB6-CB7-CB8-CB9
27	C	313	DMU	C19-C22-C25-C28
19	P	302	PGV	O02-C1-O01-C02
26	C	306	CDL	C43-C44-C45-C46
20	A	609	TGL	OG2-CG2-CG3-OG3
26	T	102	CDL	OB9-CB7-OB8-CB6
19	C	305	PGV	C13-C14-C15-C16
26	P	308	CDL	C34-C35-C36-C37
19	P	302	PGV	C2-C1-O01-C02
20	B	302	TGL	CA3-CA4-CA5-CA6
20	B	302	TGL	C21-C22-C23-C24
26	C	306	CDL	C44-C45-C46-C47
26	C	306	CDL	C81-C82-C83-C84
19	P	302	PGV	C29-C30-C31-C32
26	P	308	CDL	C23-C24-C25-C26
26	P	308	CDL	C72-C73-C74-C75
26	T	102	CDL	CB3-OB5-PB2-OB2
20	Y	101	TGL	C21-C20-CA9-CA8
19	P	307	PGV	C02-C03-O11-P
26	C	306	CDL	CA4-CA3-OA5-PA1
14	A	601[A]	HEA	C18-C19-C20-C21
19	A	607	PGV	C03-O11-P-O14
19	A	607	PGV	C04-O12-P-O13
19	C	305	PGV	C03-O11-P-O14
26	C	306	CDL	CA3-OA5-PA1-OA3
26	C	306	CDL	CB2-OB2-PB2-OB4
26	G	103	CDL	CA2-OA2-PA1-OA3
26	G	103	CDL	CB2-OB2-PB2-OB4
26	G	103	CDL	CB3-OB5-PB2-OB4
27	P	314	DMU	O5-C6-O16-C18
27	C	313	DMU	O5-C4-C57-O61
24	C	315	CHD	C16-C17-C20-C21
20	N	607	TGL	CC2-CC3-CC4-CC5
20	A	609	TGL	CA4-CA5-CA6-CA7
19	P	307	PGV	C11-C10-C9-C8
26	G	103	CDL	CA7-C31-C32-C33
20	A	609	TGL	CA3-CA4-CA5-CA6
27	G	101	DMU	C31-C34-C37-C40

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Mol	Chain	Res	Type	Atoms
26	C	306	CDL	OA5-CA3-CA4-OA6
20	Y	101	TGL	CB3-CB4-CB5-CB6
26	P	308	CDL	C79-C80-C81-C82
19	C	304	PGV	C7-C8-C9-C10
20	A	609	TGL	CG1-CG2-CG3-OG3
23	B	303	PSC	O12-C04-C05-N
20	D	201	TGL	C15-C16-C17-C18
26	P	308	CDL	C80-C81-C82-C83
20	D	201	TGL	OG3-CC1-CC2-CC3
20	D	201	TGL	CA5-CA6-CA7-CA8
26	P	308	CDL	C52-C51-CB5-OB6
20	O	303	TGL	C23-C24-C25-C26
20	N	607	TGL	OC1-CC1-OG3-CG3
27	L	103	DMU	C2-C3-O7-C10
27	G	101	DMU	O6-C11-C9-C8
26	C	306	CDL	C41-C42-C43-C44
26	T	102	CDL	C54-C55-C56-C57
27	L	103	DMU	C22-C25-C28-C31
19	A	607	PGV	C03-C02-O01-C1
26	G	103	CDL	C31-C32-C33-C34
19	C	305	PGV	O01-C02-C03-O11
21	E	202	EDO	O1-C1-C2-O2
21	P	310	EDO	O1-C1-C2-O2
23	B	303	PSC	C12-C13-C14-C15
25	G	102	PEK	C3-C4-C5-C6
25	G	102	PEK	C14-C15-C16-C17
20	B	302	TGL	C11-C10-CB9-CB8
20	Y	101	TGL	CA2-CA3-CA4-CA5
26	P	308	CDL	CB3-OB5-PB2-OB2
26	T	102	CDL	CA2-OA2-PA1-OA5
26	T	102	CDL	CA3-OA5-PA1-OA2
26	T	102	CDL	CB2-OB2-PB2-OB5
19	P	302	PGV	C04-O12-P-O13
20	A	609	TGL	C20-C21-C22-C23
20	A	609	TGL	OG1-CG1-CG2-CG3
20	B	302	TGL	OG1-CG1-CG2-CG3
26	P	308	CDL	CA3-CA4-CA6-OA8
19	C	304	PGV	C30-C31-C32-C33
27	Z	103	DMU	C31-C34-C37-C40
19	C	305	PGV	C11-C12-C13-C14
25	G	102	PEK	C34-C35-C36-C37
19	C	305	PGV	C9-C10-C11-C12

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Mol	Chain	Res	Type	Atoms
14	A	601[A]	HEA	CAD-CBD-CGD-O1D
14	A	601[B]	HEA	CAD-CBD-CGD-O1D
24	O	301	CHD	C22-C23-C24-O26
20	O	303	TGL	CC4-CC5-CC6-CC7
14	N	602	HEA	CAA-CBA-CGA-O1A
20	N	607	TGL	CA3-CA4-CA5-CA6
26	G	103	CDL	OB9-CB7-OB8-CB6
26	C	306	CDL	O1-C1-CA2-OA2
26	G	103	CDL	C77-C78-C79-C80
26	G	103	CDL	OB6-CB4-CB6-OB8
20	Y	101	TGL	CA5-CA6-CA7-CA8
27	Z	103	DMU	C28-C31-C34-C37
14	N	601[A]	HEA	CAD-CBD-CGD-O1D
14	N	601[B]	HEA	CAD-CBD-CGD-O1D
24	B	304	CHD	C22-C23-C24-O25
23	O	304	PSC	C12-C13-C14-C15
14	A	602	HEA	CAA-CBA-CGA-O1A
21	S	103	EDO	O1-C1-C2-O2
19	C	304	PGV	C29-C30-C31-C32
26	P	308	CDL	CB2-OB2-PB2-OB4
24	O	301	CHD	C22-C23-C24-O25
25	C	303	PEK	O04-C21-C22-C23
27	C	313	DMU	C25-C28-C31-C34
27	L	102	DMU	C31-C34-C37-C40
24	J	101	CHD	C22-C23-C24-O25
19	C	305	PGV	C24-C25-C26-C27
23	O	304	PSC	C7-C8-C9-C10
25	P	306	PEK	C3-C4-C5-C6
14	N	602	HEA	CAA-CBA-CGA-O2A
26	G	103	CDL	C13-C14-C15-C16
25	C	303	PEK	C5-C6-C7-C8
25	C	308	PEK	C6-C7-C8-C9
25	P	305	PEK	C9-C10-C11-C12
14	A	602	HEA	CAA-CBA-CGA-O2A
24	B	304	CHD	C22-C23-C24-O26
20	D	201	TGL	CC1-CC2-CC3-CC4
26	T	102	CDL	OA5-CA3-CA4-OA6
14	A	601[A]	HEA	CAD-CBD-CGD-O2D
14	A	601[B]	HEA	CAD-CBD-CGD-O2D
24	J	101	CHD	C22-C23-C24-O26
26	C	306	CDL	C78-C79-C80-C81
14	N	601[A]	HEA	CAD-CBD-CGD-O2D

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Mol	Chain	Res	Type	Atoms
14	N	601[B]	HEA	CAD-CBD-CGD-O2D
26	P	308	CDL	CA7-C31-C32-C33
20	Y	101	TGL	C12-C13-C14-C29
14	A	602	HEA	CAD-CBD-CGD-O1D
19	Z	101	PGV	C21-C22-C23-C24
26	G	103	CDL	C63-C64-C65-C66
25	C	303	PEK	C29-C30-C31-C32
19	P	302	PGV	O03-C01-C02-O01
27	L	103	DMU	C4-C3-O7-C10
14	A	602	HEA	CAD-CBD-CGD-O2D
20	O	303	TGL	C16-C15-CC9-CC8
25	C	308	PEK	C7-C8-C9-C10
25	P	305	PEK	C7-C8-C9-C10
20	N	607	TGL	CA1-CA2-CA3-CA4
19	A	608	PGV	O03-C19-C20-C21
20	O	303	TGL	CA2-CA3-CA4-CA5
23	B	303	PSC	C04-C05-N-C06
20	D	201	TGL	CA3-CA4-CA5-CA6
19	A	607	PGV	O03-C19-C20-C21
19	A	608	PGV	C11-C12-C13-C14
21	G	104	EDO	O1-C1-C2-O2
21	L	101	EDO	O1-C1-C2-O2
21	V	101	EDO	O1-C1-C2-O2
25	P	301	PEK	C25-C26-C27-C28
26	T	102	CDL	C79-C80-C81-C82
25	G	102	PEK	O01-C02-C03-O11
26	P	308	CDL	OA5-CA3-CA4-OA6
24	C	307	CHD	C20-C22-C23-C24
19	C	304	PGV	C24-C25-C26-C27
14	N	602	HEA	CAD-CBD-CGD-O2D
26	G	103	CDL	C56-C57-C58-C59
26	P	308	CDL	C37-C38-C39-C40
27	C	314	DMU	C28-C31-C34-C37
20	O	303	TGL	CB1-CB2-CB3-CB4
27	P	313	DMU	C18-C19-C22-C25
24	P	309	CHD	C22-C23-C24-O26
26	G	103	CDL	C71-CB7-OB8-CB6
19	N	608	PGV	C9-C10-C11-C12
25	P	301	PEK	C03-O11-P-O13
26	C	306	CDL	C12-C11-CA5-OA6
20	N	607	TGL	CB3-CB4-CB5-CB6
24	C	301	CHD	C22-C23-C24-O25

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Mol	Chain	Res	Type	Atoms
19	A	608	PGV	C9-C10-C11-C12
19	P	307	PGV	C9-C10-C11-C12
19	Z	101	PGV	C11-C12-C13-C14
23	B	303	PSC	C7-C8-C9-C10
25	P	306	PEK	C14-C15-C16-C17
19	N	608	PGV	C30-C31-C32-C33
20	D	201	TGL	C17-C18-C19-C33
19	P	302	PGV	C5-C6-C7-C8
19	A	607	PGV	O01-C1-C2-C3
20	O	303	TGL	C22-C23-C24-C25
14	N	602	HEA	C26-C15-C16-C17
24	C	307	CHD	C22-C23-C24-O25
25	C	303	PEK	C32-C33-C34-C35
26	C	306	CDL	C32-C31-CA7-OA8
19	A	607	PGV	C11-C12-C13-C14
25	C	308	PEK	C3-C4-C5-C6
14	N	602	HEA	CAD-CBD-CGD-O1D
24	P	304	CHD	C22-C23-C24-O25
20	N	607	TGL	CA6-CA7-CA8-CA9
23	O	304	PSC	C21-C22-C23-C24
21	A	613	EDO	O1-C1-C2-O2
21	P	311	EDO	O1-C1-C2-O2
21	S	105	EDO	O1-C1-C2-O2
19	N	608	PGV	C11-C12-C13-C14
19	P	302	PGV	C9-C10-C11-C12
20	N	607	TGL	OG3-CC1-CC2-CC3
20	Y	101	TGL	OG3-CC1-CC2-CC3
27	T	101	DMU	O6-C11-C9-C8
26	C	306	CDL	C34-C35-C36-C37
20	A	609	TGL	C25-C26-C27-C28
26	P	308	CDL	C18-C19-C20-C21
26	T	102	CDL	C34-C35-C36-C37
25	P	301	PEK	C3-C4-C5-C6
20	Y	101	TGL	C23-C24-C25-C26
27	P	314	DMU	C2-C3-O7-C10
25	C	308	PEK	C24-C25-C26-C27
26	P	308	CDL	C78-C79-C80-C81
26	P	308	CDL	C12-C11-CA5-OA6
25	C	308	PEK	C23-C24-C25-C26
20	B	302	TGL	CA7-CA8-CA9-C20
20	A	609	TGL	CA9-C20-C21-C22
25	P	306	PEK	C27-C28-C29-C30

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Mol	Chain	Res	Type	Atoms
19	A	607	PGV	C9-C10-C11-C12
20	O	303	TGL	OG3-CC1-CC2-CC3
26	T	102	CDL	C32-C31-CA7-OA8
26	P	308	CDL	C12-C13-C14-C15
19	P	307	PGV	C7-C8-C9-C10
19	A	607	PGV	O02-C1-C2-C3
27	P	314	DMU	C22-C25-C28-C31
25	C	303	PEK	O02-C1-C2-C3
26	C	306	CDL	C32-C31-CA7-OA9
26	T	102	CDL	C32-C31-CA7-OA9
20	B	302	TGL	C25-C26-C27-C28
26	C	306	CDL	C57-C58-C59-C60
20	Y	101	TGL	CB6-CB7-CB8-CB9
14	N	601[A]	HEA	CAA-CBA-CGA-O2A
14	N	601[B]	HEA	CAA-CBA-CGA-O2A
27	L	102	DMU	C34-C37-C40-C43
25	P	306	PEK	C03-O11-P-O14
26	T	102	CDL	C13-C14-C15-C16
26	C	306	CDL	C12-C11-CA5-OA7
21	D	202	EDO	O1-C1-C2-O2
21	E	201	EDO	O1-C1-C2-O2
21	N	614	EDO	O1-C1-C2-O2
21	P	312	EDO	O1-C1-C2-O2
20	O	303	TGL	OC1-CC1-CC2-CC3
14	A	601[A]	HEA	C12-C13-C14-C15
20	A	609	TGL	CC5-CC6-CC7-CC8
25	C	303	PEK	C05-C04-O12-P
25	G	102	PEK	C01-C02-O01-C1
25	P	305	PEK	C05-C04-O12-P
25	P	306	PEK	C01-C02-O01-C1
20	N	607	TGL	C16-C15-CC9-CC8
14	A	601[A]	HEA	CAA-CBA-CGA-O1A
14	A	601[B]	HEA	CAA-CBA-CGA-O1A
23	B	303	PSC	C04-C05-N-C07
20	B	302	TGL	C14-C29-C30-C31
20	D	201	TGL	OG2-CB1-CB2-CB3
19	C	305	PGV	C14-C15-C16-C17
25	C	308	PEK	O03-C21-C22-C23
26	C	306	CDL	C53-C54-C55-C56
25	C	303	PEK	O01-C1-C2-C3
14	A	601[A]	HEA	CAA-CBA-CGA-O2A
14	A	601[B]	HEA	CAA-CBA-CGA-O2A

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Mol	Chain	Res	Type	Atoms
20	O	303	TGL	C14-C29-C30-C31
26	T	102	CDL	C81-C82-C83-C84
20	Y	101	TGL	CB9-C10-C11-C12
20	N	607	TGL	CB2-CB3-CB4-CB5
19	N	608	PGV	O03-C19-C20-C21

All (1) ring outliers are listed below:

Mol	Chain	Res	Type	Atoms
24	J	101	CHD	C1-C10-C2-C3-C4-C5

55 monomers are involved in 153 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
21	D	204	EDO	2	0
21	E	203	EDO	1	0
26	G	103	CDL	5	0
20	A	609	TGL	3	0
19	A	607	PGV	8	0
24	C	315	CHD	2	0
25	C	308	PEK	2	0
20	Y	101	TGL	2	0
19	Z	101	PGV	1	0
27	G	101	DMU	2	0
27	P	313	DMU	1	0
21	Q	201	EDO	1	0
26	P	308	CDL	7	0
27	C	314	DMU	4	0
19	P	302	PGV	2	0
14	A	602	HEA	4	0
21	A	619	EDO	5	0
21	Q	202	EDO	1	0
21	C	309	EDO	1	0
26	T	102	CDL	11	0
27	Z	103	DMU	2	0
19	P	307	PGV	1	0
27	T	101	DMU	8	0
24	C	307	CHD	1	0
19	N	608	PGV	1	0
24	J	101	CHD	2	0
27	M	101	DMU	1	0
24	P	309	CHD	3	0

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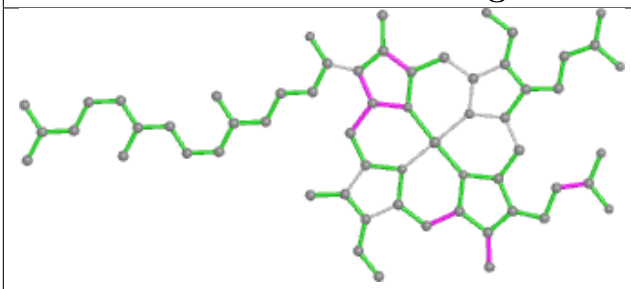
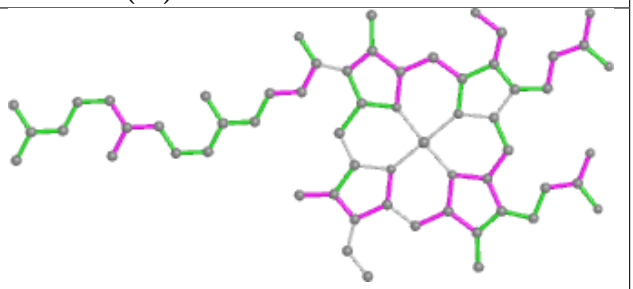
Mol	Chain	Res	Type	Clashes	Symm-Clashes
14	A	601[A]	HEA	2	0
24	O	301	CHD	2	0
21	N	611	EDO	1	0
14	N	602	HEA	6	0
14	N	601[A]	HEA	3	0
21	D	203	EDO	1	0
26	C	306	CDL	8	0
21	C	312	EDO	1	0
24	Y	102	CHD	4	0
27	C	313	DMU	2	0
20	D	201	TGL	3	0
21	L	101	EDO	1	0
25	C	303	PEK	2	0
19	C	305	PGV	4	0
25	G	102	PEK	4	0
27	L	102	DMU	5	0
20	N	607	TGL	2	0
23	B	303	PSC	3	0
25	P	306	PEK	1	0
25	P	301	PEK	3	0
19	C	304	PGV	1	0
20	B	302	TGL	1	0
24	P	315	CHD	7	0
27	L	103	DMU	4	0
14	A	601[B]	HEA	3	0
20	O	303	TGL	2	0
21	O	305	EDO	1	0

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

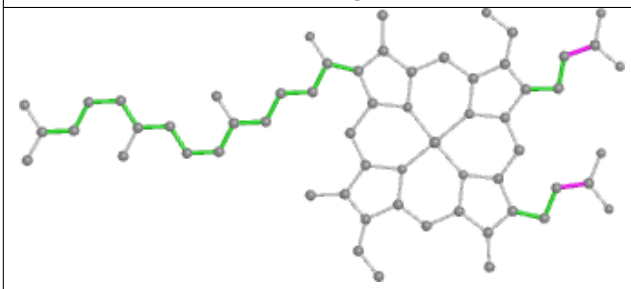
Ligand HEA N 601 (B)



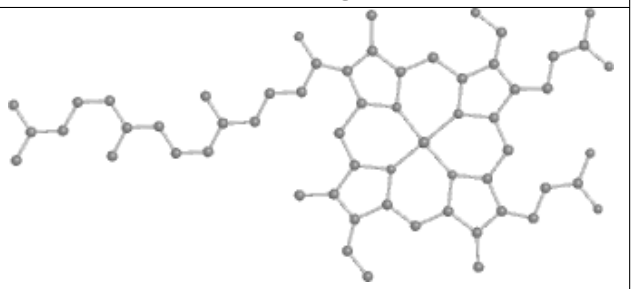
Bond lengths



Bond angles

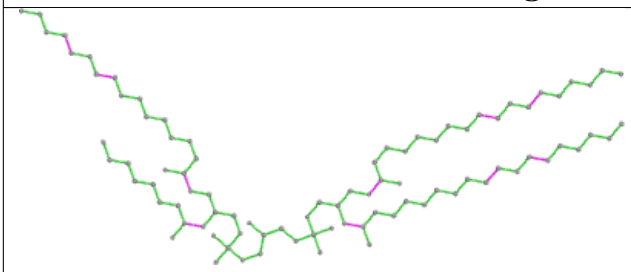


Torsions

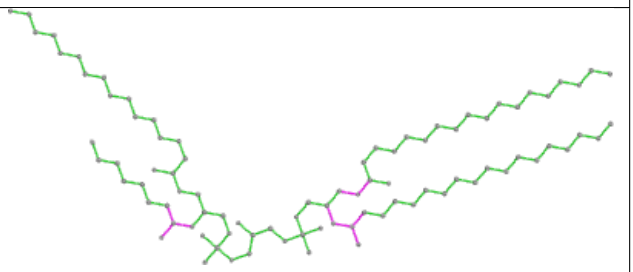


Rings

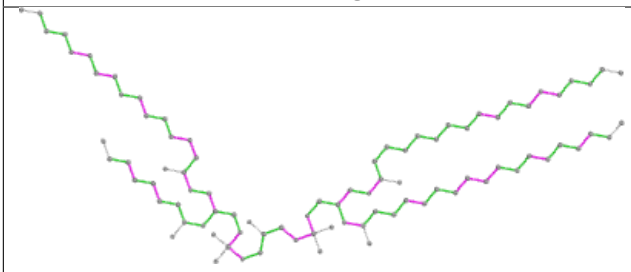
Ligand CDL G 103



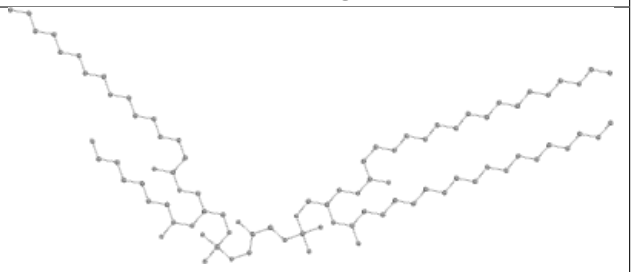
Bond lengths



Bond angles

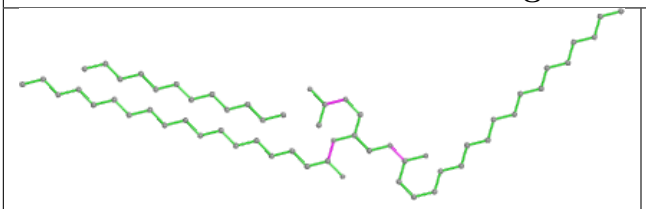


Torsions

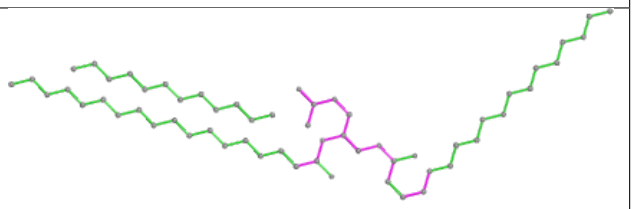


Rings

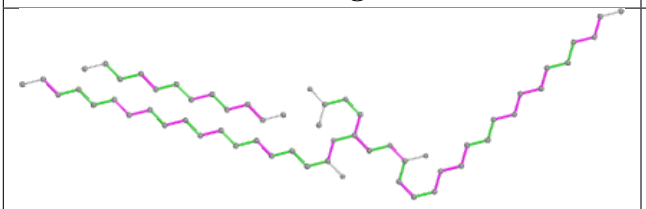
Ligand TGL A 609



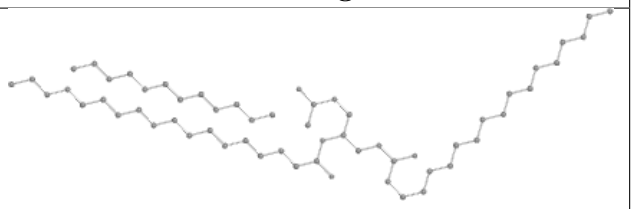
Bond lengths



Bond angles

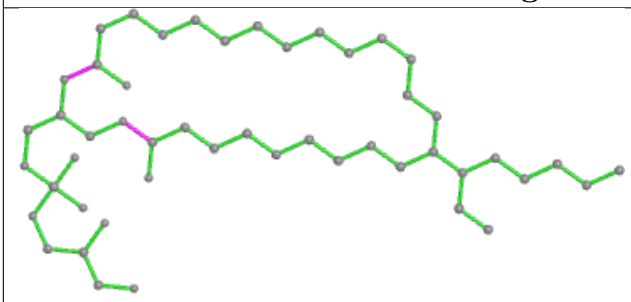


Torsions

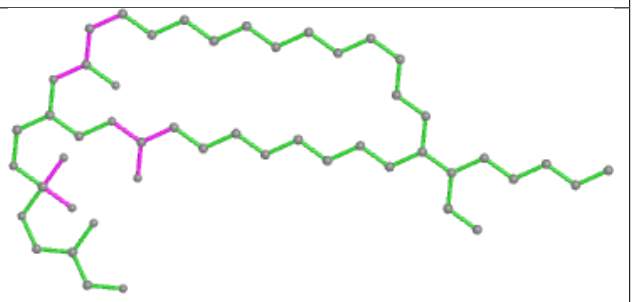


Rings

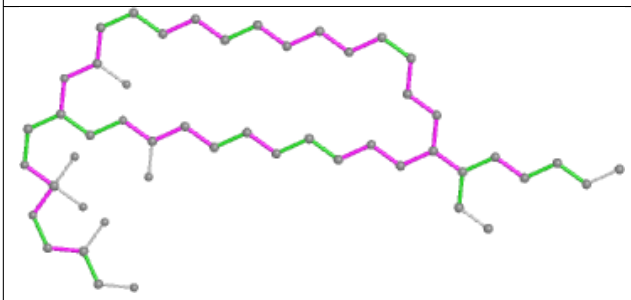
Ligand PGV A 607



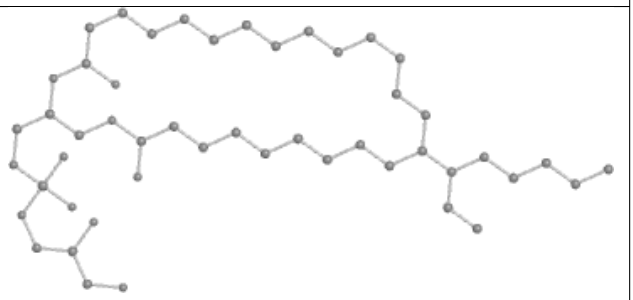
Bond lengths



Bond angles

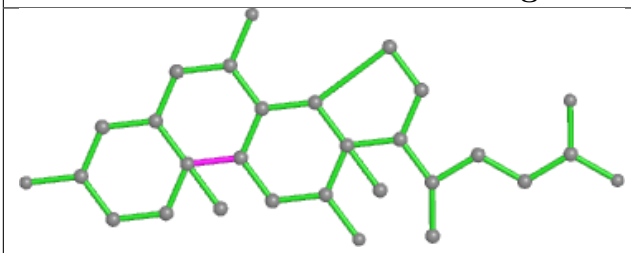


Torsions

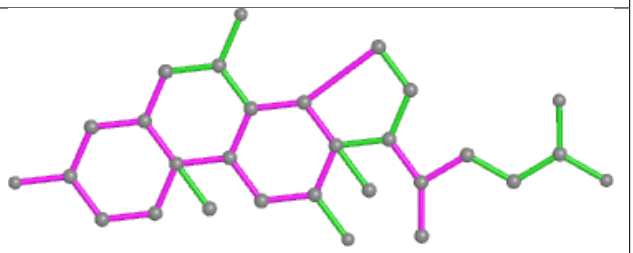


Rings

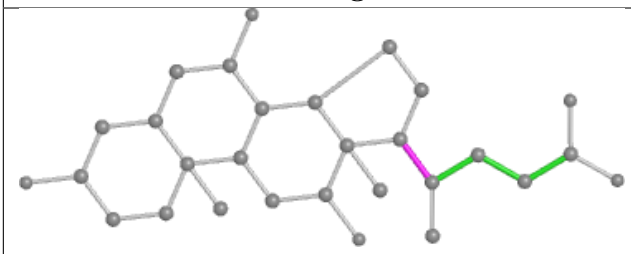
Ligand CHD C 315



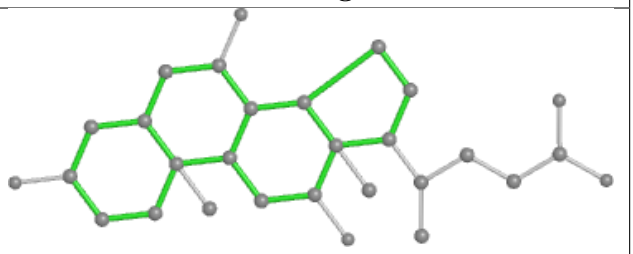
Bond lengths



Bond angles

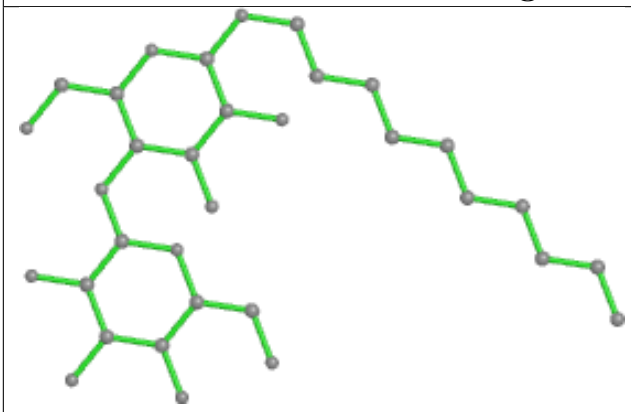


Torsions

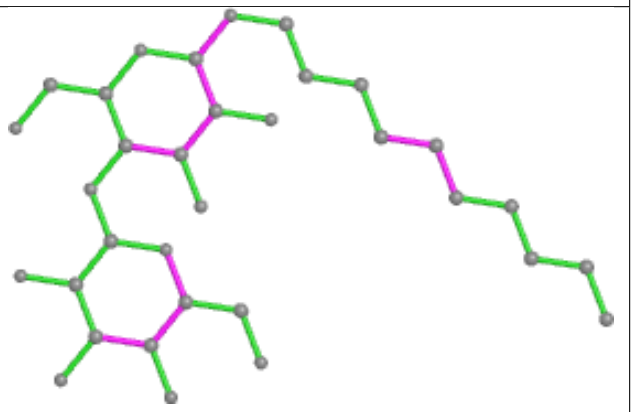


Rings

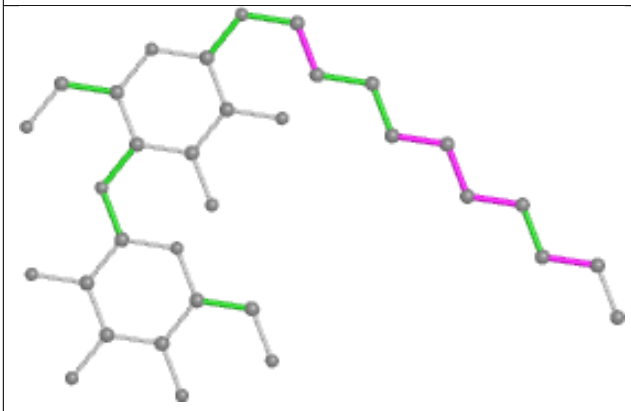
Ligand DMU Z 102



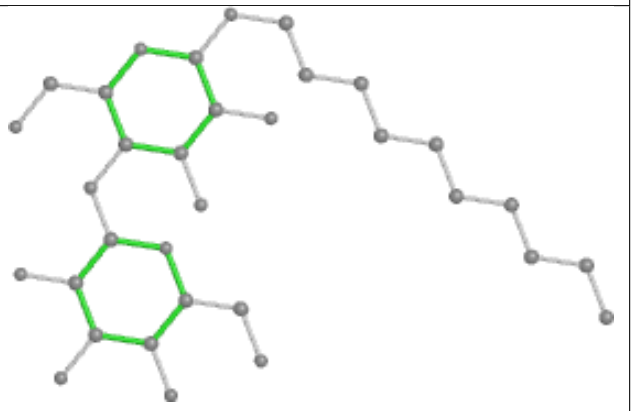
Bond lengths



Bond angles

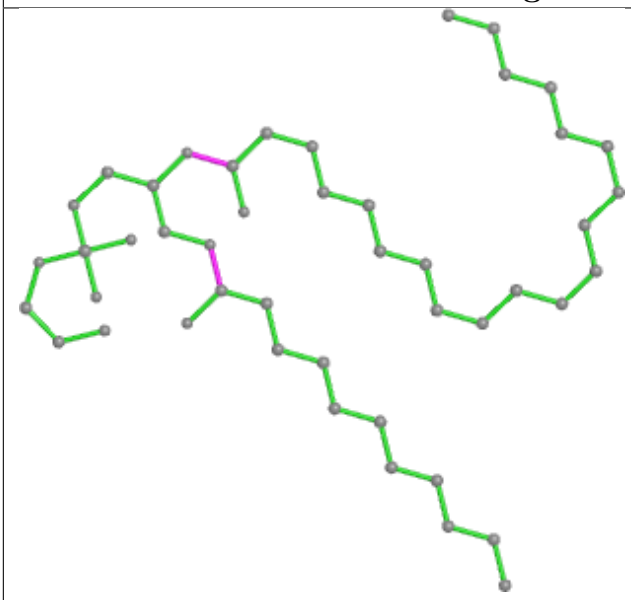


Torsions



Rings

Ligand PEK C 308



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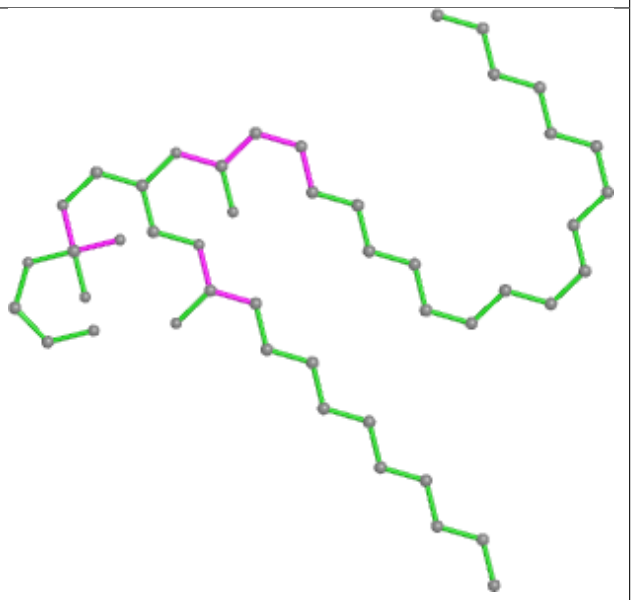
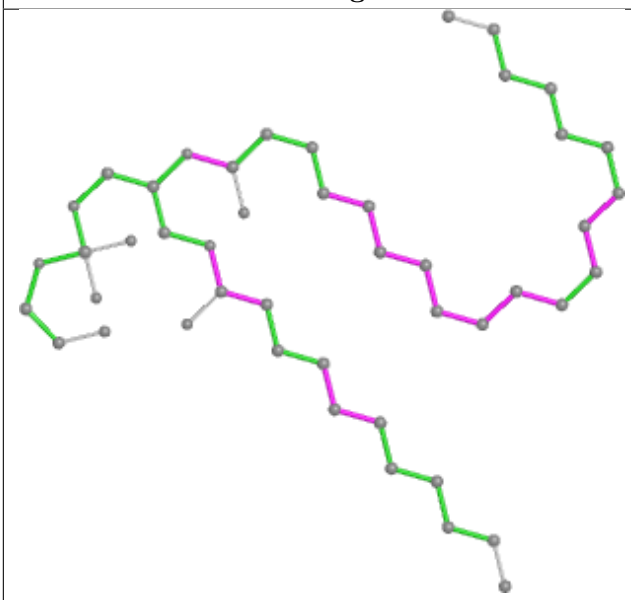
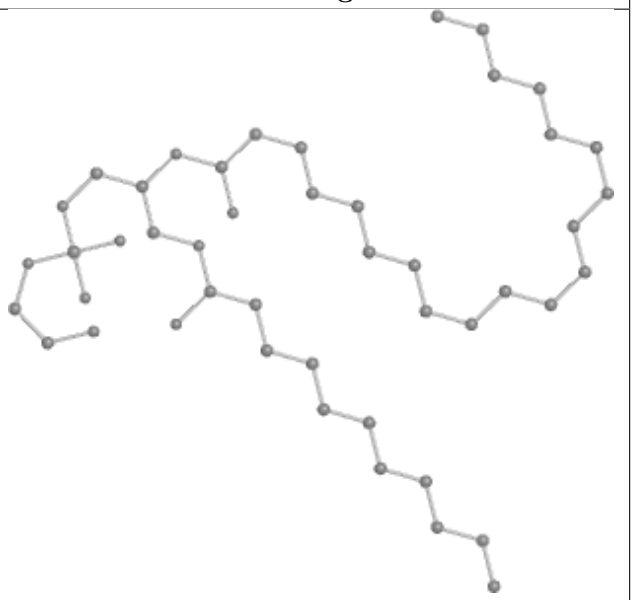


Bond angles

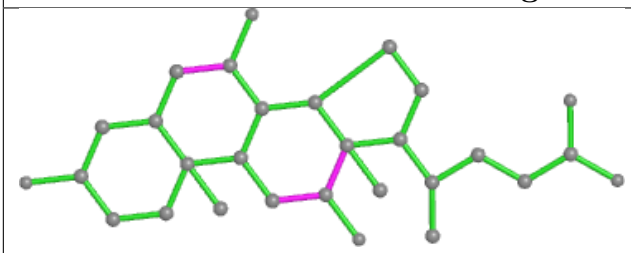


Torsions



Rings

Ligand CHD B 304



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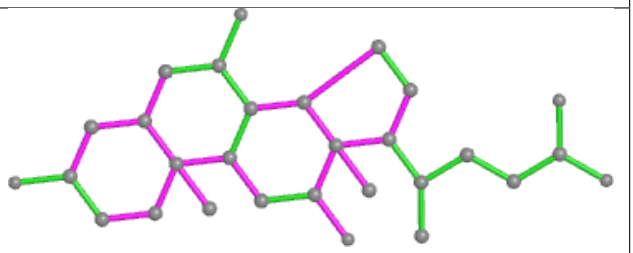
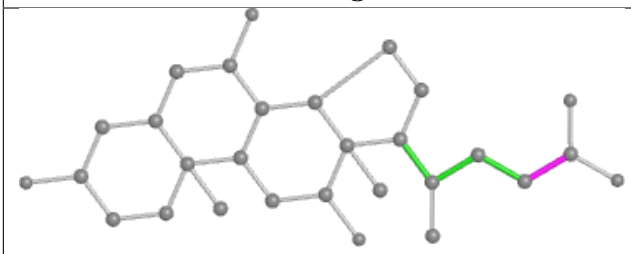
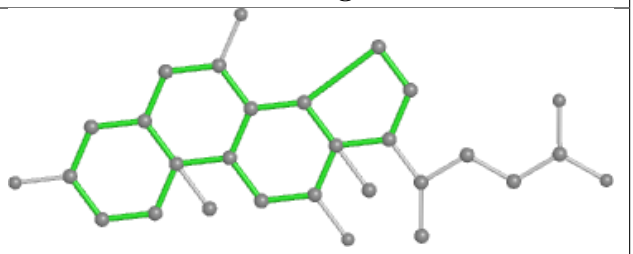


