Full wwPDB X-ray Structure Validation Report (i)

Sep 18, 2023 – 12:53 PM EDT

PDB ID	:	8GCQ
Title	:	SFX structure of oxidized cytochrome c oxidase at 2.38 Angstrom resolution
Authors	:	Ishigami, I.; Yeh, S.-R.; Rousseau, D.L.
Deposited on	:	2023-03-02
Resolution	:	2.38 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 (i) symbol.

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

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

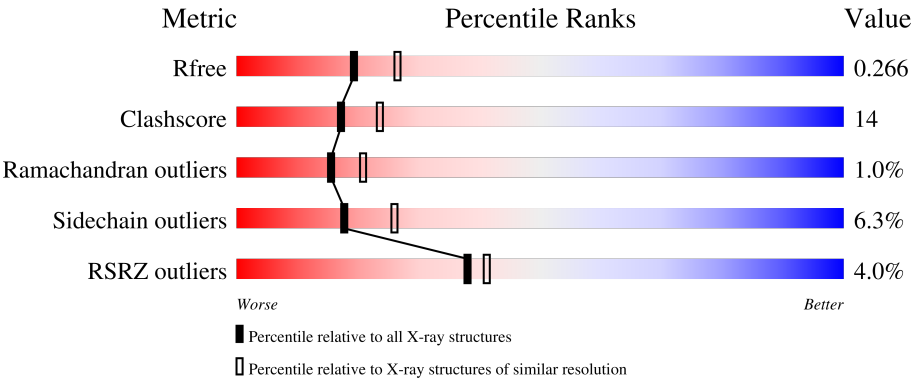
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.38 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	5509 (2.40-2.36)
Clashscore	141614	6082 (2.40-2.36)
Ramachandran outliers	138981	5973 (2.40-2.36)
Sidechain outliers	138945	5975 (2.40-2.36)
RSRZ outliers	127900	5397 (2.40-2.36)

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	63% 35% .
1	N	514	% 60% 39% .
2	B	227	% 64% 32% .
2	O	227	3% 70% 27% .
3	C	261	72% 25% ..

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Mol	Chain	Length	Quality of chain
3	P	261	2% 72% 25%
4	D	147	2% 71% 26%
4	Q	147	9% 72% 24%
5	E	109	2% 69% 26%
5	R	109	2% 72% 24%
6	F	98	6% 70% 27%
6	S	98	12% 76% 23%
7	G	85	15% 68% 27%
7	T	85	12% 65% 33%
8	H	85	8% 71% 20% 7%
8	U	85	9% 73% 16% 7%
9	I	73	8% 75% 22%
9	V	73	14% 59% 32% 8%
10	J	59	3% 76% 19%
10	W	59	10% 75% 24%
11	K	56	2% 57% 30% 12%
11	X	56	20% 70% 16% 12%
12	L	47	2% 68% 23% 6%
12	Y	47	4% 72% 26%
13	M	47	6% 64% 23% 9%
13	Z	47	11% 62% 26% 9%

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
18	HEA	A	605	X	-	-	-
18	HEA	A	606	X	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
18	HEA	N	606	X	-	-	-
18	HEA	N	607	X	-	-	-
22	PSC	B	303	-	-	-	X
22	PSC	V	101	-	-	-	X
23	CHD	T	103	X	-	-	-
23	CHD	Y	101	X	-	-	-
26	DMU	C	309	X	-	-	-
26	DMU	C	310	X	-	-	-
26	DMU	G	101	X	-	-	-
26	DMU	M	101	X	-	-	-
26	DMU	P	302	X	-	-	-
26	DMU	Q	201	X	-	-	-
7	TPO	G	11	-	-	-	X

2 Entry composition (i)

There are 29 unique types of molecules in this entry. The entry contains 31457 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	0	0
			4027	2691	623	678	35			
1	N	514	Total	C	N	O	S	0	0	0
			4027	2691	623	678	35			

- 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	0	0
			1824	1185	281	340	18			
2	O	227	Total	C	N	O	S	0	0	0
			1824	1185	281	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	0	0
			2110	1412	336	350	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	0	0
			1195	777	196	218	4			
4	Q	144	Total	C	N	O	S	0	0	0
			1195	777	196	218	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	98	Total	C	N	O	S	0	0	0
			748	464	134	145	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	72	Total	C	N	O	S	0	0	0
			592	385	106	97	4			
9	V	72	Total	C	N	O	S	0	0	0
			592	385	106	97	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			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	0	SER	-	expression tag	UNP P10175
Z	0	SER	-	expression tag	UNP P10175

- Molecule 14 is COPPER (II) ION (three-letter code: CU) (formula: Cu).

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

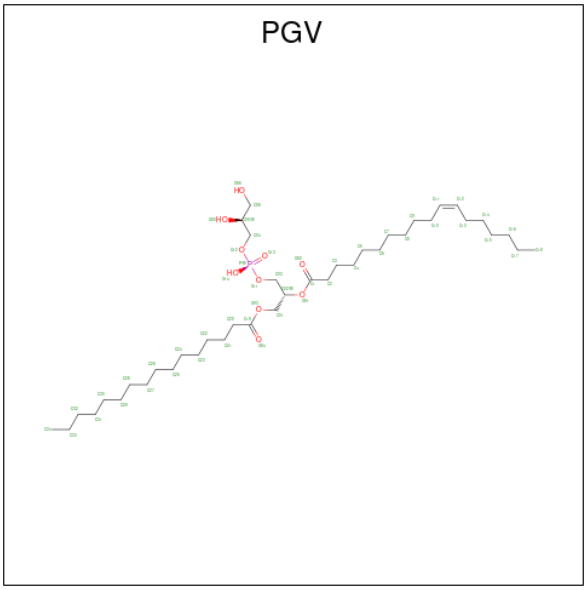
- Molecule 15 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

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

- Molecule 16 is SODIUM ION (three-letter code: NA) (formula: Na).

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

- Molecule 17 is (1R)-2-{[{[(2S)-2,3-DIHYDROXYPROPYL]OXY}(HYDROXY)PHOSPHORYL]OXY}-1-[(PALMITOYLOXY)METHYL]ETHYL (11E)-OCTADEC-11-ENOATE (three-letter code: PGV) (formula: $C_{40}H_{77}O_{10}P$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
17	A	1	Total C O P 51 40 10 1	0	0
17	C	1	Total C O P 51 40 10 1	0	0
17	C	1	Total C O P 51 40 10 1	0	0
17	H	1	Total C O P 51 40 10 1	0	0

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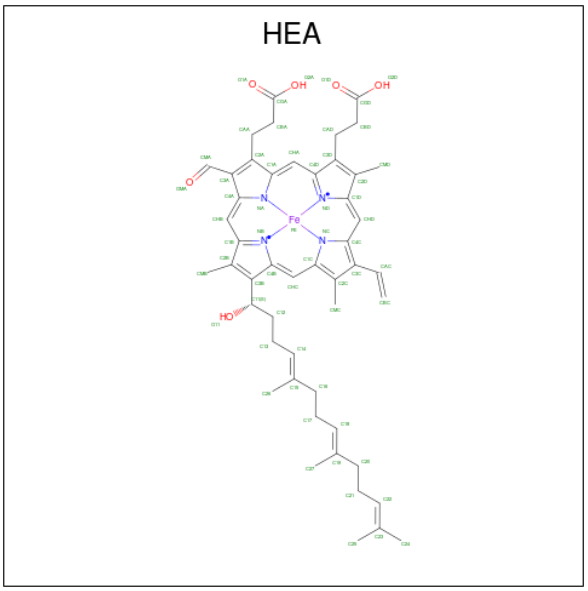
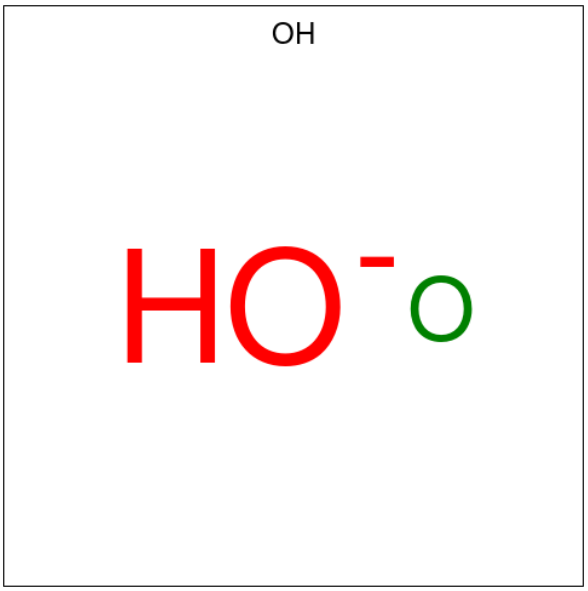
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
17	N	1	Total	C	O	P	0	0
			51	40	10	1		
17	N	1	Total	C	O	P	0	0
			51	40	10	1		
17	P	1	Total	C	O	P	0	0
			51	40	10	1		
17	P	1	Total	C	O	P	0	0
			51	40	10	1		

- Molecule 18 is HEME-A (three-letter code: HEA) (formula: $C_{49}H_{56}FeN_4O_6$) (labeled as "Ligand of Interest" by depositor).



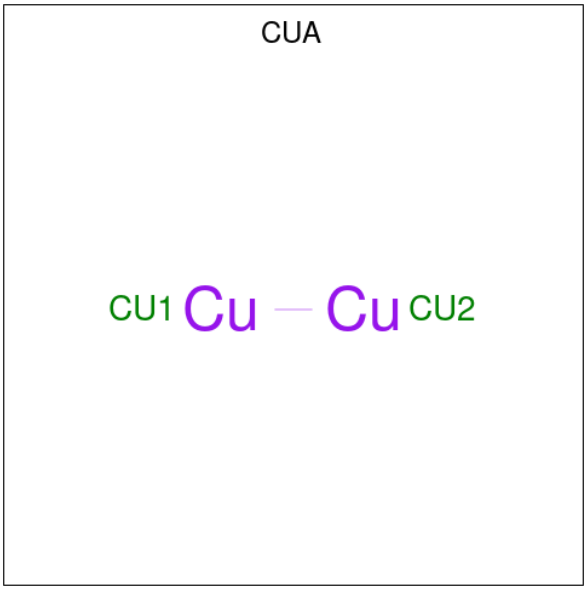
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
18	A	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		
18	A	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		
18	N	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		
18	N	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		

- Molecule 19 is HYDROXIDE ION (three-letter code: OH) (formula: HO).



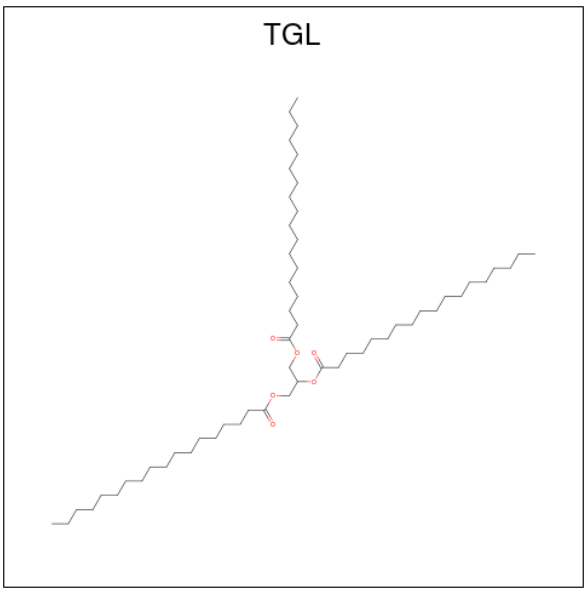
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
19	A	1	Total O 1 1	0	0
19	N	1	Total O 1 1	0	0

- Molecule 20 is DINUCLEAR COPPER ION (three-letter code: CUA) (formula: Cu_2).



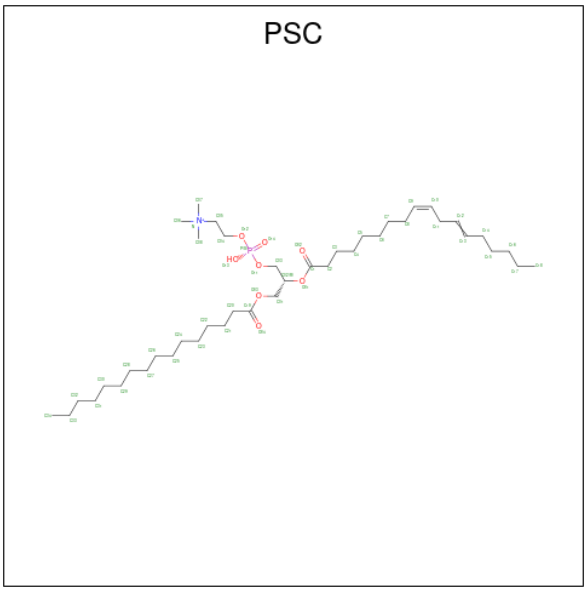
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
20	B	1	Total Cu 2 2	0	0
20	O	1	Total Cu 2 2	0	0

- Molecule 21 is TRISTEAROYLGLYCEROL (three-letter code: TGL) (formula: $C_{57}H_{110}O_6$).



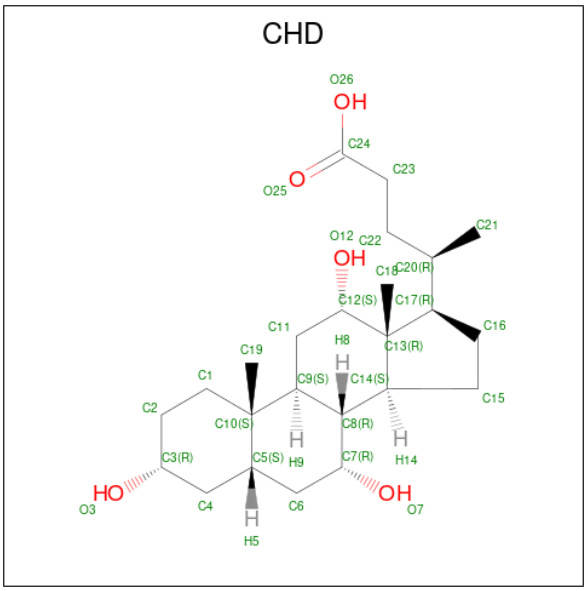
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
21	B	1	Total C O 63 57 6	0	0
21	D	1	Total C O 63 57 6	0	0
21	L	1	Total C O 63 57 6	0	0
21	N	1	Total C O 63 57 6	0	0
21	N	1	Total C O 63 57 6	0	0
21	O	1	Total C O 63 57 6	0	0

- Molecule 22 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: $C_{42}H_{81}NO_8P$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
22	B	1	Total	C	N	O	P	0	0
			52	42	1	8	1		
22	V	1	Total	C	N	O	P	0	0
			52	42	1	8	1		

- Molecule 23 is CHOLIC ACID (three-letter code: CHD) (formula: $C_{24}H_{40}O_5$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
23	C	1	Total	C	O		0	0
			29	24	5			

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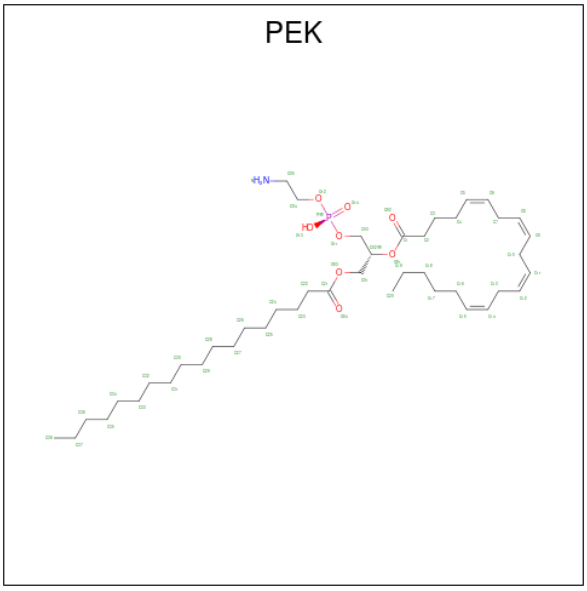
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
23	C	1	Total C O 29 24 5	0	0
23	J	1	Total C O 29 24 5	0	0
23	O	1	Total C O 29 24 5	0	0
23	P	1	Total C O 29 24 5	0	0
23	P	1	Total C O 29 24 5	0	0
23	T	1	Total C O 29 24 5	0	0
23	T	1	Total C O 29 24 5	0	0
23	W	1	Total C O 29 24 5	0	0
23	Y	1	Total C O 29 24 5	0	0

- Molecule 24 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
24	C	1	Total C N O P 53 43 1 8 1	0	0

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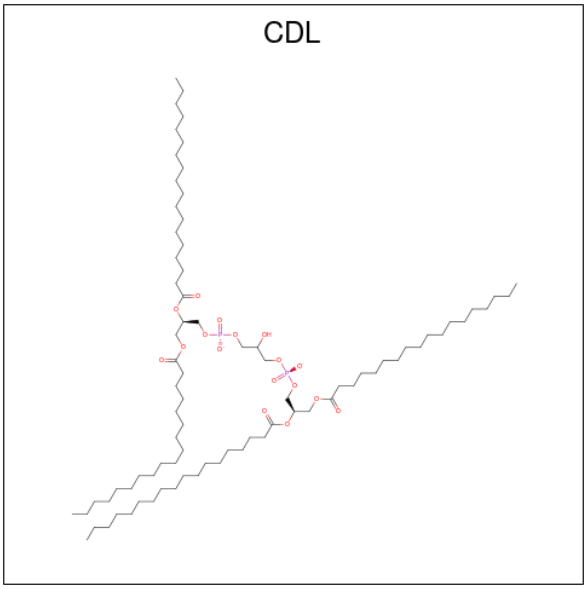
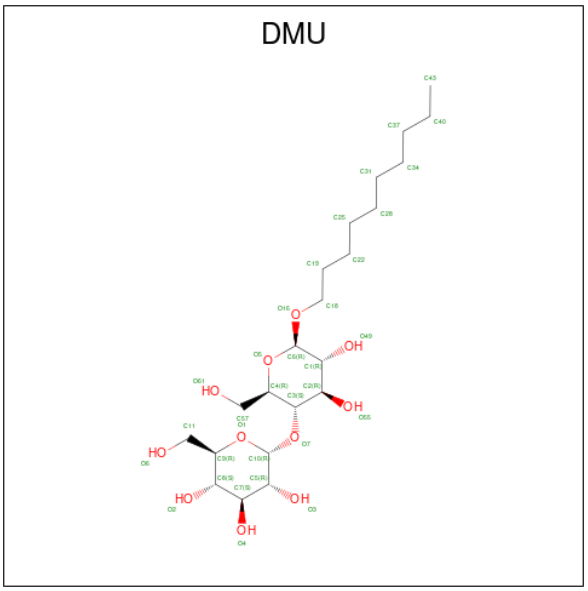
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
24	C	1	Total	C	N	O	P	0	0
			53	43	1	8	1		
24	C	1	Total	C	N	O	P	0	0
			53	43	1	8	1		
24	P	1	Total	C	N	O	P	0	0
			53	43	1	8	1		
24	P	1	Total	C	N	O	P	0	0
			53	43	1	8	1		
24	T	1	Total	C	N	O	P	0	0
			53	43	1	8	1		

- Molecule 25 is CARDIOLIPIN (three-letter code: CDL) (formula: $C_{81}H_{156}O_{17}P_2$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
25	C	1	Total	C	O	P	0	0
			100	81	17	2		
25	C	1	Total	C	O	P	0	0
			100	81	17	2		
25	P	1	Total	C	O	P	0	0
			100	81	17	2		
25	P	1	Total	C	O	P	0	0
			100	81	17	2		

- Molecule 26 is DECYL-BETA-D-MALTOPYRANOSIDE (three-letter code: DMU) (formula: $C_{22}H_{42}O_{11}$) (labeled as "Ligand of Interest" by depositor).

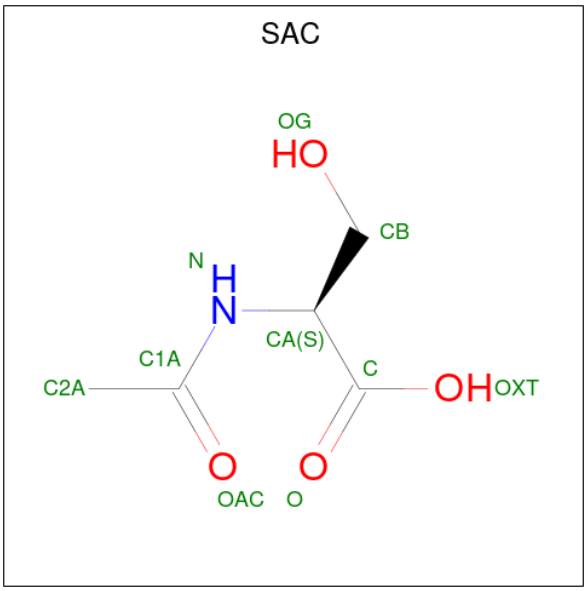


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
26	C	1	Total C O 33 22 11	0	0
26	C	1	Total C O 33 22 11	0	0
26	G	1	Total C O 33 22 11	0	0
26	M	1	Total C O 33 22 11	0	0
26	P	1	Total C O 33 22 11	0	0
26	Q	1	Total C O 33 22 11	0	0

- Molecule 27 is ZINC ION (three-letter code: ZN) (formula: Zn).

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

- Molecule 28 is N-ACETYL-SERINE (three-letter code: SAC) (formula: $C_5H_9NO_4$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
28	I	1	Total C N O 9 5 1 3	0	0
28	V	1	Total C N O 9 5 1 3	0	0

- Molecule 29 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
29	A	104	Total O 104 104	0	0
29	B	46	Total O 46 46	0	0
29	C	44	Total O 44 44	0	0
29	D	23	Total O 23 23	0	0
29	E	23	Total O 23 23	0	0
29	F	20	Total O 20 20	0	0
29	G	13	Total O 13 13	0	0
29	H	26	Total O 26 26	0	0
29	I	8	Total O 8 8	0	0
29	J	11	Total O 11 11	0	0

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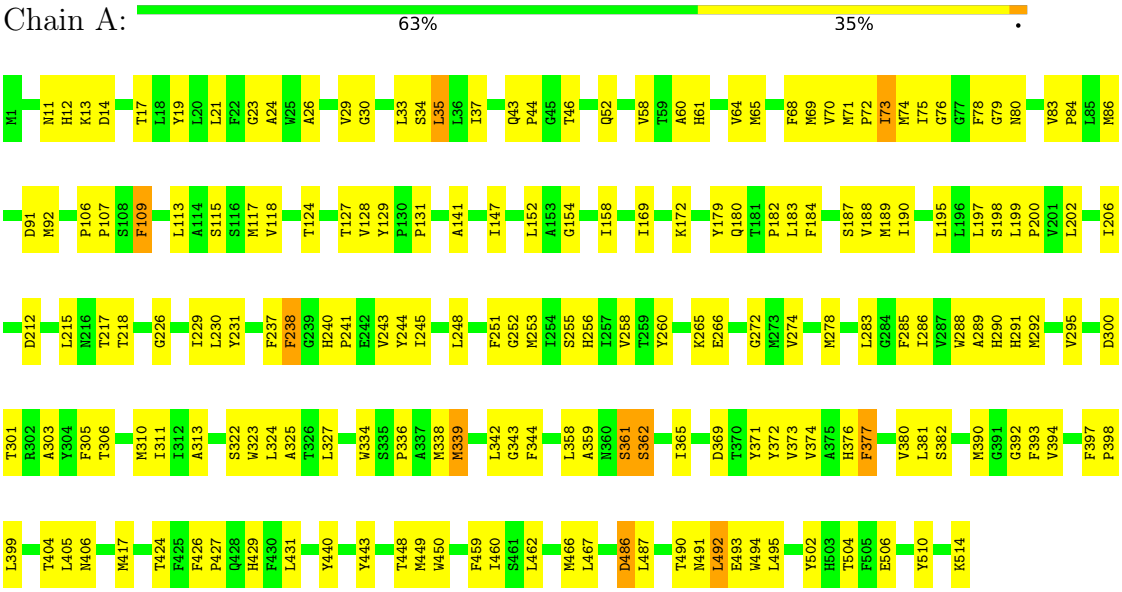
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
29	K	8	Total O 8 8	0	0
29	L	13	Total O 13 13	0	0
29	M	7	Total O 7 7	0	0
29	N	74	Total O 74 74	0	0
29	O	39	Total O 39 39	0	0
29	P	40	Total O 40 40	0	0
29	Q	28	Total O 28 28	0	0
29	R	8	Total O 8 8	0	0
29	S	19	Total O 19 19	0	0
29	T	17	Total O 17 17	0	0
29	U	7	Total O 7 7	0	0
29	V	6	Total O 6 6	0	0
29	W	5	Total O 5 5	0	0
29	X	8	Total O 8 8	0	0
29	Y	1	Total O 1 1	0	0
29	Z	3	Total O 3 3	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.

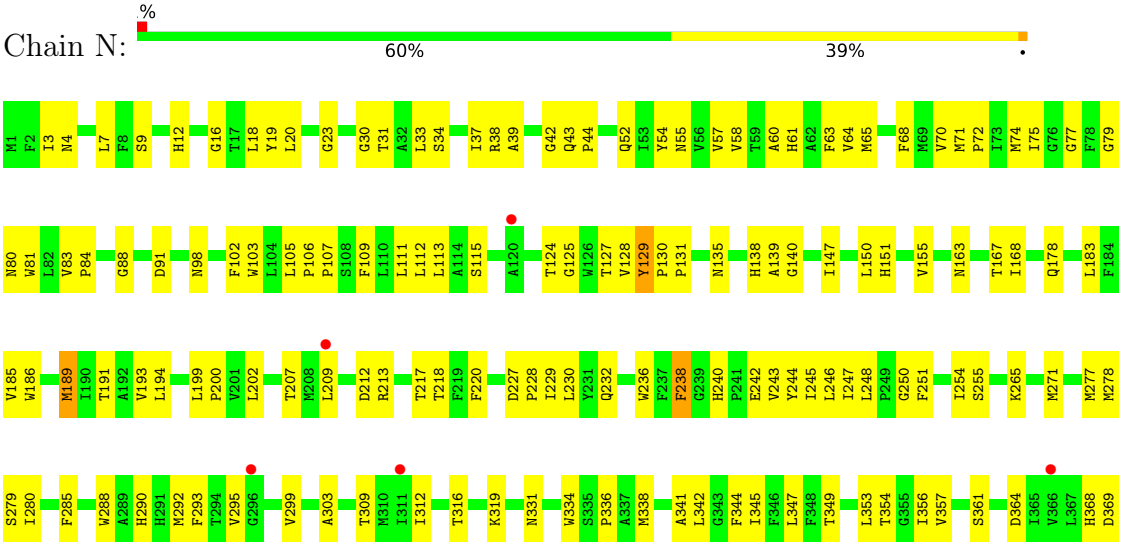
• Molecule 1: Cytochrome c oxidase subunit 1

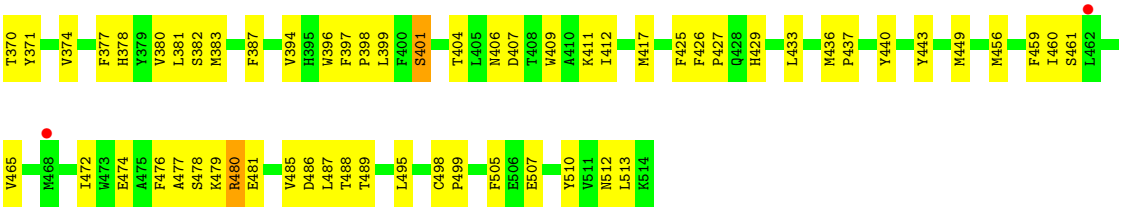
Chain A:



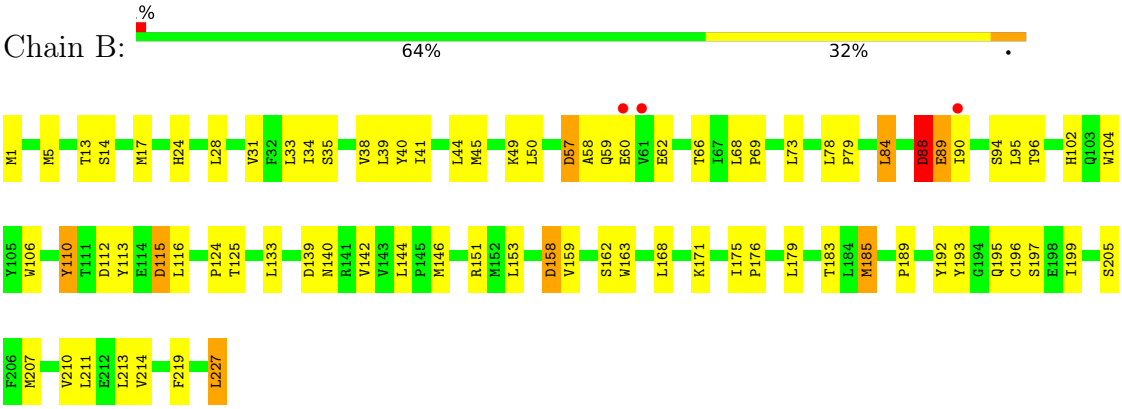
• Molecule 1: Cytochrome c oxidase subunit 1

Chain N:

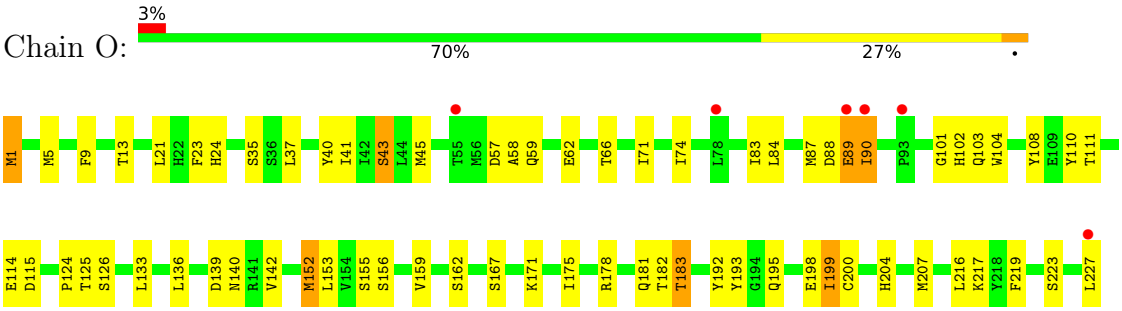




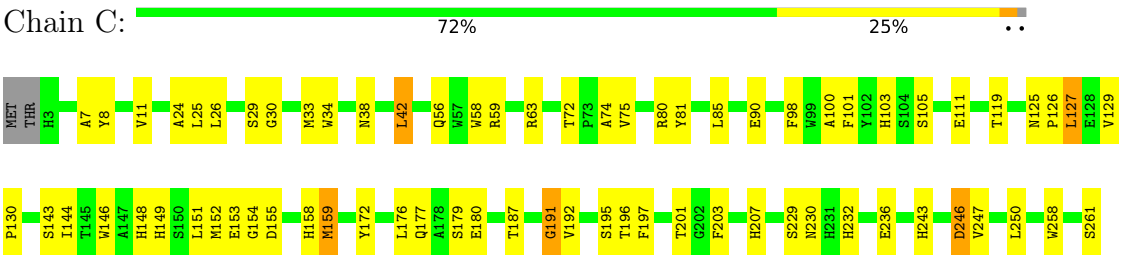
• Molecule 2: Cytochrome c oxidase subunit 2



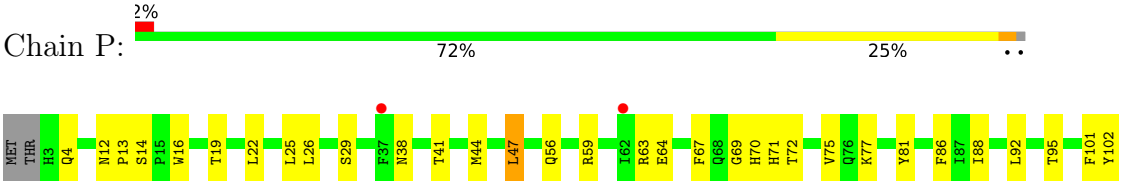
• Molecule 2: Cytochrome c oxidase subunit 2

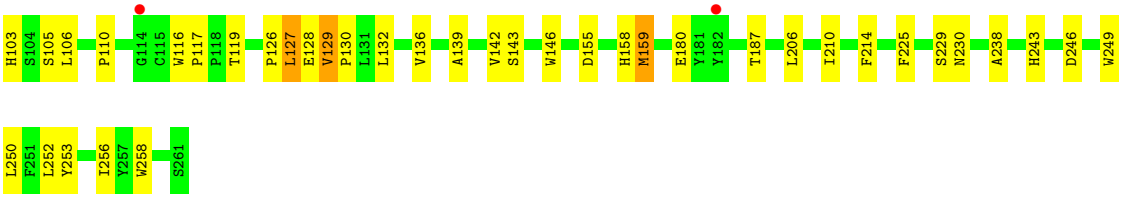


• Molecule 3: Cytochrome c oxidase subunit 3

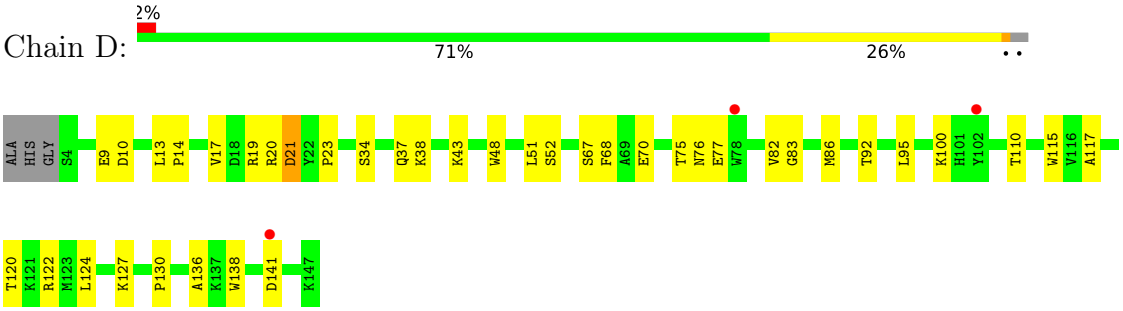


• Molecule 3: Cytochrome c oxidase subunit 3

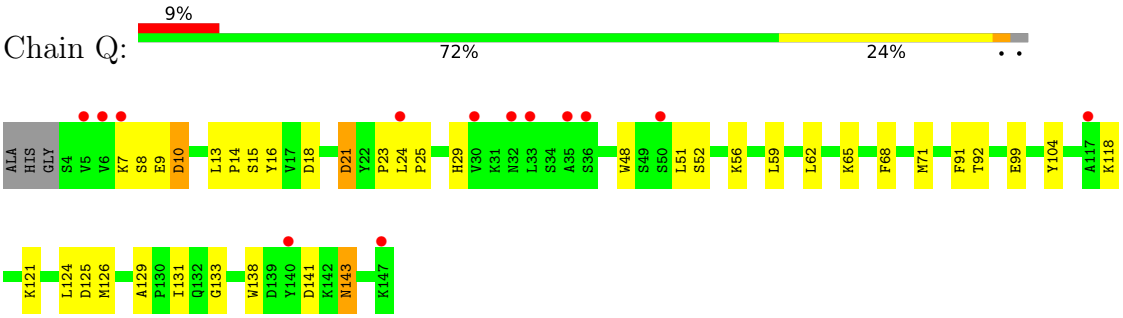




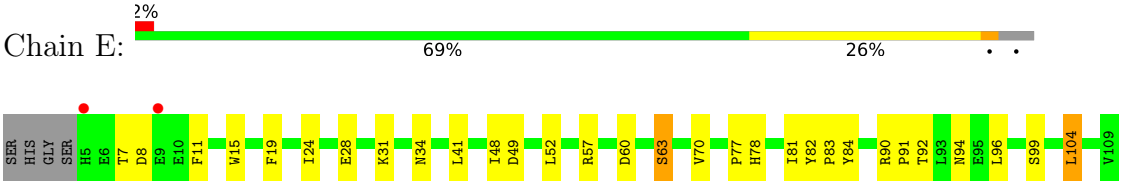
• Molecule 4: Cytochrome c oxidase subunit 4 isoform 1, mitochondrial



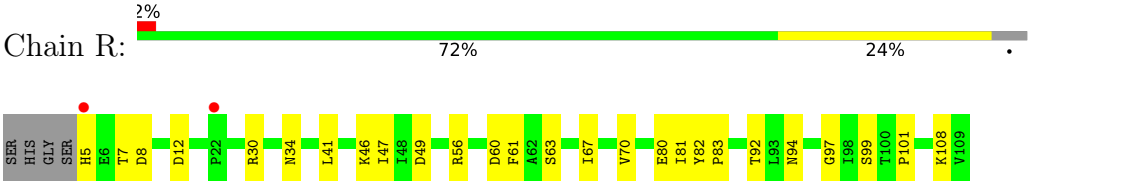
• Molecule 4: Cytochrome c oxidase subunit 4 isoform 1, mitochondrial



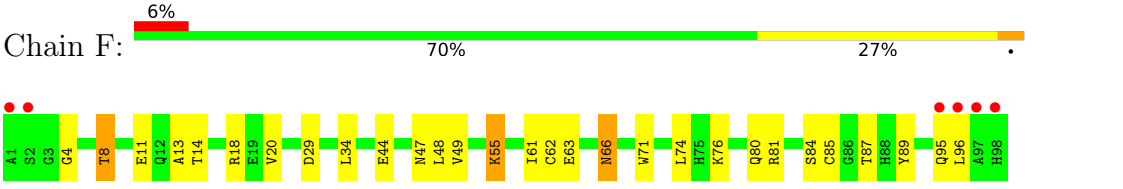
• Molecule 5: Cytochrome c oxidase subunit 5A, mitochondrial



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

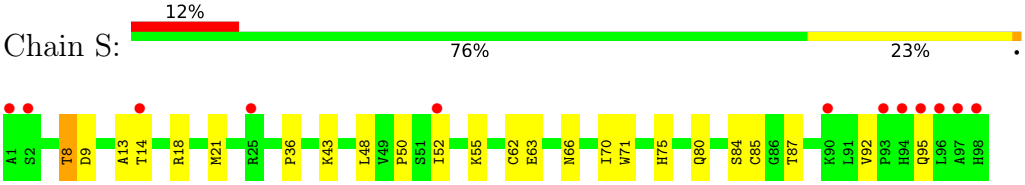


• Molecule 6: Cytochrome c oxidase subunit 5B, mitochondrial



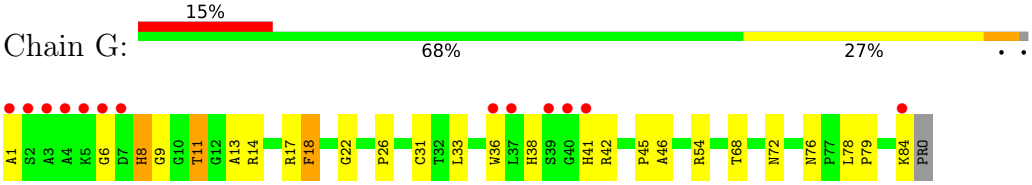
• Molecule 6: Cytochrome c oxidase subunit 5B, mitochondrial

Chain S:



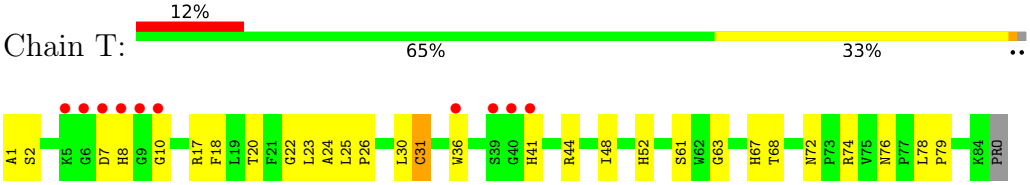
• Molecule 7: Cytochrome c oxidase subunit 6A2, mitochondrial

Chain G:



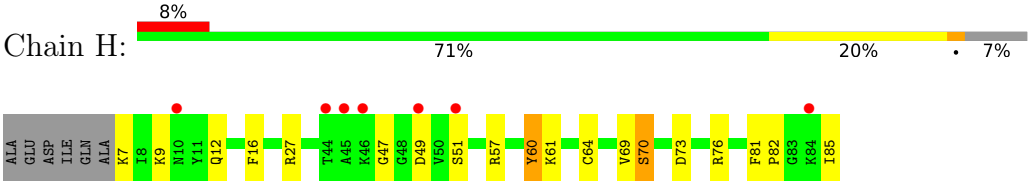
• Molecule 7: Cytochrome c oxidase subunit 6A2, mitochondrial

Chain T:



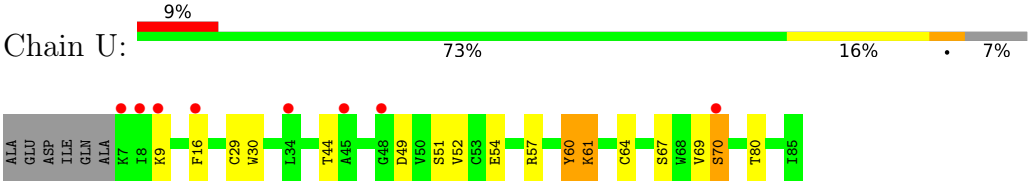
• Molecule 8: Cytochrome c oxidase subunit 6B1

Chain H:



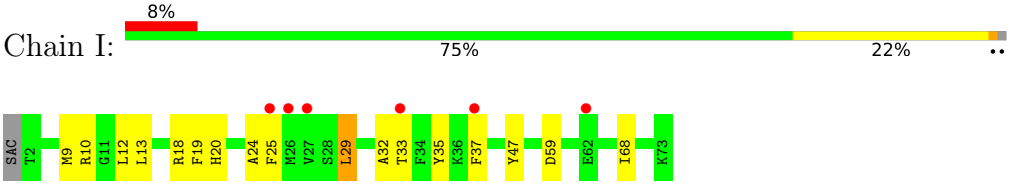
• Molecule 8: Cytochrome c oxidase subunit 6B1

Chain U:



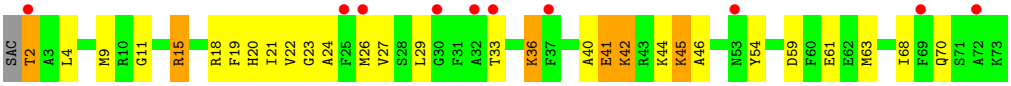
• Molecule 9: Cytochrome c oxidase subunit 6C

Chain I:

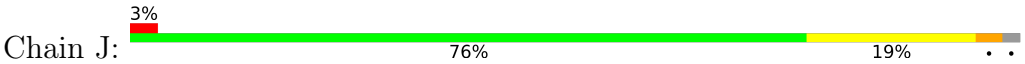


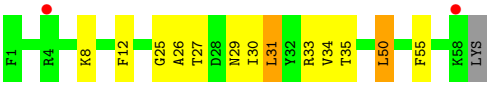
• Molecule 9: Cytochrome c oxidase subunit 6C

Chain V:

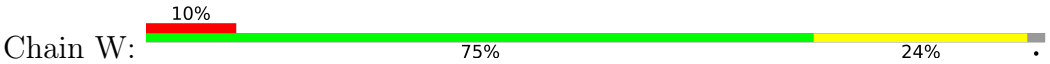


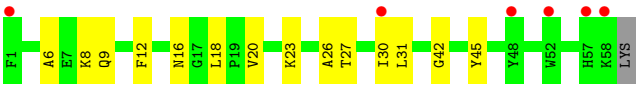
• Molecule 10: Cytochrome c oxidase subunit 7A1, mitochondrial





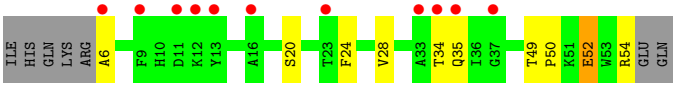
• Molecule 10: Cytochrome c oxidase subunit 7A1, mitochondrial



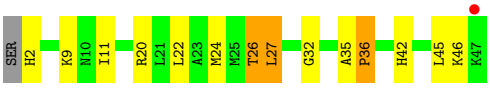


• Molecule 11: Cytochrome c oxidase subunit 7B, mitochondrial

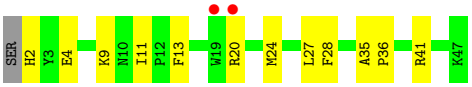
• Molecule 11: Cytochrome c oxidase subunit 7B, mitochondrial



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

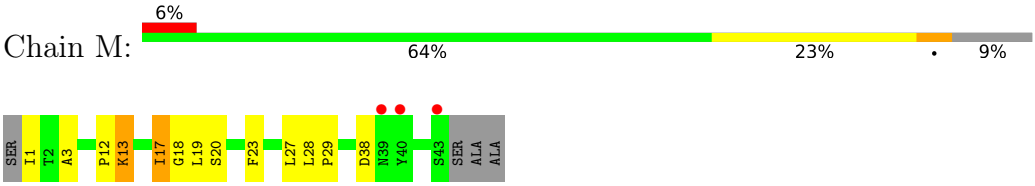


• Molecule 12: Cytochrome c oxidase subunit 7C, mitochondrial



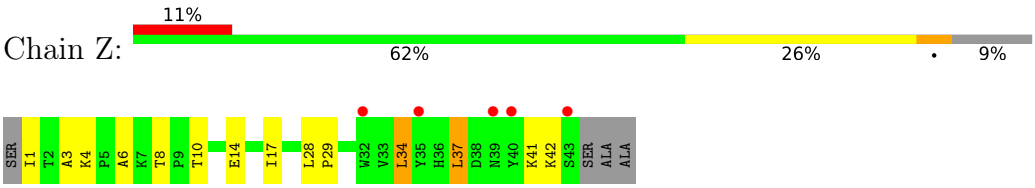
• Molecule 13: Cytochrome c oxidase subunit 8B, mitochondrial

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	178.60Å 189.50Å 211.10Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	33.00 – 2.38 32.80 – 2.38	Depositor EDS
% Data completeness (in resolution range)	99.9 (33.00-2.38) 99.8 (32.80-2.38)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.71 (at 2.39Å)	Xtriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.232 , 0.266 0.234 , 0.266	Depositor DCC
R_{free} test set	14182 reflections (4.98%)	wwPDB-VP
Wilson B-factor (Å^2)	29.9	Xtriage
Anisotropy	0.109	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.25 , 37.0	EDS
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.88	EDS
Total number of atoms	31457	wwPDB-VP
Average B, all atoms (Å^2)	34.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.36% 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 (i)

5.1 Standard geometry (i)

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
1	A	0.78	0/4156	0.95	0/5678
1	N	0.73	0/4156	0.89	3/5678 (0.1%)
2	B	0.77	0/1860	0.95	0/2534
2	O	0.69	0/1860	0.87	0/2534
3	C	0.71	0/2197	0.88	0/3005
3	P	0.71	0/2197	0.86	1/3005 (0.0%)
4	D	0.74	0/1229	0.88	0/1658
4	Q	0.71	0/1229	0.78	0/1658
5	E	0.70	0/871	0.87	0/1182
5	R	0.68	0/871	0.82	0/1182
6	F	0.77	0/765	0.90	0/1038
6	S	0.75	0/765	0.87	0/1038
7	G	0.67	0/690	0.86	0/937
7	T	0.67	0/690	0.83	0/937
8	H	0.75	0/682	0.88	0/921
8	U	0.67	0/682	0.82	0/921
9	I	0.69	0/605	0.87	0/802
9	V	0.68	0/605	0.84	0/802
10	J	0.72	0/471	0.89	0/636
10	W	0.74	0/471	0.83	0/636
11	K	0.74	0/398	0.86	0/546
11	X	0.69	0/398	0.79	0/546
12	L	0.74	0/393	0.87	0/526
12	Y	0.69	0/393	0.81	0/526
13	M	0.76	0/345	0.87	0/470
13	Z	0.69	0/345	0.76	0/470
All	All	0.73	0/29324	0.88	4/39866 (0.0%)

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	N	129	TYR	CB-CG-CD1	5.93	124.56	121.00
1	N	61	HIS	CB-CA-C	5.64	121.69	110.40
3	P	128	GLU	CB-CA-C	5.14	120.69	110.40
1	N	129	TYR	CB-CG-CD2	-5.05	117.97	121.00

There are no chirality outliers.

There are no planarity outliers.

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	4027	0	4002	199	0
1	N	4027	0	4002	172	0
2	B	1824	0	1833	70	0
2	O	1824	0	1833	56	0
3	C	2110	0	2027	55	0
3	P	2110	0	2027	59	0
4	D	1195	0	1183	31	0
4	Q	1195	0	1183	36	0
5	E	852	0	845	23	0
5	R	852	0	845	19	0
6	F	748	0	728	17	0
6	S	748	0	728	18	0
7	G	675	0	643	20	0
7	T	675	0	643	25	0
8	H	662	0	623	16	0
8	U	662	0	623	10	0
9	I	592	0	604	13	0
9	V	592	0	604	19	0
10	J	460	0	459	11	0
10	W	460	0	459	10	0
11	K	384	0	366	14	0
11	X	384	0	366	7	0
12	L	380	0	380	11	0
12	Y	380	0	380	9	0
13	M	335	0	352	8	0
13	Z	335	0	352	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
14	A	1	0	0	0	0
14	N	1	0	0	0	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	51	0	76	3	0
17	C	102	0	152	2	0
17	H	51	0	76	1	0
17	N	102	0	152	2	0
17	P	102	0	152	2	0
18	A	120	0	108	14	0
18	N	120	0	108	14	0
19	A	1	0	0	0	0
19	N	1	0	0	0	0
20	B	2	0	0	0	0
20	O	2	0	0	0	0
21	B	63	0	110	2	0
21	D	63	0	110	2	0
21	L	63	0	110	7	0
21	N	126	0	220	7	0
21	O	63	0	110	0	0
22	B	52	0	80	1	0
22	V	52	0	80	2	0
23	C	58	0	78	3	0
23	J	29	0	39	1	0
23	O	29	0	39	0	0
23	P	58	0	78	2	0
23	T	58	0	78	3	0
23	W	29	0	39	0	0
23	Y	29	0	39	2	0
24	C	159	0	231	7	0
24	P	106	0	154	3	0
24	T	53	0	77	1	0
25	C	200	0	312	3	0
25	P	200	0	312	9	0
26	C	66	0	84	5	0
26	G	33	0	42	0	0
26	M	33	0	42	1	0
26	P	33	0	42	0	0
26	Q	33	0	42	0	0
27	F	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
27	S	1	0	0	0	0
28	I	9	0	8	0	0
28	V	9	0	8	1	0
29	A	104	0	0	68	0
29	B	46	0	0	15	0
29	C	44	0	0	9	0
29	D	23	0	0	10	0
29	E	23	0	0	4	0
29	F	20	0	0	2	0
29	G	13	0	0	5	0
29	H	26	0	0	10	0
29	I	8	0	0	4	0
29	J	11	0	0	8	0
29	K	8	0	0	5	0
29	L	13	0	0	6	0
29	M	7	0	0	2	0
29	N	74	0	0	46	0
29	O	39	0	0	13	0
29	P	40	0	0	21	0
29	Q	28	0	0	12	0
29	R	8	0	0	0	0
29	S	19	0	0	2	0
29	T	17	0	0	4	0
29	U	7	0	0	0	0
29	V	6	0	0	0	0
29	W	5	0	0	1	0
29	X	8	0	0	5	0
29	Y	1	0	0	0	0
29	Z	3	0	0	0	0
All	All	31457	0	31478	865	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 14.

All (865) 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:240:HIS:NE2	1:A:244:TYR:CE2	1.81	1.47
1:A:240:HIS:NE2	1:A:244:TYR:HE2	0.90	1.37
1:N:240:HIS:NE2	1:N:244:TYR:HE2	1.27	1.30
1:A:394:VAL:HA	29:A:722:HOH:O	1.31	1.28

