Full wwPDB EM Validation Report ⓘ

Jun 22, 2023 – 11:11 AM JST

PDB ID	:	7W0H
EMDB ID	:	EMD-32242
Title	:	Deactive state CI from Q10 dataset, Subclass 2
Authors	:	Gu, J.K.; Yang, M.J.
Deposited on	:	2021-11-18
Resolution	:	3.40 Å(reported)

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

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

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

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

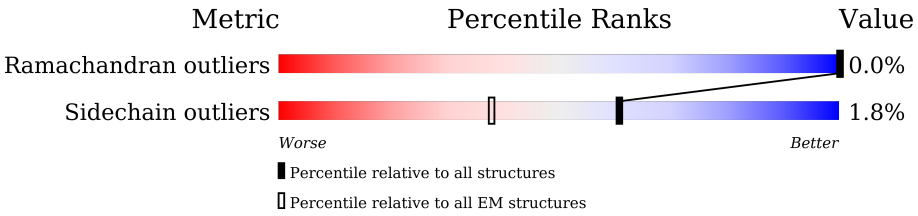
EMDB validation analysis	:	0.0.1.dev50
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.33

1 Overall quality at a glance

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

The reported resolution of this entry is 3.40 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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

Mol	Chain	Length	Quality of chain
1	A	431	99%
2	B	176	98%
3	C	156	96%
4	E	115	99%
5	F	86	6% 98%
6	G	88	18% 95% 5%
6	X	88	98%
7	H	112	100%
8	I	112	82% 13%

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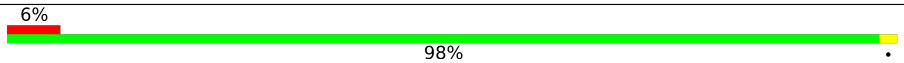
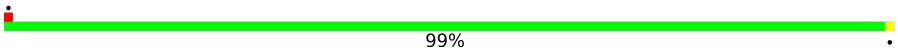
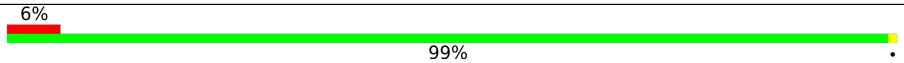
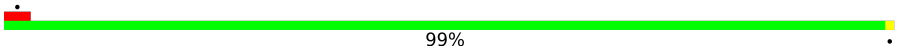
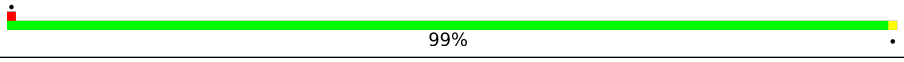
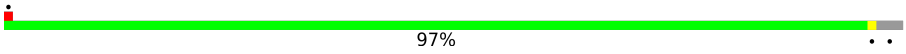
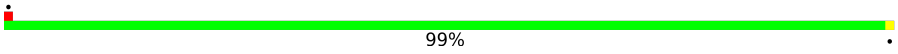
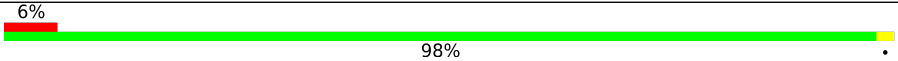
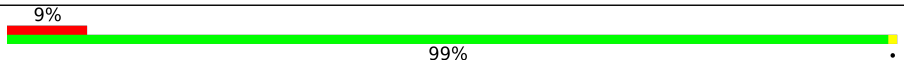
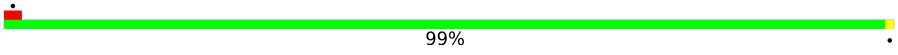
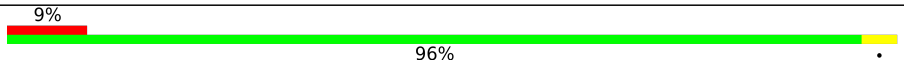
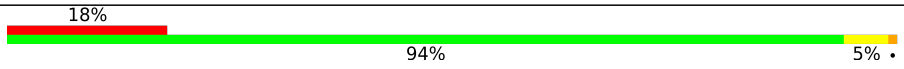
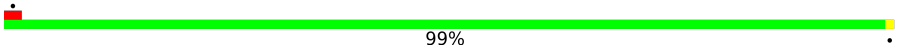
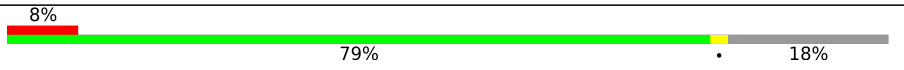
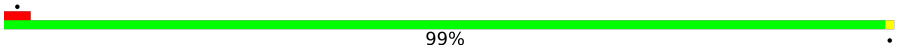
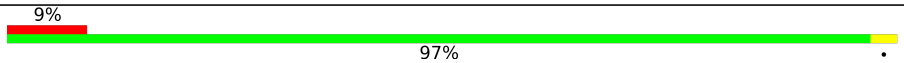
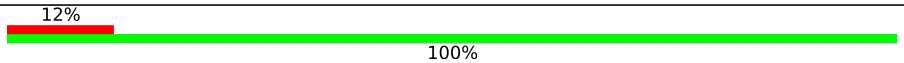
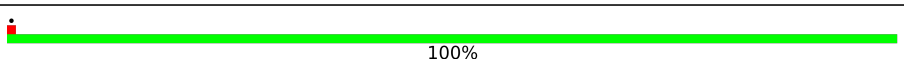
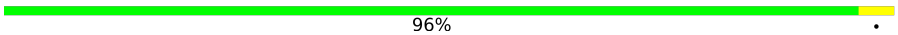
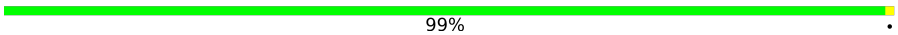
Mol	Chain	Length	Quality of chain
9	J	341	
10	K	42	
11	L	125	
12	M	690	
13	N	144	
14	O	217	
15	P	208	
16	Q	430	
17	S	70	
18	T	96	
19	U	83	
20	V	140	
21	W	142	
22	Y	70	
23	Z	84	
24	a	140	
25	b	126	
26	c	156	
27	d	175	
28	e	107	
29	f	42	
30	g	121	
31	h	105	
32	i	347	
33	j	113	

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Mol	Chain	Length	Quality of chain
34	k	98	98%
35	l	603	99%
36	m	175	72% 26%
37	n	56	16% 96%
38	o	128	98%
39	p	178	97%
40	r	459	98%
41	s	318	93% 5%
42	u	171	99%
43	v	124	6% 95% 5%
44	w	320	99%

2 Entry composition

There are 56 unique types of molecules in this entry. The entry contains 66850 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	431	3318	2095	591	612	20	0	0

- Molecule 2 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	176	1412	887	243	269	13	0	0

- Molecule 3 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	156	1244	792	227	211	14	0	0

- Molecule 4 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	E	115	971	619	179	168	5	0	0

- Molecule 5 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	F	86	691	434	129	126	2	0	0

- Molecule 6 is a protein called Acyl carrier protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	G	88	Total	C	N	O	S	0	0
			678	438	102	133	5		
6	X	88	Total	C	N	O	S	0	0
			699	450	103	141	5		

- Molecule 7 is a protein called Complex I subunit B13.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	H	112	Total	C	N	O	S	0	0
			910	588	154	165	3		

- Molecule 8 is a protein called Complex I-B14.5a.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	I	97	Total	C	N	O	S	0	0
			780	491	147	139	3		

- Molecule 9 is a protein called NADH dehydrogenase ubiquinone 1 alpha subcomplex subunit 9, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	J	297	Total	C	N	O	S	0	0
			2356	1513	421	414	8		

- Molecule 10 is a protein called Complex I-9kD.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	K	42	Total	C	N	O	S	0	0
			355	219	67	68	1		

- Molecule 11 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	L	125	Total	C	N	O	S	0	0
			1016	642	181	190	3		

- Molecule 12 is a protein called NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	M	690	Total	C	N	O	S	0	0
			5290	3317	920	1014	39		

- Molecule 13 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	N	144	Total	C	N	O	S	0	0
			1204	770	218	212	4		

- Molecule 14 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	O	217	Total	C	N	O	S	0	0
			1671	1065	281	315	10		

- Molecule 15 is a protein called Complex I-30kD.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	P	208	Total	C	N	O	S	0	0
			1738	1124	298	314	2		

- Molecule 16 is a protein called Complex I-49kD.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	Q	419	Total	C	N	O	S	0	0
			3377	2162	578	613	24		

- Molecule 17 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	S	70	Total	C	N	O	S	0	0
			567	364	104	94	5		

- Molecule 18 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	T	96	Total	C	N	O	S	0	0
			741	452	140	146	3		

- Molecule 19 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	U	83	Total	C	N	O	S	0	0
			643	417	110	115	1		

- Molecule 20 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	V	140	Total	C	N	O	S	0	0
			1021	651	174	190	6		

- Molecule 21 is a protein called Complex I-B16.6.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	W	142	Total	C	N	O	S	0	0
			1167	752	200	206	9		

- Molecule 22 is a protein called Complex I-AGGG.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	Y	70	Total	C	N	O	S	0	0
			597	392	98	106	1		

- Molecule 23 is a protein called Complex I-B12.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	Z	84	Total	C	N	O	S	0	0
			674	437	116	120	1		

- Molecule 24 is a protein called Complex I-SGDH.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	a	140	Total	C	N	O	S	0	0
			1165	762	199	201	3		

- Molecule 25 is a protein called Complex I-B17.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	b	103	Total	C	N	O	S	0	0
			875	571	158	145	1		

- Molecule 26 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 8, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	c	156	Total	C	N	O	S	0	0
			1299	843	211	237	8		

- Molecule 27 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	d	175	Total	C	N	O	S	0	0
			1461	916	265	272	8		

- Molecule 28 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 11, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	e	107	Total	C	N	O	S	0	0
			890	568	145	173	4		

- Molecule 29 is a protein called Complex I-KFYI.

Mol	Chain	Residues	Atoms				AltConf	Trace
29	f	42	Total	C	N	O	0	0
			344	227	58	59		

- Molecule 30 is a protein called NADH dehydrogenase [ubiquinone] 1 subunit C2.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	g	121	Total	C	N	O	S	0	0
			1000	650	173	171	6		

- Molecule 31 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	h	105	Total	C	N	O	S	0	0
			867	550	161	150	6		

- Molecule 32 is a protein called NADH-ubiquinone oxidoreductase chain 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	i	347	Total	C	N	O	S	0	0
			2710	1782	420	462	46		

- Molecule 33 is a protein called NADH-ubiquinone oxidoreductase chain 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	j	99	Total	C	N	O	S	0	0
			797	544	117	131	5		

- Molecule 34 is a protein called NADH-ubiquinone oxidoreductase chain 4L.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	k	98	Total	C	N	O	S	0	0
			748	493	113	128	14		

- Molecule 35 is a protein called NADH-ubiquinone oxidoreductase chain 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	l	603	Total	C	N	O	S	0	0
			4785	3173	741	820	51		

- Molecule 36 is a protein called NADH-ubiquinone oxidoreductase chain 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	m	129	Total	C	N	O	S	0	0
			951	637	138	168	8		

- Molecule 37 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	n	56	Total	C	N	O	S	0	0
			479	311	88	79	1		

- Molecule 38 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4.

Mol	Chain	Residues	Atoms				AltConf	Trace
38	o	128	Total	C	N	O	0	0
			1062	691	182	189		

- Molecule 39 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	p	178	Total	C	N	O	S	0	0
			1529	979	277	265	8		

- Molecule 40 is a protein called NADH-ubiquinone oxidoreductase chain 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	r	459	Total	C	N	O	S	0	0
			3631	2412	572	609	38		

- Molecule 41 is a protein called NADH-ubiquinone oxidoreductase chain 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	s	303	Total	C	N	O	S	0	0
			2394	1607	369	397	21		

- Molecule 42 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	u	171	Total	C	N	O	S	0	0
			1398	887	250	251	10		

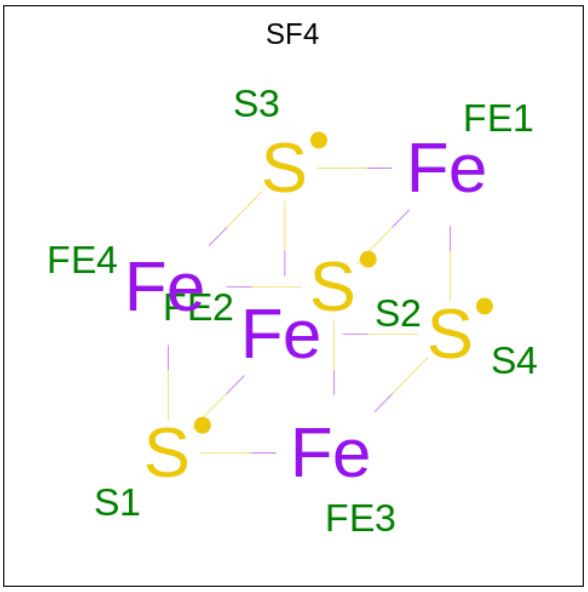
- Molecule 43 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	v	124	Total	C	N	O	S	0	0
			1028	642	195	182	9		

- Molecule 44 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial.

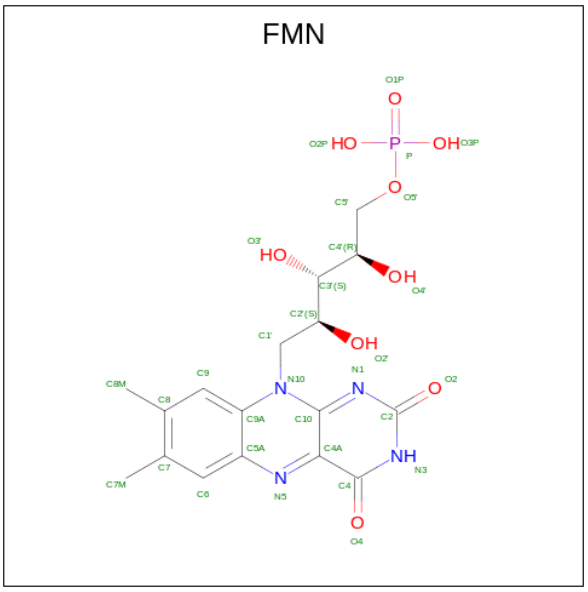
Mol	Chain	Residues	Atoms					AltConf	Trace
44	w	320	Total	C	N	O	S	0	0
			2581	1645	437	489	10		

- Molecule 45 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe_4S_4) (labeled as "Ligand of Interest" by depositor).



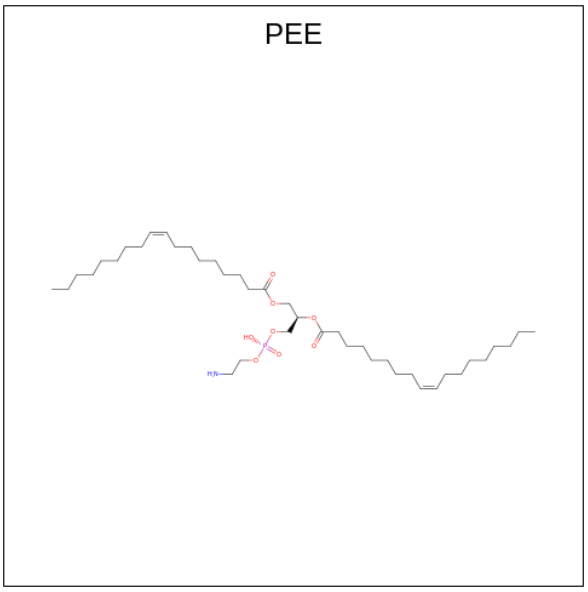
Mol	Chain	Residues	Atoms	AltConf
45	A	1	Total Fe S 8 4 4	0
45	B	1	Total Fe S 8 4 4	0
45	B	1	Total Fe S 8 4 4	0
45	C	1	Total Fe S 8 4 4	0
45	M	1	Total Fe S 8 4 4	0
45	M	1	Total Fe S 8 4 4	0

- Molecule 46 is FLAVIN MONONUCLEOTIDE (three-letter code: FMN) (formula: $C_{17}H_{21}N_4O_9P$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
46	A	1	Total	C	N	O	P	0
			31	17	4	9	1	

- Molecule 47 is 1,2-dioleoyl-sn-glycero-3-phosphoethanolamine (three-letter code: PEE) (formula: $C_{41}H_{78}NO_8P$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
47	C	1	Total	C	N	O	P	0
			47	37	1	8	1	
47	Q	1	Total	C	N	O	P	0
			51	41	1	8	1	

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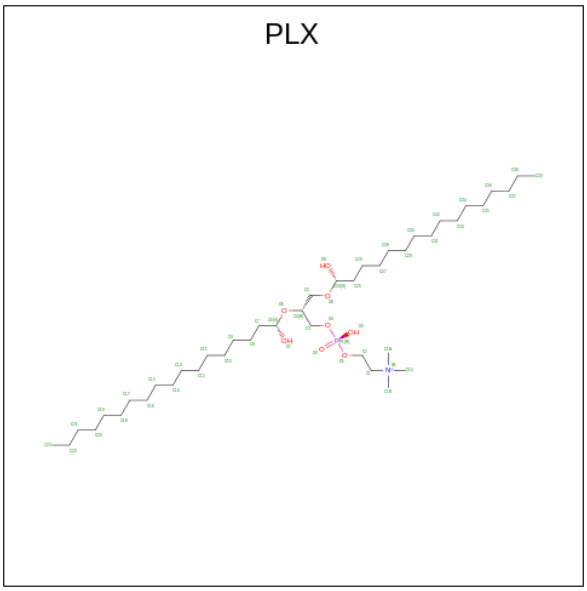
Mol	Chain	Residues	Atoms					AltConf
47	U	1	Total	C	N	O	P	0
			51	41	1	8	1	
47	W	1	Total	C	N	O	P	0
			41	31	1	8	1	
47	b	1	Total	C	N	O	P	0
			46	36	1	8	1	
47	i	1	Total	C	N	O	P	0
			47	37	1	8	1	
47	l	1	Total	C	N	O	P	0
			40	30	1	8	1	
47	l	1	Total	C	N	O	P	0
			46	36	1	8	1	
47	r	1	Total	C	N	O	P	0
			51	41	1	8	1	

- Molecule 48 is (9R,11S)-9-({[(1S)-1-HYDROXYHEXADECYL]OXY}METHYL)-2,2-DIMETHYL-5,7,10-TRIOXA-2LAMBDA 5 -AZA-6LAMBDA 5 -PHOSPHAOCTACOSANE-6,6,11-TRIOL (three-letter code: PLX) (formula: $C_{42}H_{89}NO_8P$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
48	C	1	Total	C	N	O	P	0
			52	42	1	8	1	
48	a	1	Total	C	N	O	P	0
			52	42	1	8	1	
48	g	1	Total	C	N	O	P	0
			52	42	1	8	1	

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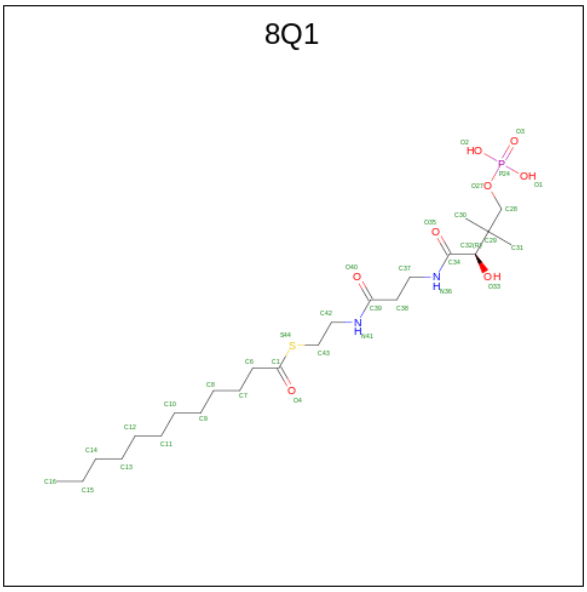
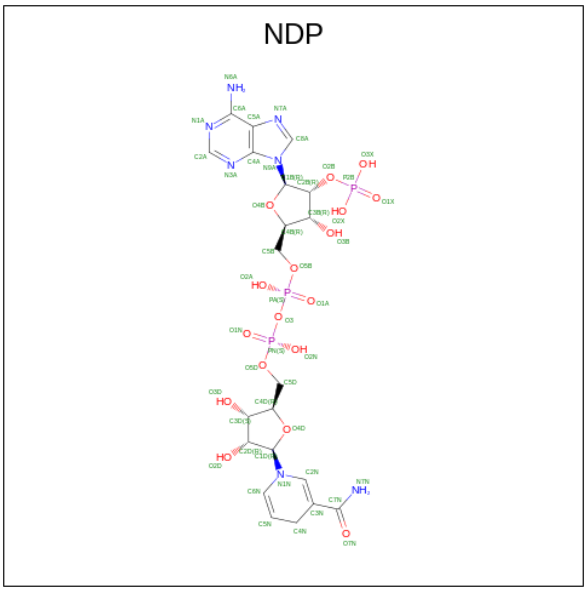
Mol	Chain	Residues	Atoms					AltConf
48	j	1	Total	C	N	O	P	0
			52	42	1	8	1	
48	r	1	Total	C	N	O	P	0
			52	42	1	8	1	
48	r	1	Total	C	N	O	P	0
			52	42	1	8	1	

- Molecule 49 is S-[2-({N-[(2R)-2-hydroxy-3,3-dimethyl-4-(phosphonooxy)butanoyl]-beta-alanyl}amino)ethyl] dodecanethioate (three-letter code: 8Q1) (formula: $C_{23}H_{45}N_2O_8PS$) (labeled as "Ligand of Interest" by depositor).



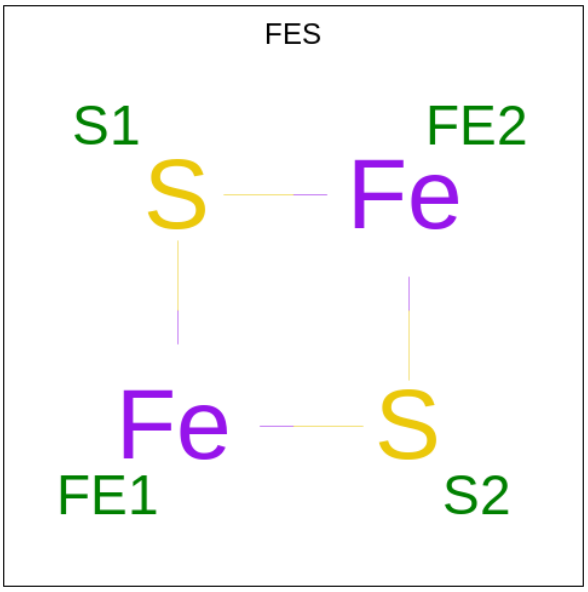
Mol	Chain	Residues	Atoms						AltConf
49	G	1	Total	C	N	O	P	S	0
			35	23	2	8	1	1	
49	X	1	Total	C	N	O	P	S	0
			35	23	2	8	1	1	

- Molecule 50 is NADPH DIHYDRO-NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (three-letter code: NDP) (formula: $C_{21}H_{30}N_7O_{17}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
50	J	1	Total	C	N	O	P	0
			48	21	7	17	3	

- Molecule 51 is FE2/S2 (INORGANIC) CLUSTER (three-letter code: FES) (formula: Fe_2S_2) (labeled as "Ligand of Interest" by depositor).

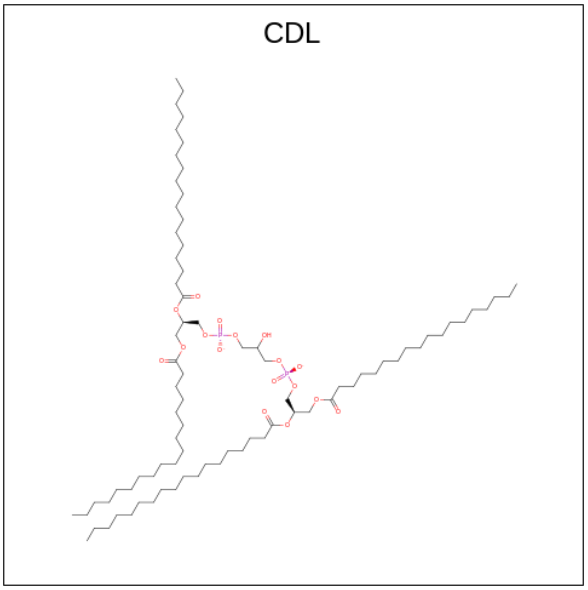


Mol	Chain	Residues	Atoms			AltConf
51	M	1	Total	Fe	S	0
			4	2	2	
51	O	1	Total	Fe	S	0
			4	2	2	

- Molecule 52 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
52	M	1	Total	Mg	0
			1	1	

- Molecule 53 is CARDIOLIPIN (three-letter code: CDL) (formula: $C_{81}H_{156}O_{17}P_2$) (labeled as "Ligand of Interest" by depositor).

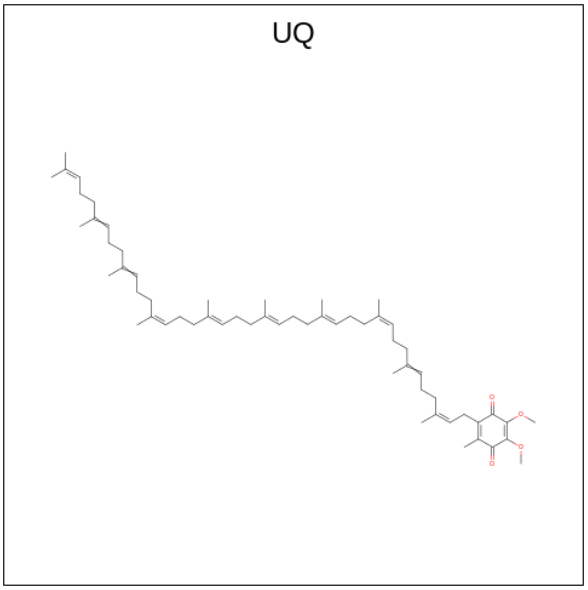


Mol	Chain	Residues	Atoms				AltConf
53	N	1	Total	C	O	P	0
			51	32	17	2	
53	V	1	Total	C	O	P	0
			94	75	17	2	
53	a	1	Total	C	O	P	0
			91	72	17	2	
53	i	1	Total	C	O	P	0
			66	47	17	2	
53	l	1	Total	C	O	P	0
			100	81	17	2	
53	o	1	Total	C	O	P	0
			68	49	17	2	
53	r	1	Total	C	O	P	0
			99	80	17	2	
53	r	1	Total	C	O	P	0
			95	76	17	2	
53	u	1	Total	C	O	P	0
			78	59	17	2	

- Molecule 54 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

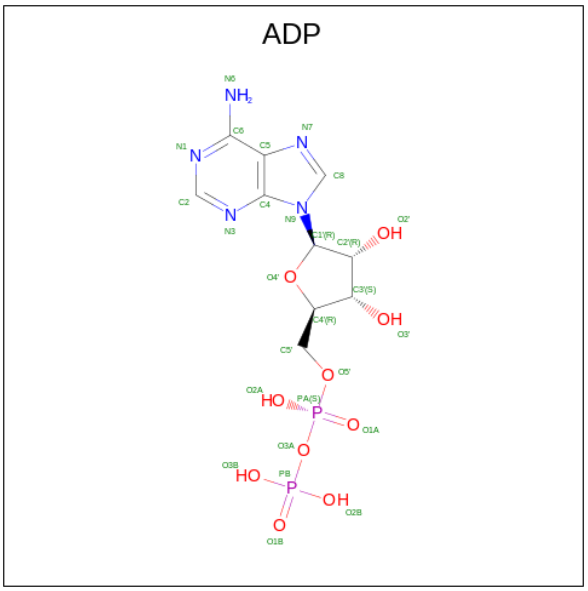
Mol	Chain	Residues	Atoms		AltConf
			Total	Zn	
54	T	1	1	1	0

- Molecule 55 is Coenzyme Q10, (2Z,6E,10Z,14E,18E,22E,26Z)-isomer (three-letter code: UQ) (formula: $C_{59}H_{90}O_4$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
55	s	1	28	24	4	0

- Molecule 56 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).