Bond angles

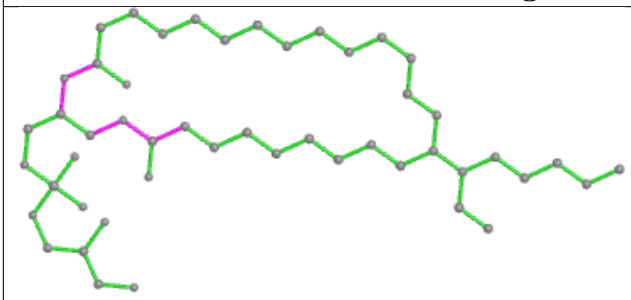


Torsions

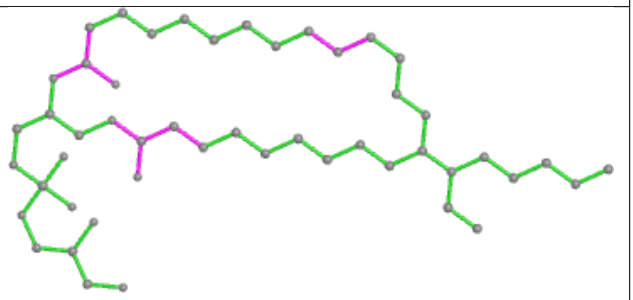


Rings

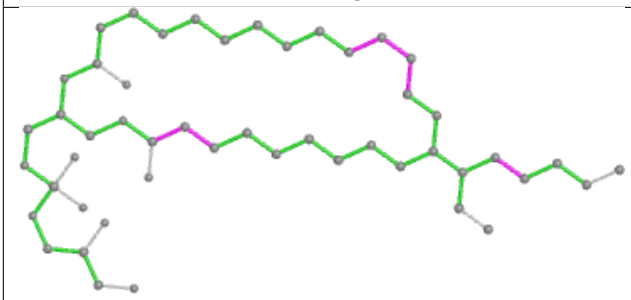
Ligand PGV A 608



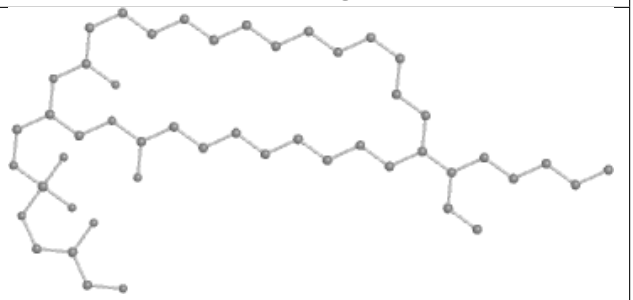
Bond lengths



Bond angles

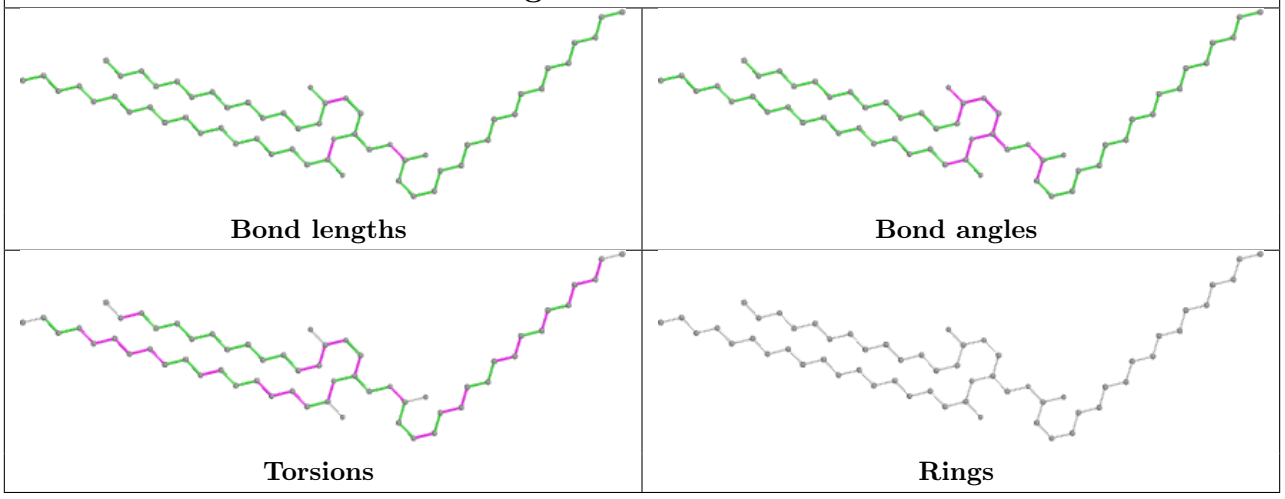


Torsions

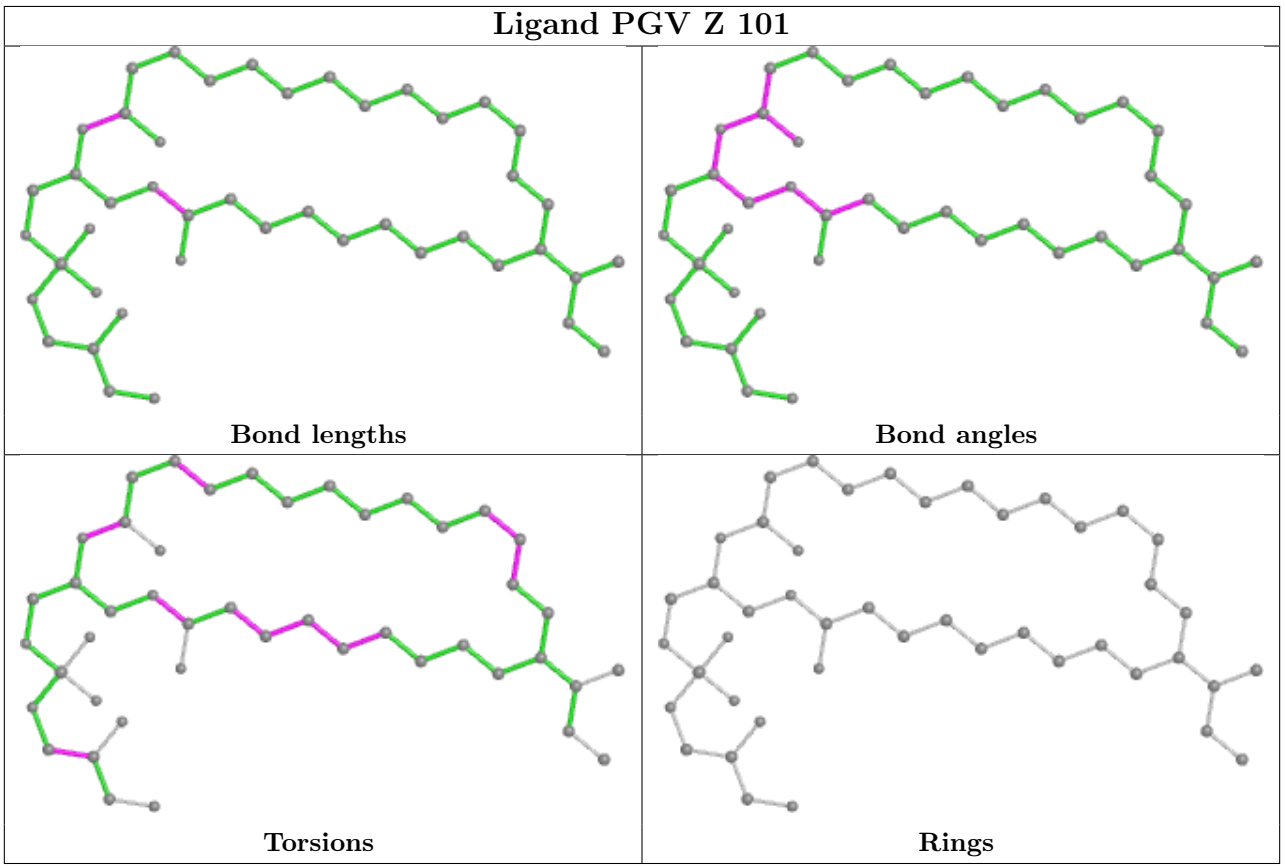


Rings

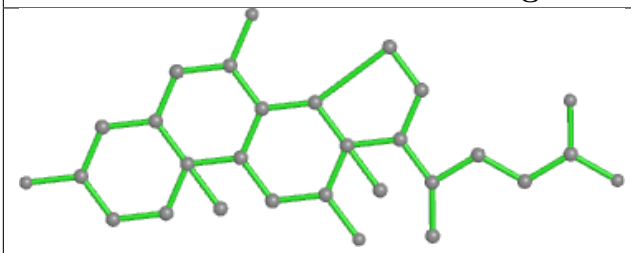
Ligand TGL Y 101



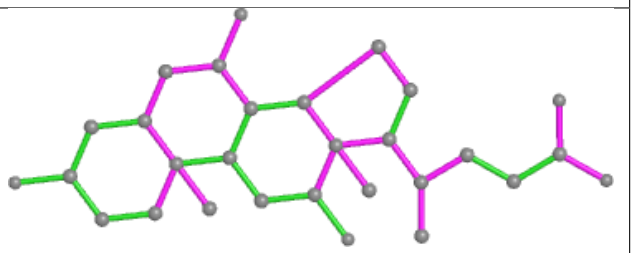
Ligand PGV Z 101



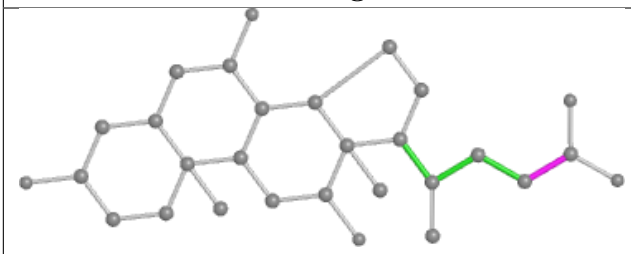
Ligand CHD P 304



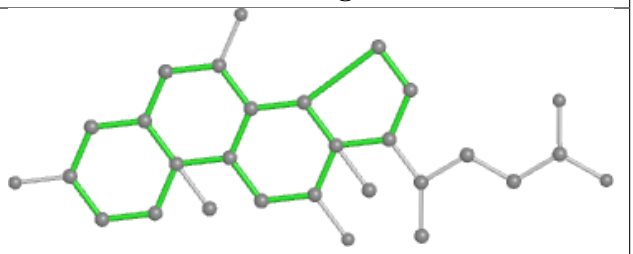
Bond lengths



Bond angles

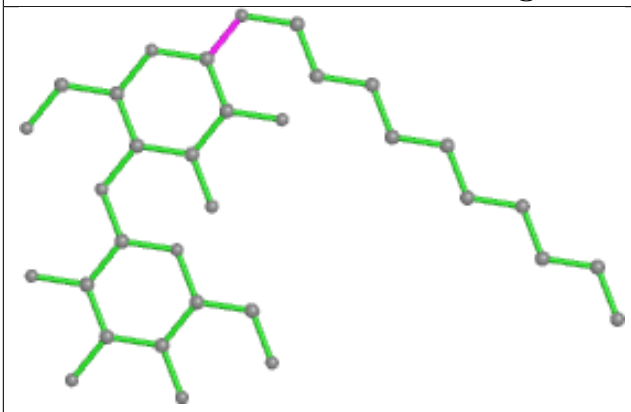


Torsions

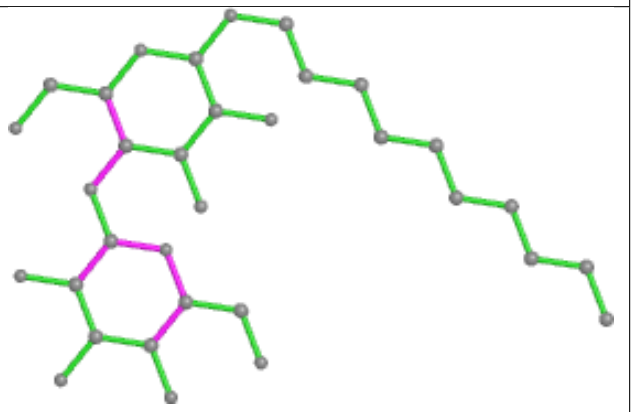


Rings

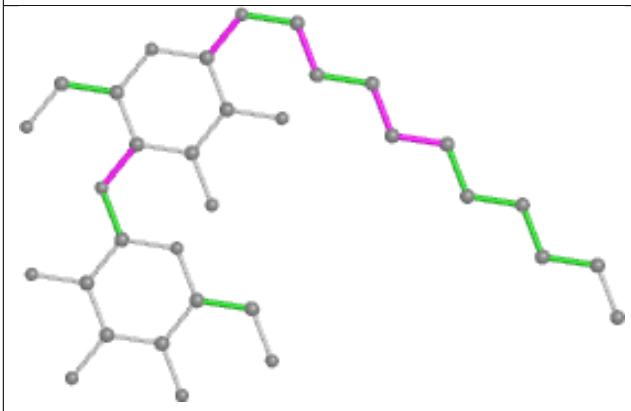
Ligand DMU P 314



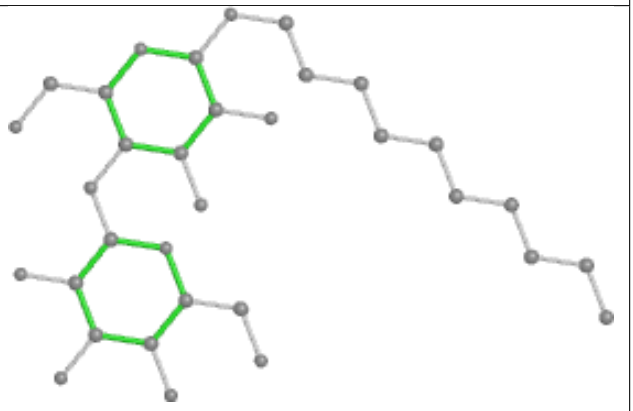
Bond lengths



Bond angles

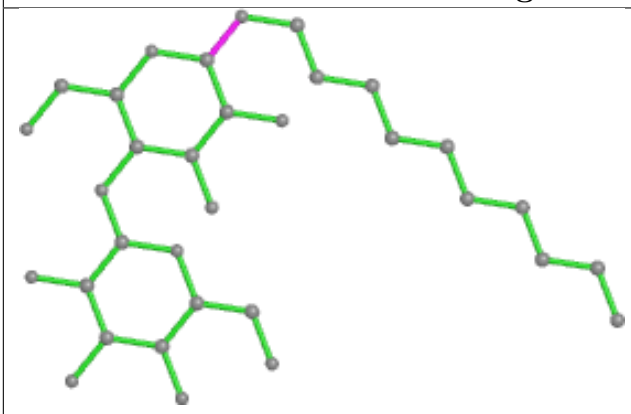


Torsions

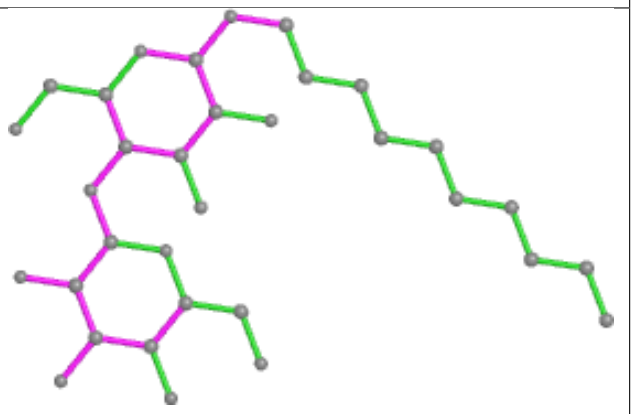


Rings

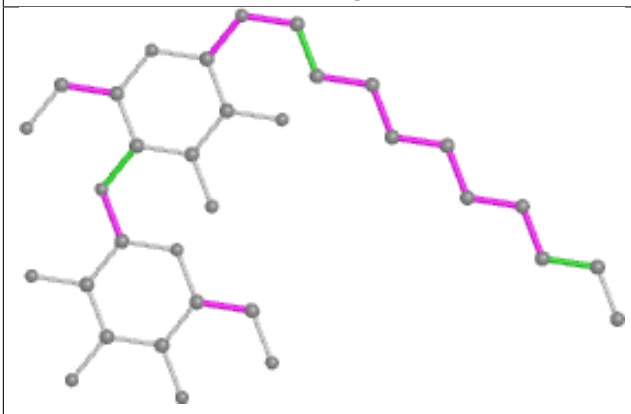
Ligand DMU G 101



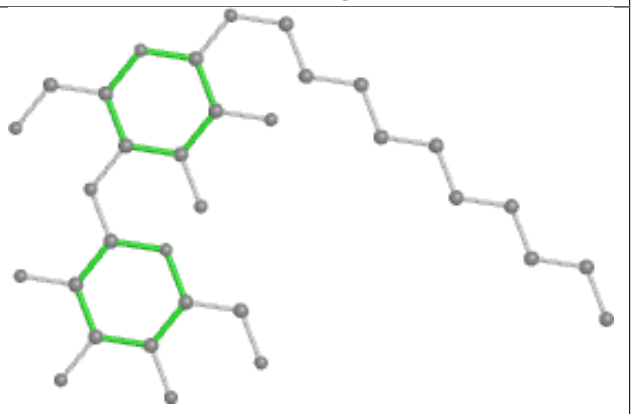
Bond lengths



Bond angles

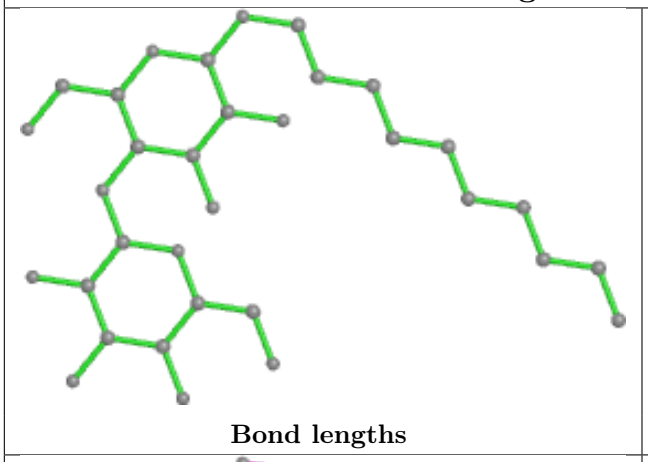


Torsions

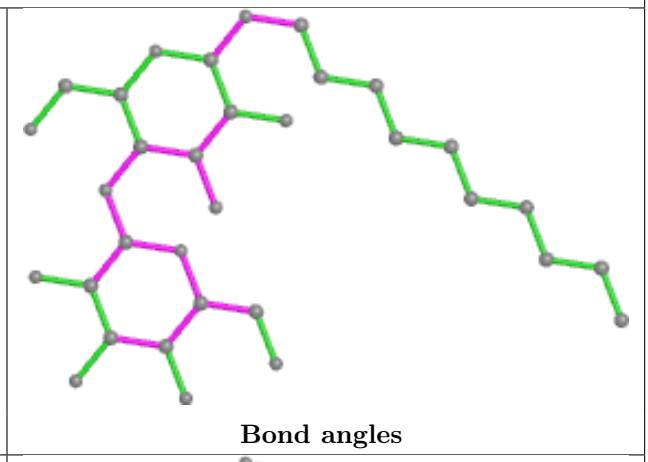


Rings

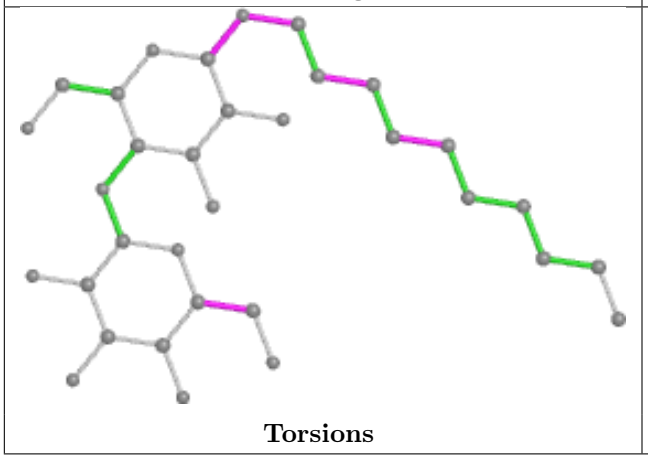
Ligand DMU P 313



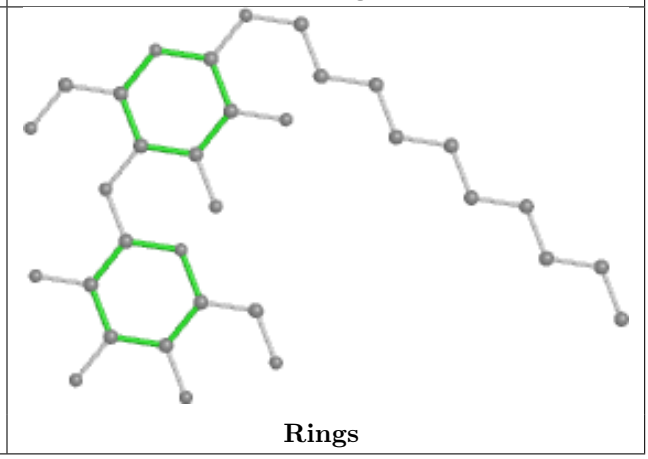
Bond lengths



Bond angles

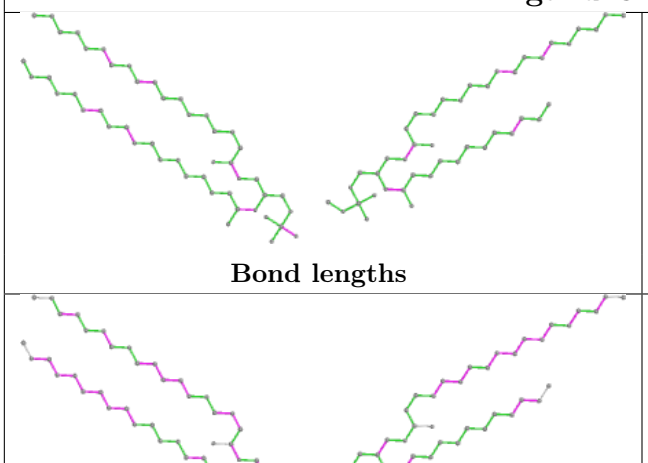


Torsions

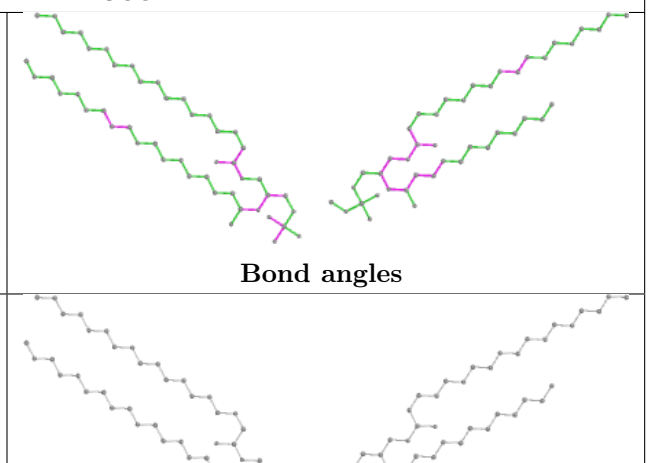


Rings

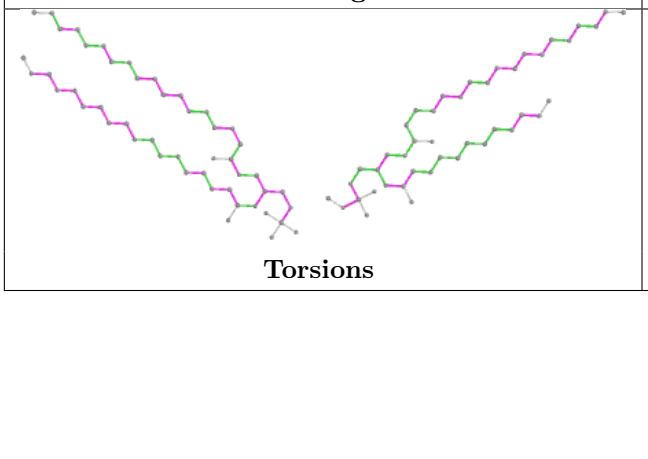
Ligand CDL P 308



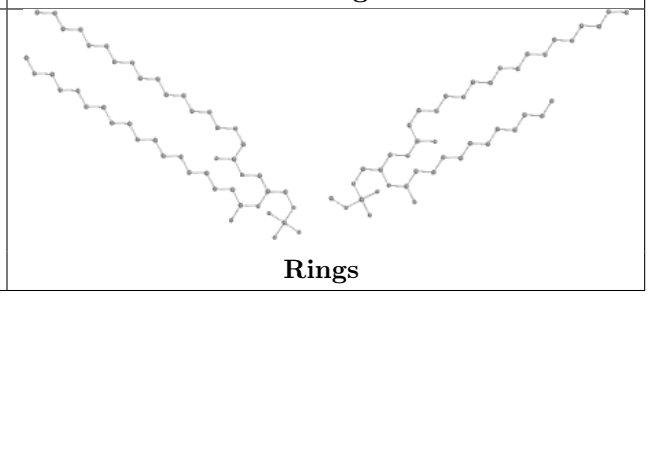
Bond lengths



Bond angles

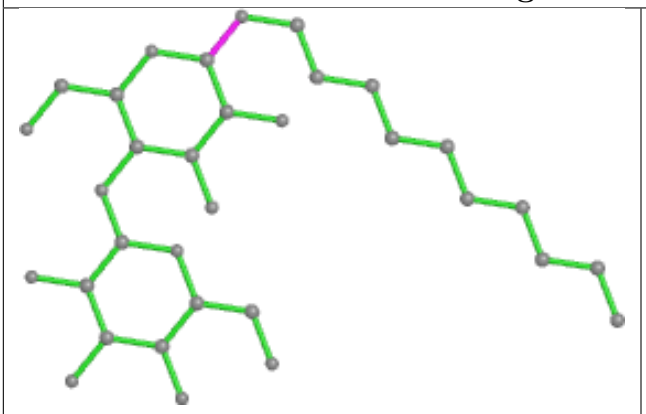


Torsions

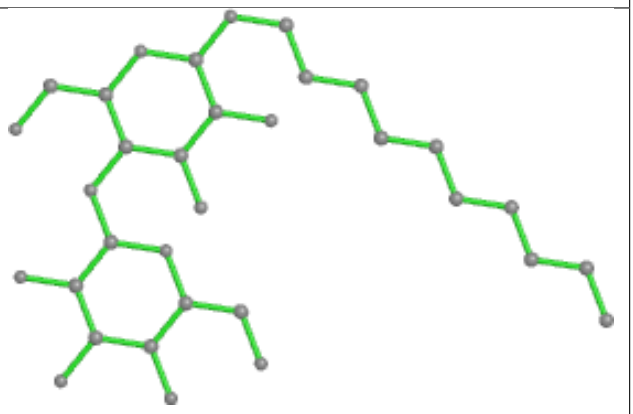


Rings

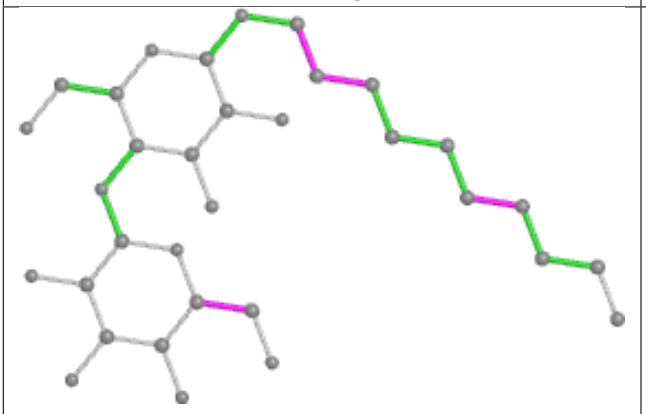
Ligand DMU C 314



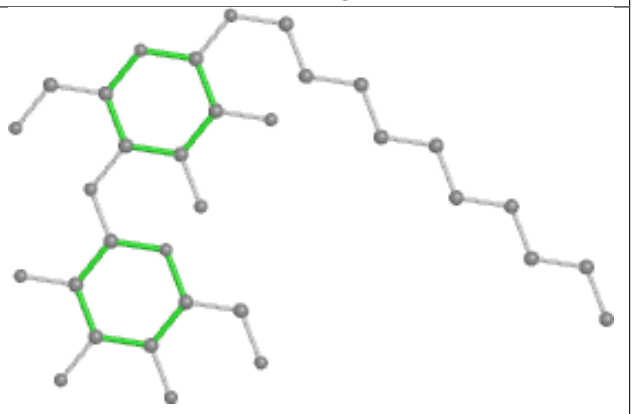
Bond lengths



Bond angles

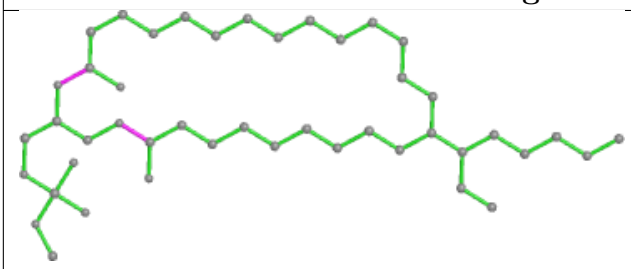


Torsions

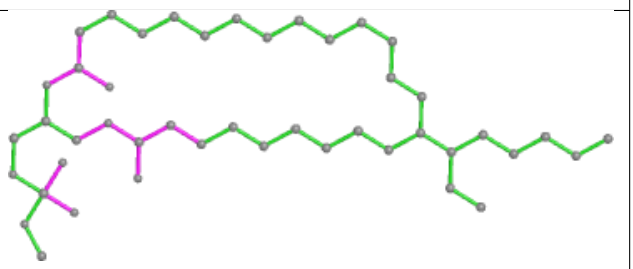


Rings

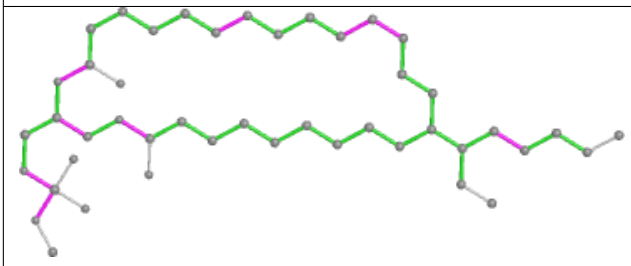
Ligand PGV P 302



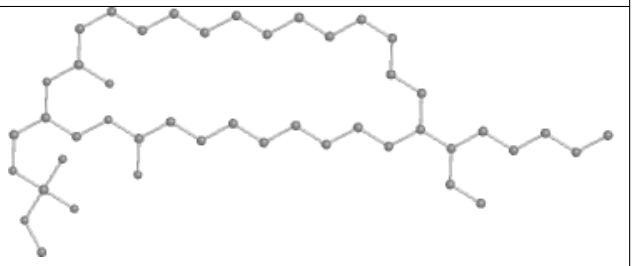
Bond lengths



Bond angles

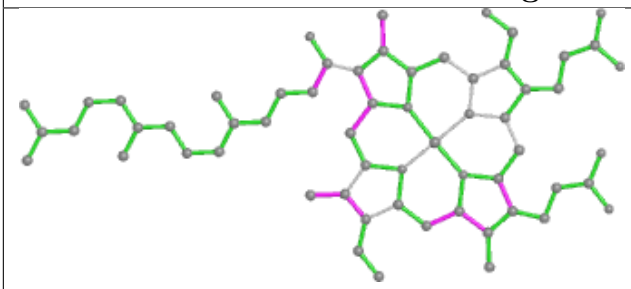


Torsions

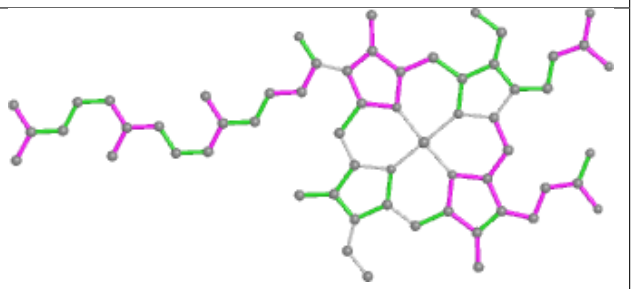


Rings

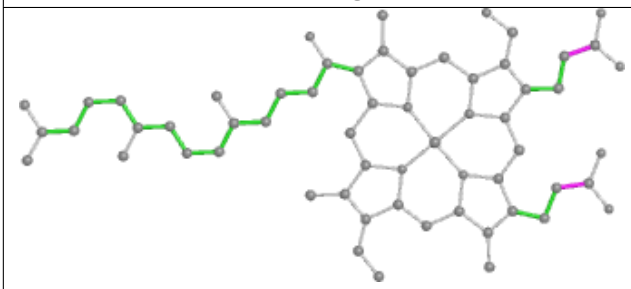
Ligand HEA A 602



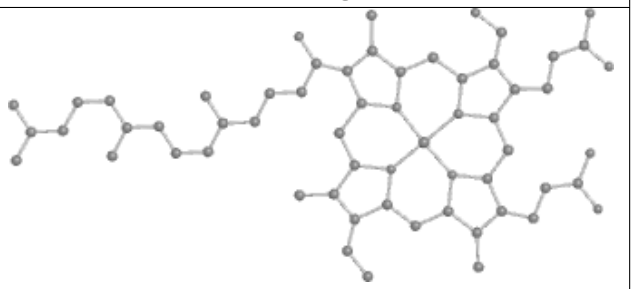
Bond lengths



Bond angles

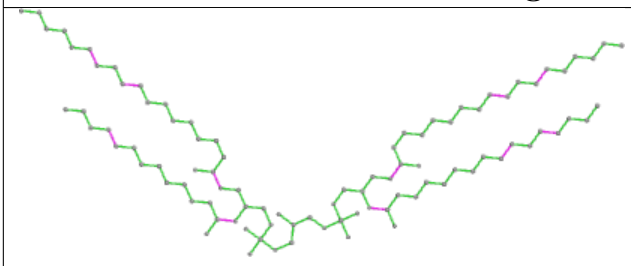


Torsions

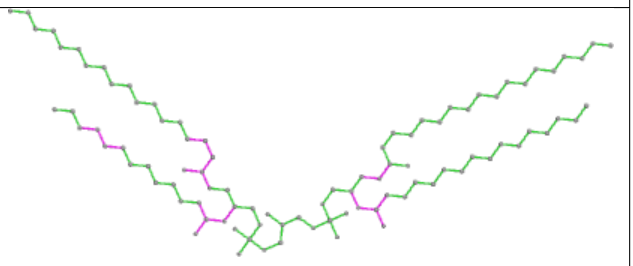


Rings

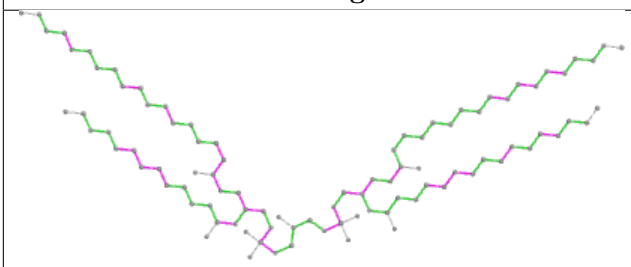
Ligand CDL T 102



Bond lengths



Bond angles



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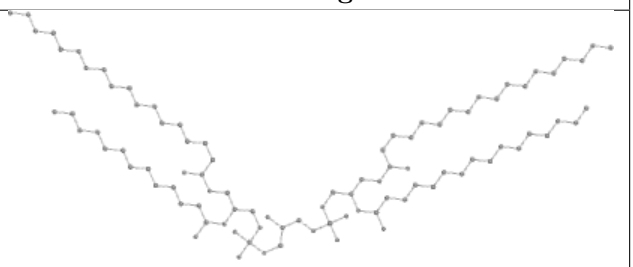
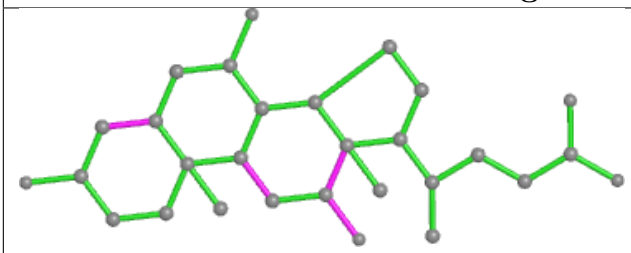


Rings

Ligand CHD C 301



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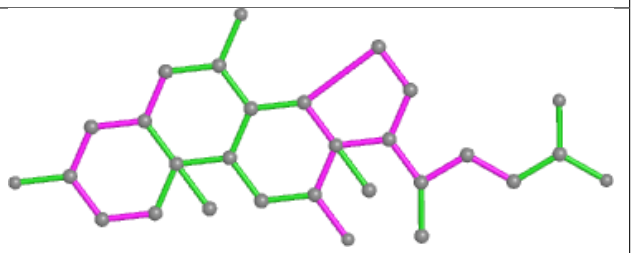
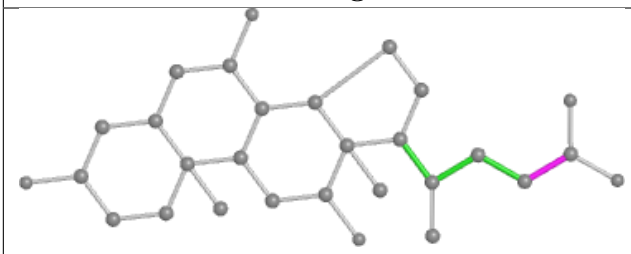


Bond angles



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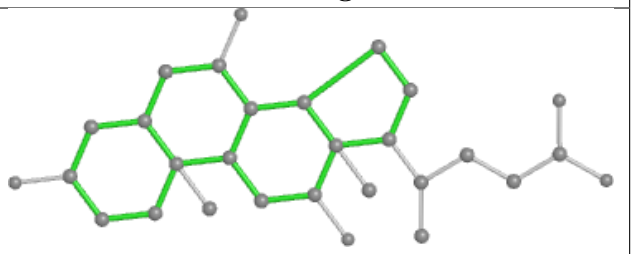
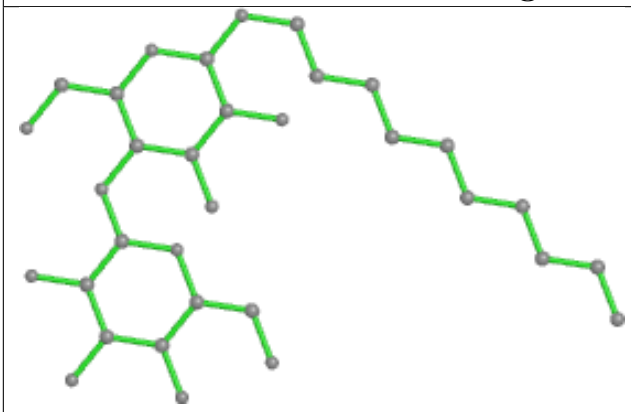
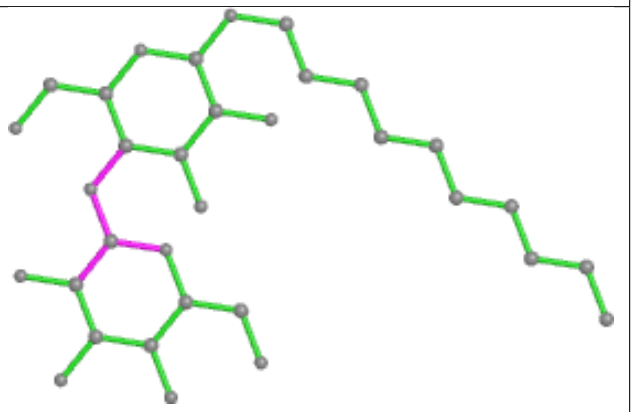