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:240:HIS:NE2	1:N:244:TYR:CE2	2.04	1.26
29:D:311:HOH:O	11:K:25:CYS:SG	2.00	1.18
10:J:55:PHE:HB2	29:J:204:HOH:O	1.49	1.12
1:A:462:LEU:HA	29:A:716:HOH:O	1.49	1.11
11:K:28:VAL:HB	29:K:101:HOH:O	1.52	1.08
3:C:26:LEU:HD23	29:J:205:HOH:O	1.54	1.07
1:A:240:HIS:CD2	1:A:244:TYR:HE2	1.74	1.05
18:N:607:HEA:C3A	29:N:755:HOH:O	2.03	1.03
2:B:34:ILE:HG13	29:B:421:HOH:O	1.58	1.03
3:P:249:TRP:CE2	29:P:406:HOH:O	2.12	1.02
13:M:23:PHE:HA	29:M:203:HOH:O	1.58	1.01
2:B:219:PHE:CD1	29:B:423:HOH:O	2.13	1.00
1:A:73:ILE:HG13	29:A:705:HOH:O	1.63	0.99
1:A:78:PHE:HE1	29:A:726:HOH:O	1.46	0.98
1:N:248:LEU:HD22	29:N:751:HOH:O	1.62	0.98
1:A:374:VAL:HB	29:A:759:HOH:O	1.64	0.96
2:B:24:HIS:HD2	29:B:438:HOH:O	1.49	0.95
2:B:110:TYR:HE2	29:B:434:HOH:O	1.47	0.94
9:I:29:LEU:HB3	29:I:206:HOH:O	1.65	0.94
4:Q:13:LEU:HA	29:Q:301:HOH:O	1.67	0.94
3:P:253:TYR:HB2	29:P:406:HOH:O	1.69	0.91
12:Y:35:ALA:HB3	12:Y:36:PRO:HD3	1.51	0.91
1:A:240:HIS:CD2	1:A:244:TYR:CE2	2.54	0.89
1:N:334:TRP:CD2	29:N:745:HOH:O	2.24	0.89
18:N:607:HEA:CMA	29:N:755:HOH:O	2.19	0.89
1:A:78:PHE:CE1	29:A:726:HOH:O	2.23	0.89
2:O:62:GLU:OE2	29:O:401:HOH:O	1.88	0.89
24:C:303:PEK:HN2	7:G:76:ASN:HD21	1.19	0.88
5:E:94:ASN:HB2	29:E:209:HOH:O	1.73	0.88
1:A:398:PRO:HB2	29:A:723:HOH:O	1.72	0.88
18:A:605:HEA:HBC1	18:A:605:HEA:HMC1	1.56	0.88
1:N:43:GLN:HB3	4:Q:104:TYR:CE2	2.09	0.87
1:N:396:TRP:HA	29:N:709:HOH:O	1.74	0.87
2:B:39:LEU:HD23	29:B:443:HOH:O	1.73	0.86
29:Q:306:HOH:O	9:V:46:ALA:HB1	1.74	0.86
2:O:74:ILE:HB	29:O:402:HOH:O	1.77	0.84
1:N:39:ALA:O	29:N:702:HOH:O	1.95	0.84
11:K:26:VAL:O	11:K:30:VAL:HG23	1.78	0.84
1:N:334:TRP:CG	29:N:745:HOH:O	2.32	0.82
1:N:277:MET:SD	29:N:740:HOH:O	2.36	0.82
1:A:26:ALA:CA	29:A:708:HOH:O	2.30	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:Q:91:PHE:HA	29:Q:320:HOH:O	1.82	0.80
3:C:119:THR:HA	29:C:426:HOH:O	1.81	0.80
5:E:49:ASP:OD1	5:E:92:THR:OG1	2.00	0.79
1:A:131:PRO:HG2	2:B:159:VAL:HA	1.65	0.79
1:N:240:HIS:CD2	1:N:244:TYR:CE2	2.70	0.79
1:N:240:HIS:CD2	1:N:244:TYR:HE2	2.01	0.79
1:A:334:TRP:HA	29:A:757:HOH:O	1.83	0.78
1:N:130:PRO:HG2	29:N:729:HOH:O	1.81	0.78
2:B:113:TYR:CE1	29:H:203:HOH:O	2.37	0.78
1:A:288:TRP:CD1	29:A:709:HOH:O	2.37	0.77
7:G:46:ALA:HB3	29:G:206:HOH:O	1.84	0.77
1:A:183:LEU:HD12	1:A:255:SER:HB3	1.67	0.76
4:D:17:VAL:HG11	29:D:320:HOH:O	1.84	0.76
4:D:37:GLN:HG2	29:D:308:HOH:O	1.84	0.76
1:A:306:THR:OG1	1:A:361:SER:OG	2.03	0.76
1:A:23:GLY:HA3	29:A:705:HOH:O	1.87	0.75
1:A:218:THR:OG1	3:C:191:GLY:HA2	1.85	0.75
1:N:228:PRO:HA	29:N:729:HOH:O	1.87	0.75
4:Q:131:ILE:HG22	29:Q:306:HOH:O	1.86	0.75
10:J:50:LEU:HD21	29:J:202:HOH:O	1.87	0.75
1:N:43:GLN:HB3	4:Q:104:TYR:HE2	1.52	0.75
1:A:460:ILE:HG13	4:D:92:THR:HG21	1.69	0.74
3:C:80:ARG:NH2	3:C:236:GLU:OE1	2.21	0.74
1:A:26:ALA:HA	29:A:708:HOH:O	1.85	0.74
3:C:25:LEU:O	3:C:29:SER:OG	2.06	0.73
3:C:149:HIS:CE1	26:C:309:DMU:H2	2.24	0.73
1:A:258:VAL:HG13	29:A:710:HOH:O	1.89	0.73
9:I:32:ALA:HA	29:I:205:HOH:O	1.88	0.73
1:A:17:THR:HG23	21:L:101:TGL:H282	1.70	0.72
1:A:226:GLY:O	29:A:701:HOH:O	2.07	0.72
3:P:92:LEU:HA	29:P:403:HOH:O	1.90	0.72
4:D:14:PRO:HB2	29:D:303:HOH:O	1.89	0.72
3:P:12:ASN:HD22	10:W:20:VAL:H	1.37	0.72
7:G:18:PHE:CZ	29:N:703:HOH:O	2.44	0.71
18:N:607:HEA:C2A	29:N:755:HOH:O	2.31	0.71
5:E:60:ASP:OD2	5:E:63:SER:OG	2.09	0.71
10:J:29:ASN:OD1	29:J:201:HOH:O	2.09	0.71
5:E:41:LEU:O	5:E:41:LEU:HD12	1.90	0.70
1:A:12:HIS:HD2	1:A:80:ASN:O	1.74	0.70
17:N:605:PGV:H183	29:N:774:HOH:O	1.90	0.70
4:D:17:VAL:CG1	29:D:320:HOH:O	2.39	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:71:HIS:CD2	29:P:421:HOH:O	2.43	0.70
2:B:49:LYS:HE3	29:D:312:HOH:O	1.92	0.70
7:G:72:ASN:H	7:G:76:ASN:HD22	1.40	0.69
1:A:188:VAL:HG23	29:A:706:HOH:O	1.91	0.69
1:N:83:VAL:HB	1:N:84:PRO:HD3	1.75	0.69
1:A:324:LEU:HA	1:A:327:LEU:HD12	1.74	0.69
2:O:24:HIS:HE1	29:O:434:HOH:O	1.76	0.69
1:N:232:GLN:OE1	29:N:704:HOH:O	2.11	0.68
1:A:117:MET:HB2	29:J:202:HOH:O	1.93	0.68
1:A:374:VAL:CG1	29:A:759:HOH:O	2.42	0.68
1:N:271:MET:O	29:N:703:HOH:O	2.09	0.68
12:L:24:MET:SD	29:L:201:HOH:O	2.52	0.68
5:R:41:LEU:HD12	5:R:41:LEU:O	1.93	0.68
29:B:420:HOH:O	4:D:21:ASP:HB2	1.93	0.68
4:D:77:GLU:HB3	21:D:201:TGL:HB32	1.74	0.67
1:A:260:TYR:CE2	29:A:785:HOH:O	2.46	0.67
5:E:99:SER:HB2	5:E:104:LEU:HD11	1.75	0.67
1:N:371:TYR:CE2	29:N:731:HOH:O	2.46	0.67
1:A:371:TYR:CD2	29:A:759:HOH:O	2.46	0.67
5:E:78:HIS:CD2	9:I:12:LEU:HD22	2.29	0.67
18:A:606:HEA:H121	29:A:762:HOH:O	1.93	0.67
2:B:66:THR:HB	29:B:442:HOH:O	1.94	0.67
1:N:33:LEU:O	1:N:37:ILE:HG13	1.95	0.67
1:N:513:LEU:HA	29:N:741:HOH:O	1.93	0.67
1:N:19:TYR:O	29:N:705:HOH:O	2.12	0.67
1:A:338:MET:CE	29:A:710:HOH:O	2.43	0.67
4:D:23:PRO:HD2	5:E:34:ASN:OD1	1.95	0.67
12:Y:11:ILE:HD12	12:Y:13:PHE:CE2	2.30	0.66
1:A:398:PRO:C	29:A:723:HOH:O	2.33	0.66
1:A:466:MET:SD	29:M:203:HOH:O	2.52	0.66
1:N:189:MET:O	1:N:193:VAL:HG23	1.95	0.66
1:N:369:ASP:OD1	29:N:706:HOH:O	2.13	0.66
4:Q:118:LYS:HG2	29:X:102:HOH:O	1.95	0.66
2:B:34:ILE:O	2:B:38:VAL:HG23	1.95	0.66
2:B:195:GLN:HG2	29:B:415:HOH:O	1.94	0.66
1:N:183:LEU:HD22	29:N:747:HOH:O	1.94	0.66
9:V:2:THR:N	28:V:102:SAC:HG	1.94	0.66
7:G:45:PRO:HA	29:G:204:HOH:O	1.96	0.65
1:A:19:TYR:O	29:A:702:HOH:O	2.13	0.65
1:A:288:TRP:CG	29:A:709:HOH:O	2.48	0.65
2:B:68:LEU:HB2	2:B:69:PRO:HD3	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:494:TRP:HZ3	29:A:723:HOH:O	1.80	0.65
7:G:1:ALA:HB2	24:P:301:PEK:H382	1.78	0.65
21:L:101:TGL:OC1	29:L:201:HOH:O	2.15	0.65
2:O:71:ILE:O	29:O:402:HOH:O	2.15	0.65
11:K:24:PHE:O	29:K:101:HOH:O	2.14	0.65
3:P:249:TRP:CZ2	29:P:406:HOH:O	2.40	0.65
9:V:54:TYR:OH	9:V:59:ASP:OD2	2.14	0.65
1:N:151:HIS:O	1:N:155:VAL:HG23	1.98	0.64
2:O:207:MET:C	29:O:407:HOH:O	2.36	0.64
3:P:71:HIS:HD2	29:P:421:HOH:O	1.77	0.64
9:V:40:ALA:C	9:V:42:LYS:H	2.01	0.64
1:A:266:GLU:OE1	29:A:703:HOH:O	2.15	0.64
2:O:108:TYR:CE2	2:O:142:VAL:HG21	2.33	0.64
2:O:88:ASP:O	2:O:89:GLU:O	2.15	0.64
25:P:309:CDL:H271	24:T:102:PEK:H383	1.79	0.64
2:O:102:HIS:HD2	29:O:438:HOH:O	1.80	0.63
29:Q:306:HOH:O	9:V:46:ALA:CB	2.41	0.63
1:A:256:HIS:CD2	29:A:747:HOH:O	2.49	0.63
3:C:155:ASP:OD2	3:C:158:HIS:HD2	1.80	0.63
2:O:71:ILE:HA	29:O:402:HOH:O	1.98	0.63
1:A:392:GLY:C	29:A:726:HOH:O	2.37	0.63
1:A:73:ILE:N	29:A:705:HOH:O	2.30	0.63
6:F:95:GLN:HB2	29:F:213:HOH:O	1.98	0.63
2:O:207:MET:HG3	2:O:207:MET:O	1.99	0.63
1:A:240:HIS:CE1	1:A:244:TYR:CE2	2.81	0.62
18:N:607:HEA:CHB	29:N:722:HOH:O	2.46	0.62
3:P:22:LEU:HD22	29:W:203:HOH:O	1.99	0.62
4:Q:9:GLU:OE2	6:S:55:LYS:NZ	2.26	0.62
1:A:313:ALA:HB3	2:B:73:LEU:HD11	1.80	0.62
7:G:22:GLY:O	7:G:26:PRO:HG2	1.99	0.62
1:N:130:PRO:HB2	29:N:716:HOH:O	1.99	0.62
1:N:344:PHE:HB2	29:N:730:HOH:O	2.00	0.62
1:N:411:LYS:HE3	29:N:762:HOH:O	1.99	0.62
10:W:26:ALA:O	10:W:30:ILE:HD12	2.00	0.62
1:A:405:LEU:HD11	29:A:722:HOH:O	1.99	0.62
2:B:110:TYR:CE2	29:B:434:HOH:O	2.31	0.62
6:F:85:CYS:SG	6:F:87:THR:OG1	2.58	0.62
18:N:607:HEA:HMC1	18:N:607:HEA:HBC1	1.82	0.62
1:A:26:ALA:N	29:A:708:HOH:O	2.31	0.61
4:D:82:VAL:O	4:D:86:MET:HG3	2.00	0.61
3:C:149:HIS:NE2	26:C:309:DMU:H2	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:187:THR:HB	7:G:68:THR:HG21	1.82	0.61
12:L:35:ALA:HB3	12:L:36:PRO:HD3	1.83	0.61
1:N:240:HIS:CE1	1:N:244:TYR:HE2	2.11	0.61
1:N:336:PRO:HB2	1:N:394:VAL:HG11	1.81	0.61
1:A:215:LEU:HD13	29:C:412:HOH:O	2.00	0.61
12:Y:35:ALA:HB3	12:Y:36:PRO:CD	2.27	0.61
1:N:364:ASP:OD1	18:N:606:HEA:O2A	2.17	0.61
8:H:81:PHE:CE2	8:H:85:ILE:HD11	2.36	0.61
13:M:17:ILE:O	13:M:20:SER:N	2.34	0.60
1:N:477:ALA:O	13:Z:8:THR:OG1	2.19	0.60
1:A:106:PRO:HB2	1:A:107:PRO:HD3	1.83	0.60
21:B:302:TGL:HC31	29:I:201:HOH:O	2.01	0.60
1:N:236:TRP:O	1:N:288:TRP:HB2	2.01	0.60
1:N:396:TRP:CA	29:N:709:HOH:O	2.42	0.60
3:P:75:VAL:HG12	29:P:420:HOH:O	2.00	0.60
4:Q:118:LYS:HA	29:X:102:HOH:O	1.99	0.60
13:Z:34:LEU:HA	13:Z:37:LEU:HD23	1.82	0.60
6:F:20:VAL:HG13	29:F:208:HOH:O	2.02	0.60
1:N:409:TRP:HA	1:N:412:ILE:HD12	1.84	0.60
1:A:390:MET:HE3	1:A:390:MET:HA	1.83	0.60
12:L:2:HIS:HB2	29:L:205:HOH:O	2.02	0.60
1:N:229:ILE:HD11	2:O:175:ILE:HD13	1.84	0.60
1:A:92:MET:SD	29:A:714:HOH:O	2.57	0.59
11:X:52:GLU:C	29:X:102:HOH:O	2.41	0.59
1:A:417:MET:HE1	18:A:606:HEA:H263	1.84	0.59
1:N:163:ASN:O	1:N:167:THR:OG1	2.15	0.59
24:P:304:PEK:HN2	7:T:76:ASN:HD21	1.51	0.59
1:A:71:MET:HB2	1:A:72:PRO:HD3	1.83	0.59
11:X:6:ALA:HA	29:X:107:HOH:O	2.02	0.59
3:C:192:VAL:O	3:C:196:THR:HG23	2.02	0.59
5:E:15:TRP:HB3	29:E:222:HOH:O	2.01	0.59
1:A:290:HIS:CD2	1:A:291:HIS:CD2	2.90	0.59
3:P:88:ILE:O	3:P:92:LEU:HD23	2.03	0.59
2:B:139:ASP:OD1	2:B:140:ASN:N	2.35	0.59
3:P:132:LEU:O	3:P:136:VAL:HG23	2.03	0.59
8:H:60:TYR:O	8:H:64:CYS:HB2	2.03	0.59
2:O:40:TYR:O	2:O:43:SER:OG	2.18	0.59
1:N:397:PHE:O	1:N:401:SER:OG	2.21	0.58
4:Q:56:LYS:NZ	5:R:97:GLY:O	2.36	0.58
3:P:214:PHE:CE2	3:P:238:ALA:HA	2.39	0.58
12:Y:41:ARG:NH1	23:Y:101:CHD:H182	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:34:SER:O	4:D:38:LYS:HG3	2.04	0.58
2:B:146:MET:SD	2:B:189:PRO:HB3	2.44	0.58
26:C:310:DMU:H34	29:C:438:HOH:O	2.03	0.58
1:N:31:THR:HG23	18:N:607:HEA:H14	1.86	0.58
7:T:10:GLY:O	23:T:103:CHD:H41	2.03	0.58
1:A:198:SER:OG	29:A:704:HOH:O	2.17	0.58
1:A:338:MET:HG2	29:A:757:HOH:O	2.03	0.58
4:Q:56:LYS:NZ	5:R:99:SER:OG	2.32	0.58
3:C:111:GLU:HG3	29:C:440:HOH:O	2.04	0.58
1:N:349:THR:O	1:N:353:LEU:HG	2.04	0.58
29:P:417:HOH:O	10:W:12:PHE:HE2	1.85	0.58
2:B:153:LEU:HD13	2:B:179:LEU:HD21	1.86	0.58
7:T:17:ARG:HD2	29:T:203:HOH:O	2.04	0.57
1:A:169:ILE:HD12	7:T:7:ASP:HB3	1.85	0.57
1:A:117:MET:HE3	29:J:202:HOH:O	2.03	0.57
1:A:372:TYR:HD1	29:A:713:HOH:O	1.87	0.57
1:N:112:LEU:O	1:N:115:SER:HB3	2.03	0.57
1:N:399:LEU:CB	29:N:709:HOH:O	2.52	0.57
2:O:1:FME:SD	2:O:133:LEU:HD11	2.44	0.57
10:W:8:LYS:O	10:W:12:PHE:HD2	1.86	0.57
1:N:72:PRO:HB2	29:N:705:HOH:O	2.05	0.57
1:N:399:LEU:HB2	29:N:709:HOH:O	2.04	0.57
1:A:195:LEU:CD2	1:A:245:ILE:HD13	2.35	0.56
25:P:309:CDL:H761	29:P:412:HOH:O	2.04	0.56
1:A:69:MET:O	29:A:705:HOH:O	2.17	0.56
1:N:33:LEU:HD23	1:N:57:VAL:HG23	1.87	0.56
1:N:440:TYR:OH	2:O:195:GLN:HB3	2.06	0.56
1:A:23:GLY:HA3	29:A:702:HOH:O	2.05	0.56
1:A:358:LEU:HD13	18:A:605:HEA:CBA	2.36	0.56
1:A:377:PHE:HA	1:A:380:VAL:HG22	1.87	0.56
3:C:111:GLU:CG	29:C:440:HOH:O	2.53	0.56
4:D:67:SER:OG	4:D:70:GLU:HG3	2.04	0.56
4:D:138:TRP:CH2	11:K:50:PRO:HG2	2.40	0.56
1:A:83:VAL:HB	1:A:84:PRO:HD3	1.88	0.56
10:J:8:LYS:O	10:J:12:PHE:HD2	1.89	0.56
1:A:80:ASN:HA	29:A:714:HOH:O	2.04	0.56
2:B:90:ILE:O	2:B:90:ILE:HG23	2.05	0.56
1:N:486:ASP:HB3	1:N:487:LEU:HG	1.86	0.56
3:P:126:PRO:HB2	29:P:412:HOH:O	2.05	0.56
1:A:406:ASN:OD1	1:A:406:ASN:C	2.43	0.56
18:A:606:HEA:HBC1	18:A:606:HEA:HMC1	1.85	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:50:LEU:HD21	5:E:77:PRO:HD2	1.88	0.56
25:P:309:CDL:HA32	25:P:309:CDL:HA22	1.86	0.56
6:F:63:GLU:O	6:F:66:ASN:HB2	2.06	0.56
1:N:242:GLU:HA	1:N:245:ILE:HD12	1.86	0.56
29:G:201:HOH:O	1:N:278:MET:HE1	2.05	0.56
3:P:252:LEU:CD2	3:P:256:ILE:HD12	2.36	0.56
1:A:70:VAL:O	1:A:74:MET:HB2	2.05	0.55
3:P:70:HIS:HB2	29:P:421:HOH:O	2.05	0.55
1:A:373:VAL:HA	29:A:713:HOH:O	2.05	0.55
6:F:81:ARG:HA	6:F:87:THR:O	2.06	0.55
1:N:331:ASN:ND2	4:Q:21:ASP:OD1	2.37	0.55
2:B:40:TYR:CE1	9:I:24:ALA:HB2	2.41	0.55
1:N:474:GLU:OE1	1:N:480:ARG:NH2	2.28	0.55
1:A:283:LEU:HD23	1:A:286:ILE:HD11	1.88	0.55
1:A:338:MET:HE3	29:A:710:HOH:O	2.04	0.55
4:D:14:PRO:CB	29:D:303:HOH:O	2.50	0.55
8:U:60:TYR:CD1	8:U:60:TYR:C	2.80	0.55
1:A:23:GLY:CA	29:A:702:HOH:O	2.54	0.55
1:N:250:GLY:O	1:N:254:ILE:HG12	2.07	0.55
1:A:34:SER:CB	29:A:762:HOH:O	2.54	0.55
6:F:55:LYS:HA	6:F:74:LEU:O	2.06	0.55
1:N:194:LEU:HD22	1:N:285:PHE:HE2	1.72	0.55
1:N:303:ALA:HB2	2:O:84:LEU:HD21	1.87	0.55
5:R:12:ASP:HA	5:R:47:ILE:HD11	1.88	0.55
23:T:103:CHD:H182	23:T:103:CHD:H9	1.87	0.55
1:A:229:ILE:HD11	2:B:175:ILE:HD13	1.89	0.55
2:O:40:TYR:CE1	9:V:24:ALA:HB2	2.42	0.55
23:C:307:CHD:H212	23:C:307:CHD:H183	1.87	0.55
26:C:309:DMU:H7	24:C:311:PEK:HN1	1.70	0.55
1:N:480:ARG:NE	29:N:714:HOH:O	2.40	0.55
6:S:50:PRO:HA	6:S:92:VAL:HG23	1.89	0.55
1:A:327:LEU:CD2	1:A:338:MET:HE3	2.37	0.55
7:T:67:HIS:CE1	7:T:78:LEU:HD11	2.42	0.55
21:L:101:TGL:HG2	29:L:209:HOH:O	2.06	0.54
6:S:9:ASP:HB3	6:S:21:MET:HE1	1.89	0.54
12:L:20:ARG:O	12:L:24:MET:HG2	2.07	0.54
1:N:489:THR:HA	6:S:71:TRP:O	2.07	0.54
1:A:184:PHE:CD1	29:A:706:HOH:O	2.54	0.54
3:P:258:TRP:CD1	25:P:309:CDL:H781	2.43	0.54
4:Q:14:PRO:HD3	29:Q:301:HOH:O	2.07	0.54
2:B:44:LEU:HD11	9:I:20:HIS:CG	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:11:VAL:HG13	29:C:414:HOH:O	2.07	0.54
5:E:99:SER:CB	5:E:104:LEU:HD11	2.38	0.54
12:Y:20:ARG:NH1	12:Y:24:MET:SD	2.80	0.54
18:N:607:HEA:OMA	18:N:607:HEA:HHB	2.06	0.54
1:A:73:ILE:CG1	29:A:705:HOH:O	2.37	0.54
1:A:169:ILE:CD1	7:T:7:ASP:HB3	2.38	0.54
1:N:309:THR:HG22	18:N:606:HEA:HMB2	1.90	0.54
2:O:111:THR:HA	2:O:114:GLU:O	2.07	0.54
1:N:481:GLU:HB2	13:Z:4:LYS:HE3	1.89	0.54
1:A:486:ASP:OD1	1:A:486:ASP:N	2.41	0.53
1:N:113:LEU:CA	21:N:604:TGL:H323	2.38	0.53
1:A:118:VAL:HG11	1:A:141:ALA:HB3	1.90	0.53
1:A:303:ALA:HB2	2:B:84:LEU:CD2	2.38	0.53
7:G:8:HIS:ND1	7:G:8:HIS:N	2.56	0.53
1:N:34:SER:HA	29:N:722:HOH:O	2.08	0.53
1:A:462:LEU:O	1:A:466:MET:HG3	2.08	0.53
2:B:95:LEU:HD12	2:B:96:THR:H	1.73	0.53
1:N:113:LEU:HD22	21:N:604:TGL:H291	1.90	0.53
6:S:9:ASP:HB3	6:S:21:MET:CE	2.38	0.53
1:A:190:ILE:HG22	1:A:248:LEU:HD13	1.89	0.53
2:O:152:MET:HB2	2:O:182:THR:HG23	1.90	0.53
1:A:377:PHE:O	1:A:381:LEU:HB2	2.08	0.53
29:A:771:HOH:O	21:D:201:TGL:HG11	2.08	0.53
1:N:240:HIS:ND1	1:N:290:HIS:CE1	2.76	0.53
1:N:383:MET:HA	1:N:387:PHE:CE1	2.43	0.53
1:A:292:MET:O	1:A:295:VAL:HG22	2.08	0.53
8:H:61:LYS:HD2	29:H:207:HOH:O	2.09	0.53
3:P:103:HIS:ND1	23:P:303:CHD:O26	2.34	0.53
3:P:47:LEU:HD23	29:P:439:HOH:O	2.09	0.53
6:S:8:THR:HG22	29:S:213:HOH:O	2.09	0.53
3:C:30:GLY:HA2	3:C:42:LEU:HB3	1.91	0.53
8:H:60:TYR:CD1	8:H:60:TYR:C	2.82	0.53
3:P:92:LEU:HD13	29:P:403:HOH:O	2.08	0.53
3:P:159:MET:SD	3:P:159:MET:O	2.67	0.53
4:Q:29:HIS:HB3	29:Q:316:HOH:O	2.09	0.53
1:A:117:MET:CB	29:J:202:HOH:O	2.56	0.52
1:A:127:THR:HB	1:A:129:TYR:CE1	2.45	0.52
6:F:62:CYS:SG	6:F:84:SER:HB3	2.49	0.52
1:N:183:LEU:HD12	1:N:255:SER:HB3	1.91	0.52
2:O:139:ASP:OD1	2:O:140:ASN:N	2.40	0.52
1:A:373:VAL:N	29:A:713:HOH:O	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:113:TYR:CD1	29:H:203:HOH:O	2.59	0.52
3:C:8:TYR:CE1	3:C:74:ALA:HB1	2.43	0.52
24:C:303:PEK:C12	24:C:303:PEK:H162	2.40	0.52
8:H:47:GLY:HA2	29:H:225:HOH:O	2.09	0.52
8:H:12:GLN:HG3	29:H:210:HOH:O	2.09	0.52
29:N:750:HOH:O	2:O:199:ILE:HG12	2.08	0.52
3:P:25:LEU:O	3:P:29:SER:OG	2.14	0.52
1:N:30:GLY:O	1:N:33:LEU:HB2	2.10	0.52
3:P:229:SER:OG	29:P:401:HOH:O	2.19	0.52
3:C:125:ASN:OD1	3:C:126:PRO:HD2	2.10	0.52
5:E:11:PHE:CE2	5:E:41:LEU:HD21	2.44	0.52
1:N:460:ILE:HG13	4:Q:92:THR:HG21	1.91	0.52
1:A:30:GLY:HA3	1:A:65:MET:SD	2.50	0.52
1:A:373:VAL:CA	29:A:713:HOH:O	2.57	0.52
1:N:478:SER:O	13:Z:6:ALA:HB1	2.09	0.52
1:N:65:MET:O	1:N:70:VAL:HG23	2.10	0.52
12:Y:35:ALA:CB	12:Y:36:PRO:HD3	2.33	0.51
1:N:43:GLN:OE1	4:Q:104:TYR:CD2	2.64	0.51
1:N:106:PRO:HB2	1:N:107:PRO:HD3	1.93	0.51
4:D:10:ASP:HB3	4:D:13:LEU:HD12	1.92	0.51
2:O:136:LEU:HB3	2:O:193:TYR:CD2	2.45	0.51
2:B:33:LEU:HB3	29:B:421:HOH:O	2.10	0.51
5:E:48:ILE:O	5:E:52:LEU:HG	2.10	0.51
6:F:8:THR:HG23	6:F:11:GLU:OE2	2.11	0.51
2:B:90:ILE:HD11	8:H:16:PHE:CD2	2.45	0.51
3:C:148:HIS:O	3:C:152:MET:HG3	2.11	0.51
1:A:289:ALA:HB3	1:A:305:PHE:CD1	2.46	0.51
7:G:6:GLY:O	7:G:8:HIS:ND1	2.44	0.51
2:O:108:TYR:CE2	2:O:142:VAL:CG2	2.93	0.51
3:P:142:VAL:HG11	7:T:24:ALA:HB2	1.92	0.51
4:Q:126:MET:HB3	9:V:68:ILE:HD12	1.92	0.51
29:O:415:HOH:O	9:V:70:GLN:HG3	2.11	0.51
4:Q:25:PRO:O	5:R:30:ARG:HD2	2.11	0.51
29:Q:320:HOH:O	11:X:24:PHE:HZ	1.92	0.51
1:A:179:TYR:C	1:A:180:GLN:HG3	2.31	0.51
1:A:443:TYR:HE2	1:A:448:THR:HA	1.76	0.51
4:D:95:LEU:HD22	26:M:101:DMU:H17	1.92	0.51
1:N:178:GLN:HG3	1:N:186:TRP:CZ2	2.46	0.51
1:N:227:ASP:OD2	3:P:103:HIS:NE2	2.44	0.51
23:P:308:CHD:H183	23:P:308:CHD:H212	1.92	0.51
1:N:290:HIS:HA	1:N:293:PHE:CZ	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:142:VAL:HG12	2:B:144:LEU:HG	1.93	0.51
1:N:60:ALA:O	1:N:64:VAL:HG23	2.11	0.51
2:O:1:FME:HE3	2:O:133:LEU:HD11	1.93	0.51
1:A:184:PHE:CE1	29:A:706:HOH:O	2.64	0.50
3:C:127:LEU:HD23	25:C:308:CDL:HA21	1.92	0.50
3:P:129:VAL:N	3:P:130:PRO:CD	2.75	0.50
3:P:143:SER:O	3:P:146:TRP:HB3	2.11	0.50
1:A:258:VAL:HA	29:A:710:HOH:O	2.11	0.50
1:N:102:PHE:O	1:N:105:LEU:HB2	2.11	0.50
1:N:299:VAL:HB	2:O:88:ASP:OD2	2.10	0.50
1:A:274:VAL:O	1:A:278:MET:HG3	2.12	0.50
1:A:358:LEU:HD13	18:A:605:HEA:HBA2	1.93	0.50
18:A:606:HEA:C3B	29:A:762:HOH:O	2.59	0.50
1:A:372:TYR:C	29:A:713:HOH:O	2.50	0.50
5:E:19:PHE:O	5:E:57:ARG:NH2	2.44	0.50
1:N:127:THR:HB	1:N:129:TYR:CD1	2.46	0.50
2:O:1:FME:SD	2:O:133:LEU:CD1	2.99	0.50
1:A:152:LEU:HD22	3:C:24:ALA:HB1	1.94	0.50
3:C:24:ALA:HB2	29:C:427:HOH:O	2.12	0.50
4:Q:29:HIS:CE1	4:Q:65:LYS:HD2	2.47	0.50
1:A:424:THR:HG21	18:A:606:HEA:HMB2	1.92	0.50
1:A:510:TYR:CD2	6:F:49:VAL:HG13	2.47	0.50
3:C:75:VAL:HG21	29:C:402:HOH:O	2.11	0.50
2:O:83:ILE:O	2:O:87:MET:HG3	2.12	0.50
4:Q:121:LYS:O	4:Q:125:ASP:N	2.45	0.50
8:U:69:VAL:O	8:U:70:SER:C	2.50	0.50
1:A:306:THR:HA	1:A:359:ALA:O	2.12	0.50
2:B:41:ILE:O	2:B:45:MET:HG2	2.11	0.50
3:C:58:TRP:CG	17:C:305:PGV:H41	2.46	0.50
21:L:101:TGL:HA22	29:L:208:HOH:O	2.11	0.50
1:N:449:MET:SD	2:O:5:MET:HG2	2.52	0.50
1:A:61:HIS:O	1:A:65:MET:HG2	2.12	0.49
1:A:86:MET:HB3	1:A:182:PRO:HG2	1.94	0.49
1:A:212:ASP:OD1	1:A:217:THR:OG1	2.28	0.49
1:A:336:PRO:HB2	1:A:394:VAL:HG11	1.93	0.49
6:F:13:ALA:O	6:F:18:ARG:HD2	2.12	0.49
1:A:21:LEU:CD2	21:L:101:TGL:H212	2.42	0.49
1:A:322:SER:O	1:A:323:TRP:C	2.49	0.49
1:A:426:PHE:N	1:A:427:PRO:CD	2.75	0.49
7:G:45:PRO:CA	29:G:204:HOH:O	2.56	0.49
1:N:168:ILE:HD13	1:N:185:VAL:HG13	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:292:MET:O	1:N:295:VAL:HG22	2.12	0.49
1:N:374:VAL:HG11	29:N:755:HOH:O	2.12	0.49
2:O:115:ASP:OD2	8:U:61:LYS:NZ	2.21	0.49
1:A:327:LEU:HD21	1:A:338:MET:HE3	1.94	0.49
2:B:102:HIS:O	2:B:104:TRP:HA	2.12	0.49
1:N:43:GLN:CB	4:Q:104:TYR:CE2	2.89	0.49
1:N:80:ASN:ND2	1:N:98:ASN:HD21	2.10	0.49
1:N:128:VAL:HG12	1:N:128:VAL:O	2.12	0.49
1:N:312:ILE:HG22	1:N:312:ILE:O	2.12	0.49
3:P:225:PHE:HZ	29:P:416:HOH:O	1.95	0.49
1:A:21:LEU:HD21	21:L:101:TGL:H212	1.94	0.49
1:N:113:LEU:HB2	21:N:604:TGL:H323	1.93	0.49
1:N:398:PRO:HG2	29:N:726:HOH:O	2.13	0.49
6:S:70:ILE:HG13	6:S:84:SER:HB2	1.94	0.49
1:A:338:MET:O	1:A:342:LEU:HG	2.12	0.49
17:C:305:PGV:H142	25:C:306:CDL:H652	1.94	0.49
1:A:303:ALA:HB2	2:B:84:LEU:HD21	1.94	0.49
24:P:304:PEK:C1	29:P:408:HOH:O	2.60	0.49
1:A:199:LEU:N	1:A:200:PRO:CD	2.75	0.49
2:B:14:SER:OG	2:B:168:LEU:O	2.31	0.49
2:B:116:LEU:HB2	2:B:227:LEU:HD23	1.95	0.49
1:N:9:SER:HA	29:N:738:HOH:O	2.12	0.49
8:U:49:ASP:O	8:U:52:VAL:HG22	2.13	0.49
3:P:252:LEU:HD22	3:P:256:ILE:HD12	1.94	0.48
1:A:202:LEU:HD13	1:A:238:PHE:CD2	2.48	0.48
1:A:440:TYR:CE2	2:B:205:SER:HA	2.48	0.48
3:P:26:LEU:HD21	10:W:42:GLY:C	2.34	0.48
7:T:72:ASN:H	7:T:76:ASN:HD22	1.60	0.48
9:V:23:GLY:O	9:V:27:VAL:HG23	2.13	0.48
1:A:248:LEU:O	1:A:251:PHE:HB2	2.13	0.48
2:B:106:TRP:CD2	29:B:439:HOH:O	2.66	0.48
1:N:75:ILE:O	1:N:79:GLY:HA3	2.13	0.48
1:N:341:ALA:O	1:N:344:PHE:HB3	2.12	0.48
1:N:397:PHE:N	1:N:398:PRO:CD	2.77	0.48
23:T:101:CHD:H151	29:T:201:HOH:O	2.14	0.48
2:B:142:VAL:HG12	2:B:142:VAL:O	2.13	0.48
1:A:12:HIS:CD2	1:A:84:PRO:HG2	2.48	0.48
1:A:306:THR:O	1:A:310:MET:HG3	2.14	0.48
3:C:246:ASP:OD1	3:C:246:ASP:C	2.52	0.48
7:G:78:LEU:HB3	7:G:79:PRO:HD2	1.96	0.48
29:Q:301:HOH:O	6:S:75:HIS:CE1	2.66	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:143:SER:O	3:C:146:TRP:HB3	2.14	0.48
4:D:76:ASN:O	11:K:10:HIS:HB3	2.13	0.48
1:N:251:PHE:HB3	1:N:319:LYS:HE2	1.94	0.48
7:T:23:LEU:C	7:T:26:PRO:HD2	2.34	0.48
7:T:25:LEU:N	7:T:26:PRO:CD	2.76	0.48
2:B:78:LEU:HB3	2:B:79:PRO:HD3	1.96	0.48
3:C:203:PHE:O	3:C:207:HIS:HD2	1.96	0.48
17:H:101:PGV:H181	7:T:1:ALA:HB2	1.96	0.48
13:M:28:LEU:HB2	13:M:29:PRO:HD3	1.96	0.48
4:Q:129:ALA:HB1	4:Q:133:GLY:HA3	1.95	0.48
1:A:492:LEU:HD13	6:F:71:TRP:CD2	2.49	0.47
2:B:1:FME:SD	2:B:133:LEU:HD11	2.54	0.47
3:C:7:ALA:O	3:C:72:THR:OG1	2.22	0.47
8:H:9:LYS:HG2	29:H:208:HOH:O	2.14	0.47
1:N:472:ILE:HG21	21:N:604:TGL:H201	1.97	0.47
1:A:183:LEU:CD1	1:A:255:SER:HB3	2.42	0.47
1:A:358:LEU:HD13	18:A:605:HEA:HBA1	1.95	0.47
2:B:13:THR:C	29:B:417:HOH:O	2.51	0.47
5:R:41:LEU:HD12	5:R:41:LEU:C	2.35	0.47
9:V:63:MET:HB3	9:V:68:ILE:HD11	1.95	0.47
2:B:88:ASP:O	2:B:89:GLU:O	2.32	0.47
12:L:45:LEU:HD23	12:L:45:LEU:HA	1.71	0.47
7:T:22:GLY:C	7:T:26:PRO:HG2	2.35	0.47
9:V:40:ALA:O	9:V:42:LYS:N	2.45	0.47
3:C:63:ARG:HD3	10:J:12:PHE:CE1	2.49	0.47
7:G:11:TPO:HG23	7:G:14:ARG:HB3	1.96	0.47
1:N:383:MET:HA	1:N:387:PHE:CD1	2.49	0.47
1:A:73:ILE:HG13	29:A:702:HOH:O	2.14	0.47
1:A:106:PRO:O	1:A:107:PRO:C	2.53	0.47
1:A:440:TYR:CZ	2:B:205:SER:HA	2.49	0.47
4:D:48:TRP:HB2	5:E:96:LEU:O	2.15	0.47
1:N:232:GLN:O	1:N:236:TRP:HB2	2.15	0.47
1:N:488:THR:HB	1:N:495:LEU:HD13	1.95	0.47
2:O:90:ILE:CD1	8:U:16:PHE:CD2	2.97	0.47
3:C:146:TRP:CZ2	7:G:17:ARG:HG3	2.50	0.47
1:N:55:ASN:HA	1:N:58:VAL:HB	1.96	0.47
5:R:60:ASP:OD2	5:R:63:SER:OG	2.25	0.47
5:E:94:ASN:CB	29:E:209:HOH:O	2.46	0.47
8:H:57:ARG:HG2	29:H:207:HOH:O	2.14	0.47
1:N:3:ILE:HD13	1:N:7:LEU:HD22	1.97	0.47
5:R:8:ASP:HA	22:V:101:PSC:H081	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:A:604:PGV:O02	17:A:604:PGV:H72	2.15	0.47
1:N:380:VAL:HG21	18:N:606:HEA:C3C	2.45	0.47
1:A:109:PHE:CE1	1:A:113:LEU:HD11	2.50	0.46
1:A:240:HIS:HB3	1:A:241:PRO:HD3	1.96	0.46
2:O:200:CYS:SG	2:O:204:HIS:HA	2.54	0.46
6:S:85:CYS:SG	6:S:87:THR:HG23	2.55	0.46
1:A:358:LEU:HD11	29:A:713:HOH:O	2.15	0.46
18:A:606:HEA:H212	29:A:733:HOH:O	2.14	0.46
2:B:31:VAL:O	2:B:35:SER:OG	2.26	0.46
1:N:124:THR:OG1	1:N:125:GLY:O	2.33	0.46
3:P:70:HIS:CB	29:P:421:HOH:O	2.60	0.46
5:R:81:ILE:HD13	9:V:9:MET:HG2	1.98	0.46
6:S:62:CYS:SG	6:S:84:SER:HB3	2.55	0.46
3:C:243:HIS:HD2	29:C:406:HOH:O	1.98	0.46
1:N:135:ASN:O	1:N:139:ALA:HB2	2.16	0.46
1:N:429:HIS:O	1:N:433:LEU:HG	2.15	0.46
2:O:155:SER:CB	29:O:412:HOH:O	2.63	0.46
4:Q:10:ASP:CB	29:Q:322:HOH:O	2.64	0.46
1:N:23:GLY:N	29:N:705:HOH:O	2.47	0.46
1:N:71:MET:HB2	1:N:72:PRO:HD3	1.96	0.46
1:A:75:ILE:O	1:A:79:GLY:HA3	2.16	0.46
8:H:27:ARG:HD3	29:H:222:HOH:O	2.15	0.46
9:I:29:LEU:O	9:I:32:ALA:HB3	2.16	0.46
1:N:140:GLY:O	1:N:213:ARG:NH2	2.48	0.46
1:N:371:TYR:O	1:N:374:VAL:HB	2.16	0.46
4:Q:23:PRO:HD2	5:R:34:ASN:OD1	2.16	0.46
1:N:303:ALA:HB2	2:O:84:LEU:CD2	2.45	0.46
1:N:361:SER:OG	2:O:84:LEU:HD13	2.15	0.46
5:E:24:ILE:HA	5:E:28:GLU:OE1	2.16	0.46
1:N:127:THR:HB	1:N:129:TYR:CE1	2.51	0.46
1:A:417:MET:CE	18:A:606:HEA:H263	2.45	0.46
4:D:14:PRO:HD2	29:D:303:HOH:O	2.14	0.46
4:D:86:MET:O	11:K:25:CYS:HB2	2.16	0.46
1:N:251:PHE:HB2	29:N:740:HOH:O	2.15	0.46
2:O:199:ILE:HG23	2:O:199:ILE:O	2.16	0.46
1:A:431:LEU:HD21	1:A:450:TRP:HB2	1.98	0.46
1:N:377:PHE:O	1:N:381:LEU:HB2	2.16	0.46
1:N:498:CYS:HA	1:N:499:PRO:HA	1.85	0.46
2:O:216:LEU:HB2	29:O:426:HOH:O	2.16	0.46
25:P:309:CDL:H231	7:T:30:LEU:HD13	1.98	0.46
1:A:12:HIS:CD2	1:A:80:ASN:O	2.61	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:14:SER:CB	2:B:185:MET:O	2.64	0.45
2:B:96:THR:HA	2:B:151:ARG:O	2.15	0.45
8:H:69:VAL:O	8:H:70:SER:C	2.55	0.45
1:N:356:ILE:HD13	1:N:356:ILE:HA	1.86	0.45
2:B:14:SER:HB2	2:B:185:MET:O	2.16	0.45
4:D:83:GLY:HA3	11:K:18:LEU:HA	1.98	0.45
10:J:31:LEU:O	10:J:35:THR:OG1	2.21	0.45
1:N:378:HIS:CE1	18:N:607:HEA:NA	2.84	0.45
1:A:11:ASN:HB3	1:A:14:ASP:HB2	1.99	0.45
3:C:56:GLN:O	3:C:59:ARG:HB3	2.16	0.45
12:L:22:LEU:HD21	13:M:18:GLY:HA2	1.97	0.45
2:O:102:HIS:O	2:O:104:TRP:HA	2.16	0.45
3:P:127:LEU:HD13	25:P:309:CDL:H782	1.97	0.45
3:C:81:TYR:O	3:C:85:LEU:HG	2.17	0.45
13:Z:28:LEU:HB2	13:Z:29:PRO:HD3	1.99	0.45
1:A:44:PRO:HD3	1:A:448:THR:HG23	1.98	0.45
2:B:90:ILE:CD1	8:H:16:PHE:CD2	2.98	0.45
3:C:129:VAL:N	3:C:130:PRO:CD	2.79	0.45
4:D:100:LYS:HD2	4:D:100:LYS:O	2.17	0.45
4:Q:10:ASP:HB3	29:Q:322:HOH:O	2.16	0.45
1:N:248:LEU:HB3	29:N:751:HOH:O	2.16	0.45
2:O:9:PHE:HB2	2:O:21:LEU:HD21	1.99	0.45
3:P:95:THR:CB	29:P:403:HOH:O	2.64	0.45
29:Q:326:HOH:O	11:X:28:VAL:HG21	2.17	0.45
1:A:289:ALA:HB3	1:A:305:PHE:CG	2.52	0.45
1:N:43:GLN:HB2	1:N:44:PRO:HD2	1.97	0.45
1:N:151:HIS:CE1	1:N:207:THR:OG1	2.69	0.45
1:N:199:LEU:N	1:N:200:PRO:CD	2.80	0.45
5:R:67:ILE:O	5:R:70:VAL:HG12	2.16	0.45
8:U:60:TYR:O	8:U:64:CYS:HB2	2.16	0.45
1:A:43:GLN:HB2	1:A:44:PRO:HD2	1.99	0.45
5:E:81:ILE:HD13	9:I:9:MET:HG2	1.99	0.45
3:P:206:LEU:HB2	29:P:414:HOH:O	2.16	0.45
6:S:13:ALA:O	6:S:18:ARG:HD2	2.17	0.45
1:A:301:THR:HG23	23:C:302:CHD:H112	1.98	0.45
12:L:22:LEU:O	12:L:26:THR:HB	2.17	0.45
1:N:202:LEU:HD13	1:N:238:PHE:CD2	2.52	0.45
12:Y:4:GLU:HB3	12:Y:9:LYS:HB3	1.98	0.45
3:C:192:VAL:HA	3:C:195:SER:HB2	1.99	0.45
5:E:82:TYR:HB3	5:E:83:PRO:HD3	1.99	0.45
1:N:111:LEU:HD21	3:P:25:LEU:HD12	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:200:PRO:HB2	3:P:92:LEU:HB3	1.99	0.45
2:O:23:PHE:HB2	2:O:83:ILE:CD1	2.47	0.45
3:P:12:ASN:O	3:P:13:PRO:C	2.54	0.45
1:A:37:ILE:HD11	1:A:58:VAL:HA	1.98	0.44
1:A:230:LEU:HD21	3:C:100:ALA:HA	1.99	0.44
1:A:490:THR:C	1:A:491:ASN:HD22	2.21	0.44
1:A:60:ALA:O	1:A:64:VAL:HG23	2.17	0.44
11:K:9:PHE:HA	29:K:107:HOH:O	2.17	0.44
1:A:405:LEU:CD1	29:A:722:HOH:O	2.63	0.44
1:A:514:LYS:CE	6:F:61:ILE:O	2.65	0.44
3:C:98:PHE:O	3:C:101:PHE:HB3	2.18	0.44
1:N:280:ILE:HD11	1:N:316:THR:HA	1.99	0.44
2:O:1:FME:CE	2:O:133:LEU:HD11	2.46	0.44
1:A:154:GLY:O	1:A:158:ILE:HG13	2.17	0.44
3:C:103:HIS:ND1	23:C:302:CHD:O26	2.46	0.44
1:N:309:THR:CG2	18:N:606:HEA:HMB2	2.46	0.44
1:N:378:HIS:CG	1:N:425:PHE:CE1	3.05	0.44
4:Q:21:ASP:OD1	4:Q:21:ASP:N	2.50	0.44
1:A:68:PHE:HA	1:A:72:PRO:HG2	1.99	0.44
2:B:58:ALA:O	2:B:60:GLU:N	2.50	0.44
1:N:347:LEU:HD13	1:N:383:MET:HB3	1.99	0.44
3:P:86:PHE:CE2	17:P:305:PGV:H261	2.52	0.44
1:A:393:PHE:N	29:A:726:HOH:O	2.50	0.44
1:A:459:PHE:O	4:D:92:THR:HG23	2.18	0.44
11:K:6:ALA:HB1	11:K:7:PRO:HD2	1.99	0.44
7:T:72:ASN:N	7:T:76:ASN:HD22	2.16	0.44
1:A:393:PHE:HA	29:A:726:HOH:O	2.18	0.44
1:A:440:TYR:OH	2:B:195:GLN:HB3	2.17	0.44
2:B:95:LEU:HD12	2:B:112:ASP:OD2	2.18	0.44
2:B:162:SER:HB3	2:B:197:SER:HB2	1.99	0.44
3:C:177:GLN:HA	3:C:177:GLN:OE1	2.17	0.44
2:O:216:LEU:O	2:O:219:PHE:HB3	2.18	0.44
3:P:206:LEU:O	3:P:210:ILE:HG13	2.18	0.44
7:T:48:ILE:HG22	8:U:80:THR:HG22	2.00	0.44
12:Y:41:ARG:HH11	23:Y:101:CHD:H182	1.81	0.44
29:A:804:HOH:O	21:L:101:TGL:H291	2.16	0.44
2:B:110:TYR:CD1	2:B:110:TYR:N	2.86	0.44
3:C:247:VAL:O	3:C:250:LEU:HB2	2.17	0.44
4:D:117:ALA:HB1	11:K:51:LYS:HB2	1.99	0.44
5:E:19:PHE:HE2	29:E:222:HOH:O	2.01	0.44
1:N:54:TYR:O	1:N:57:VAL:HG12	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:88:GLY:HA2	1:N:505:PHE:CZ	2.52	0.44
18:N:606:HEA:HMC1	18:N:606:HEA:HBC1	1.99	0.44
1:A:399:LEU:N	29:A:723:HOH:O	2.48	0.44
1:A:443:TYR:CE2	1:A:448:THR:HA	2.53	0.44
2:B:124:PRO:O	2:B:125:THR:C	2.56	0.44
1:N:220:PHE:HB3	29:N:729:HOH:O	2.18	0.44
1:N:407:ASP:HB3	29:N:762:HOH:O	2.17	0.44
3:P:102:TYR:O	3:P:106:LEU:HG	2.18	0.44
1:A:11:ASN:HB2	1:A:502:TYR:CZ	2.53	0.43
1:A:24:ALA:HA	29:A:733:HOH:O	2.19	0.43
1:A:362:SER:O	1:A:365:ILE:HB	2.18	0.43
2:B:58:ALA:HB1	2:B:62:GLU:HG3	2.00	0.43
3:C:90:GLU:OE1	3:C:207:HIS:HE1	2.00	0.43
10:J:8:LYS:O	10:J:12:PHE:CD2	2.71	0.43
13:M:13:LYS:HE3	13:M:17:ILE:HD11	2.00	0.43
1:N:147:ILE:HD11	1:N:209:LEU:HD23	1.99	0.43
29:P:417:HOH:O	10:W:12:PHE:CE2	2.56	0.43
2:B:163:TRP:O	2:B:171:LYS:HA	2.18	0.43
8:H:57:ARG:CG	29:H:207:HOH:O	2.66	0.43
1:N:111:LEU:HD21	3:P:25:LEU:CD1	2.48	0.43
1:A:258:VAL:CG1	29:A:710:HOH:O	2.54	0.43
1:A:260:TYR:CE2	1:A:487:LEU:HB2	2.53	0.43
1:A:493:GLU:HG2	1:A:494:TRP:N	2.33	0.43
2:B:40:TYR:CD1	9:I:24:ALA:HB2	2.52	0.43
5:E:41:LEU:HD12	5:E:41:LEU:C	2.39	0.43
1:N:77:GLY:O	1:N:81:TRP:HB2	2.18	0.43
1:N:113:LEU:HB2	21:N:604:TGL:C31	2.48	0.43
2:O:101:GLY:H	2:O:156:SER:HA	1.82	0.43
1:A:179:TYR:OH	7:T:8:HIS:HB3	2.18	0.43
2:B:28:LEU:HD23	9:I:35:TYR:OH	2.18	0.43
2:B:57:ASP:HB2	22:B:303:PSC:H212	2.00	0.43
10:J:33:ARG:HD2	29:J:201:HOH:O	2.17	0.43
1:N:18:LEU:HA	29:N:753:HOH:O	2.18	0.43
1:N:409:TRP:O	1:N:412:ILE:HB	2.17	0.43
2:B:96:THR:HG23	2:B:151:ARG:HD2	2.00	0.43
10:J:30:ILE:O	10:J:34:VAL:HG23	2.18	0.43
1:N:68:PHE:HA	1:N:72:PRO:HG2	1.99	0.43
2:O:103:GLN:HB3	2:O:104:TRP:CE2	2.54	0.43
6:S:63:GLU:O	6:S:66:ASN:HB2	2.18	0.43
1:A:449:MET:SD	2:B:5:MET:HG2	2.59	0.43
2:B:1:FME:SD	2:B:133:LEU:CD1	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:197:PHE:O	3:C:201:THR:OG1	2.17	0.43
4:D:23:PRO:CB	5:E:70:VAL:HG21	2.49	0.43
1:N:103:TRP:O	1:N:107:PRO:HD2	2.18	0.43
1:N:476:PHE:O	1:N:479:LYS:HG2	2.17	0.43
1:A:197:LEU:HD21	24:C:311:PEK:H311	2.01	0.43
1:A:199:LEU:HD23	1:A:199:LEU:HA	1.90	0.43
1:A:218:THR:OG1	3:C:191:GLY:CA	2.63	0.43
2:B:144:LEU:HD23	29:B:434:HOH:O	2.18	0.43
2:O:126:SER:HA	29:O:439:HOH:O	2.18	0.43
7:T:78:LEU:HB3	7:T:79:PRO:CD	2.49	0.43
1:A:187:SER:OG	29:A:706:HOH:O	2.22	0.43
2:B:158:ASP:O	2:B:176:PRO:HG3	2.19	0.43
3:C:149:HIS:CE1	26:C:309:DMU:C2	2.98	0.43
4:D:110:THR:HG22	4:D:115:TRP:CE2	2.54	0.43
5:E:31:LYS:HE2	6:F:84:SER:O	2.18	0.43
1:N:74:MET:CE	1:N:246:LEU:O	2.66	0.43
1:N:229:ILE:O	1:N:230:LEU:C	2.57	0.43
21:N:609:TGL:HG11	29:N:770:HOH:O	2.18	0.43
2:O:152:MET:HE3	2:O:152:MET:HA	1.99	0.43
4:Q:24:LEU:HD12	5:R:30:ARG:HA	2.01	0.43
5:R:82:TYR:HB3	5:R:83:PRO:HD3	2.00	0.43
10:W:6:ALA:O	10:W:9:GLN:HB2	2.18	0.43
21:B:302:TGL:HC41	21:B:302:TGL:H151	2.00	0.43
2:O:199:ILE:HG13	29:O:435:HOH:O	2.18	0.43
4:Q:138:TRP:CH2	11:X:50:PRO:HG2	2.54	0.43
1:A:29:VAL:HG22	12:L:32:GLY:O	2.18	0.43
1:A:338:MET:HE1	29:A:710:HOH:O	2.12	0.43
4:D:19:ARG:HD2	29:D:320:HOH:O	2.19	0.43
10:J:25:GLY:O	10:J:27:THR:N	2.52	0.43
23:J:101:CHD:O7	23:J:101:CHD:H41	2.19	0.43
12:L:9:LYS:HA	12:L:9:LYS:HD3	1.79	0.43
1:A:343:GLY:O	1:A:344:PHE:C	2.58	0.42
25:P:309:CDL:H542	7:T:31:CYS:SG	2.59	0.42
6:S:21:MET:HB2	6:S:21:MET:HE3	1.80	0.42
1:A:240:HIS:O	1:A:243:VAL:HG22	2.18	0.42
2:B:196:CYS:HB2	2:B:207:MET:HG3	2.01	0.42
4:D:21:ASP:OD1	4:D:21:ASP:N	2.52	0.42
9:I:19:PHE:HD1	9:I:20:HIS:CD2	2.37	0.42
1:N:212:ASP:OD1	1:N:217:THR:OG1	2.32	0.42
1:N:507:GLU:HB2	6:S:52:ILE:CD1	2.49	0.42
1:A:231:TYR:CD1	1:A:231:TYR:C	2.92	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:13:THR:HG21	2:B:192:TYR:CE2	2.54	0.42
3:C:119:THR:HG21	8:H:82:PRO:HA	2.01	0.42
3:C:258:TRP:CD1	25:C:308:CDL:H562	2.55	0.42
4:Q:16:TYR:OH	4:Q:18:ASP:OD1	2.30	0.42
4:Q:68:PHE:CZ	5:R:70:VAL:HG23	2.55	0.42
1:A:245:ILE:HD13	1:A:245:ILE:HG21	1.81	0.42
1:A:289:ALA:HB3	1:A:305:PHE:CE1	2.55	0.42
1:A:361:SER:HB2	2:B:84:LEU:HD13	2.00	0.42
3:C:155:ASP:OD2	3:C:158:HIS:CD2	2.67	0.42
10:J:50:LEU:HD22	10:J:50:LEU:O	2.19	0.42
11:K:21:GLY:N	29:K:102:HOH:O	2.52	0.42
1:N:43:GLN:CG	4:Q:104:TYR:CE2	3.02	0.42
1:N:354:THR:O	1:N:357:VAL:HB	2.19	0.42
2:O:41:ILE:HD13	22:V:101:PSC:C34	2.49	0.42
7:T:17:ARG:NE	29:T:204:HOH:O	2.52	0.42
9:V:11:GLY:O	9:V:15:ARG:NH1	2.51	0.42
9:V:22:VAL:O	9:V:26:MET:HG2	2.20	0.42
1:A:147:ILE:HG23	1:A:206:ILE:HD12	2.01	0.42
1:A:467:LEU:HD12	1:A:467:LEU:HA	1.87	0.42
3:C:34:TRP:O	3:C:38:ASN:HA	2.19	0.42
11:K:28:VAL:CB	29:K:101:HOH:O	2.32	0.42
1:N:368:HIS:O	2:O:171:LYS:HE2	2.19	0.42
1:N:459:PHE:CE2	4:Q:99:GLU:OE1	2.72	0.42
13:Z:14:GLU:O	13:Z:17:ILE:HB	2.20	0.42
3:C:153:GLU:OE1	7:G:13:ALA:HB3	2.19	0.42
4:D:14:PRO:CD	29:D:303:HOH:O	2.66	0.42
1:N:12:HIS:HD2	1:N:80:ASN:O	2.02	0.42
1:N:70:VAL:CG1	1:N:246:LEU:HD22	2.49	0.42
3:P:16:TRP:HA	3:P:19:THR:OG1	2.20	0.42
3:P:72:THR:O	3:P:75:VAL:N	2.52	0.42
3:P:77:LYS:O	3:P:81:TYR:CD2	2.73	0.42
3:P:139:ALA:O	3:P:142:VAL:N	2.53	0.42
4:Q:48:TRP:HA	4:Q:51:LEU:HD13	2.02	0.42
1:A:12:HIS:CE1	1:A:13:LYS:HG3	2.54	0.42
5:E:8:ASP:HB3	9:I:10:ARG:CZ	2.50	0.42
5:R:82:TYR:OH	5:R:101:PRO:HD2	2.19	0.42
1:A:21:LEU:HD23	1:A:21:LEU:HA	1.85	0.42
1:A:322:SER:O	1:A:325:ALA:N	2.52	0.42
1:A:397:PHE:N	1:A:398:PRO:CD	2.83	0.42
6:F:29:ASP:OD2	6:F:34:LEU:N	2.36	0.42
1:N:131:PRO:HG2	2:O:159:VAL:HA	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:338:MET:O	1:N:342:LEU:HG	2.19	0.42
1:N:417:MET:CE	29:N:764:HOH:O	2.68	0.42
2:O:13:THR:HG21	2:O:192:TYR:CE2	2.55	0.42
5:R:49:ASP:OD1	5:R:92:THR:OG1	2.30	0.42
11:X:34:THR:OG1	11:X:35:GLN:HG2	2.20	0.42
1:A:374:VAL:HA	1:A:377:PHE:CE2	2.53	0.42
17:A:604:PGV:H062	13:M:3:ALA:HB3	2.01	0.42
2:B:193:TYR:CD2	2:B:210:VAL:HG22	2.55	0.42
3:C:172:TYR:O	3:C:176:LEU:HD12	2.19	0.42
6:F:47:ASN:HB2	6:F:89:TYR:CD1	2.55	0.42
12:L:26:THR:HG22	12:L:27:LEU:HD23	2.01	0.42
1:N:33:LEU:HD22	1:N:60:ALA:HB3	2.01	0.42
3:P:59:ARG:HD2	3:P:63:ARG:NH2	2.34	0.42
5:R:94:ASN:N	5:R:94:ASN:HD22	2.17	0.42
1:A:24:ALA:HB1	29:A:733:HOH:O	2.20	0.42
1:A:495:LEU:HD12	1:A:495:LEU:HA	1.68	0.42
3:P:25:LEU:O	3:P:29:SER:CB	2.68	0.42
3:P:44:MET:SD	25:P:307:CDL:H473	2.59	0.42
3:P:64:GLU:OE2	10:W:20:VAL:HG11	2.19	0.42
8:U:57:ARG:HA	8:U:60:TYR:CD2	2.55	0.42
9:V:42:LYS:HA	9:V:45:LYS:HB3	2.00	0.42
9:I:47:TYR:HB3	29:I:203:HOH:O	2.20	0.41
2:O:162:SER:HB2	2:O:198:GLU:HB2	2.02	0.41
9:V:36:LYS:HD3	9:V:41:GLU:HG2	2.01	0.41
7:G:11:TPO:HG23	7:G:14:ARG:CB	2.50	0.41
12:L:2:HIS:CD2	29:L:210:HOH:O	2.73	0.41
1:N:354:THR:HG21	1:N:429:HIS:HE1	1.85	0.41
18:N:607:HEA:C1C	29:N:763:HOH:O	2.68	0.41
3:P:116:TRP:HA	3:P:117:PRO:C	2.41	0.41
7:G:1:ALA:HA	17:P:306:PGV:H301	2.01	0.41
2:O:124:PRO:O	2:O:125:THR:C	2.58	0.41
3:P:67:PHE:HA	10:W:9:GLN:HG2	2.02	0.41
3:P:110:PRO:HB3	8:U:30:TRP:CE3	2.56	0.41
1:A:33:LEU:HB3	1:A:61:HIS:HB2	2.02	0.41
4:Q:48:TRP:CE2	5:R:56:ARG:NH1	2.87	0.41
10:W:16:ASN:CG	10:W:18:LEU:HD12	2.41	0.41
1:A:76:GLY:O	1:A:80:ASN:HB2	2.21	0.41
3:C:159:MET:O	3:C:159:MET:SD	2.79	0.41
1:N:54:TYR:O	1:N:57:VAL:CG1	2.68	0.41
1:N:344:PHE:O	1:N:345:ILE:C	2.58	0.41
2:O:24:HIS:CE1	29:O:434:HOH:O	2.61	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:O:153:LEU:HD23	2:O:181:GLN:HA	2.01	0.41
3:P:69:GLY:HA3	6:S:14:THR:O	2.21	0.41
3:P:119:THR:O	7:T:52:HIS:HE1	2.04	0.41
3:P:155:ASP:OD2	3:P:158:HIS:HB2	2.21	0.41
24:C:303:PEK:C12	24:C:303:PEK:C16	2.98	0.41
1:N:510:TYR:CE2	6:S:36:PRO:HG3	2.56	0.41
3:P:56:GLN:O	3:P:59:ARG:HB3	2.20	0.41
4:Q:59:LEU:HD13	5:R:61:PHE:HB3	2.03	0.41
4:Q:121:LYS:HA	4:Q:124:LEU:HD12	2.03	0.41
1:A:35:LEU:HD11	1:A:462:LEU:HD22	2.03	0.41
1:A:240:HIS:CD2	1:A:244:TYR:CD2	3.07	0.41
1:A:272:GLY:HA2	29:T:201:HOH:O	2.19	0.41
1:A:380:VAL:HG21	18:A:605:HEA:C3C	2.50	0.41
2:B:168:LEU:CD1	2:B:211:LEU:HD12	2.50	0.41
3:C:187:THR:HA	24:C:303:PEK:O12	2.20	0.41
7:G:9:GLY:HA3	29:G:211:HOH:O	2.21	0.41
8:H:73:ASP:OD1	8:H:76:ARG:NH2	2.45	0.41
11:K:43:SER:OG	11:K:45:VAL:HG23	2.21	0.41
1:N:16:GLY:O	1:N:20:LEU:HG	2.21	0.41
1:N:72:PRO:CB	29:N:705:HOH:O	2.66	0.41
12:Y:35:ALA:CB	12:Y:36:PRO:CD	2.95	0.41
1:A:285:PHE:CG	7:T:2:SER:OG	2.74	0.41
1:A:311:ILE:CD1	25:P:309:CDL:H181	2.51	0.41
18:A:606:HEA:C4B	29:A:762:HOH:O	2.68	0.41
2:B:78:LEU:N	2:B:79:PRO:HD2	2.36	0.41
2:B:115:ASP:HB2	29:B:424:HOH:O	2.20	0.41
3:C:33:MET:HG3	3:C:42:LEU:HD12	2.02	0.41
24:C:303:PEK:C05	7:G:76:ASN:HD21	2.33	0.41
1:N:42:GLY:C	4:Q:104:TYR:OH	2.58	0.41
1:N:404:THR:HG21	13:Z:3:ALA:HB2	2.02	0.41
1:N:417:MET:HE2	29:N:764:HOH:O	2.20	0.41
1:N:426:PHE:N	1:N:427:PRO:CD	2.84	0.41
2:O:175:ILE:HD12	2:O:178:ARG:HD3	2.03	0.41
2:O:182:THR:OG1	2:O:183:THR:N	2.54	0.41
9:V:40:ALA:C	9:V:42:LYS:N	2.70	0.41
1:A:24:ALA:CA	29:A:733:HOH:O	2.68	0.41
1:N:406:ASN:HD21	17:N:610:PGV:H61	1.86	0.41
1:N:461:SER:O	1:N:465:VAL:HG23	2.21	0.41
2:O:41:ILE:O	2:O:45:MET:HG2	2.21	0.41
6:S:43:LYS:HG3	6:S:43:LYS:O	2.21	0.41
1:A:404:THR:HG21	13:M:3:ALA:HB2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:17:MET:HE2	29:B:440:HOH:O	2.21	0.40
3:C:151:LEU:HD21	3:C:232:HIS:CG	2.56	0.40
4:D:120:THR:O	4:D:124:LEU:HG	2.21	0.40
4:D:130:PRO:O	4:D:136:ALA:HB2	2.21	0.40
1:N:377:PHE:HA	1:N:380:VAL:HG22	2.03	0.40
1:N:387:PHE:HB3	29:N:730:HOH:O	2.21	0.40
3:P:243:HIS:O	3:P:246:ASP:HB3	2.21	0.40
7:T:44:ARG:HD2	7:T:74:ARG:O	2.20	0.40
11:X:54:ARG:HD3	29:X:108:HOH:O	2.21	0.40
1:A:24:ALA:CB	18:A:606:HEA:H243	2.51	0.40
1:A:248:LEU:HD23	1:A:248:LEU:HA	1.87	0.40
1:A:429:HIS:CD2	29:A:793:HOH:O	2.74	0.40
3:C:127:LEU:HD12	3:C:127:LEU:HA	1.95	0.40
4:D:127:LYS:HD2	9:I:59:ASP:OD1	2.22	0.40
8:U:54:GLU:OE1	8:U:54:GLU:HA	2.20	0.40
1:A:183:LEU:HD12	1:A:255:SER:CB	2.46	0.40
1:A:184:PHE:CG	29:A:706:HOH:O	2.72	0.40
1:A:237:PHE:CA	29:A:709:HOH:O	2.68	0.40
1:A:336:PRO:HA	1:A:339:MET:HG3	2.03	0.40
3:C:154:GLY:O	6:F:4:GLY:HA2	2.22	0.40
8:H:7:LYS:N	29:H:204:HOH:O	2.54	0.40
3:P:187:THR:HB	7:T:68:THR:HG21	2.03	0.40
6:S:55:LYS:NZ	29:S:202:HOH:O	2.39	0.40
7:T:20:THR:O	7:T:24:ALA:HB3	2.22	0.40
7:T:72:ASN:OD1	7:T:72:ASN:C	2.60	0.40
9:V:29:LEU:HD23	9:V:29:LEU:HA	1.90	0.40
1:A:198:SER:HB2	1:A:238:PHE:HA	2.02	0.40
1:A:492:LEU:HD13	6:F:71:TRP:CG	2.55	0.40
1:N:113:LEU:HD22	21:N:604:TGL:C29	2.50	0.40
1:N:191:THR:HG23	1:N:245:ILE:HA	2.02	0.40
1:N:240:HIS:ND1	1:N:290:HIS:HE1	2.16	0.40
1:N:370:THR:HA	1:N:437:PRO:HA	2.03	0.40
9:V:19:PHE:HD1	9:V:20:HIS:CD2	2.39	0.40
1:A:172:LYS:HE2	1:A:172:LYS:HB2	1.87	0.40
1:A:406:ASN:HD21	17:A:604:PGV:H71	1.86	0.40
3:C:187:THR:CB	7:G:68:THR:HG21	2.51	0.40
13:M:23:PHE:O	13:M:27:LEU:HG	2.21	0.40
1:N:63:PHE:CE1	1:N:150:LEU:HD21	2.56	0.40
1:N:247:ILE:O	1:N:250:GLY:N	2.54	0.40
3:P:101:PHE:O	3:P:105:SER:OG	2.33	0.40
3:P:249:TRP:HD1	29:P:430:HOH:O	2.05	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	512/514 (100%)	455 (89%)	52 (10%)	5 (1%)	15 21
1	N	512/514 (100%)	451 (88%)	60 (12%)	1 (0%)	47 61
2	B	225/227 (99%)	199 (88%)	22 (10%)	4 (2%)	8 9
2	O	225/227 (99%)	194 (86%)	27 (12%)	4 (2%)	8 9
3	C	257/261 (98%)	240 (93%)	15 (6%)	2 (1%)	19 27
3	P	257/261 (98%)	226 (88%)	30 (12%)	1 (0%)	34 46
4	D	142/147 (97%)	124 (87%)	17 (12%)	1 (1%)	22 30
4	Q	142/147 (97%)	130 (92%)	10 (7%)	2 (1%)	11 14
5	E	103/109 (94%)	93 (90%)	9 (9%)	1 (1%)	15 21
5	R	103/109 (94%)	99 (96%)	4 (4%)	0	100 100
6	F	96/98 (98%)	86 (90%)	9 (9%)	1 (1%)	15 21
6	S	96/98 (98%)	89 (93%)	7 (7%)	0	100 100
7	G	81/85 (95%)	68 (84%)	12 (15%)	1 (1%)	13 17
7	T	81/85 (95%)	66 (82%)	13 (16%)	2 (2%)	5 5
8	H	77/85 (91%)	70 (91%)	5 (6%)	2 (3%)	5 4
8	U	77/85 (91%)	65 (84%)	10 (13%)	2 (3%)	5 4
9	I	70/73 (96%)	64 (91%)	5 (7%)	1 (1%)	11 14
9	V	70/73 (96%)	62 (89%)	7 (10%)	1 (1%)	11 14
10	J	56/59 (95%)	50 (89%)	5 (9%)	1 (2%)	8 9
10	W	56/59 (95%)	53 (95%)	3 (5%)	0	100 100
11	K	47/56 (84%)	44 (94%)	3 (6%)	0	100 100
11	X	47/56 (84%)	43 (92%)	4 (8%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
12	L	44/47 (94%)	39 (89%)	4 (9%)	1 (2%)	6 6
12	Y	44/47 (94%)	41 (93%)	2 (4%)	1 (2%)	6 6
13	M	41/47 (87%)	35 (85%)	4 (10%)	2 (5%)	2 1
13	Z	41/47 (87%)	37 (90%)	4 (10%)	0	100 100
All	All	3502/3616 (97%)	3123 (89%)	343 (10%)	36 (1%)	15 21