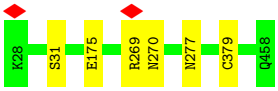
Mol	Chain	Residues	Atoms					AltConf
56	w	1	Total	C	N	O	P	0
			27	10	5	10	2	

3 Residue-property plots (i)

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

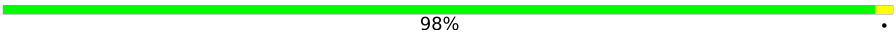
• Molecule 1: NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial

Chain A:



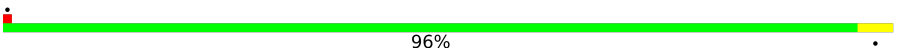
• Molecule 2: NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial

Chain B:



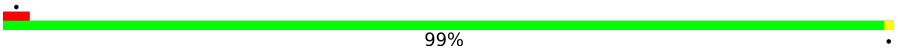
• Molecule 3: NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial

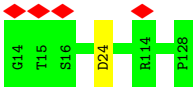
Chain C:



• Molecule 4: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6

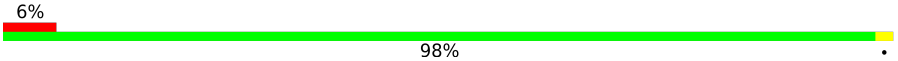
Chain E:

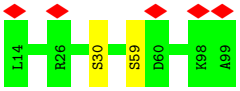




• Molecule 5: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2

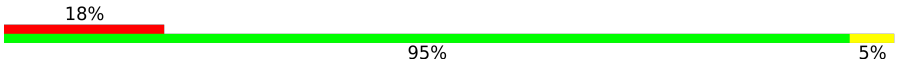
Chain F:

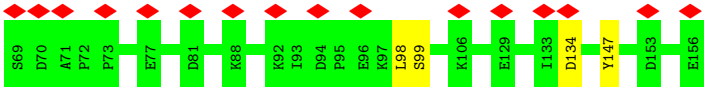




• Molecule 6: Acyl carrier protein

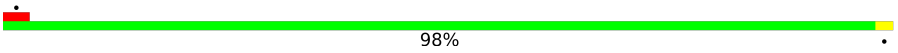
Chain G:

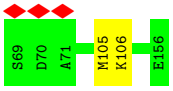




• Molecule 6: Acyl carrier protein

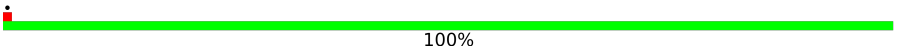
Chain X:





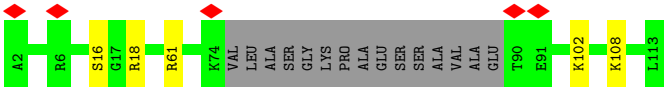
• Molecule 7: Complex I subunit B13

Chain H:



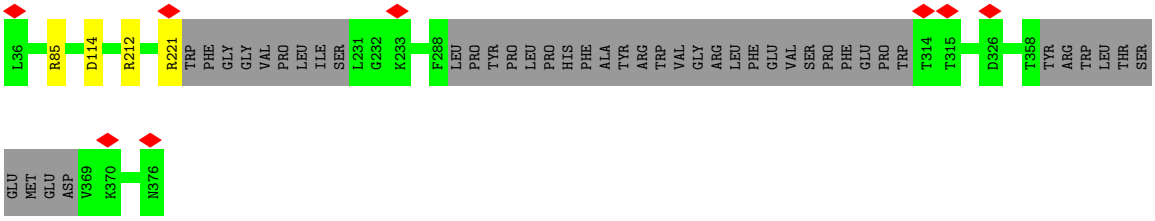
• Molecule 8: Complex I-B14.5a

Chain I:



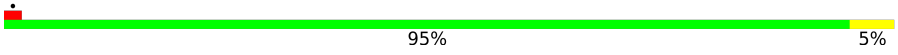
• Molecule 9: NADH dehydrogenase ubiquinone 1 alpha subcomplex subunit 9, mitochondrial

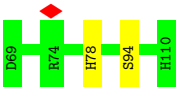
Chain J:



• Molecule 10: Complex I-9kD

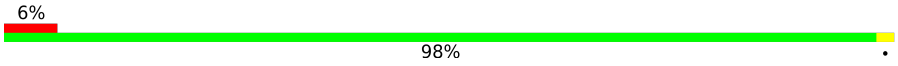
Chain K:

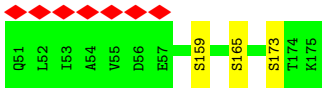




• Molecule 11: NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial

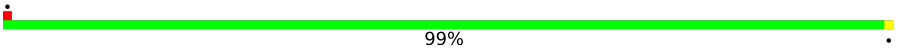
Chain L:

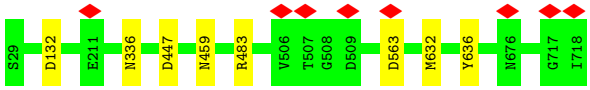




• Molecule 12: NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial

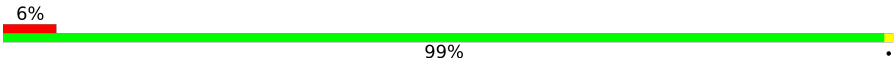
Chain M:

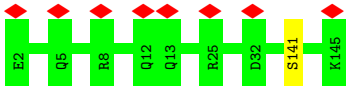




• Molecule 13: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12

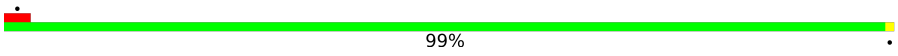
Chain N:

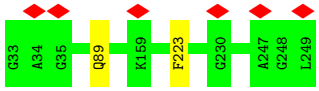




• Molecule 14: NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial

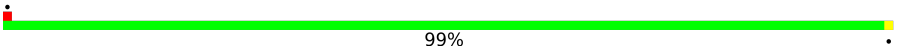
Chain O:

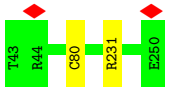




• Molecule 15: Complex I-30kD

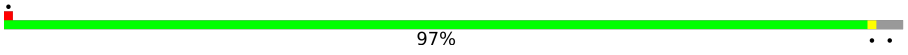
Chain P:

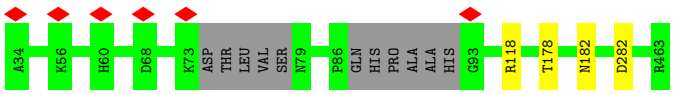




• Molecule 16: Complex I-49kD

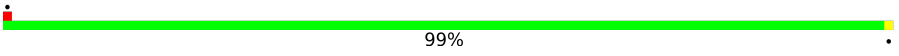
Chain Q:

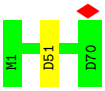




• Molecule 17: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1

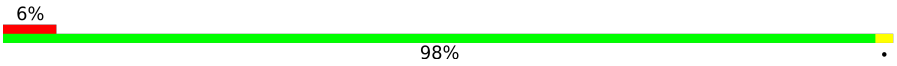
Chain S:

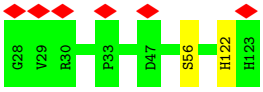




• Molecule 18: NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial

Chain T:





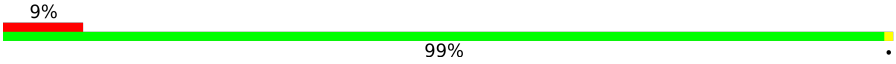
• Molecule 19: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3

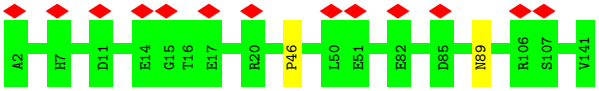
Chain U:

There are no outlier residues recorded for this chain.

• Molecule 20: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11

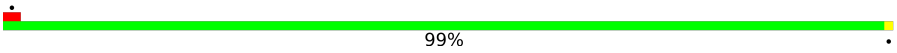
Chain V:

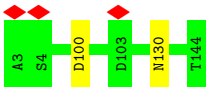




• Molecule 21: Complex I-B16.6

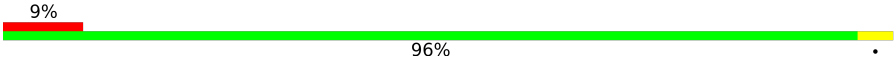
Chain W:

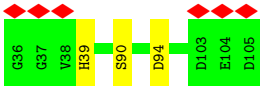




• Molecule 22: Complex I-AGGG

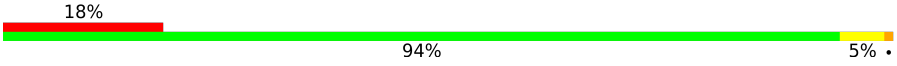
Chain Y:

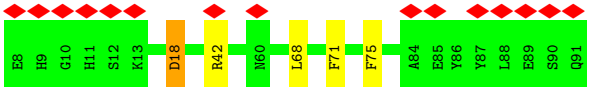




• Molecule 23: Complex I-B12

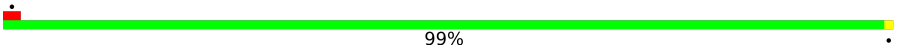
Chain Z:

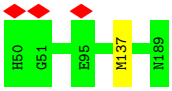




• Molecule 24: Complex I-SGDH

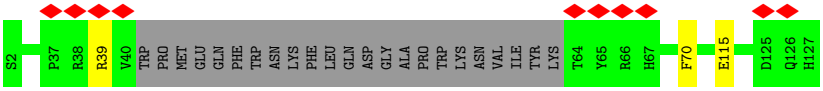
Chain a:





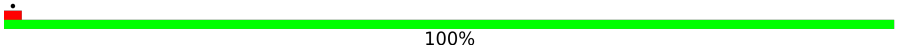
• Molecule 25: Complex I-B17

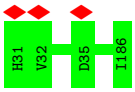
Chain b:



• Molecule 26: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 8, mitochondrial

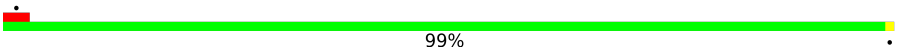
Chain c:

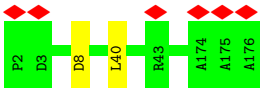




• Molecule 27: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10

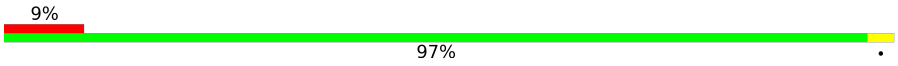
Chain d:

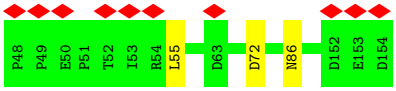




• Molecule 28: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 11, mitochondrial

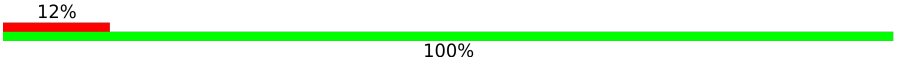
Chain e:

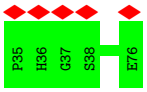




• Molecule 29: Complex I-KFYI

Chain f:



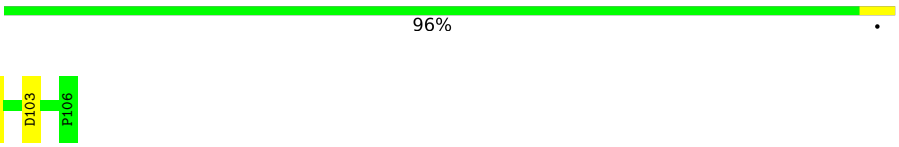


• Molecule 30: NADH dehydrogenase [ubiquinone] 1 subunit C2

Chain g:

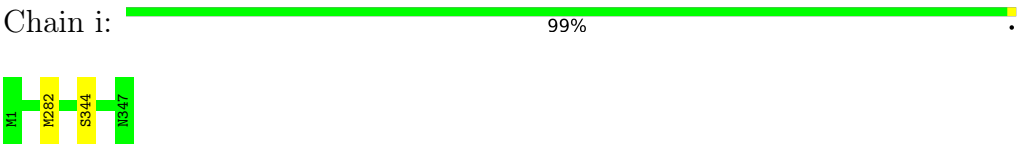
• Molecule 31: NADH dehydrogenase [ubiquinone] iron-sulfur protein 5

Chain h:



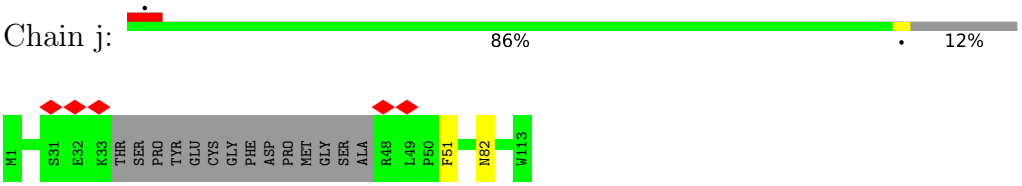
• Molecule 32: NADH-ubiquinone oxidoreductase chain 2

Chain i:



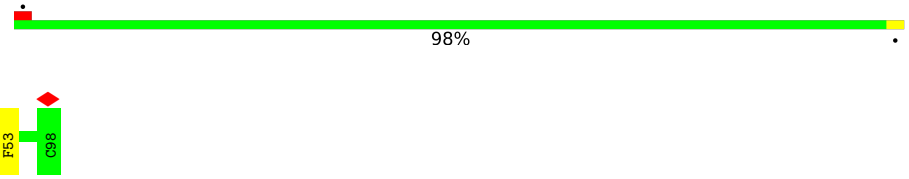
• Molecule 33: NADH-ubiquinone oxidoreductase chain 3

Chain j:



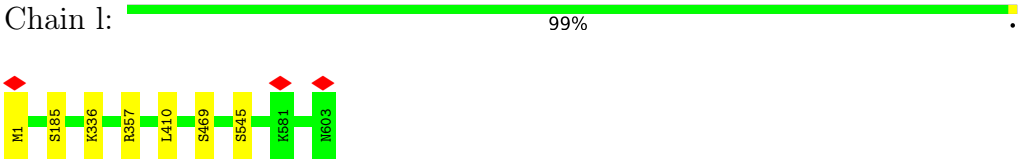
• Molecule 34: NADH-ubiquinone oxidoreductase chain 4L

Chain k:



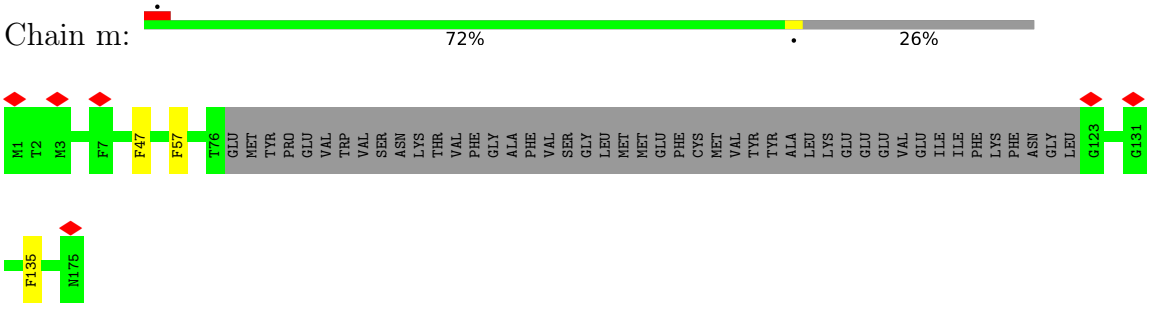
• Molecule 35: NADH-ubiquinone oxidoreductase chain 5

Chain l:



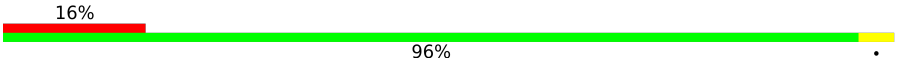
• Molecule 36: NADH-ubiquinone oxidoreductase chain 6

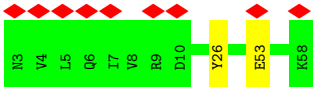
Chain m:



• Molecule 37: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 1

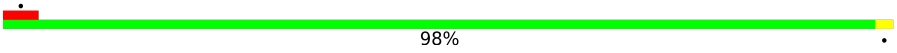
Chain n:

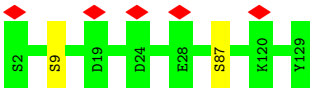




• Molecule 38: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4

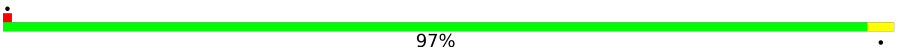
Chain o:

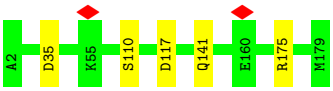




• Molecule 39: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 9

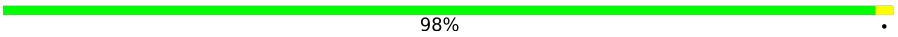
Chain p:





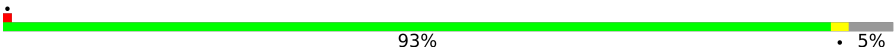
• Molecule 40: NADH-ubiquinone oxidoreductase chain 4

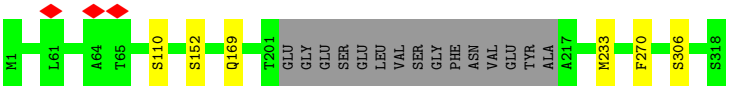
Chain r:



• Molecule 41: NADH-ubiquinone oxidoreductase chain 1

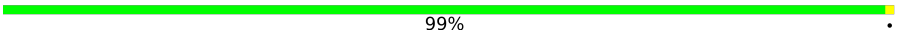
Chain s:





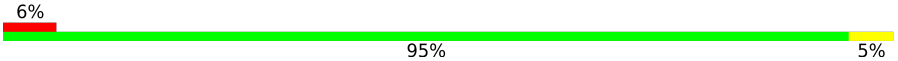
• Molecule 42: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8

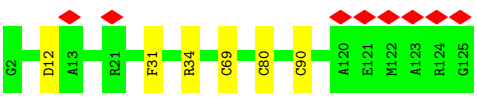
Chain u:



• Molecule 43: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 7

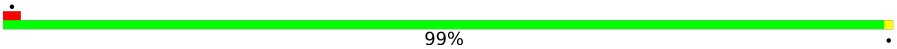
Chain v:

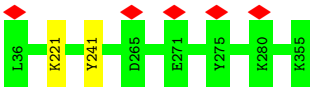




• Molecule 44: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial

Chain w:





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	94040	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	1300	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.209	Depositor
Minimum map value	-0.061	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.004	Depositor
Recommended contour level	0.0187	Depositor
Map size (Å)	354.48602, 354.48602, 354.48602	wwPDB
Map dimensions	330, 330, 330	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0742, 1.0742, 1.0742	Depositor

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: FMN, PEE, PLX, NDP, 8Q1, ZN, MG, ADP, SF4, 2MR, UQ, CDL, FES

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	0.26	0/3393	0.49	0/4584
2	B	0.27	0/1443	0.52	0/1952
3	C	0.27	0/1275	0.52	0/1725
4	E	0.25	0/995	0.54	0/1340
5	F	0.27	0/702	0.62	0/945
6	G	0.28	0/689	0.63	0/935
6	X	0.25	0/711	0.47	0/963
7	H	0.25	0/929	0.43	0/1258
8	I	0.26	0/798	0.55	0/1079
9	J	0.25	0/2408	0.49	0/3250
10	K	0.28	0/365	0.53	0/493
11	L	0.24	0/1039	0.48	0/1403
12	M	0.25	0/5378	0.49	1/7288 (0.0%)
13	N	0.26	0/1245	0.51	0/1694
14	O	0.26	0/1711	0.46	0/2328
15	P	0.27	0/1789	0.50	0/2436
16	Q	0.27	0/3451	0.48	0/4672
17	S	0.25	0/582	0.48	0/783
18	T	0.25	0/755	0.50	0/1018
19	U	0.26	0/664	0.44	0/912
20	V	0.27	0/1042	0.50	0/1411
21	W	0.27	0/1198	0.49	0/1617
22	Y	0.28	0/623	0.49	0/853
23	Z	0.25	0/695	0.52	1/939 (0.1%)
24	a	0.26	0/1199	0.48	0/1623
25	b	0.27	0/902	0.54	0/1227
26	c	0.26	0/1355	0.49	0/1857
27	d	0.26	0/1494	0.52	1/2015 (0.0%)
28	e	0.26	0/916	0.52	0/1246
29	f	0.23	0/353	0.42	0/477
30	g	0.27	0/1031	0.48	0/1394
31	h	0.25	0/889	0.49	0/1190

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\|>5$	RMSZ	$\#\|Z\|>5$
32	i	0.25	0/2773	0.44	0/3768
33	j	0.27	0/816	0.50	0/1113
34	k	0.26	0/759	0.44	0/1029
35	l	0.26	0/4914	0.44	0/6683
36	m	0.27	0/973	0.50	0/1320
37	n	0.24	0/491	0.50	0/663
38	o	0.27	0/1092	0.54	0/1481
39	p	0.26	0/1584	0.51	0/2147
40	r	0.25	0/3723	0.44	0/5078
41	s	0.27	0/2464	0.46	0/3369
42	u	0.26	0/1436	0.49	0/1938
43	v	0.27	0/1052	0.53	0/1411
44	w	0.27	0/2641	0.48	0/3577
All	All	0.26	0/66737	0.49	3/90484 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
3	C	0	1

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	M	563	ASP	CB-CG-OD1	5.42	123.18	118.30
27	d	40	LEU	CA-CB-CG	5.18	127.21	115.30
23	Z	18	ASP	CB-CG-OD1	5.03	122.83	118.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	C	126	GLU	Peptide

5.2 Too-close contacts (i)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	429/431 (100%)	418 (97%)	11 (3%)	0	100	100
2	B	174/176 (99%)	172 (99%)	2 (1%)	0	100	100
3	C	154/156 (99%)	149 (97%)	5 (3%)	0	100	100
4	E	113/115 (98%)	110 (97%)	3 (3%)	0	100	100
5	F	84/86 (98%)	80 (95%)	4 (5%)	0	100	100
6	G	86/88 (98%)	80 (93%)	6 (7%)	0	100	100
6	X	86/88 (98%)	83 (96%)	3 (4%)	0	100	100
7	H	110/112 (98%)	102 (93%)	8 (7%)	0	100	100
8	I	93/112 (83%)	83 (89%)	10 (11%)	0	100	100
9	J	289/341 (85%)	279 (96%)	10 (4%)	0	100	100
10	K	40/42 (95%)	39 (98%)	1 (2%)	0	100	100
11	L	123/125 (98%)	119 (97%)	4 (3%)	0	100	100
12	M	688/690 (100%)	670 (97%)	18 (3%)	0	100	100
13	N	142/144 (99%)	139 (98%)	3 (2%)	0	100	100
14	O	215/217 (99%)	208 (97%)	7 (3%)	0	100	100
15	P	206/208 (99%)	195 (95%)	11 (5%)	0	100	100
16	Q	412/430 (96%)	395 (96%)	17 (4%)	0	100	100
17	S	68/70 (97%)	64 (94%)	4 (6%)	0	100	100
18	T	94/96 (98%)	93 (99%)	1 (1%)	0	100	100
19	U	81/83 (98%)	79 (98%)	2 (2%)	0	100	100
20	V	138/140 (99%)	130 (94%)	7 (5%)	1 (1%)	22	55
21	W	140/142 (99%)	135 (96%)	5 (4%)	0	100	100
22	Y	68/70 (97%)	65 (96%)	3 (4%)	0	100	100
23	Z	82/84 (98%)	78 (95%)	4 (5%)	0	100	100
24	a	138/140 (99%)	135 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
25	b	99/126 (79%)	97 (98%)	2 (2%)	0	100	100
26	c	154/156 (99%)	143 (93%)	11 (7%)	0	100	100
27	d	173/175 (99%)	170 (98%)	3 (2%)	0	100	100
28	e	105/107 (98%)	101 (96%)	4 (4%)	0	100	100
29	f	40/42 (95%)	39 (98%)	1 (2%)	0	100	100
30	g	119/121 (98%)	113 (95%)	6 (5%)	0	100	100
31	h	103/105 (98%)	99 (96%)	4 (4%)	0	100	100
32	i	345/347 (99%)	331 (96%)	14 (4%)	0	100	100
33	j	95/113 (84%)	90 (95%)	5 (5%)	0	100	100
34	k	96/98 (98%)	88 (92%)	8 (8%)	0	100	100
35	l	601/603 (100%)	576 (96%)	25 (4%)	0	100	100
36	m	125/175 (71%)	112 (90%)	13 (10%)	0	100	100
37	n	54/56 (96%)	52 (96%)	2 (4%)	0	100	100
38	o	126/128 (98%)	121 (96%)	5 (4%)	0	100	100
39	p	176/178 (99%)	167 (95%)	8 (4%)	1 (1%)	25	57
40	r	457/459 (100%)	441 (96%)	16 (4%)	0	100	100
41	s	299/318 (94%)	285 (95%)	14 (5%)	0	100	100
42	u	169/171 (99%)	163 (96%)	6 (4%)	0	100	100
43	v	122/124 (98%)	118 (97%)	4 (3%)	0	100	100
44	w	318/320 (99%)	302 (95%)	16 (5%)	0	100	100
All	All	8029/8308 (97%)	7708 (96%)	319 (4%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
39	p	175	ARG
20	V	46	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 PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was

analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	345/345 (100%)	339 (98%)	6 (2%)	60 80
2	B	151/151 (100%)	147 (97%)	4 (3%)	46 72
3	C	131/132 (99%)	126 (96%)	5 (4%)	33 61
4	E	107/107 (100%)	106 (99%)	1 (1%)	78 90
5	F	76/76 (100%)	74 (97%)	2 (3%)	46 72
6	G	72/81 (89%)	68 (94%)	4 (6%)	21 51
6	X	78/81 (96%)	76 (97%)	2 (3%)	46 72
7	H	99/99 (100%)	99 (100%)	0	100 100
8	I	87/97 (90%)	82 (94%)	5 (6%)	20 50
9	J	254/295 (86%)	250 (98%)	4 (2%)	62 81
10	K	41/41 (100%)	39 (95%)	2 (5%)	25 55
11	L	113/113 (100%)	110 (97%)	3 (3%)	44 70
12	M	579/580 (100%)	572 (99%)	7 (1%)	71 85
13	N	130/130 (100%)	129 (99%)	1 (1%)	81 91
14	O	183/183 (100%)	181 (99%)	2 (1%)	73 86
15	P	190/190 (100%)	188 (99%)	2 (1%)	73 86
16	Q	361/370 (98%)	358 (99%)	3 (1%)	81 91
17	S	58/58 (100%)	57 (98%)	1 (2%)	60 80
18	T	79/79 (100%)	77 (98%)	2 (2%)	47 72
19	U	69/69 (100%)	69 (100%)	0	100 100
20	V	101/101 (100%)	100 (99%)	1 (1%)	76 88
21	W	122/123 (99%)	120 (98%)	2 (2%)	62 81
22	Y	62/63 (98%)	59 (95%)	3 (5%)	25 56
23	Z	65/65 (100%)	60 (92%)	5 (8%)	13 40
24	a	122/122 (100%)	121 (99%)	1 (1%)	81 91
25	b	97/119 (82%)	94 (97%)	3 (3%)	40 68
26	c	137/141 (97%)	137 (100%)	0	100 100
27	d	155/155 (100%)	154 (99%)	1 (1%)	86 94
28	e	99/99 (100%)	96 (97%)	3 (3%)	41 68
29	f	36/38 (95%)	36 (100%)	0	100 100
30	g	108/108 (100%)	108 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
31	h	93/93 (100%)	89 (96%)	4 (4%)	29 59
32	i	311/311 (100%)	309 (99%)	2 (1%)	86 94
33	j	87/99 (88%)	85 (98%)	2 (2%)	50 74
34	k	85/85 (100%)	83 (98%)	2 (2%)	49 74
35	l	537/537 (100%)	530 (99%)	7 (1%)	69 84
36	m	99/141 (70%)	96 (97%)	3 (3%)	41 68
37	n	53/53 (100%)	51 (96%)	2 (4%)	33 61
38	o	113/113 (100%)	111 (98%)	2 (2%)	59 79
39	p	158/159 (99%)	154 (98%)	4 (2%)	47 72
40	r	410/410 (100%)	402 (98%)	8 (2%)	55 77
41	s	263/275 (96%)	257 (98%)	6 (2%)	50 74
42	u	153/153 (100%)	151 (99%)	2 (1%)	69 84
43	v	104/111 (94%)	98 (94%)	6 (6%)	20 50
44	w	281/283 (99%)	279 (99%)	2 (1%)	84 92
All	All	7054/7234 (98%)	6927 (98%)	127 (2%)	61 79