Rings

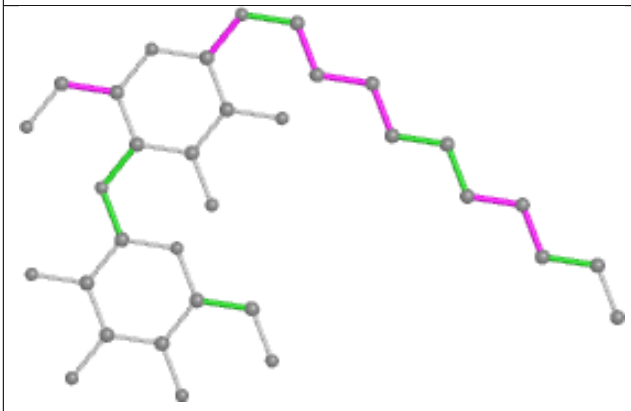
Ligand DMU Z 103



Bond lengths



Bond angles



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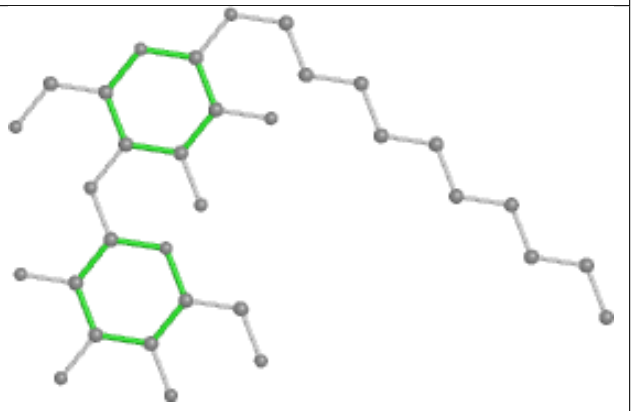
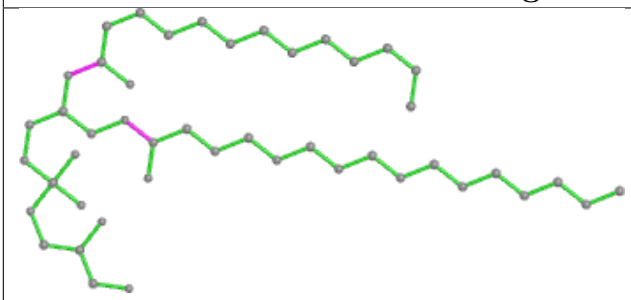


Rings

Ligand PGV P 307



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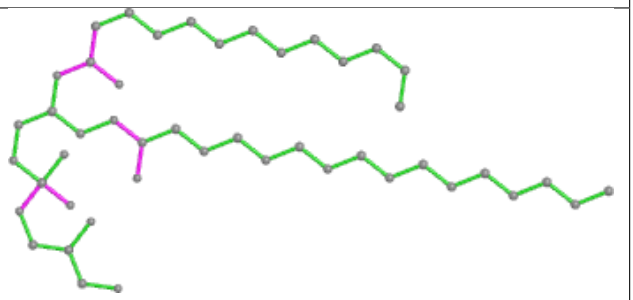
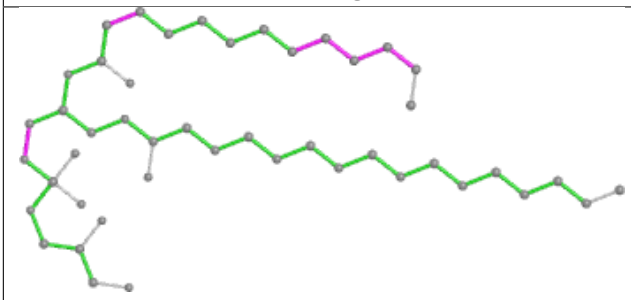


Bond angles



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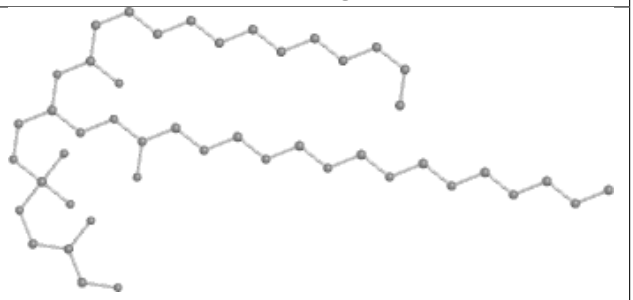
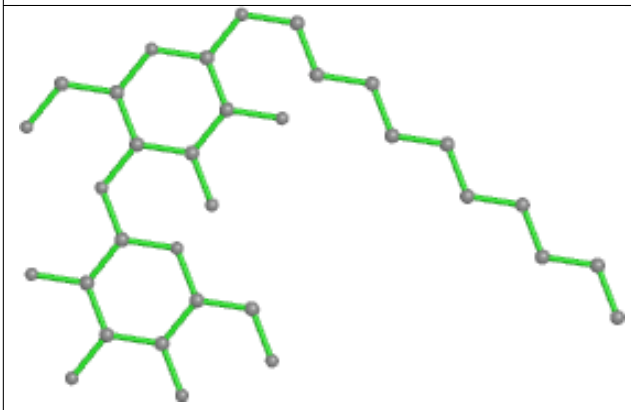


Rings

Ligand DMU T 101



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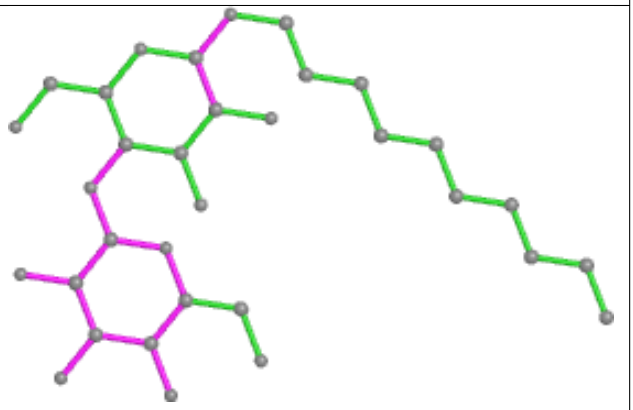
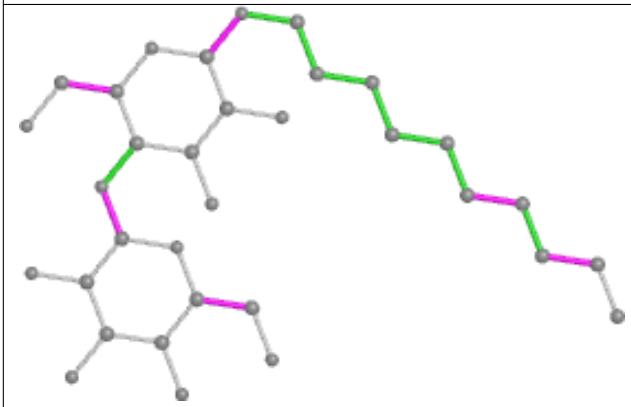
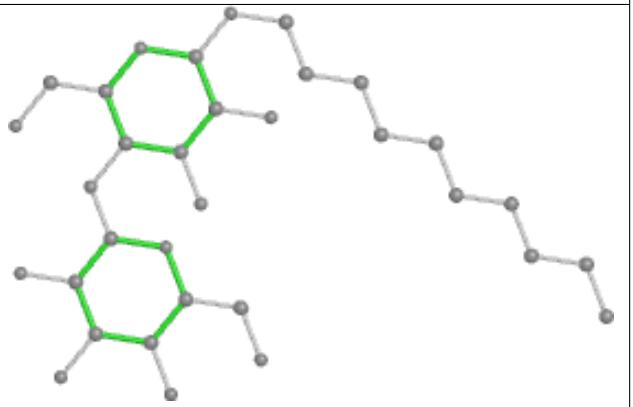


Bond angles

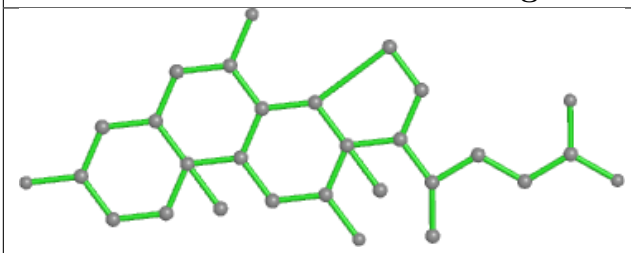


Torsions



Rings

Ligand CHD C 307



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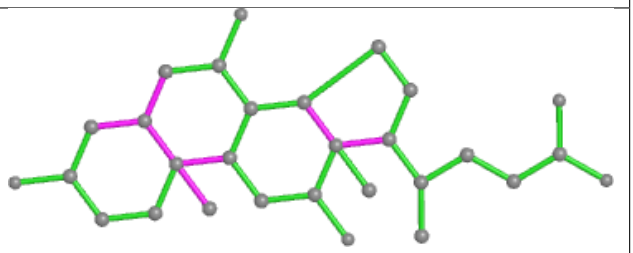
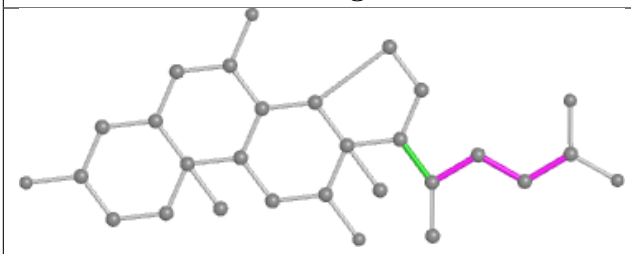
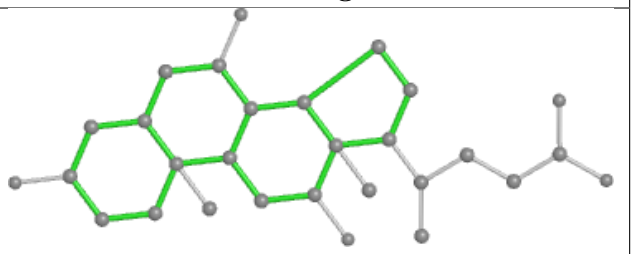


Bond angles

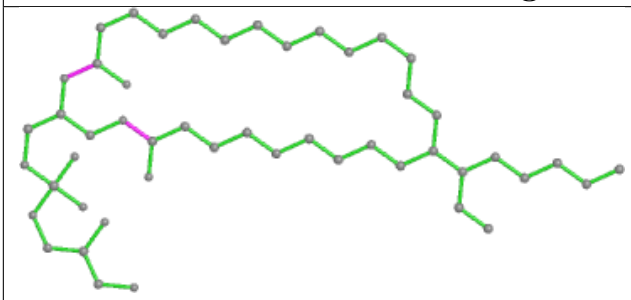


Torsions



Rings

Ligand PGV N 608



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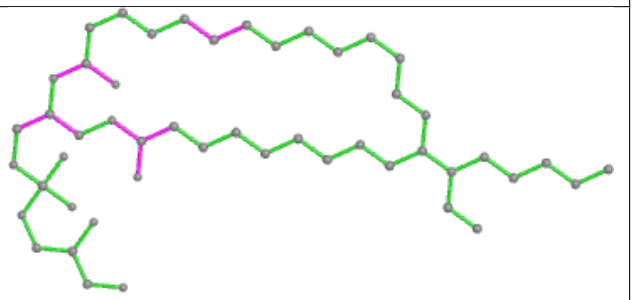
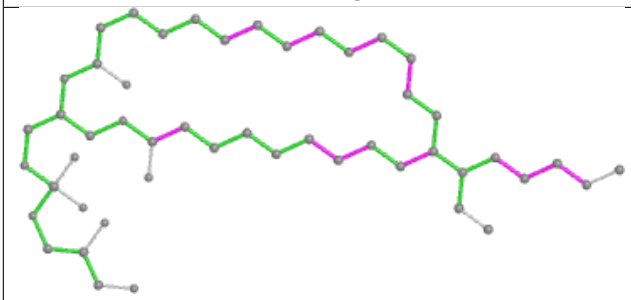


Bond angles



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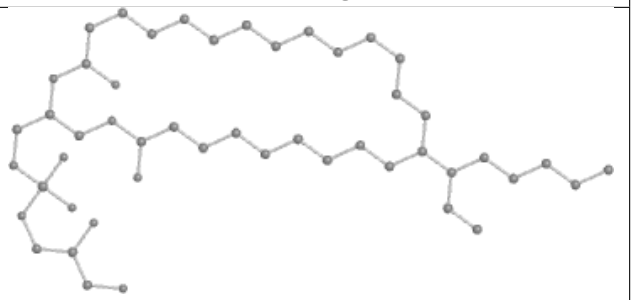
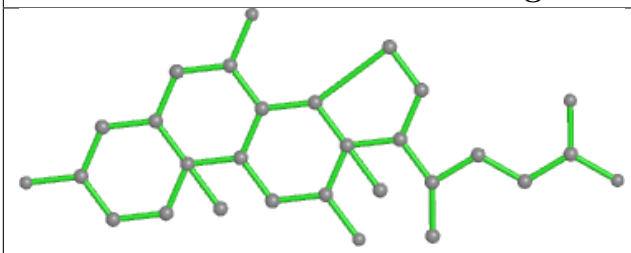


Rings

Ligand CHD J 101



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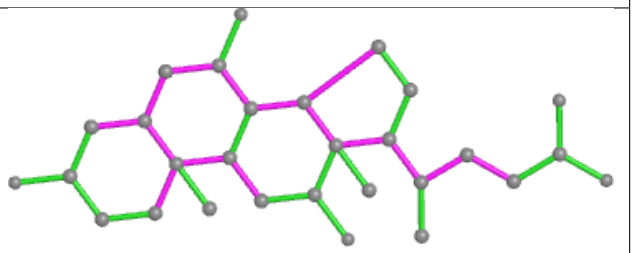
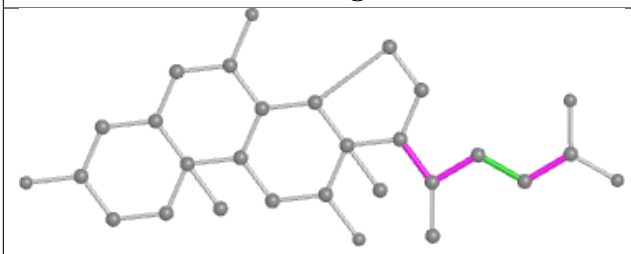
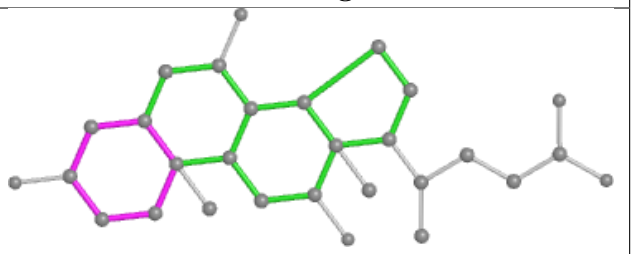


Bond angles

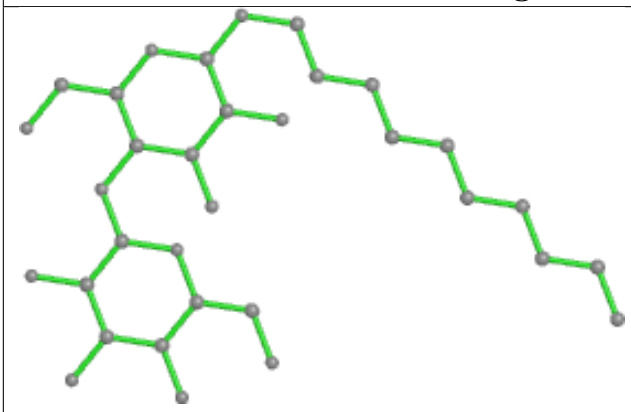


Torsions



Rings

Ligand DMU M 101



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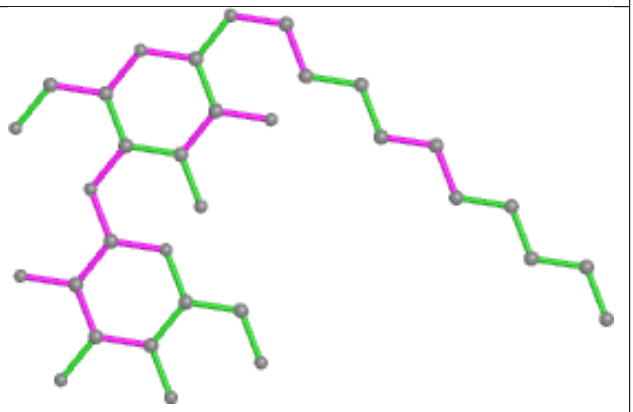
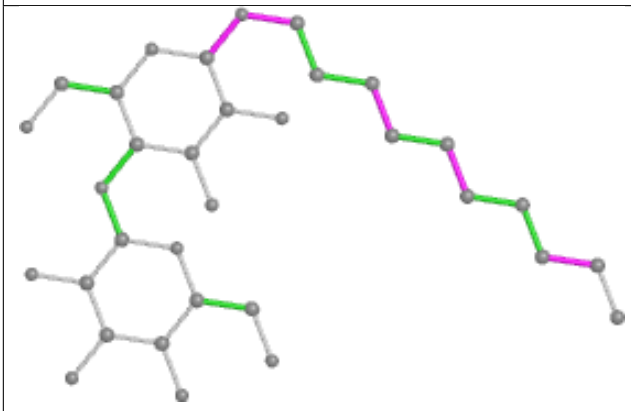
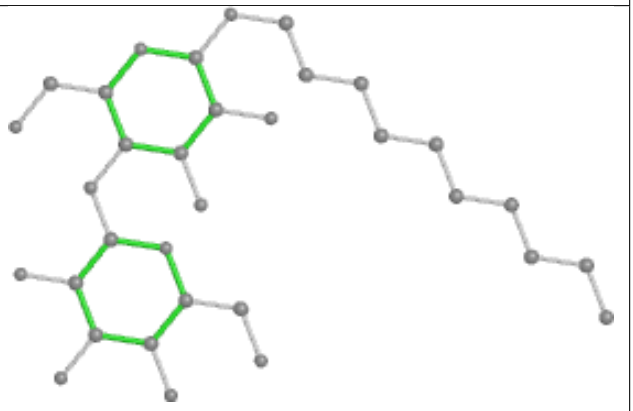


Bond angles

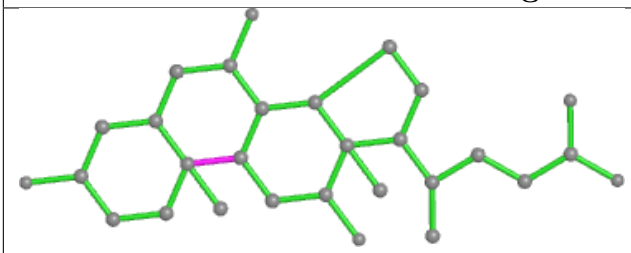


Torsions

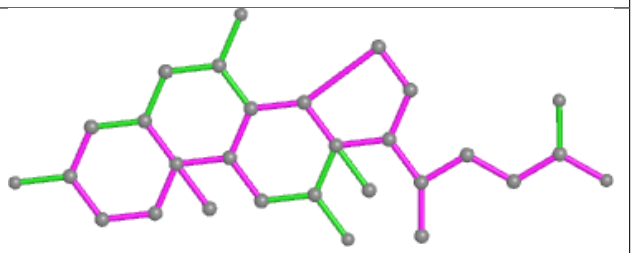


Rings

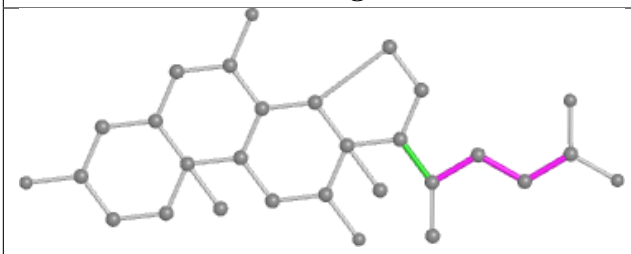
Ligand CHD P 309



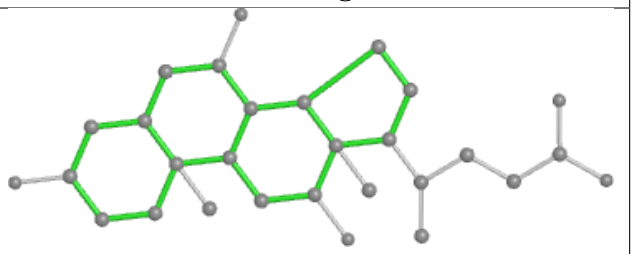
Bond lengths



Bond angles

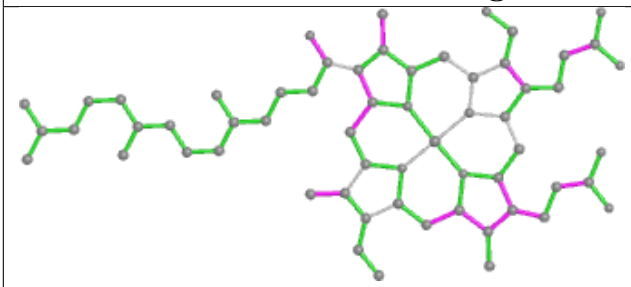


Torsions

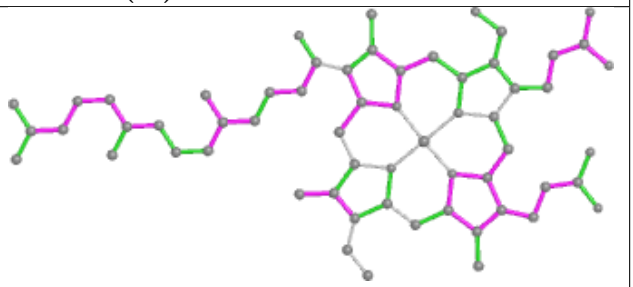


Rings

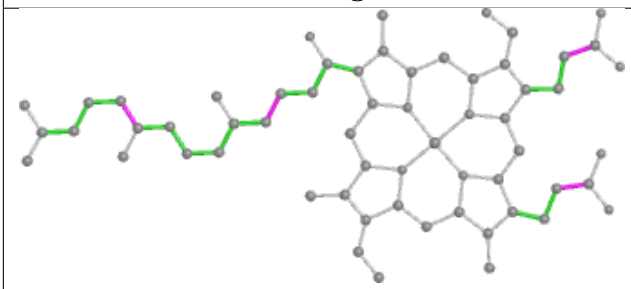
Ligand HEA A 601 (A)



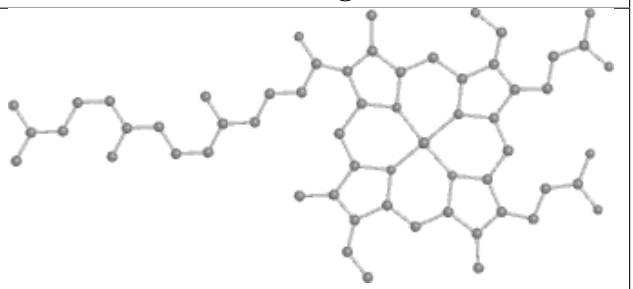
Bond lengths



Bond angles

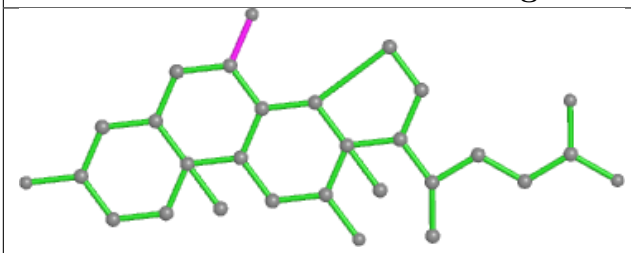


Torsions

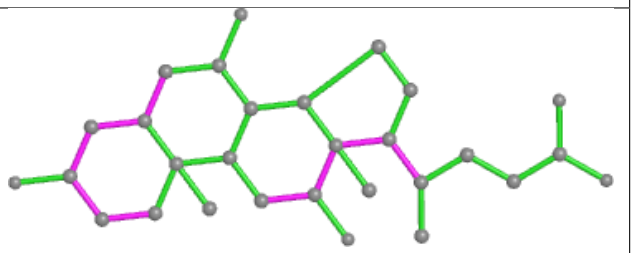


Rings

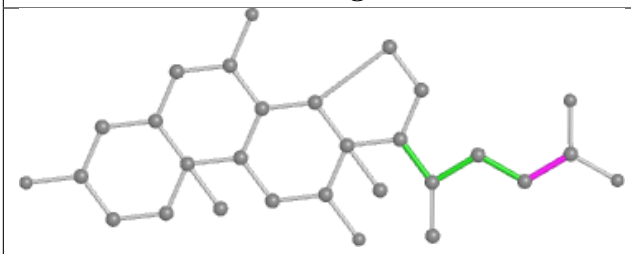
Ligand CHD O 301



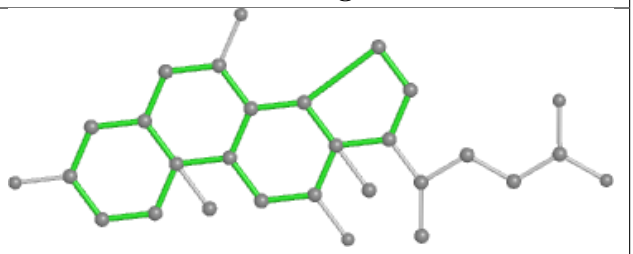
Bond lengths



Bond angles

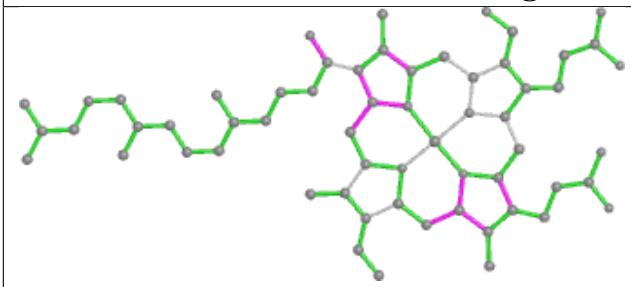


Torsions

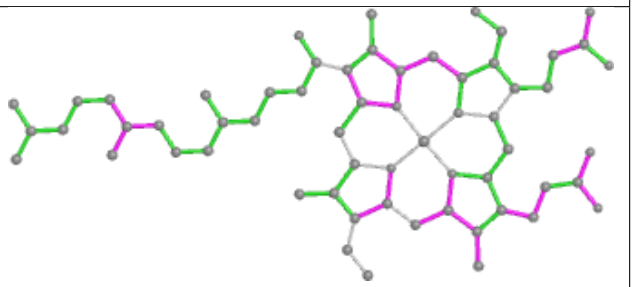


Rings

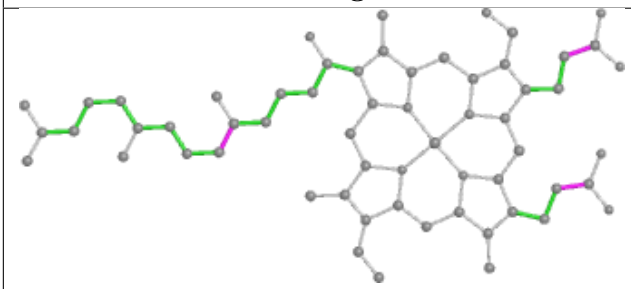
Ligand HEA N 602



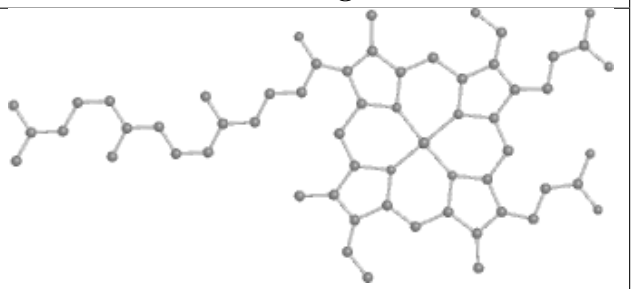
Bond lengths



Bond angles

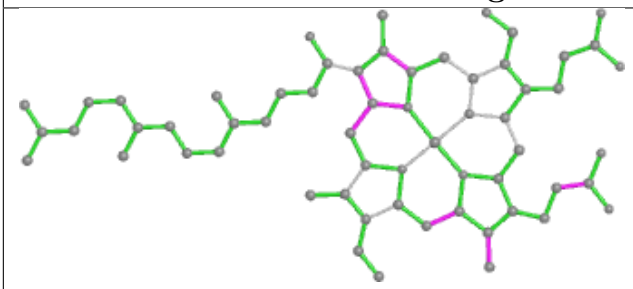


Torsions

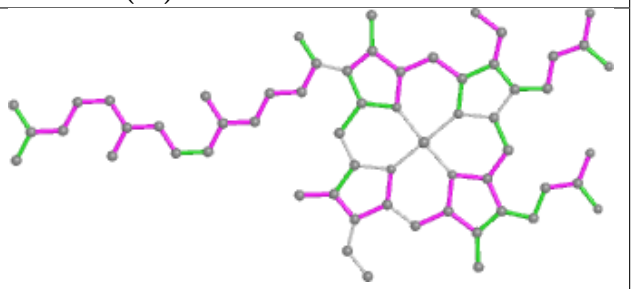


Rings

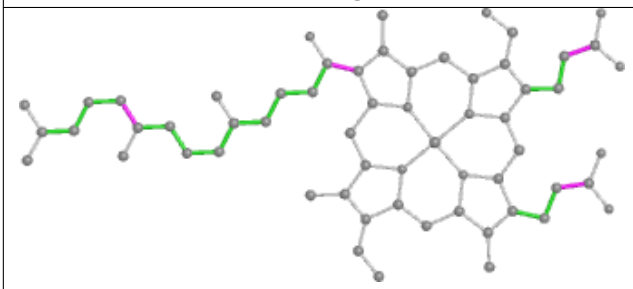
Ligand HEA N 601 (A)