All (36) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	59	GLN
2	B	89	GLU
7	G	41	HIS
10	J	26	ALA
12	L	46	LYS
2	O	59	GLN
2	O	89	GLU
1	A	52	GLN
3	C	229	SER
6	F	66	ASN
8	H	70	SER
1	N	52	GLN
2	O	90	ILE
7	T	41	HIS
8	U	70	SER
1	A	252	GLY
1	A	362	SER
2	B	88	ASP
2	B	158	ASP
8	H	51	SER
2	O	58	ALA
8	U	51	SER
9	V	41	GLU
13	M	17	ILE
3	P	38	ASN
4	Q	141	ASP
4	Q	143	ASN
1	A	492	LEU
4	D	9	GLU
9	I	37	PHE
13	M	12	PRO
7	T	63	GLY

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Mol	Chain	Res	Type
12	Y	28	PHE
1	A	73	ILE
3	C	191	GLY
5	E	91	PRO

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	426/426 (100%)	405 (95%)	21 (5%)	25 38
1	N	426/426 (100%)	407 (96%)	19 (4%)	27 41
2	B	210/210 (100%)	198 (94%)	12 (6%)	20 30
2	O	210/210 (100%)	197 (94%)	13 (6%)	18 27
3	C	224/226 (99%)	214 (96%)	10 (4%)	27 41
3	P	224/226 (99%)	214 (96%)	10 (4%)	27 41
4	D	128/129 (99%)	119 (93%)	9 (7%)	15 21
4	Q	128/129 (99%)	119 (93%)	9 (7%)	15 21
5	E	92/95 (97%)	87 (95%)	5 (5%)	22 33
5	R	92/95 (97%)	87 (95%)	5 (5%)	22 33
6	F	81/81 (100%)	73 (90%)	8 (10%)	8 10
6	S	81/81 (100%)	77 (95%)	4 (5%)	25 38
7	G	67/68 (98%)	58 (87%)	9 (13%)	4 4
7	T	67/68 (98%)	63 (94%)	4 (6%)	19 28
8	H	71/75 (95%)	69 (97%)	2 (3%)	43 61
8	U	71/75 (95%)	65 (92%)	6 (8%)	10 14
9	I	57/57 (100%)	51 (90%)	6 (10%)	7 8
9	V	57/57 (100%)	46 (81%)	11 (19%)	1 1
10	J	49/50 (98%)	47 (96%)	2 (4%)	30 45
10	W	49/50 (98%)	45 (92%)	4 (8%)	11 15

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
11	K	39/46 (85%)	37 (95%)	2 (5%)	24 36
11	X	39/46 (85%)	36 (92%)	3 (8%)	13 18
12	L	39/40 (98%)	34 (87%)	5 (13%)	4 4
12	Y	39/40 (98%)	37 (95%)	2 (5%)	24 36
13	M	37/39 (95%)	33 (89%)	4 (11%)	6 8
13	Z	37/39 (95%)	31 (84%)	6 (16%)	2 2
All	All	3040/3084 (99%)	2849 (94%)	191 (6%)	18 26

All (191) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	35	LEU
1	A	46	THR
1	A	91	ASP
1	A	109	PHE
1	A	115	SER
1	A	124	THR
1	A	128	VAL
1	A	189	MET
1	A	238	PHE
1	A	253	MET
1	A	265	LYS
1	A	300	ASP
1	A	339	MET
1	A	361	SER
1	A	369	ASP
1	A	376	HIS
1	A	377	PHE
1	A	382	SER
1	A	486	ASP
1	A	504	THR
1	A	506	GLU
2	B	57	ASP
2	B	84	LEU
2	B	88	ASP
2	B	94	SER
2	B	110	TYR
2	B	115	ASP
2	B	183	THR
2	B	185	MET

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Mol	Chain	Res	Type
2	B	199	ILE
2	B	213	LEU
2	B	214	VAL
2	B	227	LEU
3	C	42	LEU
3	C	105	SER
3	C	127	LEU
3	C	144	ILE
3	C	159	MET
3	C	179	SER
3	C	180	GLU
3	C	230	ASN
3	C	246	ASP
3	C	261	SER
4	D	20	ARG
4	D	21	ASP
4	D	43	LYS
4	D	51	LEU
4	D	52	SER
4	D	68	PHE
4	D	75	THR
4	D	122	ARG
4	D	141	ASP
5	E	7	THR
5	E	63	SER
5	E	84	TYR
5	E	90	ARG
5	E	104	LEU
6	F	8	THR
6	F	14	THR
6	F	44	GLU
6	F	48	LEU
6	F	55	LYS
6	F	76	LYS
6	F	80	GLN
6	F	96	LEU
7	G	8	HIS
7	G	18	PHE
7	G	31	CYS
7	G	33	LEU
7	G	36	TRP
7	G	38	HIS

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Mol	Chain	Res	Type
7	G	42	ARG
7	G	54	ARG
7	G	84	LYS
8	H	49	ASP
8	H	60	TYR
9	I	13	LEU
9	I	18	ARG
9	I	25	PHE
9	I	29	LEU
9	I	33	THR
9	I	68	ILE
10	J	31	LEU
10	J	50	LEU
11	K	49	THR
11	K	54	ARG
12	L	11	ILE
12	L	26	THR
12	L	27	LEU
12	L	36	PRO
12	L	42	HIS
13	M	1	ILE
13	M	13	LYS
13	M	19	LEU
13	M	38	ASP
1	N	4	ASN
1	N	38	ARG
1	N	91	ASP
1	N	109	PHE
1	N	138	HIS
1	N	189	MET
1	N	218	THR
1	N	238	PHE
1	N	243	VAL
1	N	265	LYS
1	N	279	SER
1	N	382	SER
1	N	401	SER
1	N	436	MET
1	N	443	TYR
1	N	456	MET
1	N	480	ARG
1	N	485	VAL

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Mol	Chain	Res	Type
1	N	512	ASN
2	O	35	SER
2	O	37	LEU
2	O	43	SER
2	O	57	ASP
2	O	66	THR
2	O	110	TYR
2	O	152	MET
2	O	167	SER
2	O	183	THR
2	O	199	ILE
2	O	217	LYS
2	O	223	SER
2	O	227	LEU
3	P	4	GLN
3	P	14	SER
3	P	41	THR
3	P	47	LEU
3	P	127	LEU
3	P	129	VAL
3	P	159	MET
3	P	180	GLU
3	P	230	ASN
3	P	250	LEU
4	Q	7	LYS
4	Q	8	SER
4	Q	10	ASP
4	Q	15	SER
4	Q	21	ASP
4	Q	52	SER
4	Q	62	LEU
4	Q	71	MET
4	Q	143	ASN
5	R	5	HIS
5	R	7	THR
5	R	46	LYS
5	R	80	GLU
5	R	108	LYS
6	S	8	THR
6	S	48	LEU
6	S	80	GLN
6	S	95	GLN

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Mol	Chain	Res	Type
7	T	18	PHE
7	T	31	CYS
7	T	36	TRP
7	T	61	SER
8	U	9	LYS
8	U	29	CYS
8	U	44	THR
8	U	60	TYR
8	U	61	LYS
8	U	67	SER
9	V	2	THR
9	V	4	LEU
9	V	15	ARG
9	V	18	ARG
9	V	21	ILE
9	V	33	THR
9	V	36	LYS
9	V	42	LYS
9	V	44	LYS
9	V	45	LYS
9	V	61	GLU
10	W	23	LYS
10	W	27	THR
10	W	31	LEU
10	W	45	TYR
11	X	20	SER
11	X	49	THR
11	X	52	GLU
12	Y	2	HIS
12	Y	27	LEU
13	Z	1	ILE
13	Z	10	THR
13	Z	34	LEU
13	Z	37	LEU
13	Z	41	LYS
13	Z	42	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (51) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	11	ASN
1	A	12	HIS

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Mol	Chain	Res	Type
1	A	170	ASN
2	B	24	HIS
2	B	181	GLN
3	C	38	ASN
3	C	133	ASN
3	C	158	HIS
3	C	207	HIS
4	D	76	ASN
4	D	143	ASN
5	E	20	ASN
5	E	78	HIS
5	E	87	GLN
6	F	32	ASN
6	F	75	HIS
7	G	66	ASN
7	G	76	ASN
10	J	13	GLN
11	K	15	ASN
1	N	11	ASN
1	N	12	HIS
1	N	80	ASN
1	N	138	HIS
1	N	151	HIS
1	N	214	ASN
1	N	429	HIS
1	N	491	ASN
2	O	24	HIS
2	O	91	ASN
2	O	102	HIS
2	O	181	GLN
3	P	3	HIS
3	P	12	ASN
3	P	232	HIS
4	Q	101	HIS
4	Q	119	GLN
5	R	94	ASN
6	S	47	ASN
6	S	75	HIS
6	S	80	GLN
6	S	95	GLN
6	S	98	HIS
7	T	38	HIS

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Mol	Chain	Res	Type
7	T	52	HIS
7	T	67	HIS
7	T	76	ASN
9	V	20	HIS
10	W	21	HIS
10	W	29	ASN
11	X	10	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

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

6 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	$\#\|Z\| > 2$
1	FME	A	1	1	8,9,10	0.62	0	7,9,11	1.02	0
2	FME	O	1	2	8,9,10	0.66	0	7,9,11	1.00	1 (14%)
7	TPO	T	11	7	8,10,11	0.82	0	10,14,16	0.78	0
2	FME	B	1	2	8,9,10	0.37	0	7,9,11	1.12	0
1	FME	N	1	1	8,9,10	0.51	0	7,9,11	0.90	0
7	TPO	G	11	7	8,10,11	0.92	1 (12%)	10,14,16	0.96	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
1	FME	A	1	1	-	3/7/9/11	-
2	FME	O	1	2	-	2/7/9/11	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
7	TPO	T	11	7	-	5/9/11/13	-
2	FME	B	1	2	-	1/7/9/11	-
1	FME	N	1	1	-	3/7/9/11	-
7	TPO	G	11	7	-	7/9/11/13	-

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	G	11	TPO	P-OG1	2.14	1.63	1.59

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	O	1	FME	C-CA-N	2.00	113.34	109.73

There are no chirality outliers.

All (21) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	1	FME	C-CA-CB-CG
2	B	1	FME	CB-CA-N-CN
7	G	11	TPO	N-CA-CB-CG2
7	G	11	TPO	N-CA-CB-OG1
7	G	11	TPO	C-CA-CB-CG2
7	G	11	TPO	CA-CB-OG1-P
1	N	1	FME	C-CA-CB-CG
2	O	1	FME	CB-CA-N-CN
7	T	11	TPO	N-CA-CB-CG2
7	T	11	TPO	N-CA-CB-OG1
7	T	11	TPO	C-CA-CB-CG2
7	T	11	TPO	O-C-CA-CB
1	A	1	FME	CA-CB-CG-SD
1	N	1	FME	CB-CG-SD-CE
2	O	1	FME	CB-CG-SD-CE
1	N	1	FME	N-CA-CB-CG
1	A	1	FME	CB-CG-SD-CE
7	T	11	TPO	CA-CB-OG1-P
7	G	11	TPO	CG2-CB-OG1-P
7	G	11	TPO	CB-OG1-P-O2P
7	G	11	TPO	O-C-CA-CB

There are no ring outliers.

3 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	O	1	FME	4	0
2	B	1	FME	2	0
7	G	11	TPO	2	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 60 ligands modelled in this entry, 8 are monoatomic and 2 are modelled with single atom - leaving 50 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	$\#\|Z\| > 2$
24	PEK	C	311	-	52,52,52	0.38	0	55,57,57	0.45	0
17	PGV	N	610	-	50,50,50	0.32	0	53,56,56	0.38	0
21	TGL	N	604	-	62,62,62	0.22	0	65,65,65	0.34	0
26	DMU	C	310	-	34,34,34	0.83	1 (2%)	45,45,45	1.28	6 (13%)
23	CHD	T	101	-	32,32,32	0.64	0	51,51,51	1.44	11 (21%)
28	SAC	V	102	-	7,8,9	0.52	0	8,9,11	1.36	1 (12%)
21	TGL	N	609	-	62,62,62	0.27	0	65,65,65	0.24	0
24	PEK	C	303	-	52,52,52	0.29	0	55,57,57	0.65	0
17	PGV	C	301	-	50,50,50	0.33	0	53,56,56	0.67	2 (3%)
22	PSC	V	101	-	51,51,51	0.30	0	57,59,59	0.45	0
24	PEK	T	102	-	52,52,52	0.33	0	55,57,57	0.71	1 (1%)
25	CDL	P	307	-	99,99,99	0.31	0	105,111,111	0.46	1 (0%)
26	DMU	P	302	-	34,34,34	0.63	1 (2%)	45,45,45	1.28	6 (13%)
17	PGV	P	305	-	50,50,50	0.33	0	53,56,56	0.52	0
24	PEK	C	304	-	52,52,52	0.29	0	55,57,57	0.38	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
25	CDL	P	309	-	99,99,99	0.31	0	105,111,111	0.37	0
26	DMU	C	309	-	34,34,34	0.92	1 (2%)	45,45,45	1.38	7 (15%)
21	TGL	B	302	-	62,62,62	0.35	0	65,65,65	0.39	0
26	DMU	G	101	-	34,34,34	0.83	1 (2%)	45,45,45	1.09	3 (6%)
17	PGV	C	305	-	50,50,50	0.37	0	53,56,56	0.55	0
23	CHD	T	103	-	32,32,32	0.62	0	51,51,51	0.92	2 (3%)
22	PSC	B	303	-	51,51,51	0.29	0	57,59,59	0.37	0
17	PGV	N	605	-	50,50,50	0.31	0	53,56,56	0.74	2 (3%)
21	TGL	O	301	-	62,62,62	0.28	0	65,65,65	0.36	0
23	CHD	P	308	-	32,32,32	0.56	0	51,51,51	0.91	1 (1%)
17	PGV	H	101	-	50,50,50	0.31	0	53,56,56	0.41	0
23	CHD	Y	101	-	32,32,32	0.61	0	51,51,51	0.96	1 (1%)
21	TGL	L	101	-	62,62,62	0.28	0	65,65,65	0.33	0
17	PGV	P	306	-	50,50,50	0.32	0	53,56,56	0.39	0
28	SAC	I	101	-	7,8,9	0.55	0	8,9,11	1.03	1 (12%)
18	HEA	N	607	1	57,67,67	2.13	16 (28%)	61,103,103	2.61	26 (42%)
23	CHD	C	307	-	32,32,32	0.62	0	51,51,51	1.05	2 (3%)
23	CHD	W	101	-	32,32,32	0.58	0	51,51,51	0.71	0
21	TGL	D	201	-	62,62,62	0.23	0	65,65,65	0.28	0
23	CHD	P	303	-	32,32,32	0.64	1 (3%)	51,51,51	1.13	3 (5%)
20	CUA	O	302	2	0,1,1	-	-	-		
23	CHD	J	101	-	32,32,32	0.61	0	51,51,51	1.07	3 (5%)
18	HEA	N	606	1,19	57,67,67	2.19	18 (31%)	61,103,103	2.44	21 (34%)
26	DMU	M	101	-	34,34,34	0.67	0	45,45,45	1.54	8 (17%)
18	HEA	A	606	1	57,67,67	1.95	16 (28%)	61,103,103	2.57	25 (40%)
26	DMU	Q	201	-	34,34,34	0.65	1 (2%)	45,45,45	1.14	5 (11%)
25	CDL	C	306	-	99,99,99	0.30	0	105,111,111	0.37	0
24	PEK	P	304	-	52,52,52	0.29	0	55,57,57	0.51	0
25	CDL	C	308	-	99,99,99	0.32	0	105,111,111	0.38	0
18	HEA	A	605	1,19	57,67,67	2.13	18 (31%)	61,103,103	2.83	27 (44%)
17	PGV	A	604	-	50,50,50	0.32	0	53,56,56	0.50	0
24	PEK	P	301	-	52,52,52	0.31	0	55,57,57	0.36	0
23	CHD	O	303	-	32,32,32	0.54	0	51,51,51	1.04	3 (5%)
20	CUA	B	301	2	0,1,1	-	-	-		
23	CHD	C	302	-	32,32,32	0.65	0	51,51,51	0.94	1 (1%)

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
24	PEK	C	311	-	-	25/56/56/56	-
17	PGV	N	610	-	-	36/55/55/55	-
26	DMU	C	310	-	2/2/10/10	9/19/59/59	0/2/2/2
21	TGL	N	604	-	-	37/65/65/65	-
23	CHD	T	101	-	-	7/9/74/74	0/4/4/4
28	SAC	V	102	-	-	2/7/8/10	-
21	TGL	N	609	-	-	34/65/65/65	-
24	PEK	C	303	-	-	18/56/56/56	-
17	PGV	C	301	-	-	16/55/55/55	-
26	DMU	P	302	-	2/2/10/10	9/19/59/59	0/2/2/2
22	PSC	V	101	-	-	30/55/55/55	-
24	PEK	T	102	-	-	35/56/56/56	-
25	CDL	P	307	-	-	62/110/110/110	-
17	PGV	P	305	-	-	25/55/55/55	-
24	PEK	C	304	-	-	25/56/56/56	-
25	CDL	P	309	-	-	50/110/110/110	-
26	DMU	C	309	-	2/2/10/10	9/19/59/59	0/2/2/2
26	DMU	G	101	-	2/2/10/10	13/19/59/59	0/2/2/2
21	TGL	B	302	-	-	36/65/65/65	-
17	PGV	C	305	-	-	18/55/55/55	-
23	CHD	T	103	-	1/1/12/12	3/9/74/74	1/4/4/4
17	PGV	N	605	-	-	22/55/55/55	-
21	TGL	O	301	-	-	35/65/65/65	-
23	CHD	P	308	-	-	3/9/74/74	1/4/4/4
23	CHD	Y	101	-	1/1/12/12	5/9/74/74	0/4/4/4
17	PGV	H	101	-	-	30/55/55/55	-
21	TGL	L	101	-	-	34/65/65/65	-
17	PGV	P	306	-	-	33/55/55/55	-
28	SAC	I	101	-	-	2/7/8/10	-
18	HEA	N	607	1	3/3/7/16	5/32/76/76	-
23	CHD	C	307	-	-	6/9/74/74	0/4/4/4
23	CHD	W	101	-	-	1/9/74/74	0/4/4/4
21	TGL	D	201	-	-	39/65/65/65	-
23	CHD	P	303	-	-	7/9/74/74	0/4/4/4

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
23	CHD	J	101	-	-	3/9/74/74	0/4/4/4
18	HEA	N	606	1,19	3/3/7/16	7/32/76/76	-
26	DMU	M	101	-	2/2/10/10	8/19/59/59	0/2/2/2
18	HEA	A	606	1	3/3/7/16	9/32/76/76	-
26	DMU	Q	201	-	2/2/10/10	10/19/59/59	0/2/2/2
25	CDL	C	306	-	-	60/110/110/110	-
24	PEK	P	304	-	-	21/56/56/56	-
25	CDL	C	308	-	-	60/110/110/110	-
18	HEA	A	605	1,19	3/3/7/16	8/32/76/76	-
17	PGV	A	604	-	-	31/55/55/55	-
24	PEK	P	301	-	-	32/56/56/56	-
23	CHD	O	303	-	-	2/9/74/74	0/4/4/4
22	PSC	B	303	-	-	28/55/55/55	-
23	CHD	C	302	-	-	3/9/74/74	0/4/4/4

All (74) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
18	N	607	HEA	C3B-C2B	6.43	1.49	1.34
18	N	607	HEA	C3D-C2D	5.51	1.48	1.36
18	N	606	HEA	CHC-C4B	5.50	1.49	1.35
18	N	606	HEA	C3D-C2D	5.48	1.48	1.36
18	A	605	HEA	C3A-C2A	5.47	1.48	1.40
18	N	606	HEA	C4B-NB	-5.43	1.30	1.40
18	A	605	HEA	CHC-C4B	5.39	1.48	1.35
18	A	606	HEA	C3C-C2C	5.32	1.47	1.40
18	N	606	HEA	C3B-C2B	5.27	1.46	1.34
18	A	605	HEA	C3D-C2D	5.27	1.47	1.36
18	A	605	HEA	C3B-C2B	5.11	1.46	1.34
18	N	607	HEA	CHC-C4B	4.98	1.47	1.35
18	N	606	HEA	C3C-C2C	4.81	1.47	1.40
18	N	607	HEA	C3C-C2C	4.75	1.47	1.40
18	N	606	HEA	C4B-C3B	4.54	1.52	1.44
18	A	606	HEA	CHC-C4B	4.41	1.46	1.35
18	A	606	HEA	C3B-C2B	4.17	1.44	1.34
18	A	606	HEA	C3D-C2D	4.15	1.45	1.36
18	A	606	HEA	CHD-C1D	4.13	1.45	1.35
18	A	605	HEA	CHD-C1D	4.03	1.45	1.35
18	N	607	HEA	CHD-C1D	4.03	1.45	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
18	N	607	HEA	C3A-C2A	3.94	1.45	1.40
18	A	605	HEA	C3C-C2C	3.83	1.45	1.40
18	N	606	HEA	CHD-C1D	3.81	1.44	1.35
18	N	607	HEA	C4B-C3B	3.79	1.51	1.44
18	A	606	HEA	C1D-ND	-3.67	1.34	1.40
18	A	606	HEA	C3A-C2A	3.57	1.45	1.40
18	N	606	HEA	C1D-ND	-3.46	1.34	1.40
18	A	606	HEA	C1B-C2B	3.36	1.51	1.44
18	A	605	HEA	C4D-ND	-3.30	1.32	1.38
26	G	101	DMU	O16-C6	3.16	1.45	1.40
26	C	309	DMU	O16-C6	3.09	1.45	1.40
18	N	607	HEA	C1C-CHC	3.07	1.49	1.41
18	A	605	HEA	C2A-C1A	3.03	1.49	1.42
18	N	607	HEA	FE-ND	3.02	2.11	1.96
18	A	605	HEA	C4B-NB	-2.98	1.35	1.40
18	A	605	HEA	CHB-C1B	2.95	1.49	1.41
18	A	606	HEA	C4D-ND	-2.94	1.32	1.38
18	N	607	HEA	C4D-C3D	2.92	1.50	1.45
18	A	605	HEA	FE-NB	2.91	2.11	1.96
18	N	607	HEA	C1B-NB	-2.88	1.32	1.38
18	A	606	HEA	FE-NB	2.84	2.10	1.96
18	A	606	HEA	CHB-C1B	2.77	1.49	1.41
18	A	605	HEA	CHA-C4D	2.76	1.49	1.41
18	N	607	HEA	C1D-ND	-2.72	1.35	1.40
18	A	605	HEA	C4D-C3D	2.69	1.49	1.45
18	N	606	HEA	FE-NB	2.67	2.10	1.96
18	N	606	HEA	FE-ND	2.63	2.09	1.96
18	A	606	HEA	C4B-C3B	2.61	1.49	1.44
18	N	606	HEA	C1C-CHC	2.55	1.48	1.41
18	N	606	HEA	C1B-NB	-2.54	1.33	1.38
18	N	606	HEA	CAA-C2A	-2.49	1.47	1.52
18	A	605	HEA	C1D-C2D	2.48	1.49	1.44
18	N	606	HEA	C1D-C2D	2.48	1.49	1.44
18	A	606	HEA	CHA-C4D	2.47	1.48	1.41
18	A	606	HEA	C1C-CHC	2.46	1.47	1.41
26	C	310	DMU	O16-C6	2.46	1.44	1.40
18	N	606	HEA	C3A-C2A	2.46	1.43	1.40
26	Q	201	DMU	O16-C6	2.40	1.44	1.40
18	A	605	HEA	CMC-C2C	-2.37	1.46	1.51
18	N	607	HEA	C2A-C1A	2.36	1.47	1.42
18	N	606	HEA	C2A-C1A	2.35	1.47	1.42
18	A	606	HEA	C4C-CHD	2.33	1.47	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
26	P	302	DMU	O16-C6	2.32	1.44	1.40
18	N	606	HEA	C4C-CHD	2.29	1.47	1.41
18	N	607	HEA	FE-NB	2.23	2.07	1.96
18	N	607	HEA	C4B-NB	-2.21	1.36	1.40
18	A	605	HEA	FE-ND	2.16	2.07	1.96
18	A	605	HEA	C1B-C2B	2.15	1.48	1.44
23	P	303	CHD	O26-C24	-2.14	1.23	1.30
18	A	605	HEA	C4C-CHD	2.12	1.46	1.41
18	A	606	HEA	C1B-NB	-2.07	1.34	1.38
18	N	607	HEA	C4C-CHD	2.07	1.46	1.41
18	N	606	HEA	CHA-C4D	2.01	1.46	1.41

All (169) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
18	A	605	HEA	C1D-C2D-C3D	-7.55	99.02	106.96
18	N	607	HEA	C2D-C1D-ND	7.31	118.50	109.84
18	A	605	HEA	CMD-C2D-C1D	7.29	136.15	125.04
18	N	606	HEA	C3D-C4D-ND	6.74	116.88	110.36
18	A	605	HEA	CAD-CBD-CGD	-6.63	99.34	113.60
18	N	607	HEA	C3D-C4D-ND	6.47	116.62	110.36
18	N	606	HEA	C2B-C1B-NB	6.39	117.54	109.88
18	A	605	HEA	C2D-C1D-ND	6.36	117.38	109.84
18	A	606	HEA	C2D-C1D-ND	5.90	116.83	109.84
18	A	605	HEA	C4D-CHA-C1A	5.82	130.24	122.56
18	A	606	HEA	C3B-C4B-NB	5.80	116.71	109.84
18	N	607	HEA	C1D-C2D-C3D	-5.61	101.06	106.96
18	A	606	HEA	CMB-C2B-C1B	5.58	133.54	125.04
18	N	607	HEA	C3C-C4C-NC	5.56	116.39	109.21
18	A	605	HEA	C3B-C4B-NB	5.05	115.82	109.84
18	A	606	HEA	C3D-C4D-ND	5.04	115.24	110.36
18	A	605	HEA	CMB-C2B-C1B	4.73	132.24	125.04
18	N	606	HEA	C3C-C4C-NC	4.72	115.31	109.21
18	N	606	HEA	CHB-C1B-C2B	-4.62	117.76	124.98
18	N	606	HEA	C2D-C1D-ND	4.52	115.19	109.84
18	N	607	HEA	C4A-CHB-C1B	4.51	128.51	122.56
18	A	605	HEA	C3D-C4D-ND	4.45	114.66	110.36
18	A	606	HEA	C2B-C1B-NB	4.45	115.21	109.88
18	A	606	HEA	C1D-C2D-C3D	-4.42	102.31	106.96
18	N	606	HEA	C1B-C2B-C3B	-4.41	101.52	106.80
18	A	605	HEA	C13-C12-C11	-4.37	107.79	114.35
18	A	606	HEA	CMB-C2B-C3B	-4.36	122.03	130.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
18	N	607	HEA	C2B-C1B-NB	4.32	115.06	109.88
18	A	605	HEA	C3C-C4C-NC	4.29	114.76	109.21
18	A	606	HEA	CAA-CBA-CGA	-4.28	101.76	113.76
18	N	607	HEA	OMA-CMA-C3A	-4.17	115.83	124.91
18	A	606	HEA	CMC-C2C-C3C	4.13	132.41	124.68
18	N	606	HEA	CHA-C4D-C3D	-4.12	118.79	124.84
18	N	606	HEA	C4D-CHA-C1A	4.04	127.88	122.56
24	T	102	PEK	O01-C1-C2	3.97	120.06	111.50
23	J	101	CHD	C4-C3-C2	3.96	115.29	110.55
18	A	606	HEA	CBD-CAD-C3D	-3.96	101.62	112.63
26	M	101	DMU	O5-C4-C57	3.95	116.25	106.44
18	N	606	HEA	C1D-C2D-C3D	-3.83	102.93	106.96
18	A	605	HEA	C2B-C1B-NB	3.82	114.46	109.88
18	N	607	HEA	C4B-C3B-C2B	-3.77	100.97	107.41
18	N	607	HEA	C3B-C4B-NB	3.74	114.27	109.84
26	C	309	DMU	C1-C2-C3	3.74	118.21	109.68
17	N	605	PGV	O11-P-O13	-3.68	94.69	109.07
18	N	607	HEA	C1D-ND-C4D	-3.64	101.32	105.07
23	P	303	CHD	C16-C17-C13	-3.57	100.05	103.55
18	N	606	HEA	C4D-C3D-C2D	-3.55	101.72	106.90
18	N	607	HEA	CHB-C1B-C2B	-3.53	119.46	124.98
28	V	102	SAC	O-C-CA	-3.51	115.59	124.78
23	T	101	CHD	C19-C10-C1	-3.47	102.67	108.26
18	N	606	HEA	C3B-C4B-NB	3.42	113.89	109.84
26	C	310	DMU	C10-O1-C9	3.40	120.36	113.69
23	J	101	CHD	C5-C4-C3	3.39	117.73	112.76
18	A	606	HEA	C17-C18-C19	-3.38	119.52	127.66
18	N	606	HEA	CAD-CBD-CGD	-3.35	106.39	113.60
18	A	606	HEA	C4B-C3B-C2B	-3.34	101.71	107.41
26	P	302	DMU	C10-C5-C7	3.31	116.89	110.00
18	N	607	HEA	CAA-CBA-CGA	-3.30	104.51	113.76
18	A	605	HEA	C4A-CHB-C1B	3.26	126.85	122.56
18	A	606	HEA	CHD-C1D-C2D	-3.25	117.72	126.72
18	N	607	HEA	CHD-C1D-C2D	-3.22	117.83	126.72
18	A	605	HEA	C1B-C2B-C3B	-3.15	103.03	106.80
23	P	303	CHD	C13-C17-C20	3.15	123.25	119.50
26	Q	201	DMU	O16-C6-C1	3.14	113.21	108.30
26	C	310	DMU	O16-C6-C1	3.14	113.20	108.30
18	A	606	HEA	C4B-NB-C1B	-3.11	101.86	105.07
26	G	101	DMU	C10-C5-C7	3.11	116.47	110.00
23	Y	101	CHD	C5-C6-C7	-3.10	111.04	114.46
26	M	101	DMU	O7-C3-C4	-3.10	100.96	109.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
18	A	606	HEA	C3C-C4C-NC	3.09	113.20	109.21
26	M	101	DMU	O5-C6-C1	3.07	116.84	110.35
26	P	302	DMU	O5-C4-C57	3.03	113.96	106.44
18	N	607	HEA	C4D-C3D-C2D	-3.02	102.49	106.90
18	N	607	HEA	CHC-C4B-NB	-2.98	120.69	124.38
26	G	101	DMU	C6-O5-C4	2.97	119.53	113.69
18	A	606	HEA	C4D-C3D-C2D	-2.97	102.56	106.90
18	A	605	HEA	CMB-C2B-C3B	-2.95	124.72	130.34
18	N	606	HEA	C4A-CHB-C1B	2.95	126.45	122.56
18	N	606	HEA	CMC-C2C-C3C	2.94	130.18	124.68
18	A	605	HEA	OMA-CMA-C3A	-2.93	118.52	124.91
18	N	606	HEA	CAA-CBA-CGA	-2.91	105.59	113.76
23	O	303	CHD	C17-C13-C14	2.90	103.02	100.09
18	N	607	HEA	C13-C12-C11	-2.90	110.00	114.35
18	A	606	HEA	CAD-C3D-C4D	2.89	129.72	124.66
26	C	310	DMU	C18-O16-C6	2.86	118.58	113.84
23	C	307	CHD	C4-C5-C10	2.83	115.67	112.66
18	N	606	HEA	C4B-C3B-C2B	-2.81	102.61	107.41
25	P	307	CDL	OB6-CB5-C51	2.81	117.55	111.50
18	N	606	HEA	CHC-C4B-NB	-2.79	120.94	124.38
26	Q	201	DMU	C8-C7-C5	2.77	115.65	110.82
18	A	605	HEA	O1D-CGD-CBD	-2.75	114.24	123.08
28	I	101	SAC	O-C-CA	-2.74	117.60	124.78
18	A	605	HEA	C27-C19-C20	2.73	119.86	115.27
17	C	301	PGV	O12-P-O13	-2.73	98.42	109.07
18	A	606	HEA	CHC-C4B-C3B	-2.68	118.89	125.80
23	T	101	CHD	C10-C9-C8	2.67	114.69	111.82
18	N	607	HEA	C4D-CHA-C1A	2.61	126.01	122.56
26	M	101	DMU	C1-C2-C3	-2.59	103.77	109.68
26	M	101	DMU	O55-C2-C1	2.59	116.33	110.35
26	P	302	DMU	C7-C8-C9	-2.54	105.70	110.24
18	A	606	HEA	C27-C19-C20	2.52	119.51	115.27
23	C	307	CHD	C15-C14-C13	2.52	106.02	103.55
18	N	607	HEA	CMD-C2D-C3D	2.52	132.95	126.12
26	G	101	DMU	C18-O16-C6	2.52	118.01	113.84
26	M	101	DMU	O4-C7-C8	2.51	116.14	110.35
18	A	605	HEA	O2D-CGD-CBD	2.50	122.07	114.03
18	A	606	HEA	CHA-C4D-C3D	-2.49	121.19	124.84
18	N	607	HEA	CHA-C4D-ND	-2.48	121.74	124.43
26	C	309	DMU	O1-C9-C11	2.43	112.47	106.44
18	N	606	HEA	CMB-C2B-C1B	2.41	128.70	125.04
23	P	303	CHD	C15-C14-C13	2.38	105.89	103.55

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	T	103	CHD	C5-C6-C7	-2.38	111.83	114.46
18	N	607	HEA	CBA-CAA-C2A	2.38	116.61	112.60
23	T	101	CHD	C17-C13-C14	2.37	102.48	100.09
18	A	605	HEA	C4B-C3B-C2B	-2.36	103.37	107.41
23	T	101	CHD	O12-C12-C11	-2.36	104.31	109.12
26	C	310	DMU	C6-O5-C4	2.36	118.31	113.69
23	T	101	CHD	C9-C8-C7	2.36	114.69	111.88
18	A	606	HEA	C26-C15-C16	2.33	119.19	115.27
17	C	301	PGV	O14-P-O13	2.32	123.72	112.24
26	Q	201	DMU	O5-C4-C57	2.31	112.19	106.44
26	C	309	DMU	C7-C8-C9	2.31	114.36	110.24
18	A	605	HEA	C16-C15-C14	-2.29	116.49	121.12
26	P	302	DMU	O1-C10-C5	2.28	115.18	110.35
26	M	101	DMU	C8-C7-C5	-2.28	106.84	110.82
26	M	101	DMU	C28-C25-C22	-2.28	102.87	114.42
18	A	606	HEA	OMA-CMA-C3A	-2.25	120.00	124.91
23	O	303	CHD	C13-C17-C20	-2.24	116.82	119.50
18	N	607	HEA	O2D-CGD-O1D	-2.24	117.72	123.30
18	A	606	HEA	CHB-C1B-C2B	-2.23	121.49	124.98
18	N	606	HEA	OMA-CMA-C3A	-2.23	120.05	124.91
18	A	605	HEA	CAA-C2A-C3A	2.23	132.35	126.86
26	P	302	DMU	O1-C9-C8	-2.22	105.66	109.69
18	N	607	HEA	C16-C15-C14	-2.22	116.62	121.12
18	A	605	HEA	CHA-C4D-C3D	-2.22	121.58	124.84
26	P	302	DMU	O1-C9-C11	2.21	111.92	106.44
23	T	101	CHD	C19-C10-C5	2.20	114.10	110.36
17	N	605	PGV	O14-P-O13	2.19	123.04	112.24
18	A	606	HEA	O2D-CGD-CBD	2.18	121.05	114.03
18	N	607	HEA	CHA-C4D-C3D	-2.18	121.63	124.84
26	Q	201	DMU	O1-C9-C11	2.18	111.85	106.44
18	A	605	HEA	CHD-C1D-ND	-2.17	121.70	124.38
23	J	101	CHD	C1-C2-C3	2.16	113.25	110.47
23	T	101	CHD	C14-C8-C7	-2.16	108.94	111.81
18	A	605	HEA	C26-C15-C16	2.15	118.90	115.27
18	A	605	HEA	CHC-C4B-C3B	-2.15	120.26	125.80
18	A	605	HEA	CMC-C2C-C3C	2.15	128.70	124.68
23	T	101	CHD	C9-C10-C5	-2.14	105.57	108.58
23	T	101	CHD	O12-C12-C13	2.14	114.65	111.03
18	N	606	HEA	CMD-C2D-C1D	2.14	128.30	125.04
23	T	101	CHD	C5-C6-C7	2.14	116.82	114.46
18	A	606	HEA	C13-C12-C11	-2.14	111.14	114.35
18	N	606	HEA	CAD-C3D-C2D	2.14	131.86	127.88

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	C	302	CHD	C13-C17-C20	2.14	122.05	119.50
26	C	309	DMU	O55-C2-C3	-2.13	104.29	109.94
18	N	607	HEA	C17-C18-C19	-2.13	122.54	127.66
18	N	607	HEA	C1B-C2B-C3B	-2.12	104.27	106.80
26	C	309	DMU	C10-C5-C7	2.10	114.38	110.00
18	A	605	HEA	CHD-C1D-C2D	-2.10	120.90	126.72
18	N	607	HEA	CAD-C3D-C4D	2.10	128.33	124.66
23	O	303	CHD	C13-C14-C8	-2.09	112.07	114.74
26	Q	201	DMU	C7-C8-C9	2.07	113.94	110.24
23	T	101	CHD	C18-C13-C17	-2.05	108.01	111.21
23	P	308	CHD	C5-C6-C7	-2.04	112.21	114.46
26	C	309	DMU	O1-C10-C5	2.04	114.67	110.35
26	C	310	DMU	C7-C8-C9	2.03	113.86	110.24
23	T	103	CHD	C11-C9-C10	2.02	115.81	113.73
26	C	309	DMU	C10-O1-C9	2.02	117.64	113.69
26	C	310	DMU	C6-C1-C2	2.01	114.18	110.00

All (26) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
18	A	605	HEA	NA
18	A	605	HEA	NB
18	A	605	HEA	ND
18	A	606	HEA	NA
18	A	606	HEA	NB
18	A	606	HEA	ND
18	N	606	HEA	NA
18	N	606	HEA	NB
18	N	606	HEA	ND
18	N	607	HEA	NA
18	N	607	HEA	NB
18	N	607	HEA	ND
23	T	103	CHD	C9
23	Y	101	CHD	C3
26	C	309	DMU	C6
26	C	309	DMU	C5
26	C	310	DMU	C6
26	C	310	DMU	C5
26	G	101	DMU	C6
26	G	101	DMU	C5
26	M	101	DMU	C6
26	M	101	DMU	C5

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Mol	Chain	Res	Type	Atom
26	P	302	DMU	C6
26	P	302	DMU	C5
26	Q	201	DMU	C6
26	Q	201	DMU	C5

All (1003) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
17	A	604	PGV	C04-O12-P-O11
17	A	604	PGV	C04-O12-P-O13
17	A	604	PGV	C04-O12-P-O14
17	A	604	PGV	C04-C05-C06-O06
17	A	604	PGV	O02-C1-O01-C02
17	A	604	PGV	C2-C1-O01-C02
17	C	305	PGV	C04-O12-P-O13
17	C	305	PGV	C04-O12-P-O14
17	C	305	PGV	O12-C04-C05-O05
17	H	101	PGV	C03-O11-P-O14
17	H	101	PGV	C04-O12-P-O14
17	H	101	PGV	C04-C05-C06-O06
17	H	101	PGV	O02-C1-O01-C02
17	N	605	PGV	C04-C05-C06-O06
17	N	610	PGV	C03-O11-P-O14
17	N	610	PGV	C04-O12-P-O13
17	N	610	PGV	C2-C1-O01-C02
17	P	305	PGV	C03-O11-P-O13
17	P	305	PGV	C04-O12-P-O14
17	P	306	PGV	C03-O11-P-O12
17	P	306	PGV	C03-O11-P-O13
17	P	306	PGV	C04-O12-P-O14
17	P	306	PGV	O12-C04-C05-C06
17	P	306	PGV	C2-C1-O01-C02
18	A	606	HEA	C12-C11-C3B-C2B
18	A	606	HEA	C19-C20-C21-C22
21	D	201	TGL	CB2-CB1-OG2-CG2
21	L	101	TGL	CB2-CB1-OG2-CG2
21	N	604	TGL	CB2-CB1-OG2-CG2
21	N	604	TGL	OB1-CB1-OG2-CG2
22	B	303	PSC	O12-C04-C05-N
22	V	101	PSC	C03-O11-P-O12
22	V	101	PSC	C03-O11-P-O13
22	V	101	PSC	C03-O11-P-O14

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Mol	Chain	Res	Type	Atoms
22	V	101	PSC	O12-C04-C05-N
22	V	101	PSC	C2-C1-O01-C02
24	C	303	PEK	C03-O11-P-O13
24	C	303	PEK	C12-C13-C14-C15
24	C	304	PEK	C03-O11-P-O13
24	C	304	PEK	C04-O12-P-O13
24	C	304	PEK	C04-O12-P-O14
24	C	304	PEK	O12-C04-C05-N
24	C	311	PEK	C03-O11-P-O12
24	P	301	PEK	C03-O11-P-O12
24	P	301	PEK	C03-O11-P-O13
24	P	301	PEK	C03-O11-P-O14
24	P	301	PEK	O12-C04-C05-N
24	P	304	PEK	C03-O11-P-O13
24	P	304	PEK	O12-C04-C05-N
24	T	102	PEK	C03-O11-P-O12
24	T	102	PEK	C03-O11-P-O14
24	T	102	PEK	C04-O12-P-O14
24	T	102	PEK	C02-C03-O11-P
24	T	102	PEK	O12-C04-C05-N
24	T	102	PEK	O02-C1-O01-C02
24	T	102	PEK	C2-C1-O01-C02
25	C	306	CDL	CB2-C1-CA2-OA2
25	C	306	CDL	C1-CA2-OA2-PA1
25	C	306	CDL	CA3-OA5-PA1-OA3
25	C	306	CDL	OA7-CA5-OA6-CA4
25	C	306	CDL	CB2-OB2-PB2-OB3
25	C	306	CDL	C51-CB5-OB6-CB4
25	C	308	CDL	CB2-C1-CA2-OA2
25	C	308	CDL	CA2-C1-CB2-OB2
25	C	308	CDL	CA3-OA5-PA1-OA2
25	C	308	CDL	CA3-OA5-PA1-OA3
25	C	308	CDL	CA3-OA5-PA1-OA4
25	C	308	CDL	C11-CA5-OA6-CA4
25	C	308	CDL	CB2-OB2-PB2-OB3
25	C	308	CDL	CB3-OB5-PB2-OB3
25	P	307	CDL	CA2-OA2-PA1-OA3
25	P	307	CDL	CA2-OA2-PA1-OA4
25	P	307	CDL	CA3-OA5-PA1-OA3
25	P	307	CDL	CB2-OB2-PB2-OB4
25	P	309	CDL	O1-C1-CA2-OA2
26	C	310	DMU	C1-C6-O16-C18

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Mol	Chain	Res	Type	Atoms
26	C	310	DMU	O5-C6-O16-C18
26	G	101	DMU	C1-C6-O16-C18
26	G	101	DMU	O5-C6-O16-C18
26	M	101	DMU	O5-C6-O16-C18
26	P	302	DMU	C19-C18-O16-C6
28	I	101	SAC	C-CA-CB-OG
28	V	102	SAC	C2A-C1A-N-CA
28	V	102	SAC	OAC-C1A-N-CA
17	A	604	PGV	O04-C19-O03-C01
22	V	101	PSC	O04-C19-O03-C01
25	P	309	CDL	OB9-CB7-OB8-CB6
17	A	604	PGV	C20-C19-O03-C01
17	N	610	PGV	O04-C19-O03-C01
21	B	302	TGL	OC1-CC1-OG3-CG3
21	N	609	TGL	OC1-CC1-OG3-CG3
24	C	304	PEK	O04-C21-O03-C01
25	P	307	CDL	OA9-CA7-OA8-CA6
25	P	309	CDL	OA9-CA7-OA8-CA6
26	C	309	DMU	O1-C10-O7-C3
17	N	610	PGV	O02-C1-O01-C02
17	P	306	PGV	O02-C1-O01-C02
21	D	201	TGL	OB1-CB1-OG2-CG2
21	L	101	TGL	OB1-CB1-OG2-CG2
25	C	306	CDL	OB7-CB5-OB6-CB4
21	N	609	TGL	CC2-CC1-OG3-CG3
22	V	101	PSC	C20-C19-O03-C01
25	C	306	CDL	C31-CA7-OA8-CA6
25	P	307	CDL	C31-CA7-OA8-CA6
25	P	309	CDL	C31-CA7-OA8-CA6
25	P	309	CDL	C71-CB7-OB8-CB6
17	H	101	PGV	C2-C1-O01-C02
25	C	306	CDL	C11-CA5-OA6-CA4
26	C	309	DMU	O6-C11-C9-O1
17	N	610	PGV	C20-C19-O03-C01
17	P	306	PGV	C20-C19-O03-C01
21	B	302	TGL	CC2-CC1-OG3-CG3
21	D	201	TGL	CC2-CC1-OG3-CG3
22	B	303	PSC	C20-C19-O03-C01
24	C	304	PEK	C22-C21-O03-C01
24	P	301	PEK	C22-C21-O03-C01
26	Q	201	DMU	O5-C4-C57-O61
17	A	604	PGV	C3-C4-C5-C6

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Mol	Chain	Res	Type	Atoms
22	V	101	PSC	O02-C1-O01-C02
25	C	308	CDL	OA7-CA5-OA6-CA4
22	B	303	PSC	O04-C19-O03-C01
25	C	306	CDL	OA9-CA7-OA8-CA6
26	M	101	DMU	O6-C11-C9-O1
26	G	101	DMU	O6-C11-C9-C8
17	P	306	PGV	O12-C04-C05-O05
25	C	306	CDL	O1-C1-CA2-OA2
25	C	306	CDL	O1-C1-CB2-OB2
25	C	308	CDL	O1-C1-CA2-OA2
25	C	308	CDL	O1-C1-CB2-OB2
25	P	307	CDL	O1-C1-CB2-OB2
21	N	604	TGL	CA2-CA1-OG1-CG1
24	C	311	PEK	C22-C21-O03-C01
17	A	604	PGV	C1-C2-C3-C4
26	G	101	DMU	O6-C11-C9-O1
26	Q	201	DMU	C3-C4-C57-O61
21	N	604	TGL	C23-C24-C25-C26
26	C	309	DMU	O6-C11-C9-C8
26	M	101	DMU	O6-C11-C9-C8
23	C	307	CHD	C13-C17-C20-C21
23	P	303	CHD	C13-C17-C20-C21
23	P	303	CHD	C16-C17-C20-C22
21	B	302	TGL	CA1-CA2-CA3-CA4
22	V	101	PSC	C19-C20-C21-C22
25	C	308	CDL	C71-CB7-OB8-CB6
26	C	310	DMU	O5-C4-C57-O61
17	H	101	PGV	C02-C03-O11-P
17	P	306	PGV	C05-C04-O12-P
17	P	306	PGV	O04-C19-O03-C01
24	C	311	PEK	O04-C21-O03-C01
24	P	301	PEK	O04-C21-O03-C01
18	A	606	HEA	C26-C15-C16-C17
18	A	606	HEA	C14-C15-C16-C17
21	D	201	TGL	OC1-CC1-OG3-CG3
21	O	301	TGL	CC2-CC1-OG3-CG3
23	Y	101	CHD	C17-C20-C22-C23
25	C	308	CDL	OB9-CB7-OB8-CB6
17	C	305	PGV	O12-C04-C05-C06
25	C	306	CDL	CA2-C1-CB2-OB2
25	P	307	CDL	CA2-C1-CB2-OB2
23	Y	101	CHD	C21-C20-C22-C23

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Mol	Chain	Res	Type	Atoms
21	N	604	TGL	OA1-CA1-OG1-CG1
21	N	604	TGL	CC2-CC1-OG3-CG3
21	O	301	TGL	CA2-CA1-OG1-CG1
21	D	201	TGL	CB1-CB2-CB3-CB4
24	C	311	PEK	C1-C2-C3-C4
17	P	306	PGV	C26-C27-C28-C29
21	O	301	TGL	OA1-CA1-OG1-CG1
21	O	301	TGL	OC1-CC1-OG3-CG3
21	B	302	TGL	C11-C10-CB9-CB8
17	N	610	PGV	C19-C20-C21-C22
17	P	305	PGV	C1-C2-C3-C4
25	C	308	CDL	CA7-C31-C32-C33
21	N	604	TGL	OC1-CC1-OG3-CG3
26	C	309	DMU	C5-C10-O7-C3
17	H	101	PGV	C20-C19-O03-C01
24	T	102	PEK	C22-C21-O03-C01
21	D	201	TGL	CC1-CC2-CC3-CC4
17	P	305	PGV	C19-C20-C21-C22
24	T	102	PEK	C1-C2-C3-C4
24	T	102	PEK	C21-C22-C23-C24
25	C	306	CDL	CA7-C31-C32-C33
25	C	306	CDL	CB7-C71-C72-C73
25	C	308	CDL	CA5-C11-C12-C13
21	N	604	TGL	CC6-CC7-CC8-CC9
26	C	310	DMU	O16-C18-C19-C22
21	N	609	TGL	CB1-CB2-CB3-CB4
24	C	304	PEK	C1-C2-C3-C4
23	C	307	CHD	C16-C17-C20-C22
23	T	101	CHD	C20-C22-C23-C24
26	Q	201	DMU	O16-C18-C19-C22
25	P	309	CDL	O1-C1-CB2-OB2
21	D	201	TGL	CA2-CA1-OG1-CG1
24	T	102	PEK	O04-C21-O03-C01
17	H	101	PGV	O04-C19-O03-C01
25	C	306	CDL	C39-C40-C41-C42
17	A	604	PGV	C03-O11-P-O12
17	C	305	PGV	C04-O12-P-O11
17	H	101	PGV	C03-O11-P-O12
17	H	101	PGV	C04-O12-P-O11
17	P	305	PGV	C03-O11-P-O12
17	P	306	PGV	C04-O12-P-O11
24	C	304	PEK	C03-O11-P-O12

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Mol	Chain	Res	Type	Atoms
24	C	304	PEK	C04-O12-P-O11
24	T	102	PEK	C04-O12-P-O11
25	P	307	CDL	CA2-OA2-PA1-OA5
25	P	307	CDL	CA3-OA5-PA1-OA2
25	P	307	CDL	CB2-OB2-PB2-OB5
25	P	309	CDL	CB3-OB5-PB2-OB2
21	O	301	TGL	CA1-CA2-CA3-CA4
21	B	302	TGL	C21-C20-CA9-CA8
17	N	610	PGV	C1-C2-C3-C4
25	P	309	CDL	CB2-C1-CA2-OA2
25	P	309	CDL	CA2-C1-CB2-OB2
17	C	305	PGV	C12-C13-C14-C15
21	L	101	TGL	C24-C25-C26-C27
24	C	311	PEK	C27-C28-C29-C30
26	C	309	DMU	C19-C22-C25-C28
21	B	302	TGL	C14-C29-C30-C31
21	L	101	TGL	CB2-CB3-CB4-CB5
21	L	101	TGL	CB6-CB7-CB8-CB9
21	N	604	TGL	CC3-CC4-CC5-CC6
21	N	609	TGL	CB5-CB6-CB7-CB8
24	C	303	PEK	C23-C24-C25-C26
24	C	311	PEK	C25-C26-C27-C28
25	C	306	CDL	C15-C16-C17-C18
25	C	306	CDL	C32-C33-C34-C35
25	C	306	CDL	C61-C62-C63-C64
25	C	308	CDL	C73-C74-C75-C76
25	P	307	CDL	C41-C42-C43-C44
25	P	307	CDL	C55-C56-C57-C58
25	P	307	CDL	C78-C79-C80-C81
25	P	309	CDL	C43-C44-C45-C46
21	B	302	TGL	CA5-CA6-CA7-CA8
21	B	302	TGL	CB5-CB6-CB7-CB8
21	N	604	TGL	C13-C14-C29-C30
24	C	303	PEK	C25-C26-C27-C28
25	C	308	CDL	C12-C13-C14-C15
25	C	308	CDL	C79-C80-C81-C82
25	P	307	CDL	C36-C37-C38-C39
17	C	305	PGV	C25-C26-C27-C28
21	L	101	TGL	CC6-CC7-CC8-CC9
21	O	301	TGL	C10-C11-C12-C13
21	O	301	TGL	CC7-CC8-CC9-C15
24	C	303	PEK	C22-C23-C24-C25

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Mol	Chain	Res	Type	Atoms
24	P	301	PEK	C34-C35-C36-C37
25	C	306	CDL	C83-C84-C85-C86
25	C	308	CDL	C60-C61-C62-C63
25	P	307	CDL	C19-C20-C21-C22
26	Q	201	DMU	C25-C28-C31-C34
21	D	201	TGL	OA1-CA1-OG1-CG1
24	T	102	PEK	O01-C02-C03-O11
17	N	605	PGV	C23-C24-C25-C26
21	L	101	TGL	C18-C19-C33-C34
21	N	609	TGL	C16-C15-CC9-CC8
22	B	303	PSC	C27-C28-C29-C30
25	C	308	CDL	C15-C16-C17-C18
17	N	610	PGV	O12-C04-C05-O05
17	N	610	PGV	C7-C8-C9-C10
17	N	610	PGV	C27-C28-C29-C30
21	O	301	TGL	C11-C12-C13-C14
25	P	309	CDL	C31-C32-C33-C34
21	B	302	TGL	CB1-CB2-CB3-CB4
17	C	301	PGV	C5-C6-C7-C8
17	H	101	PGV	C23-C24-C25-C26
17	N	605	PGV	C13-C14-C15-C16
21	B	302	TGL	CC9-C15-C16-C17
21	D	201	TGL	CA6-CA7-CA8-CA9
21	N	604	TGL	C10-C11-C12-C13
21	O	301	TGL	CB7-CB8-CB9-C10
21	O	301	TGL	C15-C16-C17-C18
25	P	309	CDL	C16-C17-C18-C19
26	G	101	DMU	O16-C18-C19-C22
17	P	305	PGV	C6-C7-C8-C9
21	L	101	TGL	CC7-CC8-CC9-C15
21	N	604	TGL	C21-C20-CA9-CA8
21	N	604	TGL	C16-C15-CC9-CC8
21	N	609	TGL	C13-C14-C29-C30
25	C	306	CDL	C43-C44-C45-C46
25	C	308	CDL	C41-C42-C43-C44
25	C	308	CDL	C53-C54-C55-C56
25	P	309	CDL	C34-C35-C36-C37
17	C	301	PGV	C7-C8-C9-C10
17	N	605	PGV	C30-C31-C32-C33
21	D	201	TGL	CA3-CA4-CA5-CA6
21	N	609	TGL	C23-C24-C25-C26
21	N	609	TGL	C24-C25-C26-C27

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Mol	Chain	Res	Type	Atoms
25	P	307	CDL	C83-C84-C85-C86
26	M	101	DMU	C19-C22-C25-C28
26	P	302	DMU	C31-C34-C37-C40
23	J	101	CHD	C20-C22-C23-C24
21	D	201	TGL	C16-C15-CC9-CC8
21	O	301	TGL	CC3-CC4-CC5-CC6
25	C	306	CDL	C60-C61-C62-C63
21	D	201	TGL	C23-C24-C25-C26
25	C	306	CDL	C22-C23-C24-C25
25	C	306	CDL	C62-C63-C64-C65
17	H	101	PGV	C12-C13-C14-C15
24	P	301	PEK	C15-C16-C17-C18
17	N	605	PGV	C19-C20-C21-C22
21	O	301	TGL	CB1-CB2-CB3-CB4
17	C	301	PGV	C29-C30-C31-C32
21	B	302	TGL	C12-C13-C14-C29
21	B	302	TGL	C23-C24-C25-C26
21	L	101	TGL	CA4-CA5-CA6-CA7
21	L	101	TGL	C20-C21-C22-C23
21	N	604	TGL	CC5-CC6-CC7-CC8
21	O	301	TGL	CB9-C10-C11-C12
24	P	304	PEK	C16-C17-C18-C19
24	T	102	PEK	C31-C32-C33-C34
25	C	306	CDL	C76-C77-C78-C79
25	C	308	CDL	C33-C34-C35-C36
25	P	307	CDL	C72-C73-C74-C75
25	P	307	CDL	C77-C78-C79-C80
25	P	309	CDL	C20-C21-C22-C23
17	N	610	PGV	C29-C30-C31-C32
21	B	302	TGL	C11-C12-C13-C14
21	D	201	TGL	CA9-C20-C21-C22
21	N	604	TGL	CB2-CB3-CB4-CB5
21	N	609	TGL	C10-C11-C12-C13
21	N	609	TGL	C15-C16-C17-C18
21	O	301	TGL	C17-C18-C19-C33
24	C	311	PEK	C16-C17-C18-C19
24	P	301	PEK	C29-C30-C31-C32
25	P	309	CDL	C61-C62-C63-C64
24	C	311	PEK	O12-C04-C05-N
17	C	305	PGV	C22-C23-C24-C25
17	C	305	PGV	C30-C31-C32-C33
21	D	201	TGL	CB6-CB7-CB8-CB9

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Mol	Chain	Res	Type	Atoms
21	N	609	TGL	CB4-CB5-CB6-CB7
21	O	301	TGL	CB4-CB5-CB6-CB7
24	C	304	PEK	C28-C29-C30-C31
25	P	309	CDL	C58-C59-C60-C61
25	P	309	CDL	C82-C83-C84-C85
25	P	309	CDL	C83-C84-C85-C86
24	P	304	PEK	C1-C2-C3-C4
21	L	101	TGL	C11-C12-C13-C14
25	P	307	CDL	C11-C12-C13-C14
17	A	604	PGV	C4-C5-C6-C7
21	N	604	TGL	CB9-C10-C11-C12
21	N	609	TGL	CC3-CC4-CC5-CC6
26	C	310	DMU	C19-C18-O16-C6
26	G	101	DMU	C19-C18-O16-C6
17	P	305	PGV	C13-C14-C15-C16
21	D	201	TGL	C12-C13-C14-C29
25	P	307	CDL	C58-C59-C60-C61
17	N	610	PGV	C24-C25-C26-C27
21	B	302	TGL	CC7-CC8-CC9-C15
25	P	309	CDL	C77-C78-C79-C80
25	C	306	CDL	C14-C15-C16-C17
25	C	308	CDL	C23-C24-C25-C26
21	N	609	TGL	CA9-C20-C21-C22
22	B	303	PSC	C2-C1-O01-C02
17	N	610	PGV	C23-C24-C25-C26
21	O	301	TGL	CC5-CC6-CC7-CC8
25	P	307	CDL	C74-C75-C76-C77
17	A	604	PGV	O05-C05-C06-O06
17	H	101	PGV	O05-C05-C06-O06
17	N	605	PGV	O05-C05-C06-O06
17	N	605	PGV	C24-C25-C26-C27
17	N	610	PGV	C14-C15-C16-C17
21	B	302	TGL	CA9-C20-C21-C22
24	C	303	PEK	C24-C25-C26-C27
24	P	301	PEK	C23-C24-C25-C26
25	P	309	CDL	C12-C13-C14-C15
25	P	309	CDL	C74-C75-C76-C77
17	H	101	PGV	C11-C10-C9-C8
22	B	303	PSC	C6-C7-C8-C9
21	B	302	TGL	CB2-CB3-CB4-CB5
21	L	101	TGL	CC4-CC5-CC6-CC7
24	C	304	PEK	C31-C32-C33-C34