All (127) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	31	SER
1	A	175	GLU
1	A	269	ARG
1	A	270	ASN
1	A	277	ASN
1	A	379	CYS
2	B	45	GLU
2	B	76	TYR
2	B	110	GLU
2	B	139	SER
3	C	60	SER
3	C	67	PHE
3	C	96	SER
3	C	101	ASP
3	C	142	TYR
4	E	24	ASP
5	F	30	SER
5	F	59	SER

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Mol	Chain	Res	Type
6	G	98	LEU
6	G	99	SER
6	G	134	ASP
6	G	147	TYR
8	I	16	SER
8	I	18	ARG
8	I	61	ARG
8	I	102	LYS
8	I	108	LYS
9	J	85	ARG
9	J	114	ASP
9	J	212	ARG
9	J	221	ARG
10	K	78	HIS
10	K	94	SER
11	L	159	SER
11	L	165	SER
11	L	173	SER
12	M	132	ASP
12	M	336	ASN
12	M	447	ASP
12	M	459	ASN
12	M	483	ARG
12	M	632	MET
12	M	636	TYR
13	N	141	SER
14	O	89	GLN
14	O	223	PHE
15	P	80	CYS
15	P	231	ARG
16	Q	178	THR
16	Q	182	ASN
16	Q	282	ASP
17	S	51	ASP
18	T	56	SER
18	T	122	HIS
20	V	89	ASN
21	W	100	ASP
21	W	130	ASN
6	X	105	MET
6	X	106	LYS
22	Y	39	HIS

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Mol	Chain	Res	Type
22	Y	90	SER
22	Y	94	ASP
23	Z	18	ASP
23	Z	42	ARG
23	Z	68	LEU
23	Z	71	PHE
23	Z	75	PHE
24	a	137	MET
25	b	39	ARG
25	b	70	PHE
25	b	115	GLU
27	d	8	ASP
28	e	55	LEU
28	e	72	ASP
28	e	86	ASN
31	h	62	ASP
31	h	77	SER
31	h	97	HIS
31	h	103	ASP
32	i	282	MET
32	i	344	SER
33	j	51	PHE
33	j	82	ASN
34	k	39	SER
34	k	53	PHE
35	l	1	MET
35	l	185	SER
35	l	336	LYS
35	l	357	ARG
35	l	410	LEU
35	l	469	SER
35	l	545	SER
36	m	47	PHE
36	m	57	PHE
36	m	135	PHE
37	n	26	TYR
37	n	53	GLU
38	o	9	SER
38	o	87	SER
39	p	35	ASP
39	p	110	SER
39	p	117	ASP

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Mol	Chain	Res	Type
39	p	141	GLN
40	r	57	PHE
40	r	60	SER
40	r	122	PHE
40	r	168	GLN
40	r	184	HIS
40	r	256	TYR
40	r	323	SER
40	r	333	ASN
41	s	110	SER
41	s	152	SER
41	s	169	GLN
41	s	233	MET
41	s	270	PHE
41	s	306	SER
42	u	48	TRP
42	u	90	ASP
43	v	12	ASP
43	v	31	PHE
43	v	34	ARG
43	v	69	CYS
43	v	80	CYS
43	v	90	CYS
44	w	221	LYS
44	w	241	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (13) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	270	ASN
8	I	25	GLN
10	K	75	ASN
10	K	78	HIS
12	M	142	GLN
12	M	260	ASN
12	M	604	GLN
22	Y	75	HIS
40	r	51	ASN
40	r	349	GLN
41	s	169	GLN
43	v	85	HIS
43	v	110	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

1 non-standard protein/DNA/RNA residue is 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	$\#\|Z\| > 2$
16	2MR	Q	118	16	10,12,13	1.92	1 (10%)	5,13,15	6.13	3 (60%)

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
16	2MR	Q	118	16	-	3/10/13/15	-

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
16	Q	118	2MR	CZ-NE	5.50	1.46	1.34

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
16	Q	118	2MR	NE-CZ-NH2	12.58	131.01	119.48
16	Q	118	2MR	CD-NE-CZ	4.43	131.71	123.41
16	Q	118	2MR	CQ2-NH2-CZ	2.96	130.40	123.86

There are no chirality outliers.

All (3) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
16	Q	118	2MR	NE-CD-CG-CB
16	Q	118	2MR	CA-CB-CG-CD
16	Q	118	2MR	N-CA-CB-CG

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 40 ligands modelled in this entry, 2 are monoatomic - leaving 38 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	$\#\|Z\| > 2$
53	CDL	o	201	-	67,67,99	1.26	9 (13%)	73,79,111	1.02	4 (5%)
47	PEE	r	501	-	50,50,50	1.16	6 (12%)	53,55,55	0.97	2 (3%)
45	SF4	M	801	12	0,12,12	-	-	-		
48	PLX	r	502	-	51,51,51	1.14	4 (7%)	55,59,59	0.61	1 (1%)
47	PEE	Q	501	-	50,50,50	1.16	6 (12%)	53,55,55	0.96	2 (3%)
53	CDL	r	505	-	94,94,99	1.11	8 (8%)	100,106,111	0.87	4 (4%)
53	CDL	a	201	-	90,90,99	1.13	8 (8%)	96,102,111	0.93	4 (4%)
48	PLX	C	303	-	51,51,51	1.15	4 (7%)	55,59,59	0.62	1 (1%)
53	CDL	u	201	-	77,77,99	1.20	8 (10%)	83,89,111	0.95	4 (4%)
45	SF4	M	802	12	0,12,12	-	-	-		
51	FES	O	301	14	0,4,4	-	-	-		
47	PEE	b	201	-	45,45,50	1.22	6 (13%)	48,50,55	0.99	2 (4%)
48	PLX	g	201	-	51,51,51	1.14	3 (5%)	55,59,59	0.60	1 (1%)
47	PEE	l	703	-	45,45,50	1.22	6 (13%)	48,50,55	0.98	2 (4%)
48	PLX	j	201	-	51,51,51	1.15	4 (7%)	55,59,59	0.60	1 (1%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
47	PEE	W	201	-	40,40,50	1.15	5 (12%)	43,45,55	0.99	2 (4%)
53	CDL	l	702	-	99,99,99	1.09	9 (9%)	105,111,111	0.84	4 (3%)
49	8Q1	X	201	-	31,34,34	1.69	6 (19%)	40,43,43	1.56	7 (17%)
53	CDL	V	201	-	93,93,99	1.12	9 (9%)	99,105,111	0.85	4 (4%)
48	PLX	a	202	-	51,51,51	1.14	4 (7%)	55,59,59	0.62	1 (1%)
53	CDL	i	401	-	65,65,99	1.27	8 (12%)	71,77,111	1.02	4 (5%)
53	CDL	r	504	-	98,98,99	1.09	8 (8%)	104,110,111	0.89	4 (3%)
45	SF4	B	302	2	0,12,12	-	-	-		
56	ADP	w	401	-	24,29,29	3.12	6 (25%)	29,45,45	1.46	4 (13%)
47	PEE	U	101	-	50,50,50	1.16	6 (12%)	53,55,55	0.96	2 (3%)
53	CDL	N	201	-	50,50,99	1.41	9 (18%)	56,62,111	1.14	4 (7%)
45	SF4	C	301	3,16	0,12,12	-	-	-		
45	SF4	B	301	2	0,12,12	-	-	-		
47	PEE	i	402	-	46,46,50	1.20	6 (13%)	49,51,55	0.99	2 (4%)
48	PLX	r	503	-	51,51,51	1.14	4 (7%)	55,59,59	0.60	1 (1%)
46	FMN	A	502	-	33,33,33	1.09	2 (6%)	48,50,50	1.19	7 (14%)
47	PEE	l	701	-	39,39,50	1.31	6 (15%)	41,44,55	1.05	2 (4%)
51	FES	M	803	12	0,4,4	-	-	-		
50	NDP	J	401	-	45,52,52	4.56	20 (44%)	53,80,80	1.95	8 (15%)
55	UQ	s	401	-	28,28,63	3.29	7 (25%)	34,37,79	2.78	11 (32%)
47	PEE	C	302	-	46,46,50	1.21	6 (13%)	49,51,55	0.97	2 (4%)
49	8Q1	G	201	-	31,34,34	1.70	6 (19%)	40,43,43	1.57	6 (15%)
45	SF4	A	501	1	0,12,12	-	-	-		

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
53	CDL	o	201	-	-	47/78/78/110	-
47	PEE	r	501	-	-	28/54/54/54	-
48	PLX	r	502	-	-	21/55/55/55	-
45	SF4	M	801	12	-	-	0/6/5/5
47	PEE	Q	501	-	-	25/54/54/54	-
53	CDL	r	505	-	-	58/105/105/110	-
53	CDL	a	201	-	-	47/101/101/110	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
48	PLX	C	303	-	-	26/55/55/55	-
53	CDL	u	201	-	-	39/88/88/110	-
45	SF4	M	802	12	-	-	0/6/5/5
51	FES	O	301	14	-	-	0/1/1/1
47	PEE	b	201	-	-	24/49/49/54	-
48	PLX	g	201	-	-	28/55/55/55	-
47	PEE	l	703	-	-	21/49/49/54	-
48	PLX	j	201	-	-	34/55/55/55	-
47	PEE	W	201	-	-	18/44/44/54	-
53	CDL	l	702	-	-	60/110/110/110	-
49	8Q1	X	201	-	-	17/41/41/41	-
53	CDL	V	201	-	-	53/104/104/110	-
48	PLX	a	202	-	-	25/55/55/55	-
53	CDL	i	401	-	-	39/76/76/110	-
53	CDL	r	504	-	-	48/109/109/110	-
45	SF4	B	302	2	-	-	0/6/5/5
56	ADP	w	401	-	-	3/12/32/32	0/3/3/3
47	PEE	U	101	-	-	26/54/54/54	-
53	CDL	N	201	-	-	35/61/61/110	-
45	SF4	C	301	3,16	-	-	0/6/5/5
45	SF4	B	301	2	-	-	0/6/5/5
47	PEE	i	402	-	-	23/50/50/54	-
48	PLX	r	503	-	-	35/55/55/55	-
46	FMN	A	502	-	-	5/18/18/18	0/3/3/3
47	PEE	l	701	-	-	30/43/43/54	-
51	FES	M	803	12	-	-	0/1/1/1
50	NDP	J	401	-	-	5/30/77/77	0/4/5/5
55	UQ	s	401	-	-	10/21/45/87	0/1/1/1
47	PEE	C	302	-	-	21/50/50/54	-
49	8Q1	G	201	-	-	14/41/41/41	-
45	SF4	A	501	1	-	-	0/6/5/5

All (199) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
50	J	401	NDP	C3B-C2B	-12.88	1.24	1.52
50	J	401	NDP	C6N-C5N	12.41	1.55	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
50	J	401	NDP	O4D-C4D	10.68	1.68	1.45
50	J	401	NDP	C3D-C4D	-9.85	1.27	1.53
55	s	401	UQ	C13-C14	9.34	1.55	1.33
55	s	401	UQ	C8-C9	8.94	1.54	1.33
56	w	401	ADP	C3'-C4'	-8.86	1.30	1.53
50	J	401	NDP	O4B-C1B	8.47	1.52	1.41
55	s	401	UQ	C18-C19	8.23	1.56	1.32
50	J	401	NDP	O4B-C4B	-7.87	1.27	1.45
56	w	401	ADP	O4'-C4'	7.71	1.62	1.45
50	J	401	NDP	C2N-C3N	7.44	1.55	1.34
56	w	401	ADP	O4'-C1'	-6.86	1.31	1.41
50	J	401	NDP	P2B-O2B	5.63	1.69	1.59
49	G	201	8Q1	C34-N36	5.46	1.45	1.33
49	X	201	8Q1	C34-N36	5.40	1.45	1.33
49	X	201	8Q1	C39-N41	5.40	1.45	1.33
50	J	401	NDP	C3B-C4B	5.36	1.66	1.53
49	G	201	8Q1	C39-N41	5.35	1.45	1.33
50	J	401	NDP	O4D-C1D	-4.89	1.30	1.42
50	J	401	NDP	C6N-N1N	4.86	1.49	1.37
50	J	401	NDP	C7N-N7N	4.21	1.44	1.33
50	J	401	NDP	O2D-C2D	-4.19	1.33	1.43
50	J	401	NDP	C6A-N6A	4.07	1.48	1.34
56	w	401	ADP	C6-N6	3.85	1.48	1.34
46	A	502	FMN	C4A-N5	3.78	1.38	1.30
47	l	701	PEE	C18-C19	3.75	1.53	1.31
47	W	201	PEE	C18-C19	3.74	1.53	1.31
47	C	302	PEE	C18-C19	3.73	1.53	1.31
47	l	703	PEE	C18-C19	3.73	1.53	1.31
47	r	501	PEE	C18-C19	3.73	1.53	1.31
47	Q	501	PEE	C18-C19	3.72	1.53	1.31
47	b	201	PEE	C18-C19	3.72	1.53	1.31
47	i	402	PEE	C18-C19	3.71	1.53	1.31
47	U	101	PEE	C18-C19	3.70	1.53	1.31
47	l	701	PEE	C39-C38	3.66	1.53	1.31
47	r	501	PEE	C39-C38	3.66	1.53	1.31
47	b	201	PEE	C39-C38	3.65	1.52	1.31
47	C	302	PEE	C39-C38	3.65	1.52	1.31
47	i	402	PEE	C39-C38	3.65	1.52	1.31
47	U	101	PEE	C39-C38	3.64	1.52	1.31
47	l	703	PEE	C39-C38	3.63	1.52	1.31
47	Q	501	PEE	C39-C38	3.61	1.52	1.31
53	o	201	CDL	OA8-CA7	3.47	1.43	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	N	201	CDL	OA8-CA7	3.47	1.43	1.33
53	V	201	CDL	OA8-CA7	3.46	1.43	1.33
53	r	504	CDL	OA8-CA7	3.44	1.43	1.33
53	l	702	CDL	OA8-CA7	3.44	1.43	1.33
53	u	201	CDL	OA8-CA7	3.43	1.43	1.33
53	i	401	CDL	OA8-CA7	3.42	1.43	1.33
53	a	201	CDL	OA8-CA7	3.38	1.43	1.33
53	r	505	CDL	OA8-CA7	3.38	1.43	1.33
56	w	401	ADP	O2'-C2'	-3.36	1.35	1.43
50	J	401	NDP	O3D-C3D	3.10	1.50	1.43
56	w	401	ADP	O3'-C3'	3.10	1.50	1.43
53	V	201	CDL	OA6-CA5	3.09	1.43	1.34
53	r	505	CDL	OB6-CB5	3.05	1.42	1.34
53	N	201	CDL	OA6-CA5	3.03	1.42	1.34
53	N	201	CDL	OB6-CB5	3.03	1.42	1.34
53	N	201	CDL	OB8-CB7	3.02	1.42	1.33
53	l	702	CDL	OB6-CB5	3.02	1.42	1.34
53	r	504	CDL	OB6-CB5	3.02	1.42	1.34
53	i	401	CDL	OB6-CB5	3.02	1.42	1.34
53	i	401	CDL	OB8-CB7	3.02	1.42	1.33
53	u	201	CDL	OB8-CB7	3.01	1.42	1.33
50	J	401	NDP	C7N-C3N	3.00	1.55	1.48
53	o	201	CDL	OB8-CB7	3.00	1.42	1.33
53	r	505	CDL	OB8-CB7	2.99	1.42	1.33
53	r	504	CDL	OB8-CB7	2.99	1.42	1.33
53	o	201	CDL	OB6-CB5	2.99	1.42	1.34
53	V	201	CDL	OB8-CB7	2.98	1.42	1.33
53	V	201	CDL	OB6-CB5	2.98	1.42	1.34
53	l	702	CDL	OB8-CB7	2.97	1.42	1.33
53	a	201	CDL	OA6-CA5	2.97	1.42	1.34
53	a	201	CDL	OB8-CB7	2.96	1.42	1.33
53	l	702	CDL	OA6-CA5	2.96	1.42	1.34
53	o	201	CDL	OA6-CA5	2.96	1.42	1.34
53	i	401	CDL	OA6-CA5	2.96	1.42	1.34
53	a	201	CDL	OB6-CB5	2.95	1.42	1.34
53	u	201	CDL	OB6-CB5	2.95	1.42	1.34
53	r	505	CDL	OA6-CA5	2.93	1.42	1.34
53	u	201	CDL	OA6-CA5	2.91	1.42	1.34
53	r	504	CDL	OA6-CA5	2.88	1.42	1.34
55	s	401	UQ	C6-C1	2.85	1.54	1.46
48	a	202	PLX	O6-C4	-2.79	1.40	1.44
48	g	201	PLX	O6-C4	-2.75	1.40	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	C	303	PLX	O6-C4	-2.74	1.40	1.44
48	r	503	PLX	O6-C4	-2.71	1.41	1.44
48	j	201	PLX	O6-C4	-2.57	1.41	1.44
47	b	201	PEE	O3-C30	2.50	1.40	1.33
53	u	201	CDL	OA6-CA4	-2.48	1.40	1.46
47	Q	501	PEE	O3-C30	2.48	1.40	1.33
46	A	502	FMN	C10-N1	2.47	1.38	1.33
47	l	701	PEE	O3-C30	2.47	1.40	1.33
53	r	504	CDL	OA6-CA4	-2.47	1.40	1.46
47	U	101	PEE	O3-C30	2.47	1.40	1.33
47	i	402	PEE	O3-C30	2.46	1.40	1.33
47	r	501	PEE	O3-C30	2.45	1.40	1.33
53	r	505	CDL	OA6-CA4	-2.43	1.40	1.46
47	C	302	PEE	O3-C30	2.43	1.40	1.33
47	C	302	PEE	O2-C2	-2.43	1.40	1.46
47	l	703	PEE	O3-C30	2.42	1.40	1.33
47	l	703	PEE	O2-C2	-2.42	1.40	1.46
49	G	201	8Q1	C1-S44	2.42	1.82	1.76
47	Q	501	PEE	O2-C2	-2.41	1.40	1.46
47	i	402	PEE	O2-C2	-2.41	1.40	1.46
53	i	401	CDL	OA6-CA4	-2.41	1.40	1.46
47	U	101	PEE	O2-C2	-2.40	1.40	1.46
53	a	201	CDL	OA6-CA4	-2.39	1.40	1.46
50	J	401	NDP	O2B-C2B	2.39	1.52	1.44
49	X	201	8Q1	C1-S44	2.39	1.81	1.76
48	j	201	PLX	C7-C6	2.38	1.55	1.50
48	r	502	PLX	C7-C6	2.38	1.55	1.50
53	o	201	CDL	OA6-CA4	-2.37	1.40	1.46
47	r	501	PEE	O2-C2	-2.37	1.40	1.46
47	W	201	PEE	O2-C2	-2.37	1.40	1.46
50	J	401	NDP	C2D-C3D	2.36	1.59	1.53
47	W	201	PEE	O3-C30	2.34	1.40	1.33
47	b	201	PEE	O2-C2	-2.34	1.40	1.46
48	r	502	PLX	O6-C4	-2.34	1.41	1.44
47	l	701	PEE	O2-C10	2.34	1.40	1.34
47	l	701	PEE	O2-C2	-2.33	1.40	1.46
47	W	201	PEE	O2-C10	2.33	1.40	1.34
48	C	303	PLX	C7-C6	2.33	1.55	1.50
53	l	702	CDL	OA6-CA4	-2.33	1.40	1.46
48	r	503	PLX	C7-C6	2.32	1.55	1.50
48	g	201	PLX	C7-C6	2.32	1.55	1.50
47	l	703	PEE	O2-C10	2.30	1.40	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	a	202	PLX	C7-C6	2.29	1.55	1.50
55	s	401	UQ	C7-C8	2.27	1.53	1.50
49	X	201	8Q1	O35-C34	-2.26	1.18	1.23
47	Q	501	PEE	O2-C10	2.26	1.40	1.34
47	b	201	PEE	O2-C10	2.26	1.40	1.34
47	U	101	PEE	O2-C10	2.26	1.40	1.34
55	s	401	UQ	O4-C4	-2.26	1.18	1.23
49	G	201	8Q1	O35-C34	-2.26	1.18	1.23
47	i	402	PEE	O2-C10	2.25	1.40	1.34
47	C	302	PEE	O2-C10	2.24	1.40	1.34
49	G	201	8Q1	O40-C39	-2.23	1.18	1.23
53	u	201	CDL	PB2-OB2	2.22	1.68	1.59
47	r	501	PEE	O2-C10	2.22	1.40	1.34
53	o	201	CDL	PB2-OB2	2.22	1.68	1.59
53	l	702	CDL	PB2-OB2	2.22	1.68	1.59
53	i	401	CDL	PB2-OB2	2.22	1.68	1.59
49	G	201	8Q1	C6-C1	2.21	1.53	1.50
53	V	201	CDL	OB6-CB4	-2.20	1.41	1.46
53	V	201	CDL	PB2-OB2	2.20	1.68	1.59
53	i	401	CDL	PB2-OB5	2.20	1.68	1.59
49	X	201	8Q1	C6-C1	2.20	1.53	1.50
53	a	201	CDL	OB6-CB4	-2.20	1.41	1.46
53	r	505	CDL	PB2-OB2	2.19	1.68	1.59
53	N	201	CDL	PB2-OB5	2.19	1.68	1.59
53	o	201	CDL	OB6-CB4	-2.19	1.41	1.46
53	a	201	CDL	PB2-OB2	2.19	1.68	1.59
53	r	505	CDL	PB2-OB5	2.18	1.68	1.59
53	l	702	CDL	OB6-CB4	-2.18	1.41	1.46
49	X	201	8Q1	O40-C39	-2.18	1.18	1.23
53	N	201	CDL	PB2-OB2	2.17	1.68	1.59
53	o	201	CDL	PB2-OB5	2.17	1.68	1.59
53	u	201	CDL	OB6-CB4	-2.17	1.41	1.46
53	i	401	CDL	OB6-CB4	-2.17	1.41	1.46
47	W	201	PEE	O3-C3	-2.17	1.40	1.45
53	r	504	CDL	PB2-OB2	2.16	1.68	1.59
53	u	201	CDL	PB2-OB5	2.16	1.68	1.59
53	r	504	CDL	PB2-OB5	2.16	1.68	1.59
48	j	201	PLX	P1-O4	2.16	1.68	1.59
48	r	502	PLX	P1-O4	2.16	1.68	1.59
50	J	401	NDP	PA-O5B	2.15	1.68	1.59
53	r	504	CDL	OB6-CB4	-2.15	1.41	1.46
53	V	201	CDL	PB2-OB5	2.14	1.68	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	l	703	PEE	O3-C3	-2.14	1.40	1.45
53	N	201	CDL	OA6-CA4	-2.13	1.41	1.46
47	U	101	PEE	O3-C3	-2.13	1.40	1.45
53	l	702	CDL	PB2-OB5	2.13	1.67	1.59
53	V	201	CDL	OA6-CA4	-2.13	1.41	1.46
53	N	201	CDL	OB6-CB4	-2.13	1.41	1.46
48	C	303	PLX	P1-O4	2.12	1.67	1.59
53	a	201	CDL	PB2-OB5	2.11	1.67	1.59
48	a	202	PLX	P1-O4	2.11	1.67	1.59
48	r	503	PLX	P1-O4	2.10	1.67	1.59
53	r	505	CDL	OB6-CB4	-2.10	1.41	1.46
48	g	201	PLX	P1-O4	2.08	1.67	1.59
47	C	302	PEE	O3-C3	-2.08	1.40	1.45
47	l	701	PEE	O3-C3	-2.08	1.40	1.45
50	J	401	NDP	O7N-C7N	-2.07	1.19	1.24
53	N	201	CDL	C11-CA5	2.06	1.56	1.50
47	i	402	PEE	O3-C3	-2.06	1.40	1.45
47	Q	501	PEE	O3-C3	-2.05	1.40	1.45
47	r	501	PEE	O3-C3	-2.04	1.40	1.45
48	C	303	PLX	P1-O1	2.03	1.67	1.59
53	V	201	CDL	C11-CA5	2.03	1.56	1.50
48	j	201	PLX	P1-O1	2.03	1.67	1.59
55	s	401	UQ	O1-C1	-2.02	1.19	1.23
48	a	202	PLX	P1-O1	2.02	1.67	1.59
53	l	702	CDL	C11-CA5	2.02	1.56	1.50
48	r	502	PLX	P1-O1	2.02	1.67	1.59
47	b	201	PEE	O3-C3	-2.01	1.40	1.45
53	o	201	CDL	C11-CA5	2.01	1.56	1.50
48	r	503	PLX	P1-O1	2.00	1.67	1.59

All (103) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
55	s	401	UQ	C7-C8-C9	-9.55	110.89	126.79
50	J	401	NDP	C3N-C2N-N1N	-7.49	112.41	123.10
50	J	401	NDP	C1D-N1N-C2N	-7.05	109.38	121.11
49	X	201	8Q1	C6-C1-S44	5.99	120.43	113.46
49	G	201	8Q1	C6-C1-S44	5.81	120.23	113.46
55	s	401	UQ	C12-C13-C14	-5.81	113.66	127.66
50	J	401	NDP	C1D-N1N-C6N	-5.42	109.15	120.83
56	w	401	ADP	N3-C2-N1	-4.47	121.69	128.68
55	s	401	UQ	C11-C9-C8	-4.29	112.44	121.12