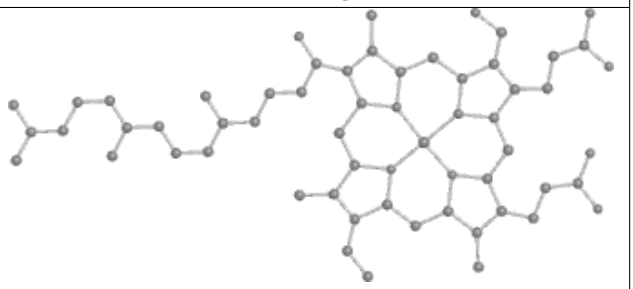
Bond lengths



Bond angles

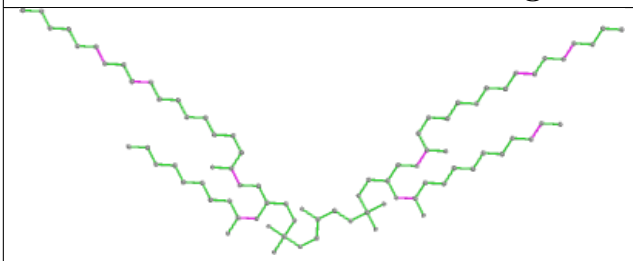


Torsions

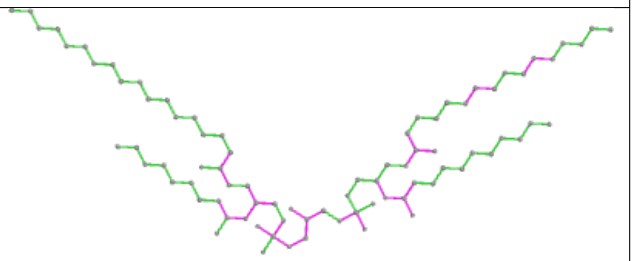


Rings

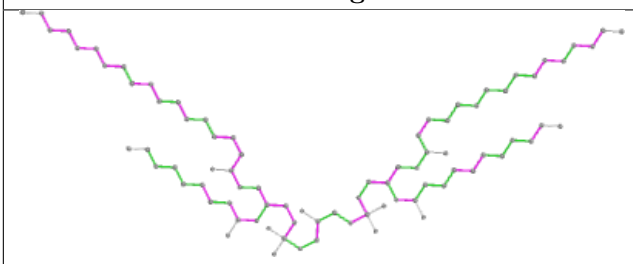
Ligand CDL C 306



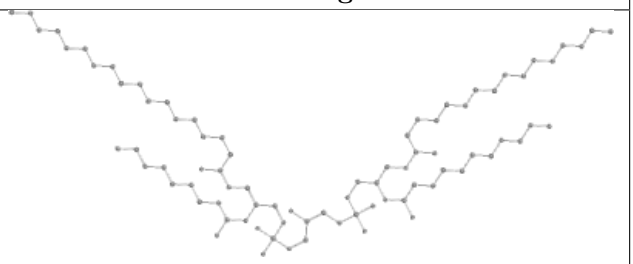
Bond lengths



Bond angles

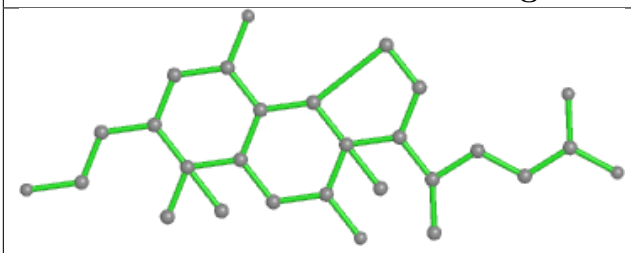


Torsions

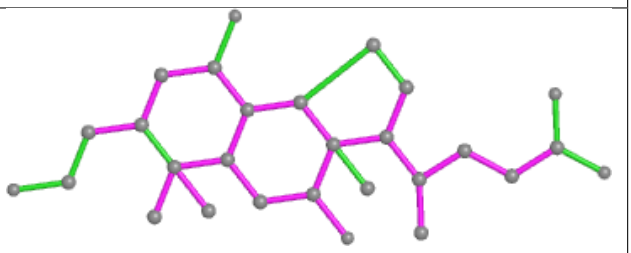


Rings

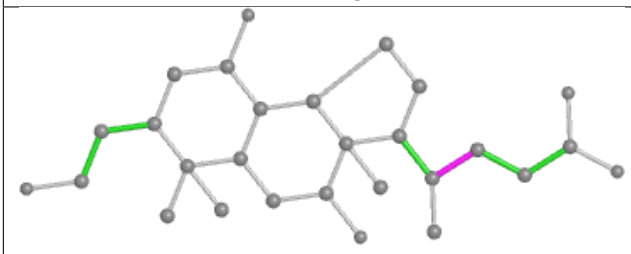
Ligand CHD Y 102



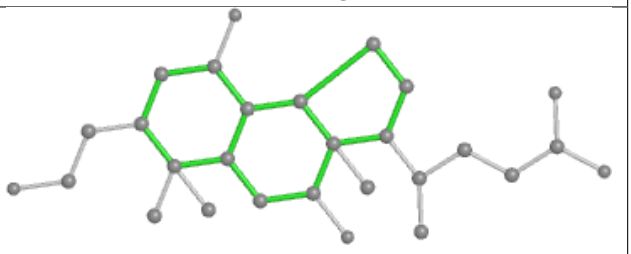
Bond lengths



Bond angles

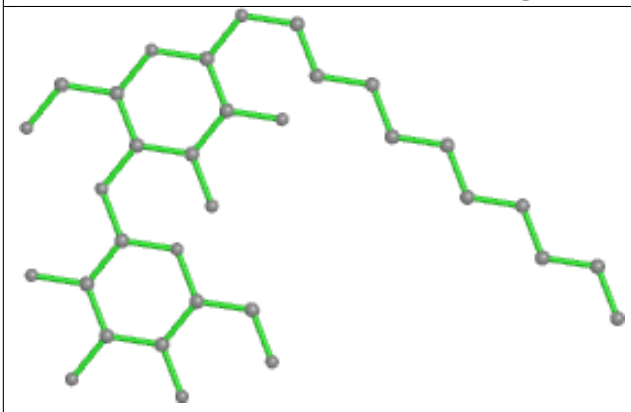


Torsions

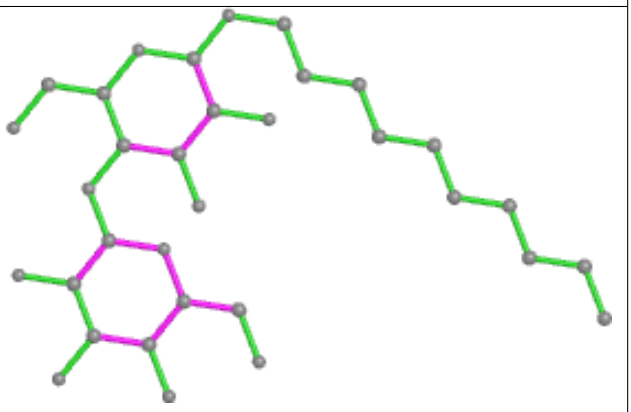


Rings

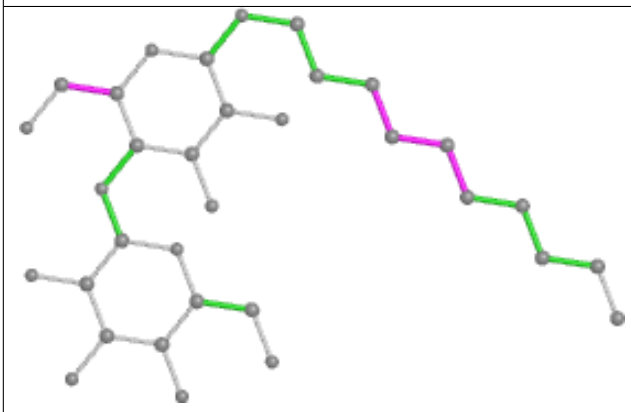
Ligand DMU C 313



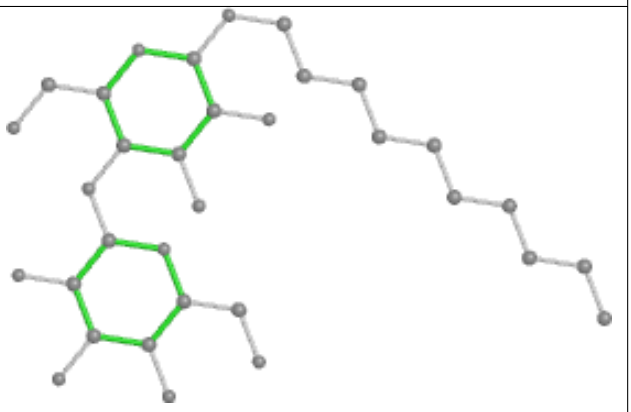
Bond lengths



Bond angles

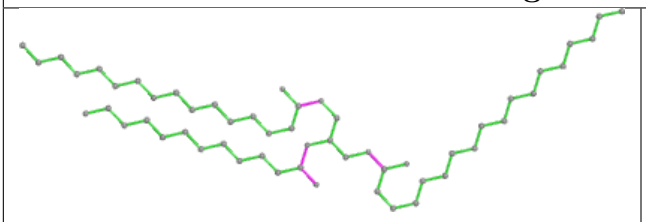


Torsions

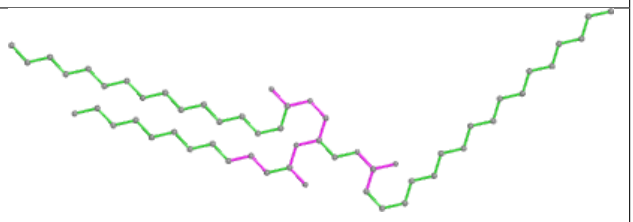


Rings

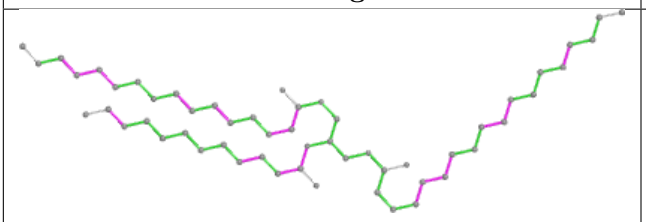
Ligand TGL D 201



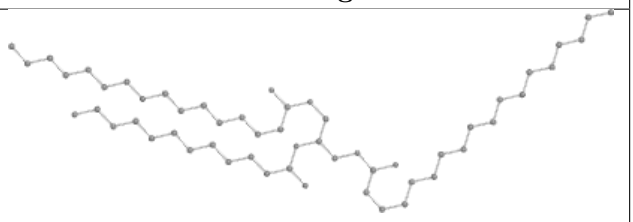
Bond lengths



Bond angles

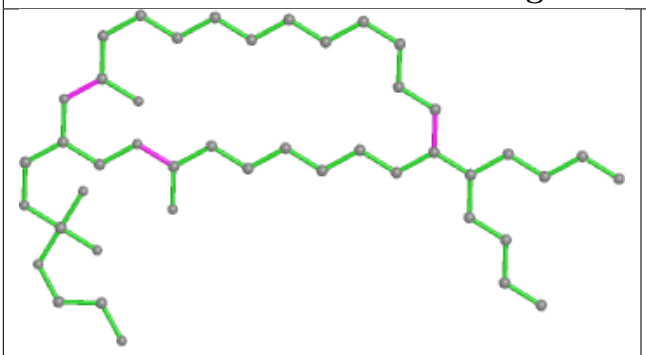


Torsions

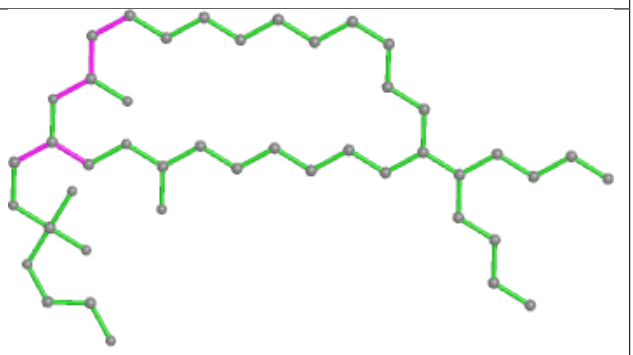


Rings

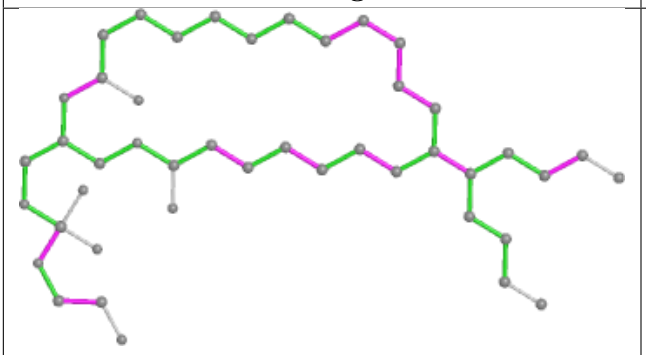
Ligand PSC O 304



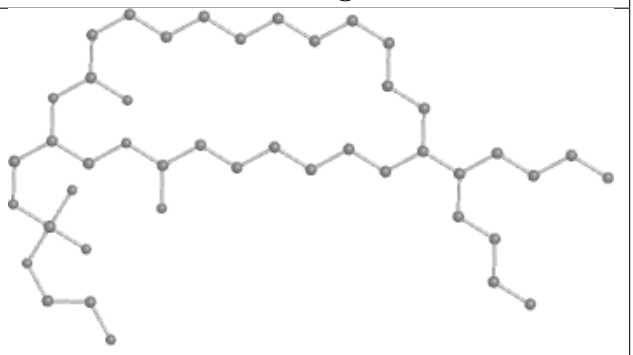
Bond lengths



Bond angles

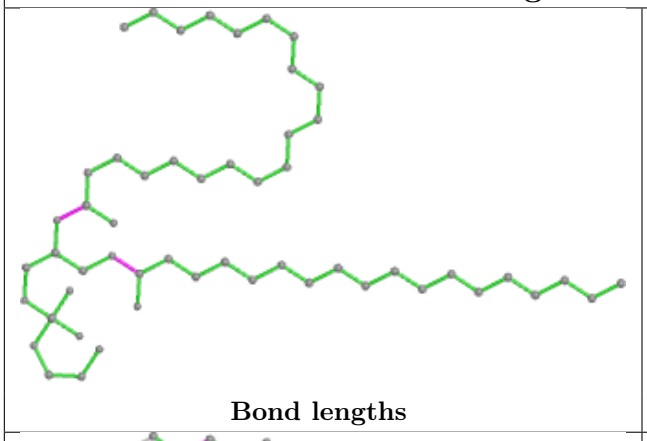


Torsions

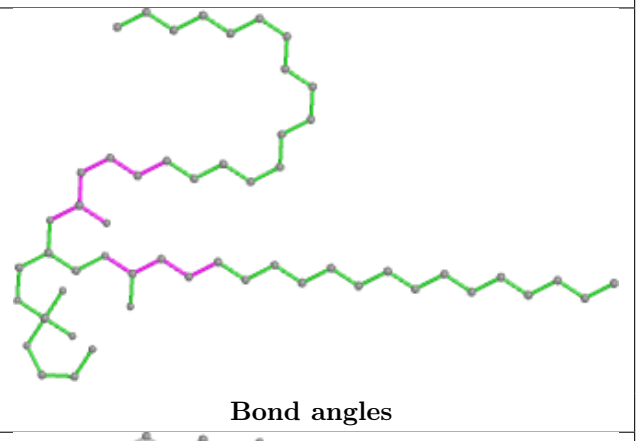


Rings

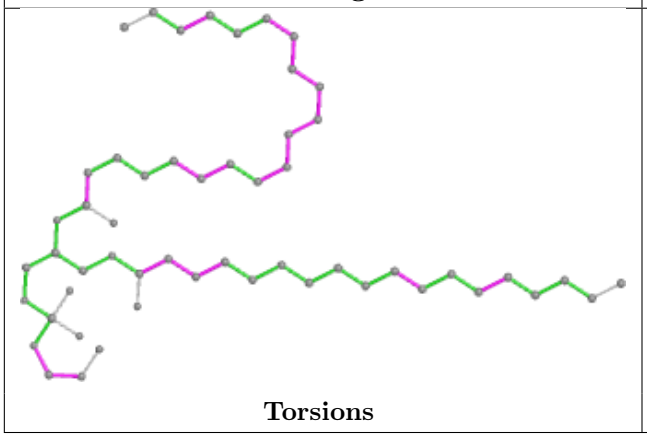
Ligand PEK C 303



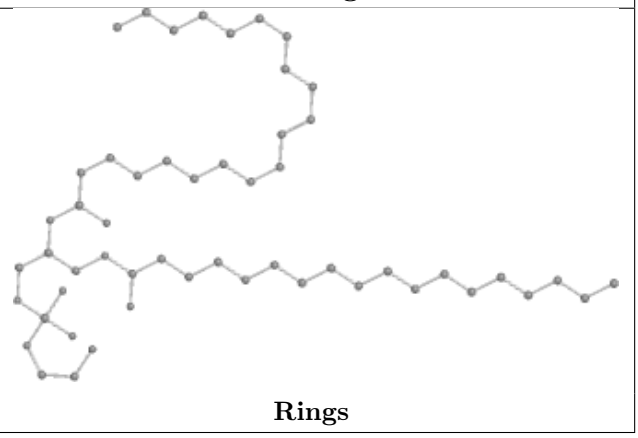
Bond lengths



Bond angles

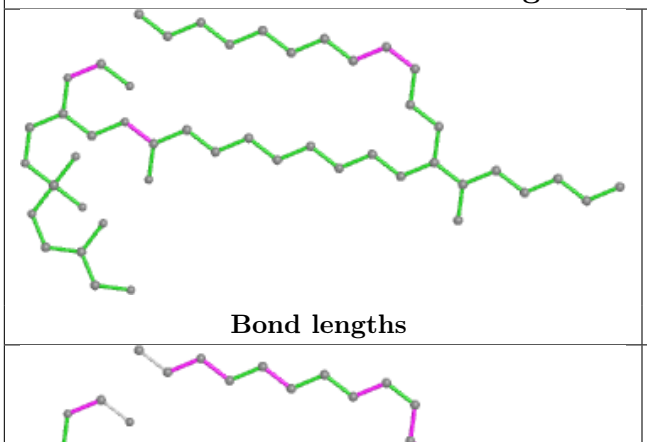


Torsions

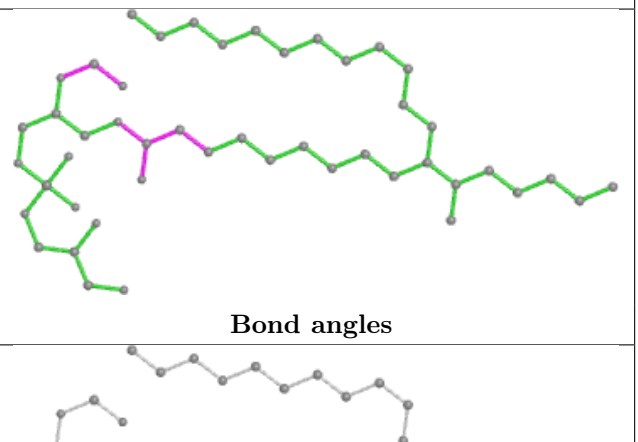


Rings

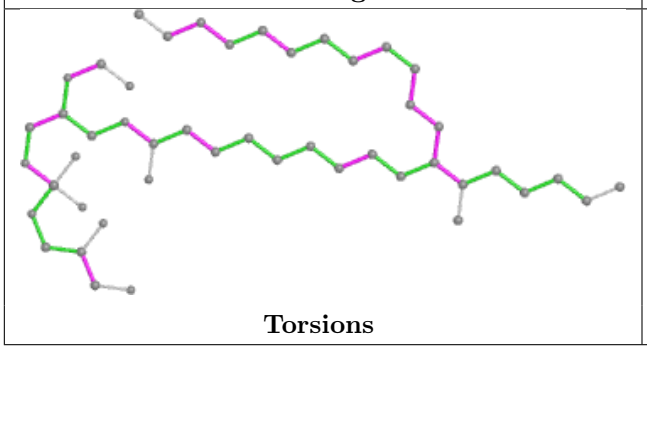
Ligand PGV C 305



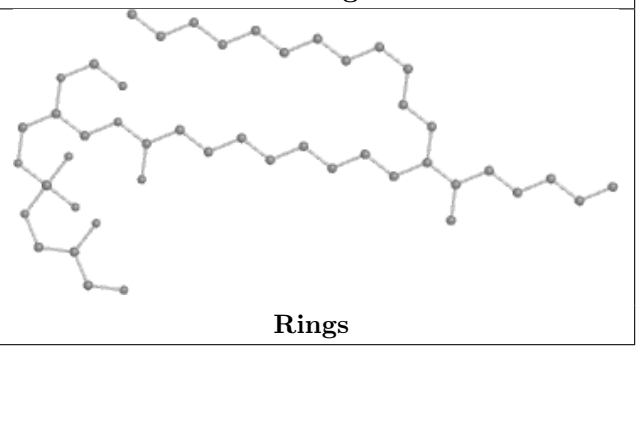
Bond lengths



Bond angles

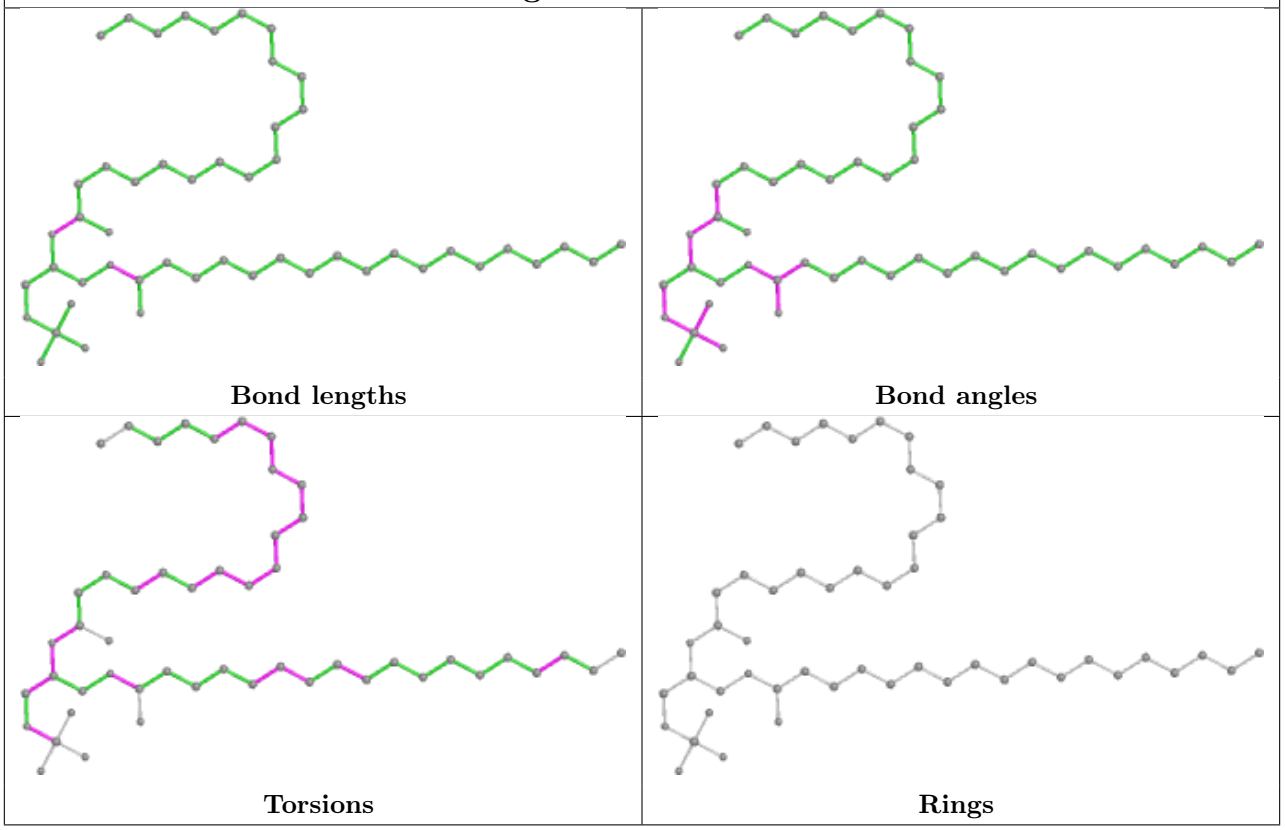


Torsions

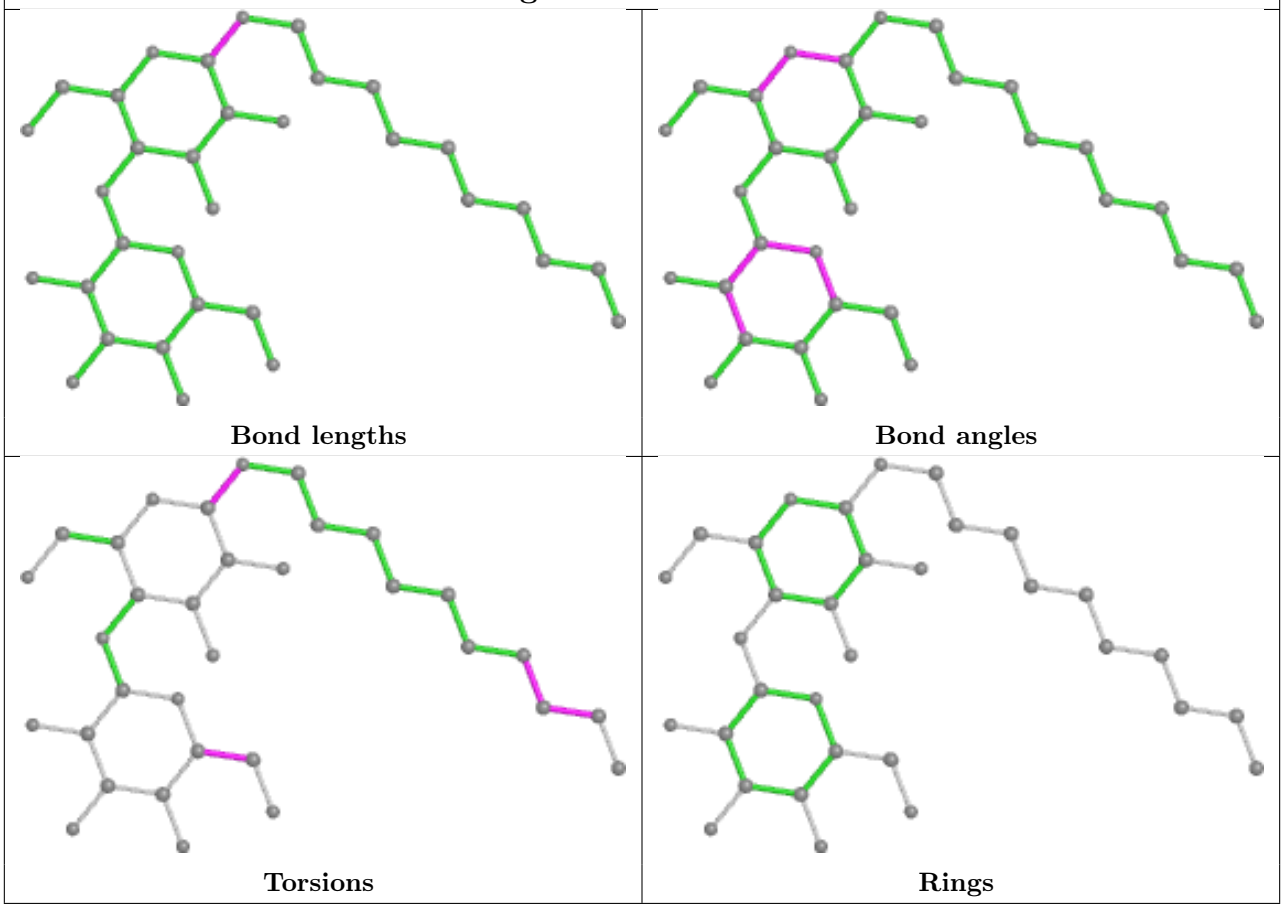


Rings

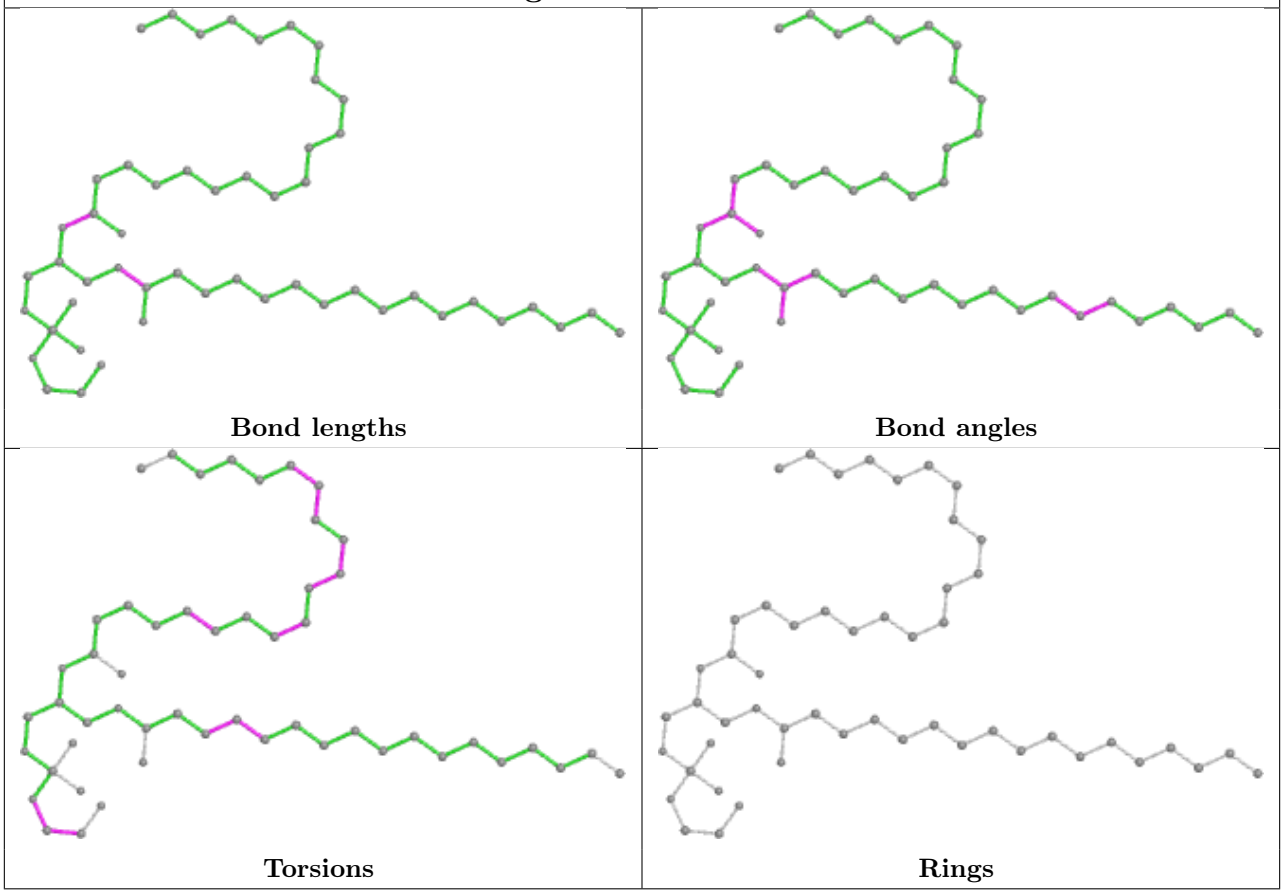
Ligand PEK G 102



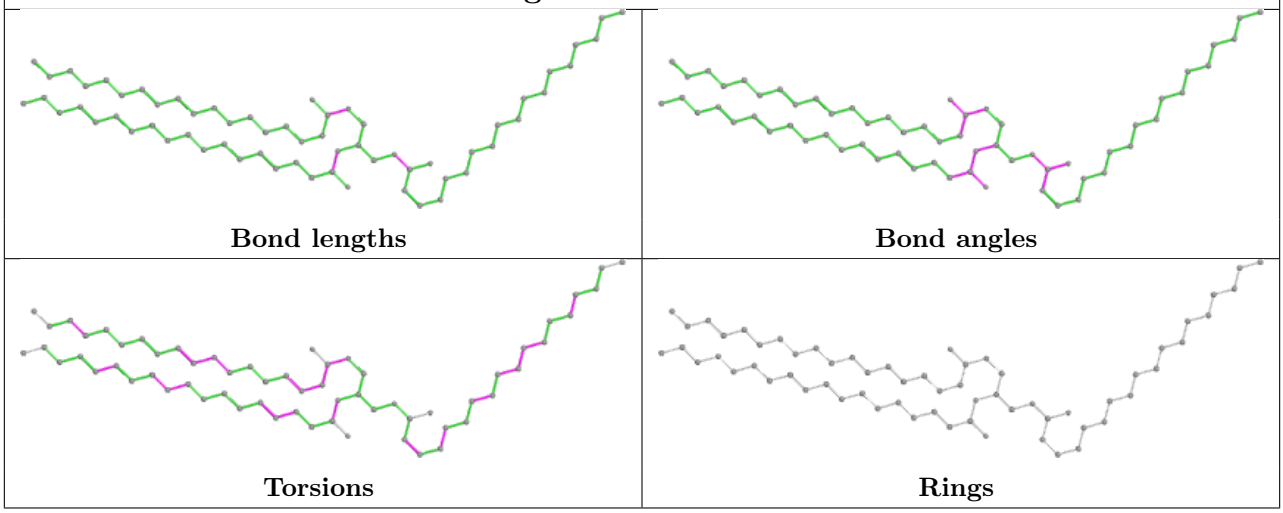
Ligand DMU L 102



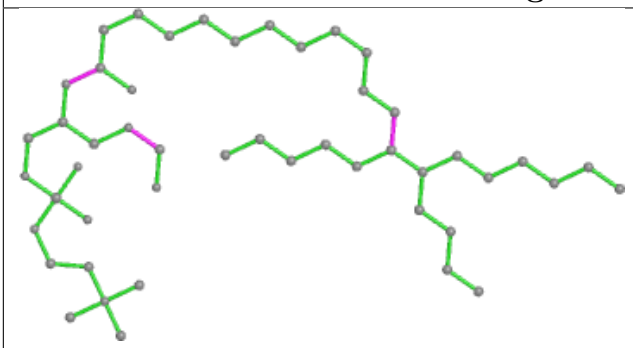
Ligand PEK P 305



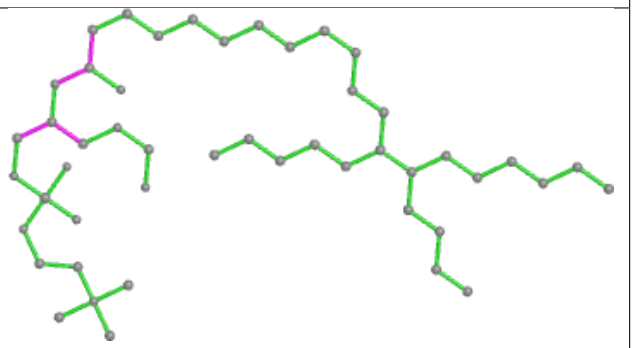
Ligand TGL N 607



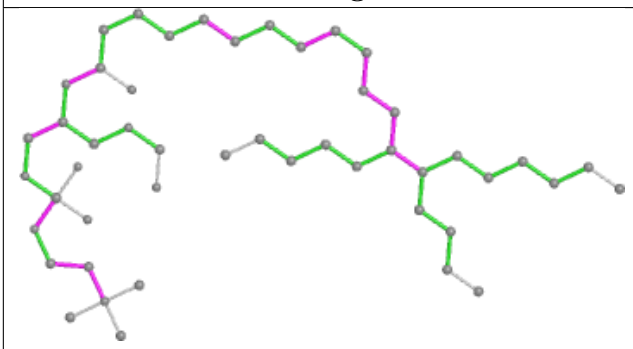
Ligand PSC B 303



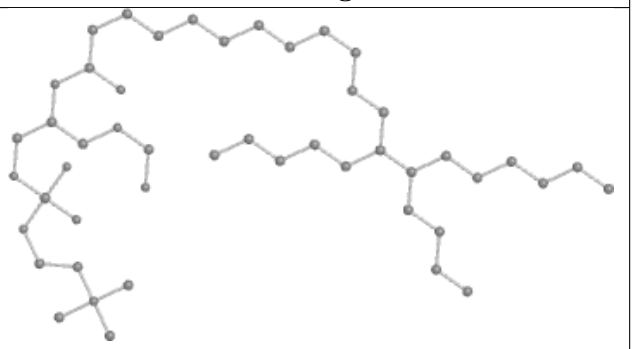
Bond lengths



Bond angles

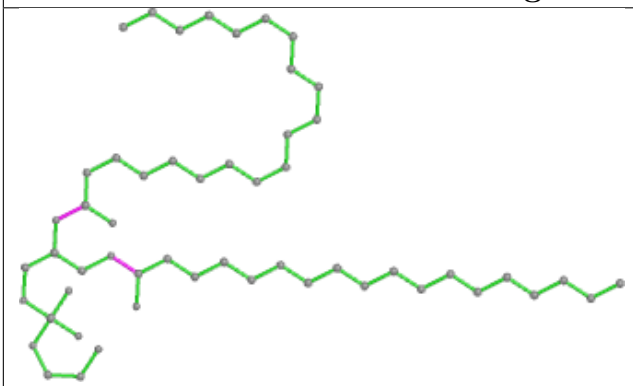


Torsions

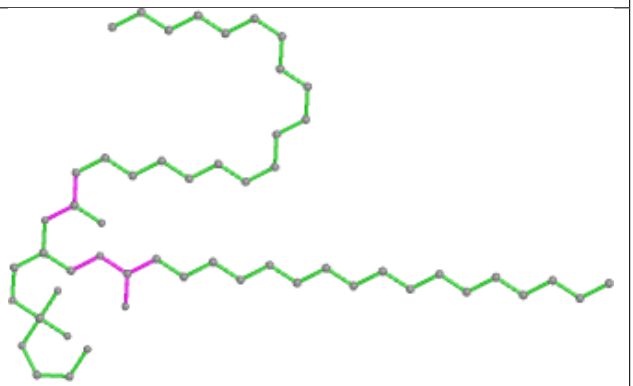


Rings

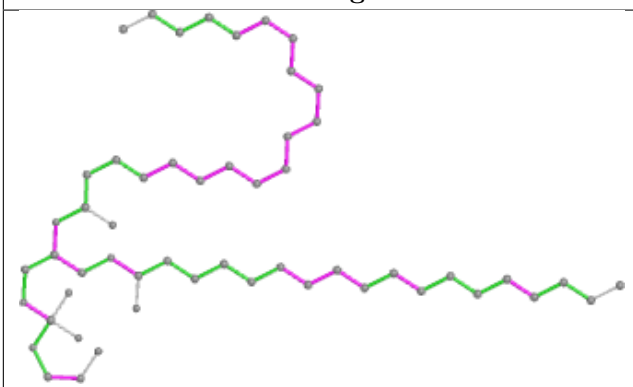
Ligand PEK P 306



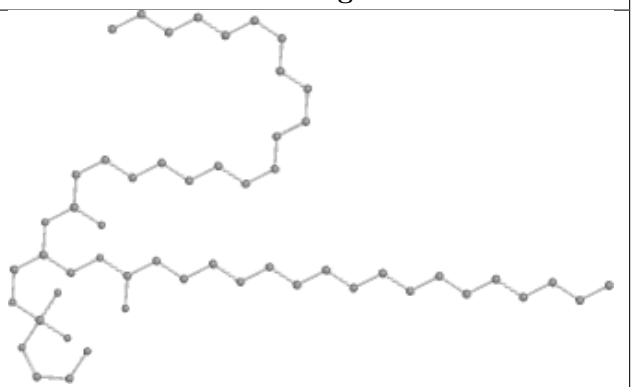
Bond lengths



Bond angles

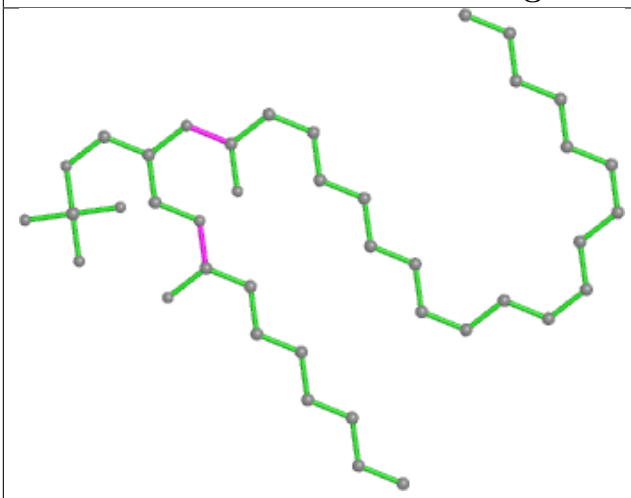


Torsions

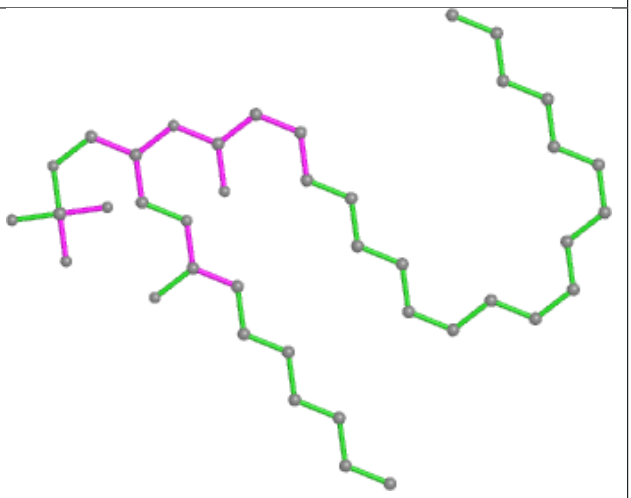


Rings

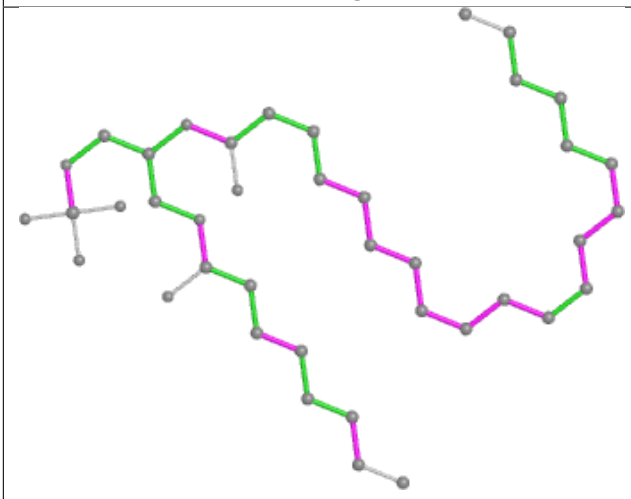
Ligand PEK P 301



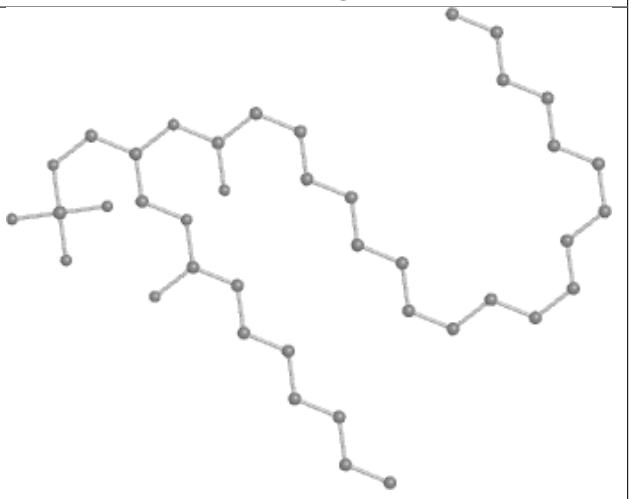
Bond lengths



Bond angles

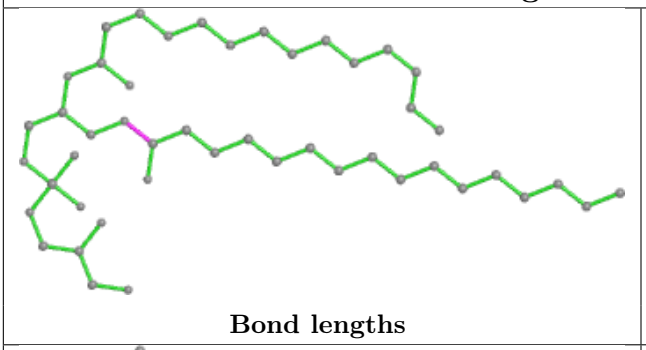


Torsions

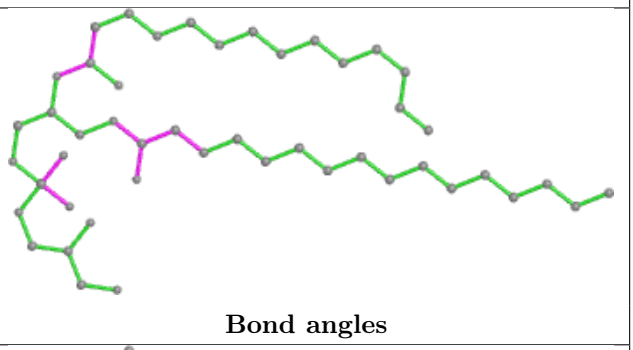


Rings

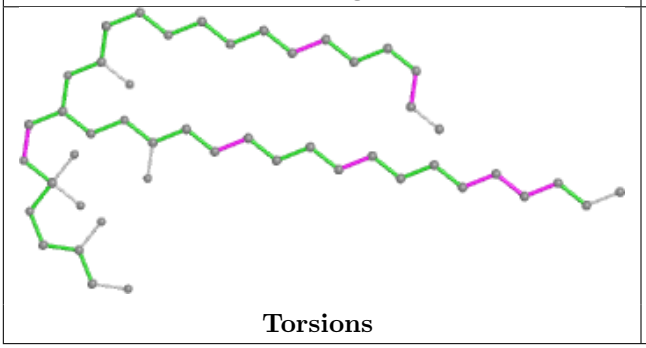
Ligand PGV C 304



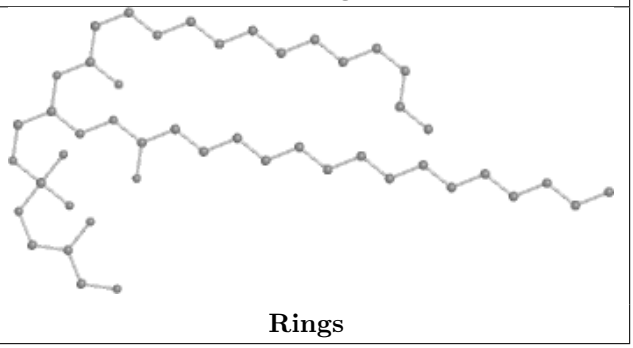
Bond lengths



Bond angles

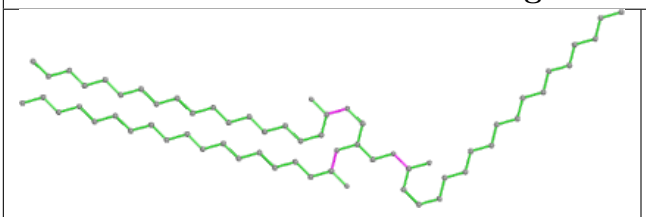


Torsions

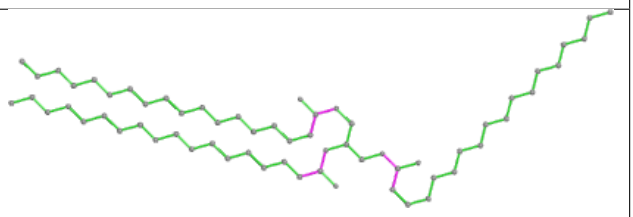


Rings

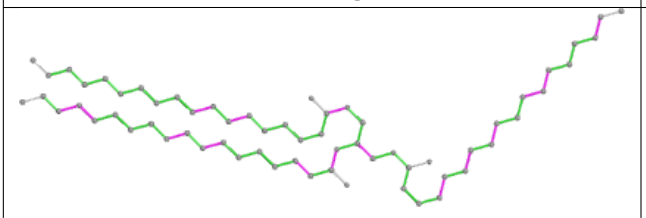
Ligand TGL B 302



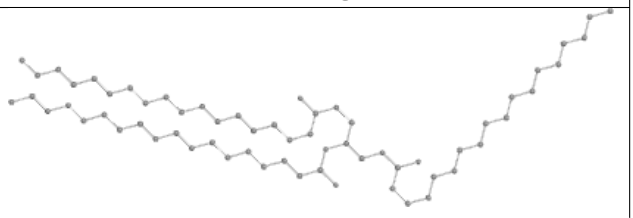
Bond lengths



Bond angles

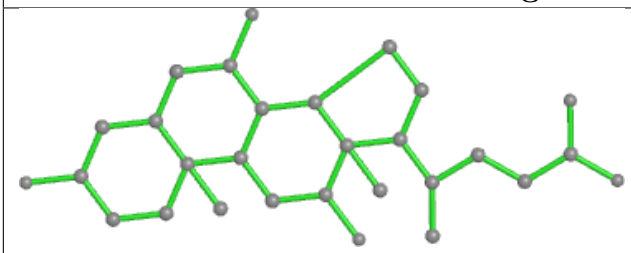


Torsions

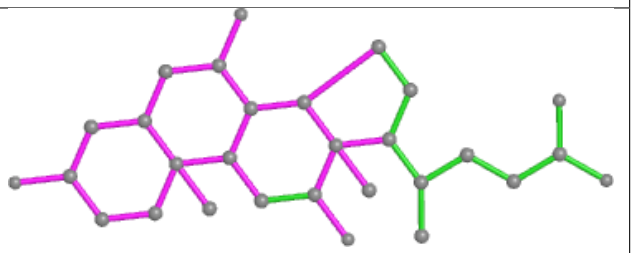


Rings

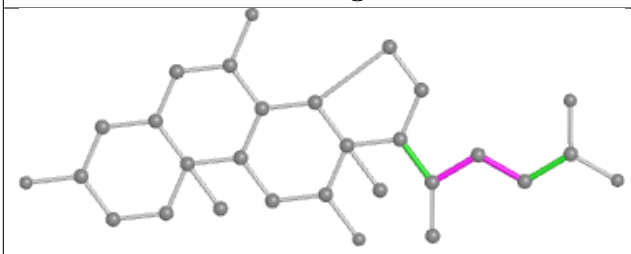
Ligand CHD P 315



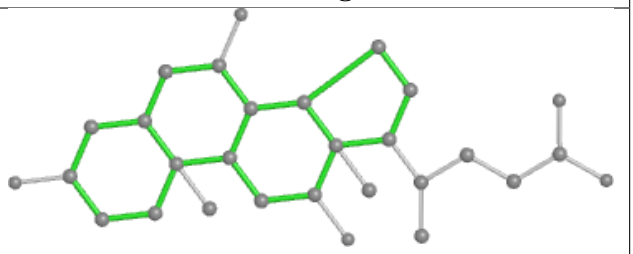
Bond lengths



Bond angles

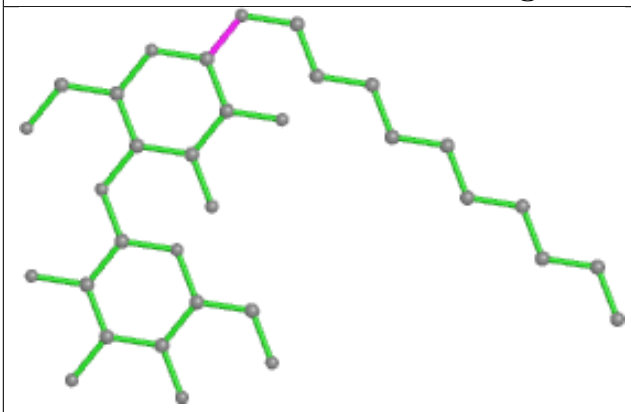


Torsions

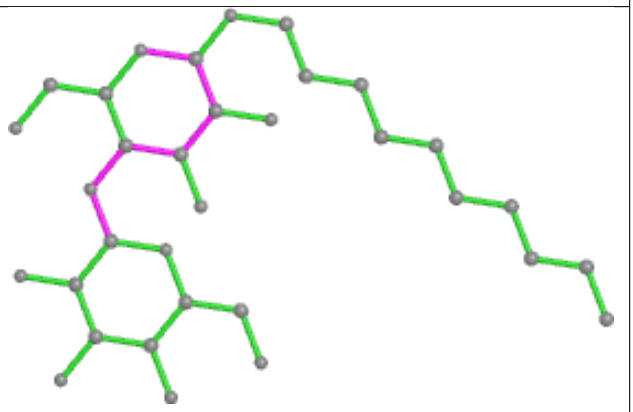


Rings

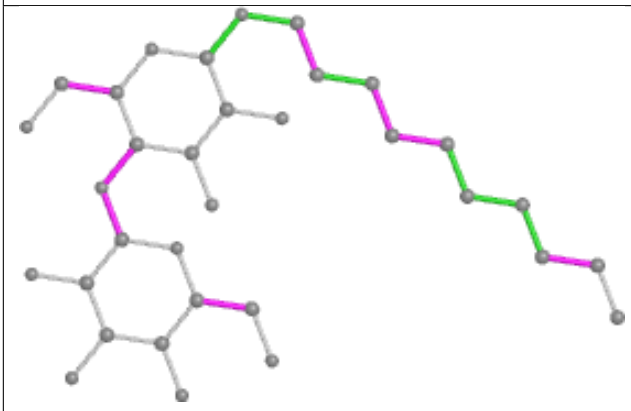
Ligand DMU L 103



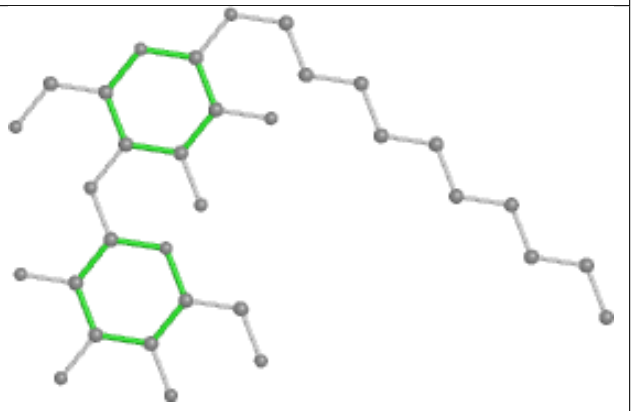
Bond lengths



Bond angles

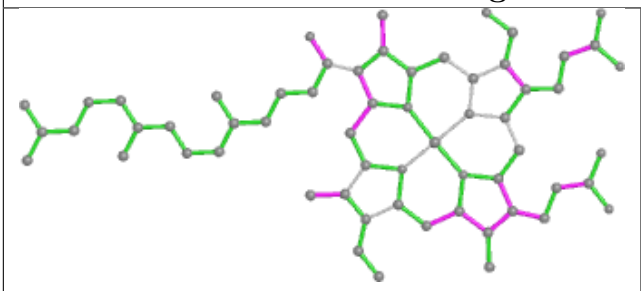


Torsions

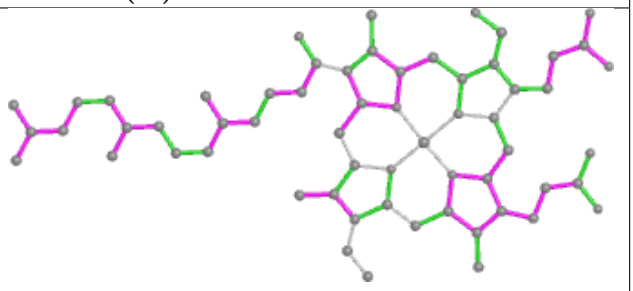


Rings

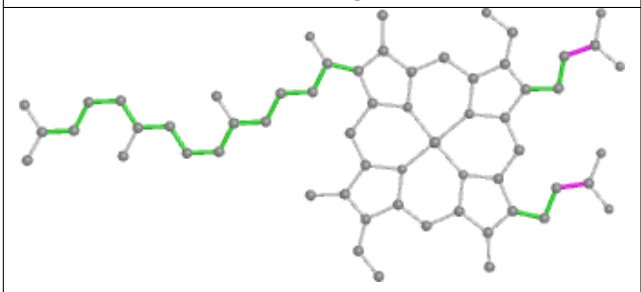
Ligand HEA A 601 (B)