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Mol	Chain	Res	Type	Atoms
26	G	101	DMU	C18-C19-C22-C25
21	B	302	TGL	CC4-CC5-CC6-CC7
21	L	101	TGL	CC9-C15-C16-C17
24	C	311	PEK	C29-C30-C31-C32
25	C	306	CDL	C35-C36-C37-C38
25	P	309	CDL	C41-C42-C43-C44
26	P	302	DMU	C22-C25-C28-C31
17	N	610	PGV	C02-C03-O11-P
21	L	101	TGL	C12-C13-C14-C29
17	H	101	PGV	C19-C20-C21-C22
28	I	101	SAC	N-CA-CB-OG
17	A	604	PGV	C5-C6-C7-C8
24	T	102	PEK	C27-C28-C29-C30
25	C	306	CDL	C77-C78-C79-C80
25	C	308	CDL	C31-CA7-OA8-CA6
24	P	301	PEK	C2-C1-O01-C02
17	H	101	PGV	C29-C30-C31-C32
21	B	302	TGL	C33-C34-C35-C36
21	D	201	TGL	CA1-CA2-CA3-CA4
22	B	303	PSC	C20-C21-C22-C23
26	M	101	DMU	C34-C37-C40-C43
23	P	303	CHD	C16-C17-C20-C21
25	P	309	CDL	C35-C36-C37-C38
24	P	301	PEK	C7-C8-C9-C10
24	C	311	PEK	C24-C25-C26-C27
24	P	301	PEK	C2-C3-C4-C5
22	B	303	PSC	O02-C1-O01-C02
25	P	307	CDL	OA7-CA5-OA6-CA4
24	P	301	PEK	C26-C27-C28-C29
24	P	301	PEK	C30-C31-C32-C33
25	C	308	CDL	C76-C77-C78-C79
21	L	101	TGL	CA6-CA7-CA8-CA9
21	N	609	TGL	C20-C21-C22-C23
24	C	311	PEK	C28-C29-C30-C31
25	C	306	CDL	C18-C19-C20-C21
25	C	306	CDL	C56-C57-C58-C59
21	N	609	TGL	CA7-CA8-CA9-C20
22	B	303	PSC	C4-C5-C6-C7
21	N	604	TGL	CA4-CA5-CA6-CA7
25	P	307	CDL	C17-C18-C19-C20
25	P	309	CDL	C59-C60-C61-C62
21	N	604	TGL	CB7-CB8-CB9-C10

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Mol	Chain	Res	Type	Atoms
17	C	305	PGV	C7-C8-C9-C10
21	B	302	TGL	C18-C19-C33-C34
25	P	307	CDL	C43-C44-C45-C46
25	P	309	CDL	C38-C39-C40-C41
17	P	305	PGV	C2-C1-O01-C02
21	N	609	TGL	CB2-CB1-OG2-CG2
24	C	304	PEK	C2-C1-O01-C02
25	P	307	CDL	C11-CA5-OA6-CA4
21	O	301	TGL	C21-C22-C23-C24
25	P	307	CDL	C22-C23-C24-C25
26	C	310	DMU	C25-C28-C31-C34
23	P	303	CHD	C17-C20-C22-C23
25	C	308	CDL	OA9-CA7-OA8-CA6
26	Q	201	DMU	C28-C31-C34-C37
17	P	305	PGV	O02-C1-O01-C02
24	C	304	PEK	O02-C1-O01-C02
21	D	201	TGL	C15-C16-C17-C18
26	P	302	DMU	C1-C6-O16-C18
17	H	101	PGV	C13-C14-C15-C16
25	C	308	CDL	C52-C53-C54-C55
17	P	306	PGV	C30-C31-C32-C33
25	P	307	CDL	C52-C53-C54-C55
17	C	301	PGV	C11-C10-C9-C8
22	B	303	PSC	C13-C14-C15-C16
24	T	102	PEK	C15-C16-C17-C18
17	H	101	PGV	C6-C7-C8-C9
21	B	302	TGL	C21-C22-C23-C24
21	N	609	TGL	C19-C33-C34-C35
17	N	605	PGV	C7-C8-C9-C10
17	P	306	PGV	C2-C3-C4-C5
24	C	311	PEK	C32-C33-C34-C35
24	T	102	PEK	C23-C24-C25-C26
17	A	604	PGV	C10-C11-C12-C13
25	P	309	CDL	C13-C14-C15-C16
25	P	309	CDL	C53-C54-C55-C56
21	N	609	TGL	OB1-CB1-OG2-CG2
24	P	301	PEK	O02-C1-O01-C02
21	D	201	TGL	CC6-CC7-CC8-CC9
21	O	301	TGL	CB3-CB4-CB5-CB6
22	V	101	PSC	C23-C24-C25-C26
24	P	304	PEK	C33-C34-C35-C36
25	P	309	CDL	C11-C12-C13-C14

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Mol	Chain	Res	Type	Atoms
17	P	305	PGV	C04-O12-P-O11
24	P	304	PEK	C03-O11-P-O12
24	C	304	PEK	C02-C03-O11-P
17	N	610	PGV	C3-C4-C5-C6
24	T	102	PEK	C01-C02-C03-O11
25	P	307	CDL	OA5-CA3-CA4-CA6
21	L	101	TGL	CA5-CA6-CA7-CA8
21	L	101	TGL	CC1-CC2-CC3-CC4
21	O	301	TGL	C22-C23-C24-C25
25	P	307	CDL	C21-C22-C23-C24
26	Q	201	DMU	C22-C25-C28-C31
24	C	304	PEK	C24-C25-C26-C27
24	C	311	PEK	C15-C16-C17-C18
24	P	304	PEK	C15-C16-C17-C18
17	A	604	PGV	C13-C14-C15-C16
17	A	604	PGV	C20-C21-C22-C23
17	P	306	PGV	C21-C22-C23-C24
25	P	309	CDL	C18-C19-C20-C21
17	N	605	PGV	C22-C23-C24-C25
21	N	609	TGL	CA3-CA4-CA5-CA6
22	B	303	PSC	C24-C25-C26-C27
17	P	305	PGV	O03-C01-C02-C03
21	L	101	TGL	CG1-CG2-CG3-OG3
25	C	306	CDL	CA3-CA4-CA6-OA8
25	P	309	CDL	C84-C85-C86-C87
21	N	604	TGL	C33-C34-C35-C36
24	C	304	PEK	C35-C36-C37-C38
24	T	102	PEK	C25-C26-C27-C28
18	A	605	HEA	C4D-C3D-CAD-CBD
24	C	311	PEK	C35-C36-C37-C38
25	P	307	CDL	C44-C45-C46-C47
21	B	302	TGL	CA3-CA4-CA5-CA6
24	C	303	PEK	C16-C17-C18-C19
24	T	102	PEK	C17-C18-C19-C20
25	P	309	CDL	C56-C57-C58-C59
25	P	309	CDL	C57-C58-C59-C60
24	P	301	PEK	C14-C15-C16-C17
25	P	307	CDL	C54-C55-C56-C57
24	P	304	PEK	C2-C3-C4-C5
21	L	101	TGL	CA1-CA2-CA3-CA4
17	A	604	PGV	C15-C16-C17-C18
26	C	309	DMU	C34-C37-C40-C43

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Mol	Chain	Res	Type	Atoms
21	O	301	TGL	C29-C30-C31-C32
24	T	102	PEK	C28-C29-C30-C31
21	N	604	TGL	C25-C26-C27-C28
25	C	306	CDL	C78-C79-C80-C81
17	N	610	PGV	C20-C21-C22-C23
25	C	308	CDL	C19-C20-C21-C22
25	C	308	CDL	C44-C45-C46-C47
21	N	609	TGL	CC5-CC6-CC7-CC8
25	C	308	CDL	C21-C22-C23-C24
24	P	304	PEK	C7-C8-C9-C10
21	O	301	TGL	C20-C21-C22-C23
26	G	101	DMU	C5-C10-O7-C3
17	A	604	PGV	C24-C25-C26-C27
17	N	610	PGV	C6-C7-C8-C9
25	C	306	CDL	C57-C58-C59-C60
25	P	307	CDL	OA6-CA4-CA6-OA8
21	D	201	TGL	C21-C20-CA9-CA8
25	C	308	CDL	C74-C75-C76-C77
25	C	306	CDL	C80-C81-C82-C83
25	P	307	CDL	C37-C38-C39-C40
25	C	308	CDL	CB5-C51-C52-C53
23	C	307	CHD	C16-C17-C20-C21
25	C	306	CDL	C37-C38-C39-C40
26	Q	201	DMU	C34-C37-C40-C43
17	C	305	PGV	C31-C32-C33-C34
17	N	610	PGV	C21-C22-C23-C24
17	C	305	PGV	C27-C28-C29-C30
17	N	610	PGV	C5-C6-C7-C8
24	P	301	PEK	C28-C29-C30-C31
25	C	308	CDL	C62-C63-C64-C65
17	P	306	PGV	C24-C25-C26-C27
21	L	101	TGL	CB7-CB8-CB9-C10
22	V	101	PSC	C30-C31-C32-C33
25	C	306	CDL	C20-C21-C22-C23
25	C	308	CDL	C64-C65-C66-C67
21	D	201	TGL	C18-C19-C33-C34
25	P	307	CDL	C24-C25-C26-C27
25	P	307	CDL	C20-C21-C22-C23
21	B	302	TGL	CC1-CC2-CC3-CC4
17	N	610	PGV	C31-C32-C33-C34
21	L	101	TGL	C21-C20-CA9-CA8
21	N	609	TGL	CC2-CC3-CC4-CC5

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Mol	Chain	Res	Type	Atoms
22	B	303	PSC	C26-C27-C28-C29
21	D	201	TGL	C21-C22-C23-C24
25	C	308	CDL	C83-C84-C85-C86
17	C	305	PGV	C1-C2-C3-C4
17	P	306	PGV	C4-C5-C6-C7
25	P	307	CDL	C71-CB7-OB8-CB6
17	C	301	PGV	C4-C5-C6-C7
25	C	306	CDL	C52-C53-C54-C55
25	P	309	CDL	C54-C55-C56-C57
21	D	201	TGL	C29-C30-C31-C32
17	H	101	PGV	C31-C32-C33-C34
25	P	309	CDL	CB7-C71-C72-C73
17	A	604	PGV	C02-C03-O11-P
25	P	307	CDL	C1-CA2-OA2-PA1
24	P	301	PEK	C16-C17-C18-C19
24	T	102	PEK	C16-C17-C18-C19
26	C	309	DMU	C19-C18-O16-C6
26	Q	201	DMU	C19-C18-O16-C6
17	P	305	PGV	C30-C31-C32-C33
25	C	306	CDL	C13-C14-C15-C16
17	C	301	PGV	C6-C7-C8-C9
17	H	101	PGV	C2-C3-C4-C5
17	P	306	PGV	O03-C01-C02-C03
25	C	306	CDL	CB3-CB4-CB6-OB8
25	P	307	CDL	CB3-CB4-CB6-OB8
21	B	302	TGL	C25-C26-C27-C28
22	V	101	PSC	C21-C22-C23-C24
26	G	101	DMU	O1-C10-O7-C3
21	N	609	TGL	C21-C20-CA9-CA8
21	D	201	TGL	CA2-CA3-CA4-CA5
24	C	304	PEK	C14-C15-C16-C17
17	H	101	PGV	C30-C31-C32-C33
24	C	304	PEK	C27-C28-C29-C30
17	N	605	PGV	C03-O11-P-O12
22	V	101	PSC	C10-C11-C12-C13
24	C	304	PEK	C6-C7-C8-C9
24	C	304	PEK	C12-C13-C14-C15
24	C	311	PEK	C9-C10-C11-C12
24	C	311	PEK	C11-C12-C13-C14
24	P	301	PEK	C5-C6-C7-C8
24	P	301	PEK	C11-C12-C13-C14
24	P	301	PEK	C12-C13-C14-C15

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Mol	Chain	Res	Type	Atoms
24	P	304	PEK	C9-C10-C11-C12
24	T	102	PEK	C11-C10-C9-C8
24	T	102	PEK	C11-C12-C13-C14
25	C	306	CDL	CA3-OA5-PA1-OA2
17	H	101	PGV	C26-C27-C28-C29
24	P	304	PEK	C28-C29-C30-C31
24	T	102	PEK	C29-C30-C31-C32
25	C	306	CDL	C73-C74-C75-C76
25	P	309	CDL	C21-C22-C23-C24
25	C	306	CDL	C21-C22-C23-C24
25	P	307	CDL	OA5-CA3-CA4-OA6
21	O	301	TGL	C12-C13-C14-C29
22	V	101	PSC	C3-C4-C5-C6
24	C	304	PEK	C34-C35-C36-C37
21	B	302	TGL	OG1-CG1-CG2-OG2
25	C	306	CDL	OA6-CA4-CA6-OA8
25	C	308	CDL	OA6-CA4-CA6-OA8
22	V	101	PSC	C20-C21-C22-C23
21	N	604	TGL	CC9-C15-C16-C17
25	C	308	CDL	C16-C17-C18-C19
17	N	610	PGV	C26-C27-C28-C29
21	N	604	TGL	CB4-CB5-CB6-CB7
21	B	302	TGL	CA4-CA5-CA6-CA7
24	C	303	PEK	C30-C31-C32-C33
25	P	307	CDL	C84-C85-C86-C87
26	Q	201	DMU	C19-C22-C25-C28
21	B	302	TGL	CB4-CB5-CB6-CB7
17	C	305	PGV	C02-C03-O11-P
17	P	305	PGV	C05-C04-O12-P
24	C	303	PEK	C02-C03-O11-P
24	P	301	PEK	C02-C03-O11-P
24	P	304	PEK	C02-C03-O11-P
25	P	309	CDL	C1-CA2-OA2-PA1
25	C	306	CDL	C71-C72-C73-C74
21	N	609	TGL	CA6-CA7-CA8-CA9
21	N	604	TGL	C29-C30-C31-C32
17	C	305	PGV	C26-C27-C28-C29
21	O	301	TGL	CB5-CB6-CB7-CB8
24	P	301	PEK	C35-C36-C37-C38
17	C	301	PGV	C21-C22-C23-C24
21	D	201	TGL	CC2-CC3-CC4-CC5
24	T	102	PEK	C24-C25-C26-C27

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Mol	Chain	Res	Type	Atoms
17	N	610	PGV	C28-C29-C30-C31
26	M	101	DMU	C18-C19-C22-C25
17	H	101	PGV	C27-C28-C29-C30
21	N	609	TGL	CB2-CB3-CB4-CB5
21	O	301	TGL	CA9-C20-C21-C22
17	P	306	PGV	C13-C14-C15-C16
21	N	604	TGL	C18-C19-C33-C34
21	O	301	TGL	CA5-CA6-CA7-CA8
22	B	303	PSC	C30-C31-C32-C33
17	N	605	PGV	C5-C6-C7-C8
22	B	303	PSC	C3-C4-C5-C6
17	N	610	PGV	C25-C26-C27-C28
24	P	304	PEK	C26-C27-C28-C29
17	N	610	PGV	C2-C3-C4-C5
17	N	610	PGV	C03-C02-O01-C1
22	V	101	PSC	C03-C02-O01-C1
25	C	308	CDL	CA6-CA4-OA6-CA5
26	C	310	DMU	C28-C31-C34-C37
26	P	302	DMU	C5-C10-O7-C3
18	N	607	HEA	C26-C15-C16-C17
17	N	605	PGV	C12-C13-C14-C15
17	A	604	PGV	O03-C01-C02-C03
21	D	201	TGL	OG1-CG1-CG2-CG3
24	P	301	PEK	O03-C01-C02-C03
25	P	309	CDL	CA4-CA3-OA5-PA1
25	P	309	CDL	CA3-CA4-CA6-OA8
25	P	309	CDL	C81-C82-C83-C84
22	V	101	PSC	O01-C02-C03-O11
25	C	306	CDL	C17-C18-C19-C20
21	D	201	TGL	C33-C34-C35-C36
25	P	307	CDL	O1-C1-CA2-OA2
21	D	201	TGL	CC4-CC5-CC6-CC7
17	A	604	PGV	O03-C01-C02-O01
17	P	305	PGV	O03-C01-C02-O01
22	V	101	PSC	O03-C01-C02-O01
25	P	307	CDL	OB6-CB4-CB6-OB8
17	N	605	PGV	C26-C27-C28-C29
25	P	309	CDL	C36-C37-C38-C39
23	P	303	CHD	C13-C17-C20-C22
25	P	307	CDL	OB9-CB7-OB8-CB6
21	L	101	TGL	CA2-CA3-CA4-CA5
24	C	311	PEK	C26-C27-C28-C29

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Mol	Chain	Res	Type	Atoms
25	P	307	CDL	C62-C63-C64-C65
21	N	604	TGL	CB5-CB6-CB7-CB8
17	P	305	PGV	C23-C24-C25-C26
25	C	306	CDL	C81-C82-C83-C84
17	P	305	PGV	C10-C11-C12-C13
21	N	609	TGL	C22-C23-C24-C25
25	P	307	CDL	C40-C41-C42-C43
17	P	306	PGV	C19-C20-C21-C22
24	P	301	PEK	C22-C23-C24-C25
17	P	305	PGV	C04-C05-C06-O06
17	C	301	PGV	C22-C23-C24-C25
17	P	306	PGV	C31-C32-C33-C34
17	P	306	PGV	C22-C23-C24-C25
22	V	101	PSC	C24-C25-C26-C27
17	N	610	PGV	C04-O12-P-O11
25	C	308	CDL	CB2-OB2-PB2-OB5
17	H	101	PGV	O12-C04-C05-O05
22	B	303	PSC	C14-C15-C16-C17
22	V	101	PSC	C02-C03-O11-P
17	N	605	PGV	C31-C32-C33-C34
17	A	604	PGV	C03-O11-P-O13
17	N	610	PGV	C04-O12-P-O14
17	P	305	PGV	C03-O11-P-O14
24	C	311	PEK	C03-O11-P-O13
24	P	304	PEK	C03-O11-P-O14
24	T	102	PEK	C04-O12-P-O13
25	P	307	CDL	CA3-OA5-PA1-OA4
25	P	307	CDL	CB2-OB2-PB2-OB3
25	P	309	CDL	CB3-OB5-PB2-OB3
26	P	302	DMU	O5-C6-O16-C18
22	B	303	PSC	C01-C02-C03-O11
25	C	306	CDL	OA5-CA3-CA4-CA6
25	P	307	CDL	OB5-CB3-CB4-CB6
23	C	307	CHD	C13-C17-C20-C22
21	N	604	TGL	CA9-C20-C21-C22
25	P	309	CDL	C33-C34-C35-C36
22	B	303	PSC	C11-C12-C13-C14
25	C	306	CDL	C54-C55-C56-C57
17	P	306	PGV	C1-C2-C3-C4
25	P	307	CDL	C15-C16-C17-C18
17	H	101	PGV	O12-C04-C05-C06
17	P	305	PGV	O12-C04-C05-C06

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Mol	Chain	Res	Type	Atoms
21	N	604	TGL	CC7-CC8-CC9-C15
25	P	307	CDL	OB5-CB3-CB4-OB6
24	C	304	PEK	C16-C17-C18-C19
17	N	605	PGV	C11-C12-C13-C14
25	C	306	CDL	C44-C45-C46-C47
21	N	609	TGL	CA2-CA3-CA4-CA5
21	B	302	TGL	C16-C17-C18-C19
21	D	201	TGL	C10-C11-C12-C13
17	P	305	PGV	C28-C29-C30-C31
21	B	302	TGL	OG1-CG1-CG2-CG3
21	N	604	TGL	CG1-CG2-CG3-OG3
25	P	307	CDL	CA3-CA4-CA6-OA8
25	C	308	CDL	OB7-CB5-OB6-CB4
21	N	604	TGL	OG2-CG2-CG3-OG3
25	P	309	CDL	OA6-CA4-CA6-OA8
17	C	301	PGV	C13-C14-C15-C16
18	N	606	HEA	C4D-C3D-CAD-CBD
21	L	101	TGL	C29-C30-C31-C32
21	N	604	TGL	CC2-CC3-CC4-CC5
23	C	302	CHD	C13-C17-C20-C21
25	C	306	CDL	C40-C41-C42-C43
17	A	604	PGV	C14-C15-C16-C17
17	H	101	PGV	C15-C16-C17-C18
24	P	301	PEK	C25-C26-C27-C28
17	P	306	PGV	C3-C4-C5-C6
17	P	306	PGV	C7-C8-C9-C10
23	P	303	CHD	C21-C20-C22-C23
17	C	301	PGV	C14-C15-C16-C17
25	C	308	CDL	C78-C79-C80-C81
25	P	307	CDL	C63-C64-C65-C66
26	G	101	DMU	C22-C25-C28-C31
25	P	309	CDL	CB6-CB4-OB6-CB5
21	B	302	TGL	OB1-CB1-OG2-CG2
18	N	607	HEA	C11-C12-C13-C14
17	P	305	PGV	C15-C16-C17-C18
26	G	101	DMU	C34-C37-C40-C43
17	P	306	PGV	C02-C03-O11-P
25	C	306	CDL	OB9-CB7-OB8-CB6
24	P	304	PEK	C32-C33-C34-C35
26	C	310	DMU	C22-C25-C28-C31
18	N	606	HEA	C2D-C3D-CAD-CBD
23	Y	101	CHD	C20-C22-C23-C24

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Mol	Chain	Res	Type	Atoms
23	C	302	CHD	C16-C17-C20-C21
23	T	101	CHD	C13-C17-C20-C21
21	L	101	TGL	OG2-CG2-CG3-OG3
25	C	306	CDL	OB6-CB4-CB6-OB8
21	N	609	TGL	CA5-CA6-CA7-CA8
22	B	303	PSC	C04-O12-P-O11
24	C	311	PEK	C04-O12-P-O11
24	P	301	PEK	C04-O12-P-O11
25	C	308	CDL	CA2-OA2-PA1-OA5
25	C	308	CDL	CB3-OB5-PB2-OB2
25	P	309	CDL	CB2-OB2-PB2-OB5
17	A	604	PGV	C25-C26-C27-C28
17	A	604	PGV	C29-C30-C31-C32
22	V	101	PSC	O03-C01-C02-C03
25	P	309	CDL	C19-C20-C21-C22
17	C	301	PGV	C20-C19-O03-C01
21	D	201	TGL	C16-C17-C18-C19
25	C	306	CDL	CA4-CA3-OA5-PA1
25	P	307	CDL	CB4-CB3-OB5-PB2
21	N	609	TGL	CC9-C15-C16-C17
24	P	304	PEK	C14-C15-C16-C17
21	N	604	TGL	CB3-CB4-CB5-CB6
25	P	307	CDL	CB2-C1-CA2-OA2
17	P	306	PGV	C14-C15-C16-C17
25	P	309	CDL	C72-C73-C74-C75
17	P	306	PGV	C20-C21-C22-C23
21	L	101	TGL	CA9-C20-C21-C22
25	C	306	CDL	C71-CB7-OB8-CB6
23	C	302	CHD	C16-C17-C20-C22
24	P	304	PEK	C3-C4-C5-C6
25	C	308	CDL	C61-C62-C63-C64
25	P	307	CDL	C82-C83-C84-C85
23	T	101	CHD	C22-C23-C24-O25
17	P	305	PGV	C29-C30-C31-C32
23	Y	101	CHD	C22-C23-C24-O25
21	D	201	TGL	CB2-CB3-CB4-CB5
21	O	301	TGL	C11-C10-CB9-CB8
24	C	303	PEK	C27-C28-C29-C30
23	C	307	CHD	C22-C23-C24-O25
23	Y	101	CHD	C22-C23-C24-O26
21	O	301	TGL	C18-C19-C33-C34
24	P	301	PEK	C17-C18-C19-C20

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Mol	Chain	Res	Type	Atoms
25	C	306	CDL	C79-C80-C81-C82
25	P	307	CDL	CA4-CA3-OA5-PA1
22	B	303	PSC	C15-C16-C17-C18
21	L	101	TGL	C19-C33-C34-C35
17	N	605	PGV	O03-C19-C20-C21
18	N	606	HEA	CAD-CBD-CGD-O1D
18	N	606	HEA	CAD-CBD-CGD-O2D
23	T	101	CHD	C16-C17-C20-C22
25	C	308	CDL	CA3-CA4-CA6-OA8
23	O	303	CHD	C22-C23-C24-O25
23	P	308	CHD	C20-C22-C23-C24
18	A	605	HEA	CAD-CBD-CGD-O1D
24	C	303	PEK	C34-C35-C36-C37
17	N	605	PGV	C11-C10-C9-C8
26	C	309	DMU	C4-C3-O7-C10
17	C	301	PGV	C9-C10-C11-C12
17	A	604	PGV	C22-C23-C24-C25
22	V	101	PSC	C5-C6-C7-C8
24	C	304	PEK	C11-C10-C9-C8
24	C	304	PEK	C11-C12-C13-C14
24	C	311	PEK	C5-C6-C7-C8
24	C	311	PEK	C12-C13-C14-C15
24	P	301	PEK	C9-C10-C11-C12
24	T	102	PEK	C6-C7-C8-C9
24	T	102	PEK	C9-C10-C11-C12
24	T	102	PEK	C12-C13-C14-C15
25	C	306	CDL	CB2-OB2-PB2-OB5
21	D	201	TGL	C13-C14-C29-C30
22	B	303	PSC	C1-C2-C3-C4
17	P	306	PGV	O01-C02-C03-O11
23	C	307	CHD	C22-C23-C24-O26
24	P	304	PEK	C25-C26-C27-C28
25	C	308	CDL	OB5-CB3-CB4-CB6
22	B	303	PSC	C12-C13-C14-C15
17	C	301	PGV	O04-C19-O03-C01
18	N	607	HEA	CAA-CBA-CGA-O2A
23	O	303	CHD	C22-C23-C24-O26
23	P	308	CHD	C22-C23-C24-O26
26	C	310	DMU	C3-C4-C57-O61
24	C	303	PEK	C1-C2-C3-C4
23	P	308	CHD	C22-C23-C24-O25
21	L	101	TGL	C10-C11-C12-C13

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Mol	Chain	Res	Type	Atoms
25	P	307	CDL	C53-C54-C55-C56
21	O	301	TGL	CB2-CB3-CB4-CB5
17	P	306	PGV	O03-C01-C02-O01
18	A	605	HEA	C2D-C3D-CAD-CBD
22	V	101	PSC	C14-C15-C16-C17
17	N	605	PGV	O12-C04-C05-C06
25	C	308	CDL	CB7-C71-C72-C73
18	A	605	HEA	C26-C15-C16-C17
17	C	301	PGV	C24-C25-C26-C27
18	A	605	HEA	CAD-CBD-CGD-O2D
21	N	604	TGL	CA1-CA2-CA3-CA4
24	T	102	PEK	C32-C33-C34-C35
25	P	307	CDL	C16-C17-C18-C19
24	C	304	PEK	C2-C3-C4-C5
23	W	101	CHD	C20-C22-C23-C24
21	L	101	TGL	CA3-CA4-CA5-CA6
17	A	604	PGV	C7-C8-C9-C10
24	C	303	PEK	C10-C11-C12-C13
23	T	101	CHD	C13-C17-C20-C22
18	N	606	HEA	C26-C15-C16-C17
21	N	604	TGL	C14-C29-C30-C31
17	P	306	PGV	C9-C10-C11-C12
22	B	303	PSC	O01-C02-C03-O11
23	P	303	CHD	C20-C22-C23-C24
26	P	302	DMU	O1-C10-O7-C3
22	V	101	PSC	C01-C02-C03-O11
18	A	606	HEA	CAA-CBA-CGA-O2A
18	N	607	HEA	CAA-CBA-CGA-O1A
17	P	305	PGV	O05-C05-C06-O06
21	O	301	TGL	CA7-CA8-CA9-C20
23	T	101	CHD	C16-C17-C20-C21
26	M	101	DMU	C28-C31-C34-C37
24	C	311	PEK	O03-C21-C22-C23
21	N	609	TGL	CA4-CA5-CA6-CA7
17	N	605	PGV	C6-C7-C8-C9
21	D	201	TGL	CC3-CC4-CC5-CC6
22	V	101	PSC	C15-C16-C17-C18
25	P	309	CDL	C24-C25-C26-C27
17	C	305	PGV	C11-C12-C13-C14
17	N	610	PGV	O03-C19-C20-C21
18	N	607	HEA	C14-C15-C16-C17
17	A	604	PGV	C26-C27-C28-C29

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Mol	Chain	Res	Type	Atoms
23	J	101	CHD	C22-C23-C24-O26
21	D	201	TGL	C25-C26-C27-C28
22	B	303	PSC	C29-C30-C31-C32
21	N	609	TGL	CB7-CB8-CB9-C10
21	O	301	TGL	C16-C15-CC9-CC8
21	D	201	TGL	C11-C10-CB9-CB8
26	C	309	DMU	C2-C3-O7-C10
25	P	309	CDL	C37-C38-C39-C40
22	V	101	PSC	O01-C1-C2-C3
18	A	605	HEA	CAA-CBA-CGA-O1A
22	B	303	PSC	C31-C32-C33-C34
25	C	308	CDL	C22-C23-C24-C25
21	L	101	TGL	OG3-CC1-CC2-CC3
22	B	303	PSC	O03-C19-C20-C21
22	V	101	PSC	O03-C19-C20-C21
21	N	609	TGL	CB9-C10-C11-C12
17	C	301	PGV	C11-C12-C13-C14
17	N	610	PGV	C9-C10-C11-C12
22	V	101	PSC	C12-C13-C14-C15
24	C	303	PEK	C14-C15-C16-C17
24	C	311	PEK	C3-C4-C5-C6
24	T	102	PEK	C14-C15-C16-C17
18	A	606	HEA	CAA-CBA-CGA-O1A
23	T	103	CHD	C22-C23-C24-O25
23	T	103	CHD	C22-C23-C24-O26
21	D	201	TGL	CB4-CB5-CB6-CB7
25	C	308	CDL	C12-C11-CA5-OA6
17	H	101	PGV	C9-C10-C11-C12
17	P	306	PGV	C5-C6-C7-C8
23	J	101	CHD	C22-C23-C24-O25
18	N	606	HEA	C14-C15-C16-C17
17	N	605	PGV	C25-C26-C27-C28
21	O	301	TGL	C14-C29-C30-C31
18	A	605	HEA	CAA-CBA-CGA-O2A
21	D	201	TGL	OG1-CA1-CA2-CA3
21	D	201	TGL	OG2-CB1-CB2-CB3
21	L	101	TGL	OG1-CA1-CA2-CA3
21	O	301	TGL	CA4-CA5-CA6-CA7
25	C	308	CDL	C63-C64-C65-C66
17	A	604	PGV	C11-C12-C13-C14
17	H	101	PGV	C11-C12-C13-C14
23	T	103	CHD	C21-C20-C22-C23

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Mol	Chain	Res	Type	Atoms
21	N	604	TGL	OG2-CB1-CB2-CB3
21	N	609	TGL	OG2-CB1-CB2-CB3
24	C	303	PEK	O01-C1-C2-C3
24	T	102	PEK	O01-C1-C2-C3
18	A	606	HEA	CAD-CBD-CGD-O2D
21	B	302	TGL	CB2-CB1-OG2-CG2
21	B	302	TGL	OG1-CA1-CA2-CA3
21	O	301	TGL	OG3-CC1-CC2-CC3
22	B	303	PSC	C23-C24-C25-C26
21	B	302	TGL	C15-C16-C17-C18
25	C	308	CDL	C32-C31-CA7-OA8
25	C	308	CDL	C51-CB5-OB6-CB4
24	C	311	PEK	O04-C21-C22-C23
21	N	604	TGL	CC4-CC5-CC6-CC7
23	T	101	CHD	C22-C23-C24-O26
17	N	610	PGV	C04-C05-C06-O06
21	B	302	TGL	C13-C14-C29-C30
25	C	308	CDL	C81-C82-C83-C84
17	H	101	PGV	C21-C22-C23-C24
24	C	311	PEK	C30-C31-C32-C33
25	C	308	CDL	C24-C25-C26-C27
21	L	101	TGL	OC1-CC1-CC2-CC3
22	B	303	PSC	O04-C19-C20-C21
24	P	304	PEK	C27-C28-C29-C30
26	G	101	DMU	C31-C34-C37-C40
22	V	101	PSC	O04-C19-C20-C21
17	P	305	PGV	C24-C25-C26-C27
24	C	303	PEK	C29-C30-C31-C32
17	N	605	PGV	O12-C04-C05-O05
17	N	610	PGV	O04-C19-C20-C21
26	P	302	DMU	C28-C31-C34-C37
21	N	609	TGL	OB1-CB1-CB2-CB3
21	O	301	TGL	C24-C25-C26-C27
17	C	301	PGV	C04-O12-P-O13
17	N	605	PGV	C03-O11-P-O13
17	N	610	PGV	C03-O11-P-O13
17	P	305	PGV	C04-O12-P-O13
22	B	303	PSC	C04-O12-P-O14
24	C	303	PEK	C03-O11-P-O14
24	P	301	PEK	C04-O12-P-O14
25	C	306	CDL	CA2-OA2-PA1-OA3
25	C	306	CDL	CA2-OA2-PA1-OA4

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Mol	Chain	Res	Type	Atoms
25	C	308	CDL	CA2-OA2-PA1-OA3
21	D	201	TGL	OA1-CA1-CA2-CA3
21	L	101	TGL	OA1-CA1-CA2-CA3
24	C	303	PEK	O02-C1-C2-C3
25	C	308	CDL	C12-C11-CA5-OA7
17	N	610	PGV	C01-C02-C03-O11
17	A	604	PGV	C23-C24-C25-C26
21	N	604	TGL	CA6-CA7-CA8-CA9
25	C	306	CDL	C16-C17-C18-C19
22	V	101	PSC	O02-C1-C2-C3
21	B	302	TGL	C10-C11-C12-C13
21	N	604	TGL	OB1-CB1-CB2-CB3
25	C	306	CDL	C59-C60-C61-C62
26	Q	201	DMU	C5-C10-O7-C3
17	N	610	PGV	C11-C12-C13-C14
24	P	304	PEK	C31-C32-C33-C34
25	C	308	CDL	C55-C56-C57-C58
18	A	606	HEA	CAD-CBD-CGD-O1D
17	H	101	PGV	C22-C23-C24-C25
25	P	307	CDL	C56-C57-C58-C59
18	A	605	HEA	C3B-C11-C12-C13
24	T	102	PEK	C05-C04-O12-P
26	G	101	DMU	C19-C22-C25-C28
17	C	305	PGV	O03-C19-C20-C21
24	P	301	PEK	C33-C34-C35-C36
17	P	306	PGV	C23-C24-C25-C26
25	C	308	CDL	C31-C32-C33-C34
25	P	307	CDL	C13-C14-C15-C16
18	A	606	HEA	O11-C11-C3B-C2B
24	P	304	PEK	O01-C1-C2-C3
21	L	101	TGL	CC5-CC6-CC7-CC8
21	O	301	TGL	OC1-CC1-CC2-CC3
26	P	302	DMU	O5-C4-C57-O61
26	M	101	DMU	C19-C18-O16-C6
21	D	201	TGL	OG3-CC1-CC2-CC3
21	B	302	TGL	OA1-CA1-CA2-CA3
18	N	606	HEA	CAA-CBA-CGA-O2A
21	N	609	TGL	C16-C17-C18-C19
25	P	307	CDL	C57-C58-C59-C60
25	P	309	CDL	C71-C72-C73-C74
21	B	302	TGL	OG3-CC1-CC2-CC3
17	C	305	PGV	O04-C19-C20-C21

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Mol	Chain	Res	Type	Atoms
24	T	102	PEK	O02-C1-C2-C3
25	C	308	CDL	C32-C31-CA7-OA9
21	L	101	TGL	CB1-CB2-CB3-CB4

All (2) ring outliers are listed below:

Mol	Chain	Res	Type	Atoms
23	T	103	CHD	C1-C10-C2-C3-C4-C5
23	P	308	CHD	C1-C10-C2-C3-C4-C5

39 monomers are involved in 97 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
24	C	311	PEK	2	0
17	N	610	PGV	1	0
21	N	604	TGL	6	0
26	C	310	DMU	1	0
23	T	101	CHD	1	0
28	V	102	SAC	1	0
21	N	609	TGL	1	0
24	C	303	PEK	5	0
22	V	101	PSC	2	0
24	T	102	PEK	1	0
25	P	307	CDL	1	0
17	P	305	PGV	1	0
25	P	309	CDL	8	0
26	C	309	DMU	4	0
21	B	302	TGL	2	0
17	C	305	PGV	2	0
23	T	103	CHD	2	0
22	B	303	PSC	1	0
17	N	605	PGV	1	0
23	P	308	CHD	1	0
17	H	101	PGV	1	0
23	Y	101	CHD	2	0
21	L	101	TGL	7	0
17	P	306	PGV	1	0
18	N	607	HEA	9	0
23	C	307	CHD	1	0
21	D	201	TGL	2	0
23	P	303	CHD	1	0
23	J	101	CHD	1	0

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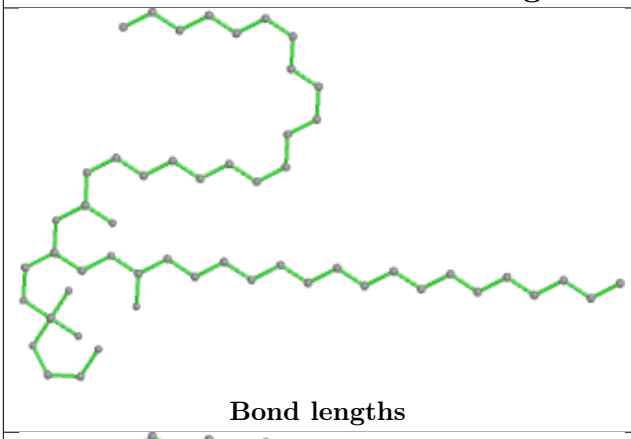
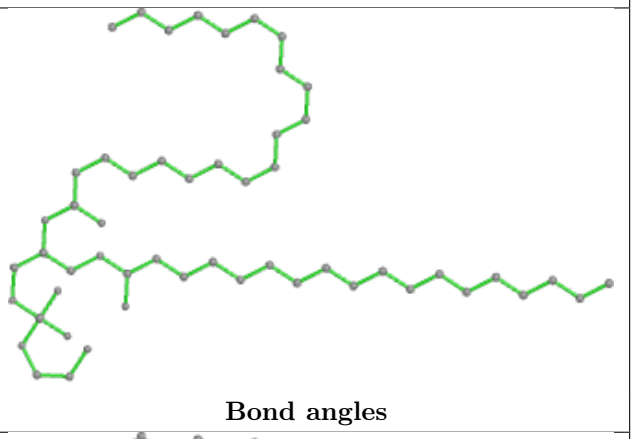
Mol	Chain	Res	Type	Clashes	Symm-Clashes
18	N	606	HEA	5	0
26	M	101	DMU	1	0
18	A	606	HEA	9	0
25	C	306	CDL	1	0
24	P	304	PEK	2	0
25	C	308	CDL	2	0
18	A	605	HEA	5	0
17	A	604	PGV	3	0
24	P	301	PEK	1	0
23	C	302	CHD	2	0

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.