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	a	201	CDL	OA6-CA5-C11	4.27	120.71	111.50
55	s	401	UQ	C15-C14-C13	-4.23	112.83	123.68
47	l	701	PEE	O2-C10-C11	4.11	120.36	111.50
55	s	401	UQ	C10-C9-C8	-4.11	113.14	123.68
53	a	201	CDL	OB6-CB5-C51	4.09	120.31	111.50
53	r	504	CDL	OB6-CB5-C51	4.09	120.31	111.50
50	J	401	NDP	N3A-C2A-N1A	-4.08	122.30	128.68
47	Q	501	PEE	O2-C10-C11	4.08	120.30	111.50
53	r	505	CDL	OB6-CB5-C51	4.07	120.28	111.50
53	u	201	CDL	OB6-CB5-C51	4.06	120.25	111.50
53	i	401	CDL	OA6-CA5-C11	4.05	120.24	111.50
53	l	702	CDL	OA6-CA5-C11	4.02	120.17	111.50
53	o	201	CDL	OA6-CA5-C11	4.01	120.15	111.50
53	N	201	CDL	OB6-CB5-C51	4.01	120.14	111.50
55	s	401	UQ	C17-C18-C19	-4.01	114.05	127.75
47	r	501	PEE	O2-C10-C11	4.01	120.14	111.50
47	W	201	PEE	O2-C10-C11	4.01	120.14	111.50
53	o	201	CDL	OB6-CB5-C51	3.98	120.08	111.50
47	U	101	PEE	O2-C10-C11	3.97	120.06	111.50
55	s	401	UQ	C16-C14-C13	-3.97	113.08	121.12
47	b	201	PEE	O2-C10-C11	3.93	119.97	111.50
53	r	504	CDL	OA6-CA5-C11	3.91	119.93	111.50
53	i	401	CDL	OB6-CB5-C51	3.91	119.92	111.50
53	N	201	CDL	OA6-CA5-C11	3.90	119.90	111.50
47	i	402	PEE	O2-C10-C11	3.89	119.88	111.50
47	C	302	PEE	O2-C10-C11	3.88	119.85	111.50
53	u	201	CDL	OA6-CA5-C11	3.84	119.78	111.50
53	l	702	CDL	OB6-CB5-C51	3.81	119.70	111.50
47	l	703	PEE	O2-C10-C11	3.80	119.70	111.50
53	r	505	CDL	OA6-CA5-C11	3.79	119.67	111.50
53	V	201	CDL	OA6-CA5-C11	3.74	119.57	111.50
53	V	201	CDL	OB6-CB5-C51	3.71	119.50	111.50
49	X	201	8Q1	O4-C1-C6	-3.44	119.92	123.99
49	G	201	8Q1	O4-C1-C6	-3.43	119.94	123.99
55	s	401	UQ	C21-C19-C18	-3.38	112.88	122.65
49	G	201	8Q1	C37-C38-C39	3.24	117.76	112.36
55	s	401	UQ	C20-C19-C18	-3.12	113.63	122.65
46	A	502	FMN	C4-N3-C2	-3.07	119.97	125.64
55	s	401	UQ	C7-C6-C1	2.92	121.99	118.48
56	w	401	ADP	O4'-C1'-C2'	-2.79	102.85	106.93
50	J	401	NDP	PN-O3-PA	-2.79	123.26	132.83
56	w	401	ADP	PA-O3A-PB	-2.77	123.33	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	V	201	CDL	OB8-CB7-C71	2.76	120.56	111.91
47	r	501	PEE	O3-C30-C31	2.73	120.48	111.91
47	Q	501	PEE	O3-C30-C31	2.72	120.43	111.91
55	s	401	UQ	CM5-C5-C6	-2.70	120.00	124.40
53	i	401	CDL	OB8-CB7-C71	2.68	120.30	111.91
53	u	201	CDL	OB8-CB7-C71	2.67	120.28	111.91
47	i	402	PEE	O3-C30-C31	2.65	120.23	111.91
53	N	201	CDL	OB8-CB7-C71	2.65	120.23	111.91
53	o	201	CDL	OA8-CA7-C31	2.65	120.21	111.91
47	b	201	PEE	O3-C30-C31	2.64	120.20	111.91
53	a	201	CDL	OB8-CB7-C71	2.64	120.19	111.91
46	A	502	FMN	C4A-C4-N3	2.64	119.88	113.19
53	N	201	CDL	OA8-CA7-C31	2.63	120.17	111.91
53	r	504	CDL	OA8-CA7-C31	2.63	120.15	111.91
53	o	201	CDL	OB8-CB7-C71	2.62	120.14	111.91
47	l	703	PEE	O3-C30-C31	2.62	120.14	111.91
53	r	504	CDL	OB8-CB7-C71	2.61	120.10	111.91
47	U	101	PEE	O3-C30-C31	2.61	120.09	111.91
53	a	201	CDL	OA8-CA7-C31	2.59	120.05	111.91
53	r	505	CDL	OB8-CB7-C71	2.57	119.97	111.91
47	l	701	PEE	O3-C30-C31	2.56	119.95	111.91
53	l	702	CDL	OB8-CB7-C71	2.56	119.95	111.91
53	i	401	CDL	OA8-CA7-C31	2.56	119.94	111.91
53	l	702	CDL	OA8-CA7-C31	2.56	119.93	111.91
53	u	201	CDL	OA8-CA7-C31	2.54	119.86	111.91
47	C	302	PEE	O3-C30-C31	2.52	119.81	111.91
53	r	505	CDL	OA8-CA7-C31	2.52	119.81	111.91
53	V	201	CDL	OA8-CA7-C31	2.49	119.72	111.91
48	r	503	PLX	C1A-N1-C1	2.48	120.07	109.92
46	A	502	FMN	O4-C4-C4A	-2.46	120.07	126.60
48	j	201	PLX	C1A-N1-C1	2.45	119.94	109.92
47	W	201	PEE	O3-C30-C31	2.43	119.54	111.91
48	r	502	PLX	C1A-N1-C1	2.43	119.85	109.92
46	A	502	FMN	C4A-C10-N10	2.42	120.02	116.48
49	G	201	8Q1	C38-C39-N41	2.42	120.49	116.42
49	X	201	8Q1	C38-C39-N41	2.37	120.41	116.42
50	J	401	NDP	C4A-C5A-N7A	-2.36	106.94	109.40
49	G	201	8Q1	C43-S44-C1	2.35	109.20	101.87
49	X	201	8Q1	C37-C38-C39	2.35	116.27	112.36
48	a	202	PLX	C1A-N1-C1	2.35	119.53	109.92
48	g	201	PLX	C1A-N1-C1	2.35	119.52	109.92
49	X	201	8Q1	O4-C1-S44	-2.29	119.64	122.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
48	C	303	PLX	C1A-N1-C1	2.25	119.14	109.92
50	J	401	NDP	C2B-C3B-C4B	2.25	106.89	101.99
56	w	401	ADP	C4-C5-N7	-2.23	107.08	109.40
49	X	201	8Q1	C43-S44-C1	2.18	108.67	101.87
46	A	502	FMN	C10-C4A-N5	-2.18	120.23	124.86
46	A	502	FMN	C4A-C10-N1	-2.15	119.74	124.73
49	G	201	8Q1	O4-C1-S44	-2.14	119.84	122.61
46	A	502	FMN	C9A-C5A-N5	-2.11	120.13	122.43
49	X	201	8Q1	O27-C28-C29	-2.10	107.17	110.55
50	J	401	NDP	C2D-C3D-C4D	2.06	106.65	102.64

There are no chirality outliers.

All (865) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
46	A	502	FMN	N10-C1'-C2'-O2'
46	A	502	FMN	N10-C1'-C2'-C3'
46	A	502	FMN	C1'-C2'-C3'-O3'
47	U	101	PEE	C17-C18-C19-C20
47	U	101	PEE	C1-O3P-P-O1P
47	U	101	PEE	C4-O4P-P-O3P
47	U	101	PEE	C4-O4P-P-O2P
47	b	201	PEE	C1-O3P-P-O1P
47	i	402	PEE	C11-C10-O2-C2
47	l	701	PEE	C17-C18-C19-C20
47	l	701	PEE	O2-C2-C3-O3
47	l	701	PEE	C1-O3P-P-O2P
47	l	701	PEE	C1-O3P-P-O1P
47	l	701	PEE	C1-O3P-P-O4P
47	l	701	PEE	C4-O4P-P-O1P
47	l	703	PEE	O3P-C1-C2-O2
47	r	501	PEE	C4-O4P-P-O3P
47	r	501	PEE	C4-O4P-P-O2P
47	r	501	PEE	C4-O4P-P-O1P
48	C	303	PLX	O7-C6-O6-C4
48	C	303	PLX	N1-C1-C2-O1
48	a	202	PLX	C3-O4-P1-O1
48	a	202	PLX	C3-O4-P1-O3
48	g	201	PLX	C25-C24-O8-C5
48	j	201	PLX	O7-C6-C7-C8
48	j	201	PLX	O7-C6-O6-C4
48	j	201	PLX	O9-C24-C25-C26

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Mol	Chain	Res	Type	Atoms
48	r	502	PLX	O7-C6-O6-C4
48	r	502	PLX	C5-C4-O6-C6
48	r	502	PLX	O9-C24-C25-C26
48	r	503	PLX	O7-C6-O6-C4
48	r	503	PLX	C3-O4-P1-O1
48	r	503	PLX	C3-O4-P1-O2
48	r	503	PLX	C3-O4-P1-O3
48	r	503	PLX	C2-O1-P1-O4
48	r	503	PLX	C2-O1-P1-O2
48	r	503	PLX	C2-O1-P1-O3
48	r	503	PLX	C25-C24-O8-C5
48	r	503	PLX	O9-C24-C25-C26
49	G	201	8Q1	O4-C1-S44-C43
49	G	201	8Q1	C6-C1-S44-C43
49	G	201	8Q1	O27-C28-C29-C32
49	G	201	8Q1	C42-C43-S44-C1
49	G	201	8Q1	C28-O27-P24-O3
49	G	201	8Q1	C28-O27-P24-O2
49	G	201	8Q1	C28-O27-P24-O1
49	X	201	8Q1	C1-C6-C7-C8
49	X	201	8Q1	C28-C29-C32-C34
49	X	201	8Q1	C28-C29-C32-O33
49	X	201	8Q1	C30-C29-C32-C34
49	X	201	8Q1	C30-C29-C32-O33
49	X	201	8Q1	C31-C29-C32-C34
49	X	201	8Q1	C31-C29-C32-O33
49	X	201	8Q1	N36-C37-C38-C39
49	X	201	8Q1	C42-C43-S44-C1
49	X	201	8Q1	C28-O27-P24-O3
49	X	201	8Q1	C28-O27-P24-O2
49	X	201	8Q1	C28-O27-P24-O1
53	N	201	CDL	O1-C1-CB2-OB2
53	N	201	CDL	CA2-C1-CB2-OB2
53	N	201	CDL	CA3-OA5-PA1-OA3
53	N	201	CDL	CA3-OA5-PA1-OA4
53	N	201	CDL	C11-CA5-OA6-CA4
53	N	201	CDL	CB2-OB2-PB2-OB3
53	N	201	CDL	CB2-OB2-PB2-OB4
53	N	201	CDL	CB3-OB5-PB2-OB3
53	V	201	CDL	CB2-C1-CA2-OA2
53	V	201	CDL	CA2-C1-CB2-OB2
53	V	201	CDL	CA3-OA5-PA1-OA4

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Mol	Chain	Res	Type	Atoms
53	V	201	CDL	CB2-OB2-PB2-OB3
53	V	201	CDL	CB2-OB2-PB2-OB4
53	V	201	CDL	CB2-OB2-PB2-OB5
53	V	201	CDL	CB3-OB5-PB2-OB3
53	V	201	CDL	CB3-OB5-PB2-OB4
53	a	201	CDL	CA2-C1-CB2-OB2
53	a	201	CDL	CA2-OA2-PA1-OA3
53	a	201	CDL	CA2-OA2-PA1-OA4
53	a	201	CDL	CA2-OA2-PA1-OA5
53	a	201	CDL	CA3-OA5-PA1-OA2
53	a	201	CDL	CB2-OB2-PB2-OB3
53	a	201	CDL	CB3-OB5-PB2-OB2
53	a	201	CDL	CB3-OB5-PB2-OB3
53	i	401	CDL	CA2-OA2-PA1-OA5
53	i	401	CDL	CB3-OB5-PB2-OB3
53	l	702	CDL	CA2-C1-CB2-OB2
53	l	702	CDL	CA3-OA5-PA1-OA2
53	l	702	CDL	CB2-OB2-PB2-OB3
53	l	702	CDL	CB2-OB2-PB2-OB4
53	l	702	CDL	CB2-OB2-PB2-OB5
53	l	702	CDL	OB6-CB4-CB6-OB8
53	o	201	CDL	CB2-C1-CA2-OA2
53	o	201	CDL	CA2-C1-CB2-OB2
53	o	201	CDL	CA2-OA2-PA1-OA5
53	o	201	CDL	OA6-CA4-CA6-OA8
53	o	201	CDL	CB2-OB2-PB2-OB3
53	o	201	CDL	CB3-OB5-PB2-OB2
53	o	201	CDL	CB3-OB5-PB2-OB3
53	o	201	CDL	CB3-OB5-PB2-OB4
53	o	201	CDL	OB6-CB4-CB6-OB8
53	r	504	CDL	CA2-C1-CB2-OB2
53	r	504	CDL	CA2-OA2-PA1-OA3
53	r	504	CDL	CB2-OB2-PB2-OB3
53	r	504	CDL	CB2-OB2-PB2-OB4
53	r	504	CDL	CB3-OB5-PB2-OB3
53	r	505	CDL	CB2-C1-CA2-OA2
53	r	505	CDL	CA2-OA2-PA1-OA3
53	r	505	CDL	CA2-OA2-PA1-OA4
53	r	505	CDL	CA3-OA5-PA1-OA2
53	r	505	CDL	CA3-OA5-PA1-OA4
53	r	505	CDL	CB2-OB2-PB2-OB3
53	r	505	CDL	CB3-OB5-PB2-OB3

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Mol	Chain	Res	Type	Atoms
53	r	505	CDL	CB3-OB5-PB2-OB4
53	u	201	CDL	O1-C1-CA2-OA2
53	u	201	CDL	CA2-OA2-PA1-OA4
53	u	201	CDL	CB2-OB2-PB2-OB3
53	u	201	CDL	CB3-OB5-PB2-OB3
55	s	401	UQ	C7-C8-C9-C11
55	s	401	UQ	C12-C13-C14-C16
56	w	401	ADP	C5'-O5'-PA-O1A
56	w	401	ADP	C5'-O5'-PA-O2A
56	w	401	ADP	C5'-O5'-PA-O3A
53	r	504	CDL	C31-CA7-OA8-CA6
53	i	401	CDL	OA9-CA7-OA8-CA6
53	r	504	CDL	OA9-CA7-OA8-CA6
47	i	402	PEE	O4-C10-O2-C2
47	l	703	PEE	O4-C10-O2-C2
53	N	201	CDL	OA7-CA5-OA6-CA4
47	l	703	PEE	C11-C10-O2-C2
55	s	401	UQ	C17-C18-C19-C21
53	i	401	CDL	C31-CA7-OA8-CA6
47	Q	501	PEE	C37-C38-C39-C40
47	b	201	PEE	C37-C38-C39-C40
47	b	201	PEE	O5-C30-O3-C3
47	l	703	PEE	O5-C30-O3-C3
53	u	201	CDL	C52-C53-C54-C55
53	N	201	CDL	O1-C1-CA2-OA2
53	V	201	CDL	O1-C1-CA2-OA2
53	l	702	CDL	O1-C1-CA2-OA2
53	l	702	CDL	O1-C1-CB2-OB2
53	o	201	CDL	O1-C1-CA2-OA2
53	r	504	CDL	O1-C1-CA2-OA2
53	r	504	CDL	O1-C1-CB2-OB2
47	l	703	PEE	C31-C30-O3-C3
53	l	702	CDL	C71-CB7-OB8-CB6
53	V	201	CDL	C11-CA5-OA6-CA4
53	l	702	CDL	C75-C76-C77-C78
48	g	201	PLX	C10-C11-C12-C13
48	r	502	PLX	C9-C10-C11-C12
53	u	201	CDL	C71-C72-C73-C74
48	j	201	PLX	C28-C29-C30-C31
53	N	201	CDL	C11-C12-C13-C14
53	V	201	CDL	C11-C12-C13-C14
53	V	201	CDL	C32-C33-C34-C35

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Mol	Chain	Res	Type	Atoms
53	u	201	CDL	C75-C76-C77-C78
53	V	201	CDL	C59-C60-C61-C62
53	l	702	CDL	C59-C60-C61-C62
47	b	201	PEE	C31-C30-O3-C3
53	o	201	CDL	C32-C33-C34-C35
55	s	401	UQ	C12-C11-C9-C8
48	a	202	PLX	C33-C34-C35-C36
48	r	503	PLX	C12-C13-C14-C15
53	V	201	CDL	C62-C63-C64-C65
53	l	702	CDL	OB9-CB7-OB8-CB6
55	s	401	UQ	C9-C11-C12-C13
48	r	502	PLX	C30-C31-C32-C33
53	l	702	CDL	C11-C12-C13-C14
53	r	504	CDL	C55-C56-C57-C58
47	W	201	PEE	C31-C30-O3-C3
53	r	505	CDL	C71-CB7-OB8-CB6
53	r	505	CDL	C74-C75-C76-C77
47	l	703	PEE	C33-C34-C35-C36
47	Q	501	PEE	C11-C10-O2-C2
53	l	702	CDL	C35-C36-C37-C38
53	a	201	CDL	C31-C32-C33-C34
53	u	201	CDL	CB2-C1-CA2-OA2
53	u	201	CDL	CA2-C1-CB2-OB2
53	r	505	CDL	OB9-CB7-OB8-CB6
47	l	701	PEE	C31-C30-O3-C3
53	V	201	CDL	C31-CA7-OA8-CA6
53	r	504	CDL	C71-CB7-OB8-CB6
53	r	505	CDL	CA5-C11-C12-C13
48	r	502	PLX	C11-C12-C13-C14
53	r	505	CDL	C76-C77-C78-C79
47	U	101	PEE	C34-C35-C36-C37
48	g	201	PLX	C31-C32-C33-C34
53	V	201	CDL	O1-C1-CB2-OB2
53	u	201	CDL	O1-C1-CB2-OB2
53	i	401	CDL	OB6-CB4-CB6-OB8
53	l	702	CDL	OA6-CA4-CA6-OA8
47	l	701	PEE	O5-C30-O3-C3
48	g	201	PLX	C12-C13-C14-C15
47	l	701	PEE	C30-C31-C32-C33
53	V	201	CDL	CB7-C71-C72-C73
53	a	201	CDL	CA5-C11-C12-C13
53	r	504	CDL	OB9-CB7-OB8-CB6

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Mol	Chain	Res	Type	Atoms
53	N	201	CDL	C31-CA7-OA8-CA6
47	r	501	PEE	C10-C11-C12-C13
53	r	504	CDL	CB7-C71-C72-C73
53	r	505	CDL	CA7-C31-C32-C33
53	u	201	CDL	CB7-C71-C72-C73
53	i	401	CDL	C14-C15-C16-C17
47	i	402	PEE	C30-C31-C32-C33
47	l	703	PEE	C30-C31-C32-C33
53	N	201	CDL	CB7-C71-C72-C73
53	a	201	CDL	CA7-C31-C32-C33
53	i	401	CDL	CA5-C11-C12-C13
53	i	401	CDL	CA7-C31-C32-C33
53	i	401	CDL	CB7-C71-C72-C73
53	l	702	CDL	CB5-C51-C52-C53
53	l	702	CDL	CB7-C71-C72-C73
53	u	201	CDL	CB5-C51-C52-C53
47	U	101	PEE	C31-C30-O3-C3
53	o	201	CDL	C71-CB7-OB8-CB6
48	j	201	PLX	C15-C16-C17-C18
53	V	201	CDL	OA7-CA5-OA6-CA4
48	r	503	PLX	C2-C1-N1-C1A
53	o	201	CDL	CB7-C71-C72-C73
47	l	701	PEE	C11-C12-C13-C14
53	o	201	CDL	C72-C73-C74-C75
53	V	201	CDL	OA9-CA7-OA8-CA6
53	r	504	CDL	C58-C59-C60-C61
53	a	201	CDL	O1-C1-CA2-OA2
53	a	201	CDL	O1-C1-CB2-OB2
53	i	401	CDL	O1-C1-CA2-OA2
53	o	201	CDL	O1-C1-CB2-OB2
53	r	505	CDL	O1-C1-CA2-OA2
47	Q	501	PEE	O4-C10-O2-C2
47	W	201	PEE	O5-C30-O3-C3
47	Q	501	PEE	C35-C36-C37-C38
47	Q	501	PEE	C17-C18-C19-C20
47	U	101	PEE	O5-C30-O3-C3
53	N	201	CDL	OA9-CA7-OA8-CA6
47	U	101	PEE	C11-C10-O2-C2
53	o	201	CDL	C51-CB5-OB6-CB4
48	a	202	PLX	C29-C30-C31-C32
47	l	701	PEE	C4-O4P-P-O3P
48	g	201	PLX	C3-O4-P1-O1

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Mol	Chain	Res	Type	Atoms
48	j	201	PLX	C3-O4-P1-O1
53	N	201	CDL	CA2-OA2-PA1-OA5
53	N	201	CDL	CA3-OA5-PA1-OA2
53	N	201	CDL	CB2-OB2-PB2-OB5
53	V	201	CDL	CA2-OA2-PA1-OA5
53	V	201	CDL	CA3-OA5-PA1-OA2
53	V	201	CDL	CB3-OB5-PB2-OB2
53	a	201	CDL	CB2-OB2-PB2-OB5
53	i	401	CDL	CB3-OB5-PB2-OB2
53	l	702	CDL	CB3-OB5-PB2-OB2
53	r	504	CDL	CA2-OA2-PA1-OA5
53	r	504	CDL	CB2-OB2-PB2-OB5
53	r	504	CDL	CB3-OB5-PB2-OB2
53	r	505	CDL	CA2-OA2-PA1-OA5
53	r	505	CDL	CB3-OB5-PB2-OB2
53	u	201	CDL	CA2-OA2-PA1-OA5
53	u	201	CDL	CB3-OB5-PB2-OB2
50	J	401	NDP	C2D-C1D-N1N-C6N
47	U	101	PEE	C32-C33-C34-C35
53	u	201	CDL	C17-C18-C19-C20
47	b	201	PEE	C10-C11-C12-C13
53	a	201	CDL	CB2-C1-CA2-OA2
53	i	401	CDL	CB2-C1-CA2-OA2
53	r	504	CDL	CB2-C1-CA2-OA2
47	U	101	PEE	O4-C10-O2-C2
53	o	201	CDL	OB7-CB5-OB6-CB4
48	r	503	PLX	C2-C1-N1-C1C
53	V	201	CDL	C71-CB7-OB8-CB6
48	g	201	PLX	O8-C24-C25-C26
48	r	502	PLX	C27-C28-C29-C30
53	l	702	CDL	C37-C38-C39-C40
47	C	302	PEE	C11-C10-O2-C2
47	b	201	PEE	C11-C10-O2-C2
53	r	505	CDL	C51-CB5-OB6-CB4
47	b	201	PEE	C13-C14-C15-C16
47	r	501	PEE	C21-C22-C23-C24
48	C	303	PLX	C25-C26-C27-C28
48	a	202	PLX	C28-C29-C30-C31
48	r	503	PLX	C10-C11-C12-C13
53	V	201	CDL	C31-C32-C33-C34
53	a	201	CDL	C73-C74-C75-C76
53	r	504	CDL	C20-C21-C22-C23

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Mol	Chain	Res	Type	Atoms
53	r	504	CDL	C52-C53-C54-C55
53	r	504	CDL	C59-C60-C61-C62
53	r	505	CDL	C12-C13-C14-C15
53	r	505	CDL	C35-C36-C37-C38
53	r	505	CDL	C56-C57-C58-C59
53	r	505	CDL	C59-C60-C61-C62
53	u	201	CDL	C55-C56-C57-C58
49	G	201	8Q1	O27-C28-C29-C30
49	G	201	8Q1	O27-C28-C29-C31
53	V	201	CDL	C52-C53-C54-C55
53	a	201	CDL	C37-C38-C39-C40
53	i	401	CDL	C52-C53-C54-C55
53	l	702	CDL	C39-C40-C41-C42
53	l	702	CDL	C74-C75-C76-C77
53	N	201	CDL	CA6-CA4-OA6-CA5
47	C	302	PEE	O4-C10-O2-C2
47	b	201	PEE	O4-C10-O2-C2
53	r	505	CDL	OB7-CB5-OB6-CB4
47	i	402	PEE	C11-C12-C13-C14
48	a	202	PLX	C7-C8-C9-C10
53	V	201	CDL	C33-C34-C35-C36
53	a	201	CDL	C21-C22-C23-C24
53	r	504	CDL	C75-C76-C77-C78
53	o	201	CDL	OB9-CB7-OB8-CB6
48	r	503	PLX	C13-C14-C15-C16
53	V	201	CDL	C74-C75-C76-C77
53	o	201	CDL	C73-C74-C75-C76
53	r	504	CDL	C74-C75-C76-C77
47	b	201	PEE	C31-C32-C33-C34
48	r	502	PLX	C7-C8-C9-C10
53	o	201	CDL	C55-C56-C57-C58
53	o	201	CDL	C71-C72-C73-C74
53	N	201	CDL	CA7-C31-C32-C33
48	r	502	PLX	C31-C32-C33-C34
53	l	702	CDL	C71-C72-C73-C74
53	r	504	CDL	C35-C36-C37-C38
53	u	201	CDL	C13-C14-C15-C16
47	Q	501	PEE	C33-C34-C35-C36
47	b	201	PEE	C33-C34-C35-C36
53	a	201	CDL	C75-C76-C77-C78
48	g	201	PLX	C33-C34-C35-C36
48	r	503	PLX	C14-C15-C16-C17

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Mol	Chain	Res	Type	Atoms
53	l	702	CDL	C73-C74-C75-C76
53	o	201	CDL	C83-C84-C85-C86
53	r	504	CDL	C11-C12-C13-C14
53	r	505	CDL	C73-C74-C75-C76
48	r	503	PLX	C25-C26-C27-C28
48	r	503	PLX	C27-C28-C29-C30
53	o	201	CDL	C75-C76-C77-C78
53	r	505	CDL	C71-C72-C73-C74
53	u	201	CDL	C11-C12-C13-C14
53	V	201	CDL	C51-CB5-OB6-CB4
48	C	303	PLX	C14-C15-C16-C17
48	C	303	PLX	C9-C10-C11-C12
48	j	201	PLX	C7-C8-C9-C10
53	l	702	CDL	C55-C56-C57-C58
53	r	504	CDL	C82-C83-C84-C85
47	i	402	PEE	C19-C20-C21-C22
47	Q	501	PEE	C11-C12-C13-C14
47	U	101	PEE	C41-C42-C43-C44
48	C	303	PLX	C27-C28-C29-C30
48	a	202	PLX	C14-C15-C16-C17
48	g	201	PLX	C9-C10-C11-C12
48	g	201	PLX	C25-C26-C27-C28
48	g	201	PLX	C28-C29-C30-C31
48	g	201	PLX	C35-C36-C37-C38
48	j	201	PLX	C10-C11-C12-C13
53	r	504	CDL	C73-C74-C75-C76
53	r	505	CDL	C37-C38-C39-C40
53	r	505	CDL	C72-C73-C74-C75
47	C	302	PEE	C13-C14-C15-C16
47	Q	501	PEE	C12-C13-C14-C15
47	b	201	PEE	C22-C23-C24-C25
47	l	701	PEE	C32-C33-C34-C35
48	g	201	PLX	C27-C28-C29-C30
53	r	504	CDL	C32-C33-C34-C35
53	r	504	CDL	C56-C57-C58-C59
48	r	502	PLX	C14-C15-C16-C17
48	j	201	PLX	C12-C13-C14-C15
53	a	201	CDL	C71-CB7-OB8-CB6
47	r	501	PEE	C13-C14-C15-C16
48	g	201	PLX	C11-C10-C9-C8
53	r	505	CDL	C32-C33-C34-C35
48	r	502	PLX	C13-C14-C15-C16

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Mol	Chain	Res	Type	Atoms
53	l	702	CDL	C58-C59-C60-C61
48	r	503	PLX	C28-C29-C30-C31
53	V	201	CDL	C58-C59-C60-C61
53	i	401	CDL	C33-C34-C35-C36
53	r	505	CDL	C43-C44-C45-C46
53	V	201	CDL	OB7-CB5-OB6-CB4
53	i	401	CDL	CB5-C51-C52-C53
53	r	505	CDL	CB5-C51-C52-C53
48	g	201	PLX	O9-C24-C25-C26
48	C	303	PLX	C16-C17-C18-C19
48	r	503	PLX	C31-C32-C33-C34
47	C	302	PEE	C19-C20-C21-C22
48	a	202	PLX	C9-C10-C11-C12
53	a	201	CDL	C52-C53-C54-C55
53	N	201	CDL	C71-CB7-OB8-CB6
47	W	201	PEE	C23-C24-C25-C26
48	j	201	PLX	C25-C26-C27-C28
53	V	201	CDL	OB9-CB7-OB8-CB6
53	l	702	CDL	CB2-C1-CA2-OA2
53	r	504	CDL	C14-C15-C16-C17
53	u	201	CDL	C59-C60-C61-C62
47	l	703	PEE	C11-C12-C13-C14
48	j	201	PLX	C14-C15-C16-C17
53	V	201	CDL	C55-C56-C57-C58
53	r	505	CDL	C41-C42-C43-C44
47	i	402	PEE	C21-C22-C23-C24
53	o	201	CDL	CA7-C31-C32-C33
47	W	201	PEE	C22-C23-C24-C25
47	r	501	PEE	C11-C10-O2-C2
48	C	303	PLX	C13-C14-C15-C16
48	r	503	PLX	C33-C34-C35-C36
53	l	702	CDL	C41-C42-C43-C44
53	V	201	CDL	C54-C55-C56-C57
53	i	401	CDL	C32-C33-C34-C35
53	N	201	CDL	OB9-CB7-OB8-CB6
53	a	201	CDL	OB9-CB7-OB8-CB6
47	Q	501	PEE	C39-C40-C41-C42
47	i	402	PEE	C35-C36-C37-C38
47	l	701	PEE	O4-C10-O2-C2
47	r	501	PEE	O4-C10-O2-C2
53	l	702	CDL	C43-C44-C45-C46
48	j	201	PLX	C27-C28-C29-C30