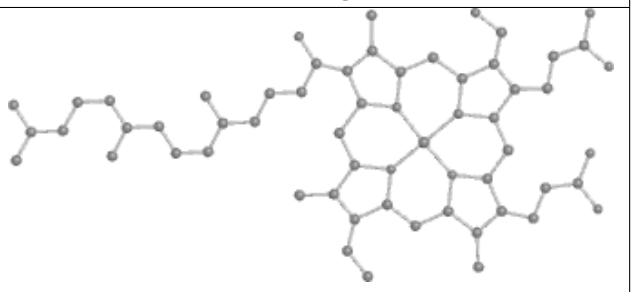
Bond lengths



Bond angles

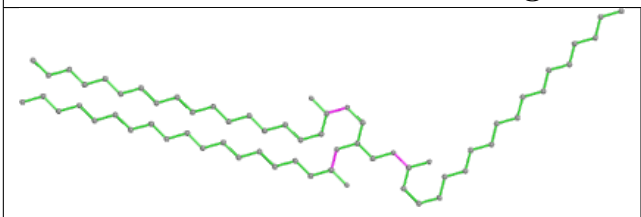


Torsions

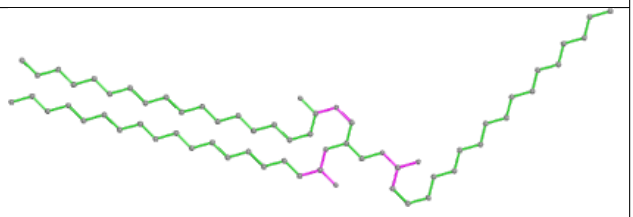


Rings

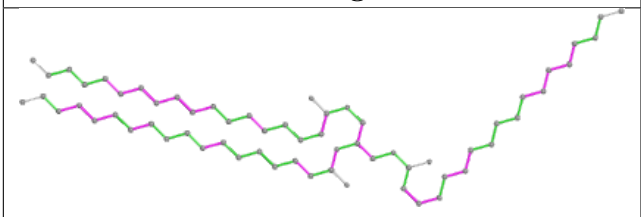
Ligand TGL O 303



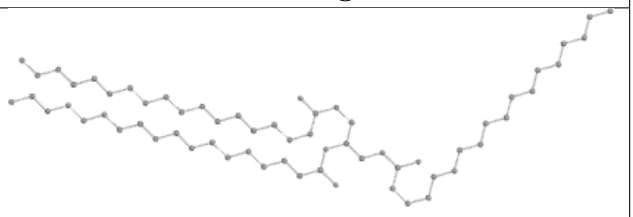
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	513/514 (99%)	-0.12	1 (0%) 95 93	22, 28, 39, 87	0
1	N	513/514 (99%)	-0.18	1 (0%) 95 93	26, 35, 49, 99	0
2	B	226/227 (99%)	-0.57	0 100 100	25, 35, 74, 120	0
2	O	226/227 (99%)	-0.39	4 (1%) 68 64	33, 45, 96, 173	0
3	C	259/261 (99%)	-0.43	2 (0%) 86 84	25, 33, 54, 113	0
3	P	259/261 (99%)	-0.39	2 (0%) 86 84	27, 35, 54, 130	0
4	D	144/147 (97%)	-0.58	2 (1%) 75 72	29, 41, 74, 120	0
4	Q	141/147 (95%)	0.35	13 (9%) 9 6	41, 61, 112, 228	0
5	E	105/109 (96%)	-0.13	2 (1%) 66 63	36, 45, 88, 160	0
5	R	105/109 (96%)	0.31	4 (3%) 40 35	40, 56, 98, 174	0
6	F	98/98 (100%)	-0.04	6 (6%) 21 16	27, 42, 151, 193	0
6	S	95/98 (96%)	-0.42	3 (3%) 47 41	32, 44, 97, 198	0
7	G	83/85 (97%)	0.63	15 (18%) 1 0	31, 42, 160, 182	0
7	T	83/85 (97%)	0.65	13 (15%) 2 1	28, 45, 139, 207	0
8	H	79/85 (92%)	-0.07	6 (7%) 13 10	31, 43, 133, 161	0
8	U	79/85 (92%)	0.06	9 (11%) 5 3	38, 48, 144, 170	0
9	I	72/73 (98%)	-0.11	1 (1%) 75 72	35, 52, 92, 157	0
9	V	72/73 (98%)	0.32	3 (4%) 36 30	43, 67, 111, 166	0
10	J	58/59 (98%)	0.44	6 (10%) 6 5	35, 46, 100, 140	0
10	W	58/59 (98%)	0.23	5 (8%) 10 8	38, 50, 113, 173	0
11	K	49/56 (87%)	-0.41	0 100 100	34, 42, 78, 119	0
11	X	49/56 (87%)	1.30	15 (30%) 0 0	49, 62, 124, 139	0
12	L	46/47 (97%)	-0.55	0 100 100	27, 34, 66, 116	0
12	Y	46/47 (97%)	-0.39	1 (2%) 62 57	38, 45, 100, 138	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
13	M	43/46 (93%)	-0.18	1 (2%) 60 56	31, 35, 98, 161	0
13	Z	43/46 (93%)	0.23	5 (11%) 4 3	43, 51, 120, 241	0
All	All	3544/3614 (98%)	-0.14	120 (3%) 45 39	22, 39, 96, 241	0

All (120) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
7	T	1	ALA	11.7
13	M	43	SER	9.4
5	R	109	VAL	8.1
13	Z	42	LYS	8.0
10	J	1	PHE	8.0
7	G	3	ALA	7.7
13	Z	43	SER	7.6
7	G	1	ALA	7.5
10	J	58	LYS	7.3
7	T	40	GLY	6.8
8	H	48	GLY	6.7
7	T	2	SER	6.4
8	H	44	THR	5.7
7	G	42	ARG	5.7
10	W	1	PHE	5.6
8	U	47	GLY	5.6
6	F	97	ALA	5.5
6	S	94	HIS	5.2
7	G	2	SER	5.1
4	Q	8	SER	5.0
7	T	39	SER	5.0
2	O	90	ILE	4.9
8	U	45	ALA	4.8
5	R	5	HIS	4.7
7	T	42	ARG	4.7
13	Z	40	TYR	4.6
7	T	84	LYS	4.5
8	H	46	LYS	4.5
8	U	8	ILE	4.5
8	H	45	ALA	4.5
6	F	98	HIS	4.5
9	I	37	PHE	4.4
6	F	96	LEU	4.3
4	Q	147	LYS	4.3

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Mol	Chain	Res	Type	RSRZ
8	H	7	LYS	4.2
7	G	41	HIS	4.0
4	Q	7	LYS	4.0
7	T	8	HIS	4.0
11	X	6	ALA	3.9
8	U	7	LYS	3.9
7	T	36	TRP	3.8
8	U	46	LYS	3.8
11	X	13	TYR	3.8
11	X	7	PRO	3.7
9	V	2	THR	3.7
9	V	37	PHE	3.6
6	F	95	GLN	3.6
7	G	4	ALA	3.5
7	G	40	GLY	3.5
7	G	9	GLY	3.5
8	U	48	GLY	3.5
7	T	41	HIS	3.5
7	G	84	LYS	3.4
13	Z	41	LYS	3.4
7	T	10	GLY	3.4
8	H	47	GLY	3.4
6	F	2	SER	3.3
7	G	7	ASP	3.3
6	S	2	SER	3.3
2	O	226	MET	3.2
7	T	3	ALA	3.1
4	Q	51	LEU	2.9
11	X	23	THR	2.8
11	X	16	ALA	2.8
4	Q	48	TRP	2.8
5	R	48	ILE	2.8
10	W	58	LYS	2.8
4	Q	53	ILE	2.8
11	X	9	PHE	2.8
10	J	57	HIS	2.7
9	V	25	PHE	2.7
10	J	2	GLU	2.7
7	G	8	HIS	2.7
10	W	2	GLU	2.7
2	O	227	LEU	2.7
11	X	27	ALA	2.6

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Mol	Chain	Res	Type	RSRZ
4	Q	134	PHE	2.6
3	P	91	VAL	2.6
8	U	44	THR	2.6
7	G	43	GLU	2.6
10	W	57	HIS	2.6
10	W	52	TRP	2.6
7	G	5	LYS	2.5
7	T	9	GLY	2.5
4	D	147	LYS	2.5
6	S	1	ALA	2.5
5	E	5	HIS	2.5
13	Z	39	ASN	2.5
7	G	10	GLY	2.4
11	X	46	GLY	2.4
4	Q	135	SER	2.4
11	X	17	VAL	2.4
4	Q	145	TRP	2.4
3	C	91	VAL	2.4
10	J	56	PRO	2.4
7	T	5	LYS	2.4
5	R	108	LYS	2.3
12	Y	47	LYS	2.3
2	O	113	TYR	2.3
3	P	182	TYR	2.3
4	D	4	SER	2.3
11	X	28	VAL	2.3
4	Q	102	TYR	2.3
4	Q	140	TYR	2.3
8	U	49	ASP	2.3
6	F	1	ALA	2.2
11	X	30	VAL	2.2
7	G	6	GLY	2.2
1	N	158	ILE	2.2
3	C	92	LEU	2.2
4	Q	138	TRP	2.1
5	E	19	PHE	2.1
8	U	52	VAL	2.1
11	X	26	VAL	2.1
11	X	48	VAL	2.1
10	J	48	TYR	2.0
11	X	19	ALA	2.0
1	A	197	LEU	2.0

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Mol	Chain	Res	Type	RSRZ
4	Q	124	LEU	2.0
11	X	34	THR	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
9	SAC	V	1	9/10	0.43	0.75	183,230,258,263	0
7	TPO	T	11	11/12	0.78	0.32	113,188,264,274	0
7	TPO	G	11	11/12	0.82	0.33	133,196,252,264	0
9	SAC	I	1	9/10	0.82	0.20	113,138,176,201	0
1	FME	A	1	10/11	0.97	0.10	41,54,85,120	0
1	FME	N	1	10/11	0.97	0.13	41,59,101,103	0
2	FME	O	1	10/11	0.98	0.12	34,43,53,70	0
2	FME	B	1	10/11	0.99	0.08	31,35,41,111	0

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
24	CHD	J	101	29/29	0.55	0.49	73,152,246,260	0
27	DMU	G	101	33/33	0.62	0.29	59,100,205,249	0
27	DMU	T	101	33/33	0.65	0.27	57,117,233,237	0
21	EDO	R	202	4/4	0.67	0.34	68,76,116,136	0
26	CDL	G	103	88/100	0.68	0.29	54,100,223,283	0
25	PEK	P	306	53/53	0.71	0.32	40,84,194,289	0
26	CDL	T	102	93/100	0.74	0.26	46,97,196,240	0
24	CHD	Y	102	28/29	0.75	0.33	69,133,187,220	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
25	PEK	G	102	50/53	0.76	0.28	45,87,241,290	0
21	EDO	V	102	4/4	0.76	0.28	71,87,100,102	0
23	PSC	B	303	50/52	0.76	0.30	44,106,211,318	0
21	EDO	L	101	4/4	0.77	0.17	49,52,61,84	0
24	CHD	C	315	29/29	0.77	0.23	47,113,216,236	0
27	DMU	P	314	33/33	0.77	0.34	58,119,191,241	0
25	PEK	C	308	46/53	0.77	0.30	49,88,237,256	0
27	DMU	C	313	33/33	0.78	0.26	54,104,173,187	0
27	DMU	P	313	33/33	0.78	0.31	49,111,196,214	0
24	CHD	P	309	29/29	0.79	0.35	67,120,177,198	0
21	EDO	A	616	4/4	0.79	0.16	52,53,57,101	0
21	EDO	A	610	4/4	0.80	0.19	40,60,63,93	0
19	PGV	P	302	47/51	0.80	0.31	43,83,176,216	0
21	EDO	A	619	4/4	0.81	0.22	61,62,69,166	0
26	CDL	C	306	82/100	0.81	0.27	40,90,223,304	0
21	EDO	D	205	4/4	0.81	0.43	52,77,109,114	0
26	CDL	P	308	91/100	0.81	0.25	41,88,197,256	0
23	PSC	O	304	46/52	0.81	0.29	40,92,231,329	0
21	EDO	O	307	4/4	0.82	0.19	48,65,75,87	0
27	DMU	C	314	33/33	0.82	0.22	42,84,148,224	0
27	DMU	L	103	33/33	0.83	0.31	49,89,213,237	0
21	EDO	S	103	4/4	0.83	0.16	46,50,91,138	0
25	PEK	P	301	40/53	0.83	0.30	49,80,243,289	0
27	DMU	L	102	33/33	0.83	0.27	52,105,200,217	0
21	EDO	P	311	4/4	0.84	0.27	55,58,63,74	0
21	EDO	I	101	4/4	0.84	0.10	57,65,72,90	0
27	DMU	Z	102	33/33	0.84	0.23	46,66,102,181	0
20	TGL	A	609	59/63	0.85	0.20	37,62,180,255	0
20	TGL	N	607	63/63	0.85	0.18	52,77,148,175	0
21	EDO	C	312	4/4	0.85	0.47	45,70,88,158	0
19	PGV	Z	101	47/51	0.85	0.34	40,91,183,222	0
21	EDO	F	106	4/4	0.85	0.22	42,67,70,120	0
21	EDO	H	101	4/4	0.85	0.19	47,78,84,105	0
21	EDO	D	204	4/4	0.86	0.20	46,64,73,79	0
19	PGV	C	305	49/51	0.86	0.33	48,81,199,279	0
20	TGL	Y	101	59/63	0.86	0.23	45,71,181,274	0
27	DMU	M	101	33/33	0.86	0.15	34,53,80,98	0
24	CHD	P	315	29/29	0.87	0.21	54,105,213,227	0
24	CHD	C	307	29/29	0.87	0.43	59,124,188,226	0
21	EDO	N	614	4/4	0.87	0.15	63,65,69,78	0
21	EDO	O	305	4/4	0.87	0.13	52,70,74,80	0
21	EDO	C	311	4/4	0.87	0.21	50,57,70,84	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
27	DMU	Z	103	33/33	0.87	0.31	57,104,162,167	0
20	TGL	B	302	63/63	0.88	0.15	41,71,128,147	0
20	TGL	D	201	55/63	0.88	0.15	37,71,132,200	0
21	EDO	A	611	4/4	0.88	0.17	47,48,75,86	0
19	PGV	A	607	51/51	0.88	0.20	31,78,182,264	0
21	EDO	K	101	4/4	0.88	0.19	48,60,62,117	0
20	TGL	O	303	63/63	0.89	0.17	49,78,150,203	0
21	EDO	G	104	4/4	0.89	0.25	44,54,67,104	0
21	EDO	A	620	4/4	0.89	0.34	47,67,67,76	0
21	EDO	S	106	4/4	0.89	0.17	53,60,63,90	0
21	EDO	V	101	4/4	0.90	0.28	51,67,83,115	0
21	EDO	P	312	4/4	0.91	0.12	48,56,59,68	0
21	EDO	R	201	4/4	0.91	0.11	60,73,75,85	0
21	EDO	F	104	4/4	0.92	0.19	54,54,65,140	0
21	EDO	A	613	4/4	0.92	0.11	50,61,72,78	0
21	EDO	E	201	4/4	0.92	0.22	58,66,74,78	0
21	EDO	A	618	4/4	0.93	0.11	41,42,68,71	0
21	EDO	T	104	4/4	0.93	0.17	47,54,63,77	0
21	EDO	U	101	4/4	0.93	0.17	51,62,106,158	0
21	EDO	O	306	4/4	0.93	0.09	47,63,68,72	0
21	EDO	S	104	4/4	0.94	0.09	47,47,55,58	0
21	EDO	Q	202	4/4	0.94	0.11	49,60,63,68	0
21	EDO	A	621	4/4	0.94	0.16	30,57,83,118	0
21	EDO	D	202	4/4	0.95	0.14	49,59,98,118	0
21	EDO	A	622	4/4	0.95	0.20	46,64,67,125	0
21	EDO	H	102	4/4	0.95	0.13	29,64,86,98	0
21	EDO	B	306	4/4	0.95	0.10	44,49,50,81	0
24	CHD	P	304	29/29	0.95	0.11	28,36,42,47	0
21	EDO	C	309	4/4	0.95	0.07	37,43,45,46	0
17	NA	C	302	1/1	0.95	0.05	42,42,42,42	0
21	EDO	N	613	4/4	0.95	0.12	49,58,66,68	0
17	NA	N	605	1/1	0.95	0.13	41,41,41,41	0
21	EDO	D	203	4/4	0.96	0.18	43,50,54,82	0
19	PGV	C	304	47/51	0.96	0.10	27,38,66,94	0
21	EDO	A	617	4/4	0.96	0.09	44,48,55,110	0
21	EDO	A	614	4/4	0.96	0.09	34,35,43,58	0
21	EDO	S	107	4/4	0.96	0.16	42,54,82,89	0
21	EDO	E	202	4/4	0.96	0.21	46,46,47,55	0
21	EDO	P	310	4/4	0.96	0.14	35,40,51,54	0
25	PEK	C	303	53/53	0.96	0.12	32,49,123,160	0
21	EDO	E	204	4/4	0.96	0.10	56,56,71,75	0
21	EDO	A	615	4/4	0.96	0.07	36,49,50,62	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
21	EDO	N	609	4/4	0.96	0.09	35,38,46,58	0
25	PEK	P	305	52/53	0.96	0.12	32,52,124,204	0
21	EDO	N	610	4/4	0.96	0.11	38,56,57,101	0
24	CHD	C	301	29/29	0.96	0.14	27,32,39,40	0
24	CHD	O	301	29/29	0.97	0.09	24,34,46,48	0
19	PGV	A	608	51/51	0.97	0.11	24,37,69,99	0
21	EDO	F	103	4/4	0.97	0.17	40,42,55,61	0
21	EDO	C	310	4/4	0.97	0.15	38,47,50,59	0
21	EDO	F	105	4/4	0.97	0.13	38,45,48,57	0
19	PGV	N	608	51/51	0.97	0.13	26,41,69,88	0
21	EDO	Q	201	4/4	0.97	0.11	41,48,52,80	0
21	EDO	N	611	4/4	0.97	0.12	48,54,55,77	0
21	EDO	N	612	4/4	0.97	0.10	27,34,36,39	0
17	NA	P	303	1/1	0.97	0.10	38,38,38,38	0
19	PGV	P	307	46/51	0.97	0.09	27,40,63,76	0
21	EDO	E	203	4/4	0.97	0.10	41,46,49,50	0
21	EDO	S	105	4/4	0.97	0.14	48,54,66,74	0
16	MG	A	604	1/1	0.98	0.04	21,21,21,21	0
21	EDO	A	612	4/4	0.98	0.14	27,29,30,33	0
21	EDO	T	103	4/4	0.98	0.11	37,39,43,57	0
21	EDO	B	305	4/4	0.98	0.07	27,29,29,35	0
21	EDO	G	105	4/4	0.98	0.15	36,39,45,47	0
21	EDO	S	102	4/4	0.98	0.08	34,34,35,37	0
17	NA	A	605	1/1	0.98	0.04	32,32,32,32	0
14	HEA	N	601[A]	60/60	0.98	0.11	16,33,62,79	18
14	HEA	N	601[B]	60/60	0.98	0.11	27,33,47,59	18
24	CHD	B	304	29/29	0.98	0.06	25,32,43,49	0
18	CMO	A	606[A]	2/2	0.99	0.19	18,18,18,26	2
18	CMO	A	606[B]	2/2	0.99	0.19	10,10,10,16	2
18	CMO	N	606[A]	2/2	0.99	0.21	21,21,21,22	2
18	CMO	N	606[B]	2/2	0.99	0.21	15,15,15,29	2
14	HEA	A	602	60/60	0.99	0.10	17,24,33,40	0
21	EDO	F	102	4/4	0.99	0.05	29,29,31,39	0
16	MG	N	604	1/1	0.99	0.02	24,24,24,24	0
14	HEA	A	601[A]	60/60	0.99	0.10	14,23,53,77	18
14	HEA	A	601[B]	60/60	0.99	0.10	19,23,35,50	18
14	HEA	N	602	60/60	0.99	0.11	21,30,38,42	0
15	CU	N	603	1/1	0.99	0.10	28,28,28,28	0
28	ZN	S	101	1/1	0.99	0.08	40,40,40,40	0
22	CUA	B	301	2/2	1.00	0.09	25,25,25,26	0
22	CUA	O	302	2/2	1.00	0.05	32,32,32,32	0
28	ZN	F	101	1/1	1.00	0.05	32,32,32,32	0

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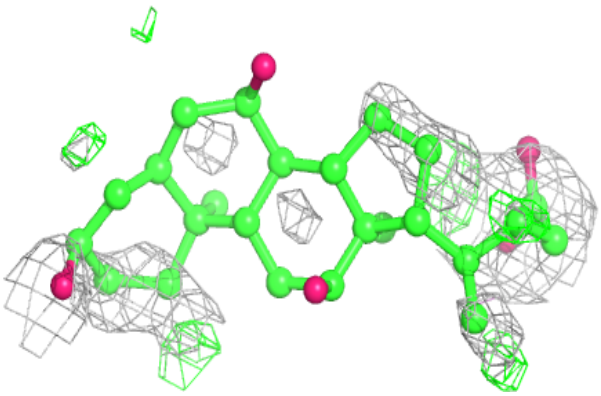
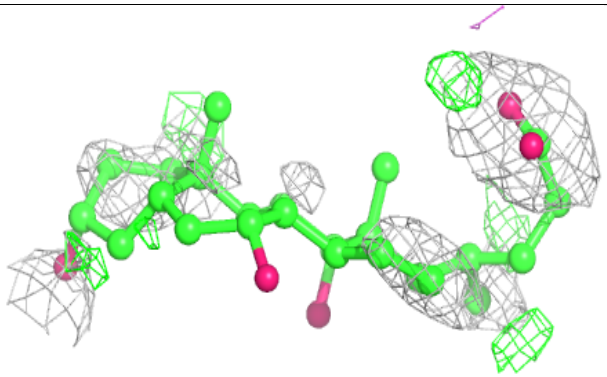
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
15	CU	A	603	1/1	1.00	0.13	25,25,25,25	0

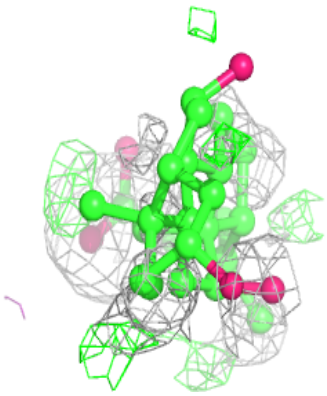
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around CHD J 101:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

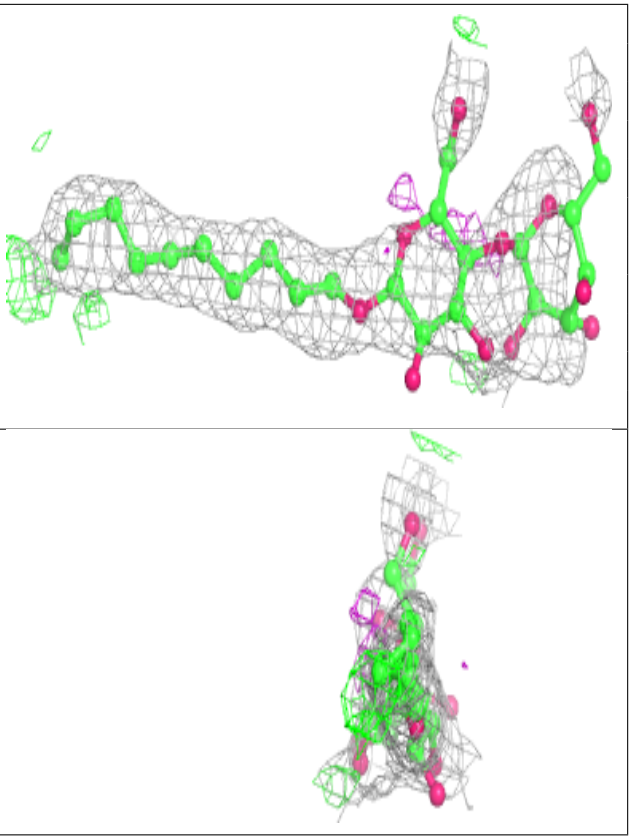






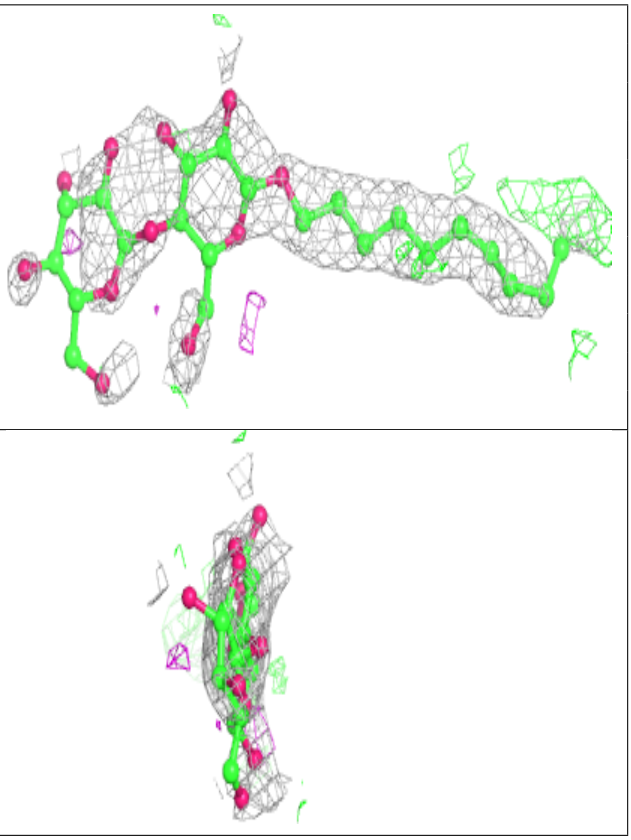
Electron density around DMU G 101:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



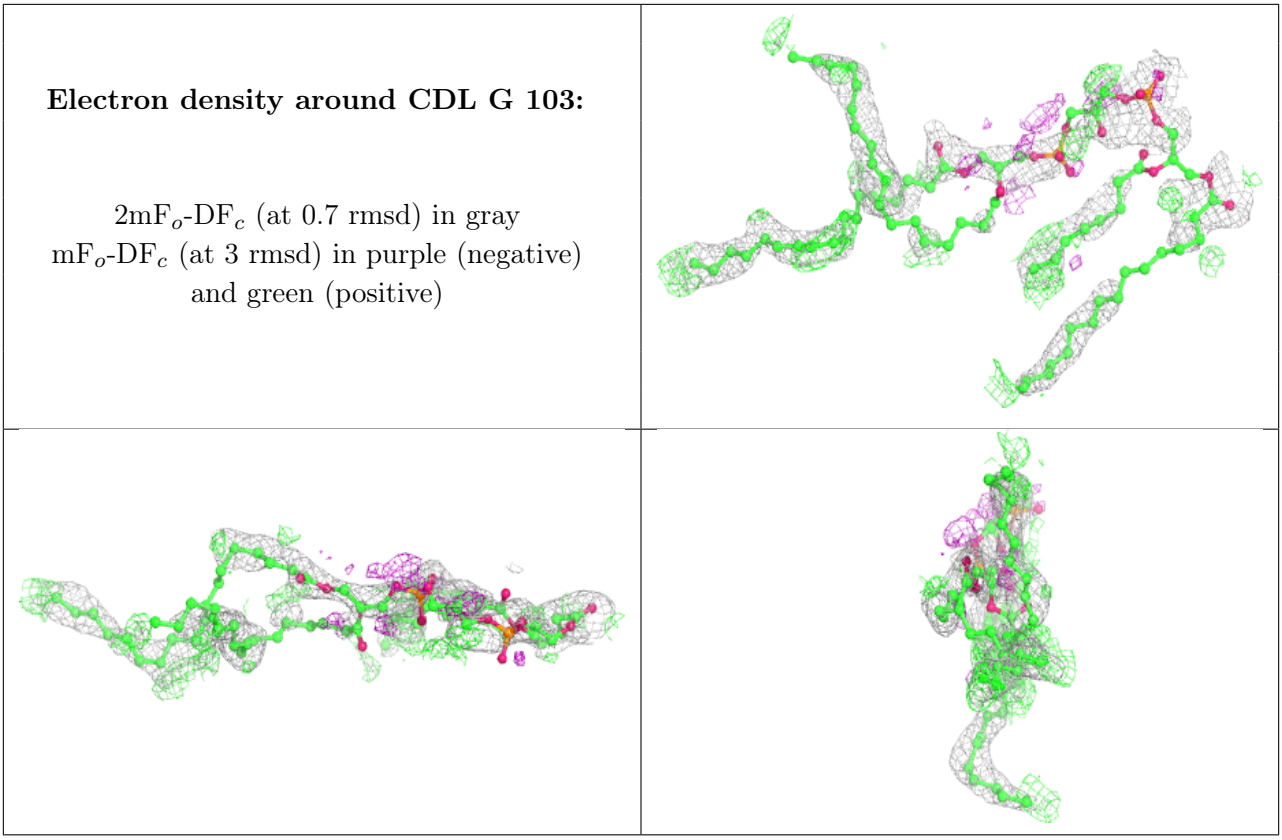
Electron density around DMU T 101:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



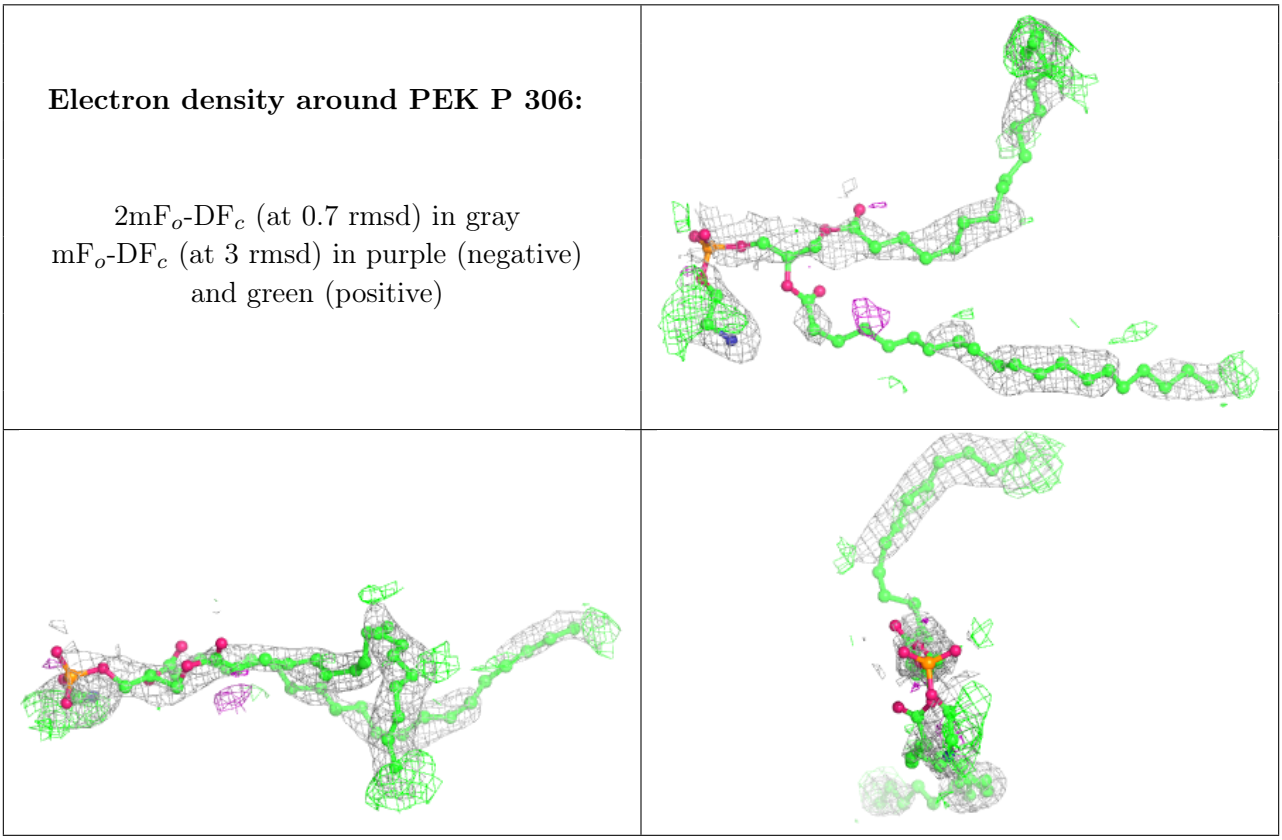
Electron density around CDL G 103:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



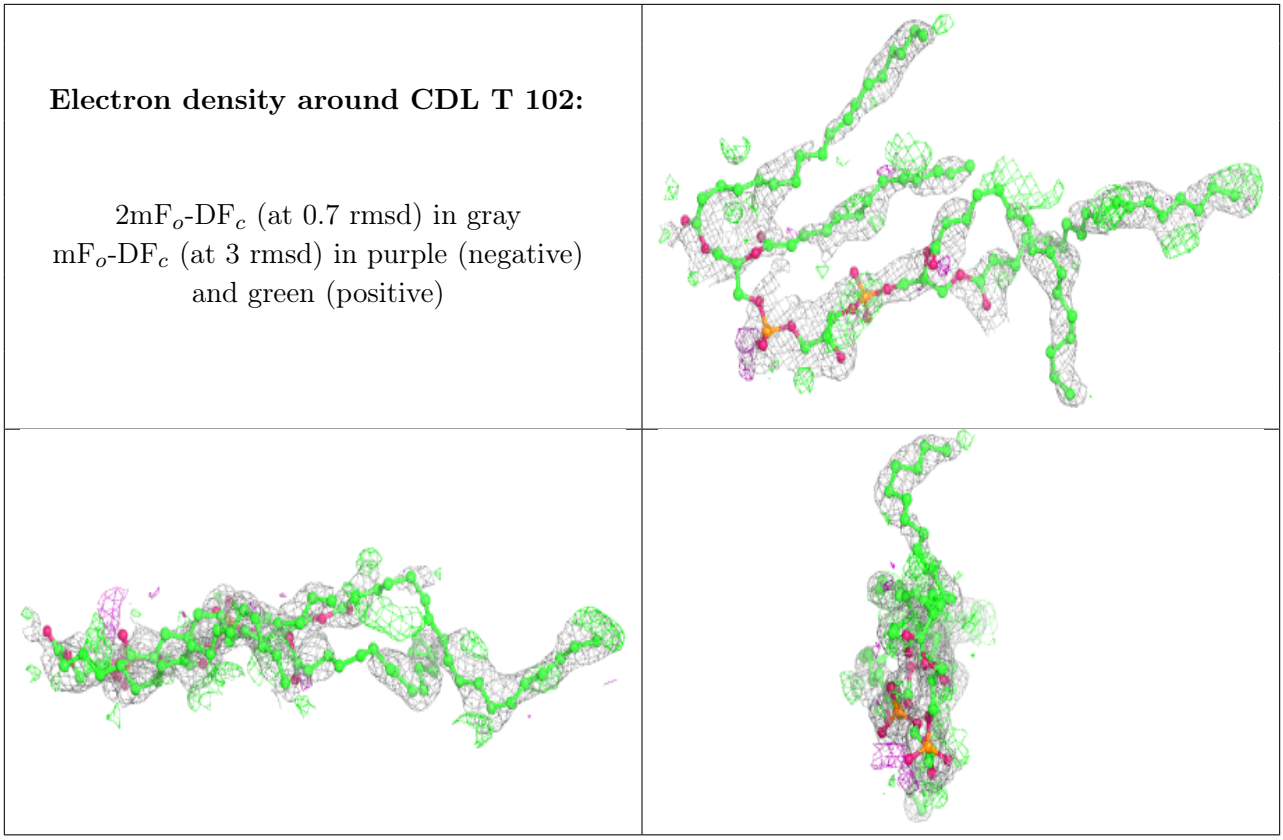
Electron density around PEK P 306:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