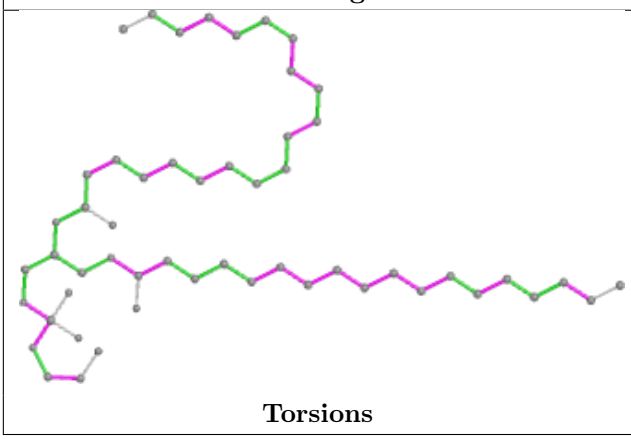
Ligand PEK C 311



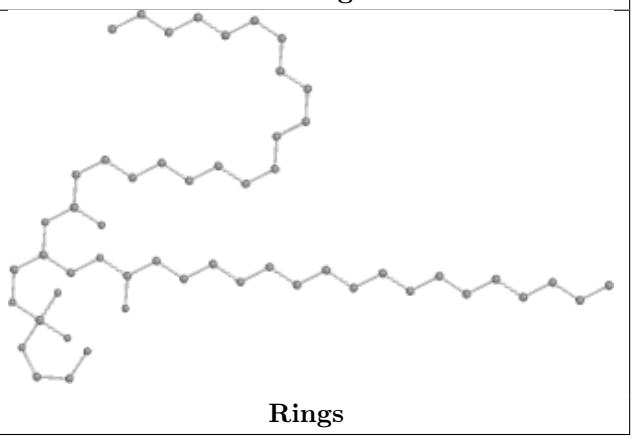
Bond lengths



Bond angles

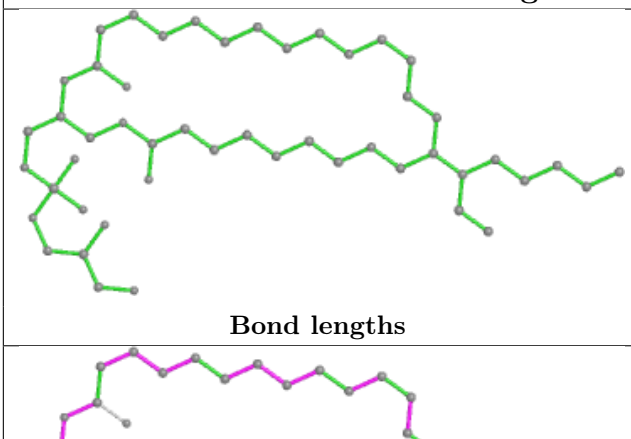


Torsions

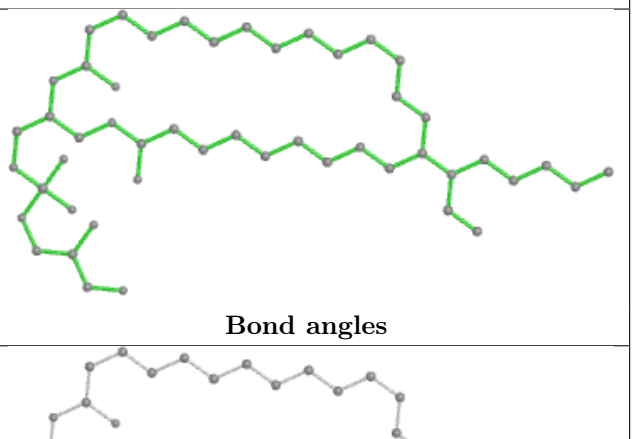


Rings

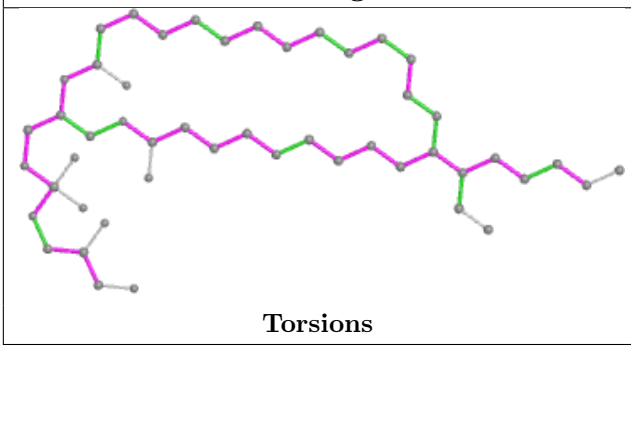
Ligand PGV N 610



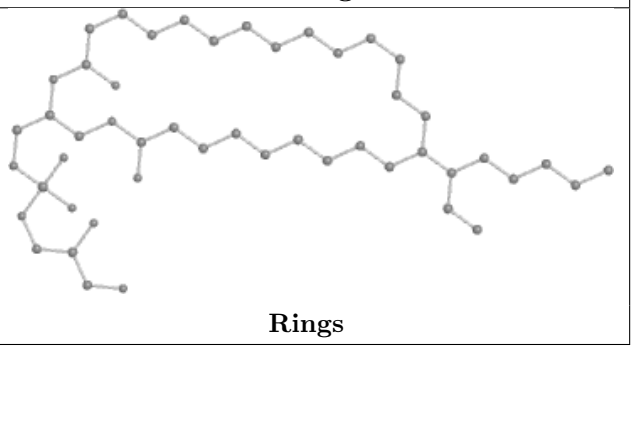
Bond lengths



Bond angles

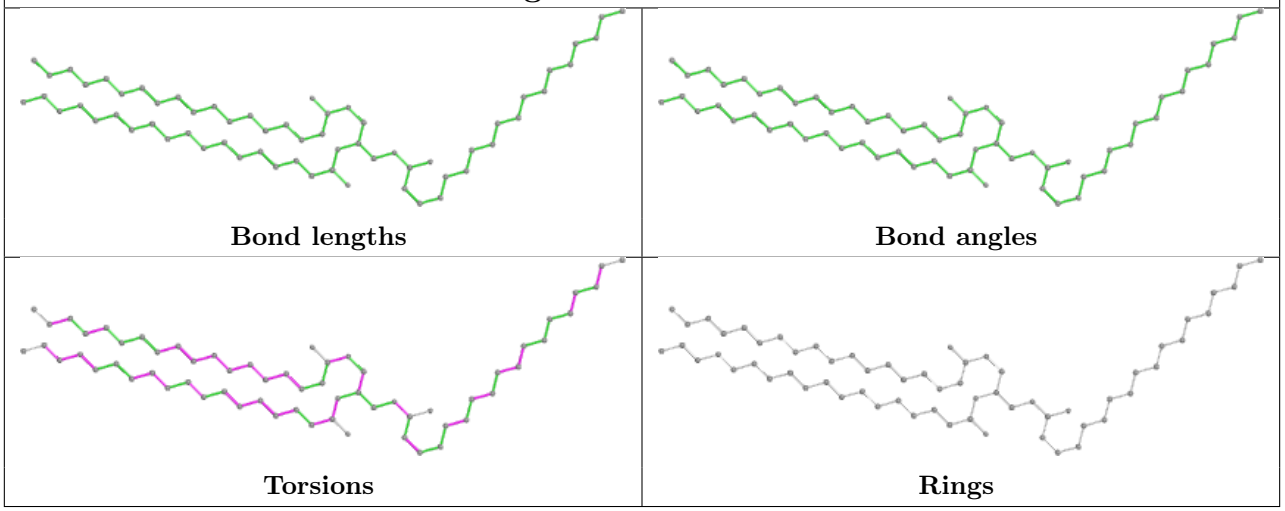


Torsions

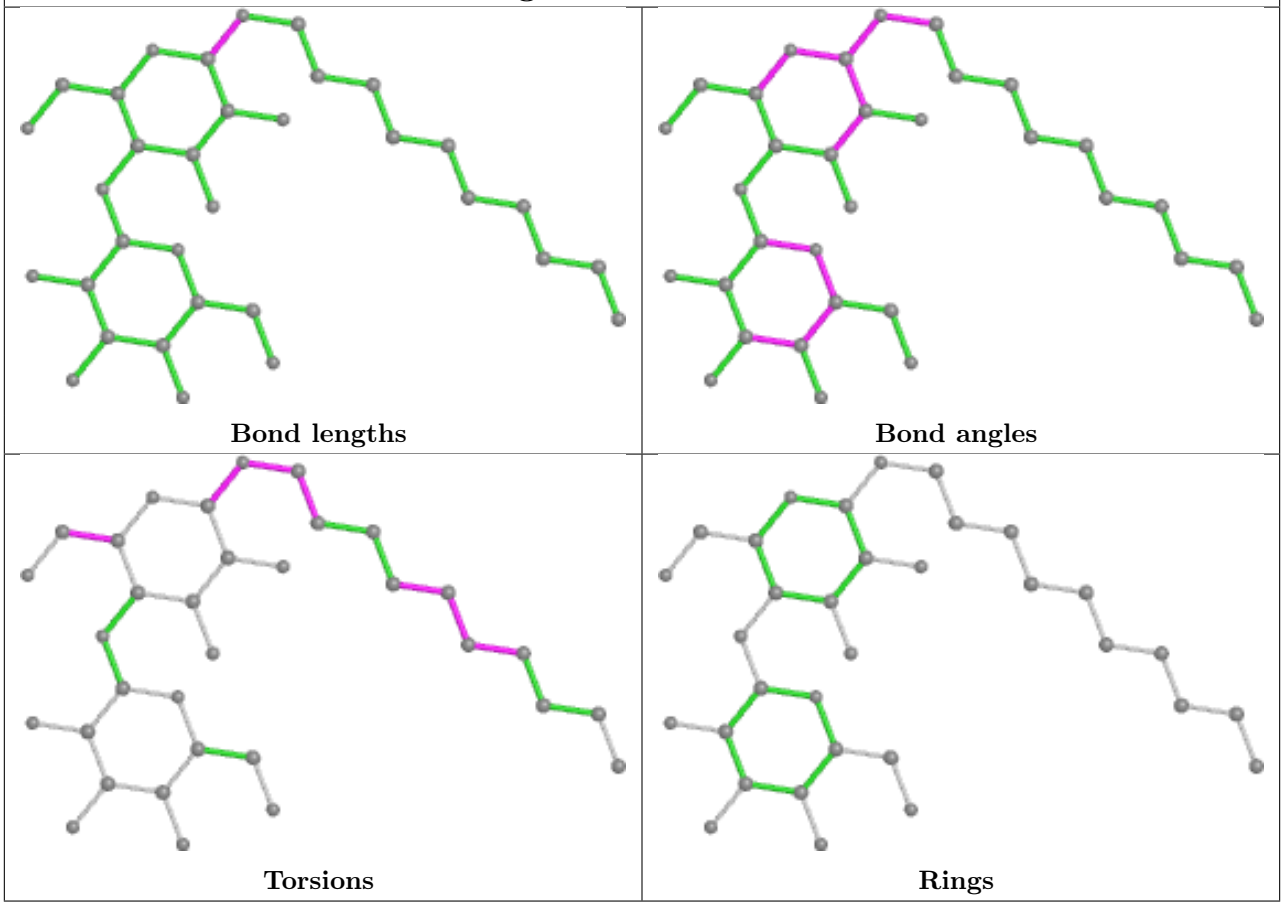


Rings

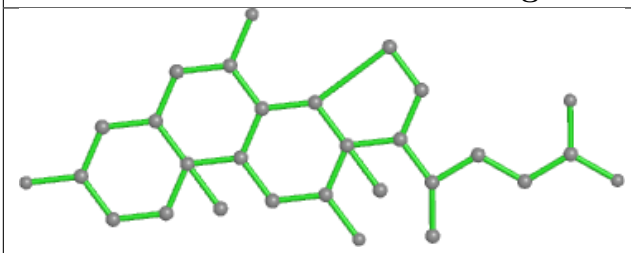
Ligand TGL N 604



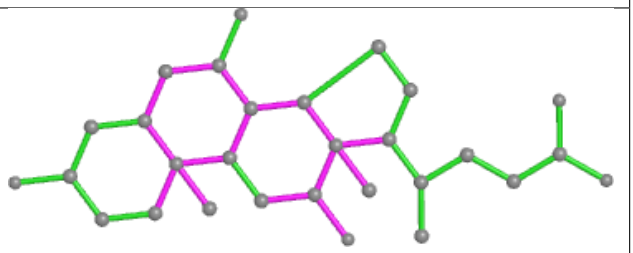
Ligand DMU C 310



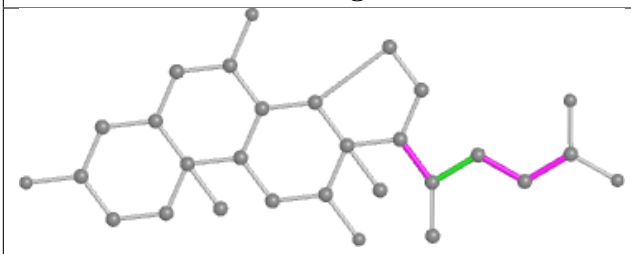
Ligand CHD T 101



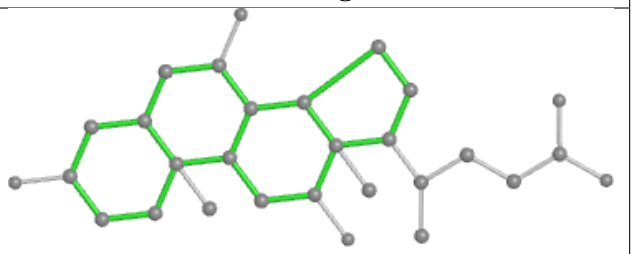
Bond lengths



Bond angles

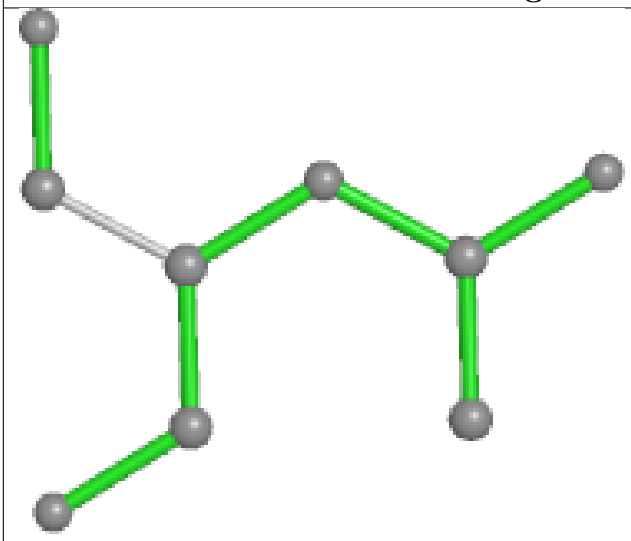


Torsions

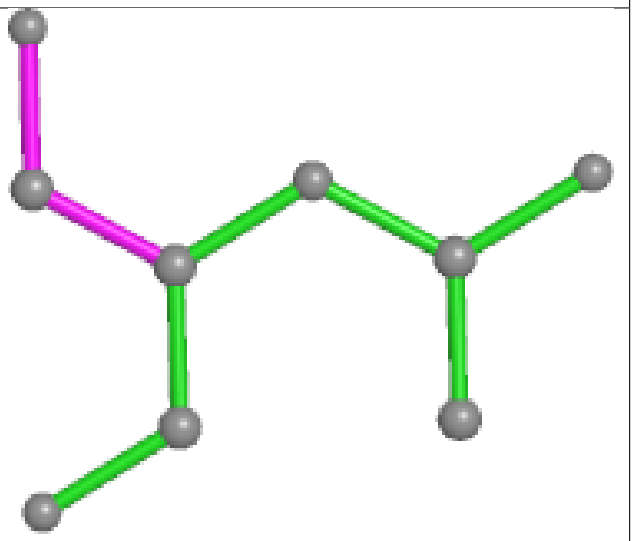


Rings

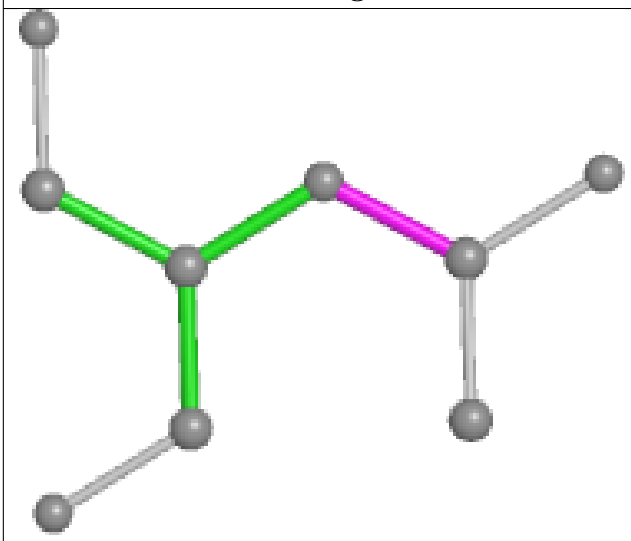
Ligand SAC V 102



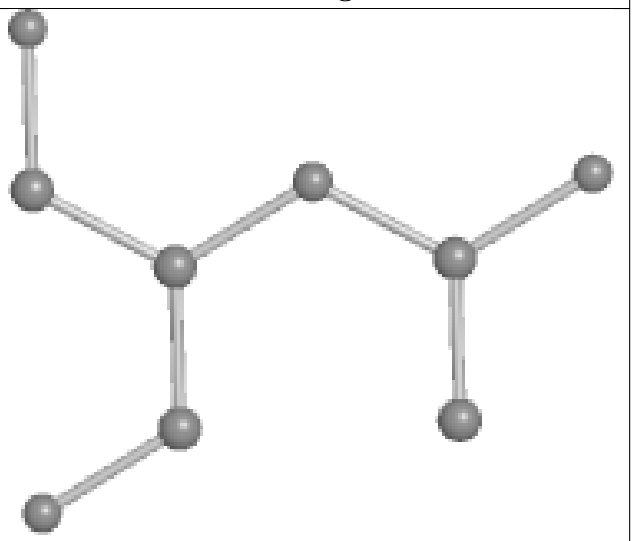
Bond lengths



Bond angles

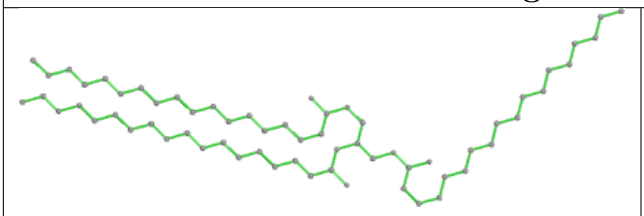


Torsions

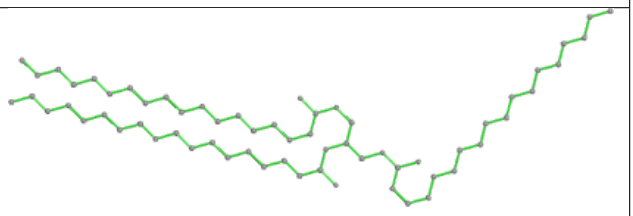


Rings

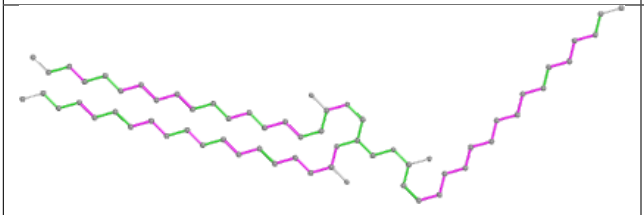
Ligand TGL N 609



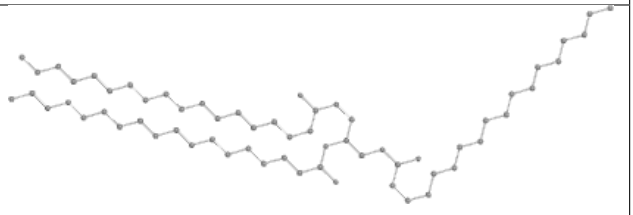
Bond lengths



Bond angles

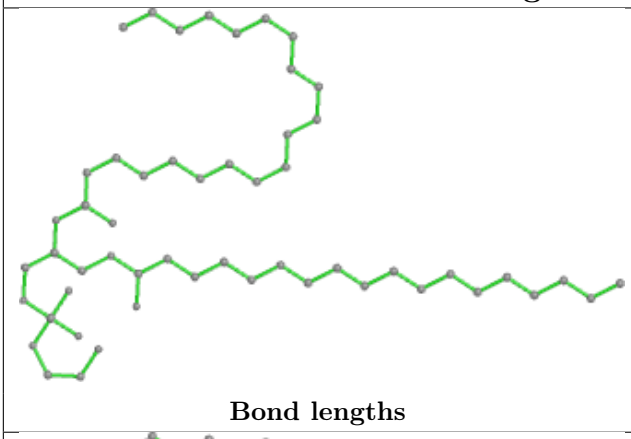


Torsions

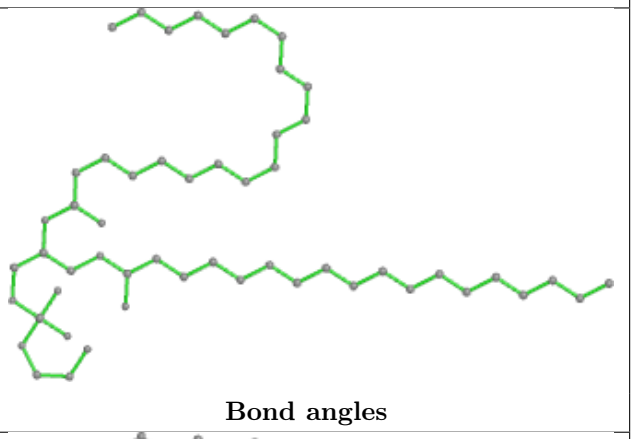


Rings

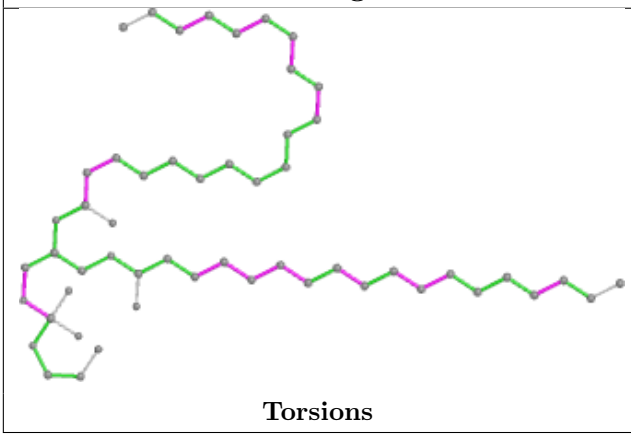
Ligand PEK C 303



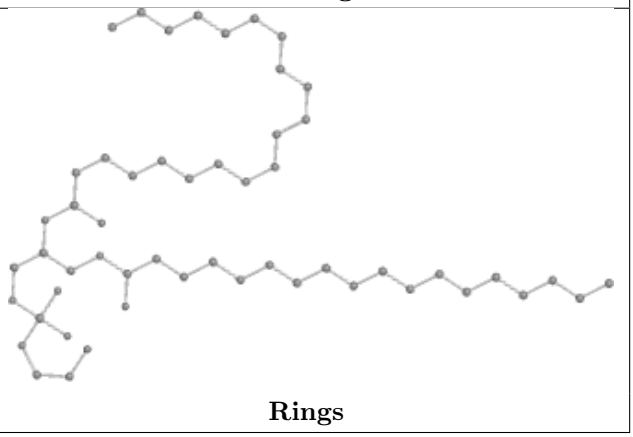
Bond lengths



Bond angles

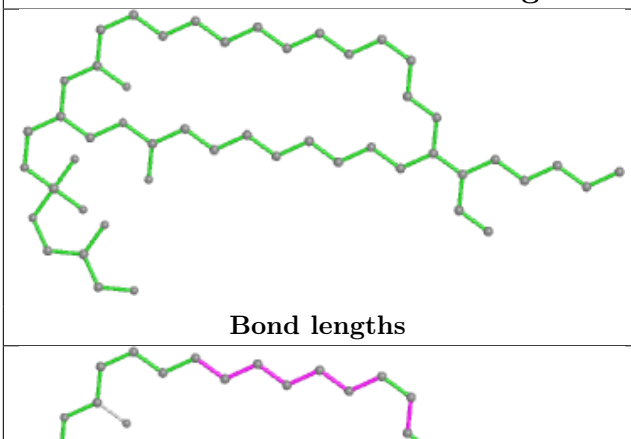


Torsions

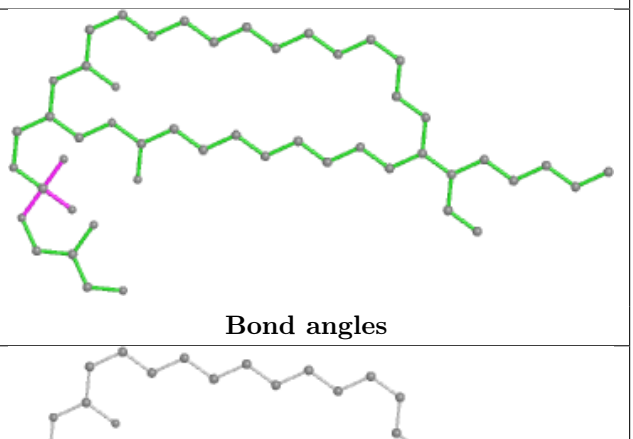


Rings

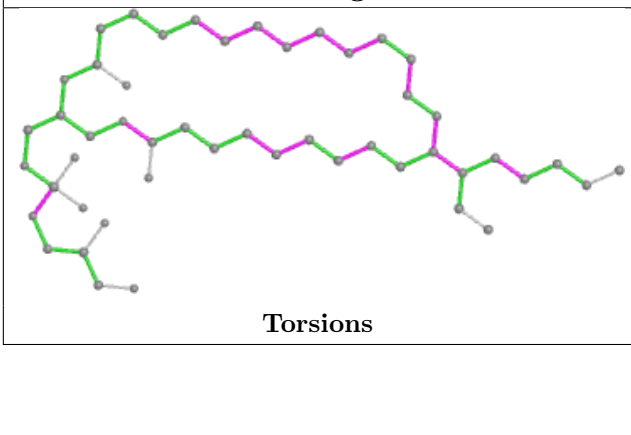
Ligand PGV C 301



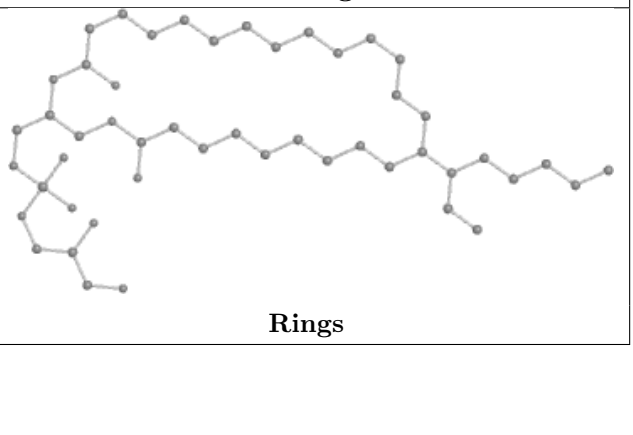
Bond lengths



Bond angles

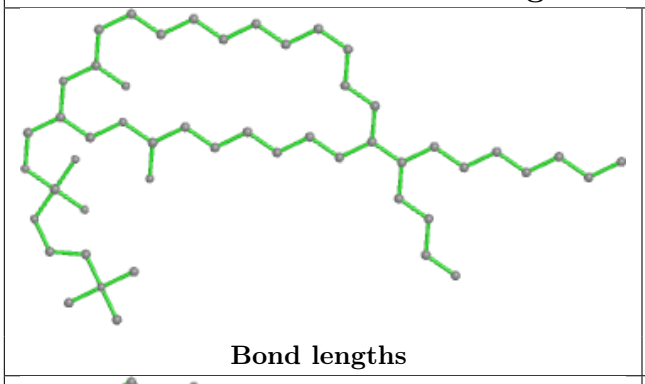


Torsions

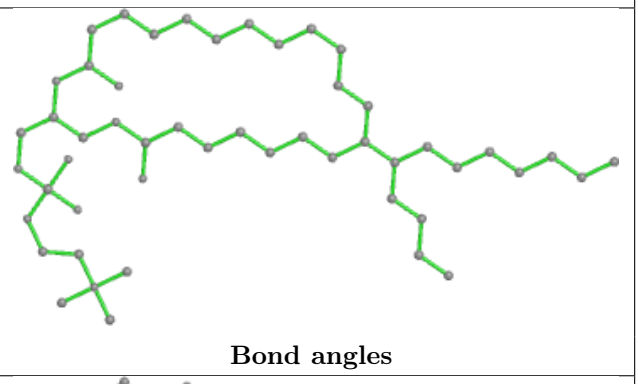


Rings

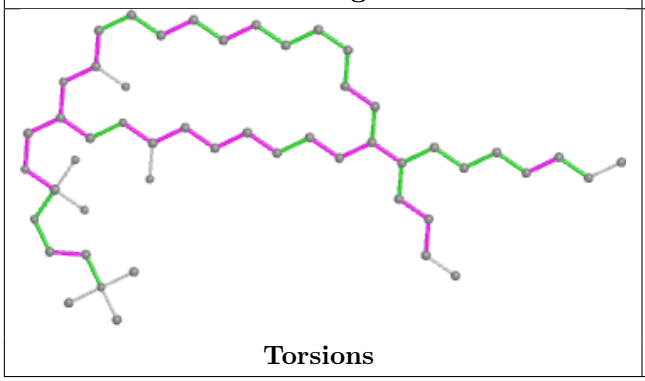
Ligand PSC V 101



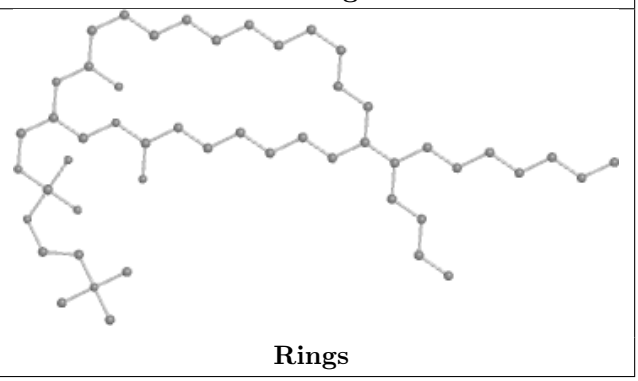
Bond lengths



Bond angles

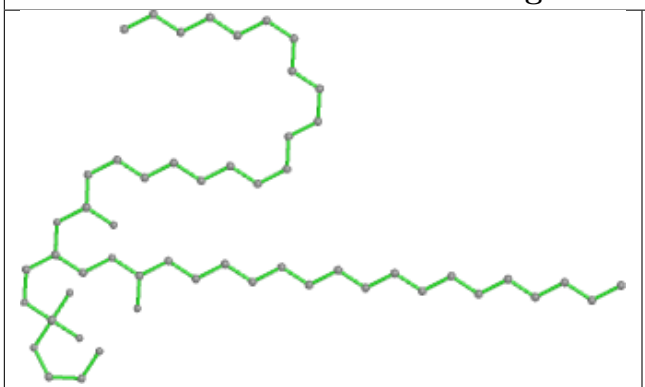


Torsions

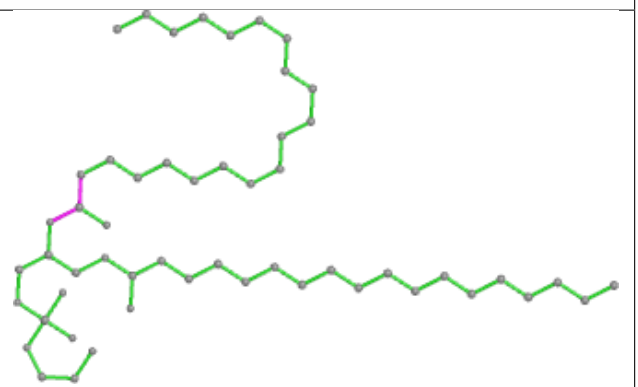


Rings

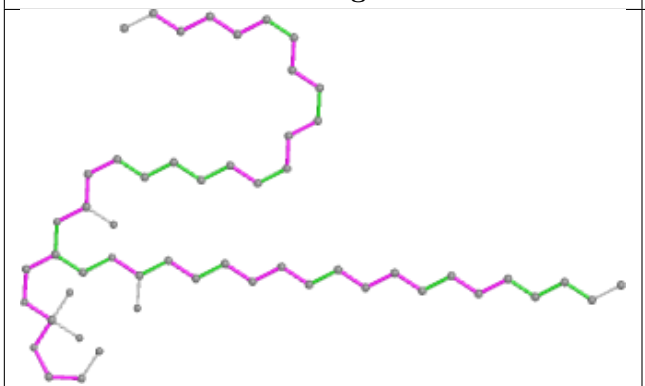
Ligand PEK T 102



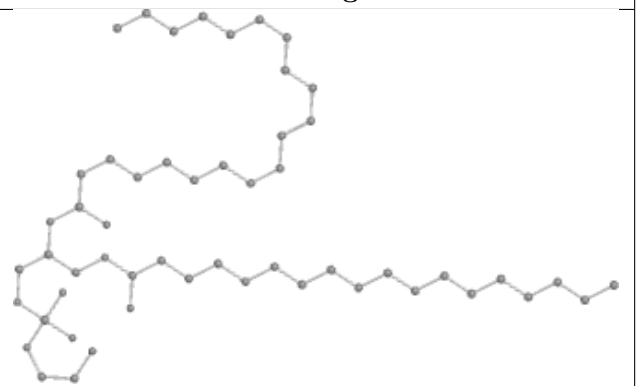
Bond lengths



Bond angles

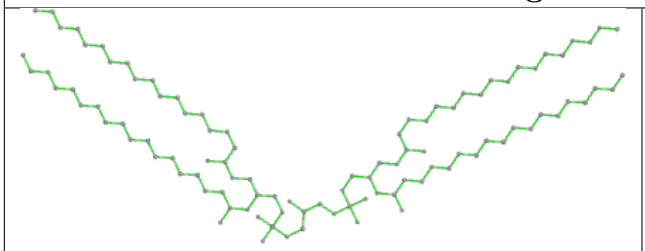


Torsions

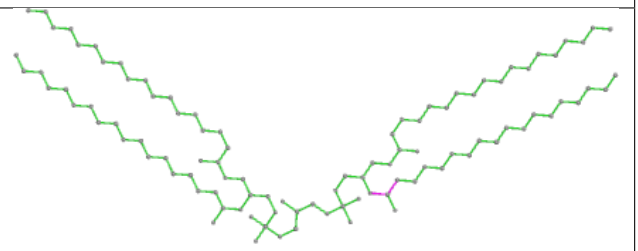


Rings

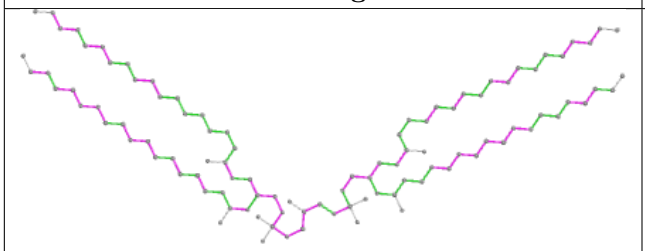
Ligand CDL P 307



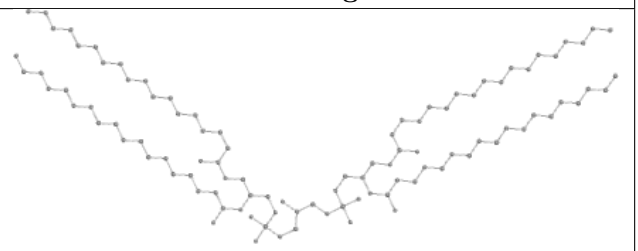
Bond lengths



Bond angles

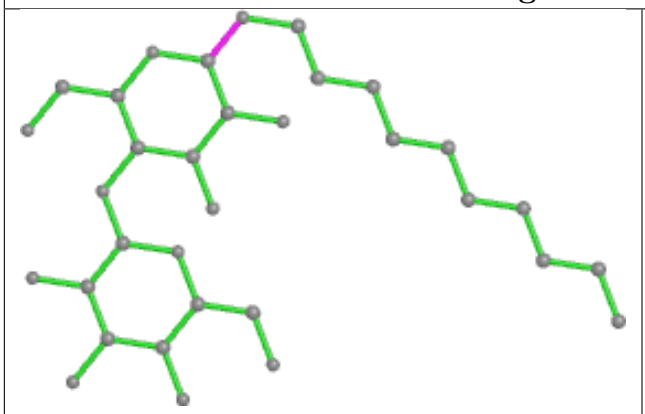


Torsions

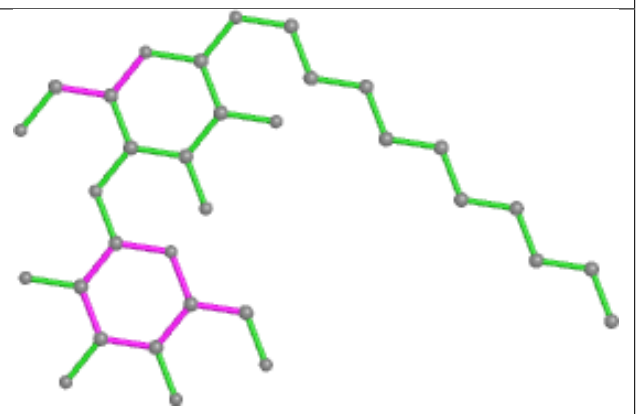


Rings

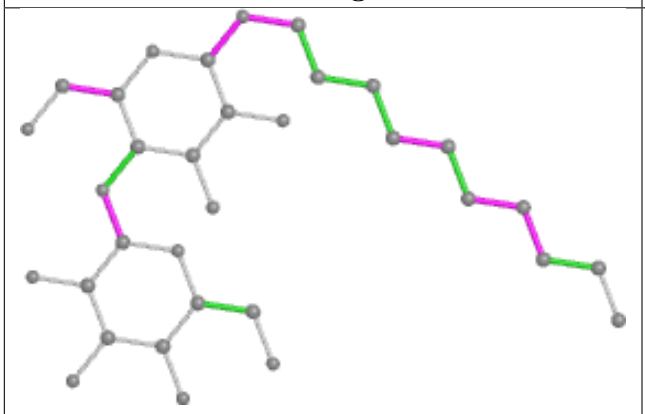
Ligand DMU P 302



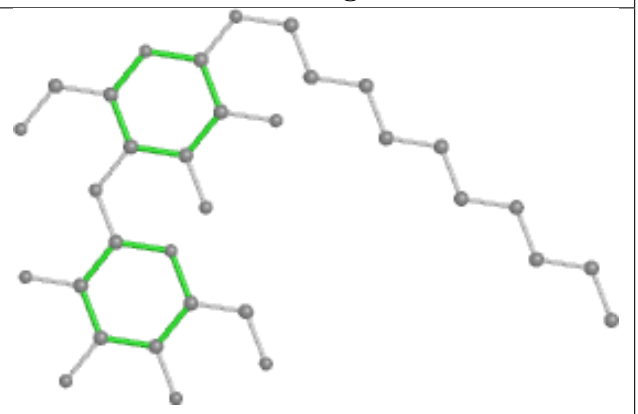
Bond lengths



Bond angles

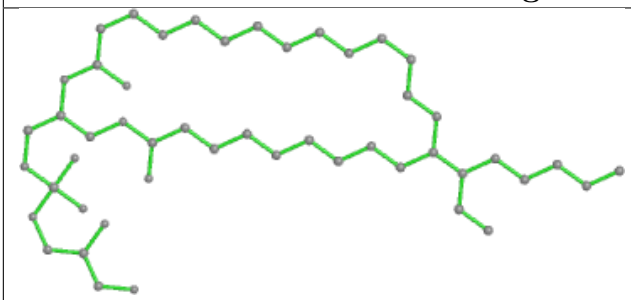


Torsions

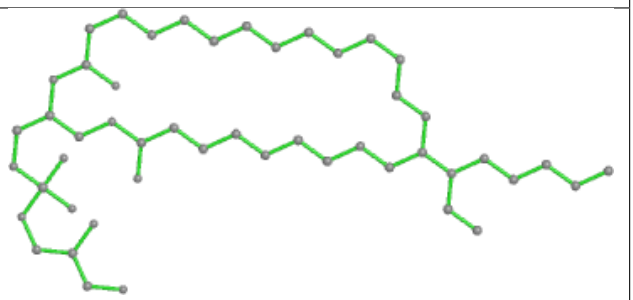


Rings

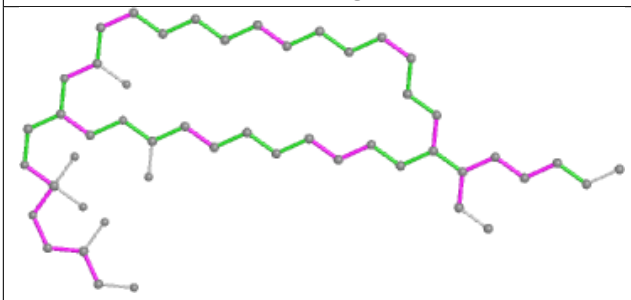
Ligand PGV P 305



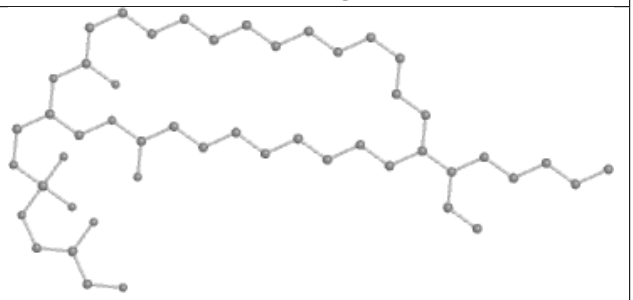
Bond lengths



Bond angles

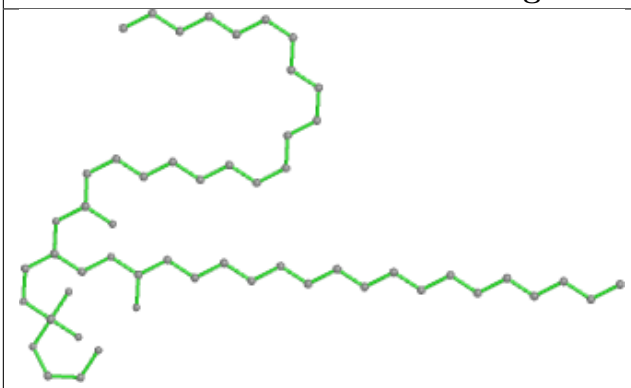


Torsions

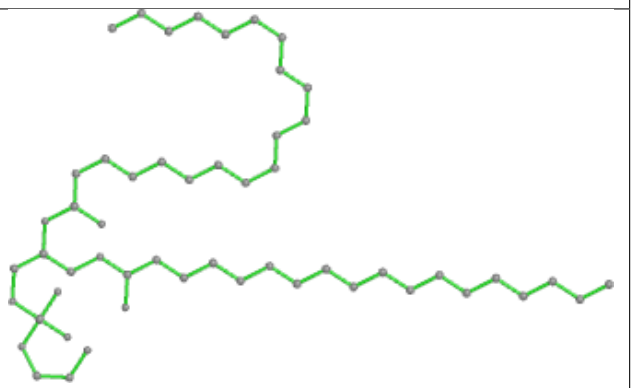


Rings

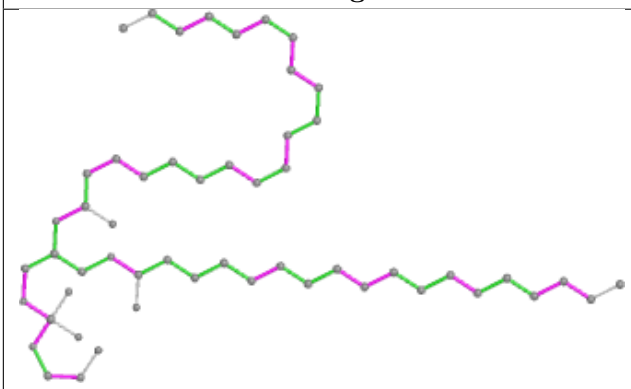
Ligand PEK C 304



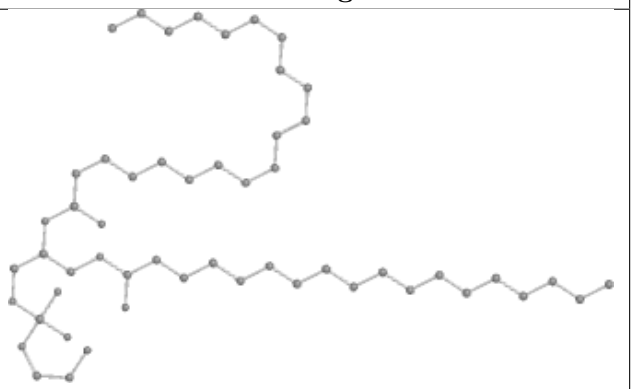
Bond lengths



Bond angles

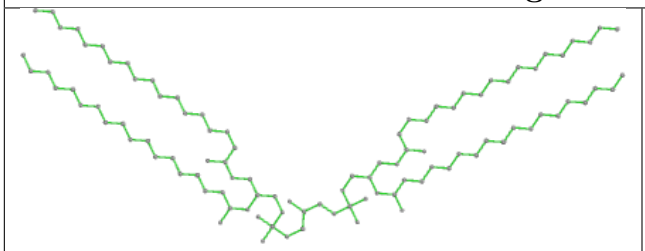


Torsions

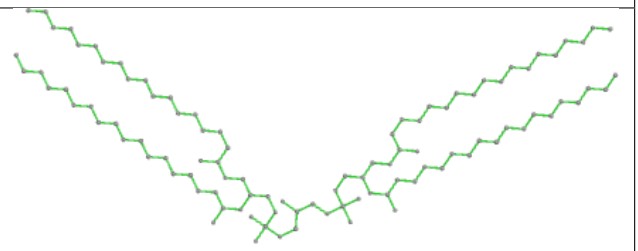


Rings

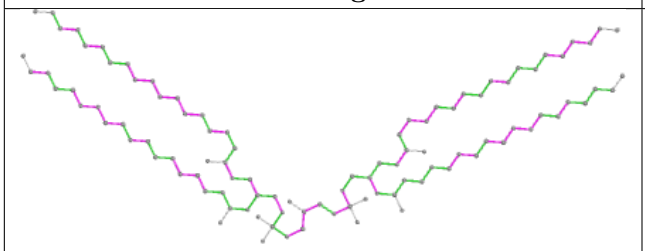
Ligand CDL P 309



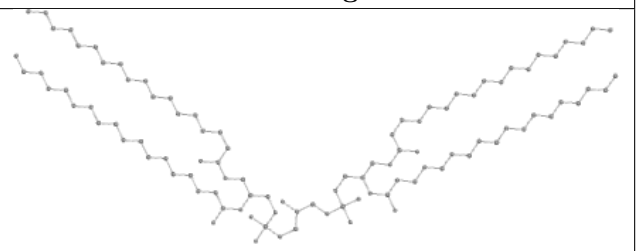
Bond lengths



Bond angles

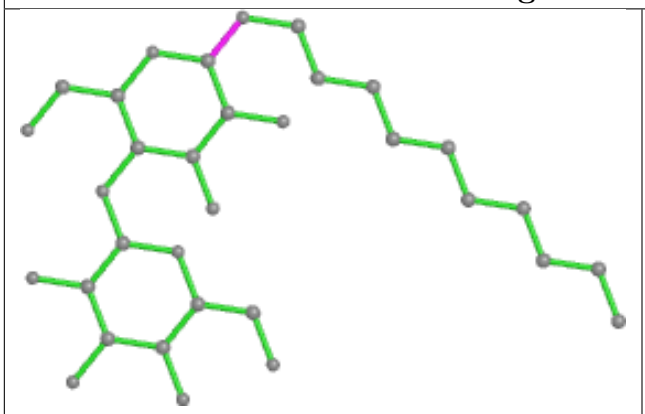


Torsions

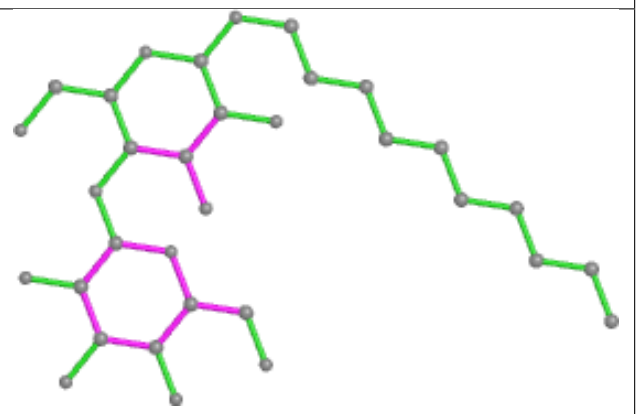


Rings

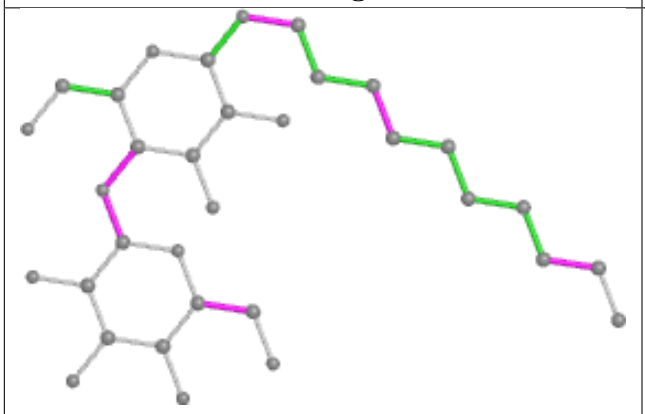
Ligand DMU C 309



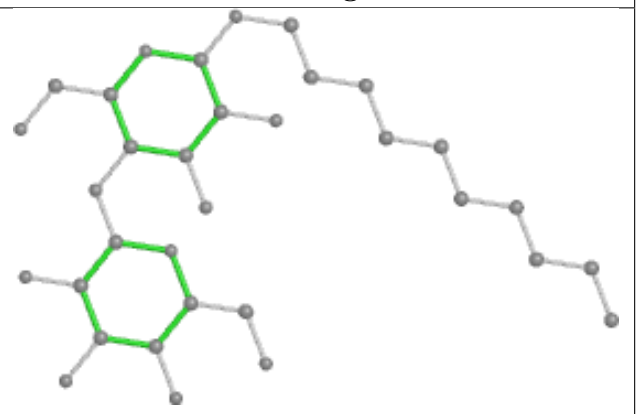
Bond lengths



Bond angles

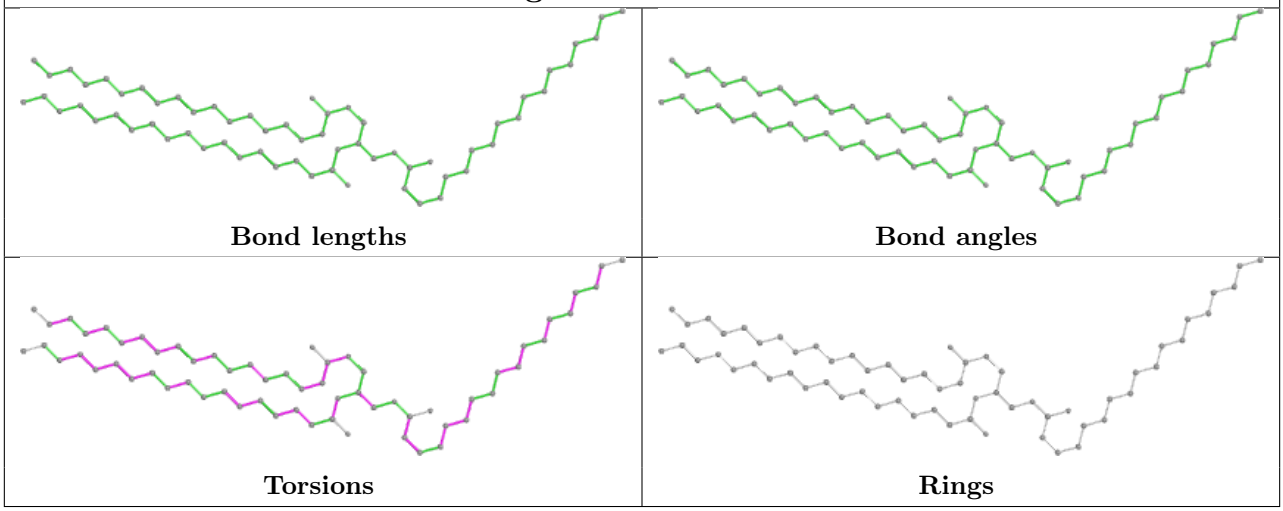


Torsions

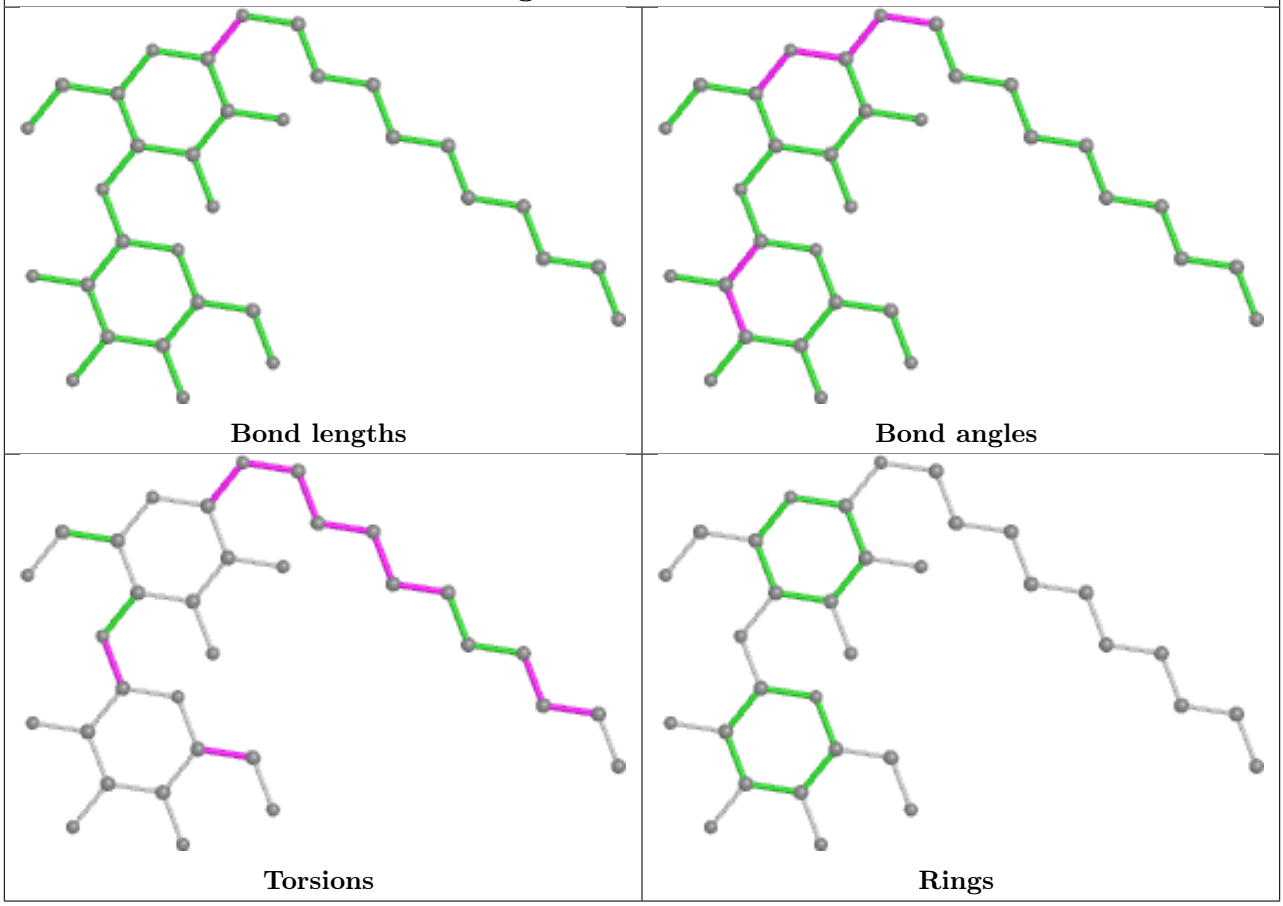


Rings

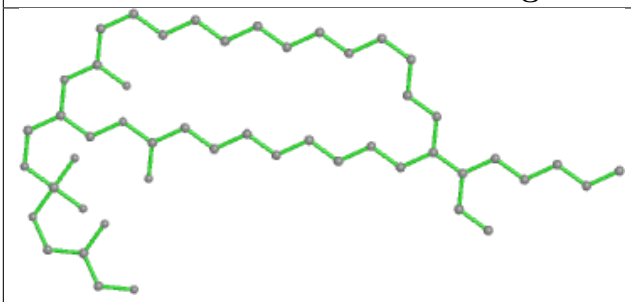
Ligand TGL B 302



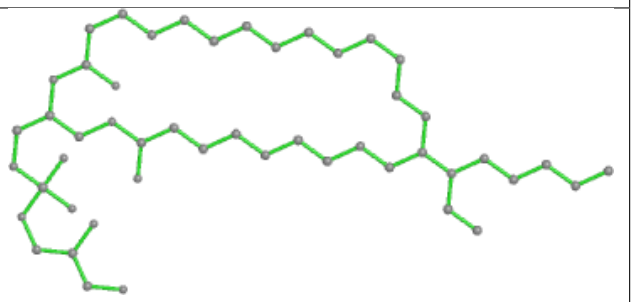
Ligand DMU G 101



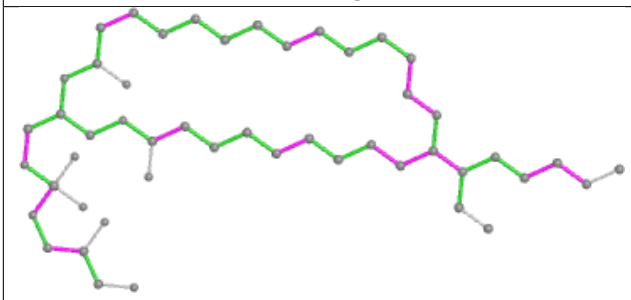
Ligand PGV C 305



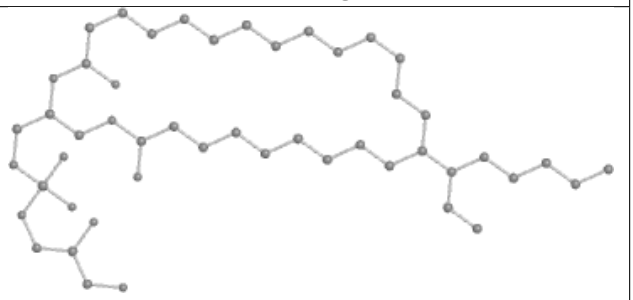
Bond lengths



Bond angles

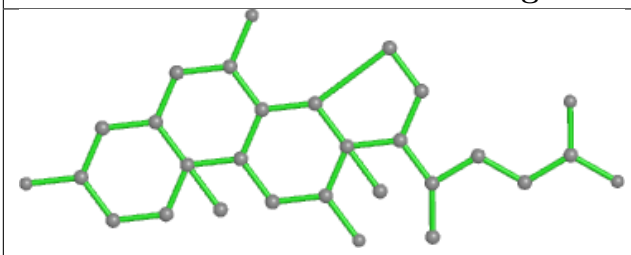


Torsions

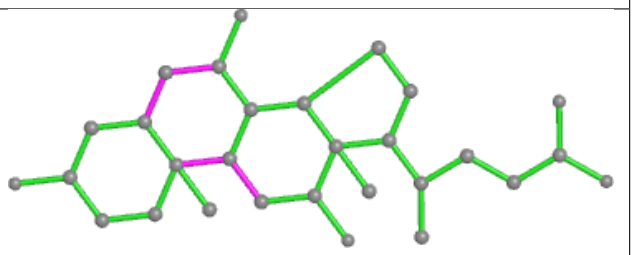


Rings

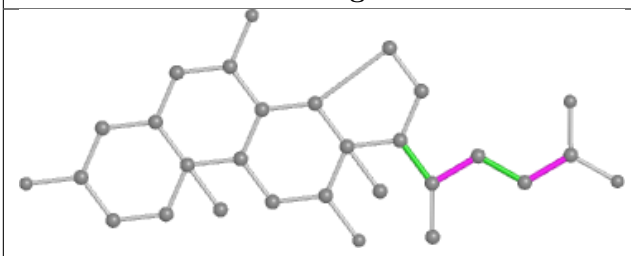
Ligand CHD T 103



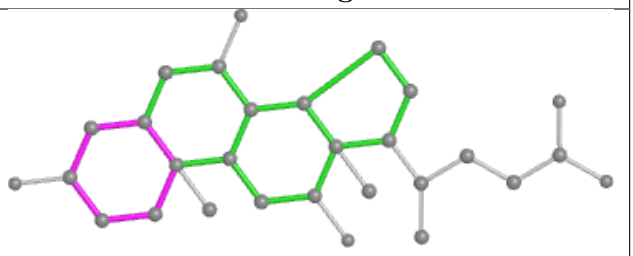
Bond lengths



Bond angles

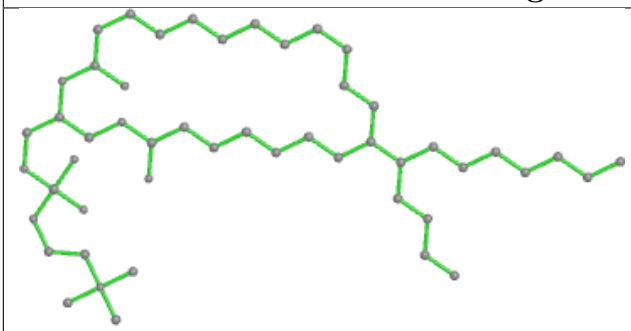


Torsions

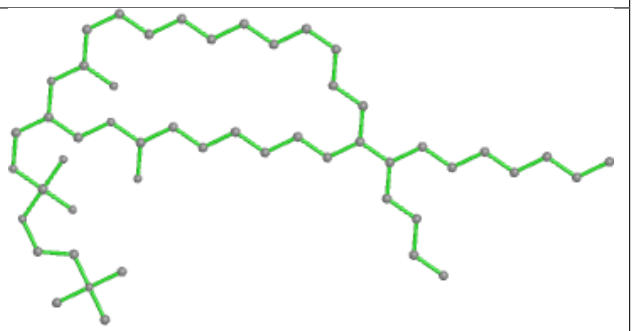


Rings

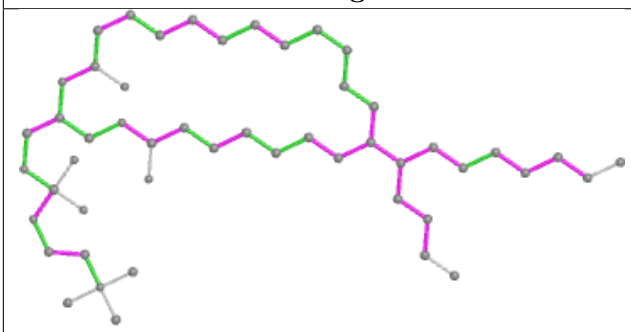
Ligand PSC B 303



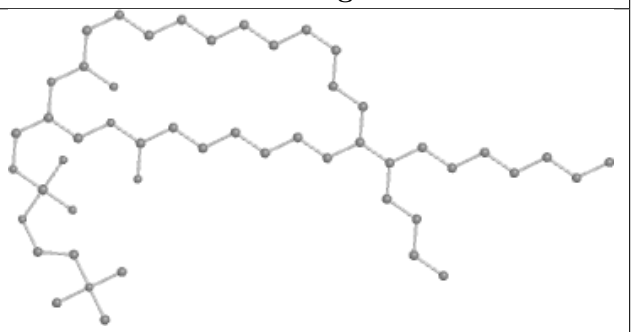
Bond lengths



Bond angles

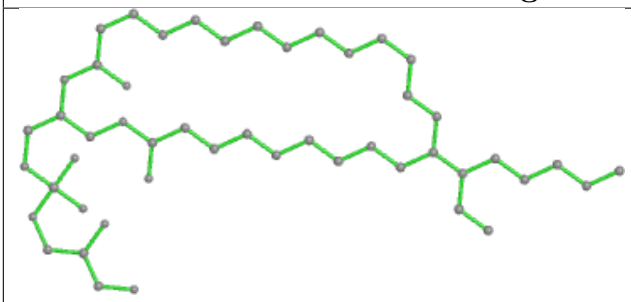


Torsions

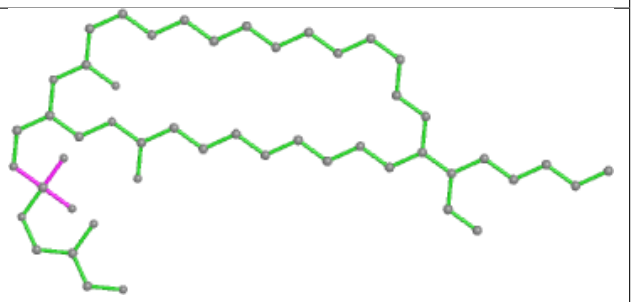


Rings

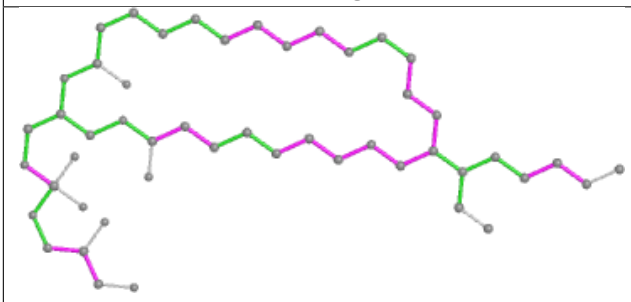
Ligand PGV N 605



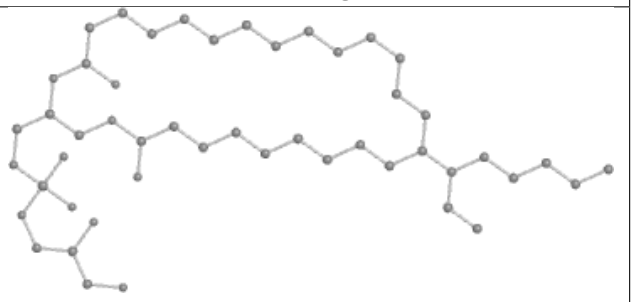
Bond lengths



Bond angles

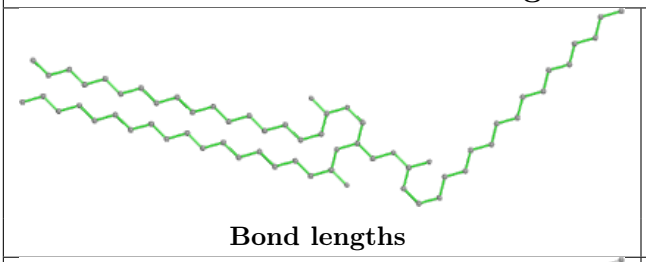


Torsions

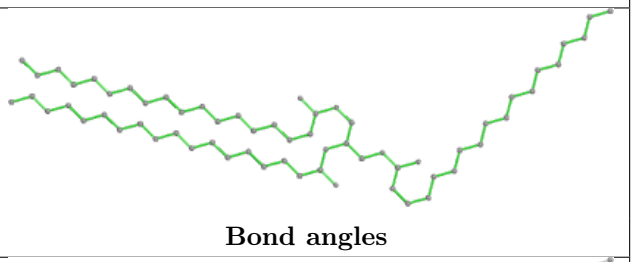


Rings

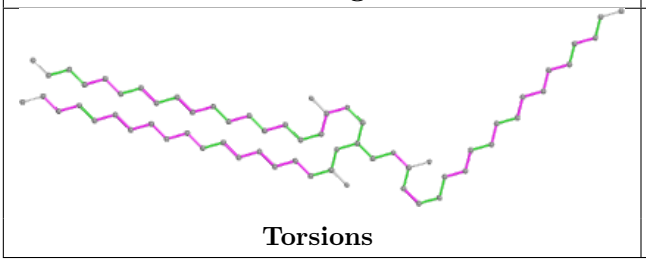
Ligand TGL O 301



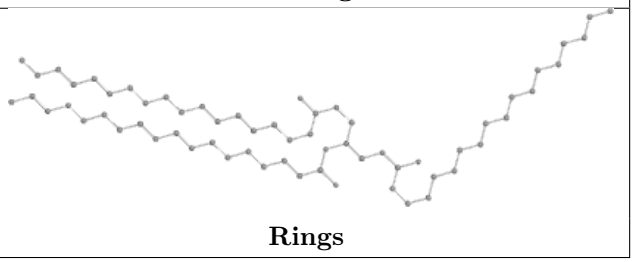
Bond lengths



Bond angles

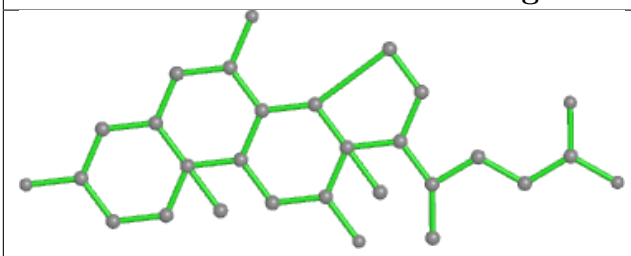


Torsions

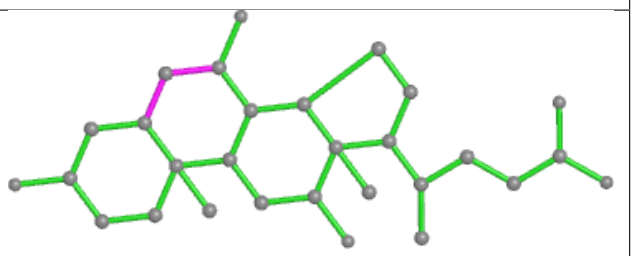


Rings

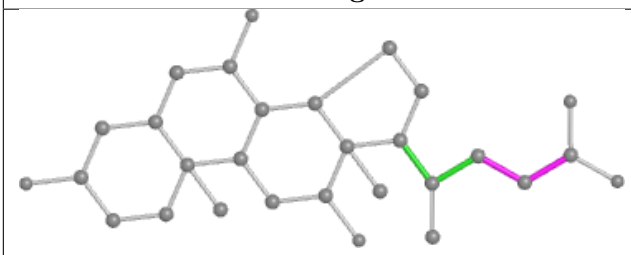
Ligand CHD P 308



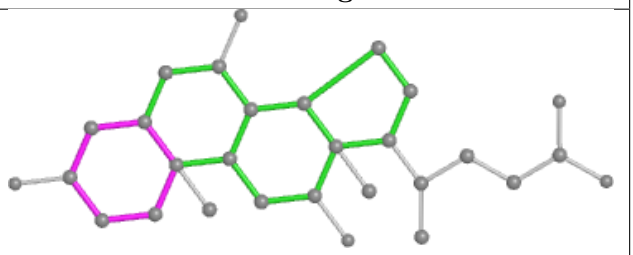
Bond lengths



Bond angles

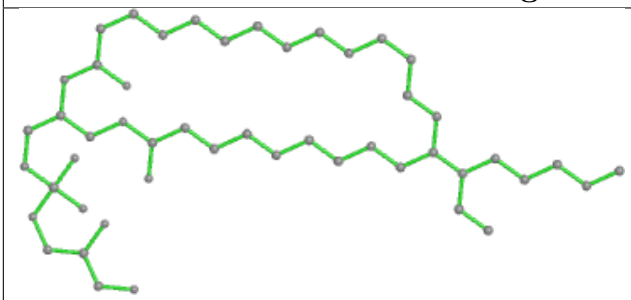


Torsions

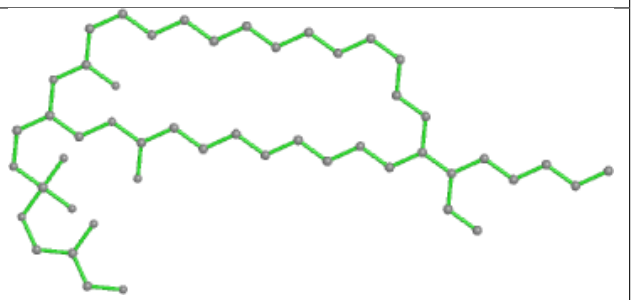


Rings

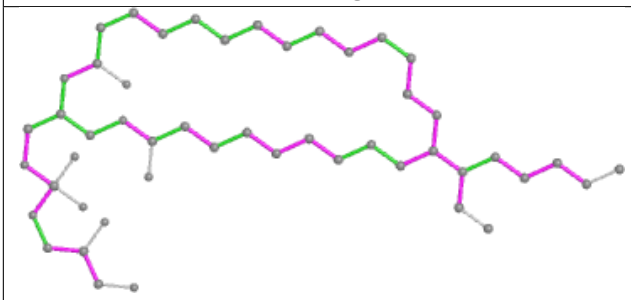
Ligand PGV H 101



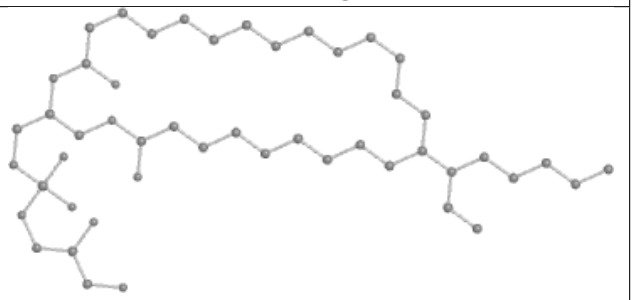
Bond lengths



Bond angles

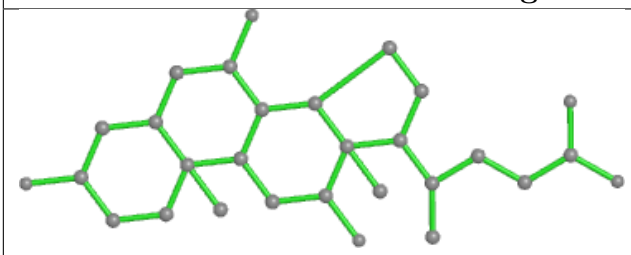


Torsions



Rings

Ligand CHD Y 101



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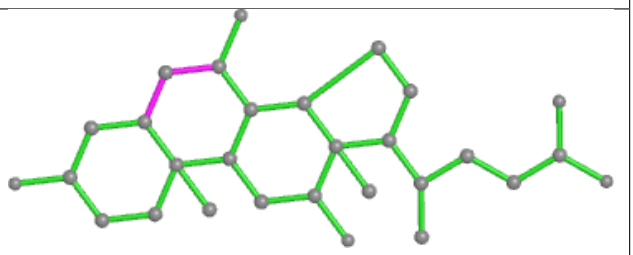
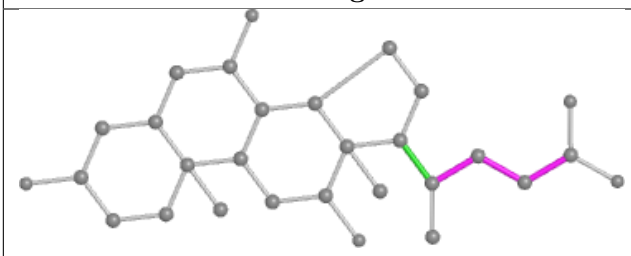
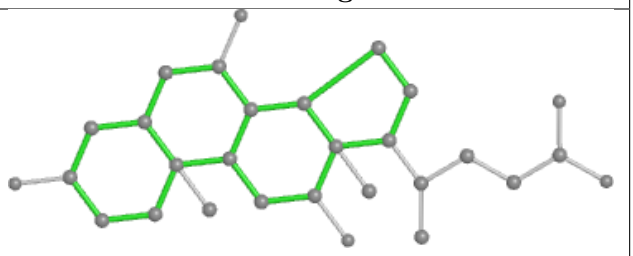


Bond angles

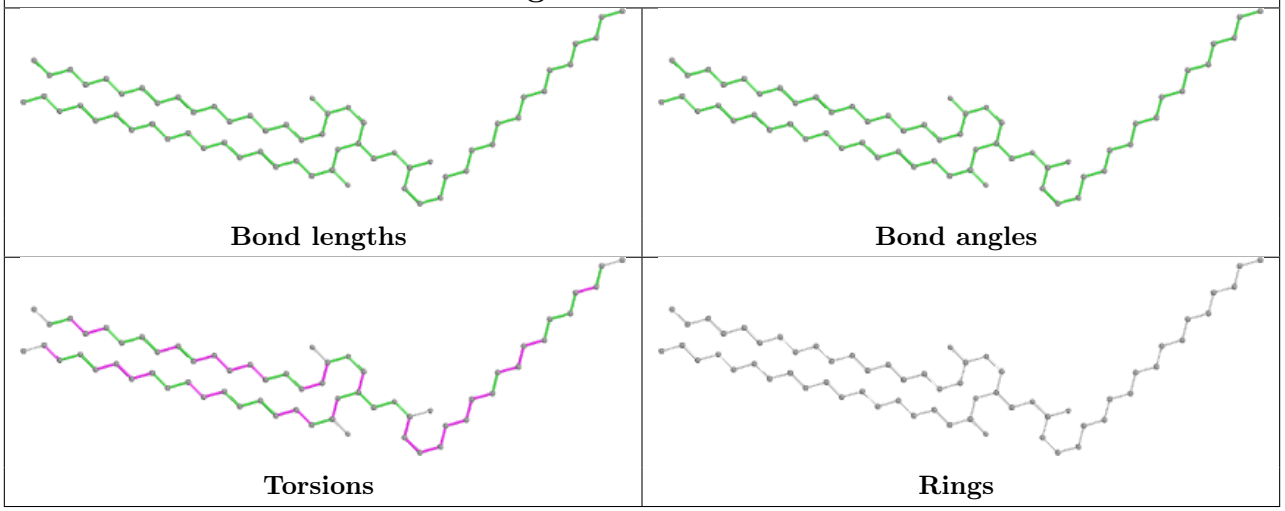


Torsions

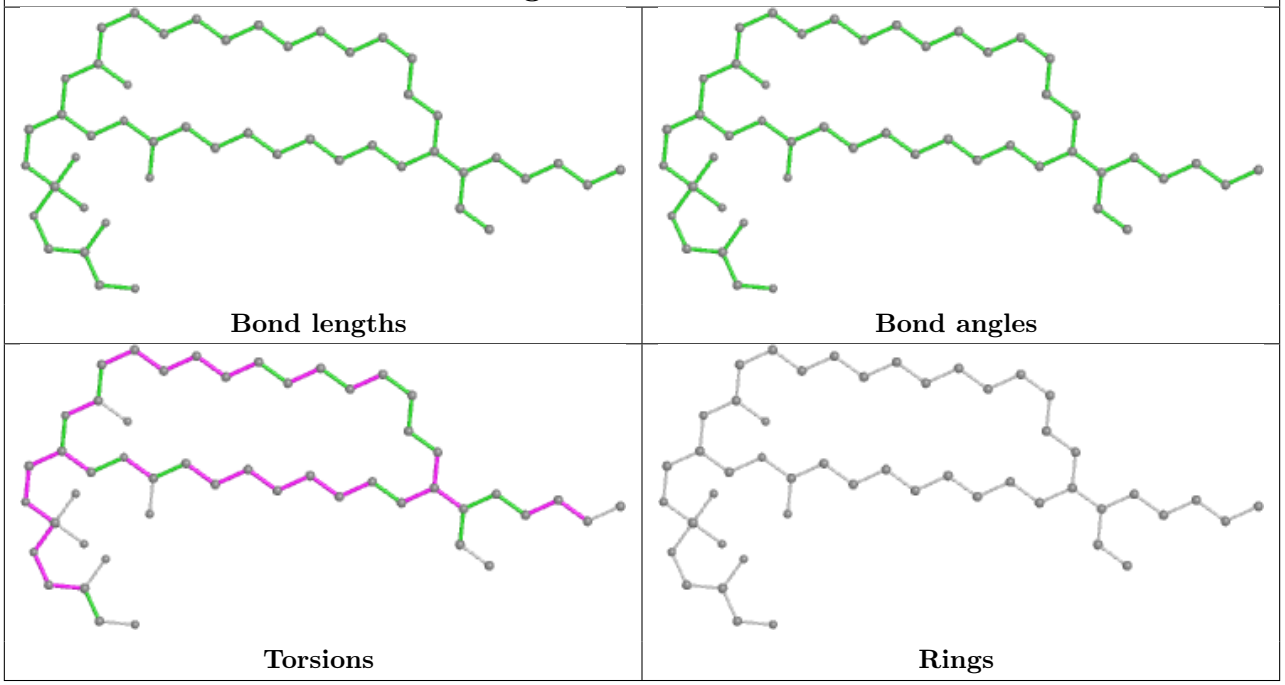


Rings

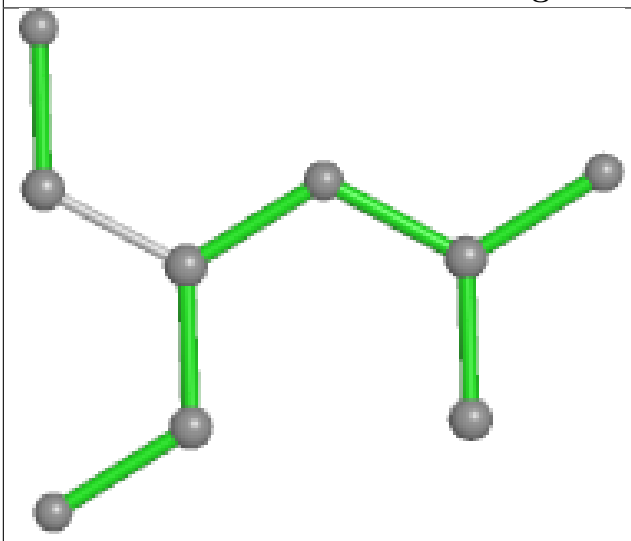
Ligand TGL L 101



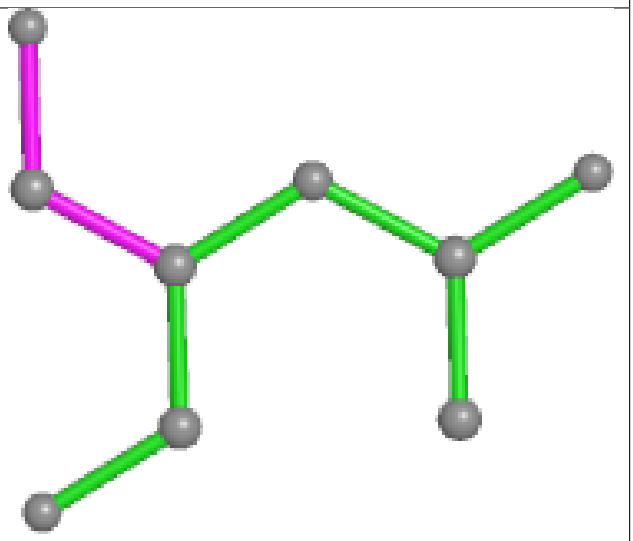
Ligand PGV P 306



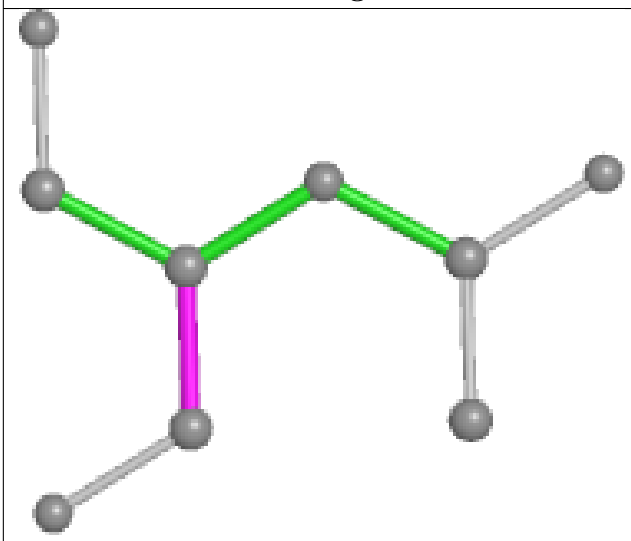
Ligand SAC I 101



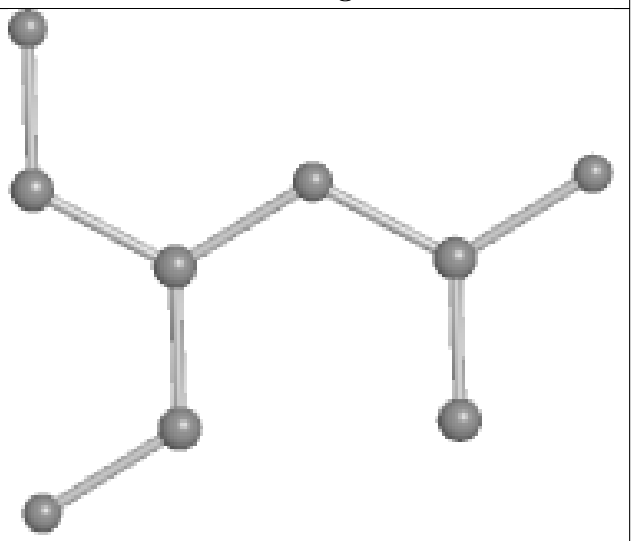
Bond lengths



Bond angles

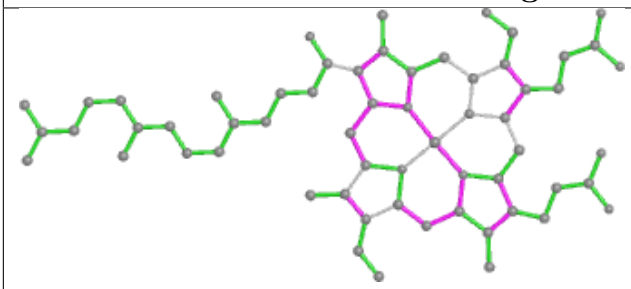


Torsions



Rings

Ligand HEA N 607



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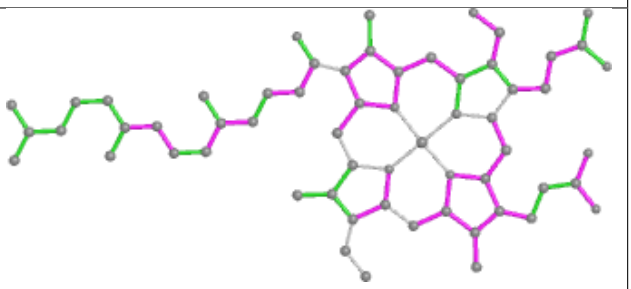
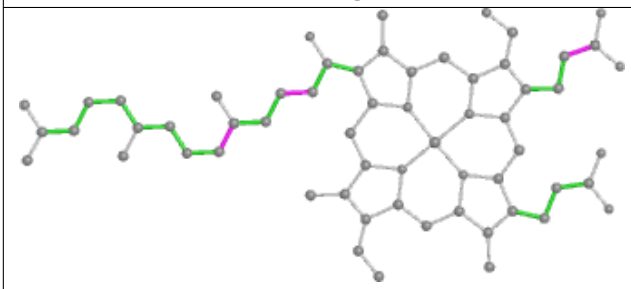