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Mol	Chain	Res	Type	Atoms
48	r	503	PLX	C26-C27-C28-C29
53	a	201	CDL	C43-C44-C45-C46
53	i	401	CDL	C71-C72-C73-C74
53	r	505	CDL	C75-C76-C77-C78
47	r	501	PEE	C11-C12-C13-C14
48	r	502	PLX	C15-C16-C17-C18
48	C	303	PLX	C17-C18-C19-C20
48	r	503	PLX	C15-C16-C17-C18
53	l	702	CDL	C14-C15-C16-C17
53	u	201	CDL	C53-C54-C55-C56
48	a	202	PLX	C11-C12-C13-C14
53	i	401	CDL	C37-C38-C39-C40
53	r	505	CDL	C17-C18-C19-C20
53	r	505	CDL	C57-C58-C59-C60
47	W	201	PEE	C11-C10-O2-C2
47	l	701	PEE	C11-C10-O2-C2
53	u	201	CDL	C11-CA5-OA6-CA4
47	l	701	PEE	O3P-C1-C2-O2
48	a	202	PLX	O4-C3-C4-O6
48	C	303	PLX	C18-C19-C20-C21
53	r	504	CDL	C42-C43-C44-C45
53	r	505	CDL	C52-C53-C54-C55
47	Q	501	PEE	C21-C22-C23-C24
47	U	101	PEE	C31-C32-C33-C34
47	b	201	PEE	C23-C24-C25-C26
48	a	202	PLX	C11-C10-C9-C8
53	o	201	CDL	C82-C83-C84-C85
53	u	201	CDL	C14-C15-C16-C17
48	r	503	PLX	C2-C1-N1-C1B
48	r	503	PLX	C29-C30-C31-C32
53	a	201	CDL	C14-C15-C16-C17
47	i	402	PEE	C37-C38-C39-C40
53	r	504	CDL	C71-C72-C73-C74
48	r	503	PLX	C30-C31-C32-C33
47	W	201	PEE	O4-C10-O2-C2
53	u	201	CDL	OA7-CA5-OA6-CA4
47	U	101	PEE	C36-C37-C38-C39
47	r	501	PEE	C36-C37-C38-C39
46	A	502	FMN	O2'-C2'-C3'-C4'
47	U	101	PEE	C1-O3P-P-O4P
48	C	303	PLX	C3-O4-P1-O1
53	N	201	CDL	CB3-OB5-PB2-OB2

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Mol	Chain	Res	Type	Atoms
53	u	201	CDL	CB2-OB2-PB2-OB5
48	j	201	PLX	C26-C27-C28-C29
53	r	505	CDL	CB4-CB3-OB5-PB2
47	l	701	PEE	O3P-C1-C2-C3
53	N	201	CDL	OB5-CB3-CB4-CB6
53	i	401	CDL	OA5-CA3-CA4-CA6
53	i	401	CDL	OB5-CB3-CB4-CB6
53	V	201	CDL	C40-C41-C42-C43
53	l	702	CDL	C60-C61-C62-C63
48	C	303	PLX	C26-C27-C28-C29
53	r	504	CDL	C39-C40-C41-C42
47	b	201	PEE	C32-C33-C34-C35
53	o	201	CDL	C84-C85-C86-C87
47	W	201	PEE	C1-C2-C3-O3
47	b	201	PEE	C1-C2-C3-O3
47	i	402	PEE	C1-C2-C3-O3
47	l	701	PEE	C1-C2-C3-O3
48	r	503	PLX	C3-C4-C5-O8
53	V	201	CDL	CA3-CA4-CA6-OA8
53	i	401	CDL	CB3-CB4-CB6-OB8
53	l	702	CDL	CA3-CA4-CA6-OA8
53	l	702	CDL	CB3-CB4-CB6-OB8
53	o	201	CDL	CB3-CB4-CB6-OB8
53	r	505	CDL	CB3-CB4-CB6-OB8
53	u	201	CDL	CA3-CA4-CA6-OA8
55	s	401	UQ	C5-C6-C7-C8
53	N	201	CDL	C51-C52-C53-C54
53	a	201	CDL	C76-C77-C78-C79
53	l	702	CDL	CA7-C31-C32-C33
47	l	701	PEE	C35-C36-C37-C38
47	l	703	PEE	C19-C20-C21-C22
53	a	201	CDL	C32-C33-C34-C35
53	i	401	CDL	C71-CB7-OB8-CB6
48	C	303	PLX	C33-C34-C35-C36
48	r	502	PLX	C16-C17-C18-C19
55	s	401	UQ	C1-C6-C7-C8
48	g	201	PLX	C14-C15-C16-C17
53	l	702	CDL	C64-C65-C66-C67
53	r	504	CDL	C34-C35-C36-C37
53	r	505	CDL	C14-C15-C16-C17
53	r	505	CDL	C60-C61-C62-C63
53	u	201	CDL	C60-C61-C62-C63

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Mol	Chain	Res	Type	Atoms
47	C	302	PEE	C42-C43-C44-C45
47	Q	501	PEE	C44-C45-C46-C47
48	r	502	PLX	C33-C34-C35-C36
49	G	201	8Q1	C13-C14-C15-C16
53	o	201	CDL	C52-C53-C54-C55
47	Q	501	PEE	C31-C30-O3-C3
48	C	303	PLX	O4-C3-C4-O6
47	r	501	PEE	C17-C18-C19-C20
53	V	201	CDL	C14-C15-C16-C17
48	r	503	PLX	C7-C8-C9-C10
53	r	505	CDL	C20-C21-C22-C23
53	r	505	CDL	OB6-CB4-CB6-OB8
53	u	201	CDL	CA5-C11-C12-C13
53	N	201	CDL	C71-C72-C73-C74
47	W	201	PEE	O3-C30-C31-C32
48	j	201	PLX	C33-C34-C35-C36
53	a	201	CDL	C71-C72-C73-C74
48	r	503	PLX	C16-C17-C18-C19
48	r	503	PLX	C35-C36-C37-C38
53	i	401	CDL	OB9-CB7-OB8-CB6
48	g	201	PLX	C11-C12-C13-C14
53	l	702	CDL	C56-C57-C58-C59
53	l	702	CDL	C52-C53-C54-C55
53	i	401	CDL	C11-C12-C13-C14
53	r	505	CDL	C31-C32-C33-C34
53	r	505	CDL	CB7-C71-C72-C73
53	a	201	CDL	C60-C61-C62-C63
53	r	504	CDL	C76-C77-C78-C79
47	i	402	PEE	C18-C19-C20-C21
48	g	201	PLX	C36-C37-C38-C39
47	i	402	PEE	O3P-C1-C2-C3
48	a	202	PLX	O4-C3-C4-C5
48	j	201	PLX	O4-C3-C4-C5
53	a	201	CDL	OA5-CA3-CA4-CA6
53	a	201	CDL	OB5-CB3-CB4-CB6
48	a	202	PLX	C30-C31-C32-C33
47	b	201	PEE	C11-C12-C13-C14
47	l	703	PEE	C31-C32-C33-C34
49	X	201	8Q1	C29-C32-C34-O35
47	U	101	PEE	C30-C31-C32-C33
53	r	504	CDL	CA7-C31-C32-C33
48	C	303	PLX	C11-C12-C13-C14

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Mol	Chain	Res	Type	Atoms
48	C	303	PLX	C15-C16-C17-C18
48	g	201	PLX	C13-C14-C15-C16
53	V	201	CDL	C75-C76-C77-C78
47	l	703	PEE	C14-C15-C16-C17
53	l	702	CDL	C53-C54-C55-C56
47	l	701	PEE	C13-C14-C15-C16
53	r	505	CDL	C54-C55-C56-C57
48	j	201	PLX	C13-C14-C15-C16
47	C	302	PEE	C1-C2-C3-O3
48	j	201	PLX	C3-C4-C5-O8
48	r	502	PLX	C3-C4-C5-O8
53	N	201	CDL	CA3-CA4-CA6-OA8
53	i	401	CDL	CA3-CA4-CA6-OA8
53	o	201	CDL	CA3-CA4-CA6-OA8
53	r	504	CDL	C40-C41-C42-C43
48	C	303	PLX	C28-C29-C30-C31
48	j	201	PLX	C9-C10-C11-C12
53	i	401	CDL	C75-C76-C77-C78
53	o	201	CDL	C54-C55-C56-C57
47	Q	501	PEE	C40-C41-C42-C43
53	V	201	CDL	C57-C58-C59-C60
53	a	201	CDL	C53-C54-C55-C56
48	C	303	PLX	C3-C4-O6-C6
48	r	503	PLX	C5-C4-O6-C6
47	i	402	PEE	C24-C25-C26-C27
48	j	201	PLX	O4-C3-C4-O6
53	V	201	CDL	OB5-CB3-CB4-OB6
53	a	201	CDL	OA5-CA3-CA4-OA6
48	C	303	PLX	C31-C32-C33-C34
47	Q	501	PEE	O5-C30-O3-C3
53	i	401	CDL	C73-C74-C75-C76
48	g	201	PLX	C16-C17-C18-C19
48	r	502	PLX	C28-C29-C30-C31
53	r	505	CDL	C78-C79-C80-C81
47	C	302	PEE	O2-C2-C3-O3
47	W	201	PEE	O2-C2-C3-O3
47	b	201	PEE	O2-C2-C3-O3
48	r	502	PLX	O6-C4-C5-O8
48	r	503	PLX	O6-C4-C5-O8
53	r	505	CDL	OA6-CA4-CA6-OA8
53	o	201	CDL	C32-C31-CA7-OA8
53	N	201	CDL	C31-C32-C33-C34

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Mol	Chain	Res	Type	Atoms
53	i	401	CDL	C74-C75-C76-C77
53	N	201	CDL	CB2-C1-CA2-OA2
53	l	702	CDL	C54-C55-C56-C57
47	U	101	PEE	C40-C41-C42-C43
48	r	503	PLX	C18-C19-C20-C21
53	a	201	CDL	C15-C16-C17-C18
47	i	402	PEE	C14-C15-C16-C17
53	i	401	CDL	C35-C36-C37-C38
53	r	505	CDL	C55-C56-C57-C58
47	Q	501	PEE	C34-C35-C36-C37
49	X	201	8Q1	O4-C1-S44-C43
53	l	702	CDL	C12-C13-C14-C15
53	r	504	CDL	C23-C24-C25-C26
47	l	701	PEE	C18-C19-C20-C21
48	r	502	PLX	C12-C13-C14-C15
48	r	503	PLX	O8-C24-C25-C26
47	Q	501	PEE	O3P-C1-C2-C3
47	b	201	PEE	O3P-C1-C2-C3
47	l	703	PEE	O3P-C1-C2-C3
48	C	303	PLX	O4-C3-C4-C5
48	g	201	PLX	C29-C30-C31-C32
53	o	201	CDL	C33-C34-C35-C36
48	a	202	PLX	C13-C14-C15-C16
53	a	201	CDL	C11-C12-C13-C14
53	r	505	CDL	C39-C40-C41-C42
53	u	201	CDL	C54-C55-C56-C57
49	X	201	8Q1	O33-C32-C34-N36
47	Q	501	PEE	C32-C33-C34-C35
47	r	501	PEE	C12-C13-C14-C15
47	C	302	PEE	C14-C15-C16-C17
47	U	101	PEE	C12-C13-C14-C15
49	X	201	8Q1	C6-C1-S44-C43
53	V	201	CDL	CA6-CA4-OA6-CA5
53	a	201	CDL	C17-C18-C19-C20
53	u	201	CDL	C72-C73-C74-C75
48	a	202	PLX	C10-C11-C12-C13
47	r	501	PEE	C1-C2-C3-O3
48	j	201	PLX	C7-C6-O6-C4
53	r	505	CDL	CA3-CA4-CA6-OA8
53	r	504	CDL	C36-C37-C38-C39
48	g	201	PLX	O4-C3-C4-O6
53	V	201	CDL	OA5-CA3-CA4-OA6

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Mol	Chain	Res	Type	Atoms
53	i	401	CDL	OB5-CB3-CB4-OB6
53	o	201	CDL	OA5-CA3-CA4-OA6
48	C	303	PLX	C7-C8-C9-C10
48	j	201	PLX	C31-C32-C33-C34
47	b	201	PEE	C16-C17-C18-C19
50	J	401	NDP	O4D-C1D-N1N-C6N
48	r	503	PLX	C9-C10-C11-C12
48	j	201	PLX	O6-C4-C5-O8
53	i	401	CDL	OA6-CA4-CA6-OA8
53	u	201	CDL	OA6-CA4-CA6-OA8
48	r	503	PLX	C11-C12-C13-C14
47	C	302	PEE	C39-C40-C41-C42
47	b	201	PEE	C15-C16-C17-C18
53	l	702	CDL	C32-C33-C34-C35
48	a	202	PLX	C19-C20-C21-C22
48	a	202	PLX	C25-C26-C27-C28
53	r	504	CDL	C61-C62-C63-C64
53	o	201	CDL	CB2-OB2-PB2-OB5
47	W	201	PEE	C13-C14-C15-C16
48	C	303	PLX	C11-C10-C9-C8
53	o	201	CDL	CB4-CB3-OB5-PB2
47	C	302	PEE	C1-O3P-P-O2P
47	U	101	PEE	C1-O3P-P-O2P
47	U	101	PEE	C4-O4P-P-O1P
47	l	701	PEE	C4-O4P-P-O2P
47	r	501	PEE	C1-O3P-P-O2P
48	a	202	PLX	C3-O4-P1-O2
48	g	201	PLX	C3-O4-P1-O3
48	j	201	PLX	C3-O4-P1-O3
48	j	201	PLX	C2-O1-P1-O3
48	r	502	PLX	C2-O1-P1-O3
53	N	201	CDL	CA2-OA2-PA1-OA4
53	N	201	CDL	CB3-OB5-PB2-OB4
53	V	201	CDL	CA2-OA2-PA1-OA4
53	a	201	CDL	CB2-OB2-PB2-OB4
53	i	401	CDL	CB3-OB5-PB2-OB4
53	l	702	CDL	CB3-OB5-PB2-OB3
53	l	702	CDL	CB3-OB5-PB2-OB4
53	o	201	CDL	CA2-OA2-PA1-OA4
53	o	201	CDL	CB2-OB2-PB2-OB4
53	r	504	CDL	CB3-OB5-PB2-OB4
53	r	505	CDL	CA3-OA5-PA1-OA3

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Mol	Chain	Res	Type	Atoms
53	u	201	CDL	CB2-OB2-PB2-OB4
53	u	201	CDL	CB3-OB5-PB2-OB4
47	r	501	PEE	O3P-C1-C2-C3
48	g	201	PLX	O4-C3-C4-C5
53	r	504	CDL	C81-C82-C83-C84
53	o	201	CDL	C56-C57-C58-C59
47	C	302	PEE	C37-C38-C39-C40
48	a	202	PLX	C25-C24-O8-C5
48	j	201	PLX	C25-C24-O8-C5
47	Q	501	PEE	C10-C11-C12-C13
48	C	303	PLX	C29-C30-C31-C32
53	a	201	CDL	C31-CA7-OA8-CA6
47	Q	501	PEE	O3P-C1-C2-O2
47	b	201	PEE	O3P-C1-C2-O2
47	i	402	PEE	O3P-C1-C2-O2
47	r	501	PEE	O3P-C1-C2-O2
53	N	201	CDL	OB5-CB3-CB4-OB6
53	a	201	CDL	OB5-CB3-CB4-OB6
53	i	401	CDL	OA5-CA3-CA4-OA6
53	l	702	CDL	OA5-CA3-CA4-OA6
47	l	701	PEE	C33-C34-C35-C36
47	b	201	PEE	C34-C35-C36-C37
47	r	501	PEE	C20-C21-C22-C23
53	u	201	CDL	C57-C58-C59-C60
47	r	501	PEE	O2-C2-C3-O3
53	N	201	CDL	OA6-CA4-CA6-OA8
47	Q	501	PEE	C20-C21-C22-C23
47	C	302	PEE	C18-C19-C20-C21
47	W	201	PEE	C12-C13-C14-C15
53	l	702	CDL	C51-C52-C53-C54
48	C	303	PLX	C19-C20-C21-C22
48	j	201	PLX	C19-C20-C21-C22
48	j	201	PLX	O6-C6-C7-C8
53	a	201	CDL	C39-C40-C41-C42
53	a	201	CDL	OA9-CA7-OA8-CA6
47	C	302	PEE	C16-C17-C18-C19
48	C	303	PLX	O9-C24-C25-C26
49	G	201	8Q1	C9-C10-C11-C12
48	a	202	PLX	C35-C36-C37-C38
53	r	505	CDL	C44-C45-C46-C47
53	r	505	CDL	C42-C43-C44-C45
47	l	701	PEE	C10-C11-C12-C13

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Mol	Chain	Res	Type	Atoms
47	W	201	PEE	C16-C17-C18-C19
47	l	703	PEE	C16-C17-C18-C19
53	l	702	CDL	C40-C41-C42-C43
53	i	401	CDL	C15-C16-C17-C18
53	l	702	CDL	OA5-CA3-CA4-CA6
48	a	202	PLX	C26-C27-C28-C29
53	V	201	CDL	C71-C72-C73-C74
47	l	701	PEE	C38-C39-C40-C41
47	l	703	PEE	C36-C37-C38-C39
47	i	402	PEE	C2-C1-O3P-P
47	W	201	PEE	O3P-C1-C2-O2
53	o	201	CDL	OB5-CB3-CB4-OB6
53	r	504	CDL	C60-C61-C62-C63
55	s	401	UQ	C13-C14-C16-C17
48	g	201	PLX	C15-C16-C17-C18
46	A	502	FMN	O2'-C2'-C3'-O3'
53	r	505	CDL	C64-C65-C66-C67
47	i	402	PEE	O2-C2-C3-O3
47	C	302	PEE	C32-C33-C34-C35
47	l	703	PEE	C4-O4P-P-O3P
48	a	202	PLX	C2-O1-P1-O4
53	l	702	CDL	CA2-OA2-PA1-OA5
47	Q	501	PEE	C23-C24-C25-C26
48	j	201	PLX	C2-C1-N1-C1A
47	Q	501	PEE	C13-C14-C15-C16
47	l	703	PEE	C22-C23-C24-C25
53	V	201	CDL	C34-C35-C36-C37
53	r	504	CDL	C54-C55-C56-C57
48	j	201	PLX	C11-C12-C13-C14
53	l	702	CDL	C72-C73-C74-C75
49	G	201	8Q1	C6-C7-C8-C9
47	C	302	PEE	C33-C34-C35-C36
48	g	201	PLX	C32-C33-C34-C35
47	U	101	PEE	C38-C39-C40-C41
47	r	501	PEE	C38-C39-C40-C41
47	W	201	PEE	C33-C34-C35-C36
48	j	201	PLX	C34-C35-C36-C37
53	i	401	CDL	OA7-CA5-OA6-CA4
53	V	201	CDL	OB5-CB3-CB4-CB6
48	a	202	PLX	C6-C7-C8-C9
53	i	401	CDL	C11-CA5-OA6-CA4
53	l	702	CDL	OB5-CB3-CB4-OB6

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Mol	Chain	Res	Type	Atoms
53	r	505	CDL	C33-C34-C35-C36
53	V	201	CDL	CA4-CA3-OA5-PA1
49	G	201	8Q1	N41-C42-C43-S44
53	V	201	CDL	C35-C36-C37-C38
47	U	101	PEE	C22-C23-C24-C25
47	i	402	PEE	C31-C32-C33-C34
47	l	703	PEE	C13-C14-C15-C16
53	r	504	CDL	C16-C17-C18-C19
47	Q	501	PEE	C24-C25-C26-C27
47	r	501	PEE	C23-C24-C25-C26
49	X	201	8Q1	C29-C32-C34-N36
47	Q	501	PEE	C22-C23-C24-C25
53	a	201	CDL	C35-C36-C37-C38
53	a	201	CDL	C59-C60-C61-C62
47	i	402	PEE	C22-C23-C24-C25
47	W	201	PEE	O3P-C1-C2-C3
53	l	702	CDL	OB5-CB3-CB4-CB6
53	o	201	CDL	OA5-CA3-CA4-CA6
53	o	201	CDL	OB5-CB3-CB4-CB6
53	l	702	CDL	C31-C32-C33-C34
53	r	505	CDL	C23-C24-C25-C26
47	l	703	PEE	C23-C24-C25-C26
53	a	201	CDL	C19-C20-C21-C22
47	U	101	PEE	C19-C20-C21-C22
47	W	201	PEE	O5-C30-C31-C32
55	s	401	UQ	C14-C16-C17-C18
47	b	201	PEE	C18-C19-C20-C21
47	b	201	PEE	C38-C39-C40-C41
53	i	401	CDL	CA4-CA3-OA5-PA1
53	l	702	CDL	C33-C34-C35-C36
47	U	101	PEE	C37-C38-C39-C40
53	o	201	CDL	C74-C75-C76-C77
48	j	201	PLX	O8-C24-C25-C26
53	V	201	CDL	C44-C45-C46-C47
47	r	501	PEE	C14-C15-C16-C17
53	V	201	CDL	OA5-CA3-CA4-CA6
47	b	201	PEE	C30-C31-C32-C33
47	r	501	PEE	C41-C42-C43-C44
53	o	201	CDL	C57-C58-C59-C60
53	i	401	CDL	C34-C35-C36-C37
53	u	201	CDL	C22-C23-C24-C25
53	V	201	CDL	OA6-CA4-CA6-OA8

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Mol	Chain	Res	Type	Atoms
53	V	201	CDL	OB6-CB4-CB6-OB8
48	C	303	PLX	C36-C37-C38-C39
53	N	201	CDL	OB7-CB5-OB6-CB4
48	j	201	PLX	C2-C1-N1-C1C
47	U	101	PEE	O2-C10-C11-C12
47	l	703	PEE	C37-C38-C39-C40
47	C	302	PEE	O3-C30-C31-C32
47	W	201	PEE	C18-C19-C20-C21
47	i	402	PEE	C16-C17-C18-C19
47	i	402	PEE	C36-C37-C38-C39
47	i	402	PEE	C38-C39-C40-C41
47	l	701	PEE	C16-C17-C18-C19
47	r	501	PEE	C18-C19-C20-C21
53	l	702	CDL	C34-C35-C36-C37
53	a	201	CDL	C18-C19-C20-C21
49	G	201	8Q1	N36-C37-C38-C39
48	r	502	PLX	C25-C26-C27-C28
53	l	702	CDL	C12-C11-CA5-OA6
47	i	402	PEE	C32-C33-C34-C35
47	l	701	PEE	C15-C16-C17-C18
53	a	201	CDL	CB5-C51-C52-C53
47	l	701	PEE	C37-C38-C39-C40
53	i	401	CDL	C13-C14-C15-C16
53	o	201	CDL	C32-C31-CA7-OA9
47	C	302	PEE	C38-C39-C40-C41
47	U	101	PEE	C16-C17-C18-C19
53	u	201	CDL	C72-C71-CB7-OB8
53	l	702	CDL	C82-C83-C84-C85
53	r	504	CDL	OB6-CB4-CB6-OB8
47	r	501	PEE	C16-C17-C18-C19
53	a	201	CDL	C38-C39-C40-C41
48	a	202	PLX	O9-C24-C25-C26
50	J	401	NDP	C2B-O2B-P2B-O3X
48	g	201	PLX	C30-C31-C32-C33
53	r	505	CDL	C11-C12-C13-C14
53	l	702	CDL	C63-C64-C65-C66
53	l	702	CDL	C80-C81-C82-C83
47	l	703	PEE	C38-C39-C40-C41
48	g	201	PLX	C6-C7-C8-C9
47	C	302	PEE	O5-C30-O3-C3
53	N	201	CDL	C51-CB5-OB6-CB4
48	a	202	PLX	C12-C13-C14-C15

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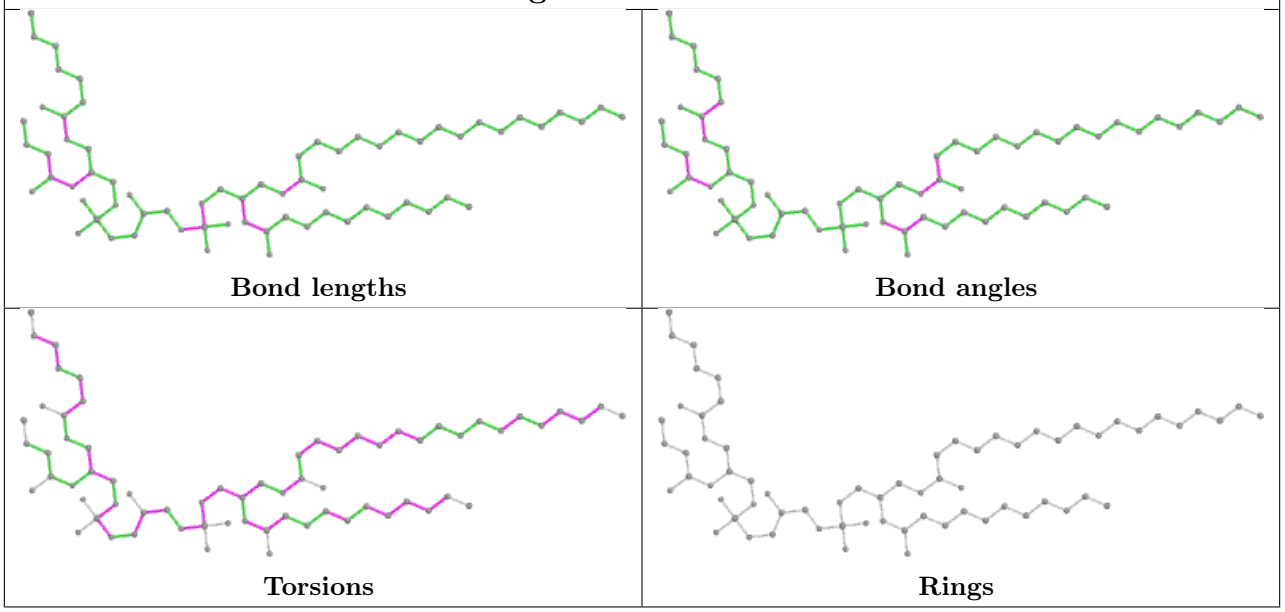
Mol	Chain	Res	Type	Atoms
48	g	201	PLX	O6-C6-C7-C8
47	C	302	PEE	C31-C30-O3-C3
47	r	501	PEE	C31-C30-O3-C3
47	U	101	PEE	O4-C10-C11-C12
53	u	201	CDL	C72-C71-CB7-OB9
47	Q	501	PEE	C18-C19-C20-C21
53	l	702	CDL	C12-C11-CA5-OA7
47	l	701	PEE	O3-C30-C31-C32
47	l	701	PEE	C12-C13-C14-C15
55	s	401	UQ	C17-C18-C19-C20
53	r	505	CDL	C51-C52-C53-C54
47	r	501	PEE	O5-C30-O3-C3
47	C	302	PEE	C4-O4P-P-O2P
47	W	201	PEE	C4-O4P-P-O1P
47	i	402	PEE	C4-O4P-P-O2P
48	j	201	PLX	C3-O4-P1-O2
48	j	201	PLX	C2-C1-N1-C1B
50	J	401	NDP	C2N-C3N-C7N-N7N
53	a	201	CDL	CA3-OA5-PA1-OA4
53	l	702	CDL	CA3-OA5-PA1-OA4
53	o	201	CDL	CA3-OA5-PA1-OA3
53	r	504	CDL	CA3-OA5-PA1-OA3
50	J	401	NDP	O4B-C4B-C5B-O5B
47	C	302	PEE	O5-C30-C31-C32
53	u	201	CDL	OB7-CB5-OB6-CB4
47	r	501	PEE	C39-C40-C41-C42
53	N	201	CDL	C72-C71-CB7-OB8
53	V	201	CDL	C64-C65-C66-C67
53	u	201	CDL	C56-C57-C58-C59
47	r	501	PEE	C30-C31-C32-C33
53	l	702	CDL	C32-C31-CA7-OA8
47	l	703	PEE	C2-C1-O3P-P
53	o	201	CDL	C52-C51-CB5-OB6
53	r	505	CDL	C52-C51-CB5-OB6
53	o	201	CDL	C80-C81-C82-C83
47	l	701	PEE	O5-C30-C31-C32
53	r	504	CDL	C72-C71-CB7-OB8
48	r	502	PLX	C6-C7-C8-C9
53	u	201	CDL	C12-C11-CA5-OA6
53	V	201	CDL	C32-C31-CA7-OA8

There are no ring outliers.