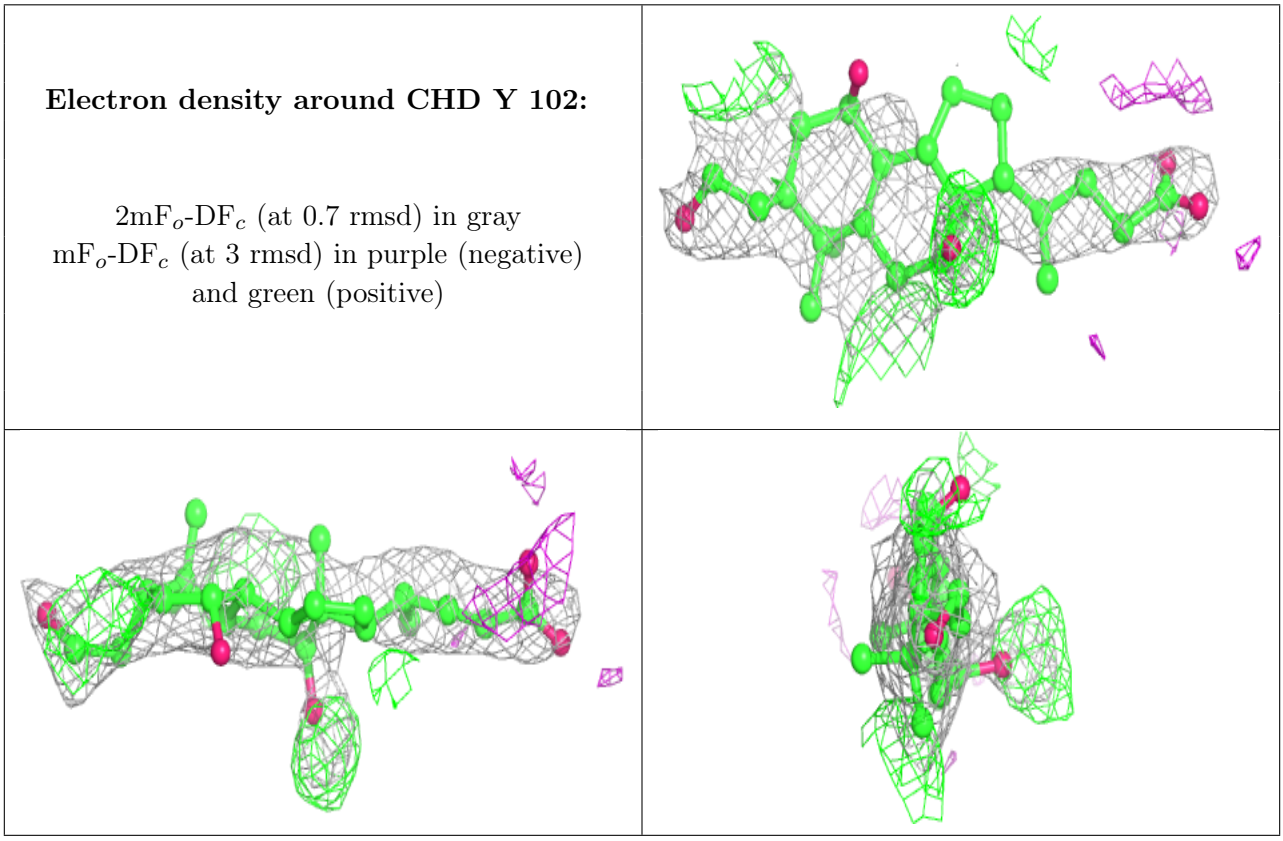
Electron density around CDL T 102:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



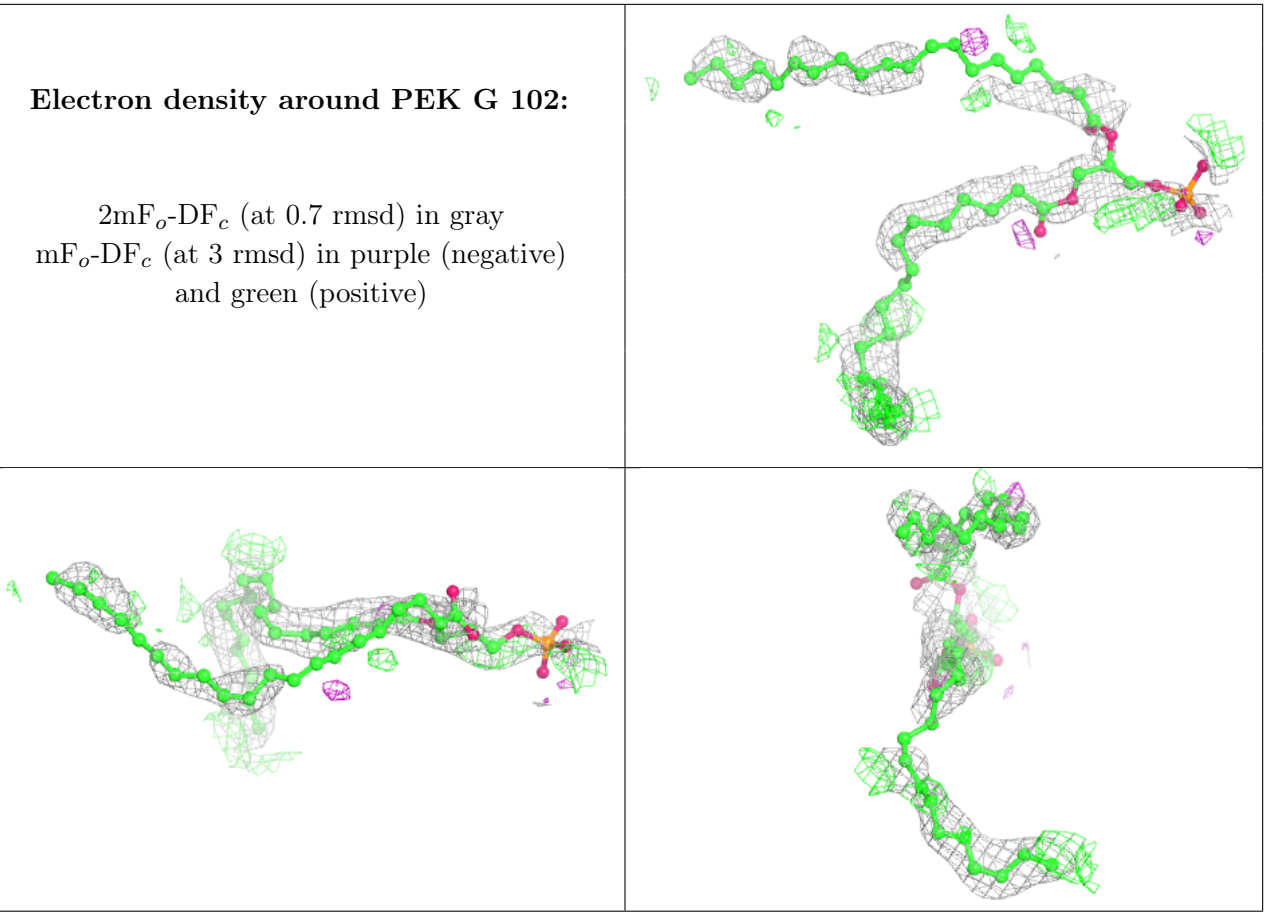
Electron density around CHD Y 102:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



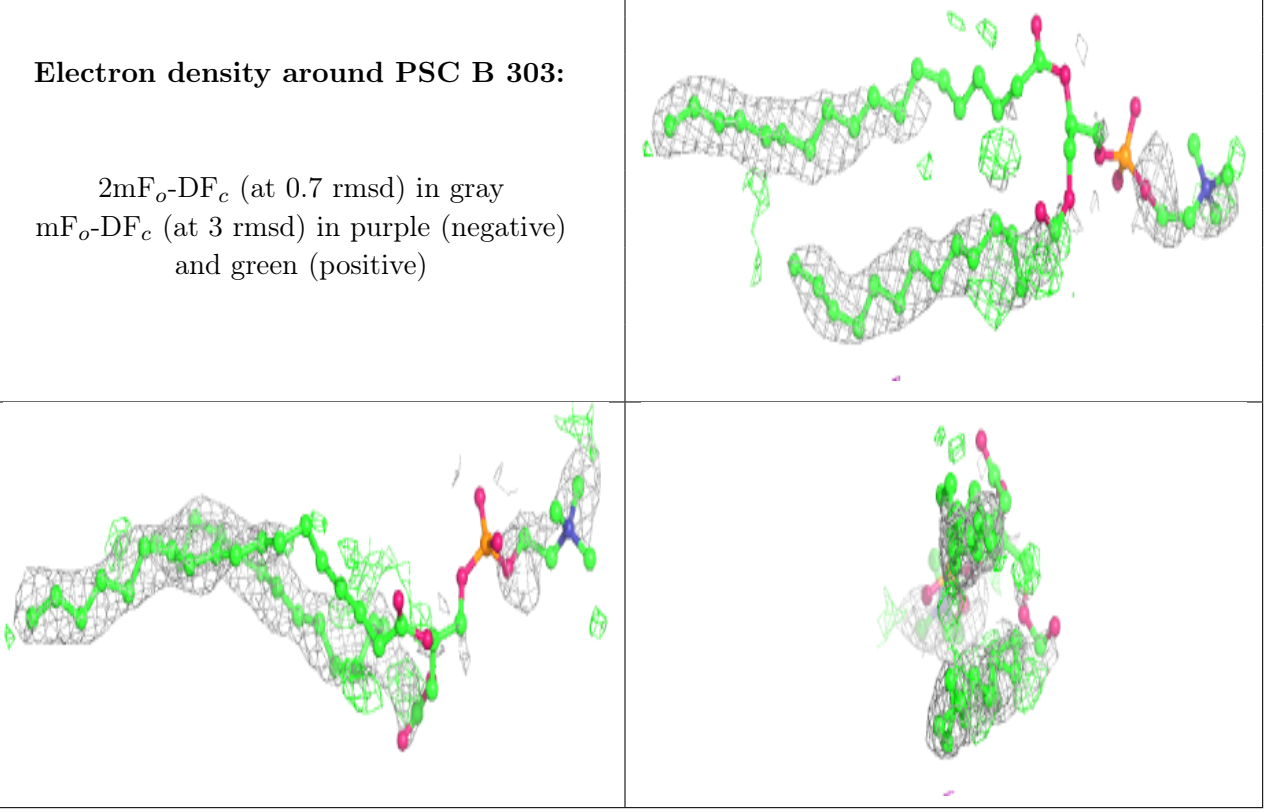
Electron density around PEK G 102:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



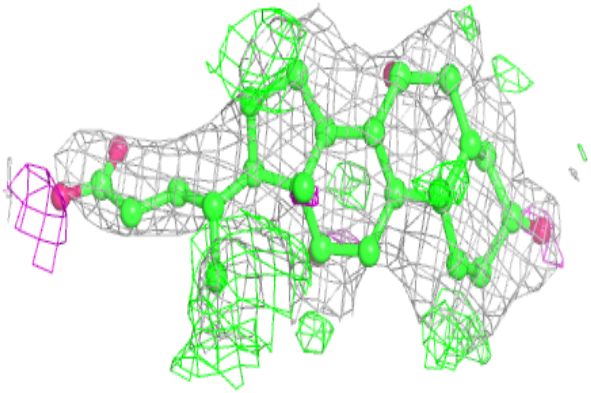
Electron density around PSC B 303:

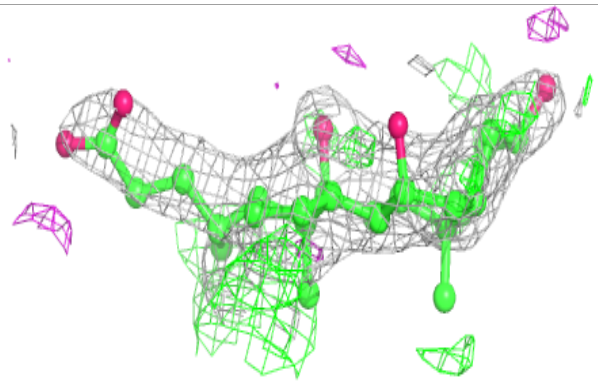
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

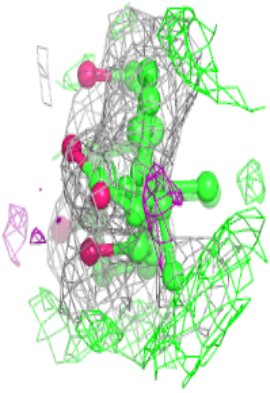


Electron density around CHD C 315:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

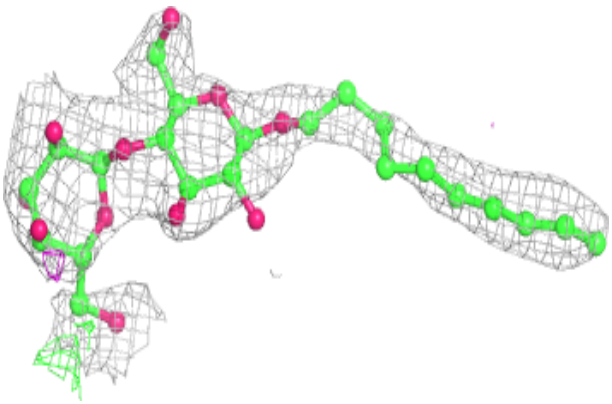


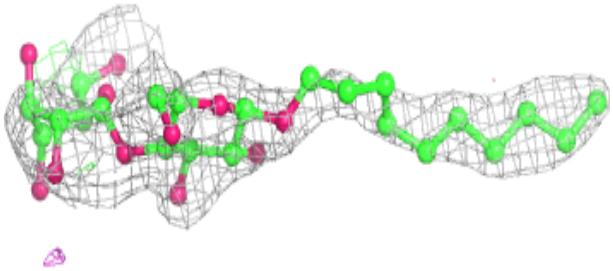


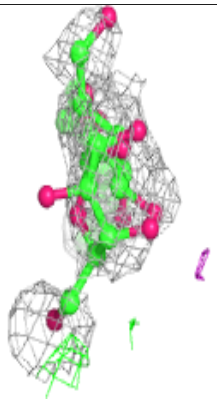


Electron density around DMU P 314:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

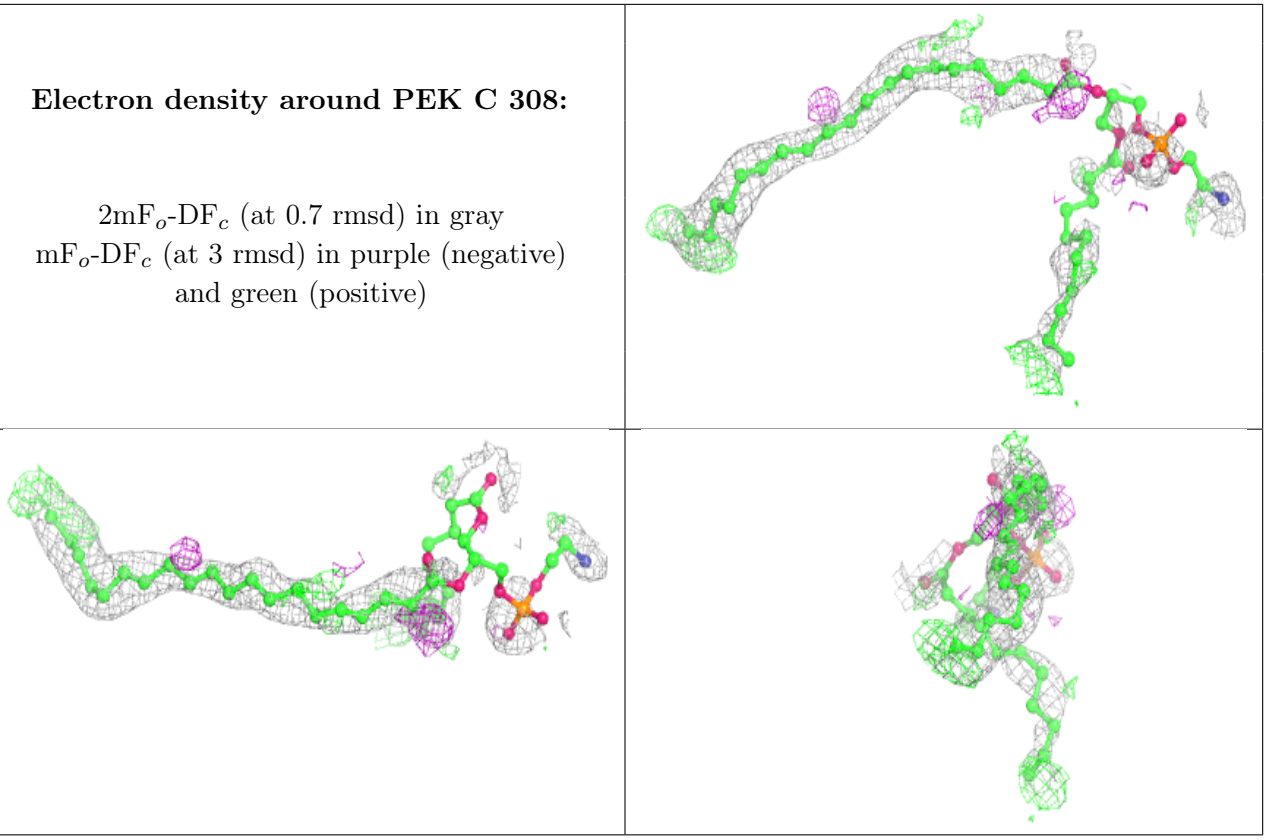






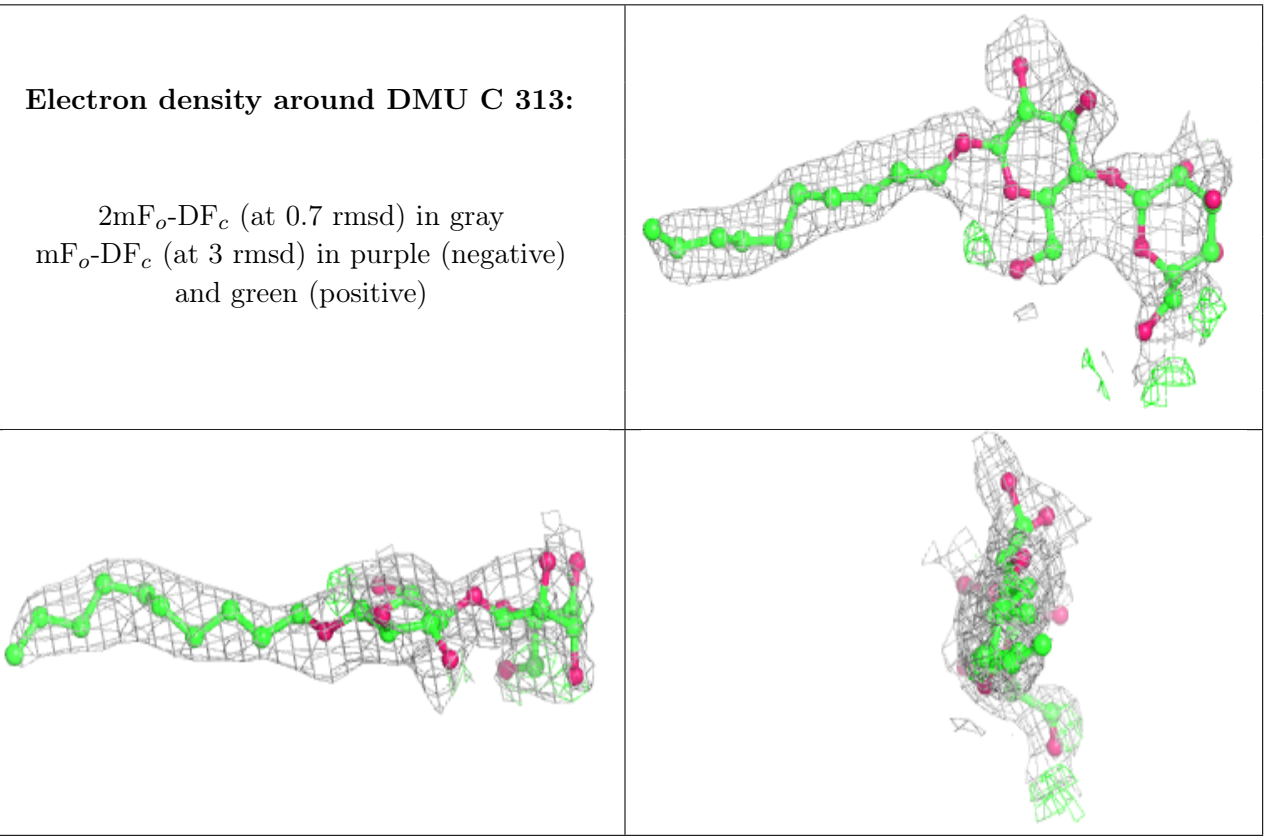
Electron density around PEK C 308:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



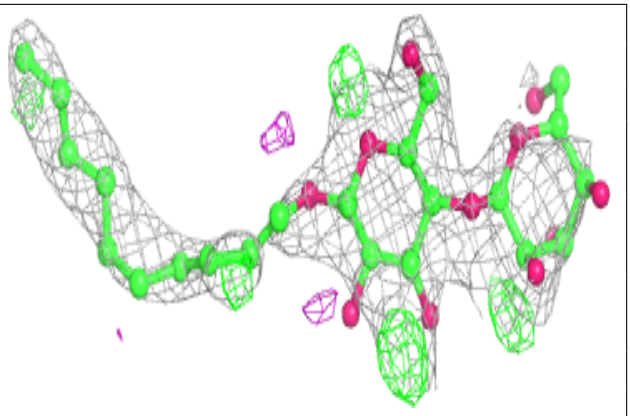
Electron density around DMU C 313:

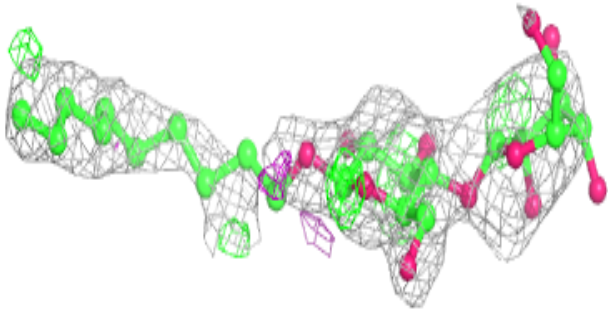
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

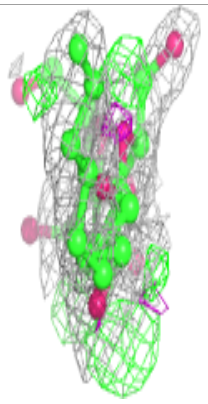


Electron density around DMU P 313:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

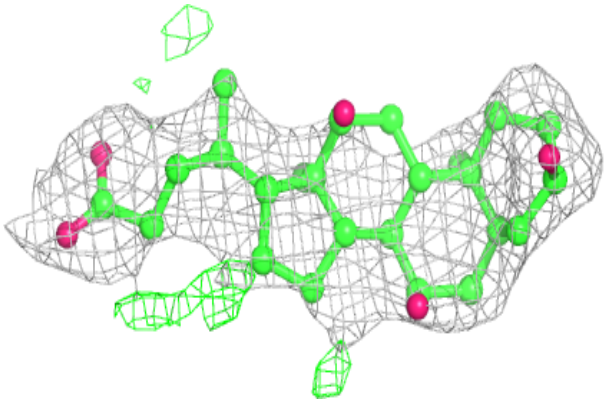


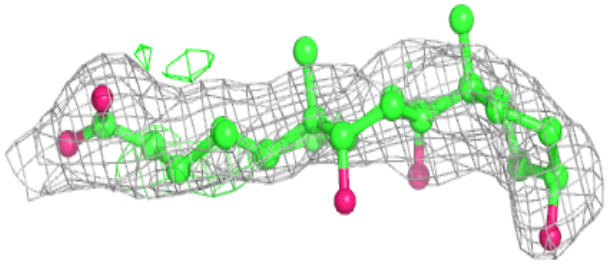


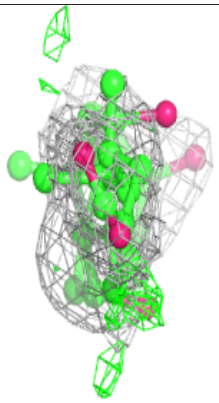


Electron density around CHD P 309:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

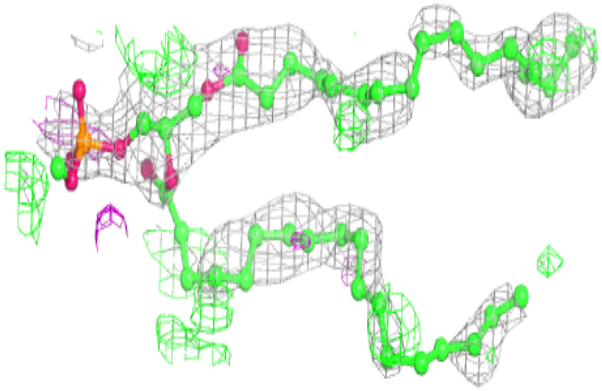


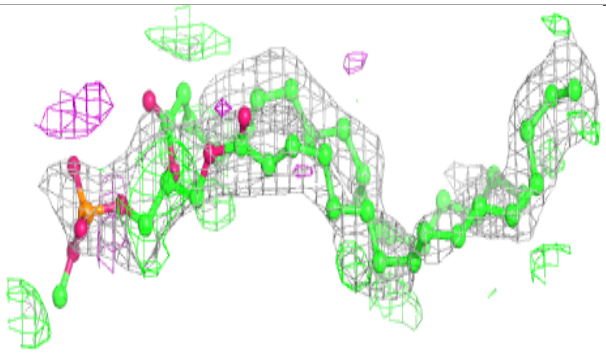




Electron density around PGV P 302:

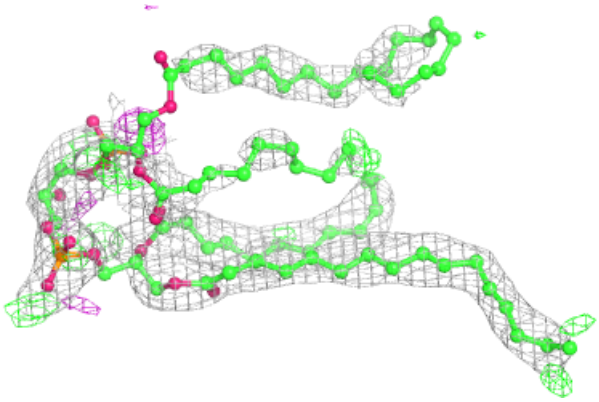
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

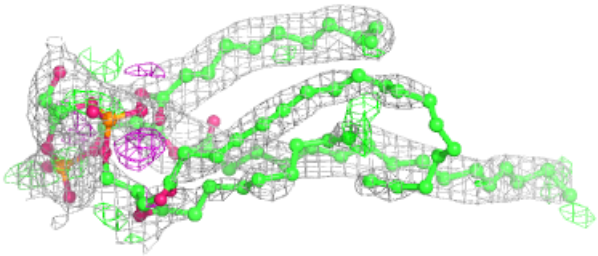


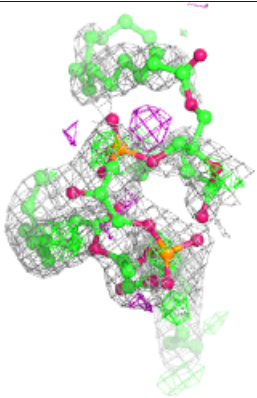


Electron density around CDL C 306:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

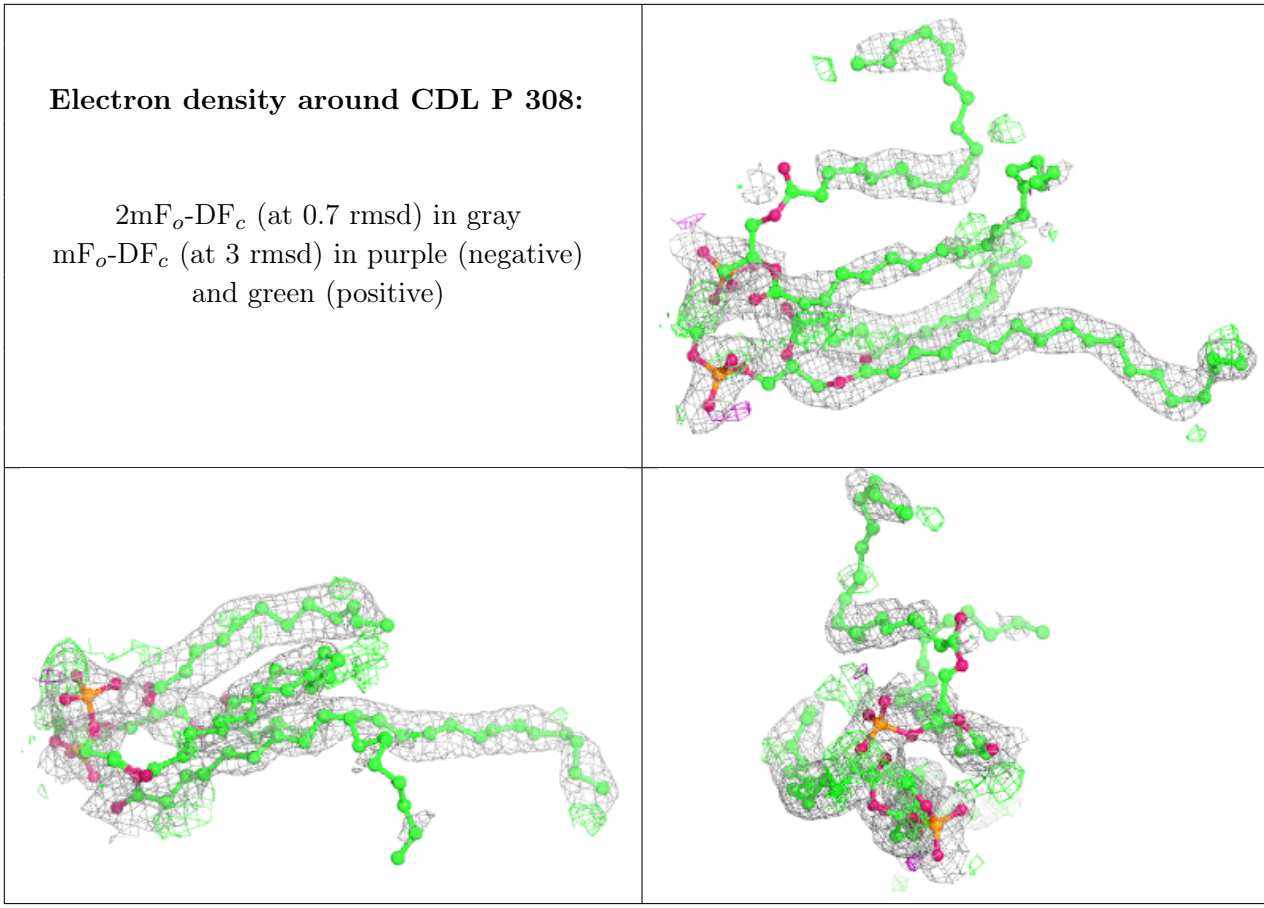






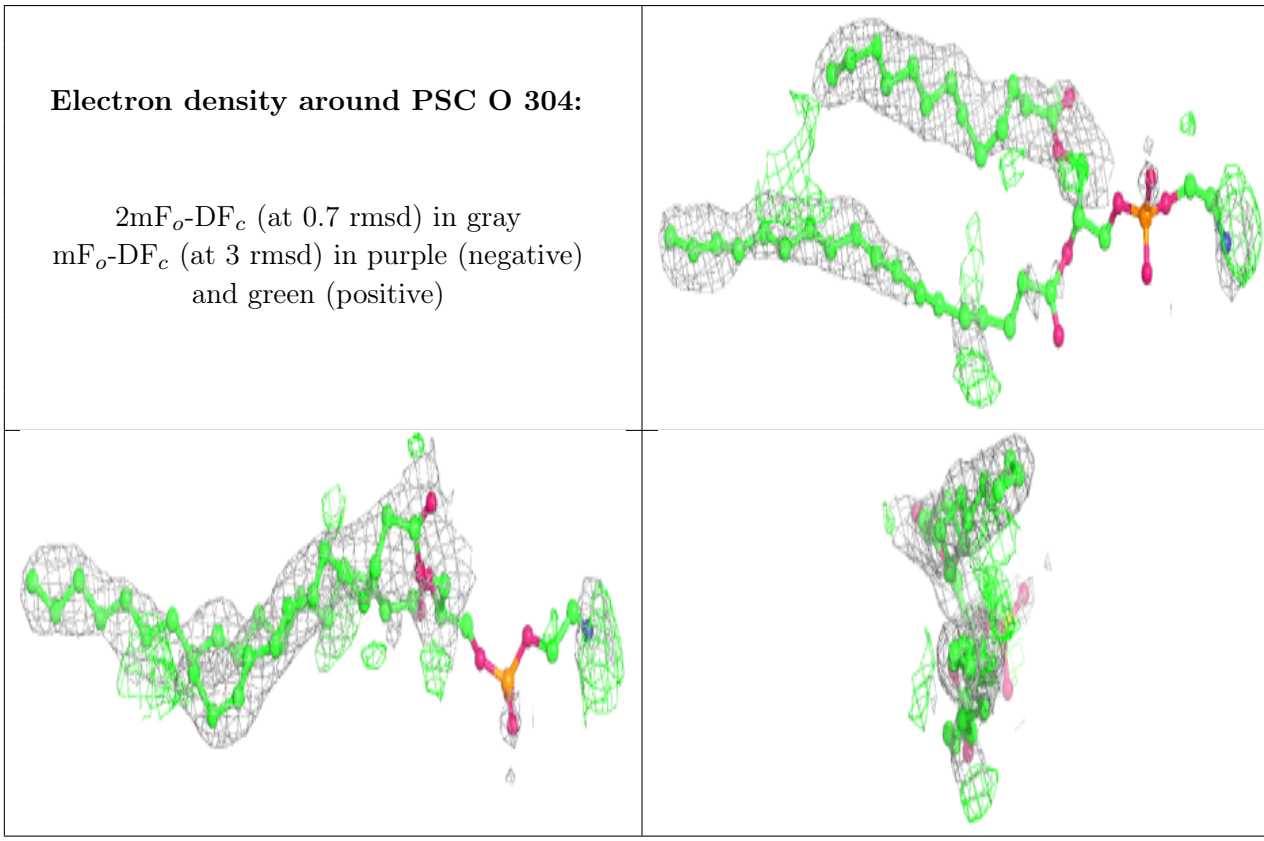
Electron density around CDL P 308:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



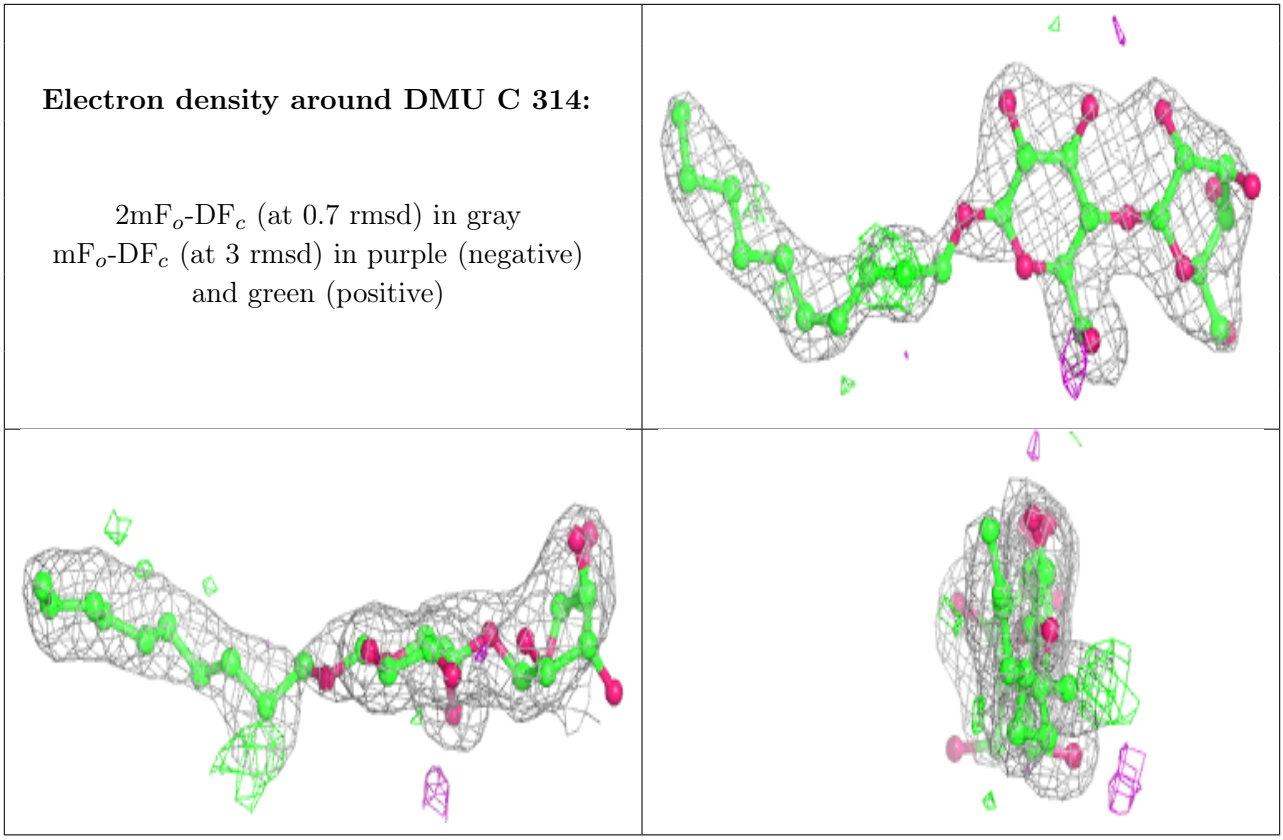
Electron density around PSC O 304:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