Bond angles



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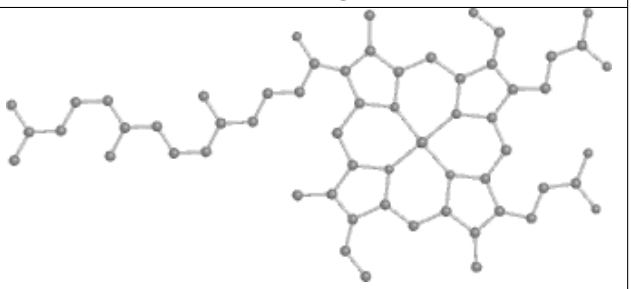
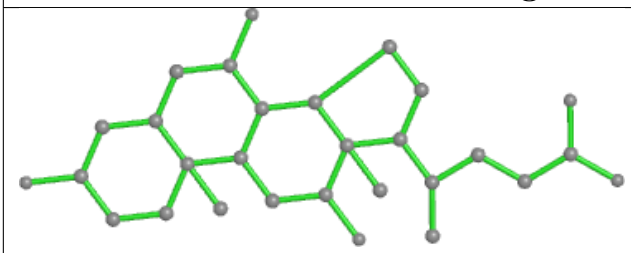


Rings

Ligand CHD C 307



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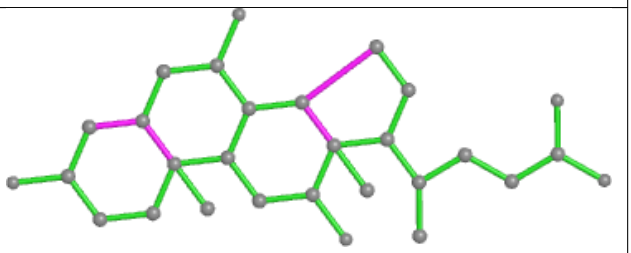
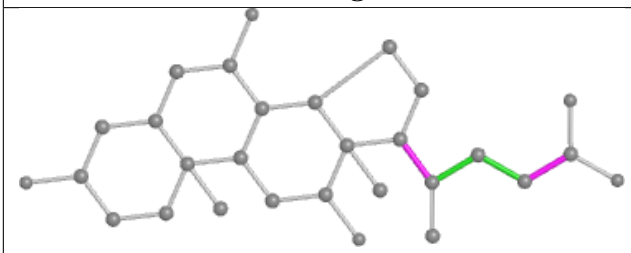


Bond angles



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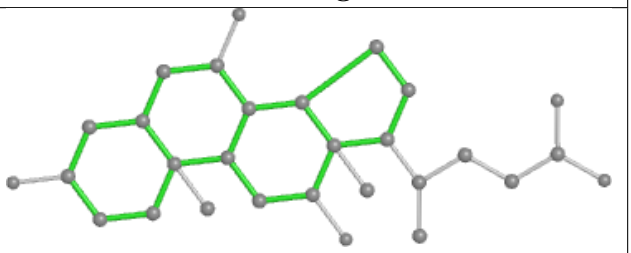
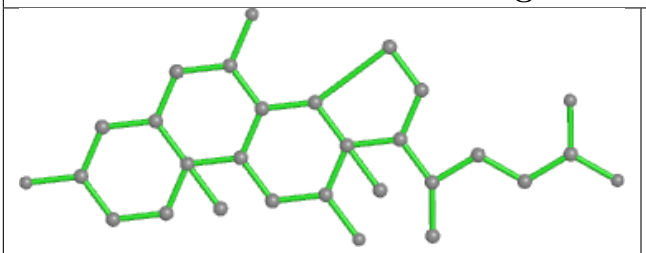
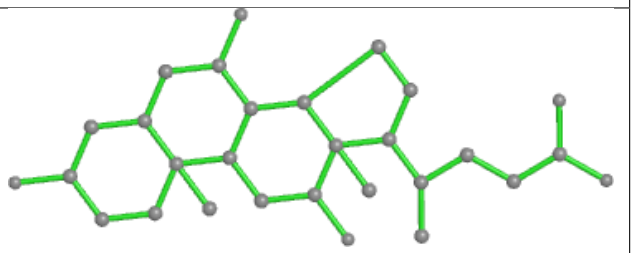


Rings

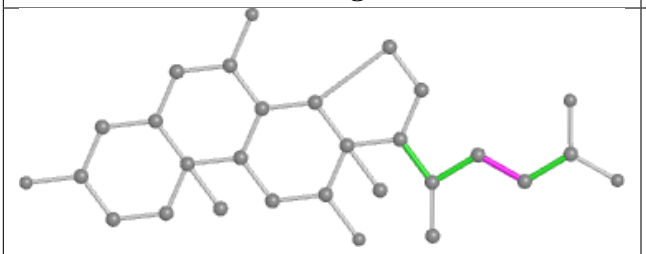
Ligand CHD W 101



Bond lengths



Bond angles



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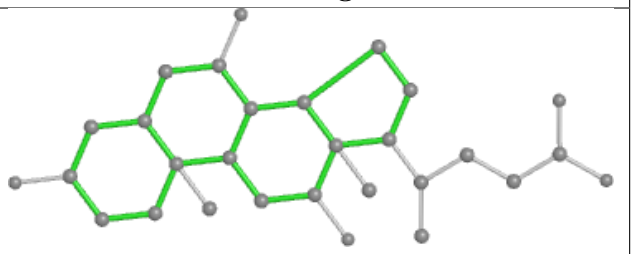
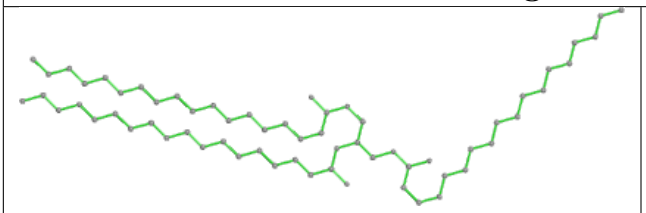
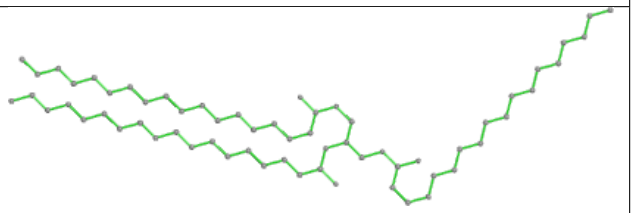


Rings

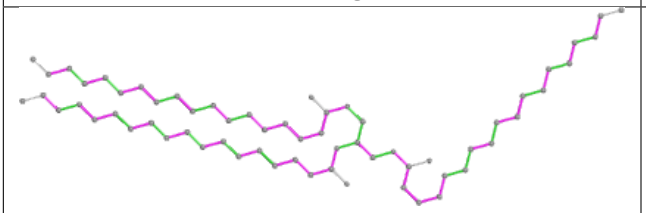
Ligand TGL D 201



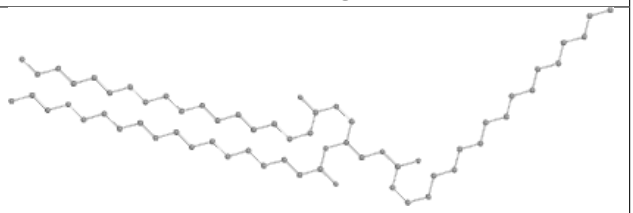
Bond lengths



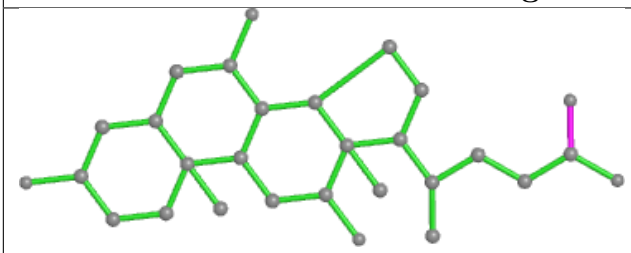
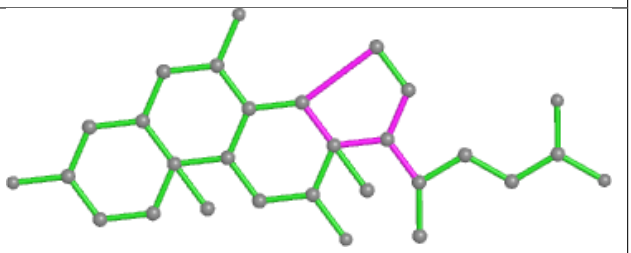
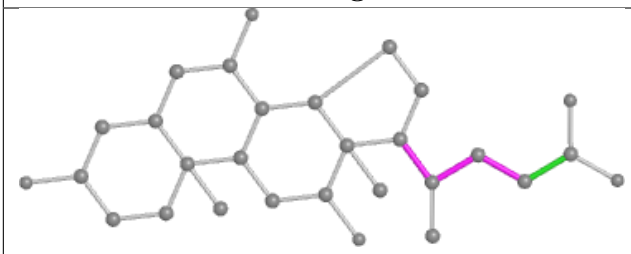
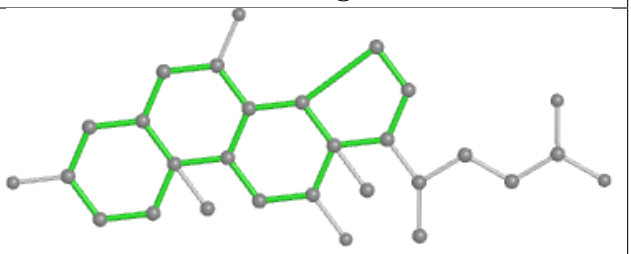
Bond angles

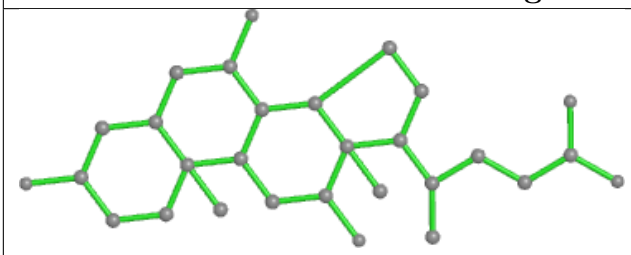
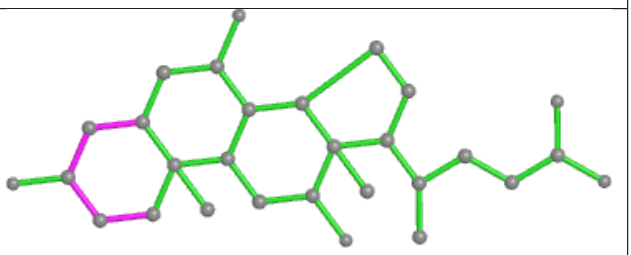
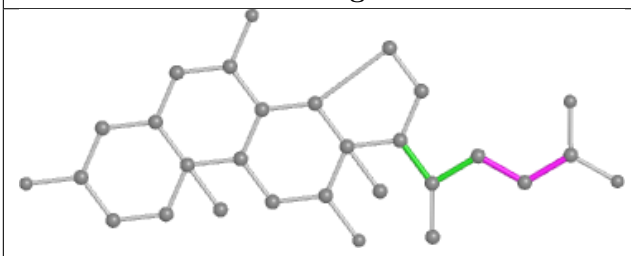
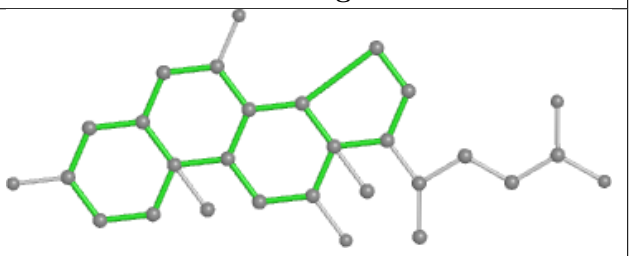


Torsions

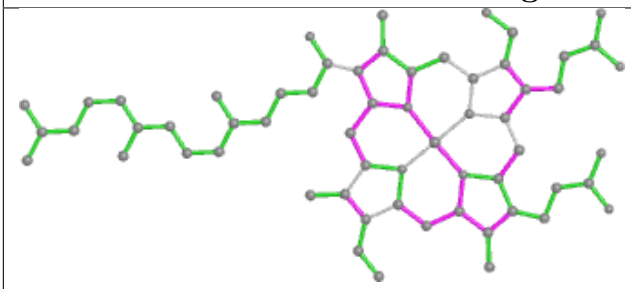


Rings

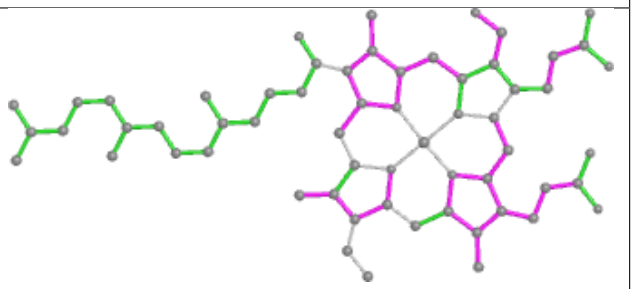
Ligand CHD P 303	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand CHD J 101	
 Bond lengths	 Bond angles
 Torsions	 Rings

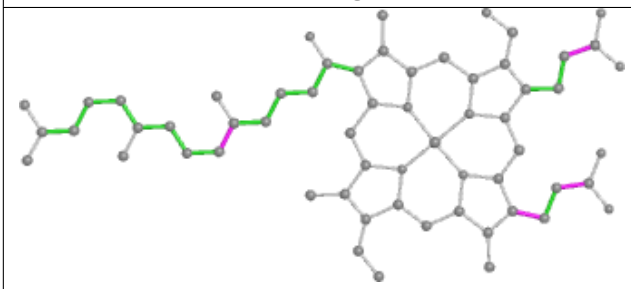
Ligand HEA N 606



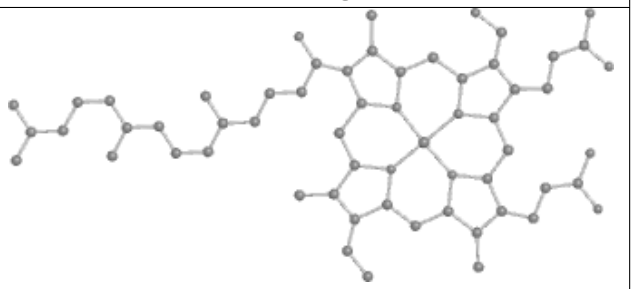
Bond lengths



Bond angles

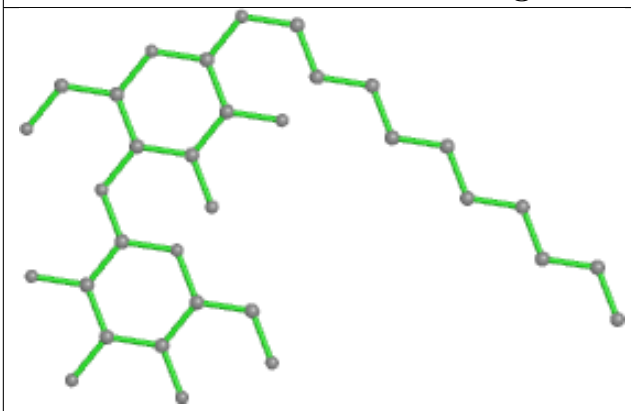


Torsions



Rings

Ligand DMU M 101



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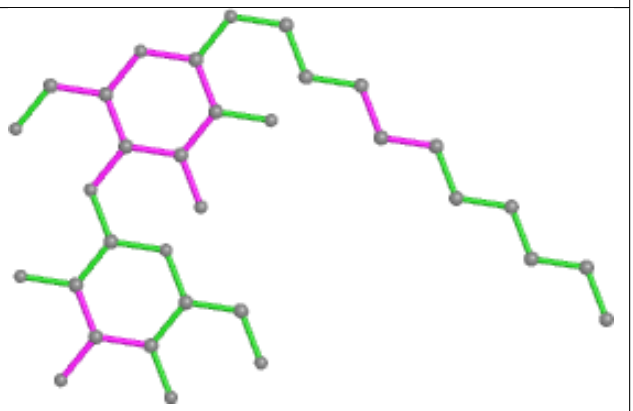
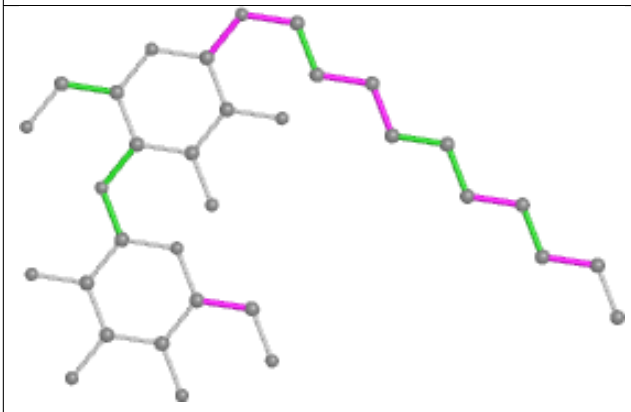


Bond angles



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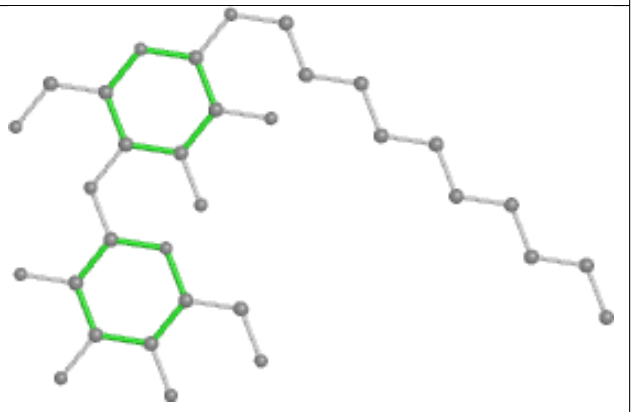
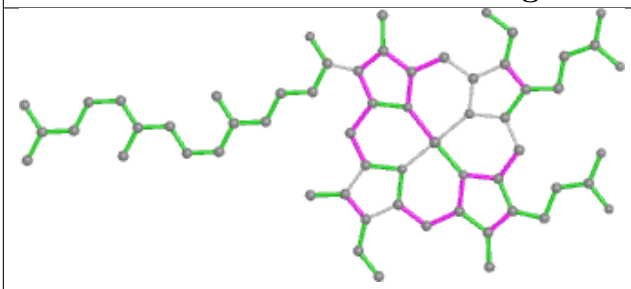


Rings

Ligand HEA A 606



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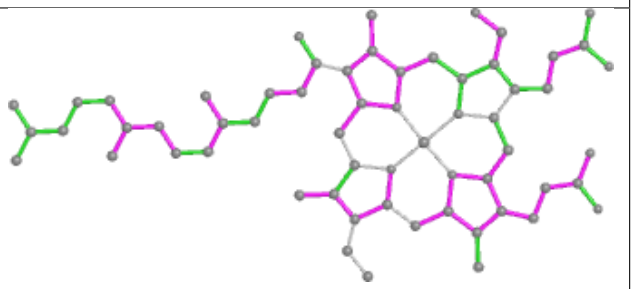
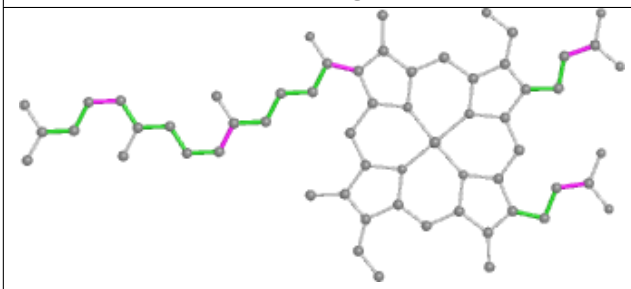
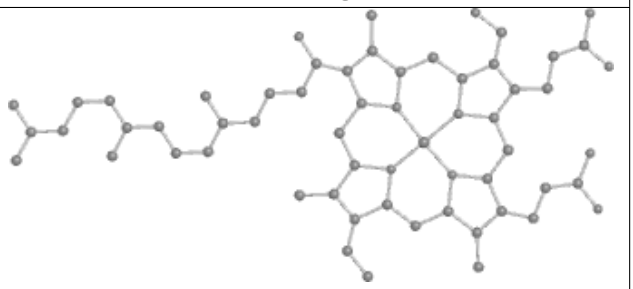


Bond angles

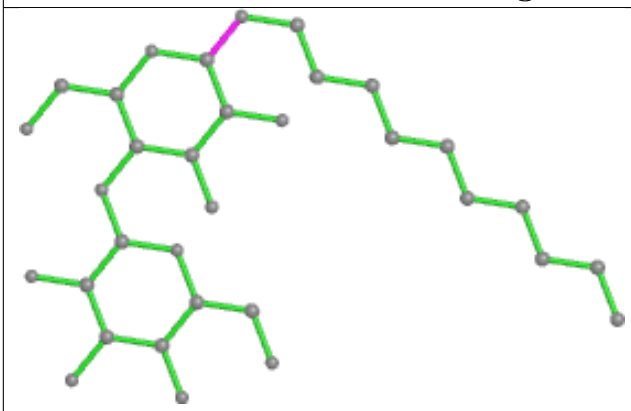


Torsions

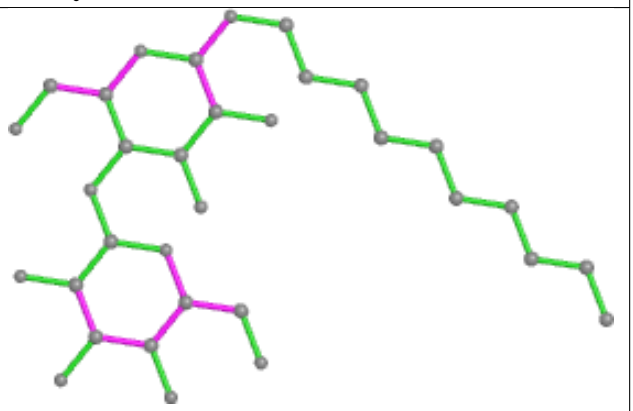


Rings

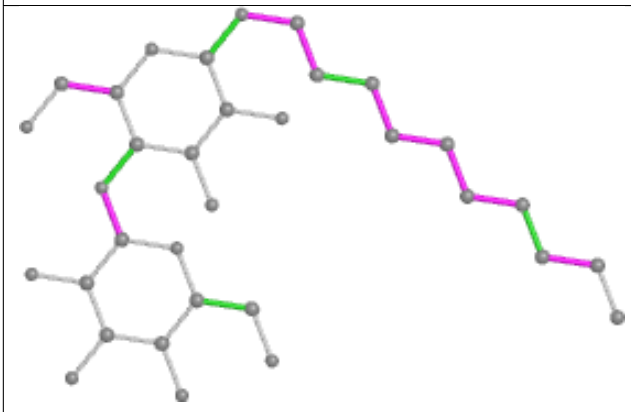
Ligand DMU Q 201



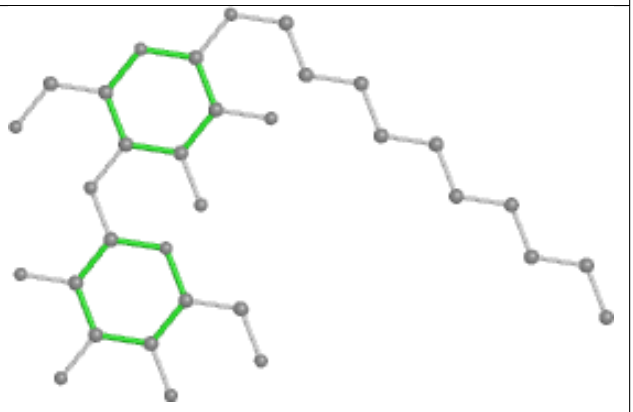
Bond lengths



Bond angles

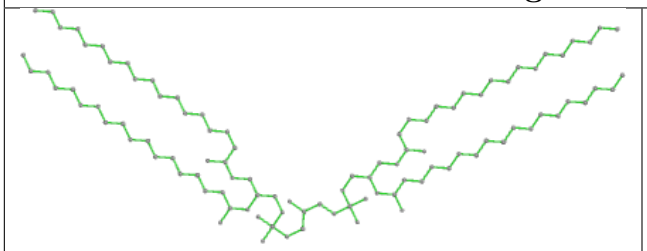


Torsions

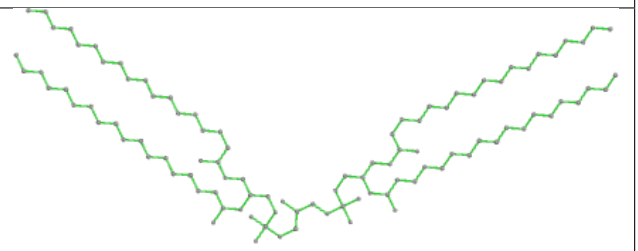


Rings

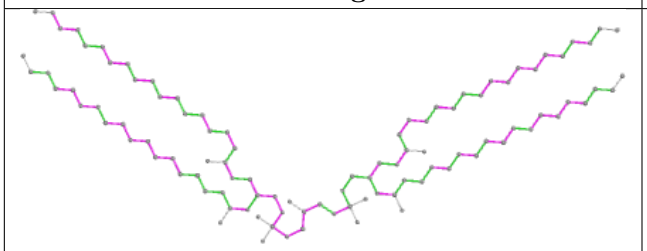
Ligand CDL C 306



Bond lengths



Bond angles



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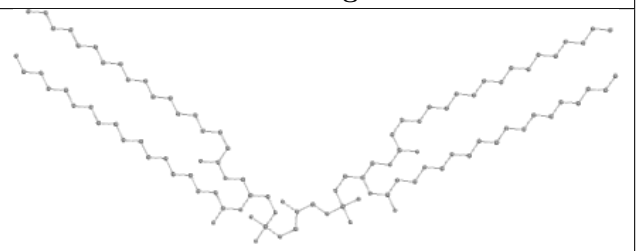
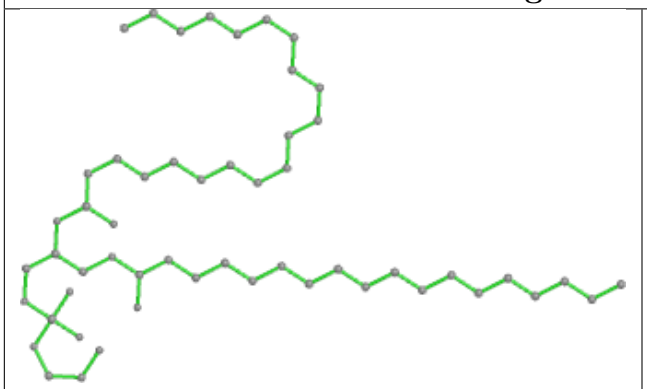
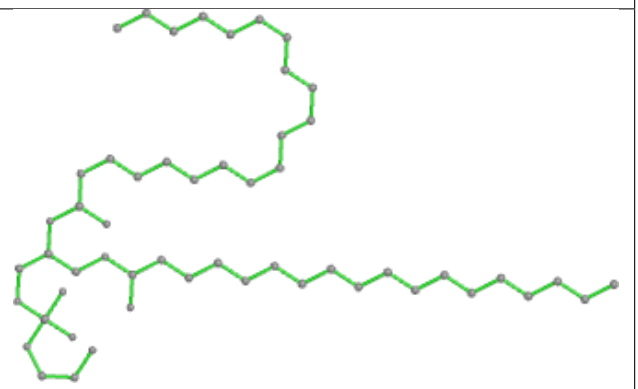


Rings

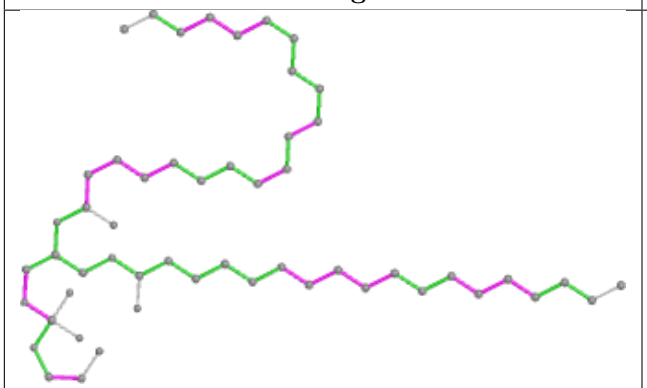
Ligand PEK P 304



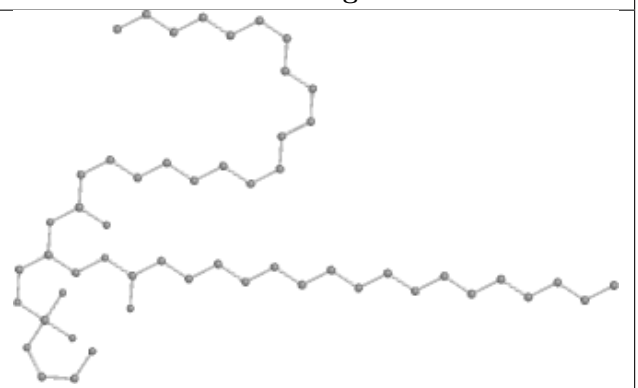
Bond lengths



Bond angles

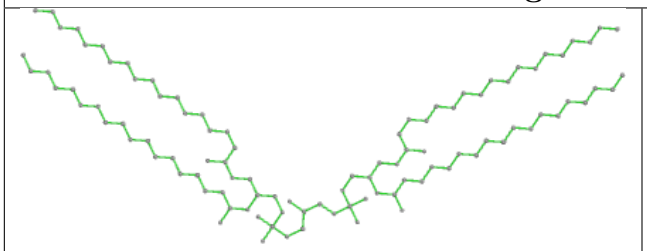


Torsions

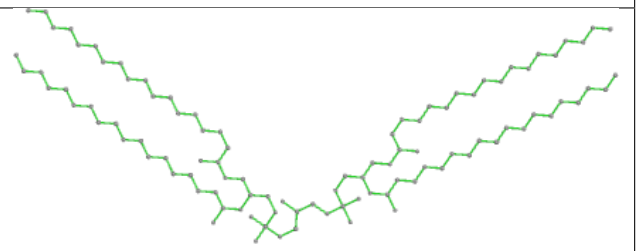


Rings

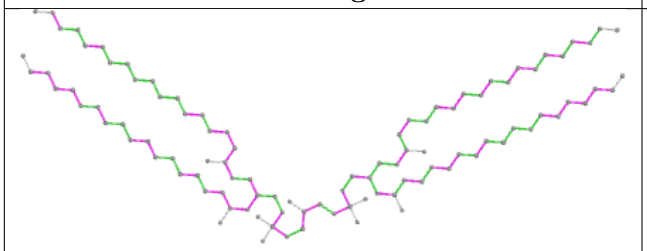
Ligand CDL C 308



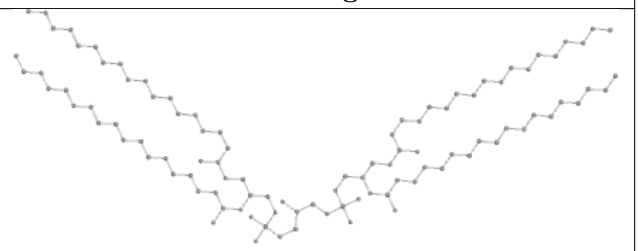
Bond lengths



Bond angles

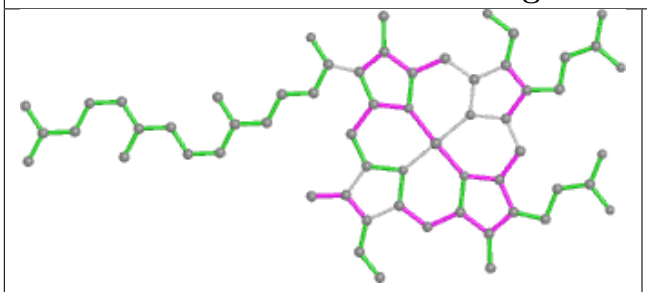


Torsions

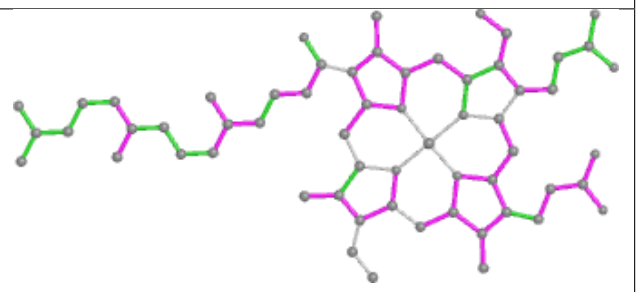


Rings

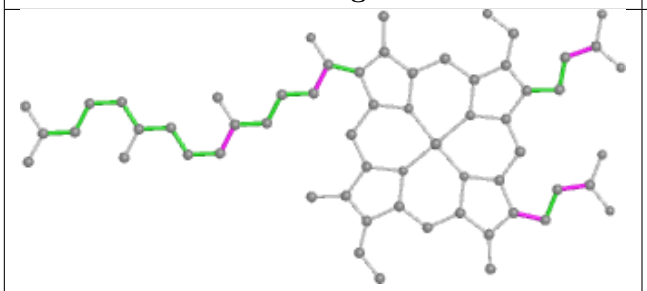
Ligand HEA A 605



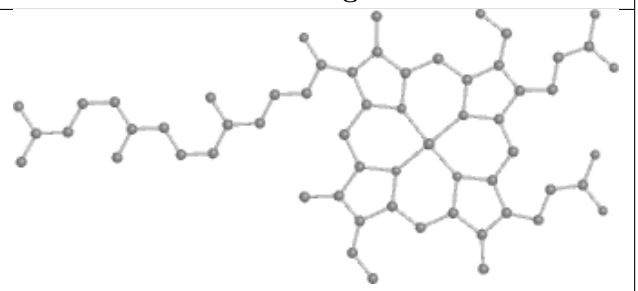
Bond lengths



Bond angles

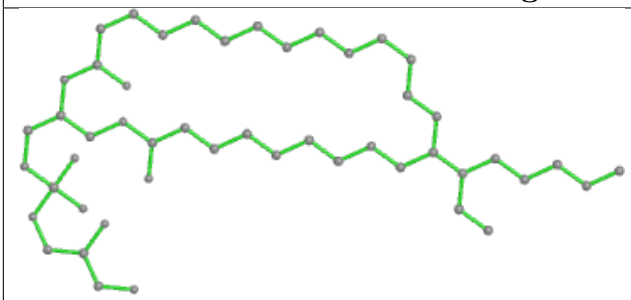


Torsions

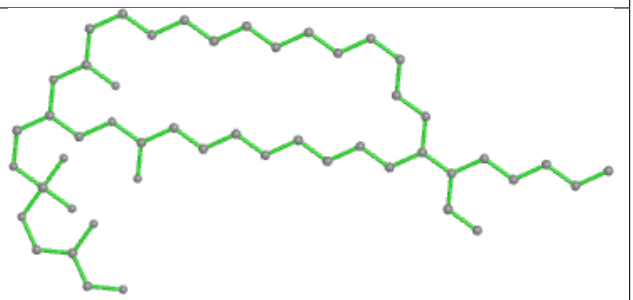


Rings

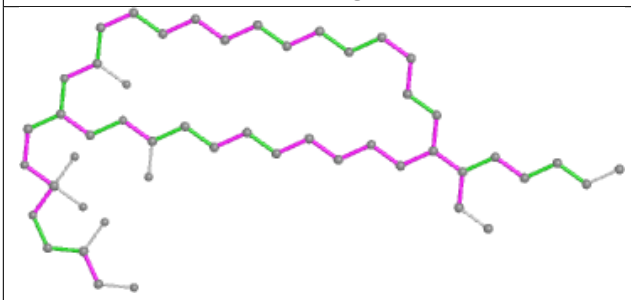
Ligand PGV A 604



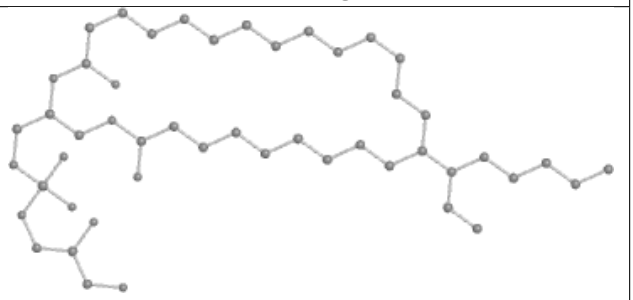
Bond lengths



Bond angles

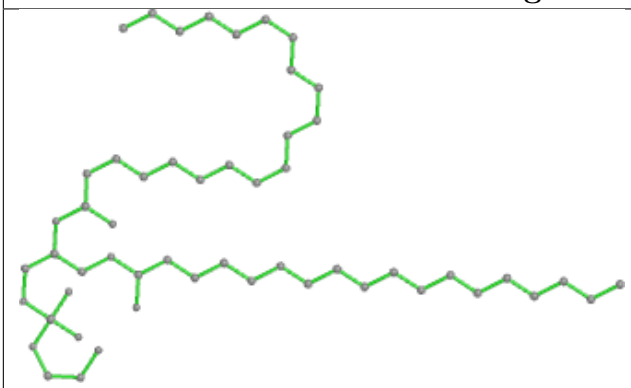


Torsions

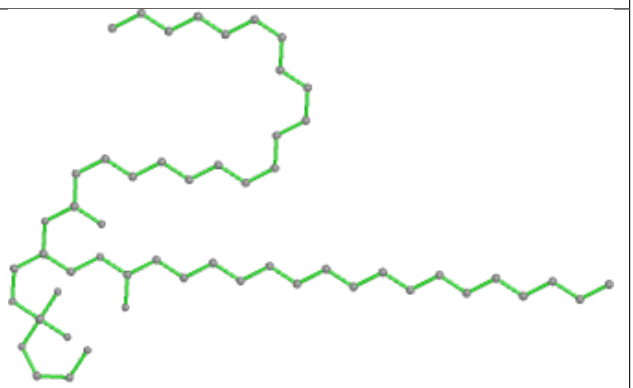


Rings

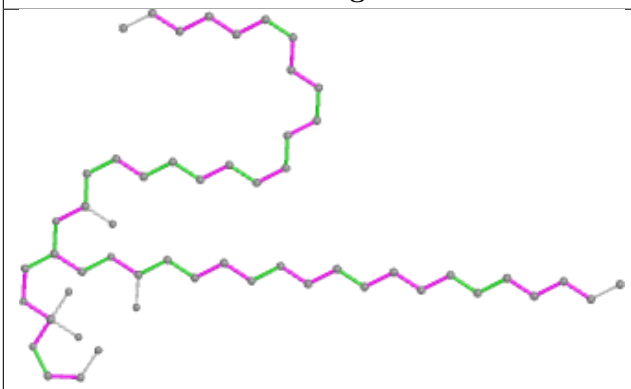
Ligand PEK P 301



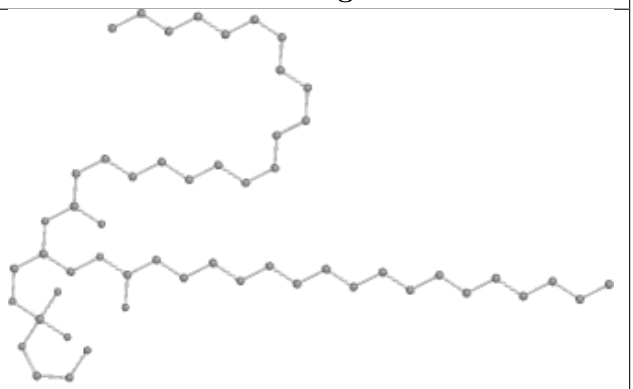
Bond lengths



Bond angles

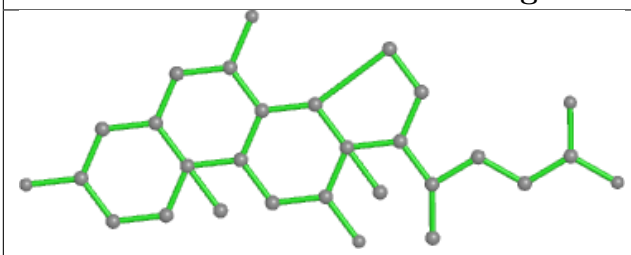


Torsions

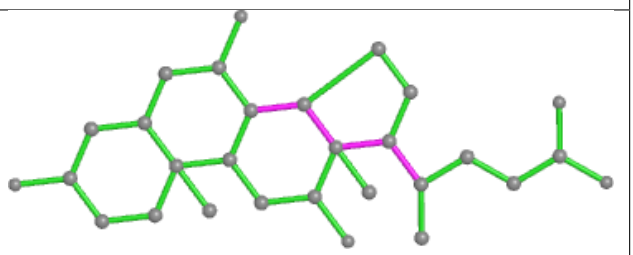


Rings

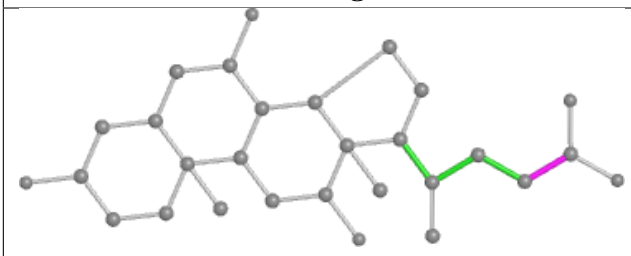
Ligand CHD O 303



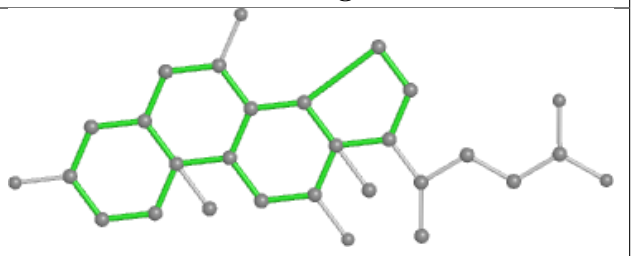
Bond lengths



Bond angles

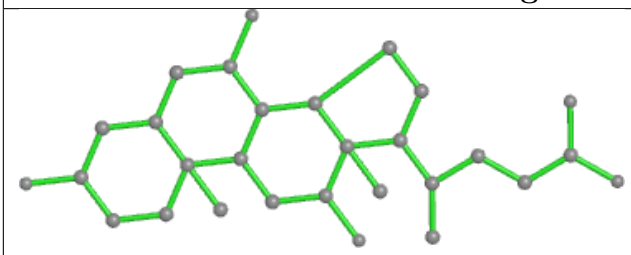


Torsions

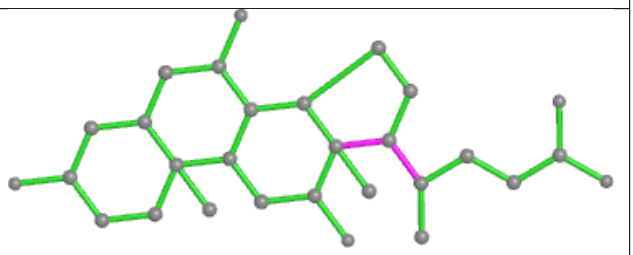


Rings

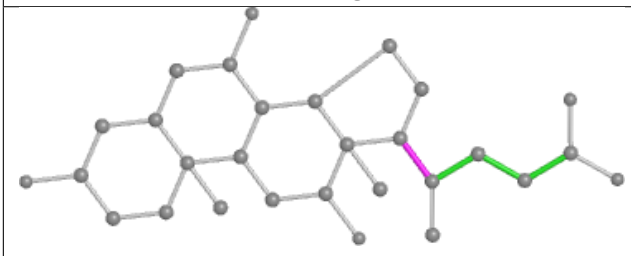
Ligand CHD C 302



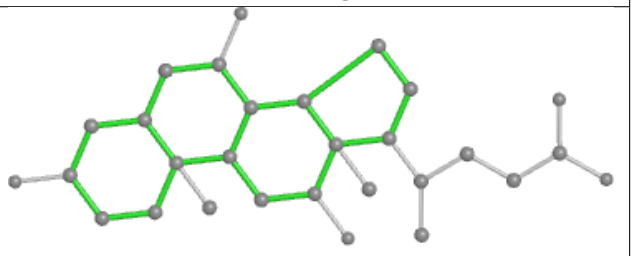
Bond lengths



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%)	-0.40	0 100 100	5, 15, 24, 48	0
1	N	513/514 (99%)	-0.12	7 (1%) 75 77	12, 27, 44, 62	0
2	B	226/227 (99%)	-0.32	3 (1%) 77 78	8, 20, 45, 91	0
2	O	226/227 (99%)	0.11	6 (2%) 54 56	19, 39, 65, 116	0
3	C	259/261 (99%)	-0.39	0 100 100	10, 20, 33, 50	0
3	P	259/261 (99%)	-0.15	4 (1%) 73 75	13, 28, 49, 78	0
4	D	144/147 (97%)	-0.28	3 (2%) 63 65	12, 27, 47, 59	0
4	Q	144/147 (97%)	0.86	13 (9%) 9 10	24, 52, 76, 185	0
5	E	105/109 (96%)	-0.29	2 (1%) 66 68	15, 26, 53, 83	0
5	R	105/109 (96%)	-0.09	2 (1%) 66 68	23, 40, 58, 85	0
6	F	98/98 (100%)	-0.02	6 (6%) 21 23	13, 27, 78, 119	0
6	S	98/98 (100%)	0.82	12 (12%) 4 4	21, 37, 103, 151	0
7	G	83/85 (97%)	0.57	13 (15%) 2 2	15, 33, 100, 116	0
7	T	83/85 (97%)	0.58	10 (12%) 4 5	14, 43, 92, 121	0
8	H	79/85 (92%)	-0.03	7 (8%) 9 10	14, 28, 73, 83	0
8	U	79/85 (92%)	0.46	8 (10%) 7 7	29, 45, 87, 128	0
9	I	72/73 (98%)	0.12	6 (8%) 11 12	18, 36, 63, 76	0
9	V	72/73 (98%)	0.73	10 (13%) 2 3	30, 51, 72, 76	0
10	J	58/59 (98%)	0.05	2 (3%) 45 48	13, 31, 64, 92	0
10	W	58/59 (98%)	0.51	6 (10%) 6 7	32, 47, 89, 127	0
11	K	49/56 (87%)	-0.06	1 (2%) 65 66	15, 28, 43, 47	0
11	X	49/56 (87%)	0.82	11 (22%) 0 0	34, 46, 69, 83	0
12	L	46/47 (97%)	-0.45	1 (2%) 62 63	12, 20, 35, 77	0
12	Y	46/47 (97%)	0.17	2 (4%) 35 38	25, 41, 64, 76	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
13	M	43/47 (91%)	-0.20	3 (6%) 16 17	14, 21, 74, 85	0
13	Z	43/47 (91%)	0.58	5 (11%) 4 5	29, 43, 73, 82	0
All	All	3550/3616 (98%)	-0.02	143 (4%) 38 41	5, 28, 65, 185	0

All (143) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
4	Q	6	VAL	27.3
6	S	97	ALA	20.2
6	S	1	ALA	17.1
4	Q	5	VAL	15.2
6	S	98	HIS	9.5
2	O	90	ILE	9.3
4	Q	7	LYS	9.0
7	G	1	ALA	8.5
7	G	41	HIS	7.8
8	U	8	ILE	7.0
6	S	94	HIS	7.0
7	G	40	GLY	6.9
6	F	98	HIS	6.9
13	Z	43	SER	6.5
9	V	33	THR	5.9
7	T	7	ASP	5.8
7	T	41	HIS	5.8
10	W	57	HIS	5.7
7	T	40	GLY	5.7
11	X	12	LYS	5.5
9	I	37	PHE	5.1
7	T	10	GLY	4.9
7	G	3	ALA	4.9
6	F	1	ALA	4.9
10	W	48	TYR	4.8
6	S	95	GLN	4.8
10	W	58	LYS	4.6
7	T	39	SER	4.5
13	Z	35	TYR	4.5
7	G	39	SER	4.5
7	T	36	TRP	4.4
2	B	90	ILE	4.3
1	N	120	ALA	4.2
4	Q	35	ALA	4.2

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Mol	Chain	Res	Type	RSRZ
7	G	4	ALA	4.2
13	M	39	ASN	4.2
9	V	30	GLY	4.2
9	I	33	THR	4.2
7	G	2	SER	4.1
4	Q	33	LEU	4.1
4	D	78	TRP	4.0
2	O	227	LEU	4.0
7	G	7	ASP	3.9
6	S	96	LEU	3.8
8	H	51	SER	3.8
6	S	93	PRO	3.7
10	W	52	TRP	3.7
4	D	102	TYR	3.7
4	Q	140	TYR	3.7
9	I	27	VAL	3.7
2	O	55	THR	3.6
9	V	69	PHE	3.6
6	F	95	GLN	3.6
6	S	2	SER	3.5
9	V	37	PHE	3.4
7	T	5	LYS	3.4
7	T	6	GLY	3.4
7	G	6	GLY	3.4
8	H	10	ASN	3.3
8	U	7	LYS	3.3
3	P	114	GLY	3.3
7	T	9	GLY	3.3
8	U	48	GLY	3.2
11	X	37	GLY	3.2
10	W	30	ILE	3.1
1	N	462	LEU	3.1
3	P	62	ILE	3.1
4	Q	50	SER	3.1
7	G	5	LYS	3.1
11	K	19	ALA	3.1
13	Z	40	TYR	3.1
9	V	26	MET	3.1
4	Q	36	SER	3.1
6	F	96	LEU	3.1
11	X	23	THR	3.0
8	H	45	ALA	3.0

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Mol	Chain	Res	Type	RSRZ
7	G	37	LEU	2.9
9	V	25	PHE	2.9
13	M	43	SER	2.9
7	G	84	LYS	2.9
2	B	61	VAL	2.8
3	P	37	PHE	2.8
2	O	93	PRO	2.8
13	Z	32	TRP	2.7
3	P	182	TYR	2.7
4	Q	117	ALA	2.7
4	Q	147	LYS	2.7
6	S	25	ARG	2.7
4	D	141	ASP	2.7
7	T	8	HIS	2.7
9	V	53	ASN	2.6
6	F	97	ALA	2.6
5	R	5	HIS	2.6
2	O	89	GLU	2.6
10	J	4	ARG	2.6
8	U	45	ALA	2.6
2	B	60	GLU	2.6
8	U	70	SER	2.5
4	Q	24	LEU	2.5
5	E	5	HIS	2.5
8	U	9	LYS	2.5
1	N	209	LEU	2.5
8	H	49	ASP	2.4
11	X	13	TYR	2.4
1	N	296	GLY	2.4
8	H	46	LYS	2.4
8	H	84	LYS	2.4
9	V	2	THR	2.4
11	X	9	PHE	2.4
9	I	62	GLU	2.3
8	U	16	PHE	2.3
6	S	52	ILE	2.3
5	E	9	GLU	2.3
4	Q	30	VAL	2.3
11	X	34	THR	2.3
10	J	58	LYS	2.3
10	W	1	PHE	2.2
11	X	35	GLN	2.2

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Mol	Chain	Res	Type	RSRZ
8	H	44	THR	2.2
1	N	311	ILE	2.2
5	R	22	PRO	2.2
1	N	366	VAL	2.2
13	Z	39	ASN	2.2
6	S	14	THR	2.2
11	X	11	ASP	2.2
1	N	468	MET	2.2
6	F	2	SER	2.2
12	L	47	LYS	2.1
11	X	6	ALA	2.1
12	Y	20	ARG	2.1
2	O	78	LEU	2.1
7	G	36	TRP	2.1
9	I	25	PHE	2.1
6	S	90	LYS	2.1
9	V	32	ALA	2.1
11	X	33	ALA	2.1
13	M	40	TYR	2.1
11	X	16	ALA	2.0
12	Y	19	TRP	2.0
9	V	72	ALA	2.0
4	Q	32	ASN	2.0
8	U	34	LEU	2.0
9	I	26	MET	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
7	TPO	G	11	11/12	0.66	0.44	81,114,143,143	0
1	FME	N	1	10/11	0.83	0.33	55,66,83,83	0
7	TPO	T	11	11/12	0.87	0.32	85,108,132,134	0
1	FME	A	1	10/11	0.92	0.16	31,37,45,48	0
2	FME	O	1	10/11	0.95	0.12	18,42,55,61	0
2	FME	B	1	10/11	0.96	0.15	23,25,26,26	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
28	SAC	I	101	9/10	0.45	0.34	82,90,98,99	0
26	DMU	G	101	33/33	0.54	0.35	41,106,120,123	0
22	PSC	V	101	52/52	0.60	0.41	56,102,190,205	0
24	PEK	T	102	53/53	0.61	0.34	47,76,131,143	0
26	DMU	C	310	33/33	0.68	0.36	47,78,102,105	0
24	PEK	C	304	53/53	0.70	0.34	33,89,176,203	0
24	PEK	P	301	53/53	0.70	0.31	44,86,182,202	0
21	TGL	N	609	63/63	0.70	0.28	46,78,101,118	0
25	CDL	P	309	100/100	0.73	0.29	53,91,123,125	0
26	DMU	P	302	33/33	0.73	0.30	45,87,96,102	0
26	DMU	Q	201	33/33	0.73	0.27	35,57,71,74	0
21	TGL	N	604	63/63	0.73	0.26	37,73,98,109	0
23	CHD	Y	101	29/29	0.74	0.27	63,140,155,157	0
24	PEK	C	311	53/53	0.74	0.32	39,70,95,114	0
22	PSC	B	303	52/52	0.75	0.43	48,102,189,190	0
25	CDL	P	307	100/100	0.75	0.24	36,78,106,118	0
25	CDL	C	308	100/100	0.76	0.27	28,85,117,123	0
25	CDL	C	306	100/100	0.76	0.21	35,69,129,133	0
23	CHD	T	103	29/29	0.78	0.21	58,120,126,132	0
26	DMU	C	309	33/33	0.79	0.27	23,71,87,95	0
23	CHD	W	101	29/29	0.79	0.34	58,83,95,96	0
17	PGV	N	610	51/51	0.79	0.38	38,85,153,163	0
21	TGL	D	201	63/63	0.81	0.20	36,60,93,97	0
17	PGV	H	101	51/51	0.81	0.23	57,69,86,88	0
28	SAC	V	102	9/10	0.82	0.33	60,74,78,79	0
17	PGV	A	604	51/51	0.83	0.25	30,60,146,150	0
21	TGL	L	101	63/63	0.85	0.18	13,53,77,82	0
23	CHD	J	101	29/29	0.85	0.23	53,61,64,69	0
17	PGV	P	306	51/51	0.86	0.21	45,64,98,114	0
21	TGL	O	301	63/63	0.87	0.18	33,61,87,93	0
21	TGL	B	302	63/63	0.87	0.21	21,56,94,98	0
23	CHD	P	308	29/29	0.90	0.14	52,72,76,80	0

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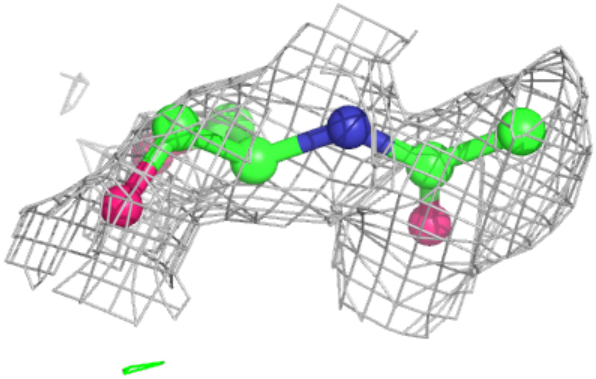
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
23	CHD	C	307	29/29	0.91	0.19	32,50,56,60	0
23	CHD	P	303	29/29	0.92	0.13	16,24,28,30	0
23	CHD	O	303	29/29	0.92	0.12	24,27,30,33	0
16	NA	A	603	1/1	0.93	0.08	18,18,18,18	0
26	DMU	M	101	33/33	0.93	0.14	10,23,34,36	0
16	NA	N	603	1/1	0.93	0.07	30,30,30,30	0
17	PGV	P	305	51/51	0.94	0.19	18,31,64,74	0
17	PGV	N	605	51/51	0.94	0.18	21,34,68,73	0
23	CHD	T	101	29/29	0.95	0.11	11,13,15,17	0
24	PEK	P	304	53/53	0.95	0.16	23,49,81,83	0
24	PEK	C	303	53/53	0.95	0.19	20,44,104,113	0
23	CHD	C	302	29/29	0.95	0.10	14,17,18,20	0
17	PGV	C	301	51/51	0.95	0.16	12,25,37,40	0
17	PGV	C	305	51/51	0.96	0.17	14,26,74,81	0
18	HEA	N	607	60/60	0.96	0.15	24,29,53,58	0
18	HEA	A	605	60/60	0.97	0.11	5,11,22,24	0
18	HEA	A	606	60/60	0.97	0.12	9,12,15,16	0
18	HEA	N	606	60/60	0.97	0.12	16,20,33,37	0
15	MG	N	602	1/1	0.97	0.06	26,26,26,26	0
15	MG	A	602	1/1	0.98	0.13	15,15,15,15	0
19	OH	N	608	1/1	0.99	0.12	14,14,14,14	0
20	CUA	B	301	2/2	0.99	0.08	19,19,19,19	0
20	CUA	O	302	2/2	0.99	0.07	29,29,29,34	0
14	CU	A	601	1/1	1.00	0.06	12,12,12,12	0
27	ZN	F	101	1/1	1.00	0.04	23,23,23,23	0
27	ZN	S	101	1/1	1.00	0.03	30,30,30,30	0
14	CU	N	601	1/1	1.00	0.05	29,29,29,29	0
19	OH	A	607	1/1	1.00	0.13	9,9,9,9	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.