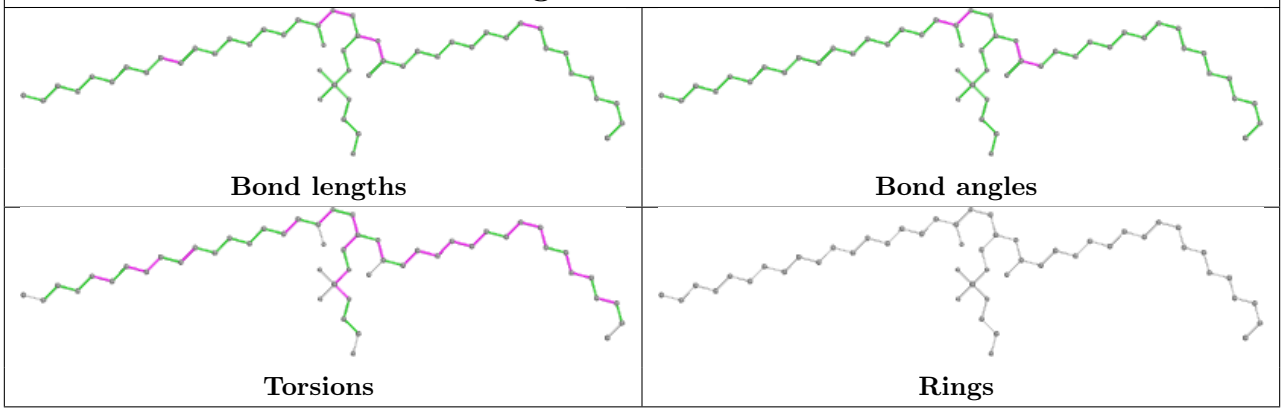
No monomer is involved in short contacts.

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

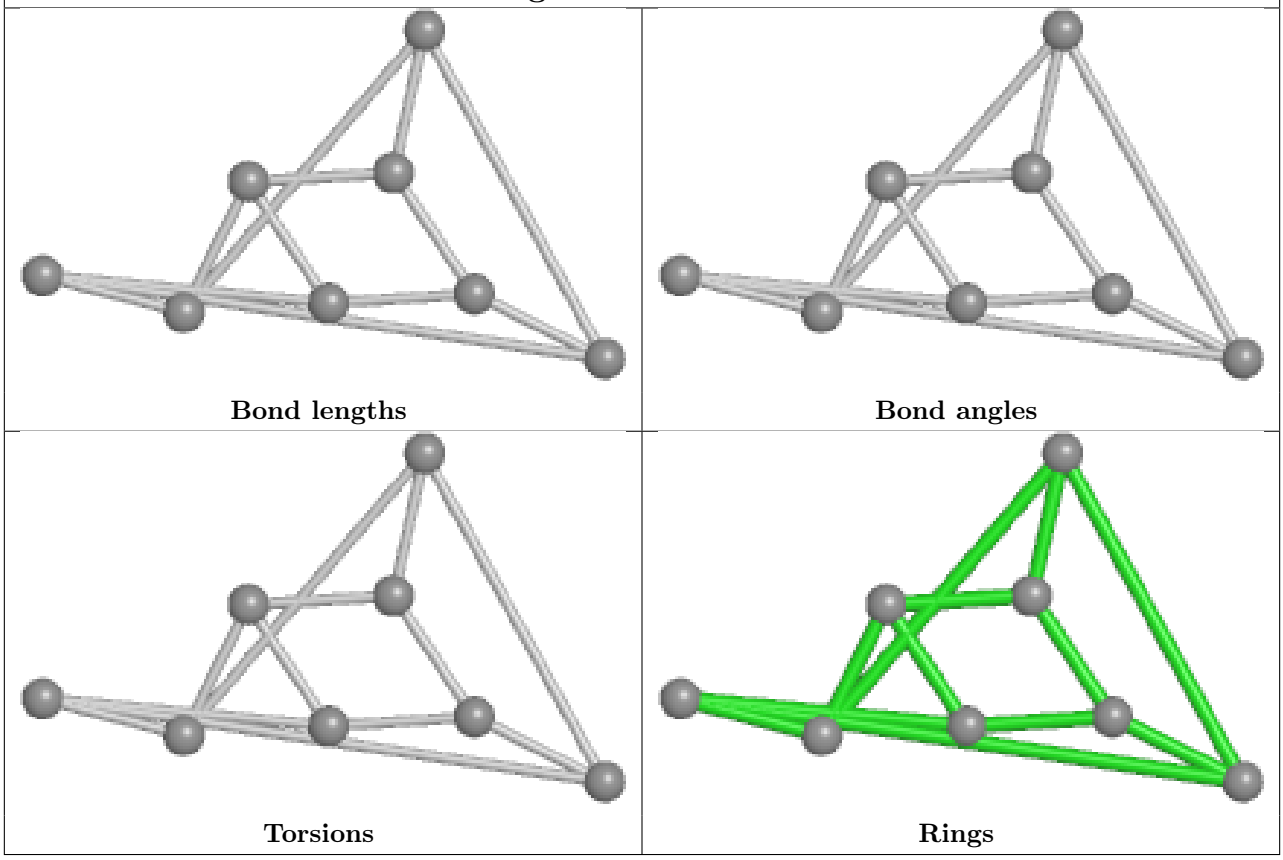
Ligand CDL o 201



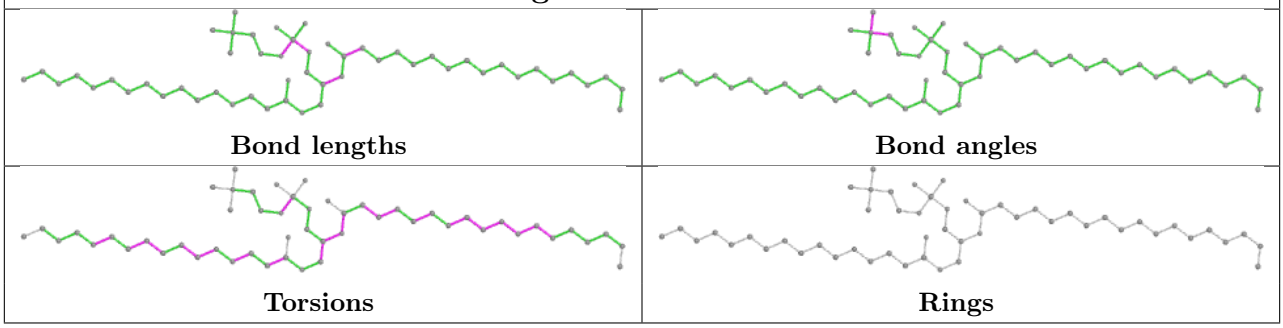
Ligand PEE r 501



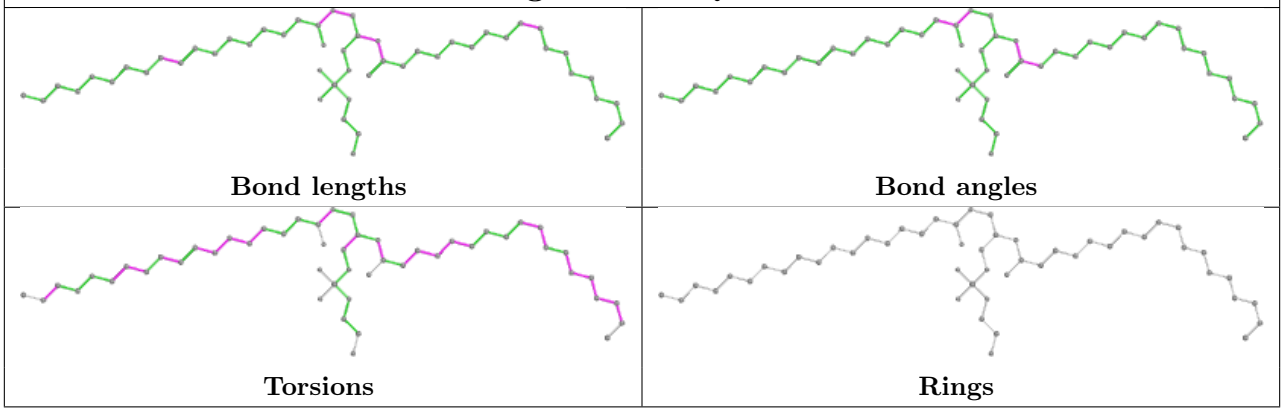
Ligand SF4 M 801



Ligand PLX r 502



Ligand PEE Q 501



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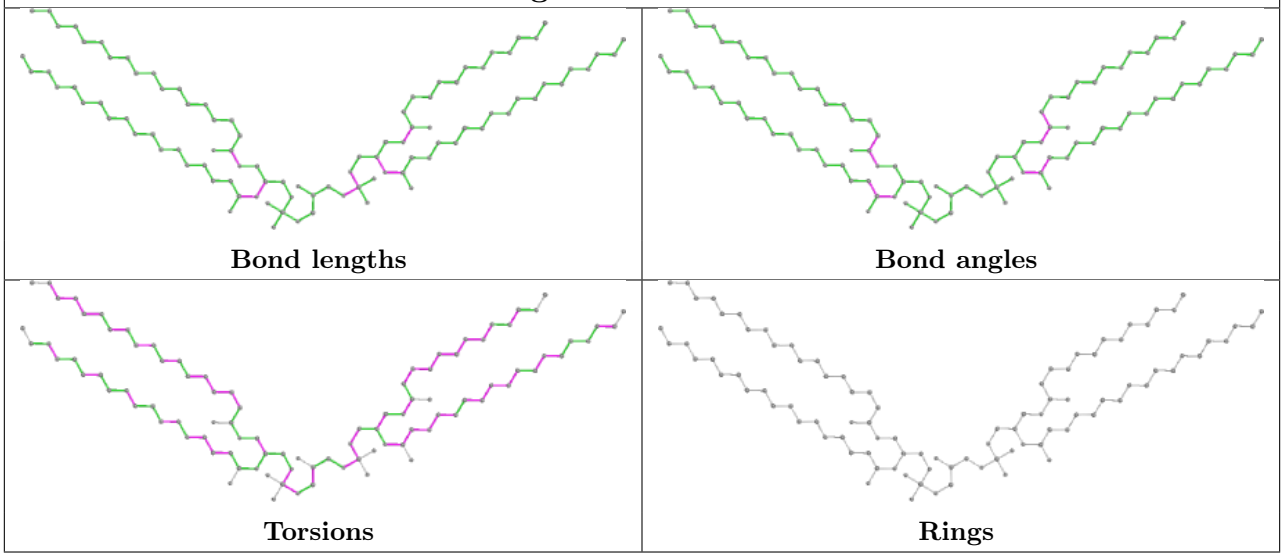
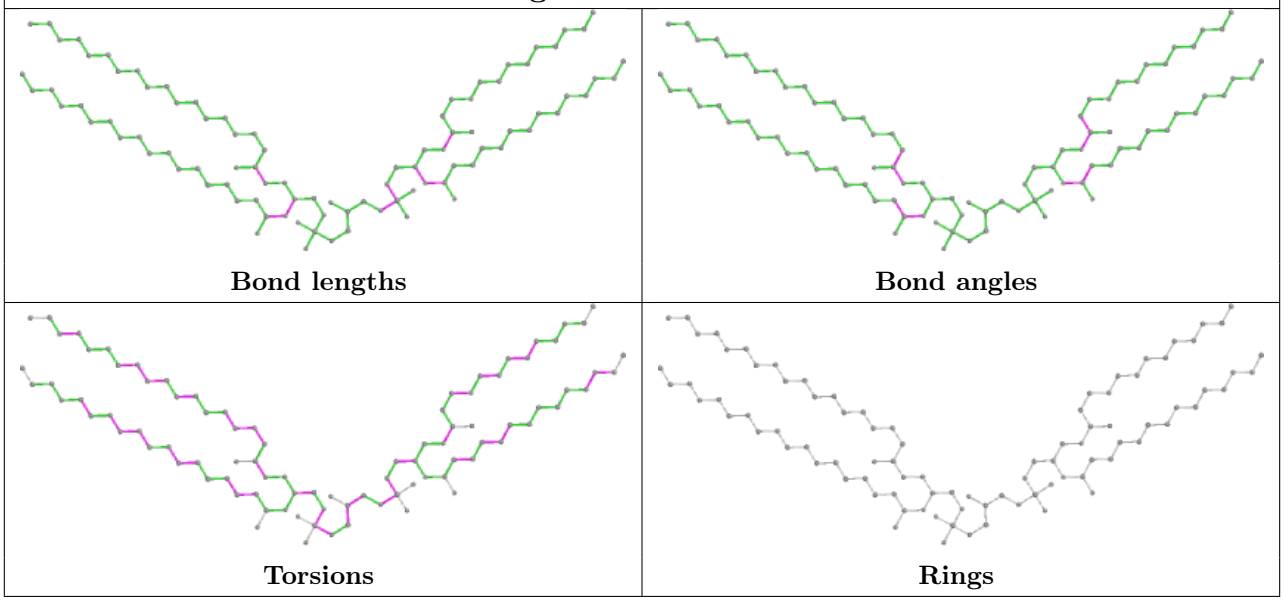


Ligand CDL a 201



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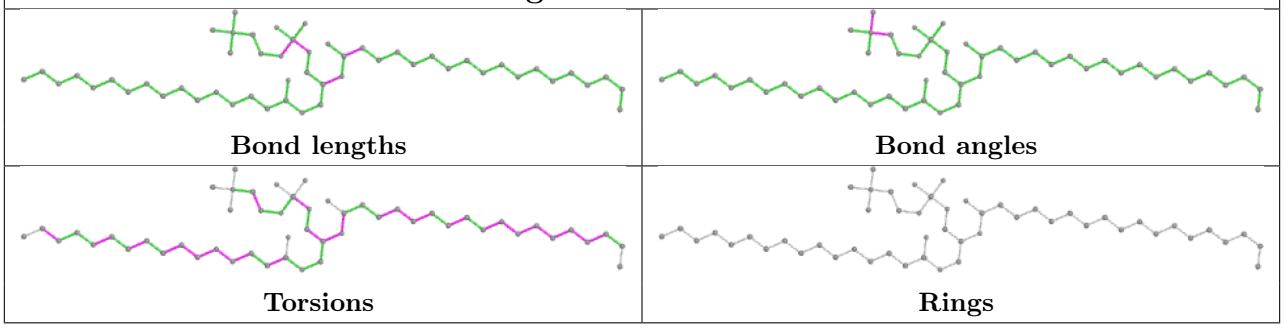
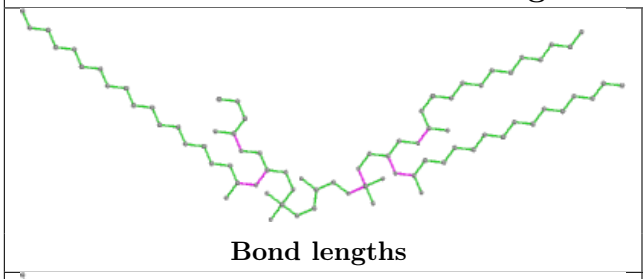
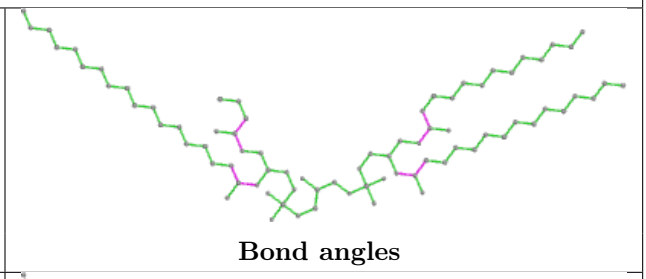


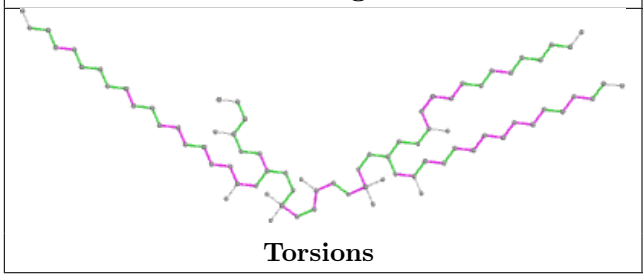
Ligand CDL u 201



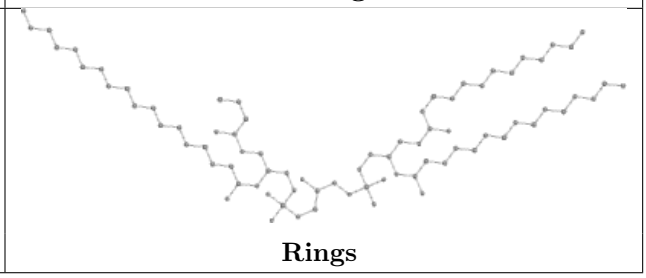
Bond lengths



Bond angles

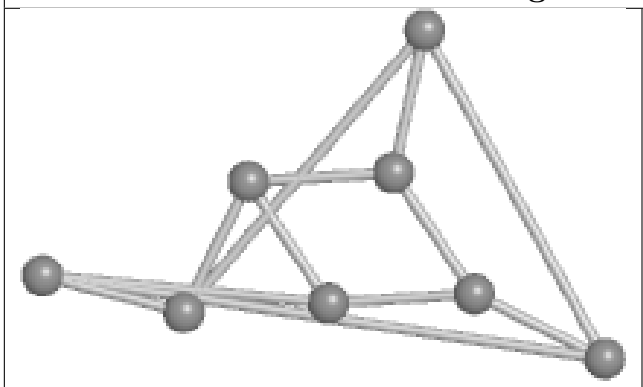


Torsions

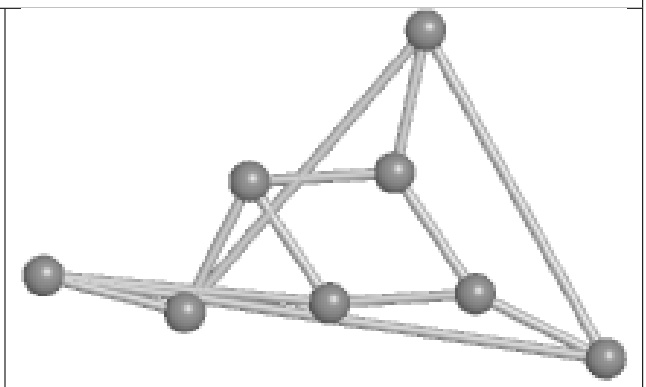


Rings

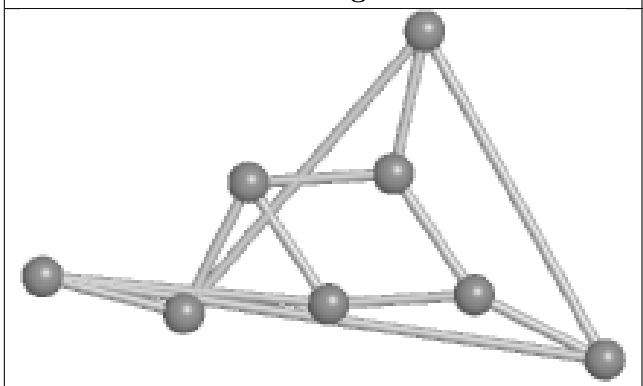
Ligand SF4 M 802



Bond lengths



Bond angles



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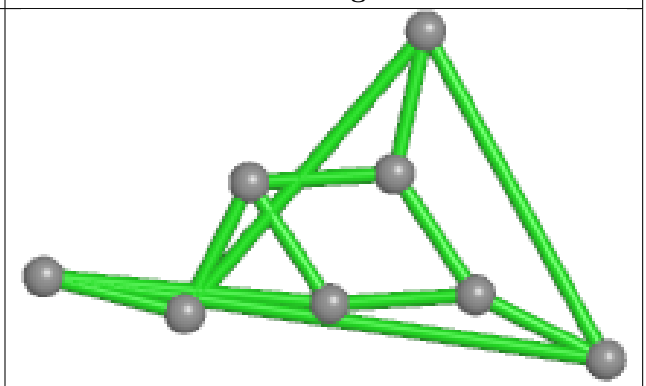
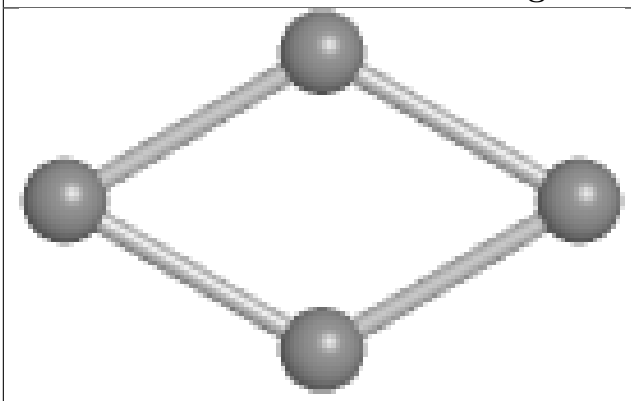
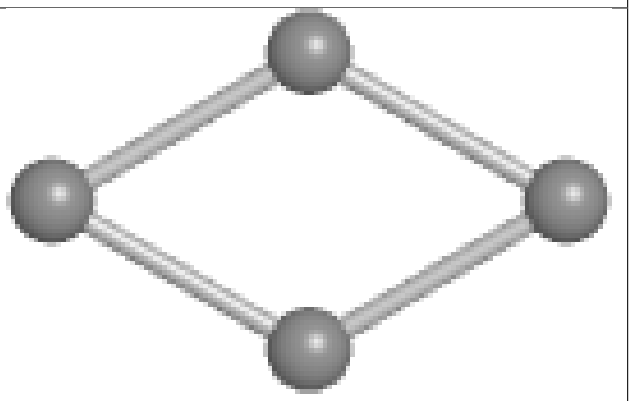


Rings

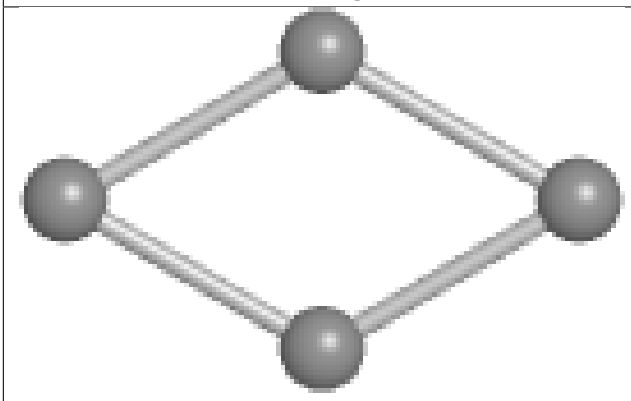
Ligand FES O 301



Bond lengths



Bond angles



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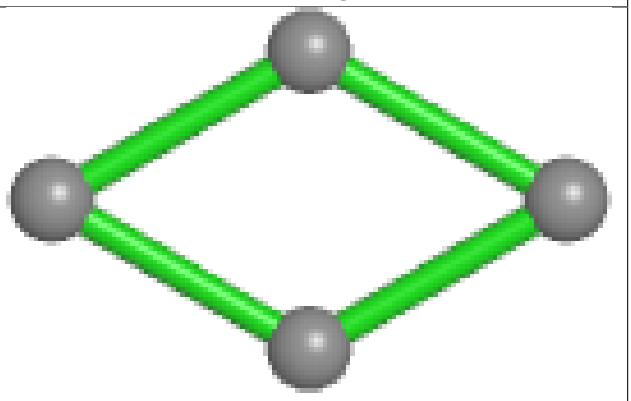
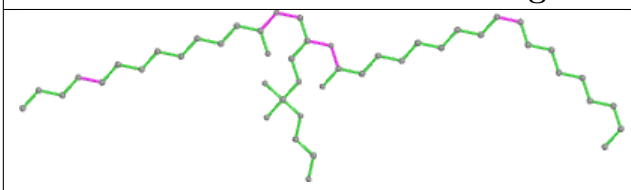
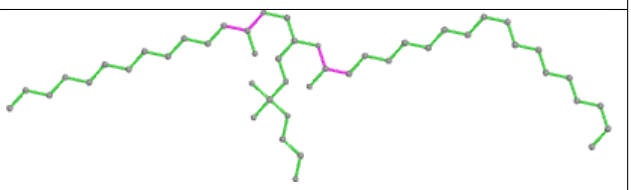