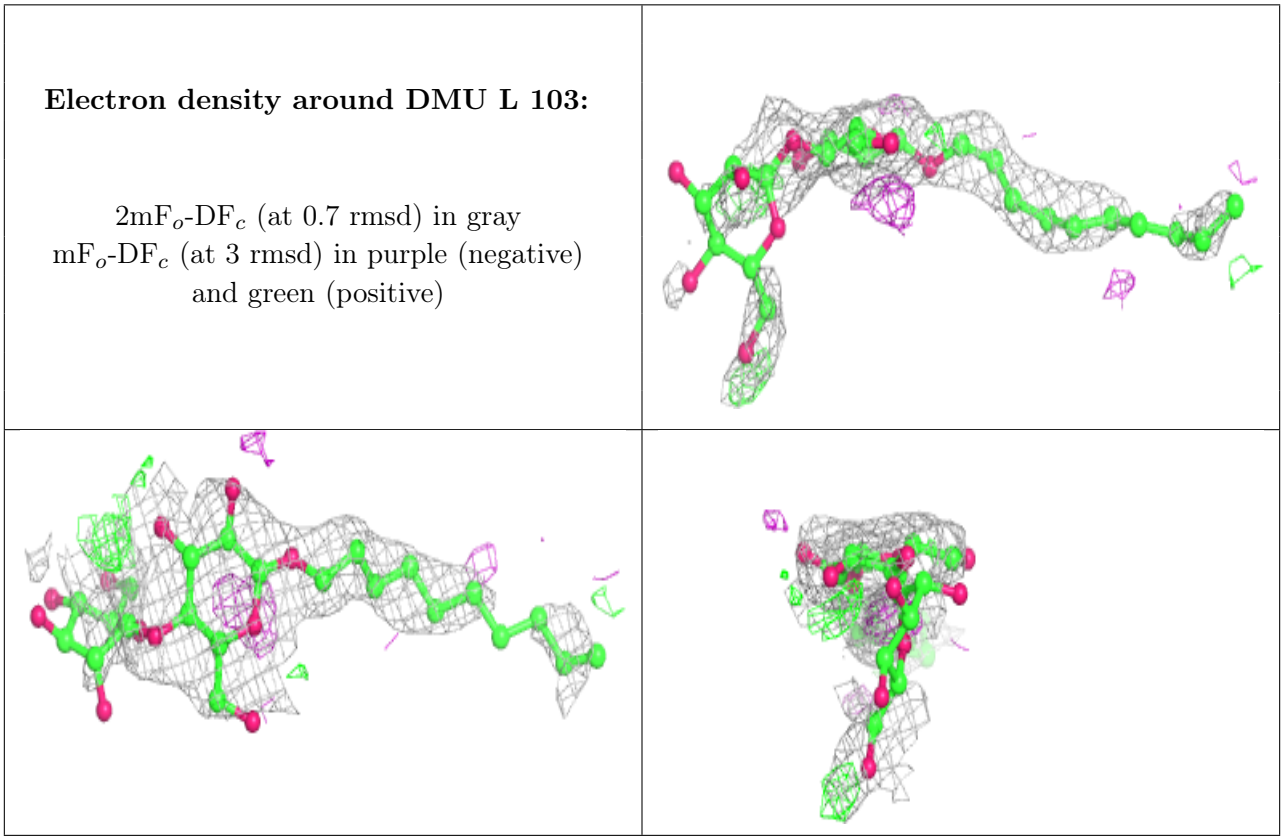
Electron density around DMU C 314:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



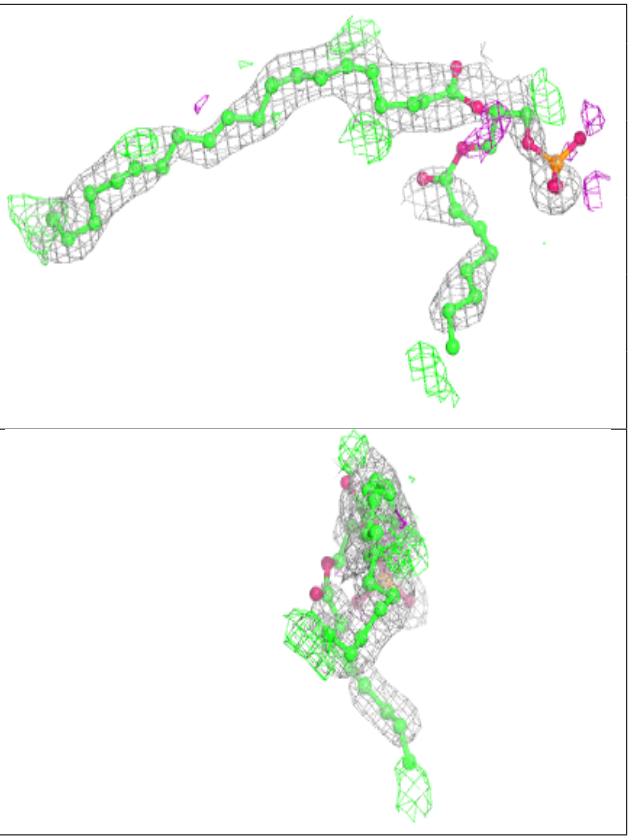
Electron density around DMU L 103:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



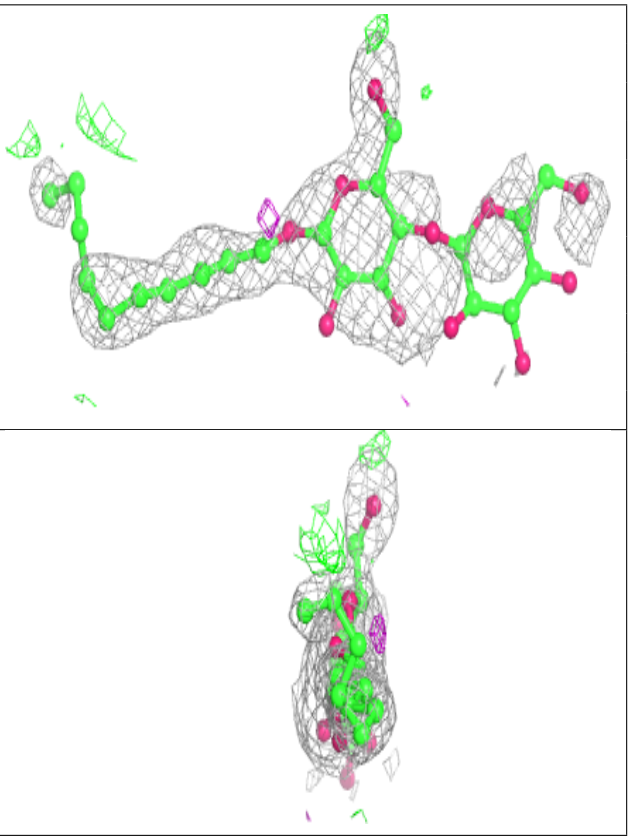
Electron density around PEK P 301:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



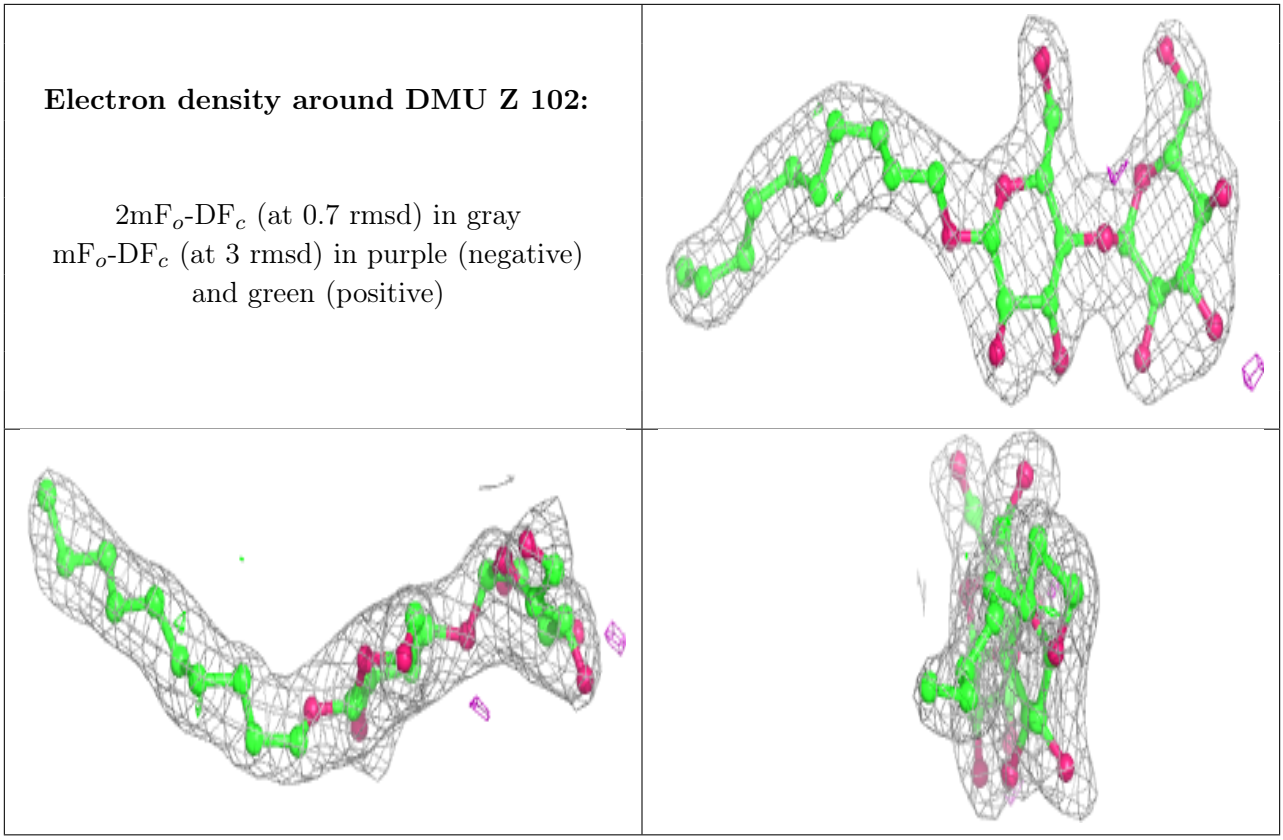
Electron density around DMU L 102:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



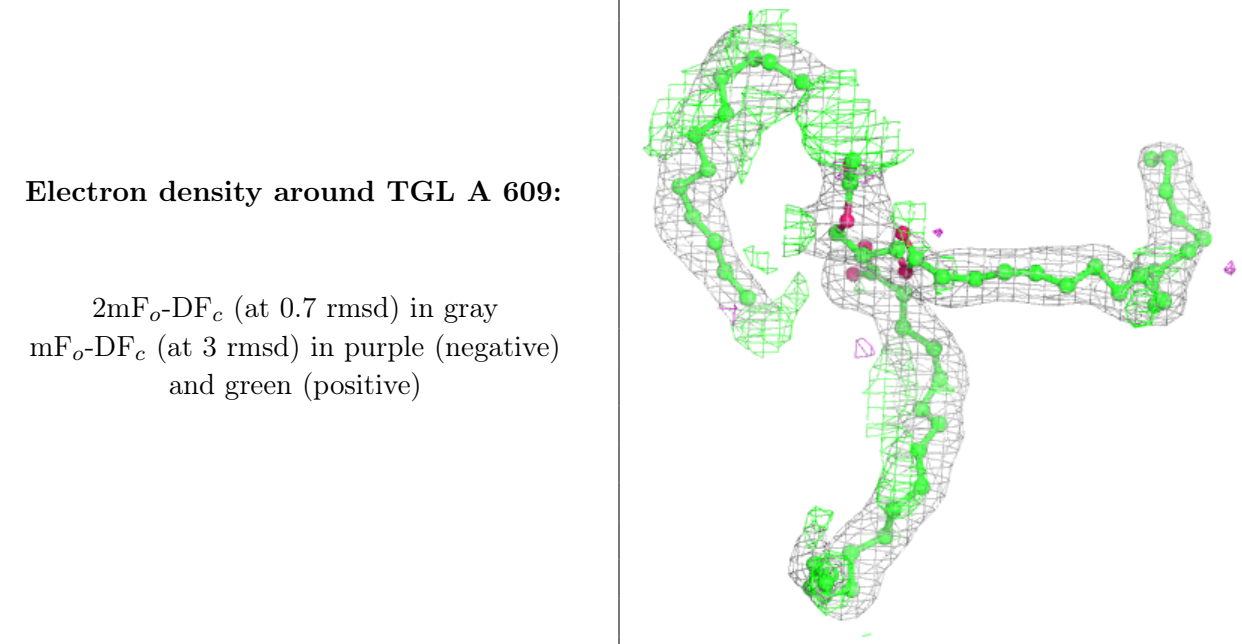
Electron density around DMU Z 102:

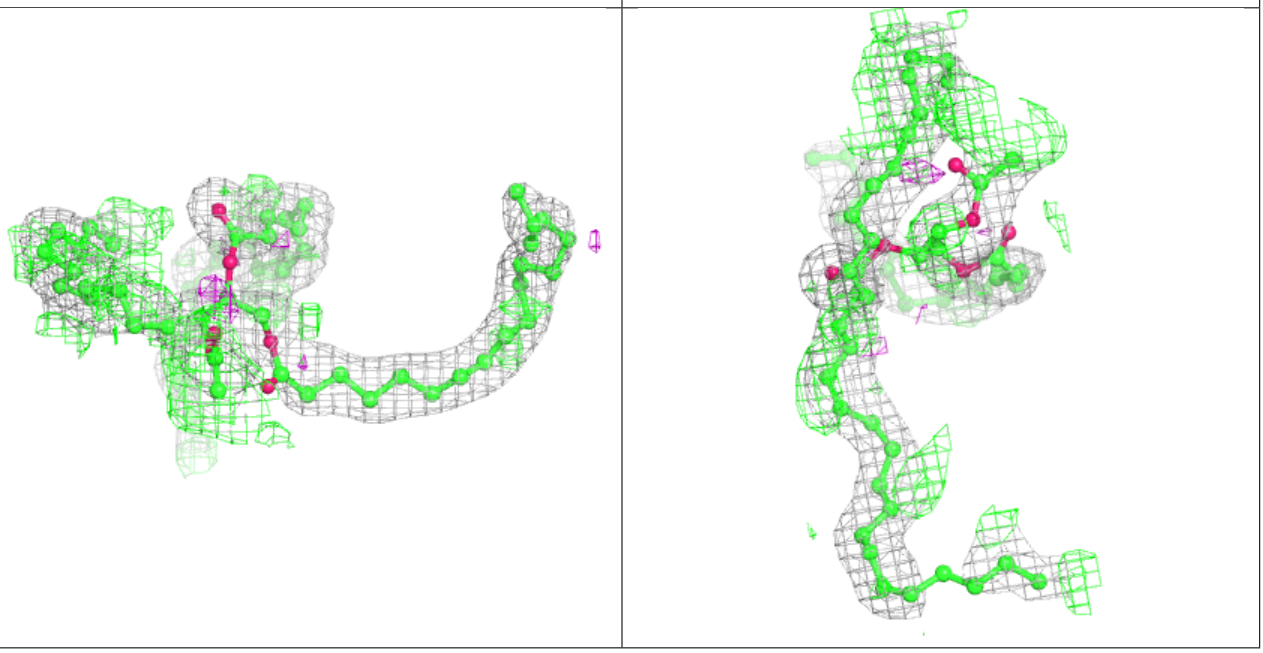
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



Electron density around TGL A 609:

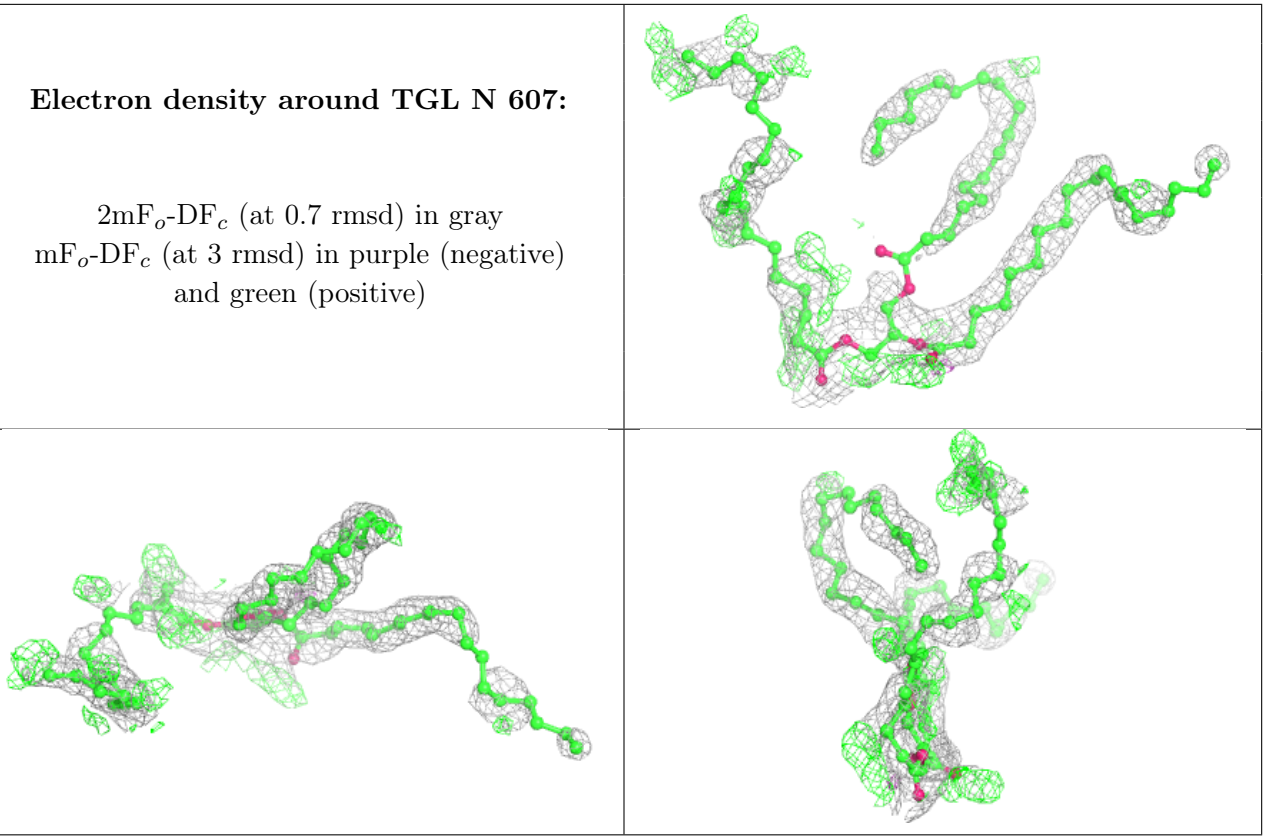
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)





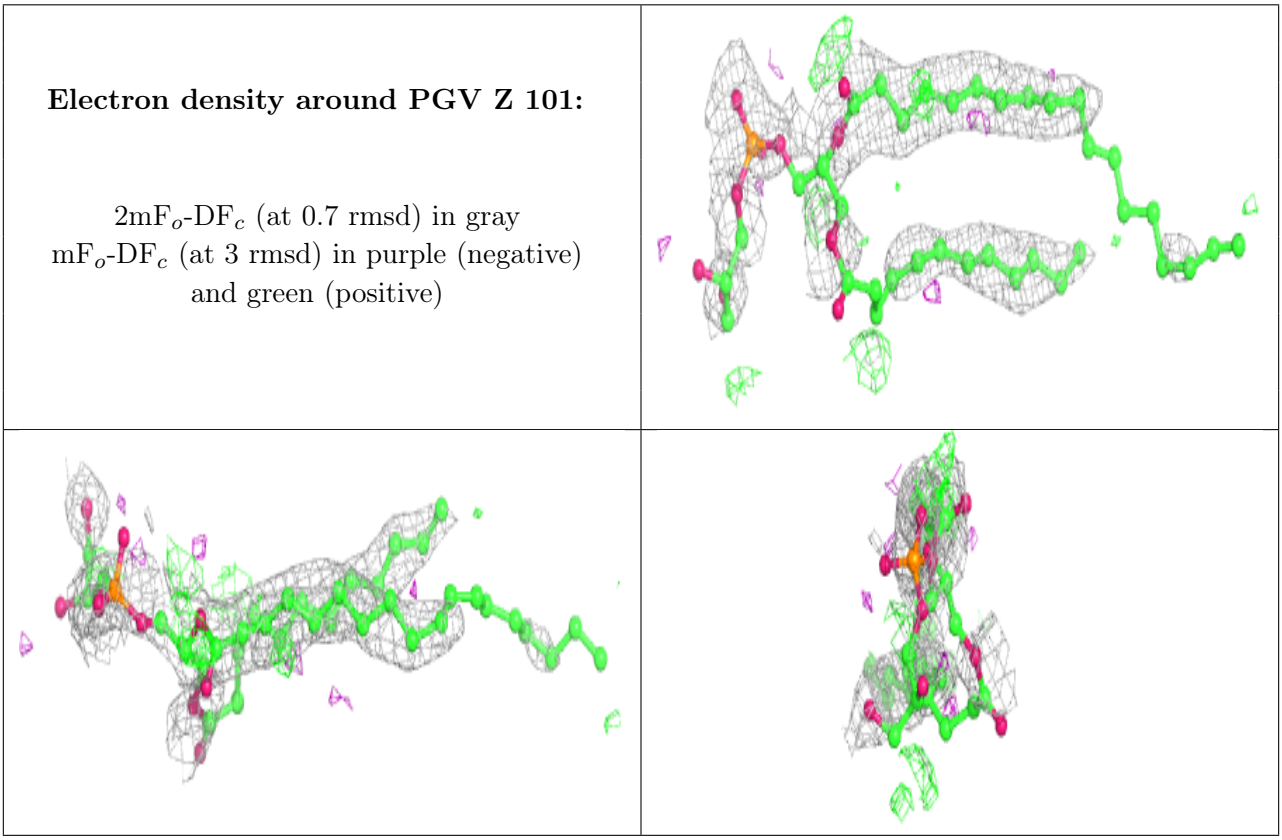
Electron density around TGL N 607:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



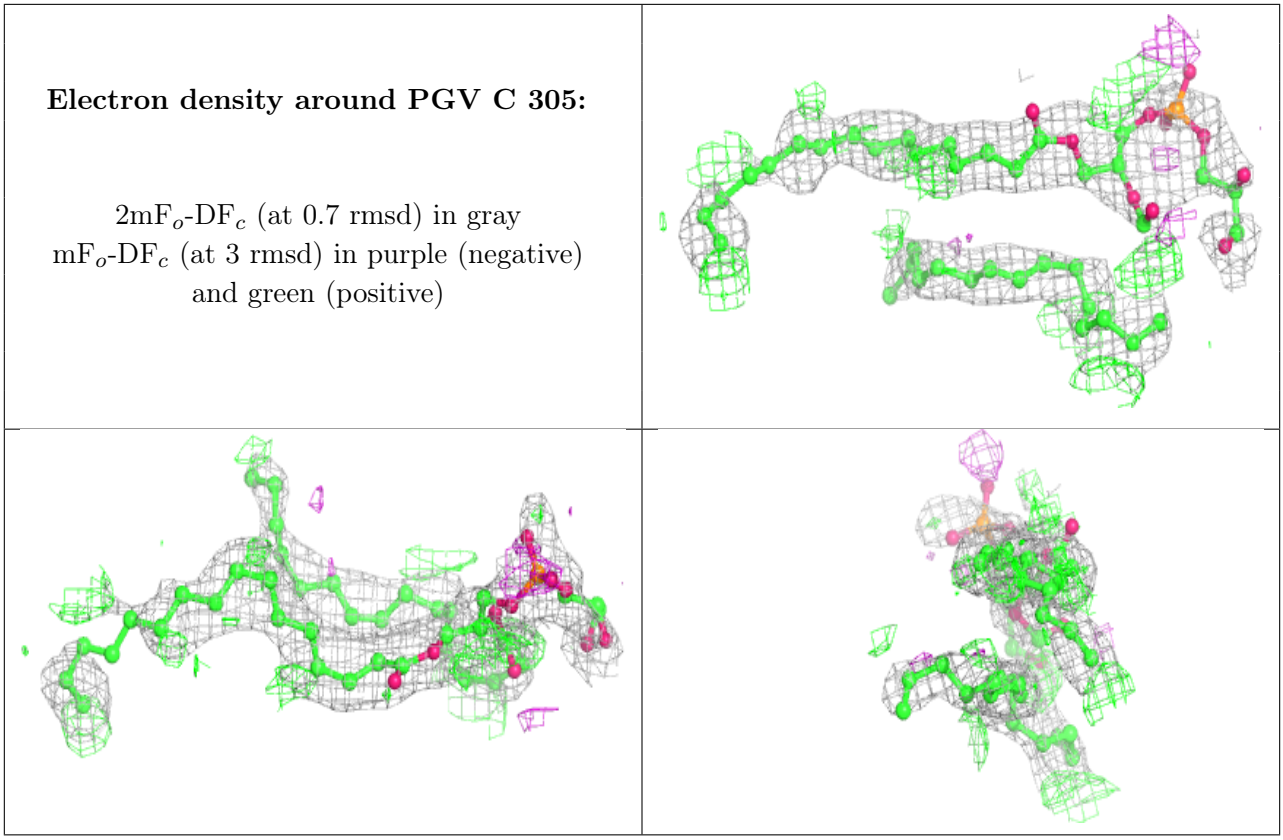
Electron density around PGV Z 101:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



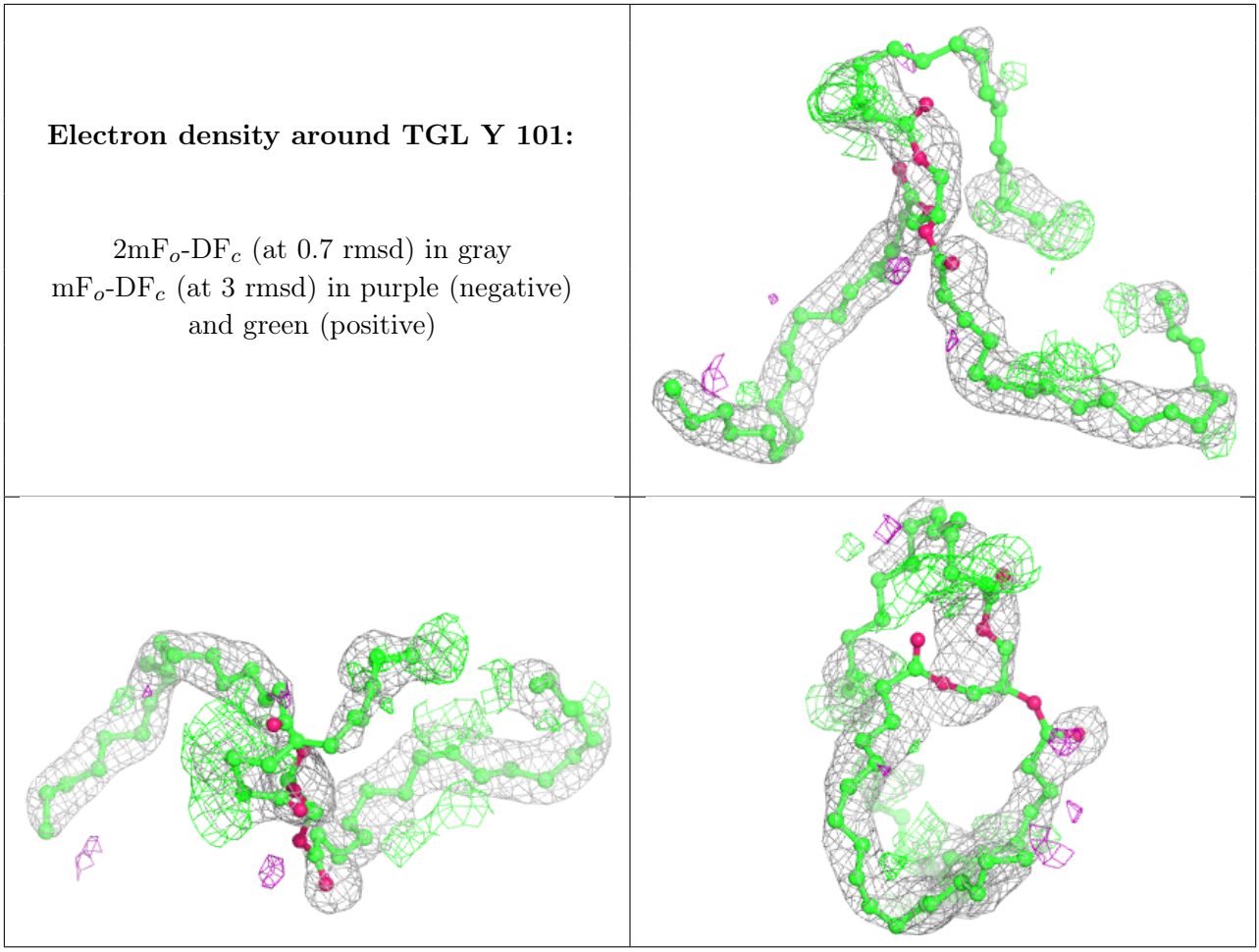
Electron density around PGV C 305:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



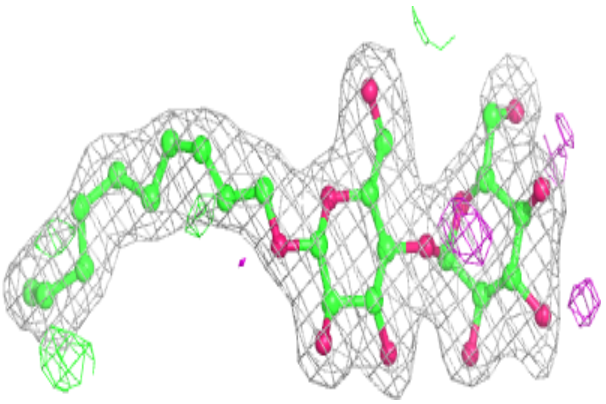
Electron density around TGL Y 101:

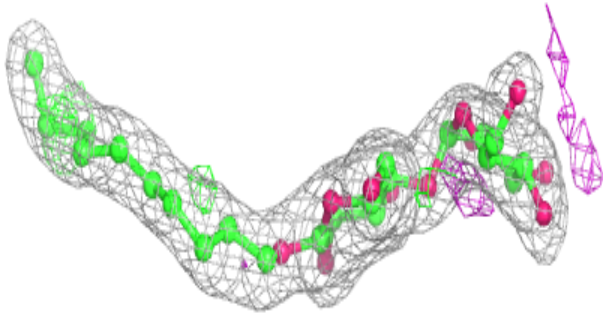
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

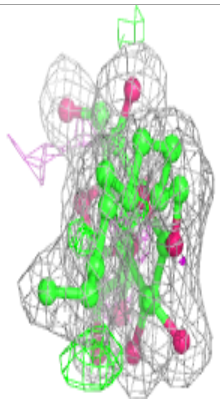


Electron density around DMU M 101:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

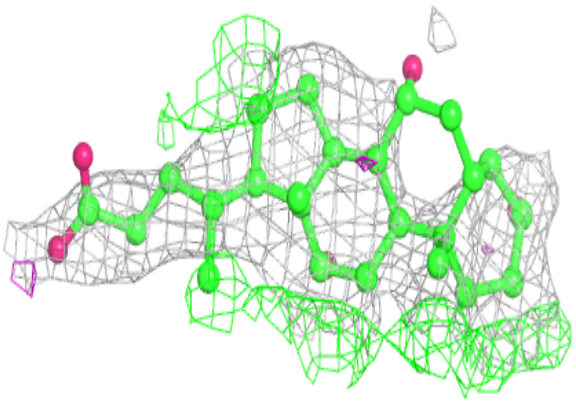


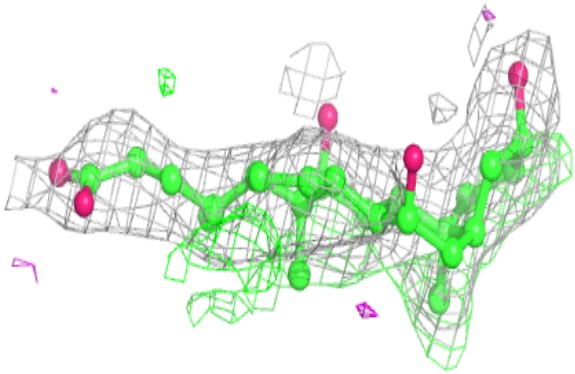


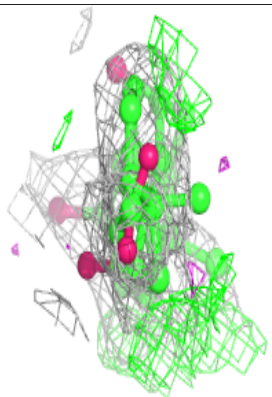


Electron density around CHD P 315:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

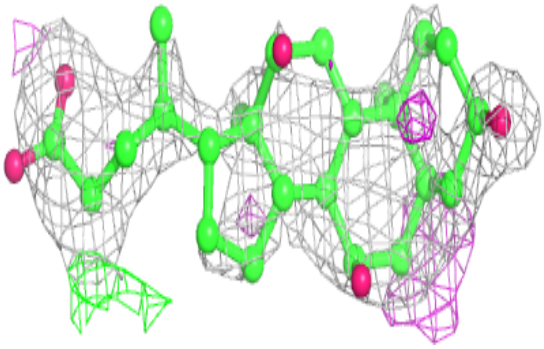


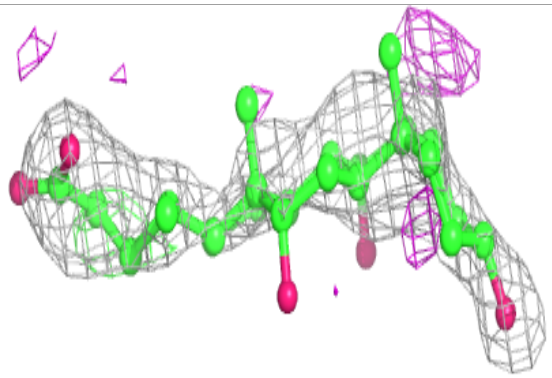


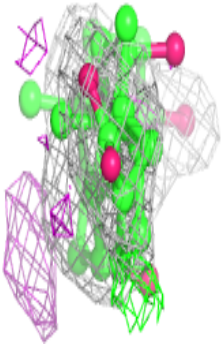


Electron density around CHD C 307:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

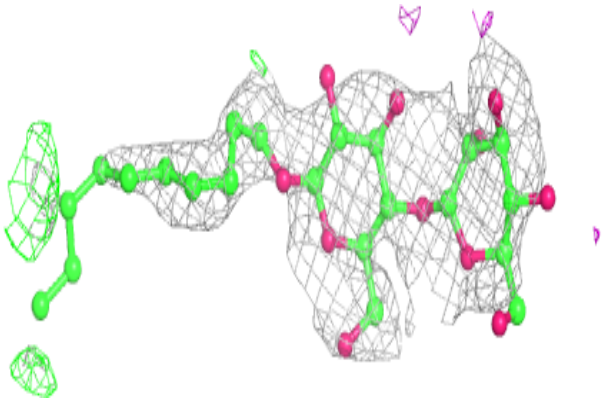


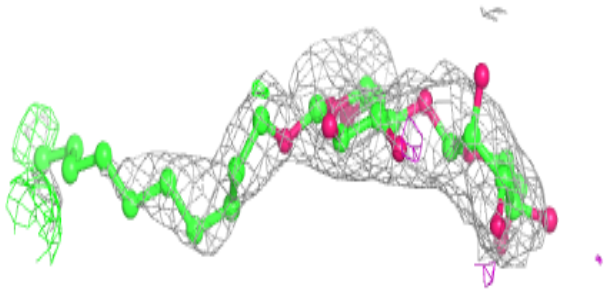


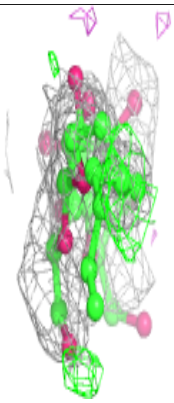


Electron density around DMU Z 103:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

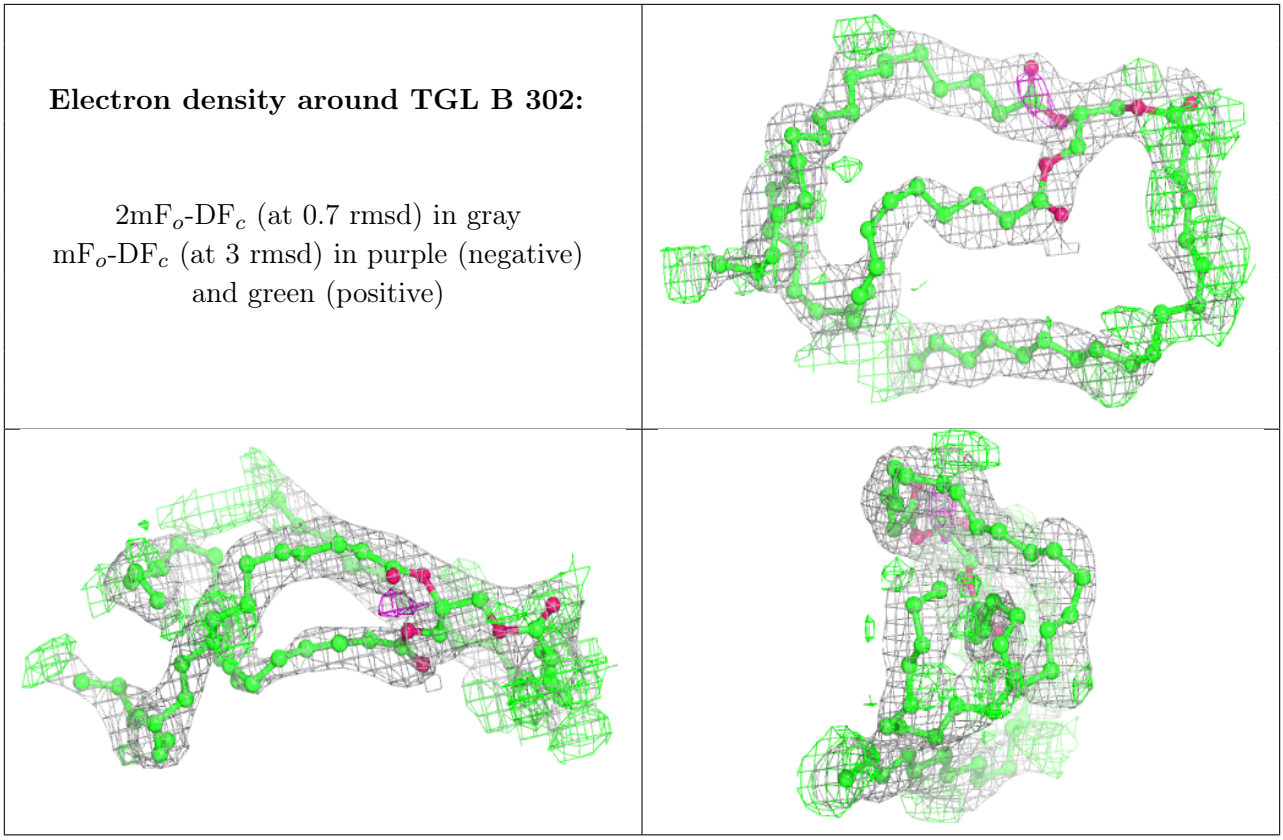






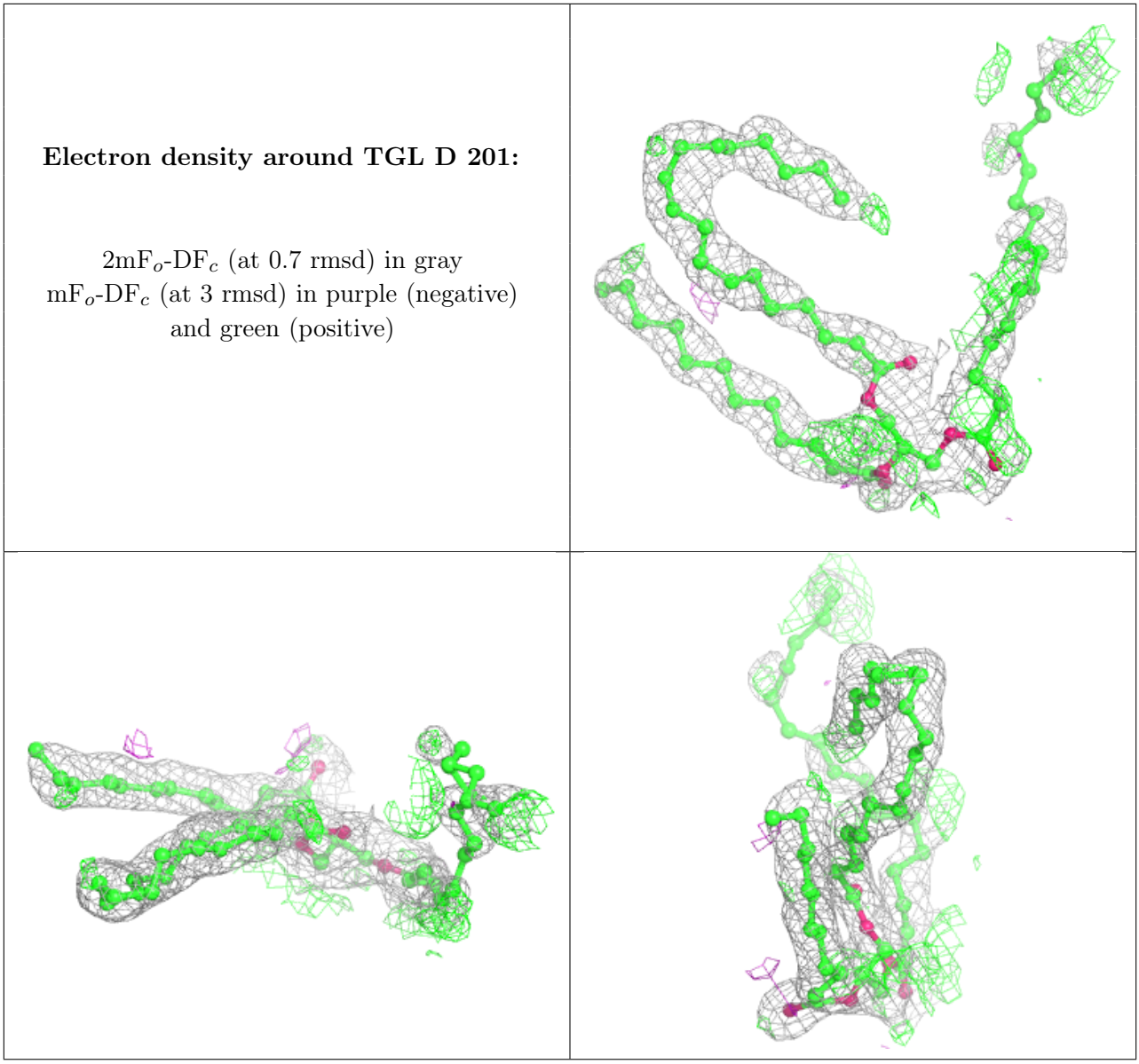
Electron density around TGL B 302:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