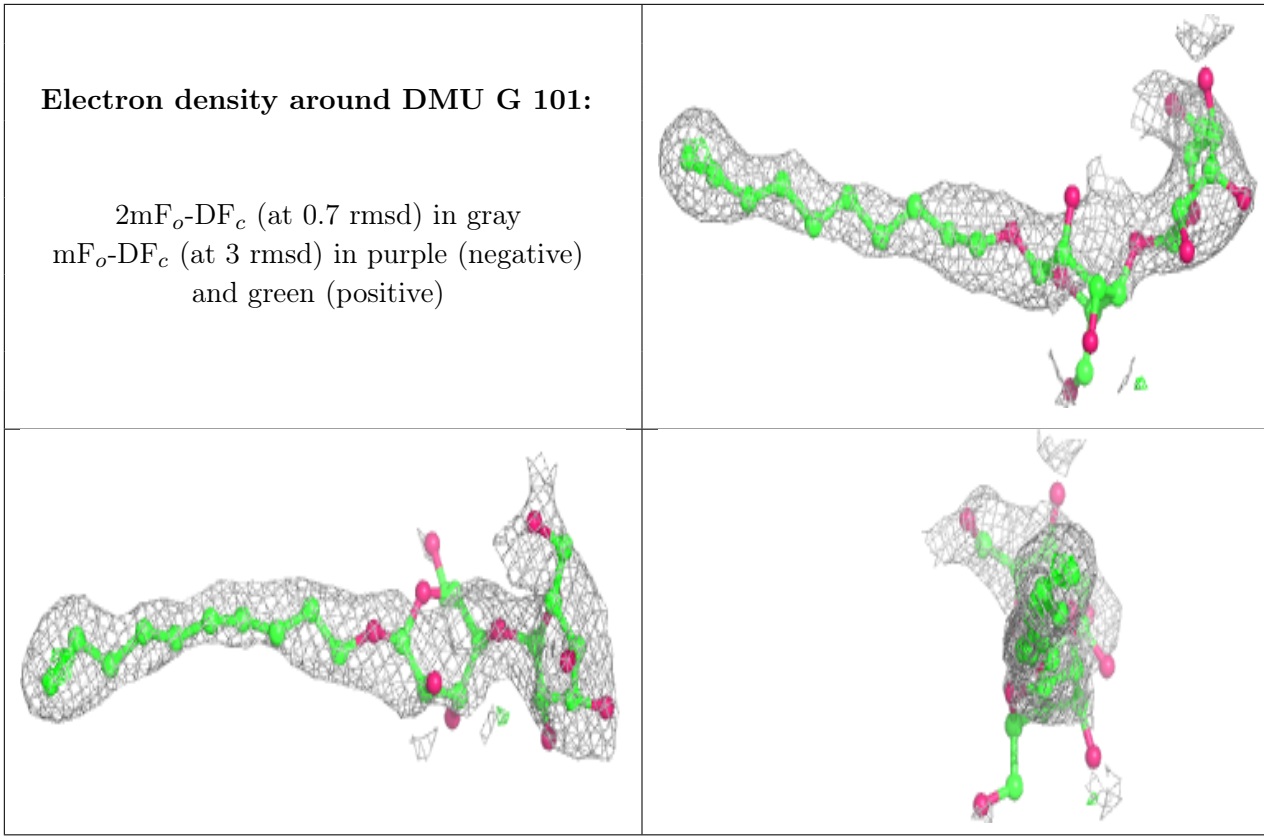
Electron density around SAC I 101:

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



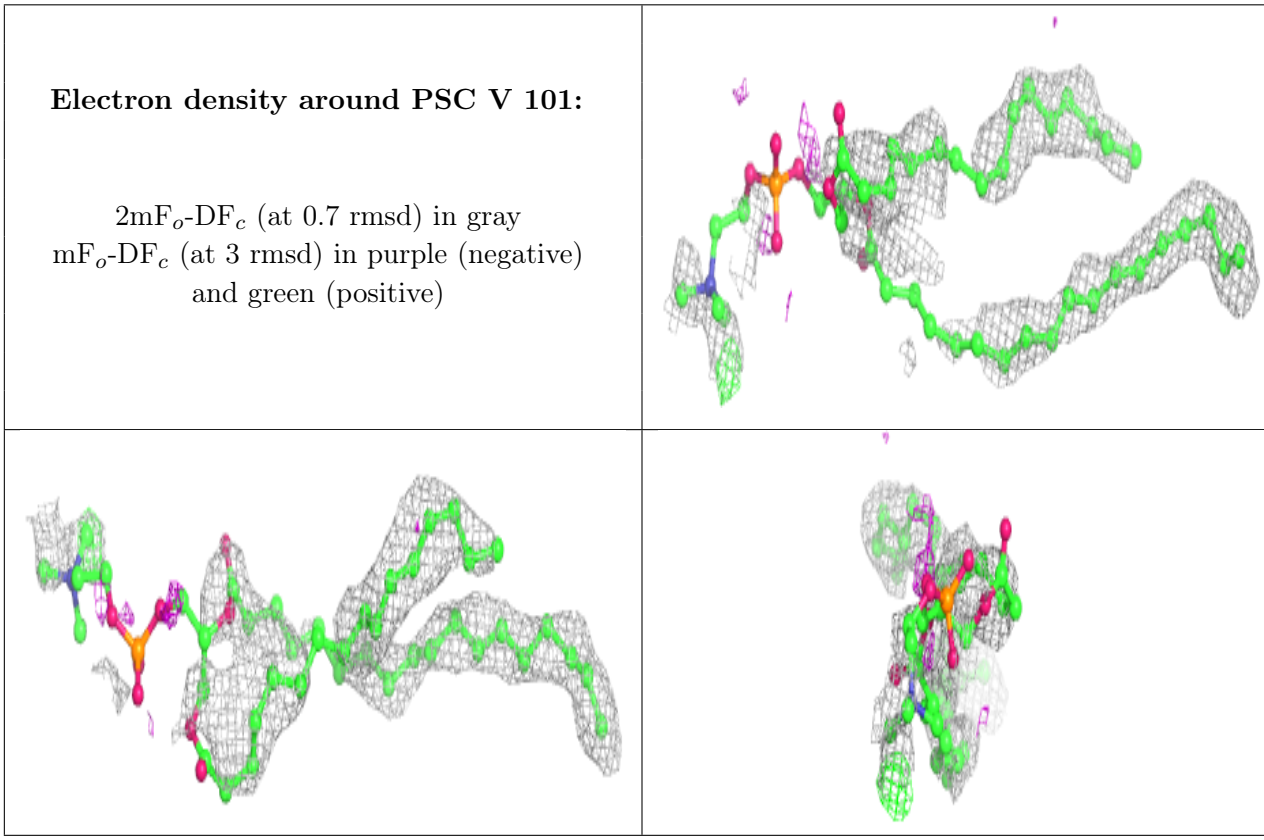
Electron density around DMU G 101:

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



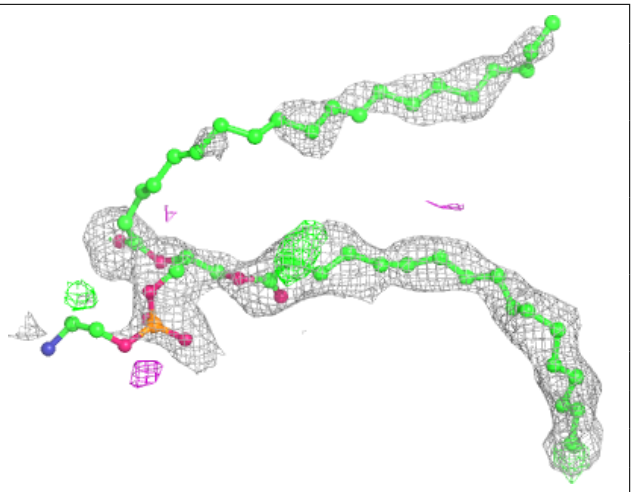
Electron density around PSC V 101:

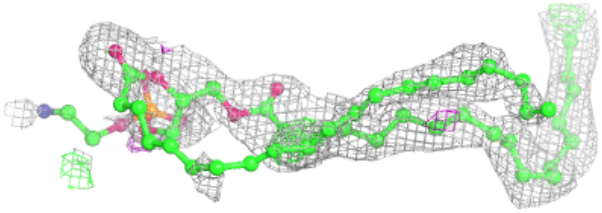
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

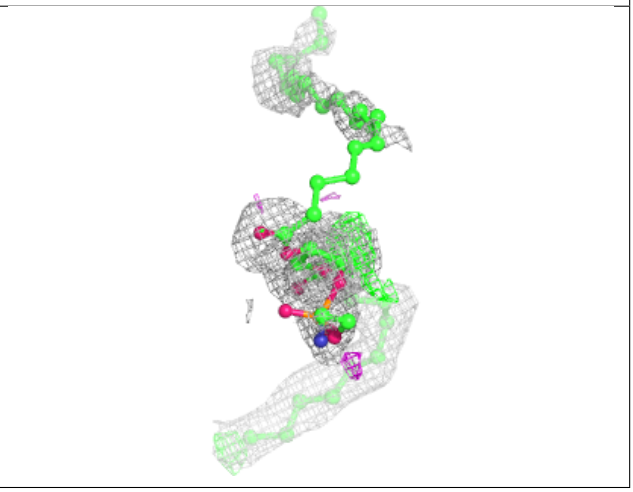


Electron density around PEK T 102:

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

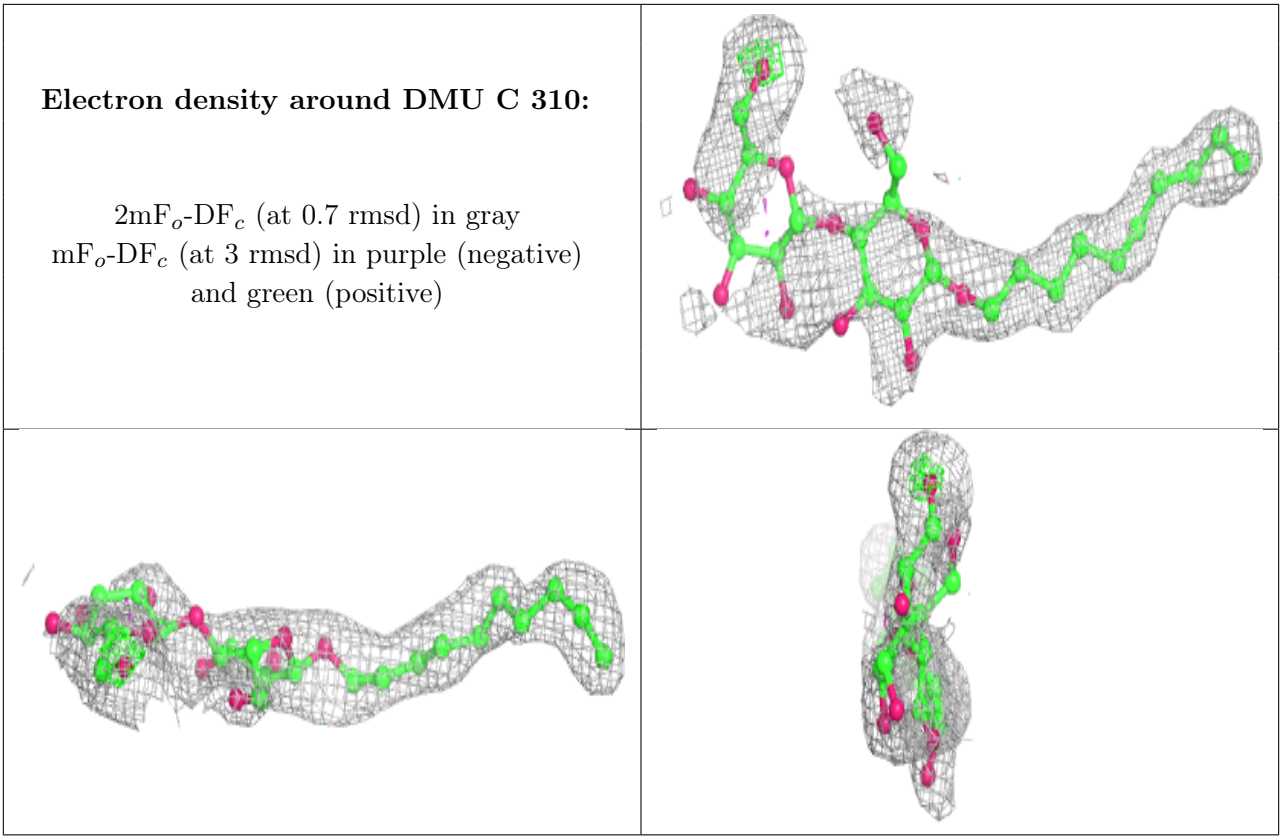






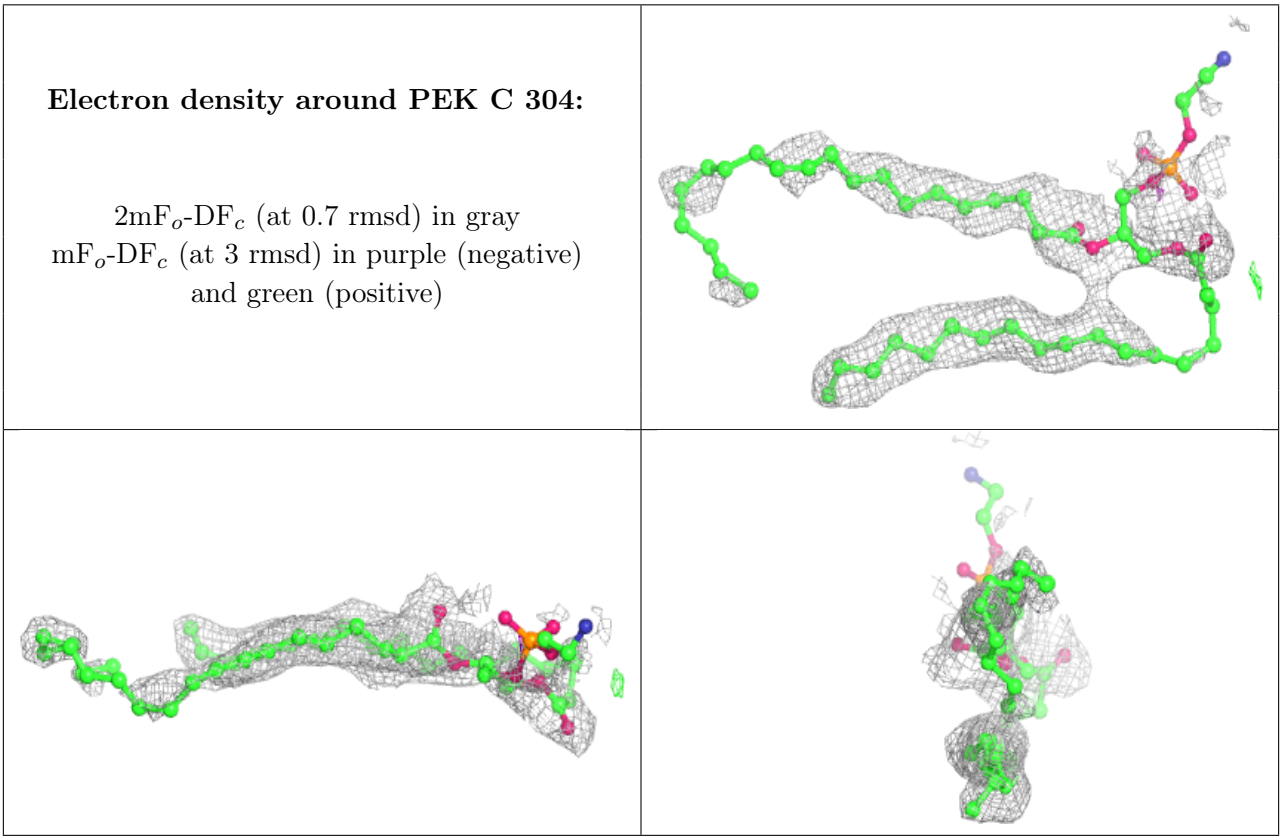
Electron density around DMU C 310:

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



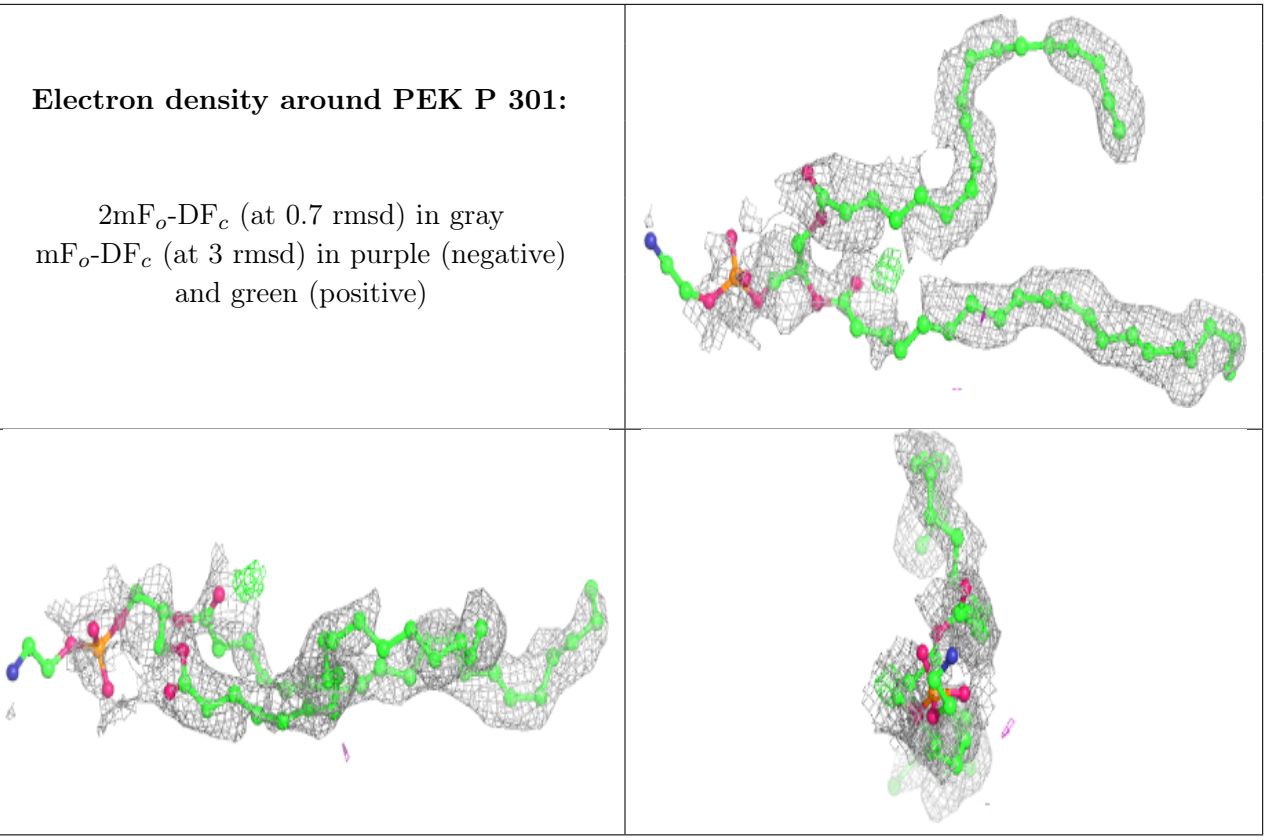
Electron density around PEK C 304:

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



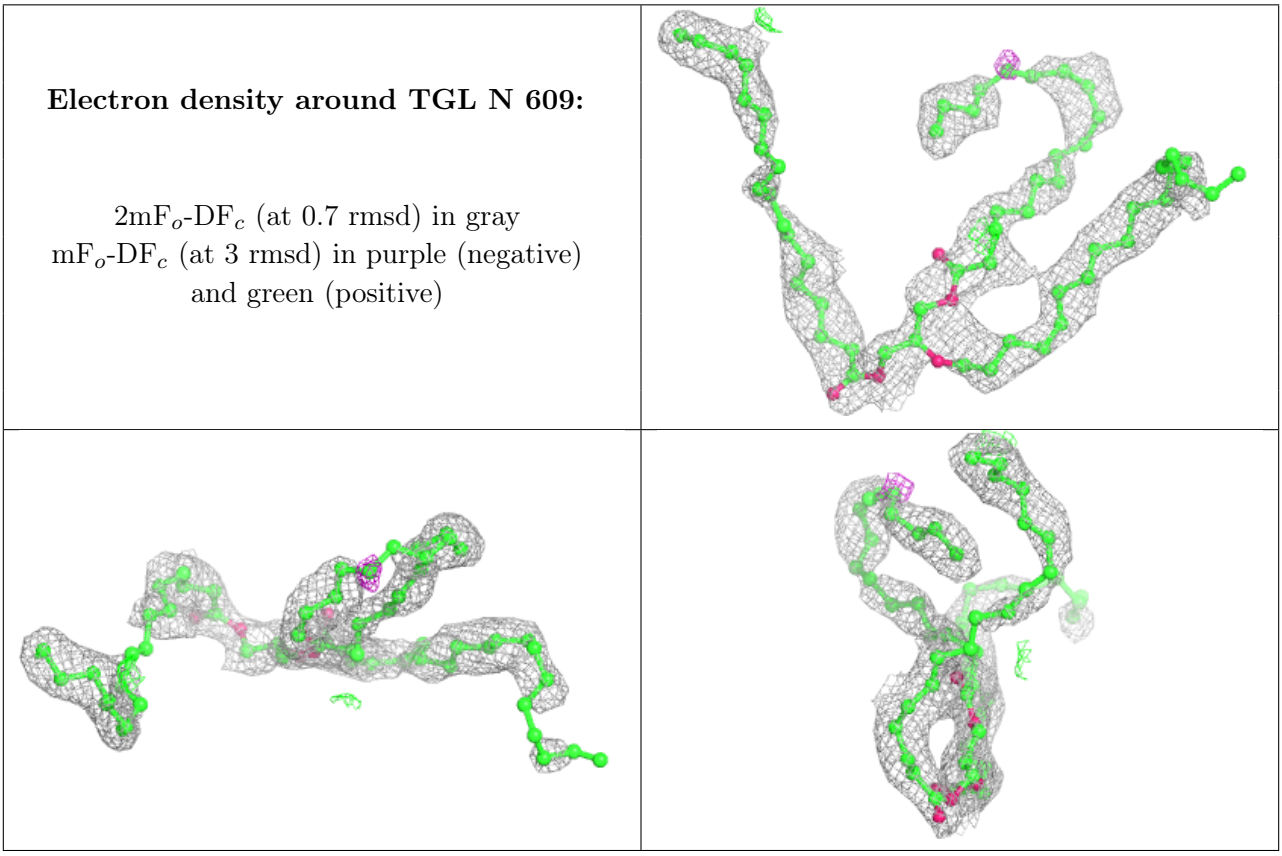
Electron density around PEK P 301:

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



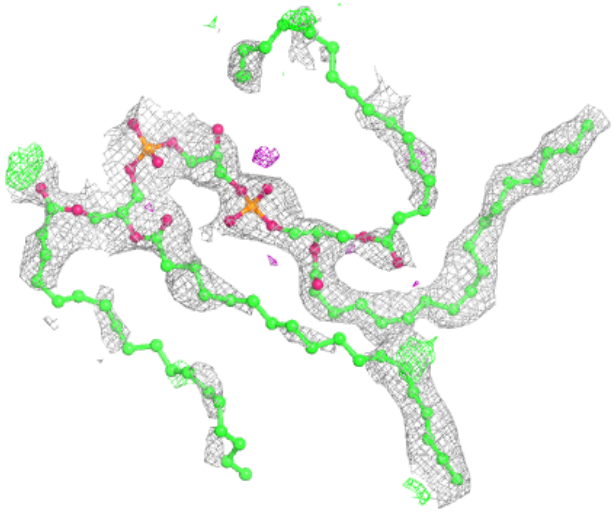
Electron density around TGL N 609:

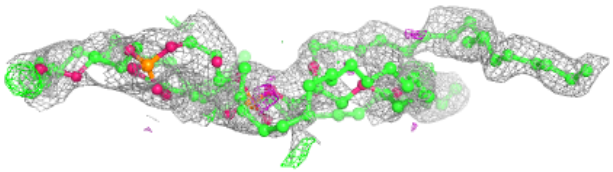
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

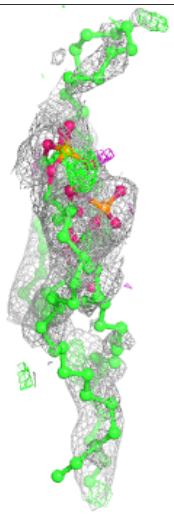


Electron density around CDL P 309:

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

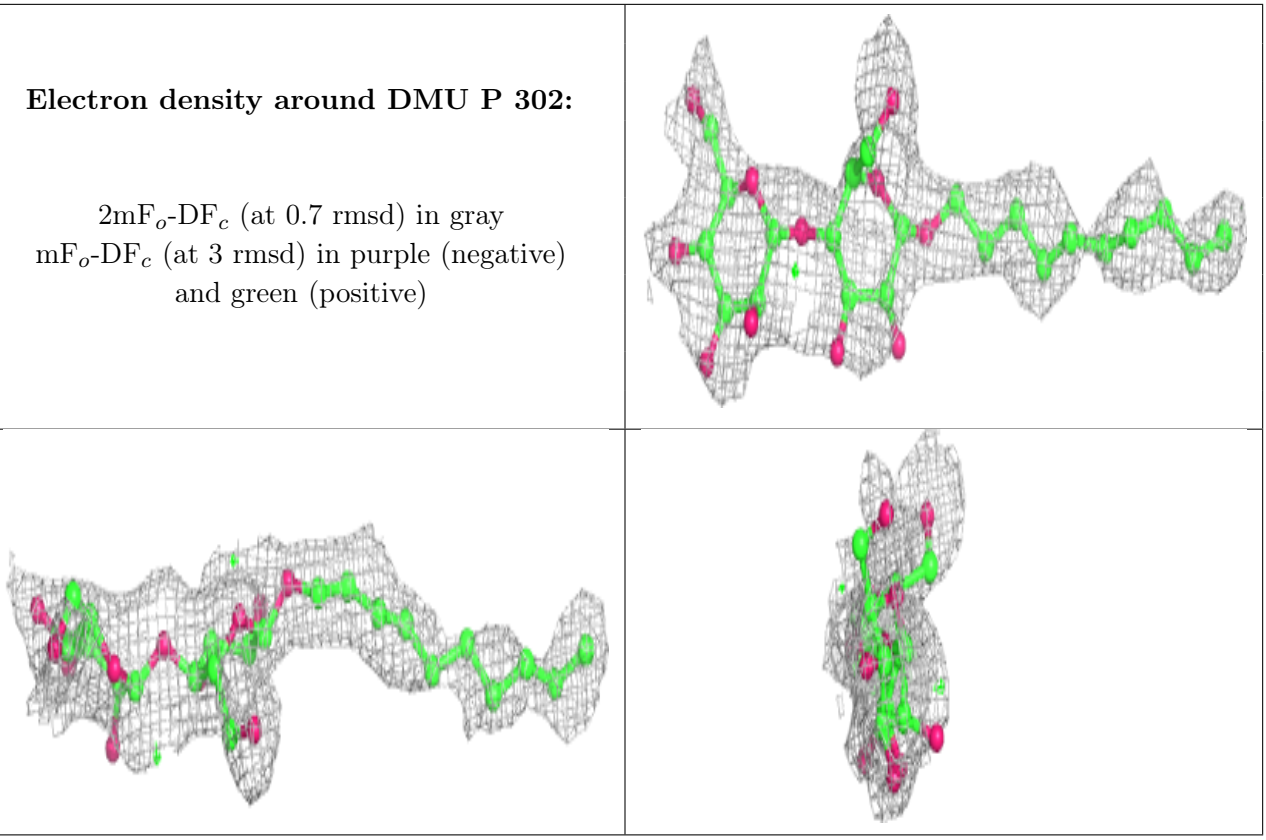






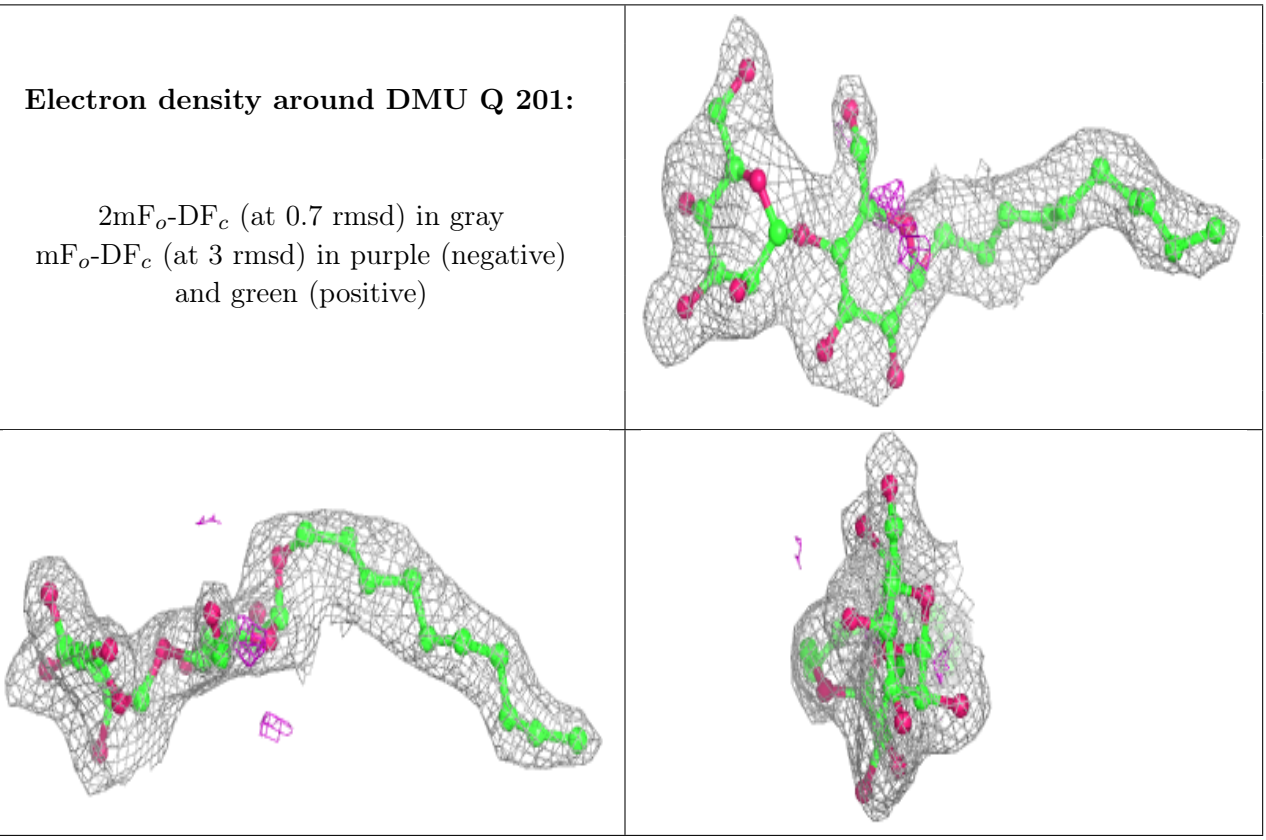
Electron density around DMU P 302:

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



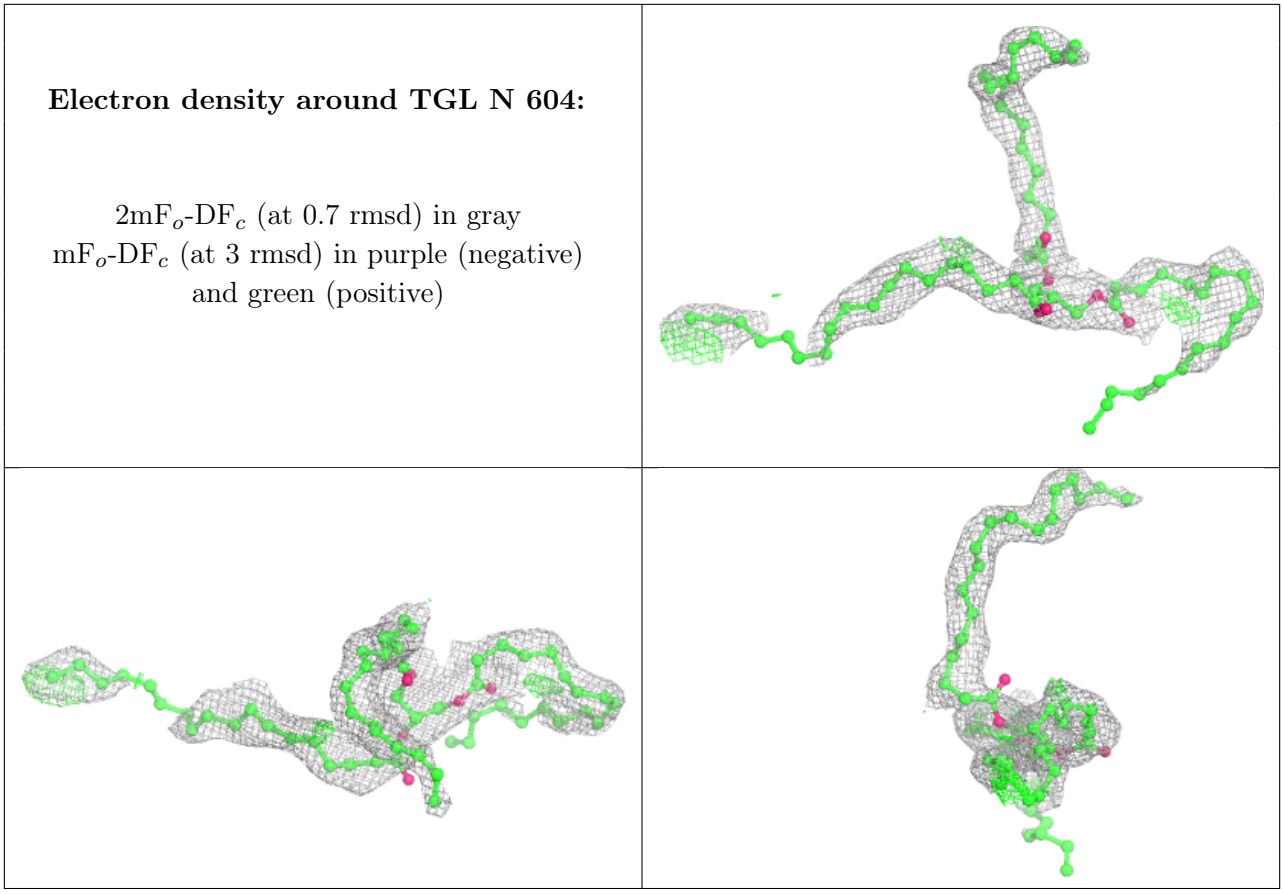
Electron density around DMU Q 201:

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



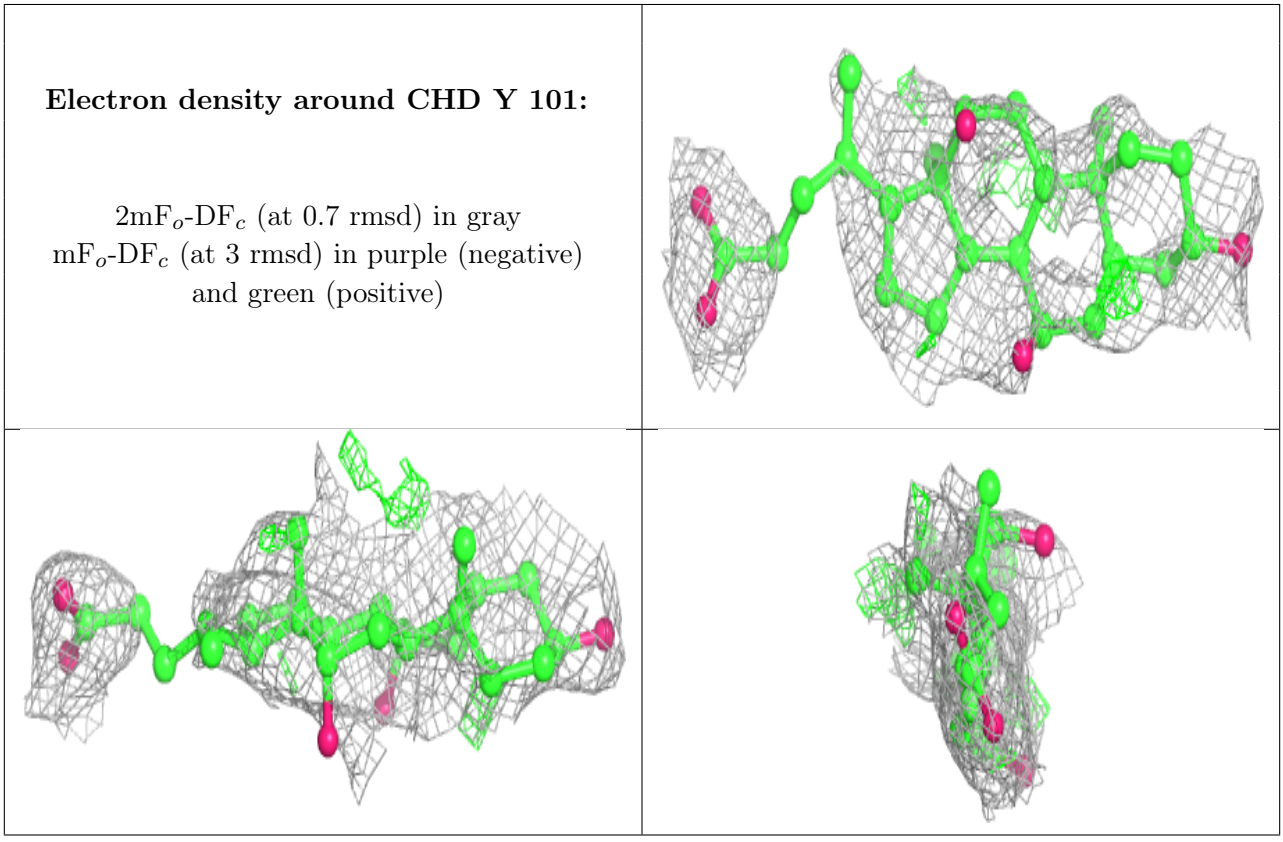
Electron density around TGL N 604:

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



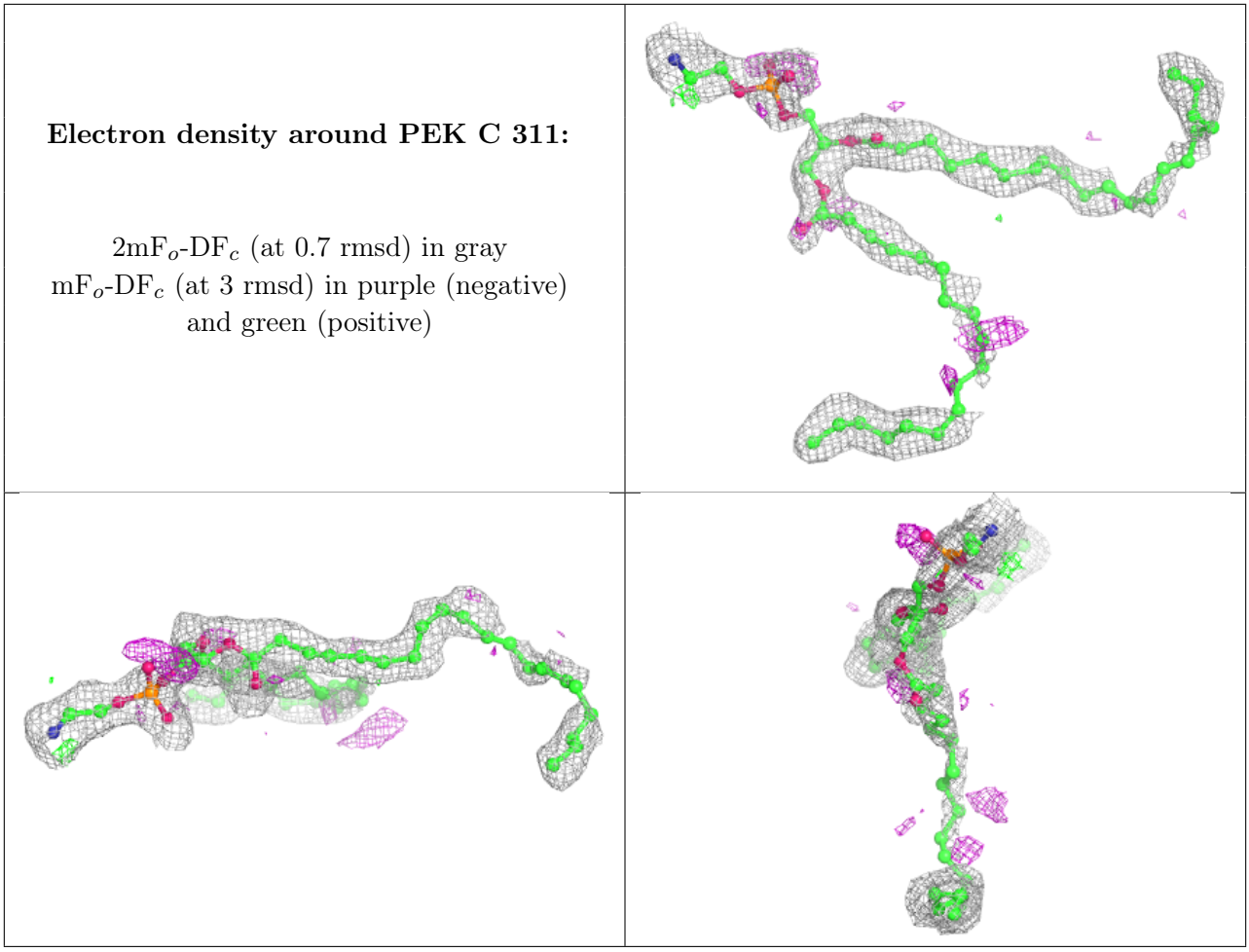
Electron density around CHD Y 101:

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



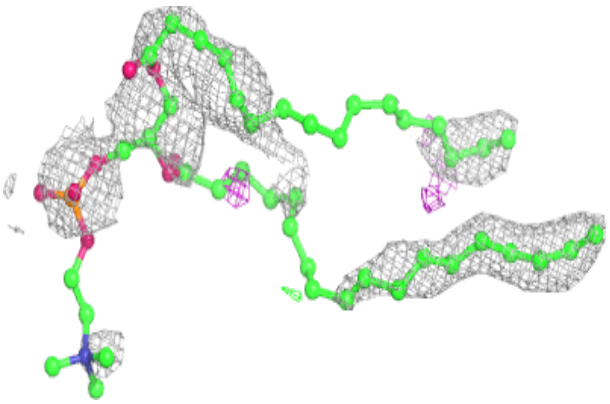
Electron density around PEK C 311:

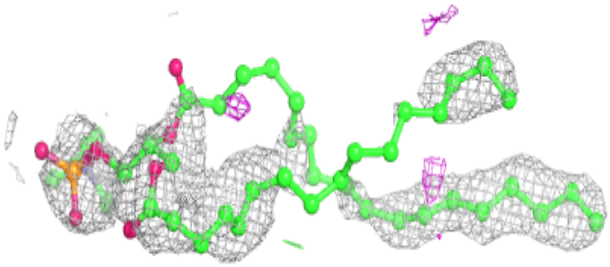
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

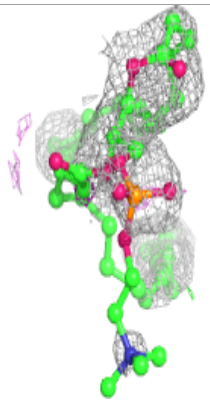


Electron density around PSC B 303:

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

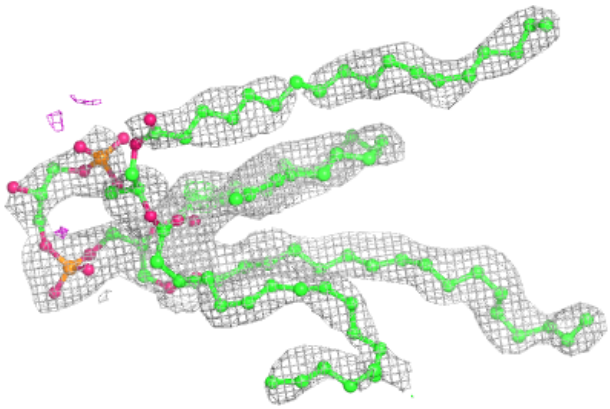


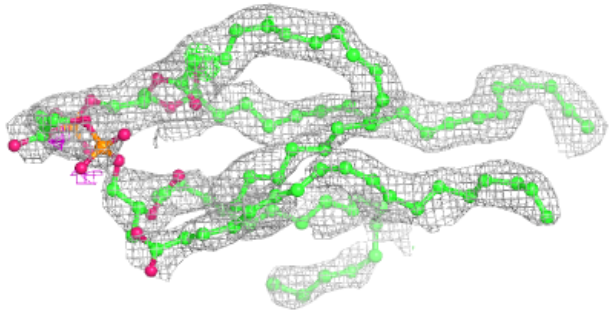


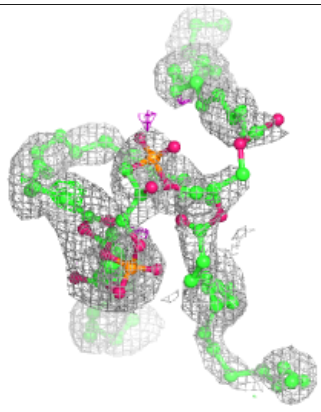


Electron density around CDL P 307:

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

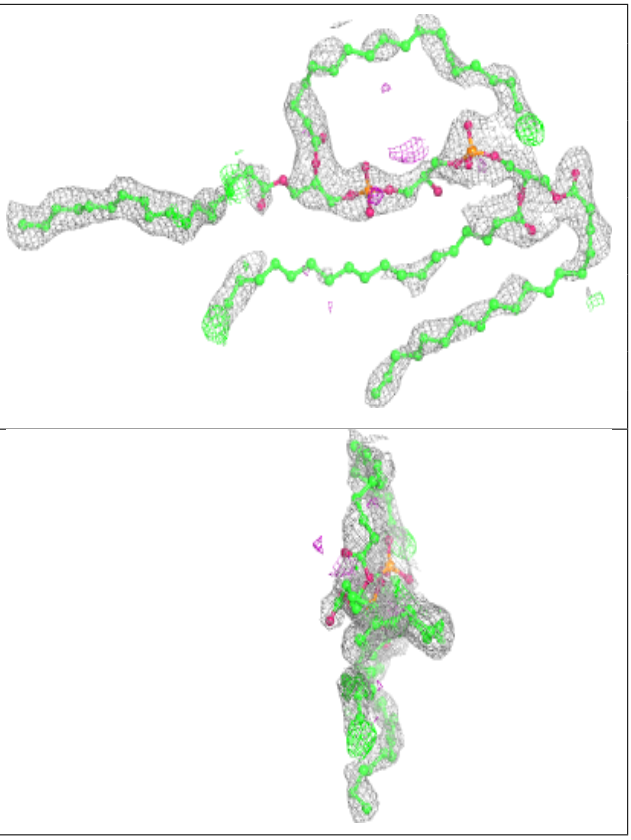






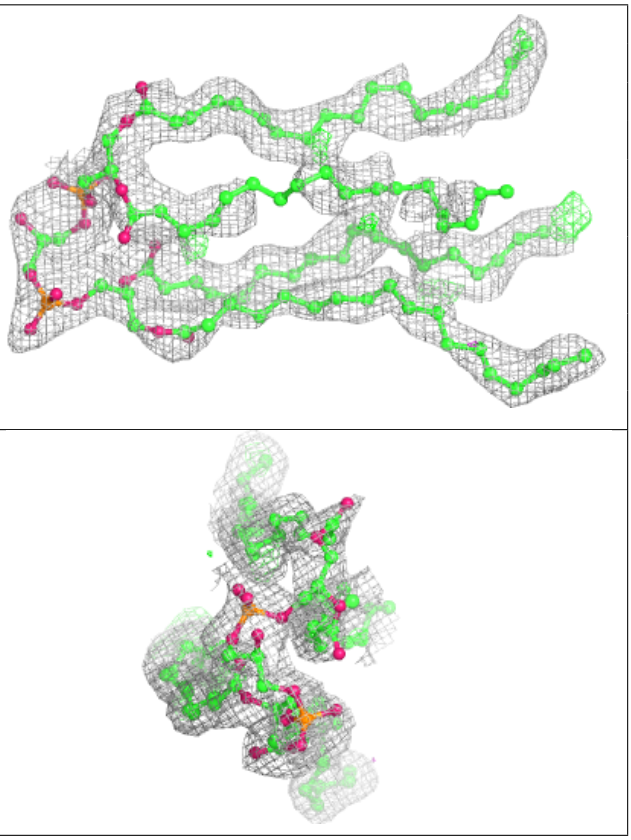
Electron density around CDL C 308:

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



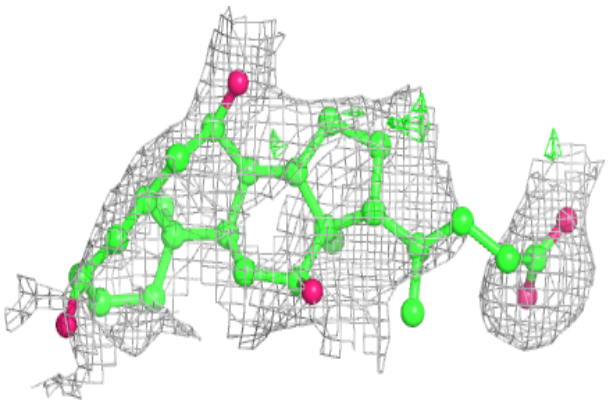
Electron density around CDL C 306:

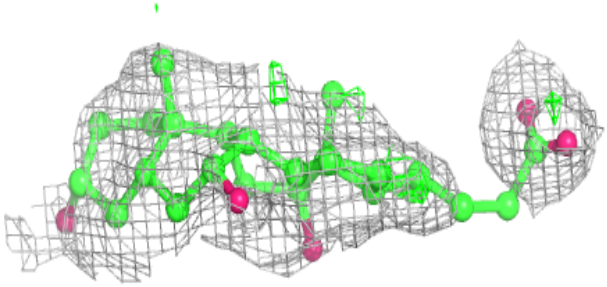
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

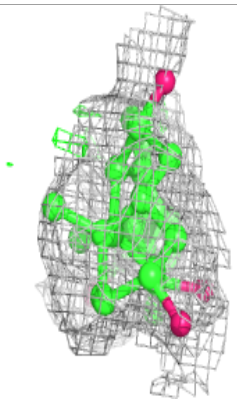


Electron density around CHD T 103:

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

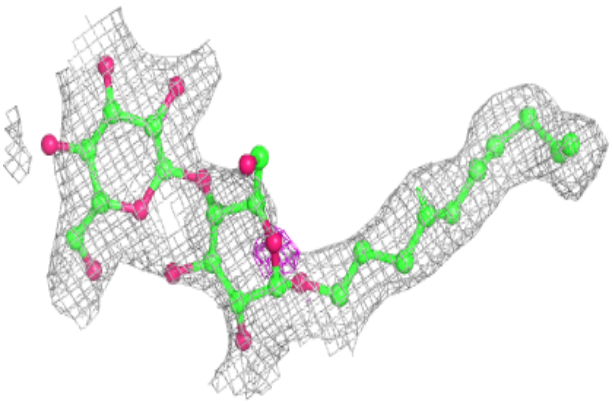


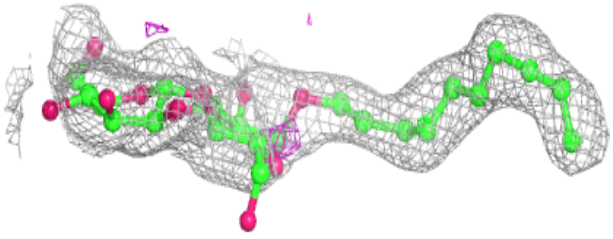


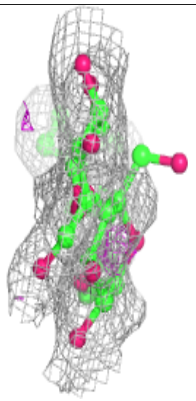


Electron density around DMU C 309:

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

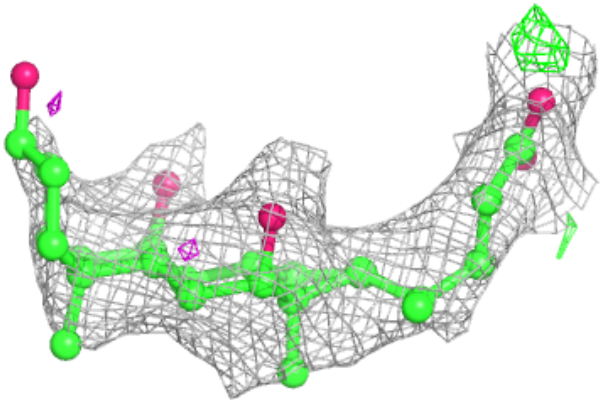


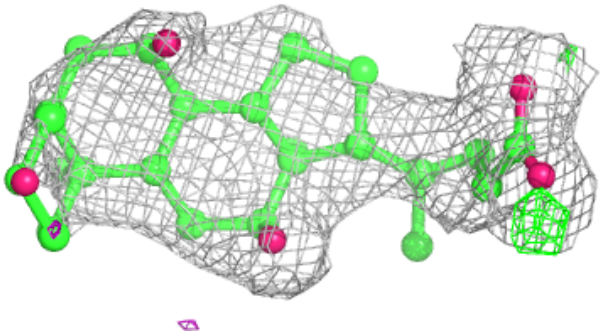


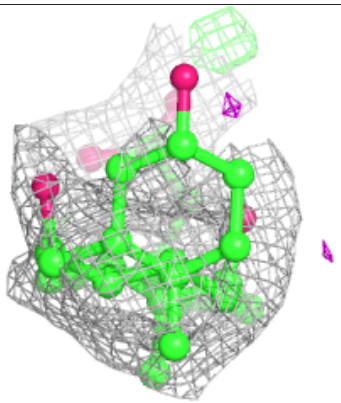


Electron density around CHD W 101:

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

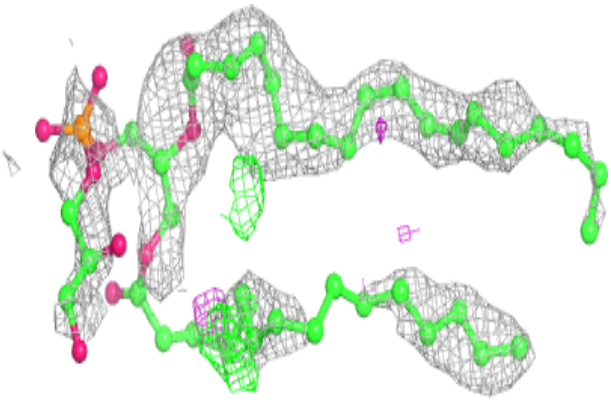


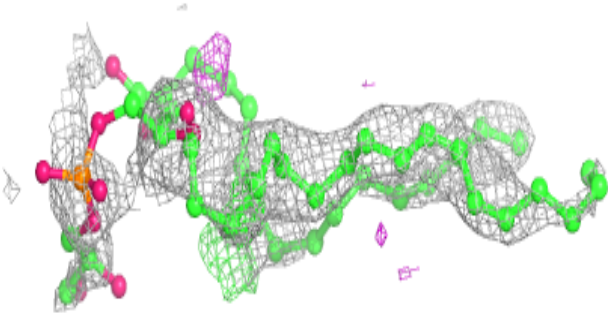


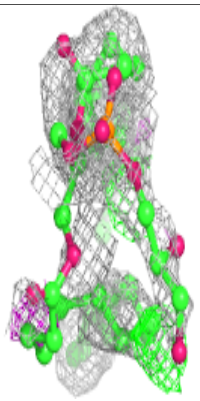


Electron density around PGV N 610:

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

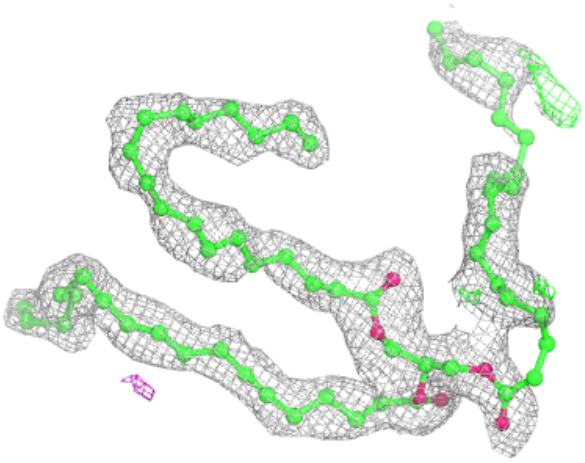


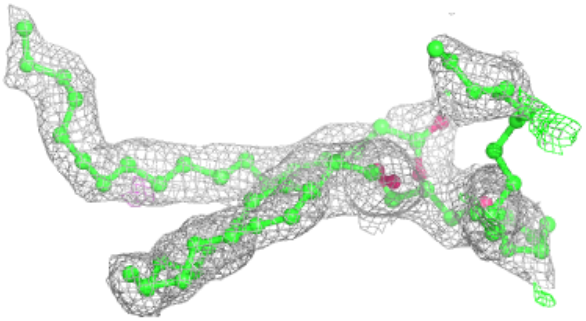


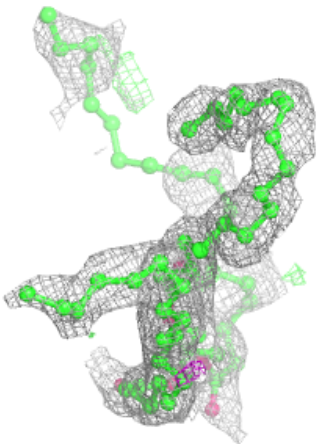


Electron density around TGL D 201:

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

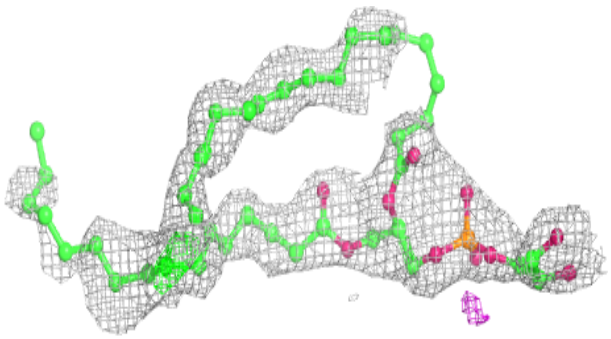


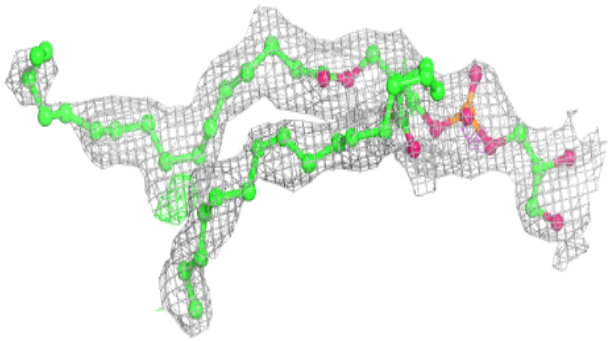


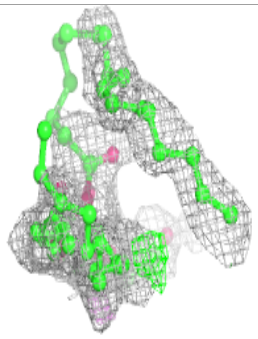


Electron density around PGV H 101:

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

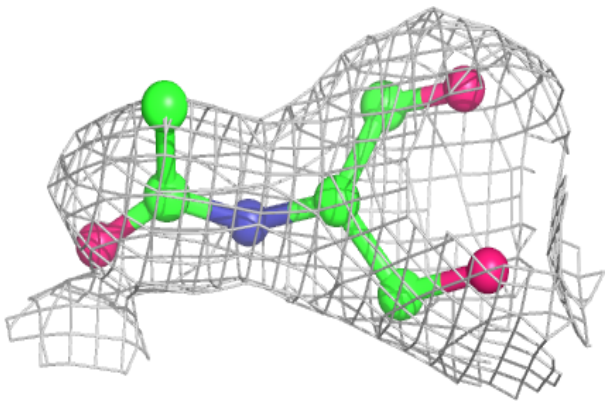


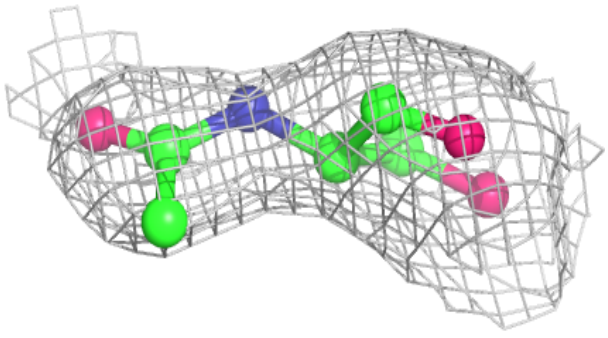


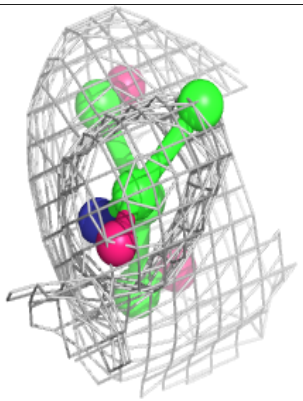


Electron density around SAC V 102:

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

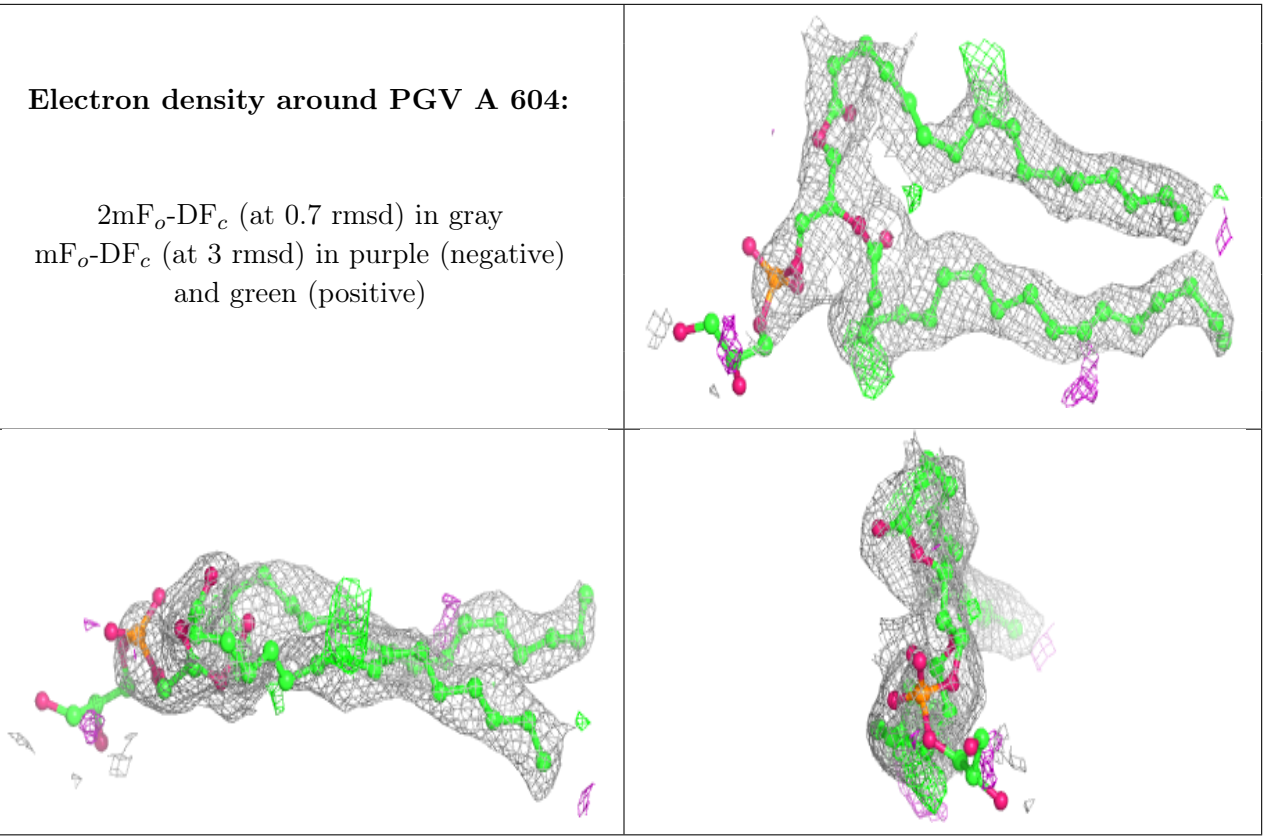






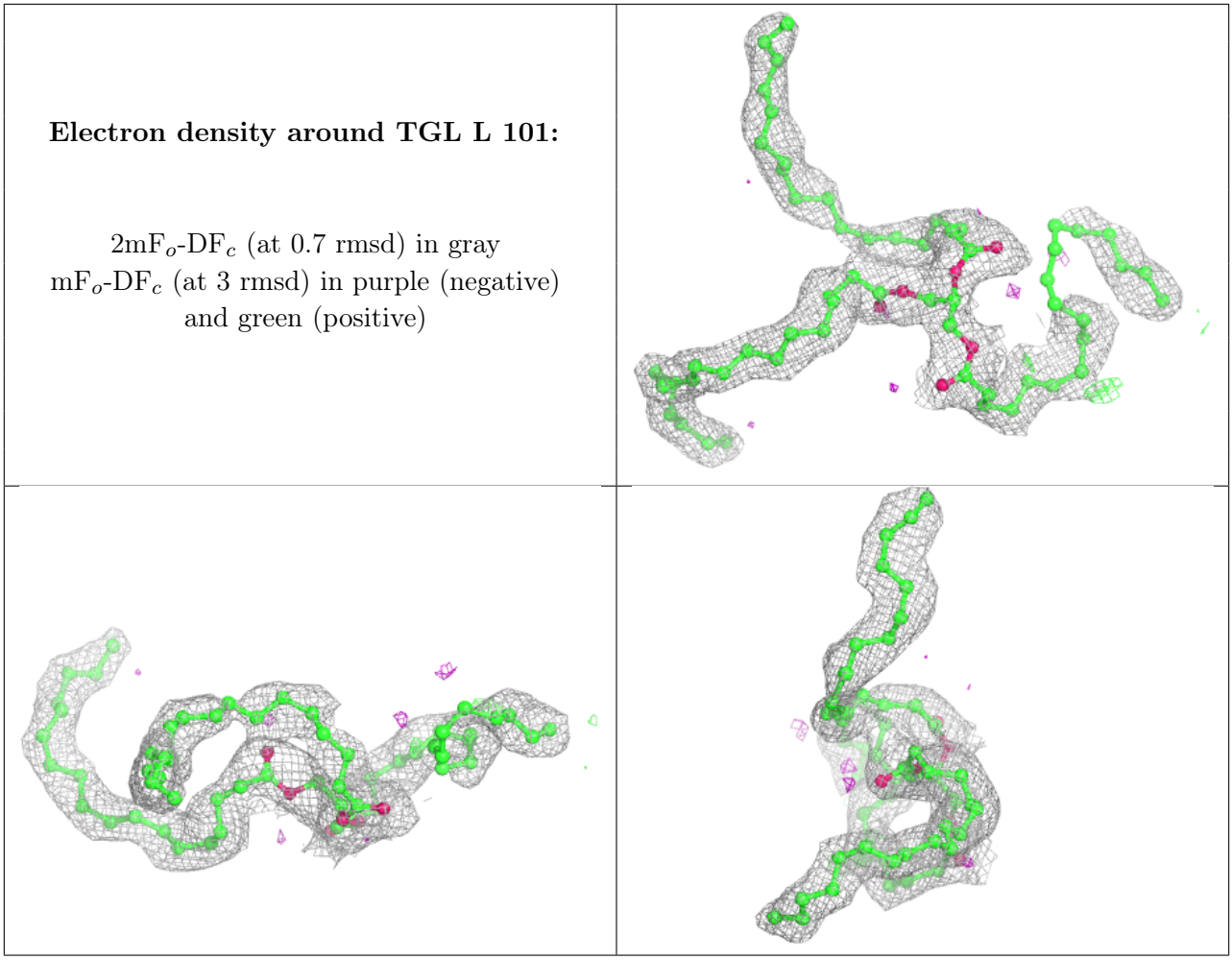
Electron density around PGV A 604:

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



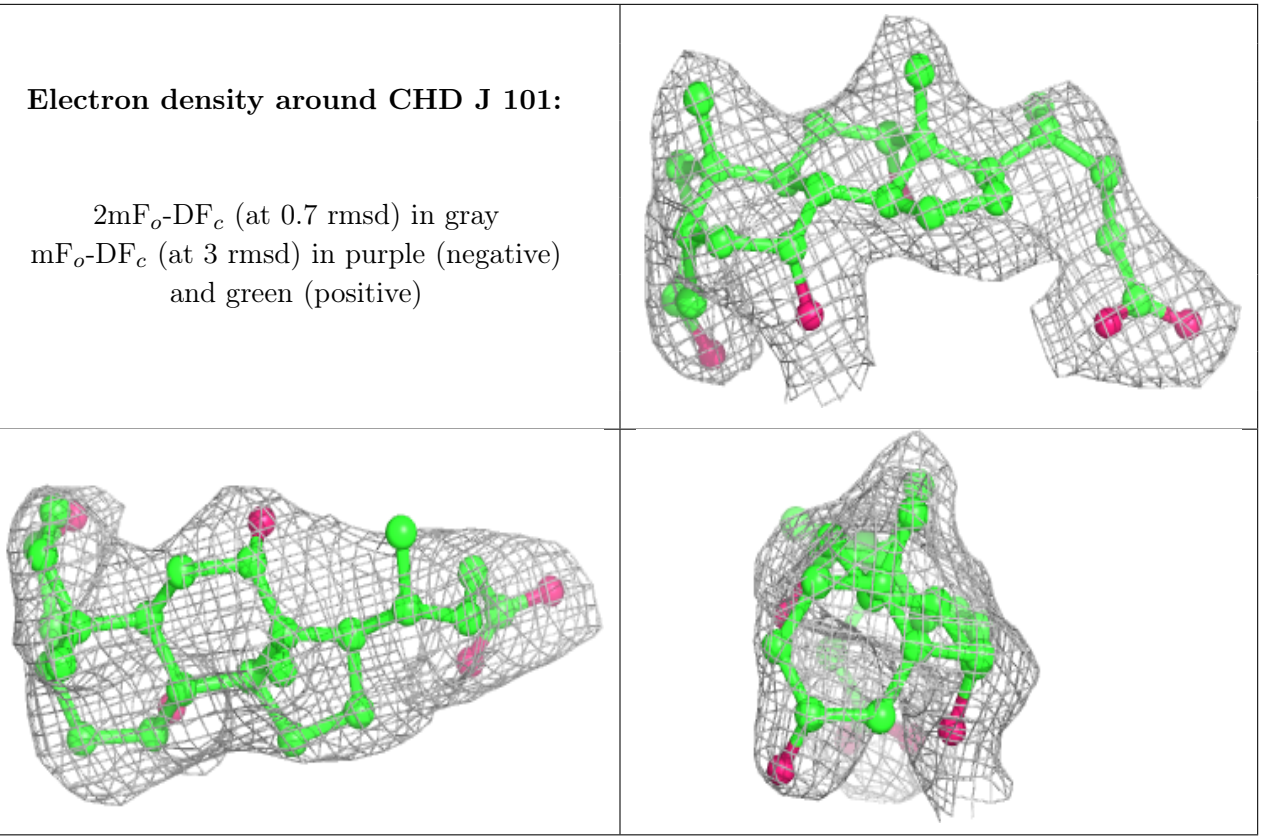
Electron density around TGL L 101:

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



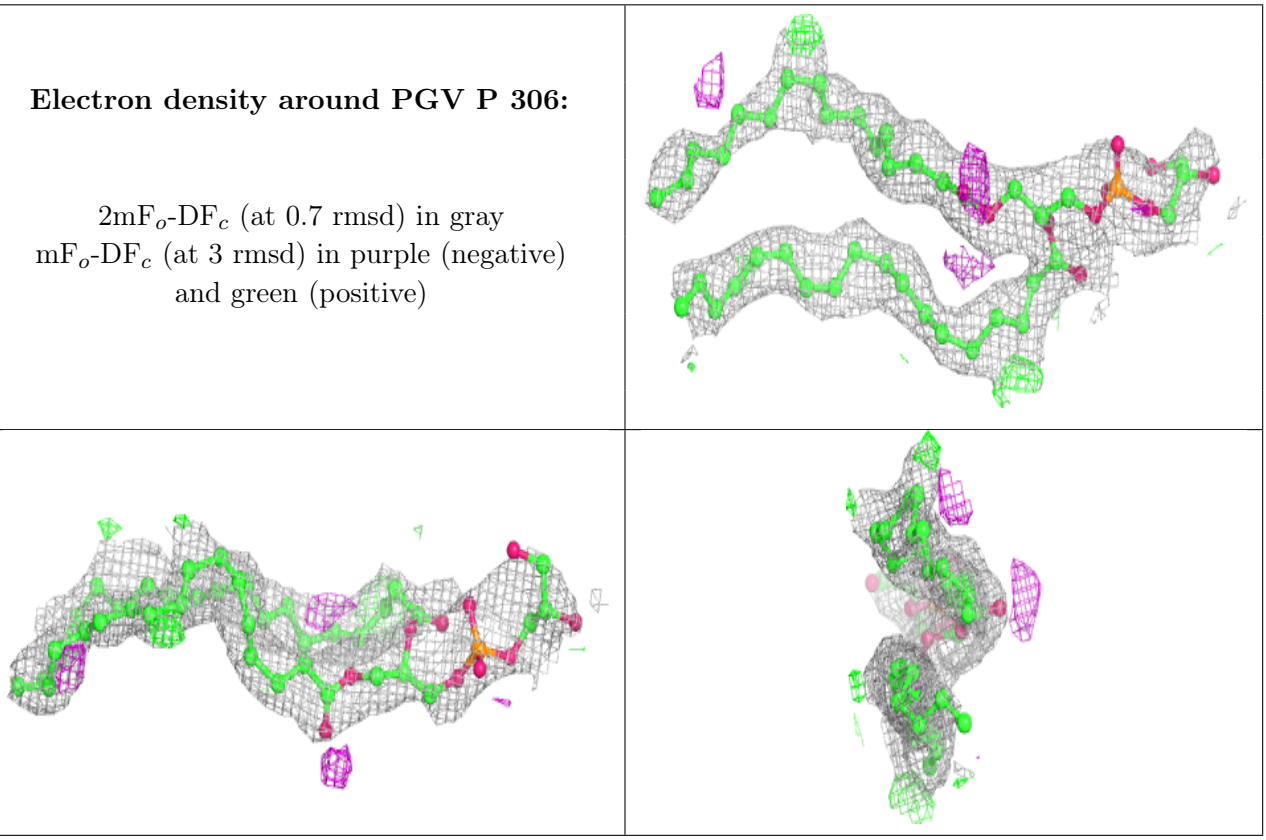
Electron density around CHD J 101:

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



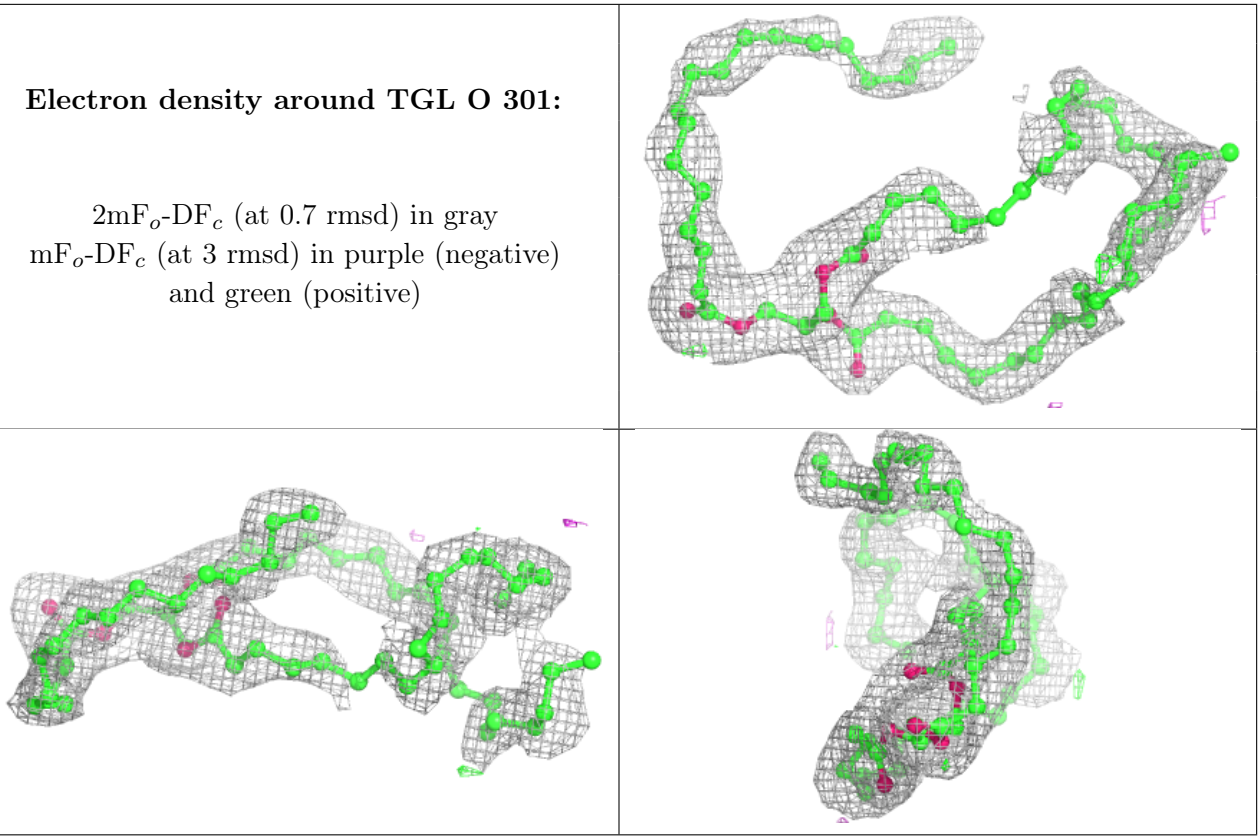
Electron density around PGV P 306:

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



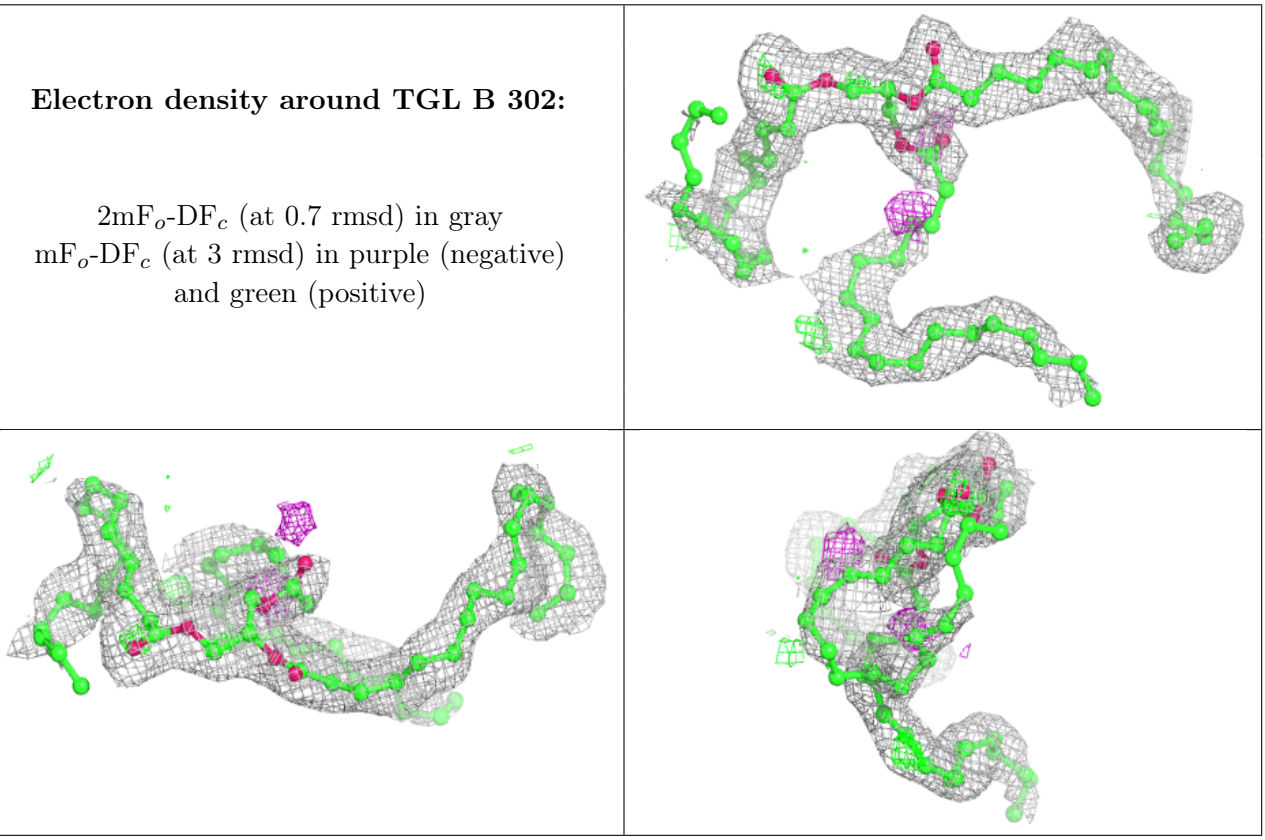
Electron density around TGL O 301:

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



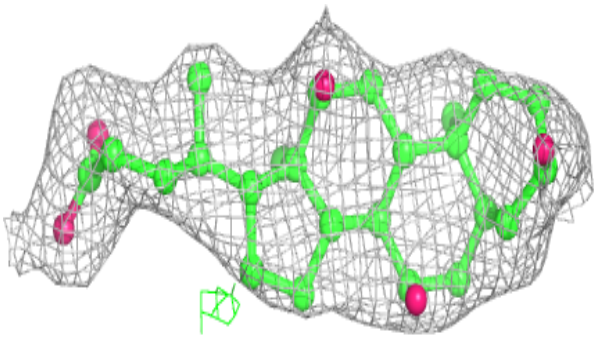
Electron density around TGL B 302:

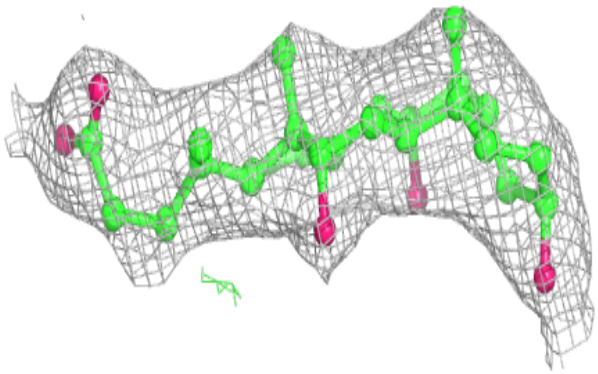
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

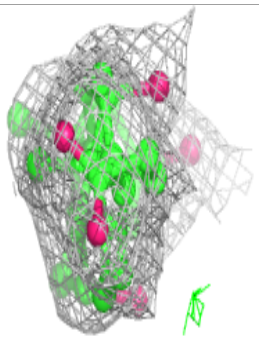


Electron density around CHD P 308:

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

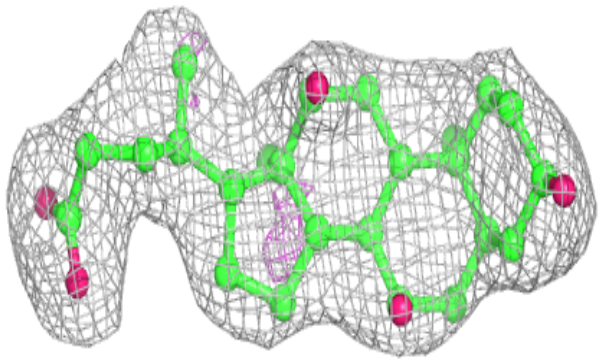


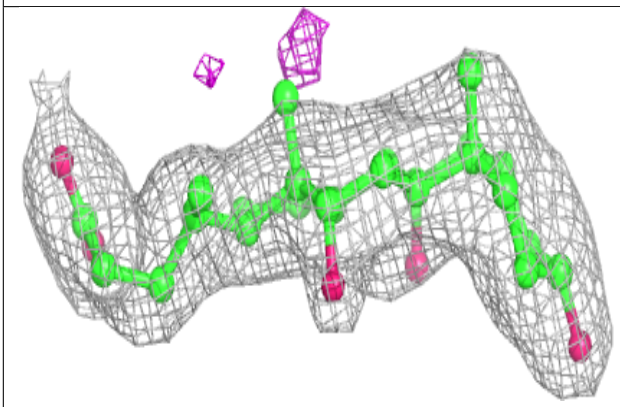


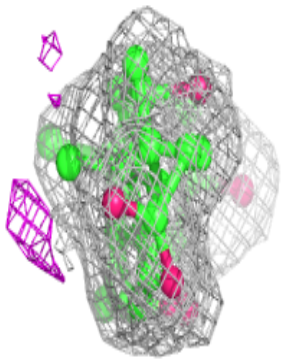


Electron density around CHD C 307:

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

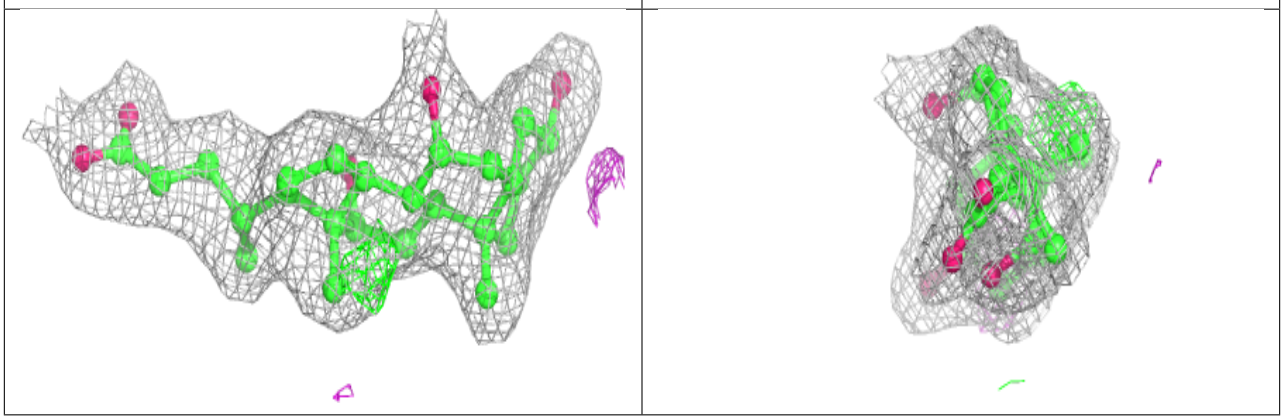






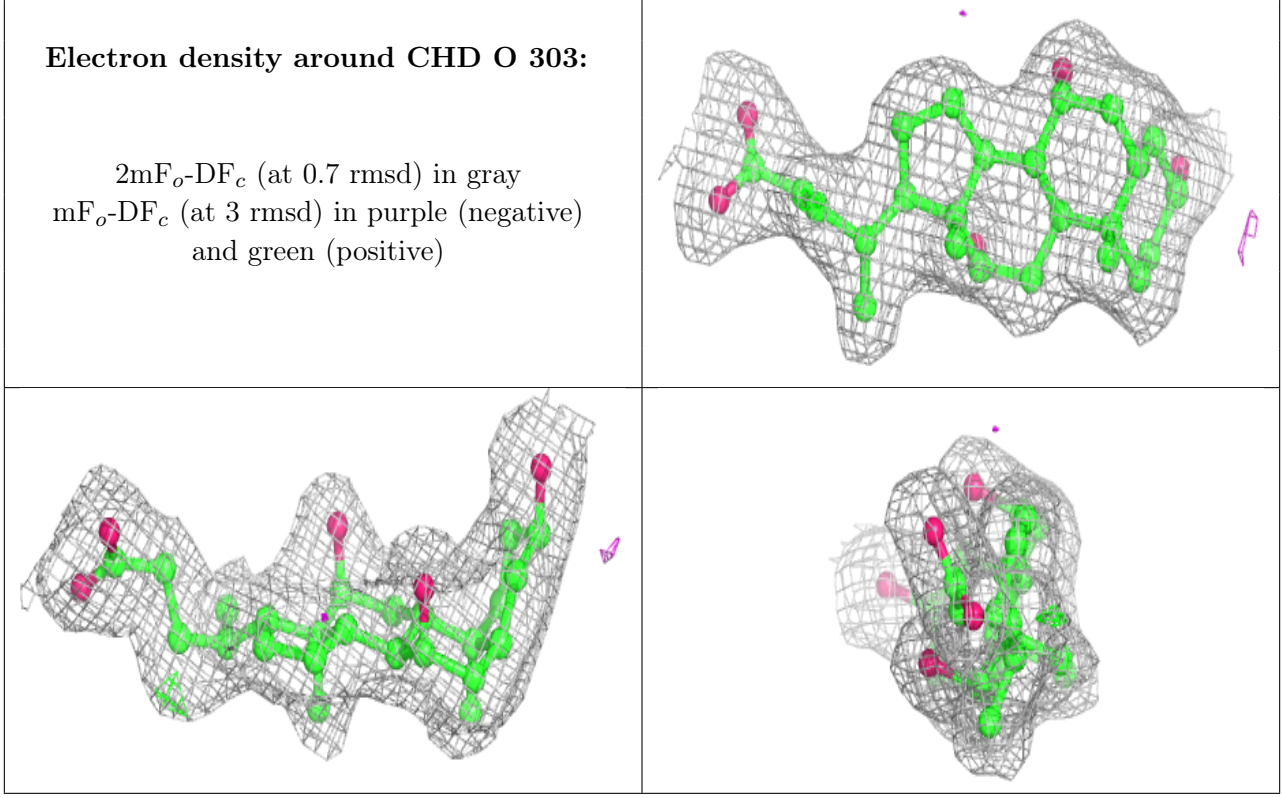
Electron density around CHD P 303:

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



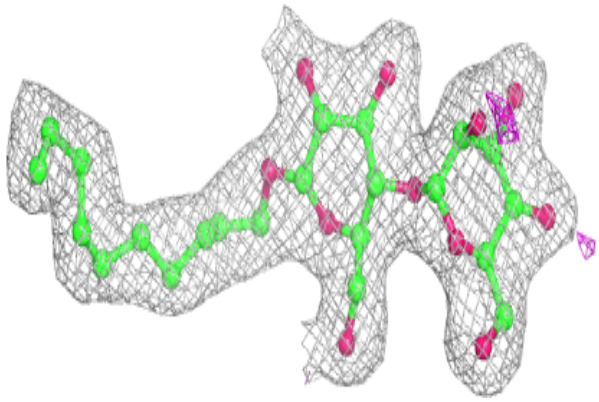
Electron density around CHD O 303:

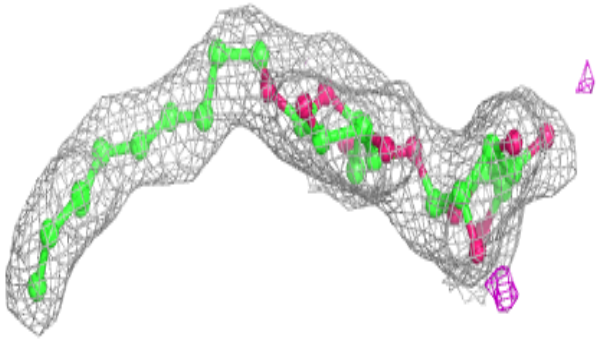
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

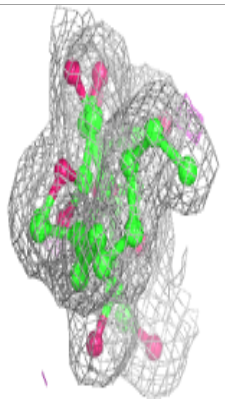


Electron density around DMU M 101:

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

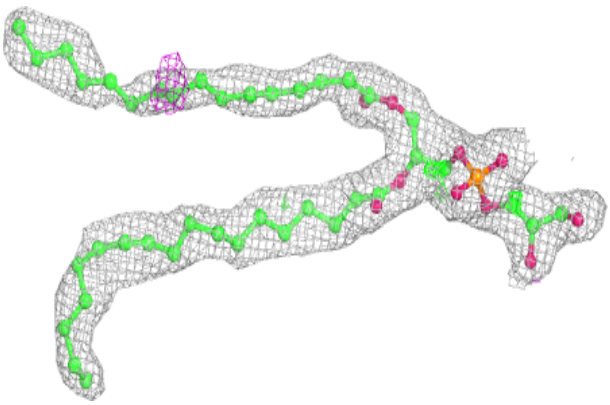


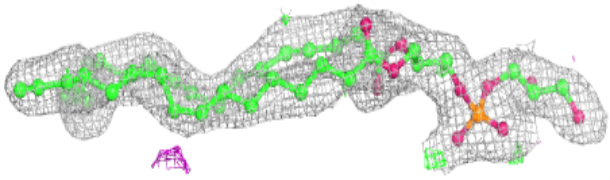


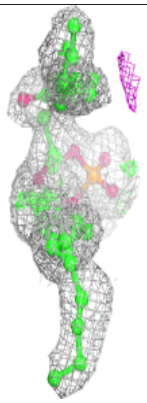


Electron density around PGV P 305:

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

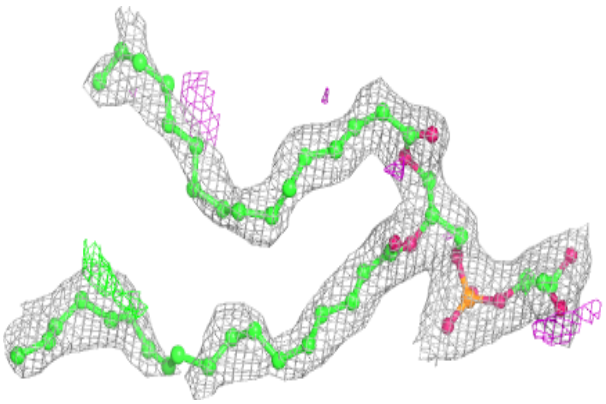


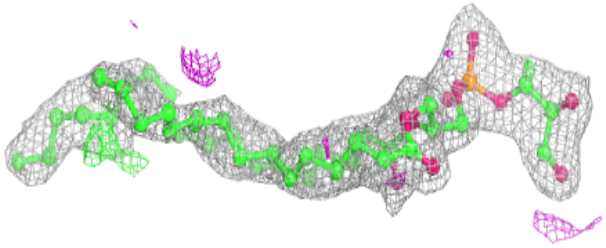


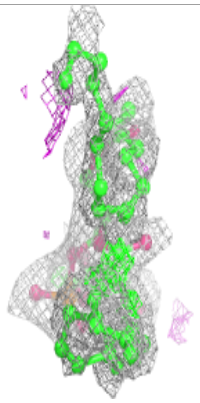


Electron density around PGV N 605:

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

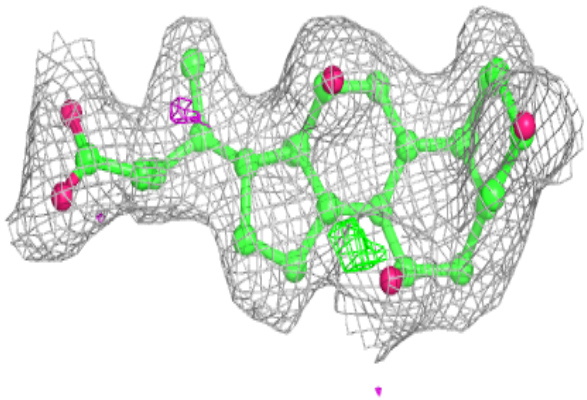


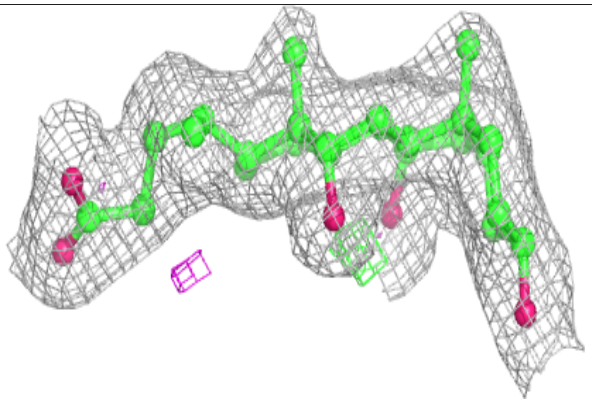


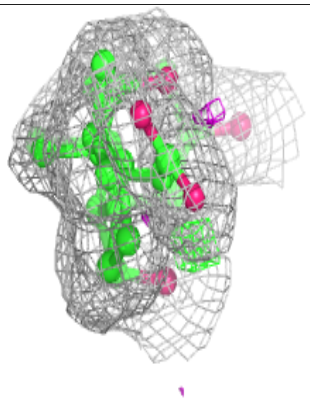


Electron density around CHD T 101:

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

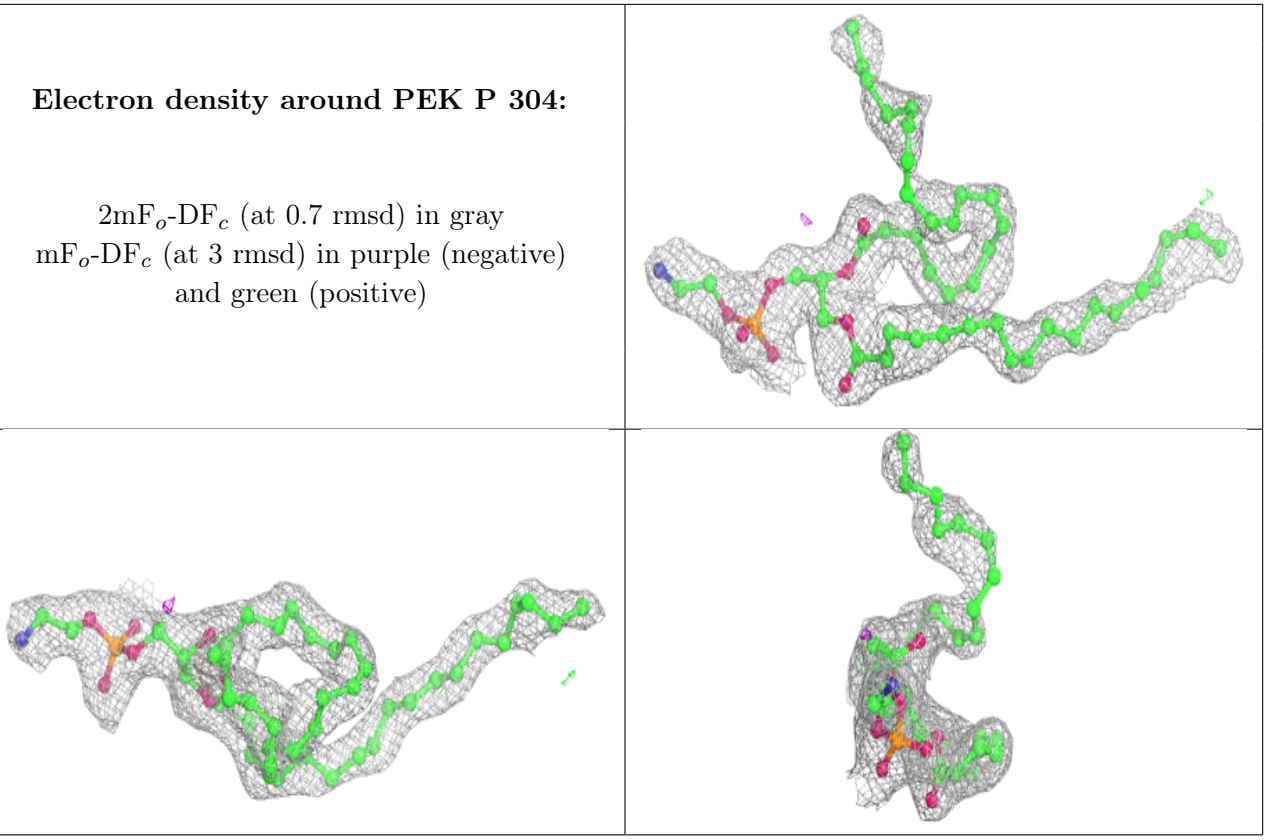






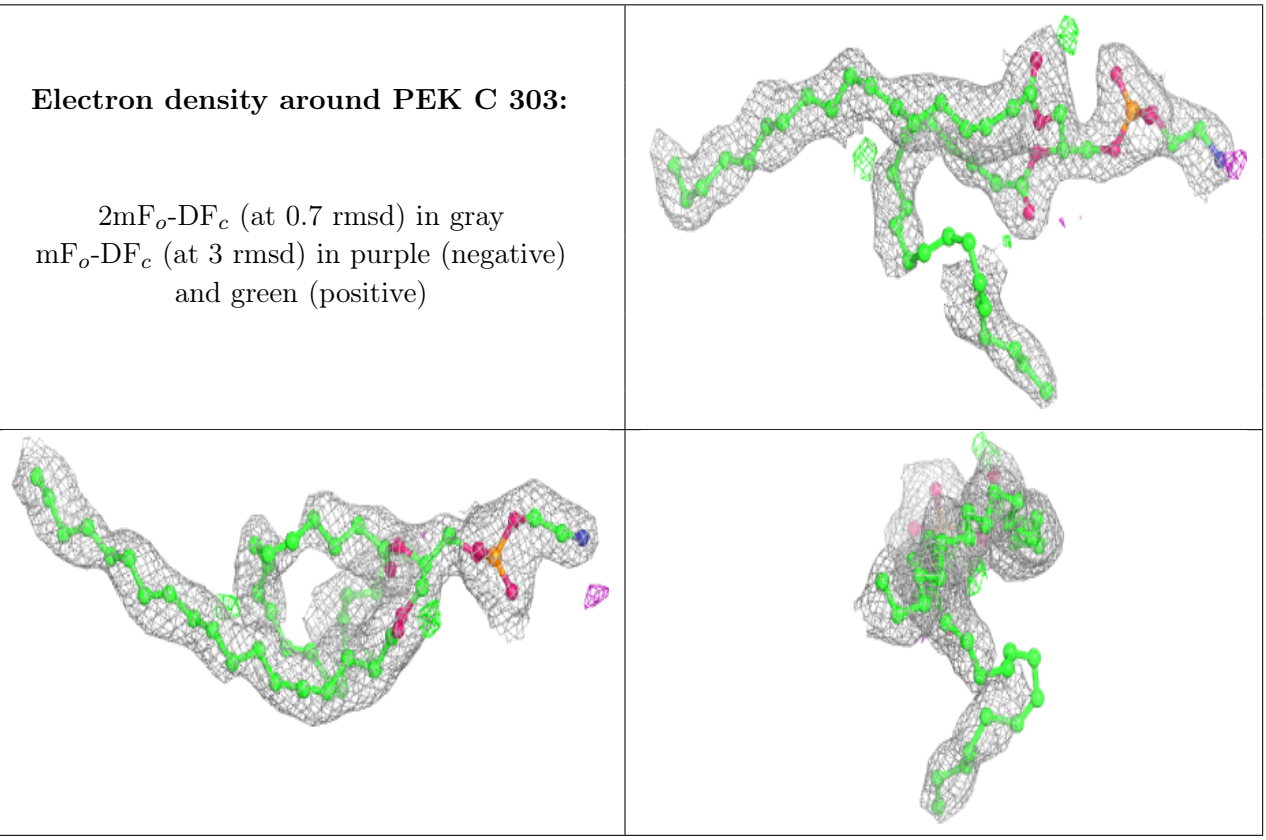
Electron density around PEK P 304:

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



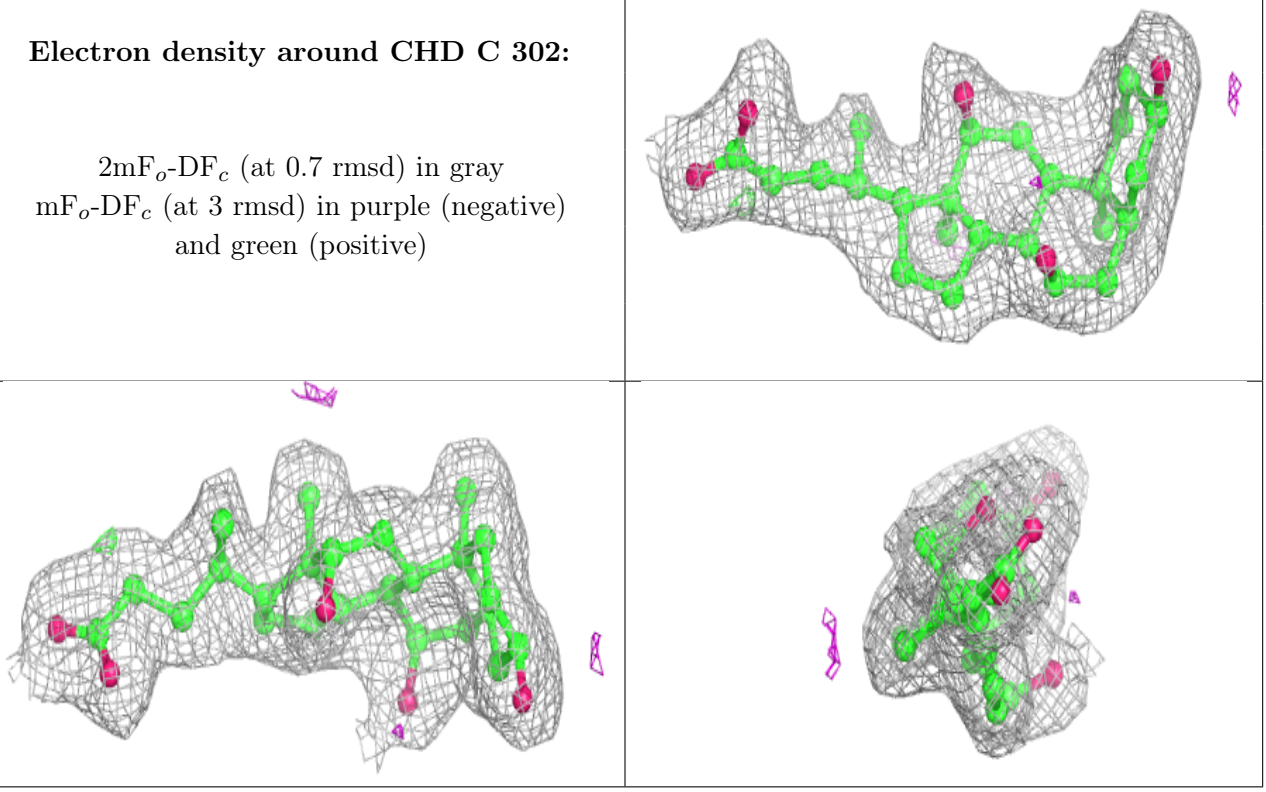
Electron density around PEK C 303:

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



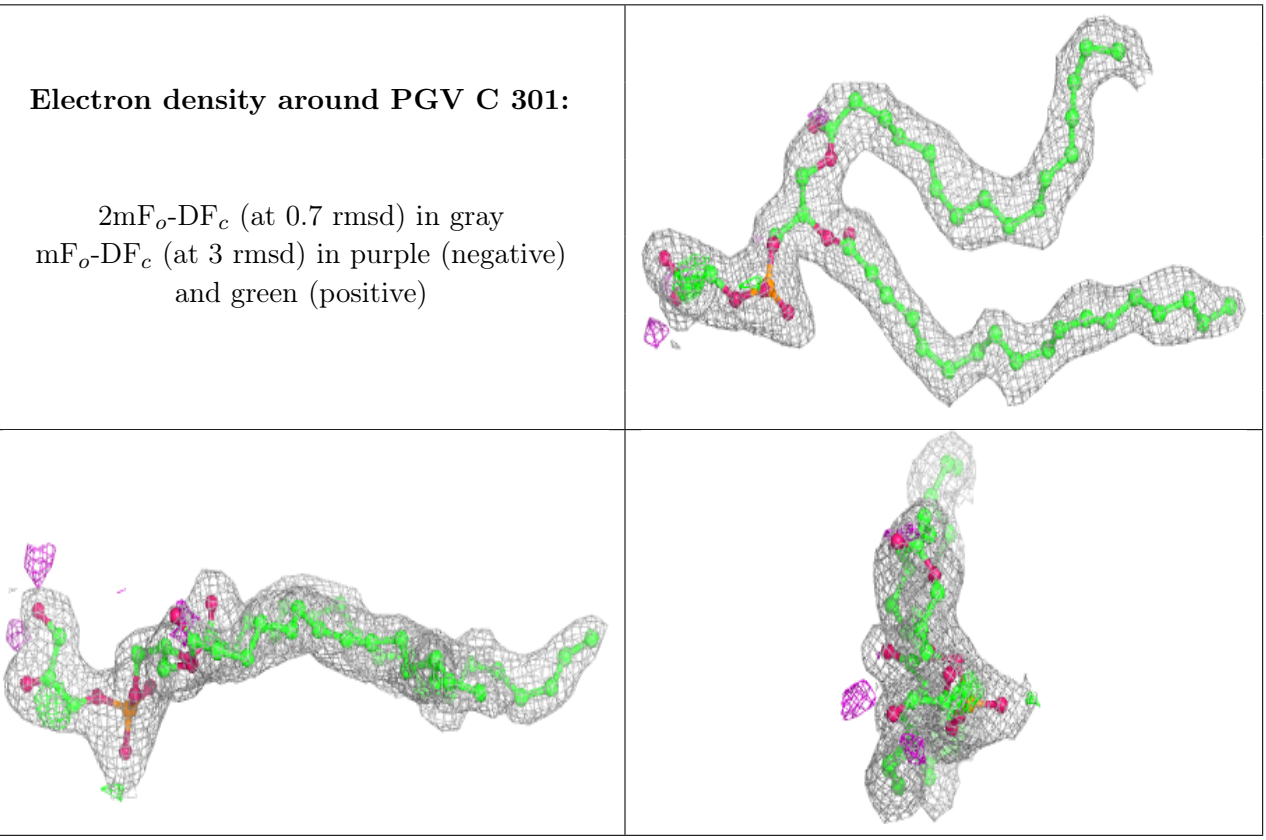
Electron density around CHD C 302:

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



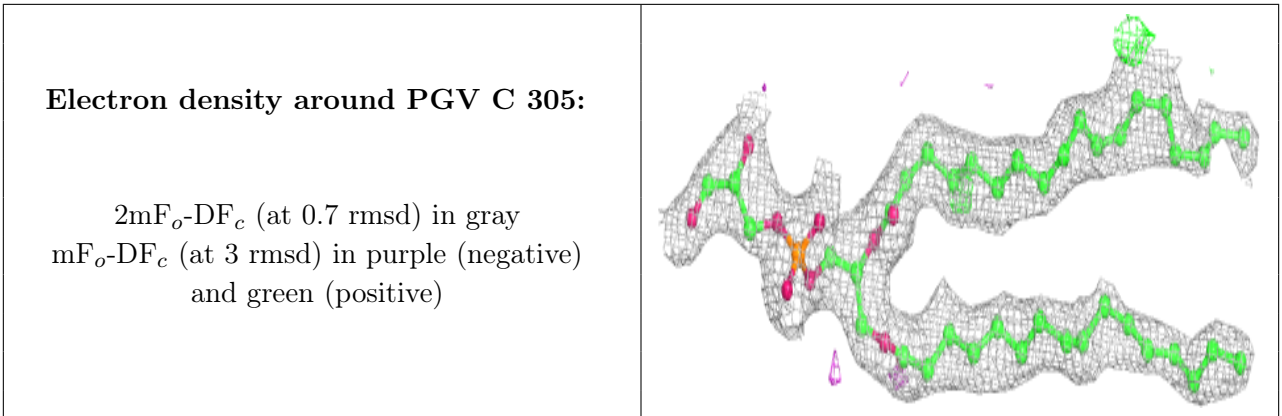
Electron density around PGV C 301:

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



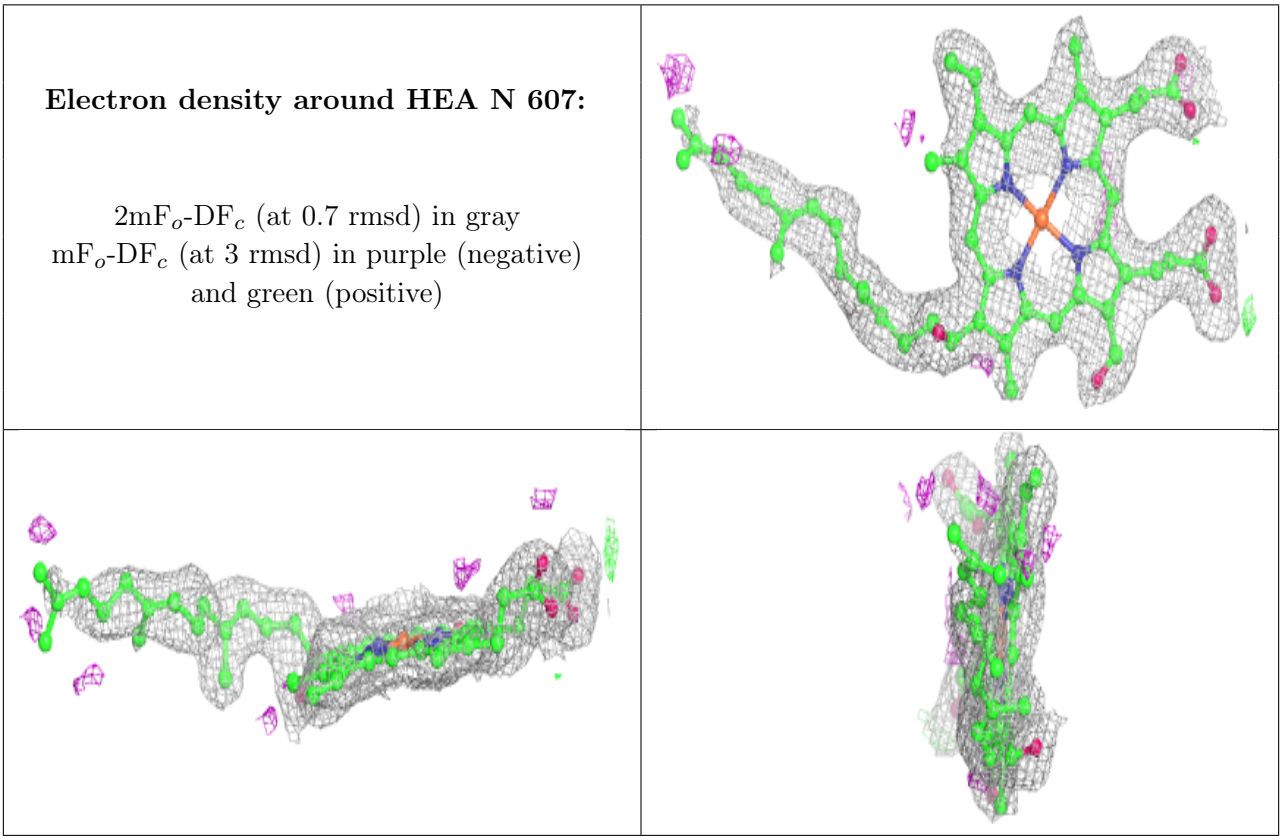
Electron density around PGV C 305:

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



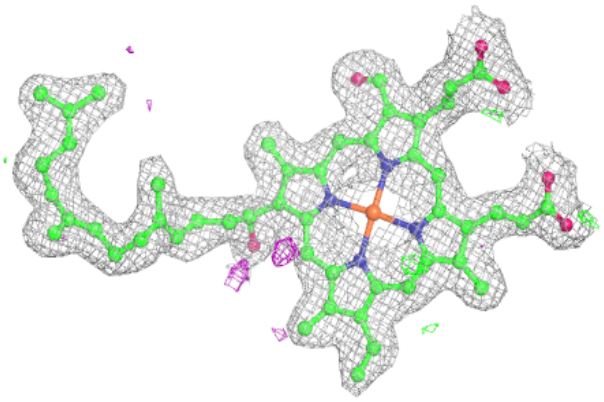
Electron density around HEA N 607:

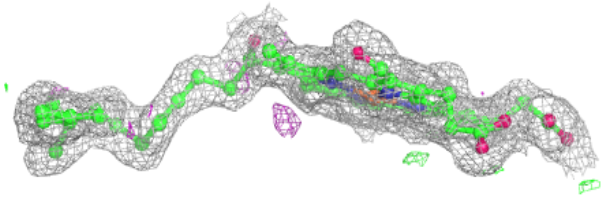
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

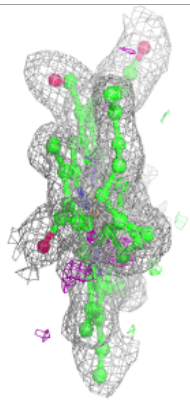


Electron density around HEA A 605:

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

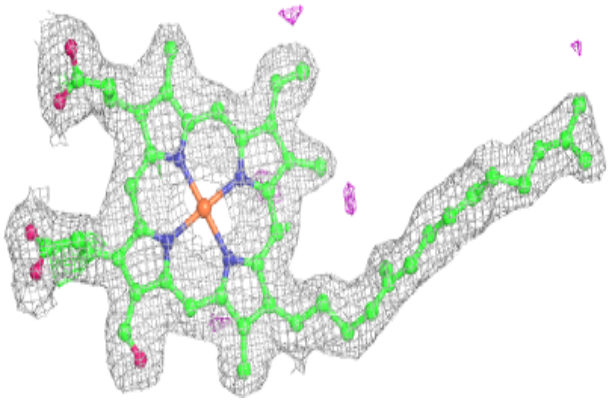


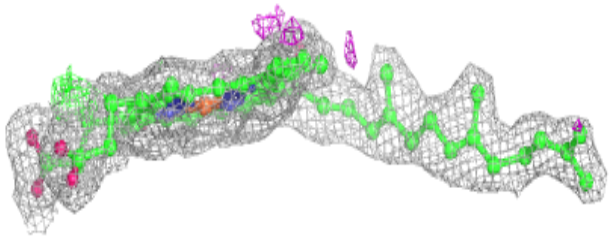


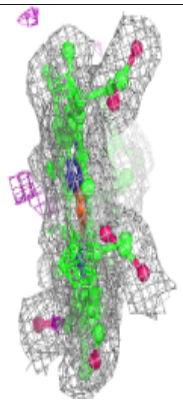


Electron density around HEA A 606:

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

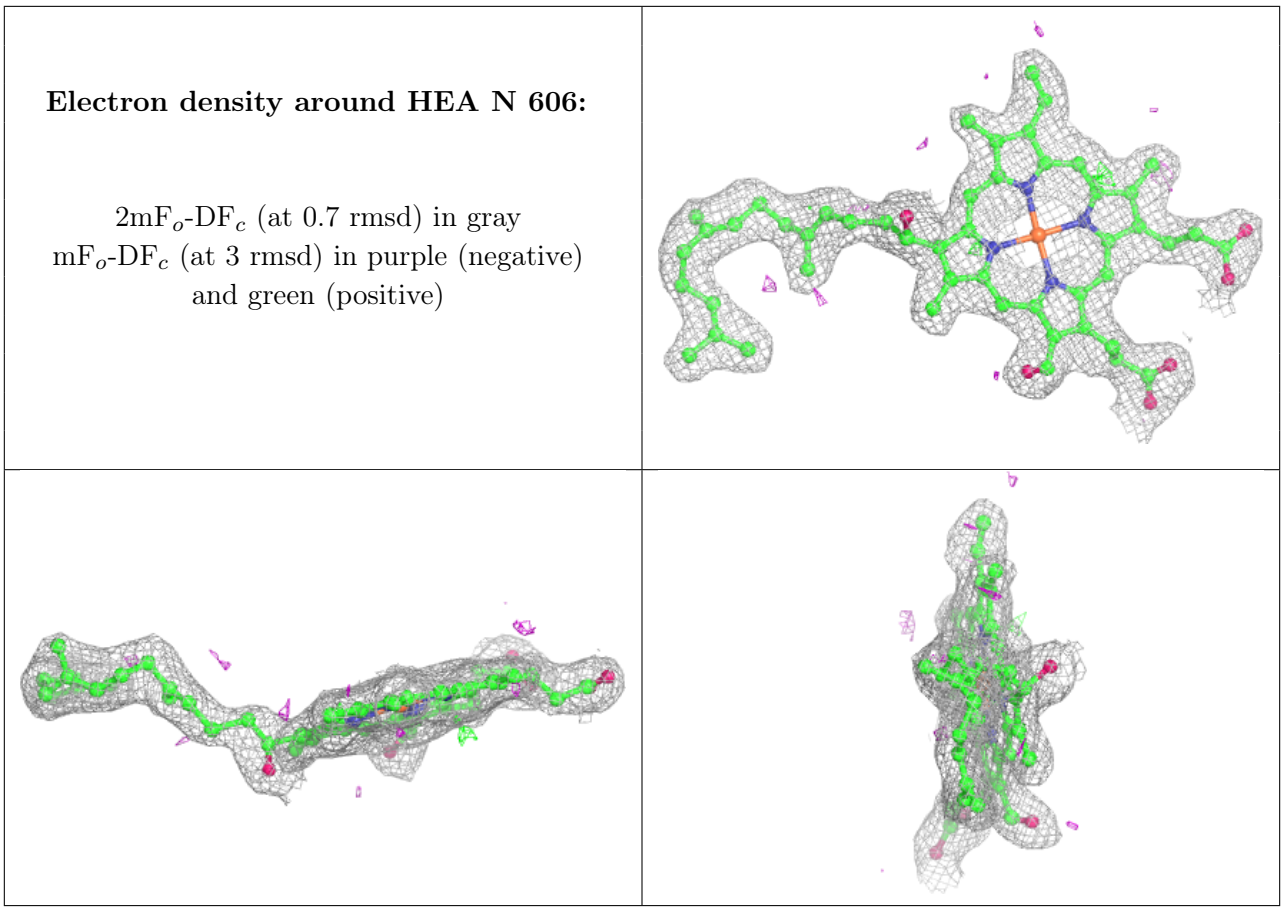






Electron density around HEA N 606:

$2mF_o$-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

There are no such residues in this entry.