Rings

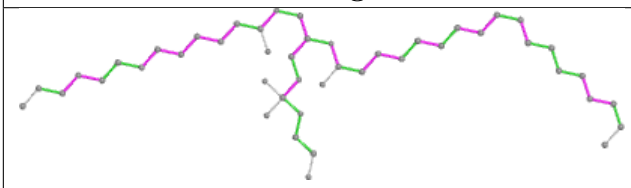
Ligand PEE b 201



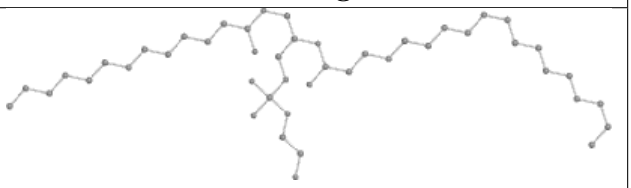
Bond lengths



Bond angles

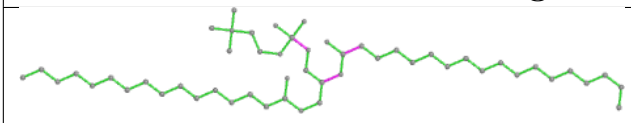


Torsions

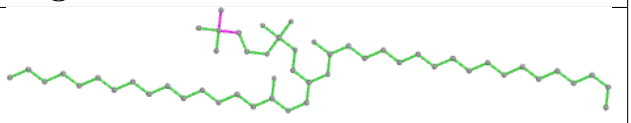


Rings

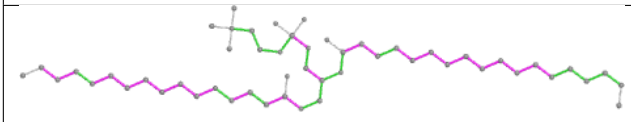
Ligand PLX g 201



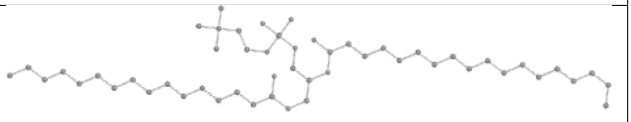
Bond lengths



Bond angles

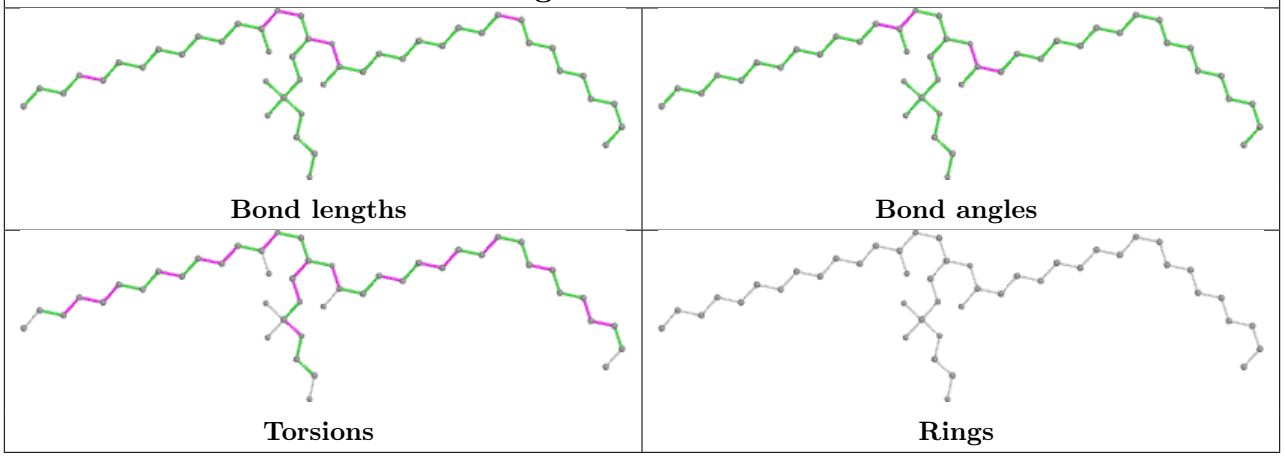


Torsions

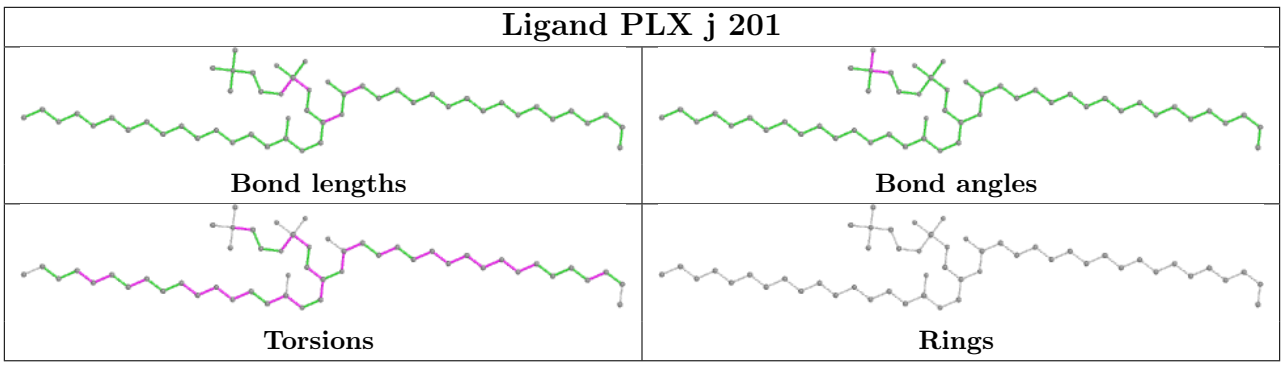


Rings

Ligand PEE l 703



Ligand PLX j 201



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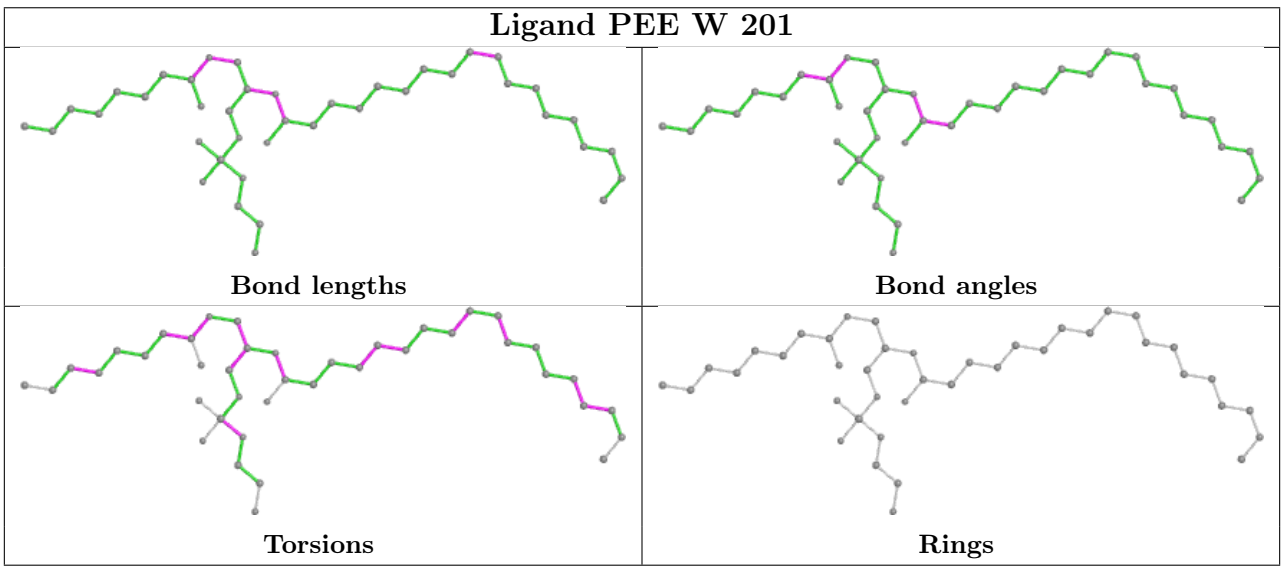
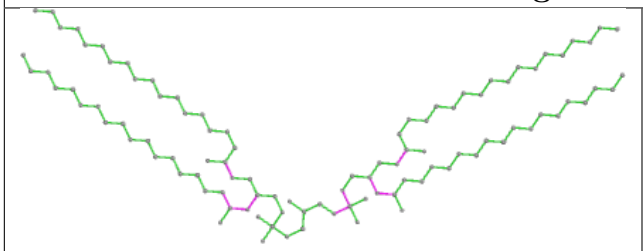
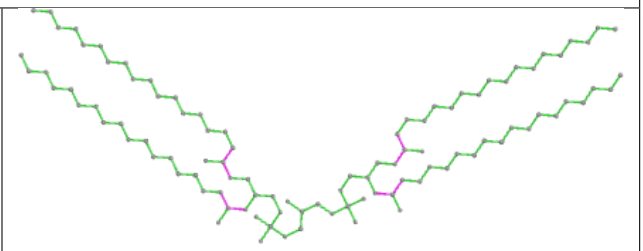


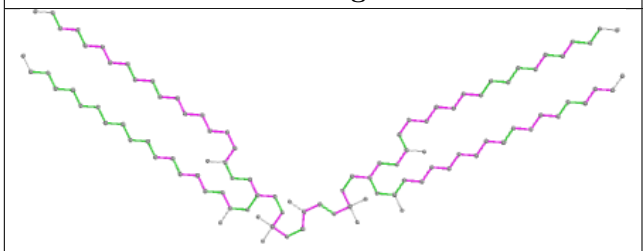
Ligand CDL l 702



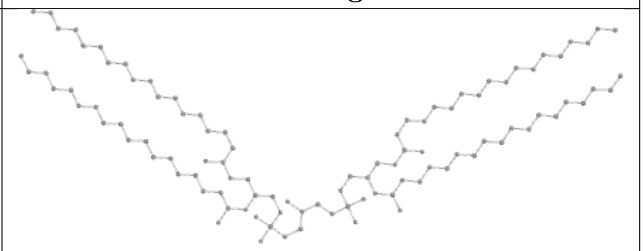
Bond lengths



Bond angles

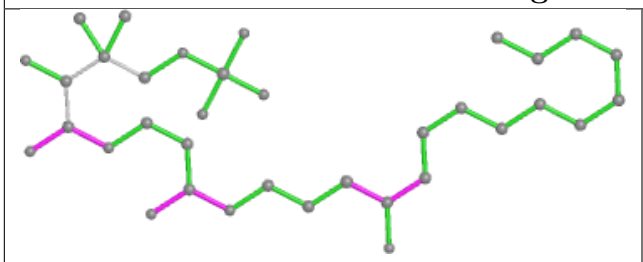


Torsions



Rings

Ligand 8Q1 X 201



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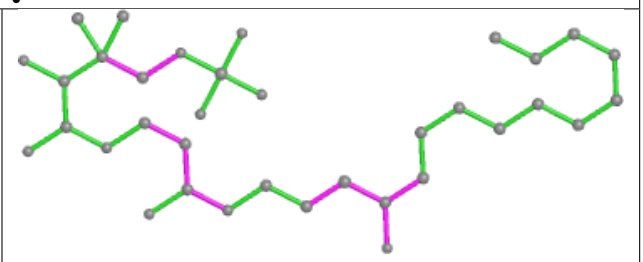
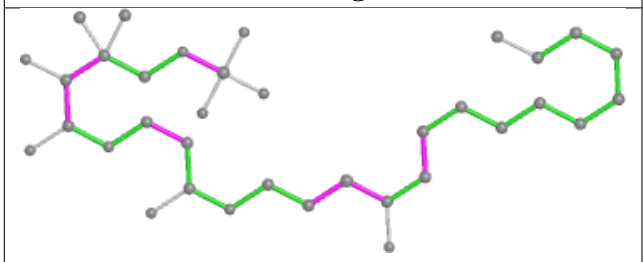


Bond angles



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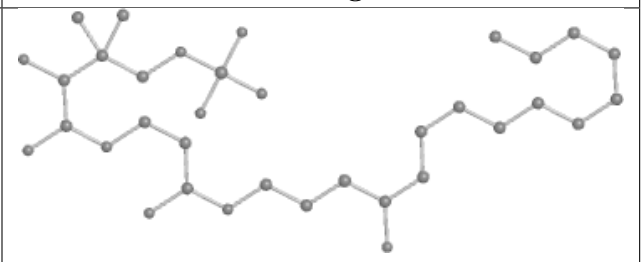
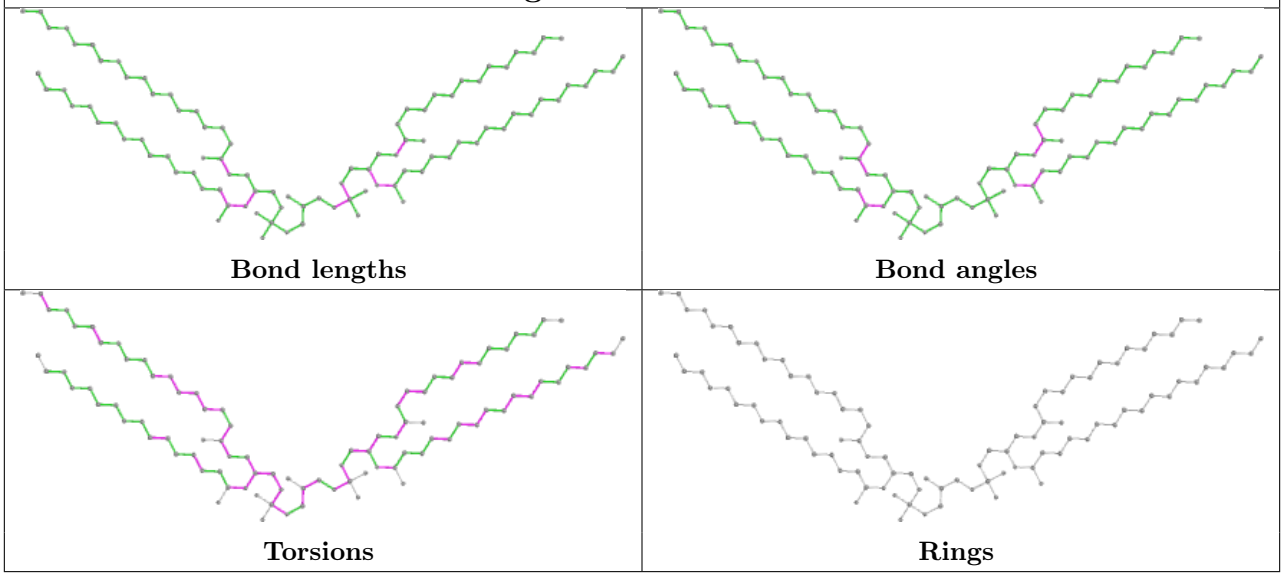
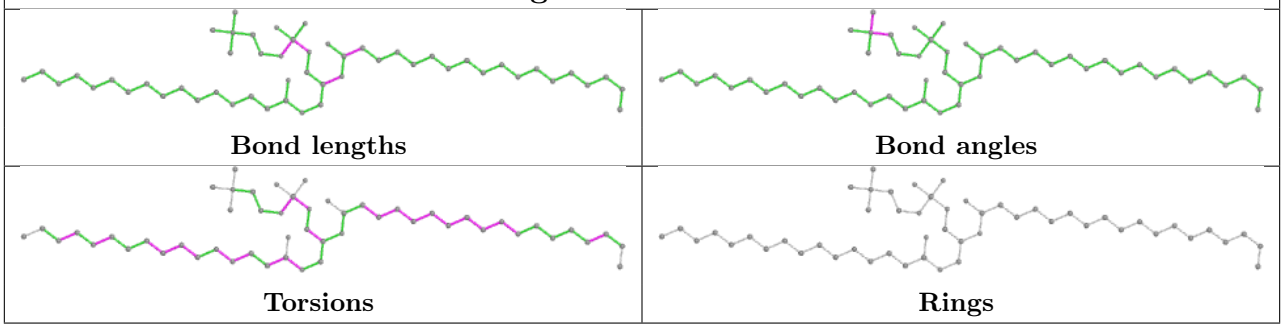


Rings

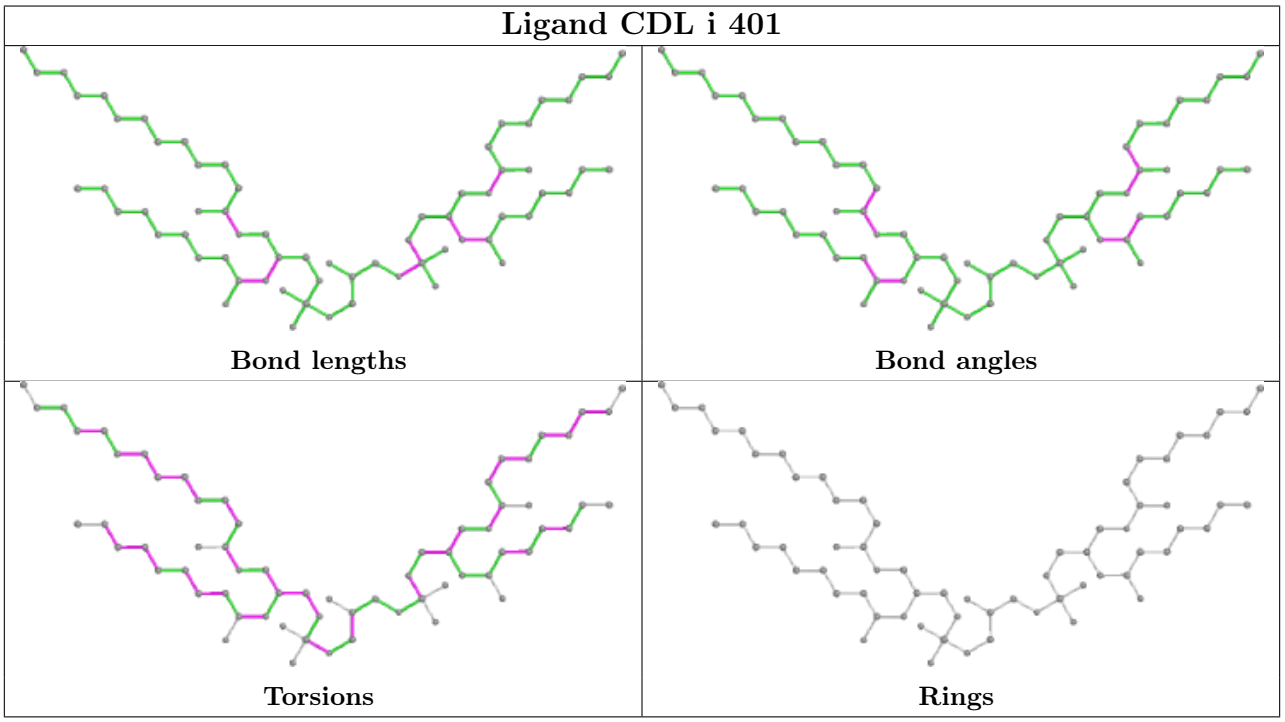
Ligand CDL V 201



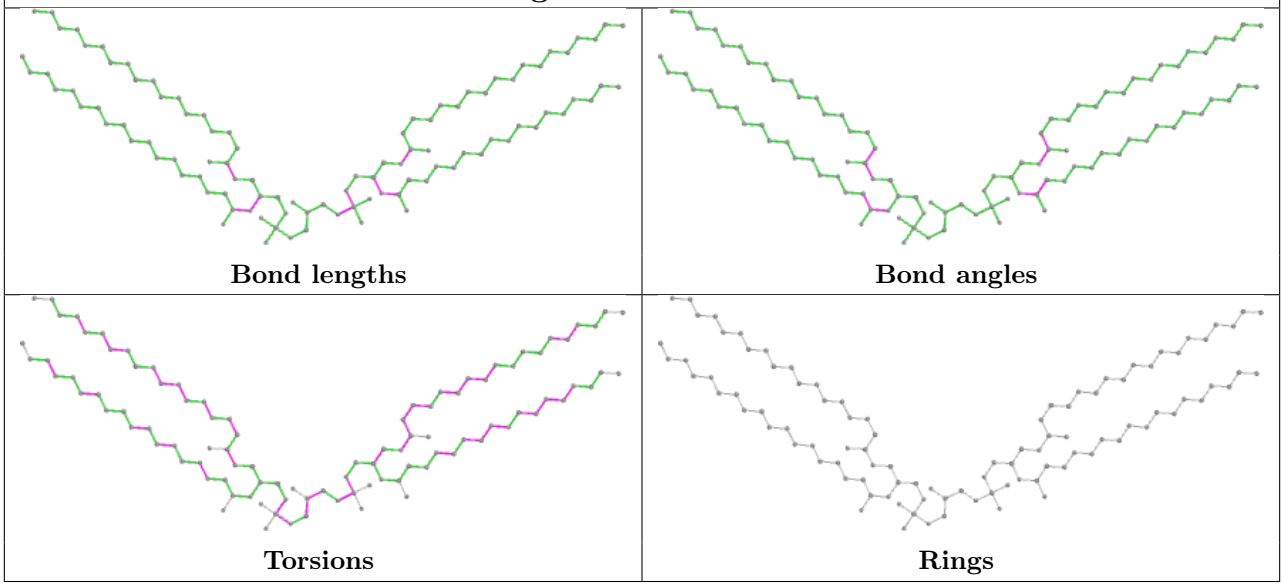
Ligand PLX a 202



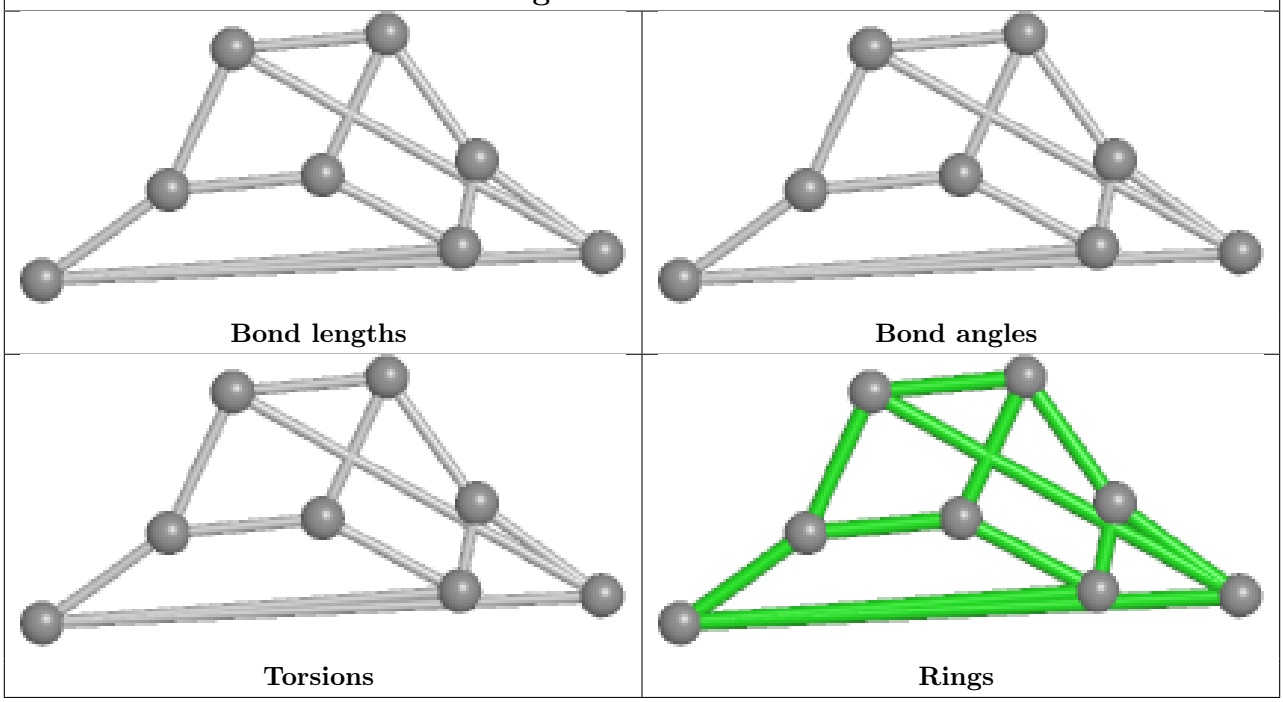
Ligand CDL i 401



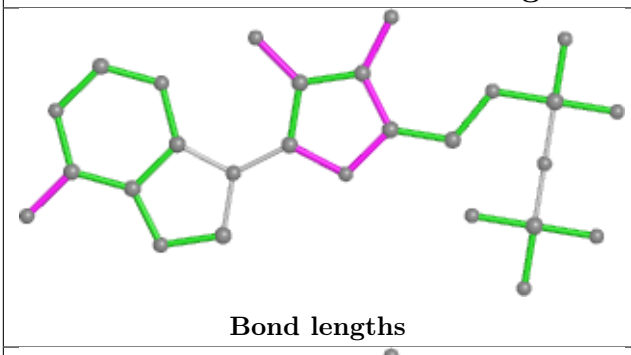
Ligand CDL r 504



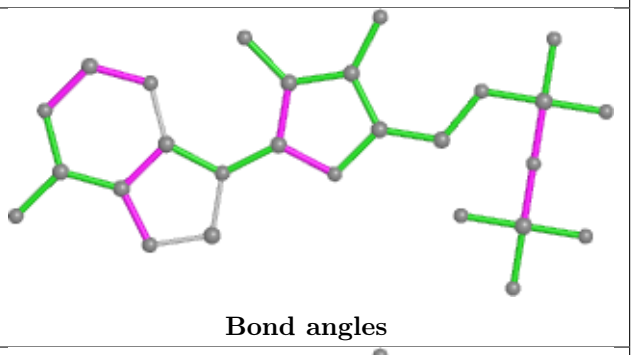
Ligand SF4 B 302



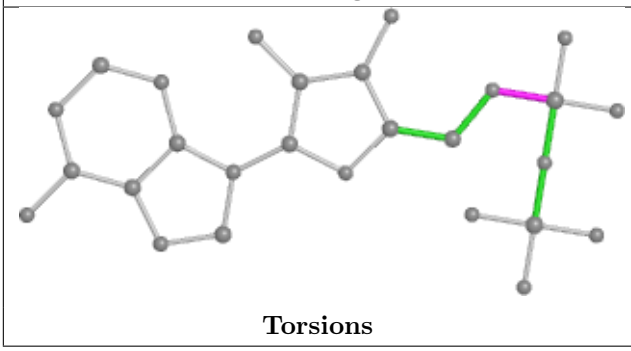
Ligand ADP w 401



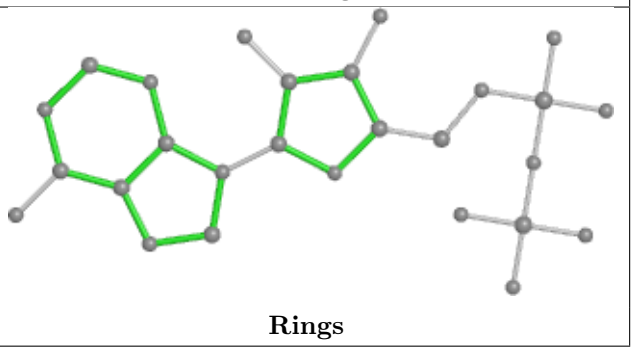
Bond lengths



Bond angles

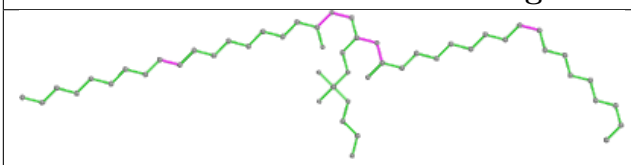


Torsions



Rings

Ligand PEE U 101



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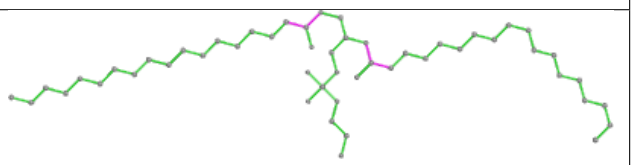
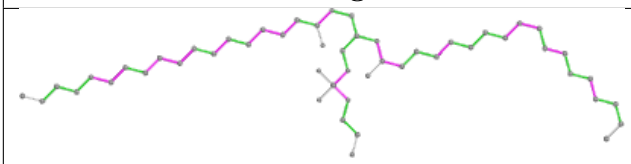


Bond angles



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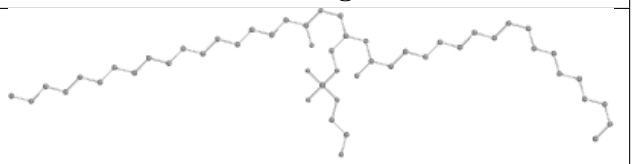
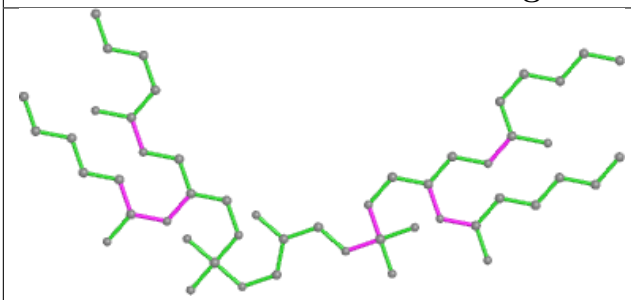


Rings

Ligand CDL N 201



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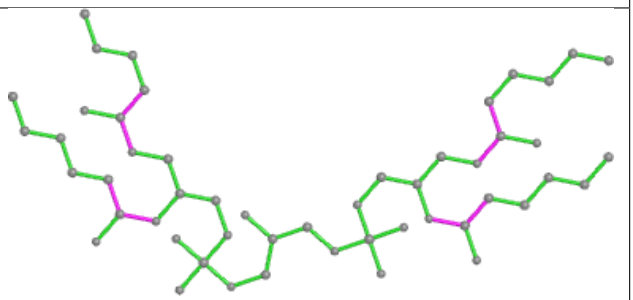
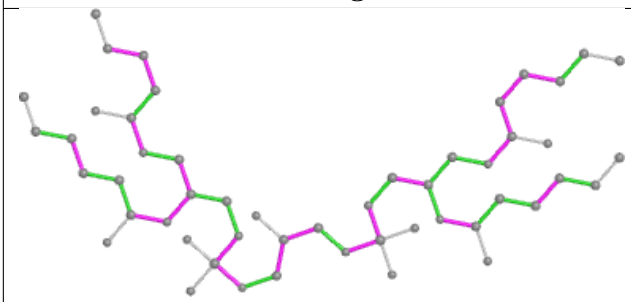


Bond angles



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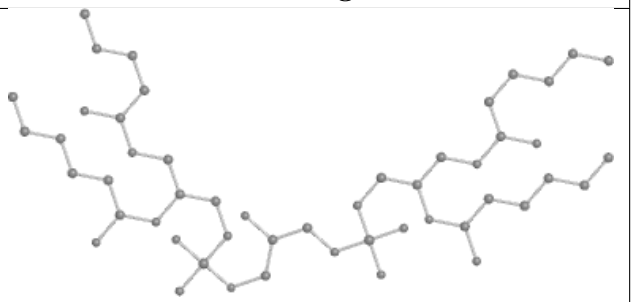
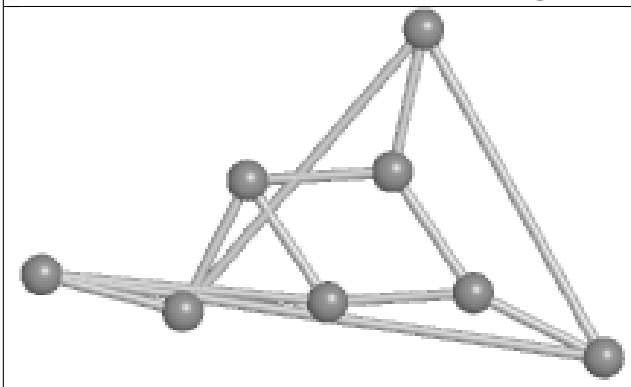


Rings

Ligand SF4 C 301



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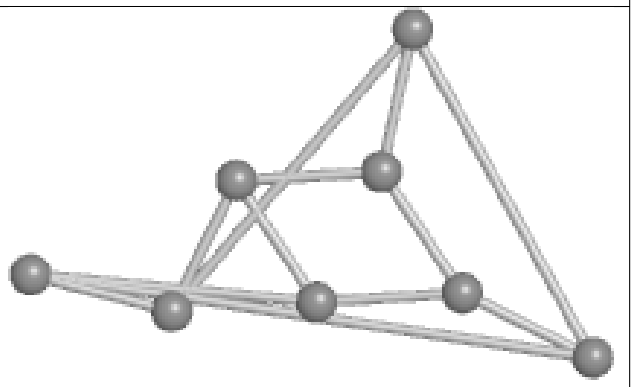