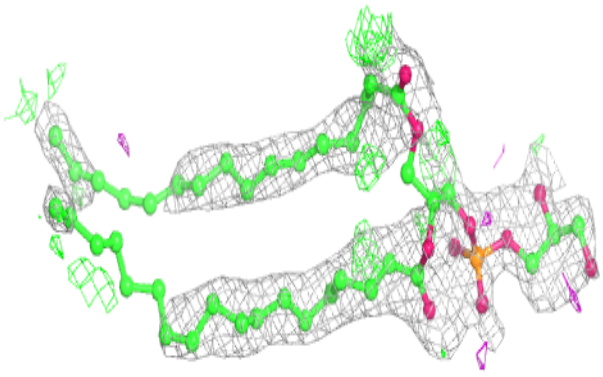
Electron density around TGL D 201:

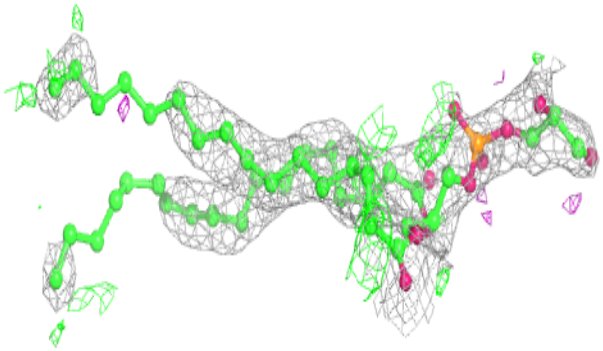
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

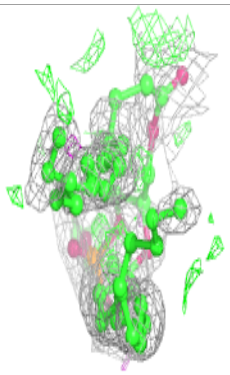


Electron density around PGV A 607:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

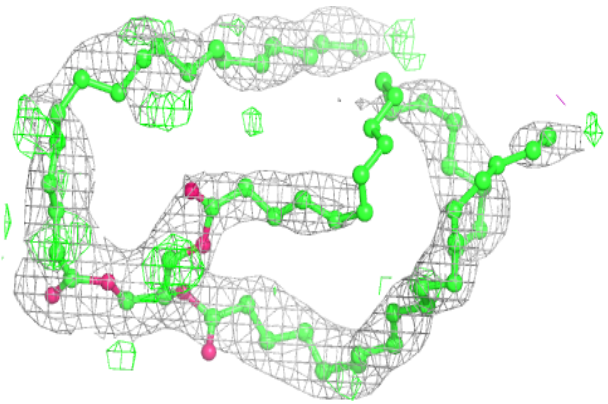


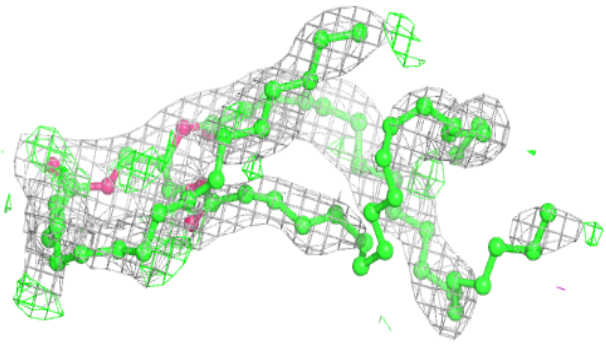


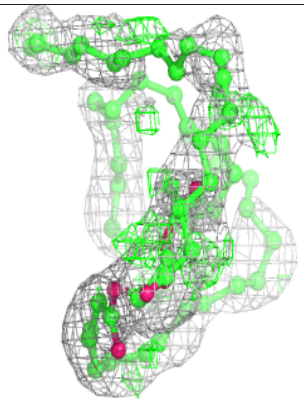


Electron density around TGL O 303:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

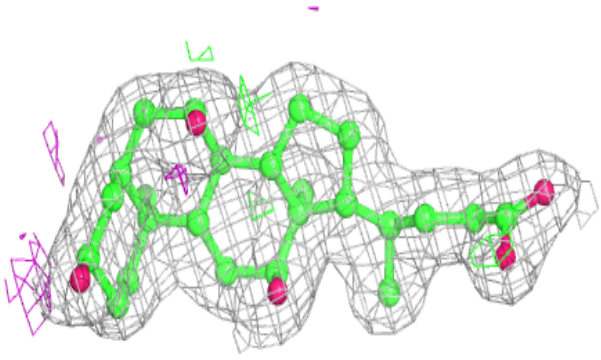


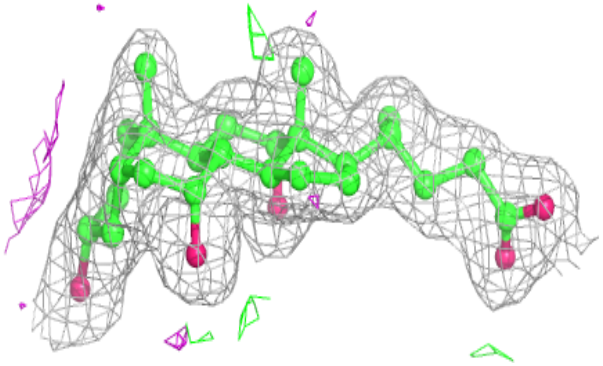


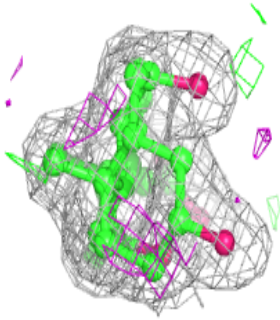


Electron density around CHD P 304:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

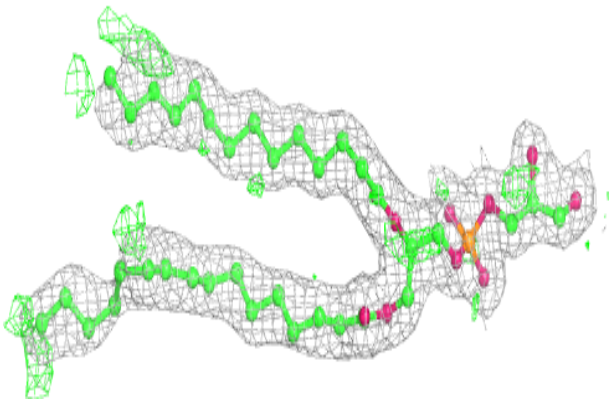


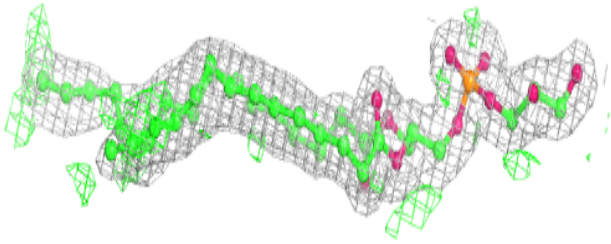


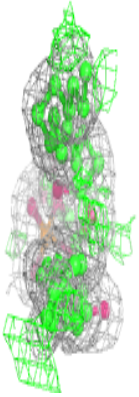


Electron density around PGV C 304:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

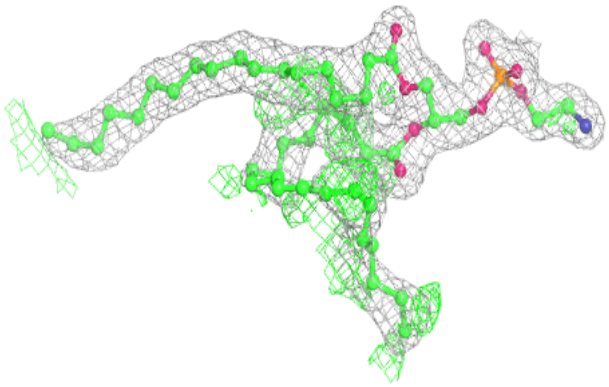


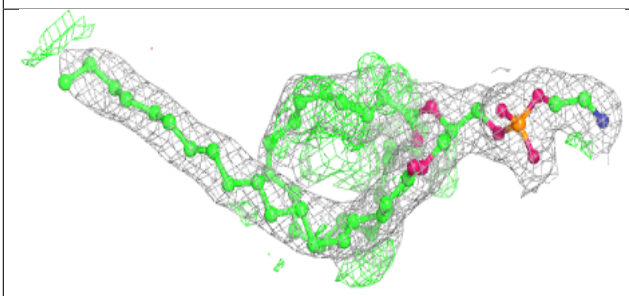


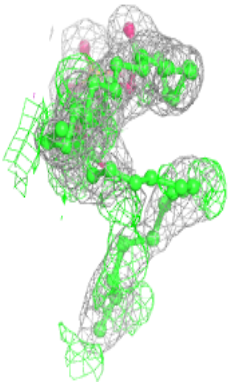


Electron density around PEK C 303:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

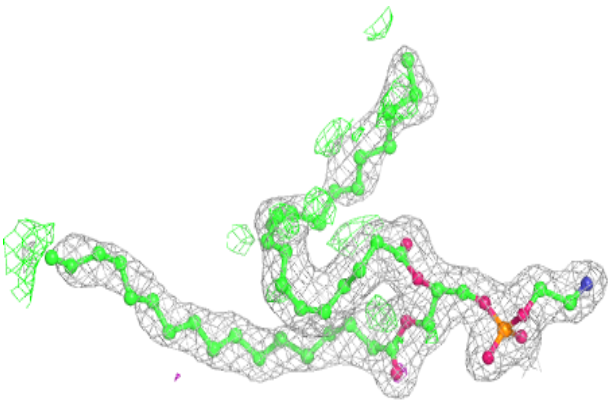


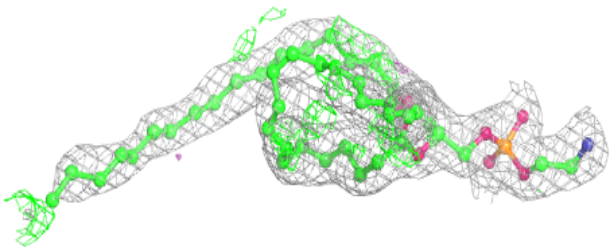


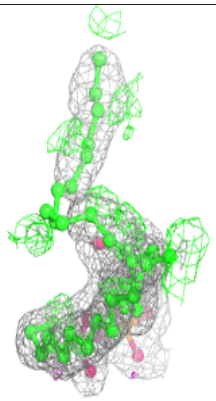


Electron density around PEK P 305:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

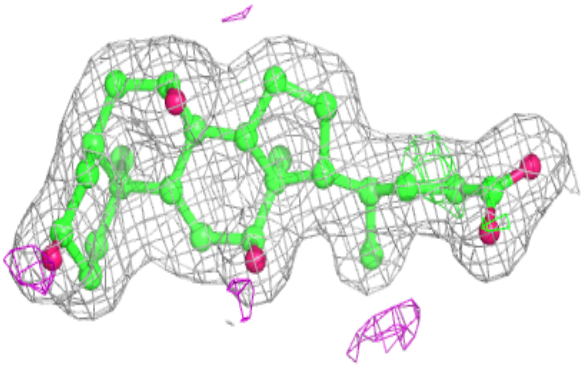


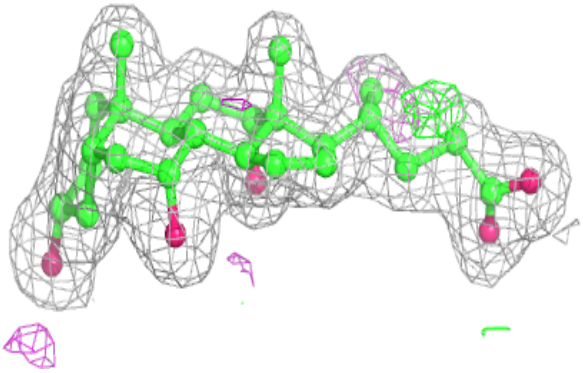


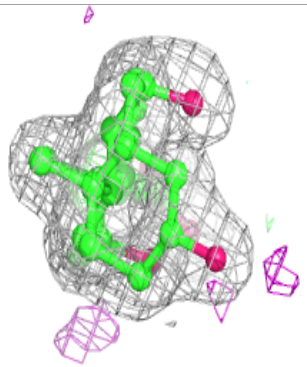


Electron density around CHD C 301:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

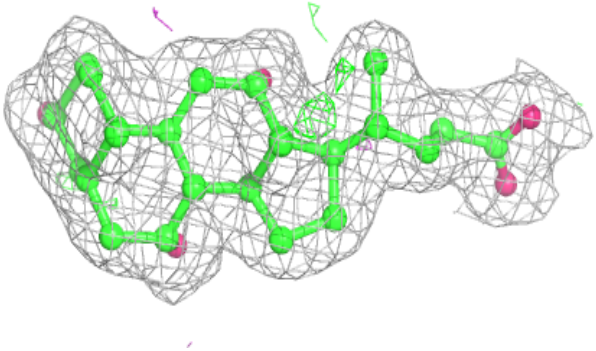


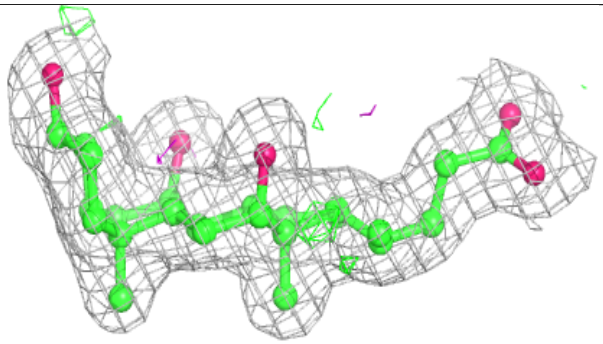


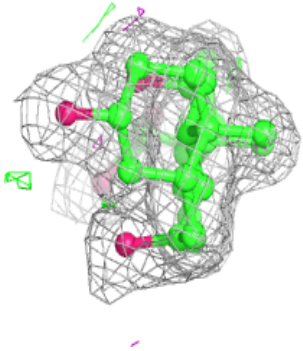


Electron density around CHD O 301:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

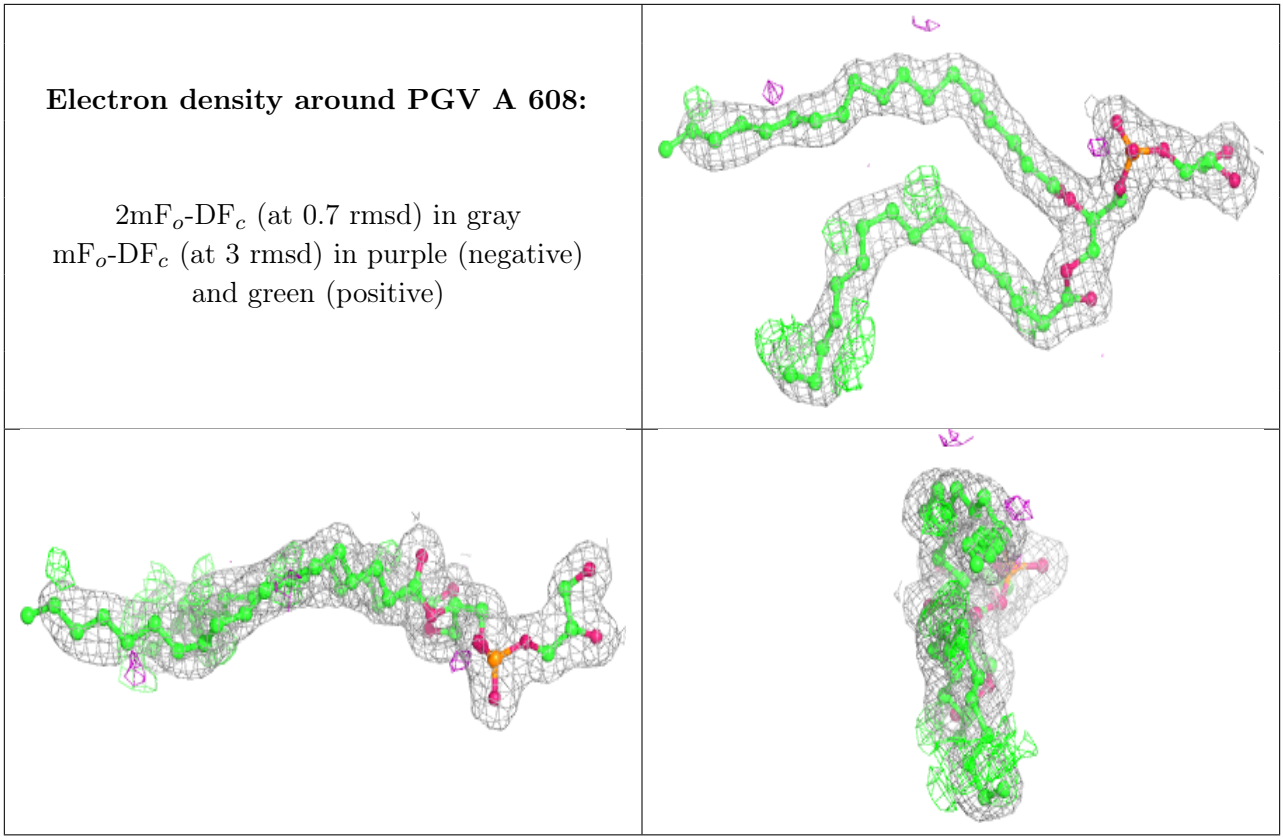






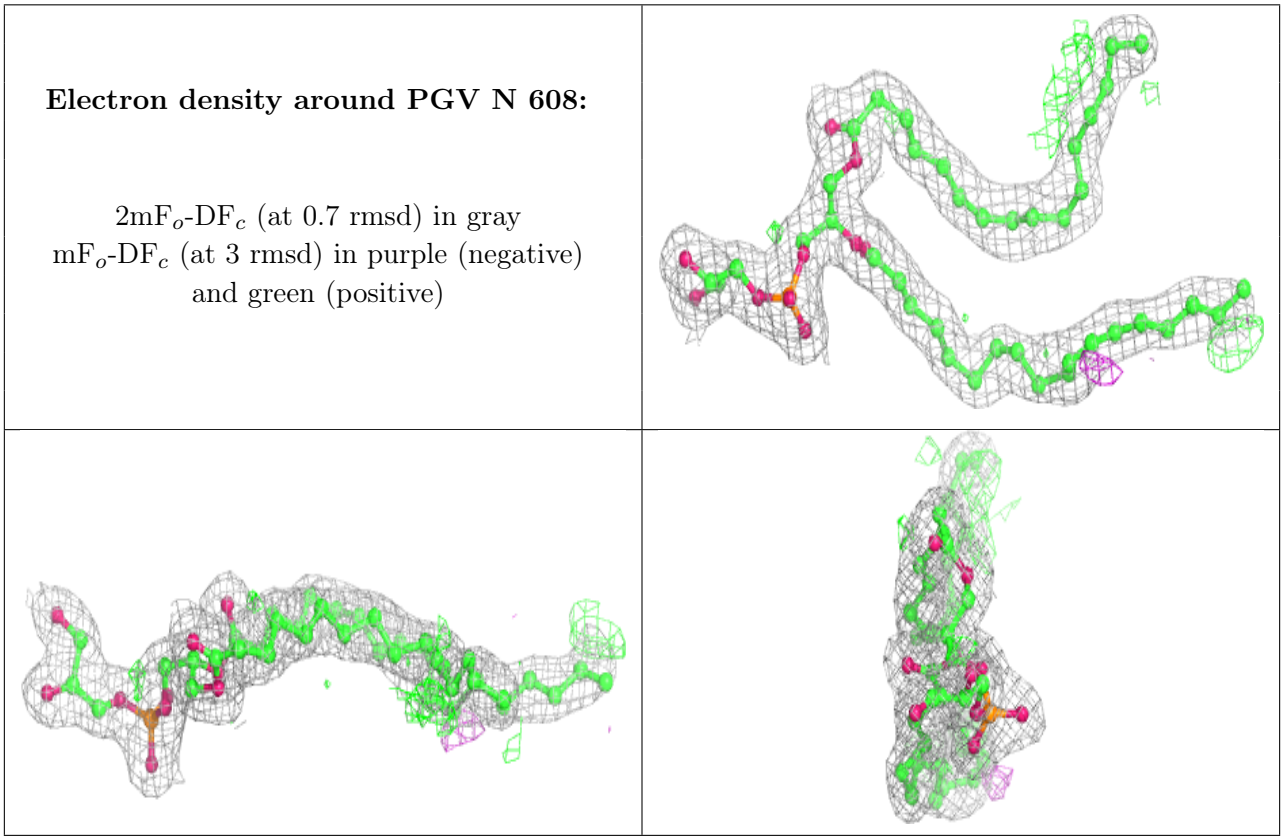
Electron density around PGV A 608:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



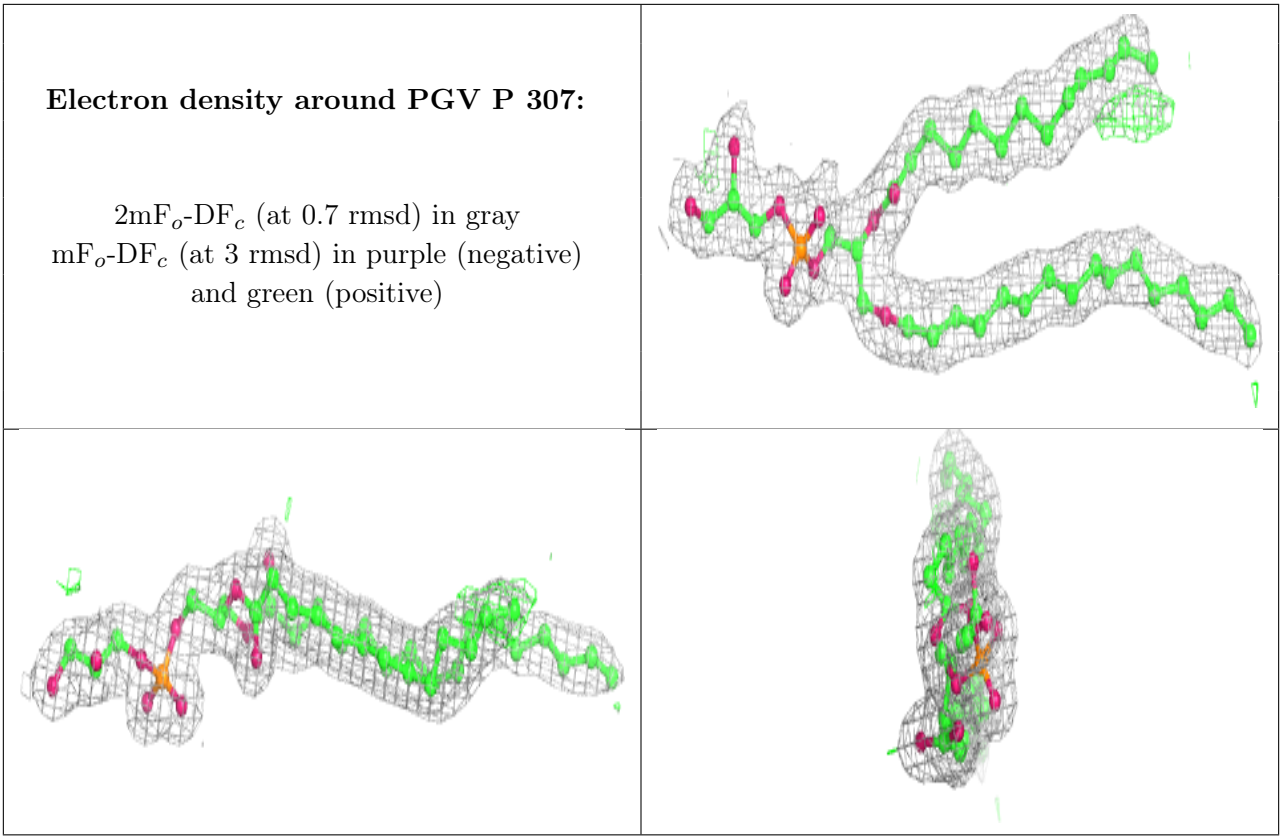
Electron density around PGV N 608:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



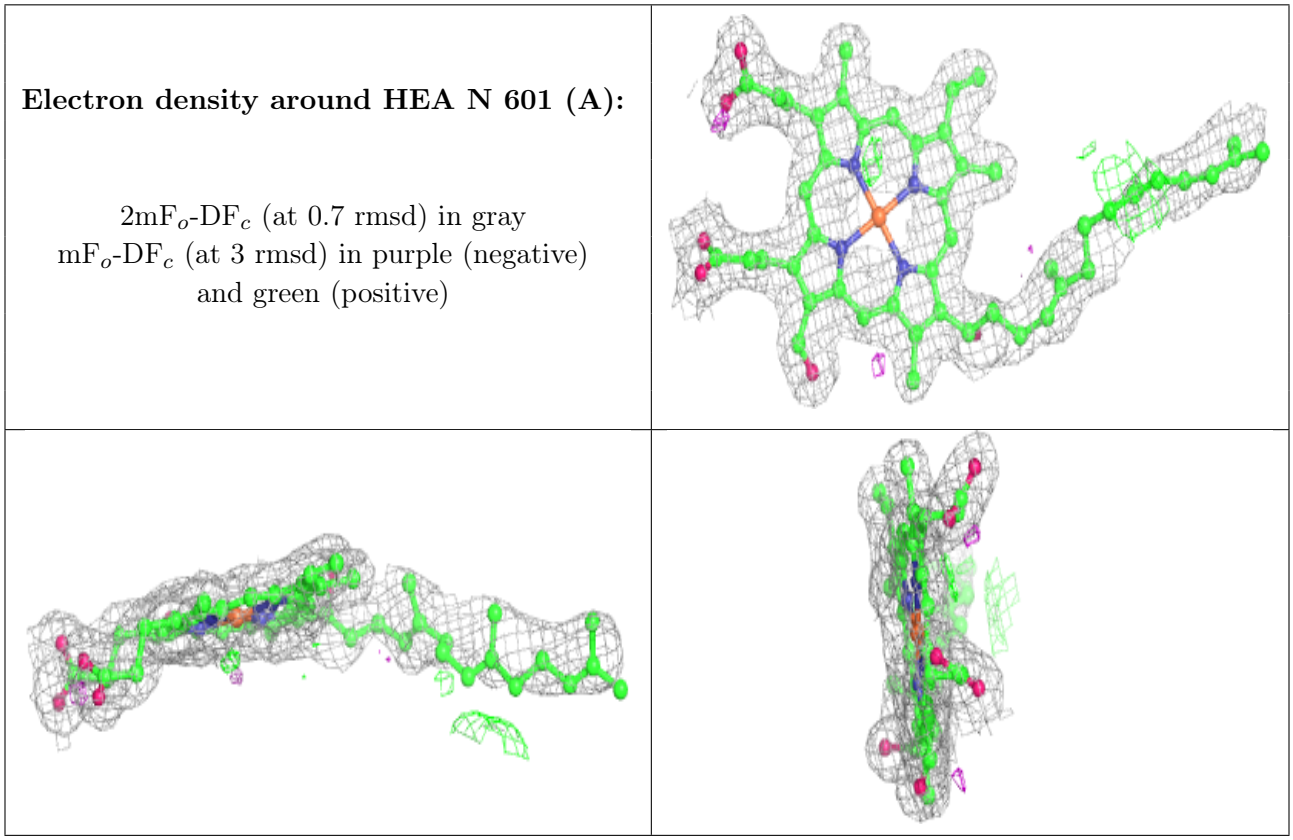
Electron density around PGV P 307:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



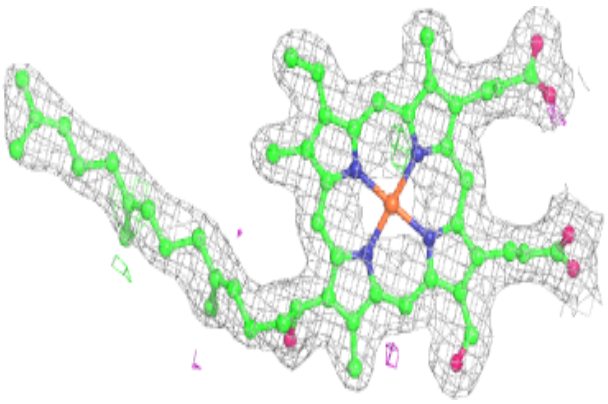
Electron density around HEA N 601 (A):

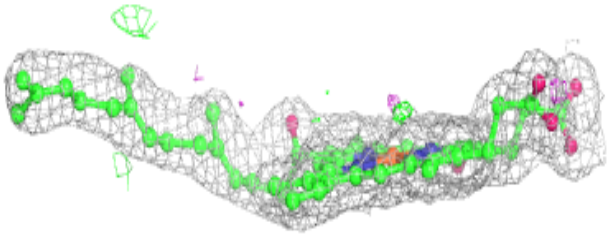
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

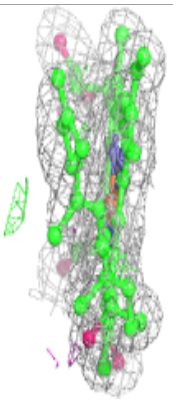


Electron density around HEA N 601 (B):

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

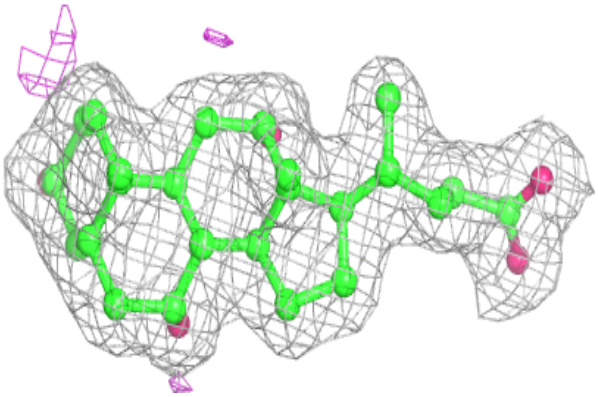


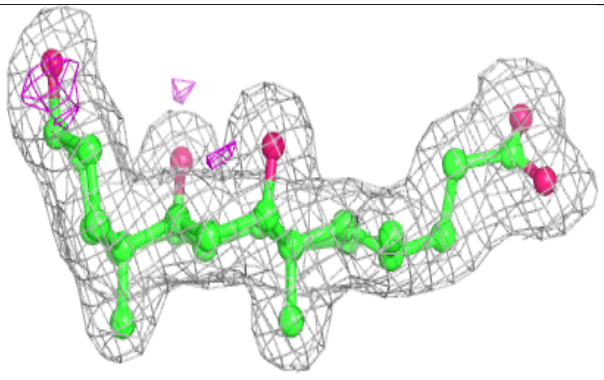


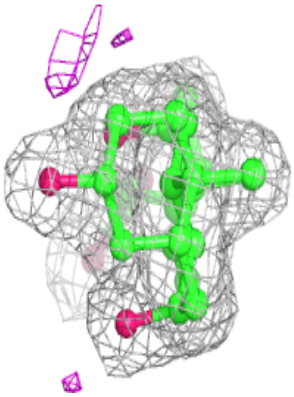


Electron density around CHD B 304:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

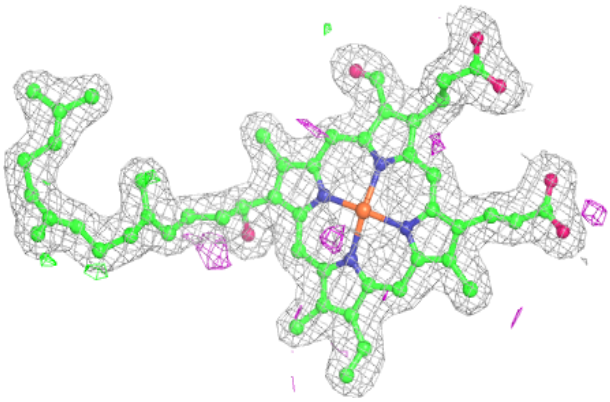


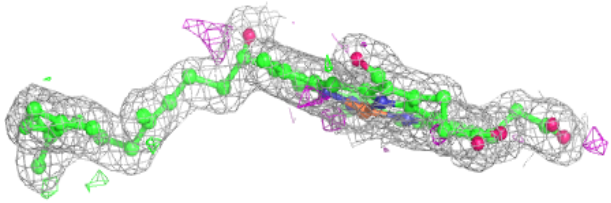


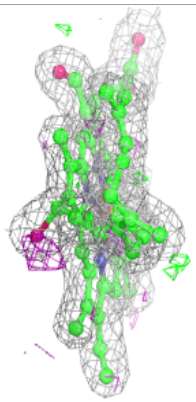


Electron density around HEA A 602:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

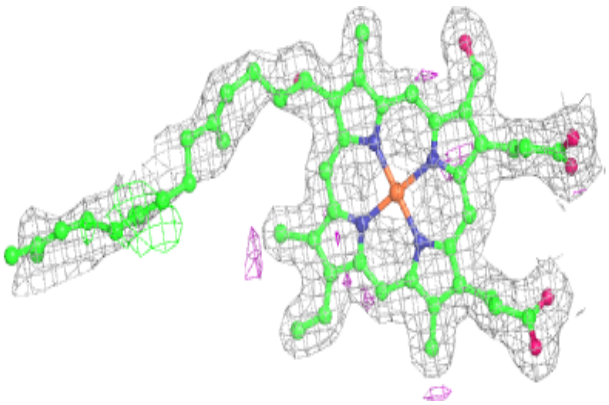


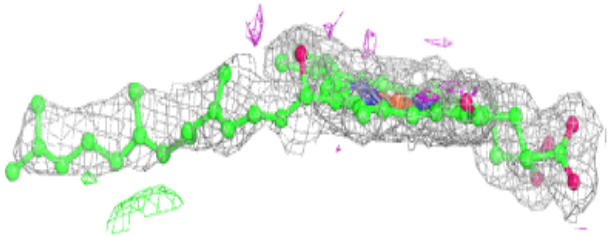


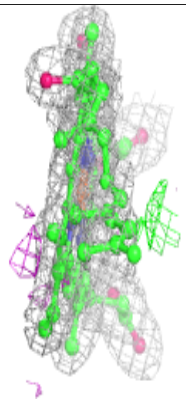


Electron density around HEA A 601 (A):

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

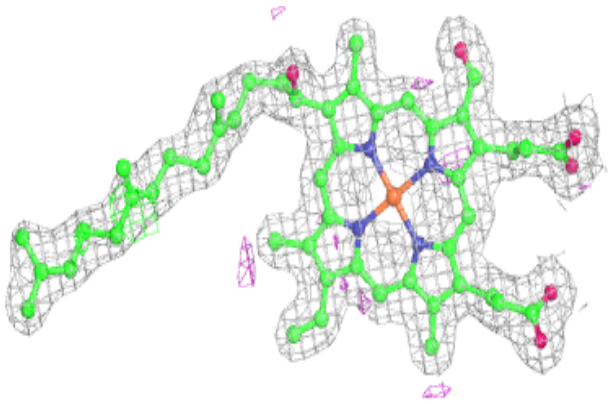


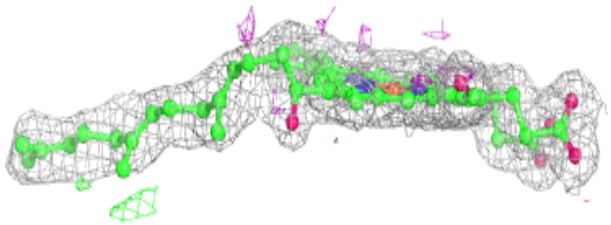


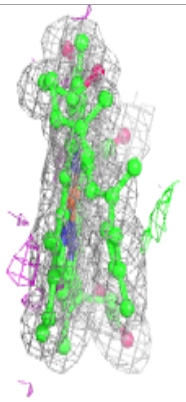


Electron density around HEA A 601 (B):

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

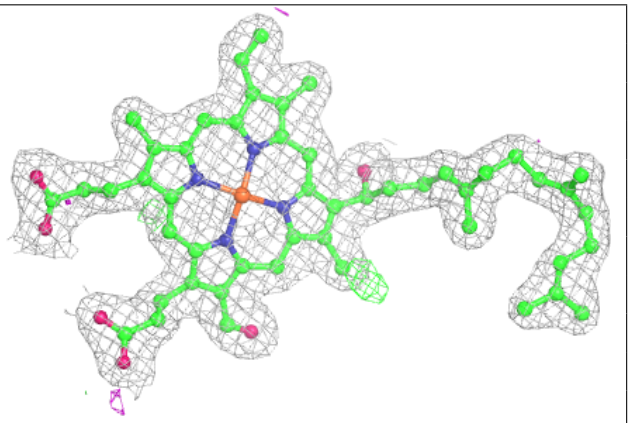


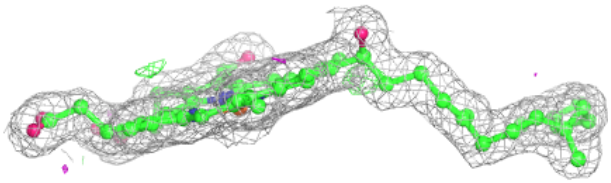


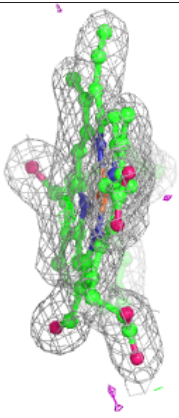


Electron density around HEA N 602:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)







6.5 Other polymers (i)

There are no such residues in this entry.