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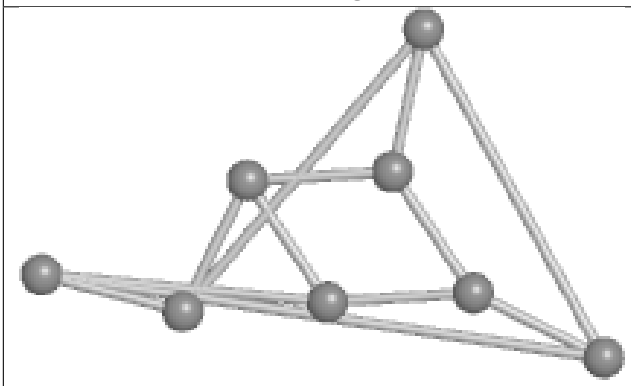

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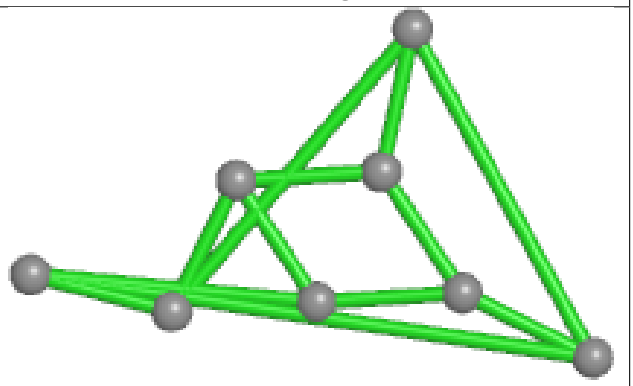
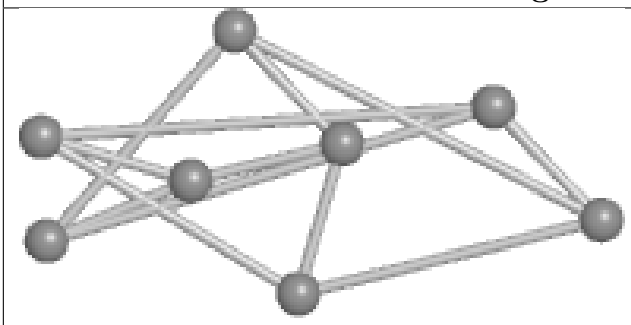


Rings

Ligand SF4 B 301



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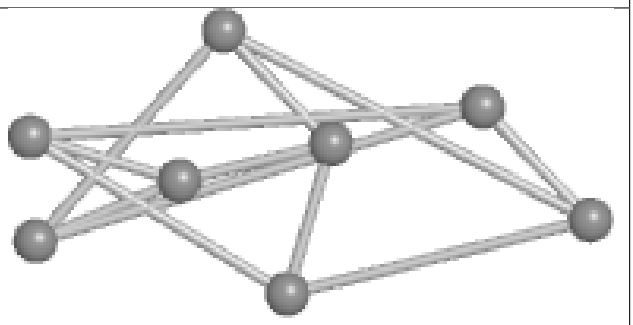
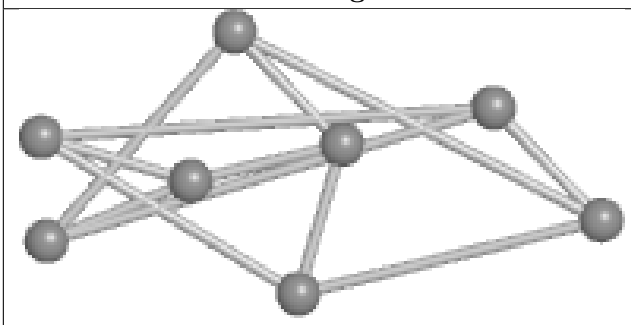


Bond angles



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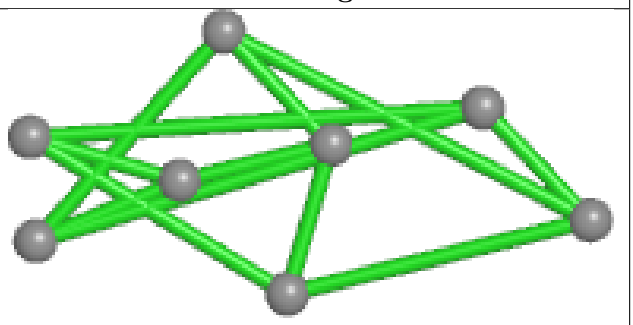
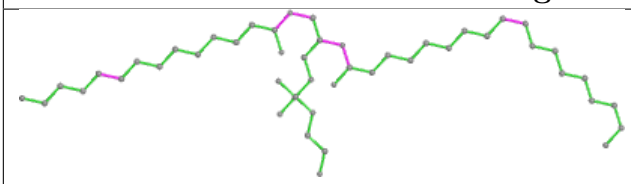


Rings

Ligand PEE i 402



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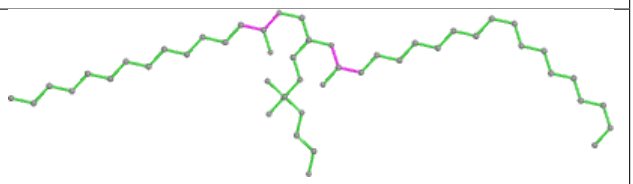
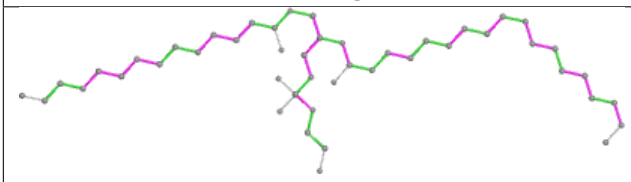


Bond angles



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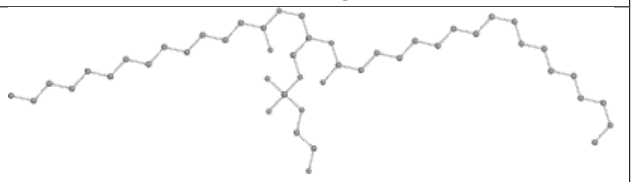
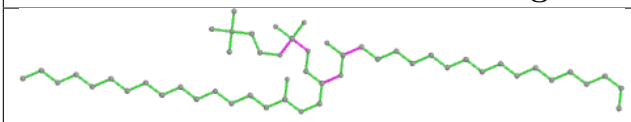


Rings

Ligand PLX r 503



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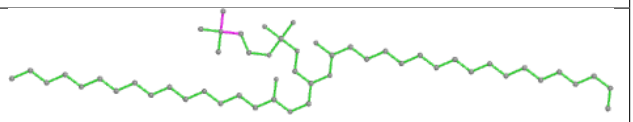
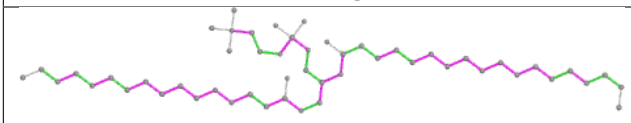


Bond angles



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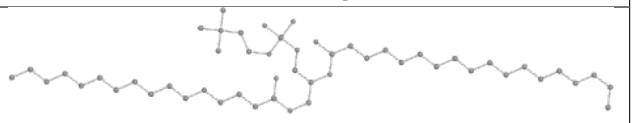
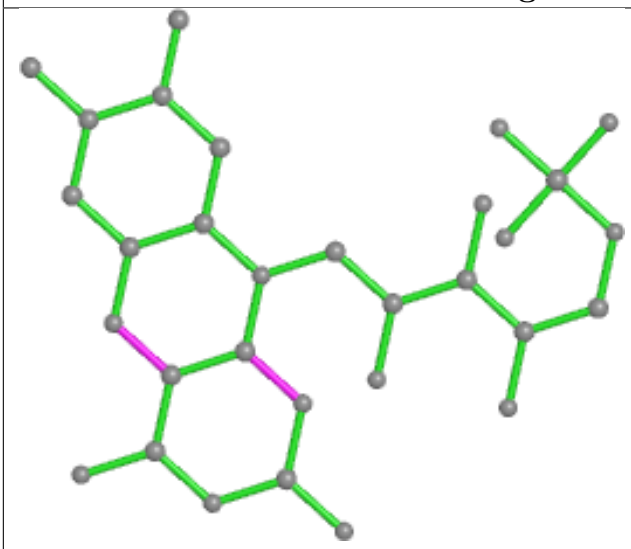


Rings

Ligand FMN A 502



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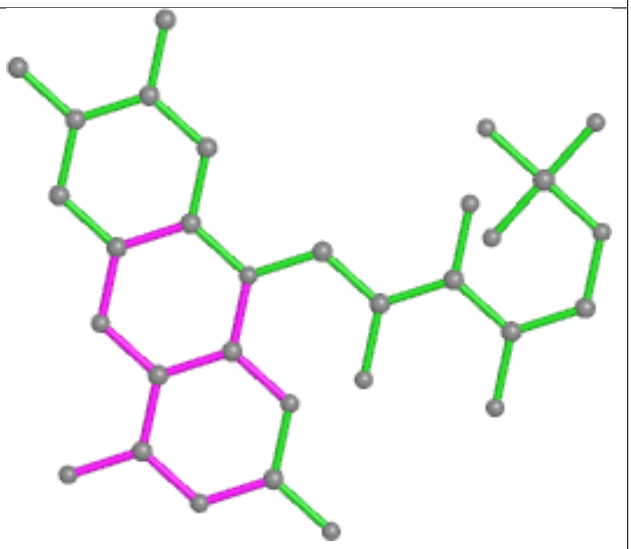
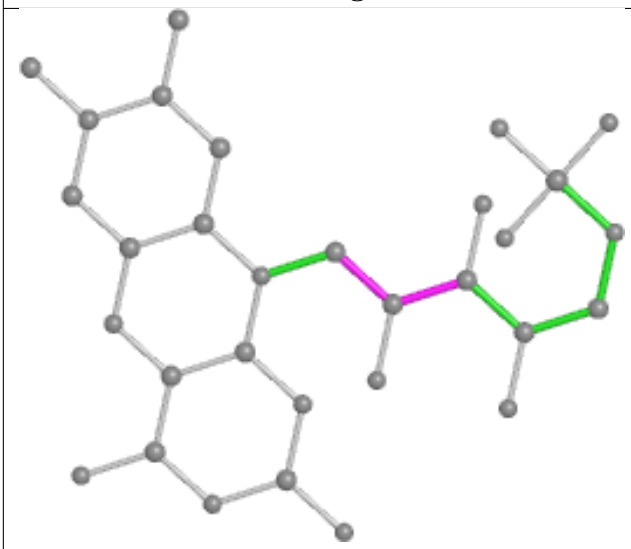


Bond angles



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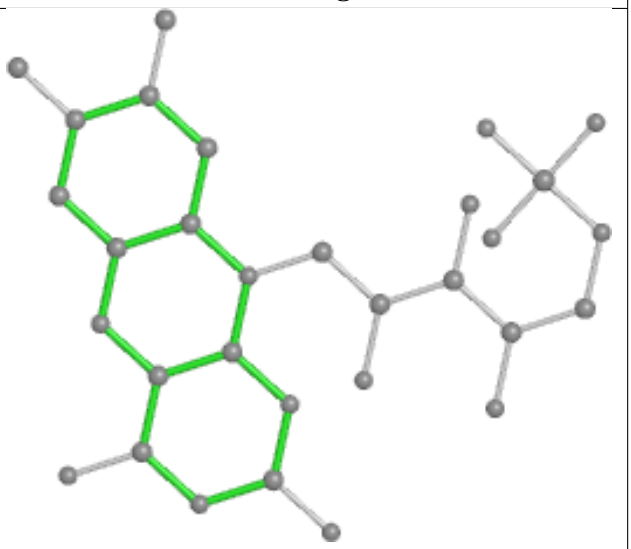
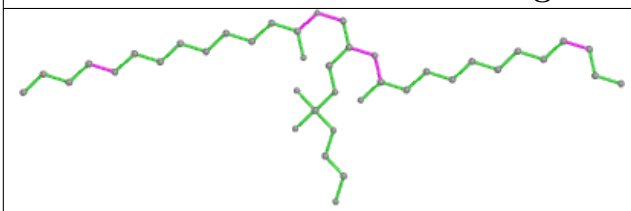


Rings

Ligand PEE l 701



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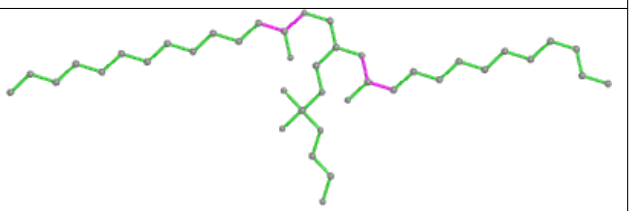
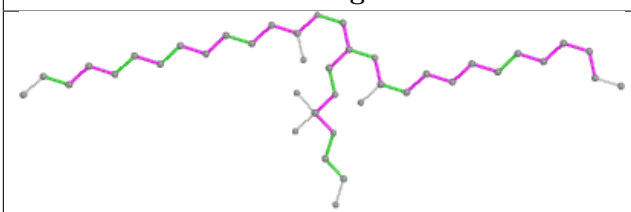


Bond angles



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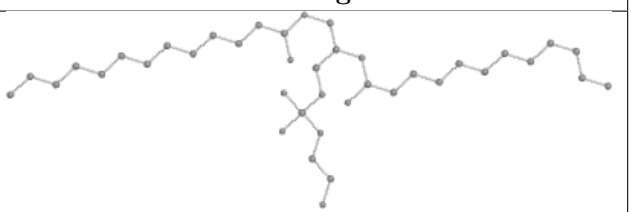
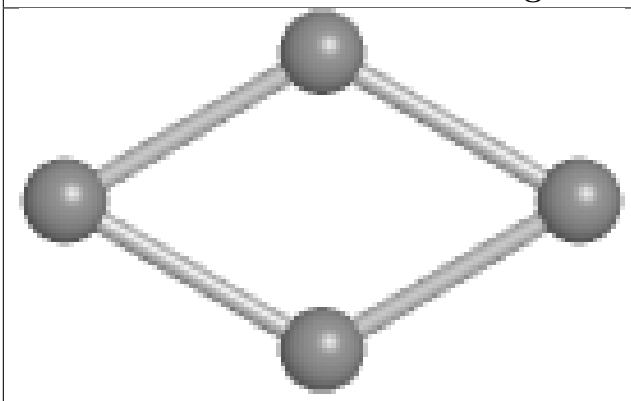


Rings

Ligand FES M 803



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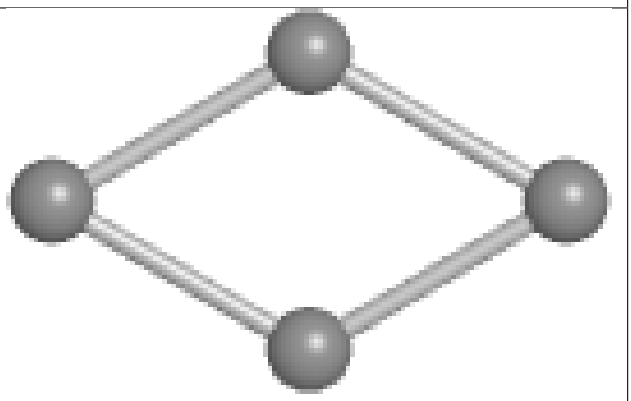
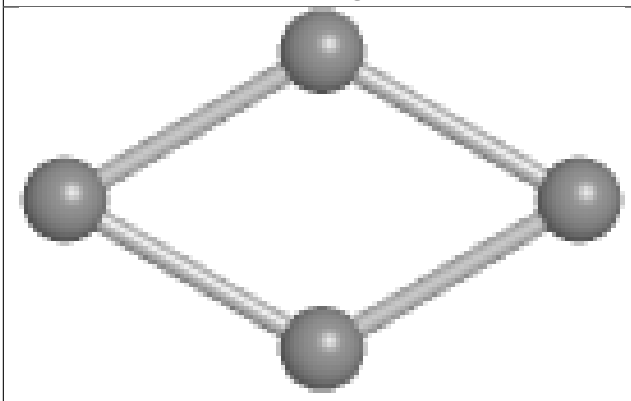
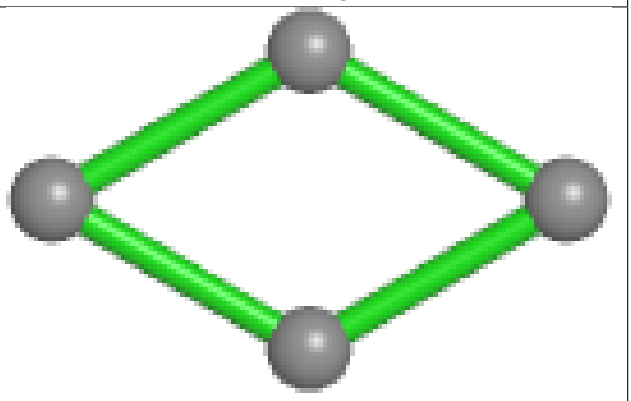


Bond angles

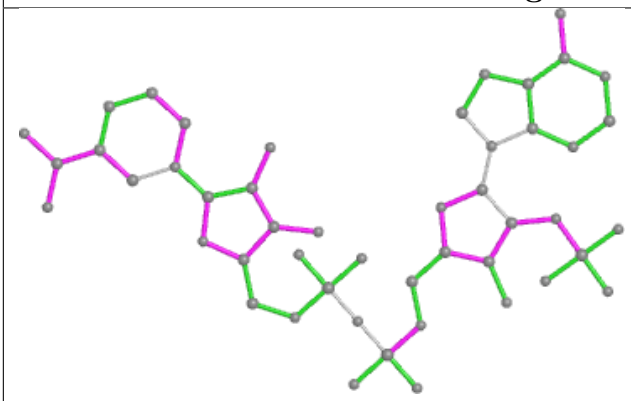


Torsions

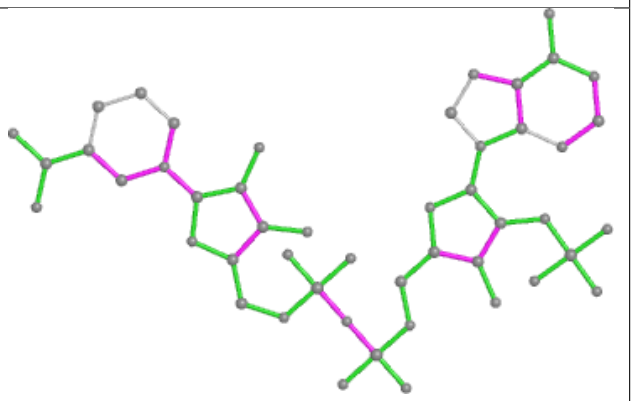


Rings

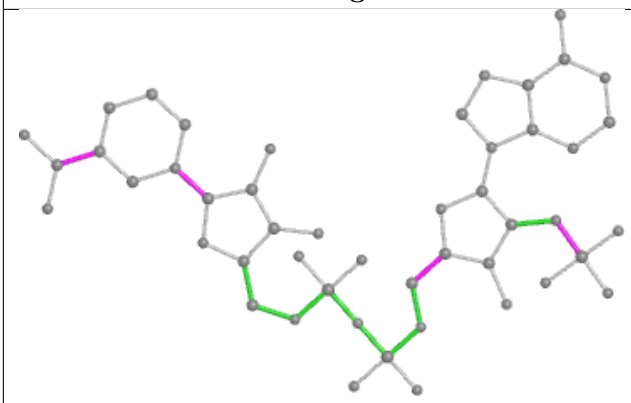
Ligand NDP J 401



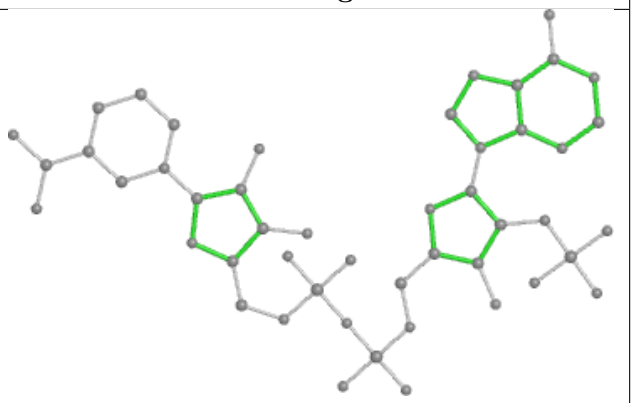
Bond lengths



Bond angles

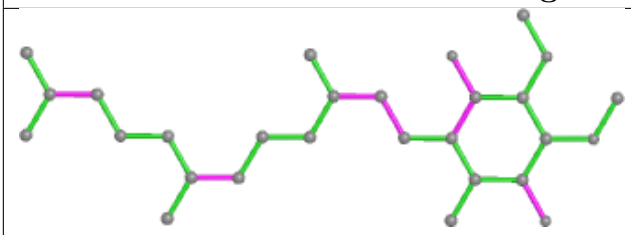


Torsions

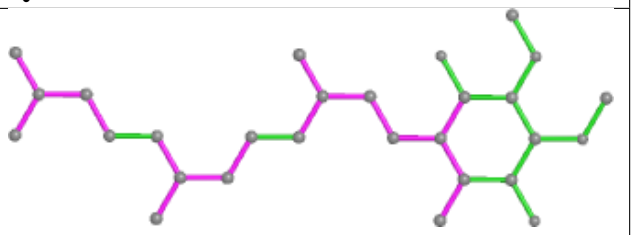


Rings

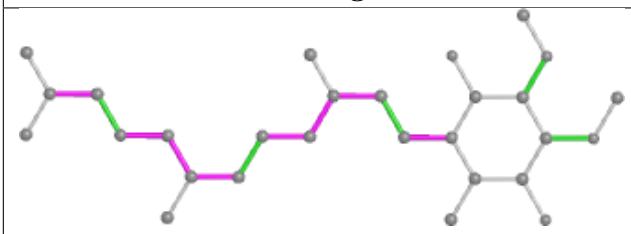
Ligand UQ s 401



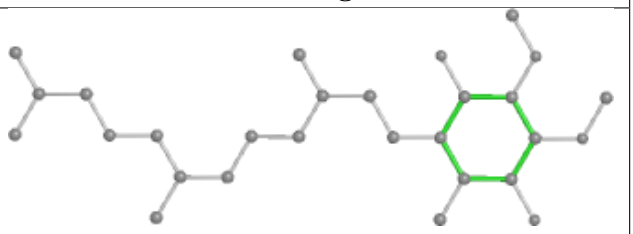
Bond lengths



Bond angles

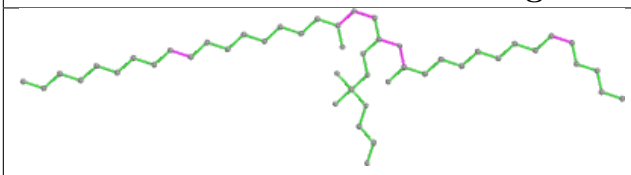


Torsions

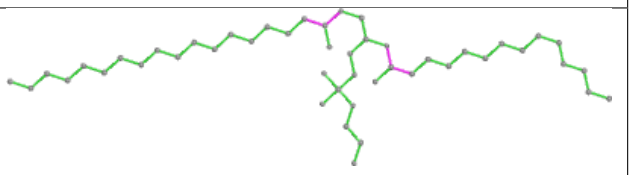


Rings

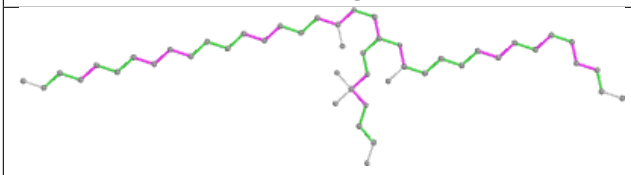
Ligand PEE C 302



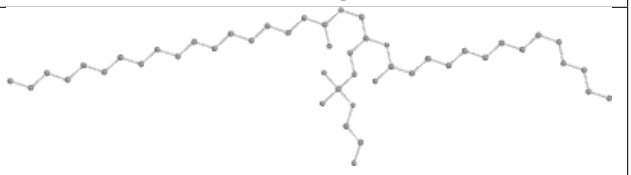
Bond lengths



Bond angles

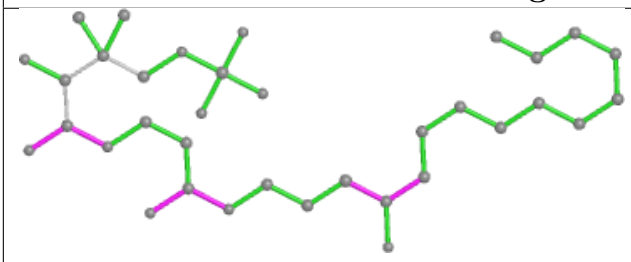


Torsions

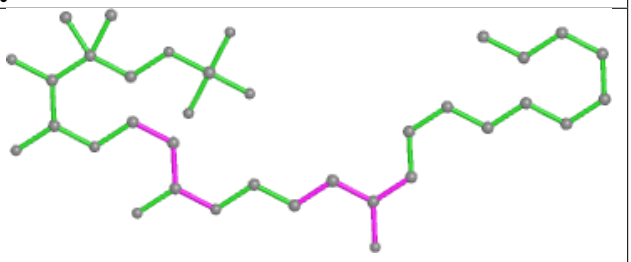


Rings

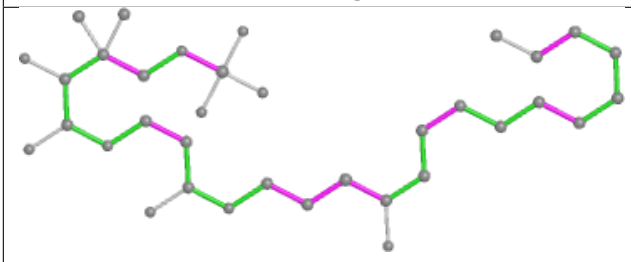
Ligand 8Q1 G 201



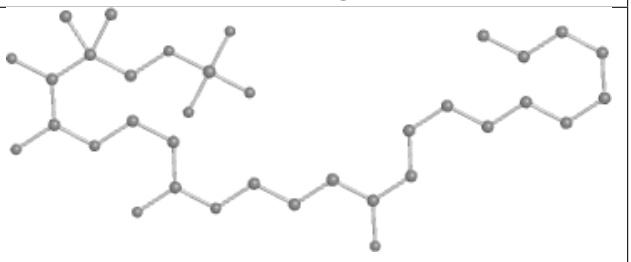
Bond lengths



Bond angles

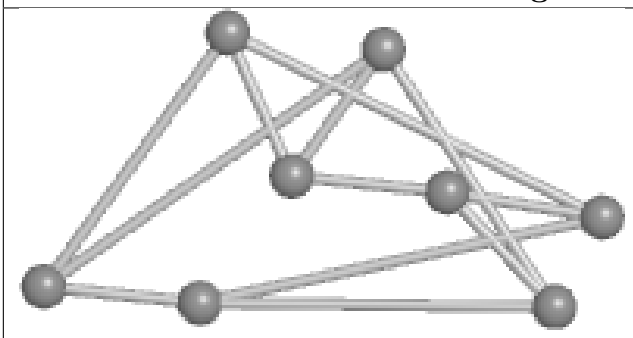


Torsions

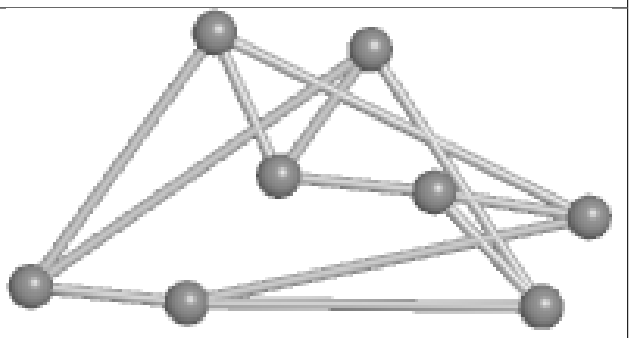


Rings

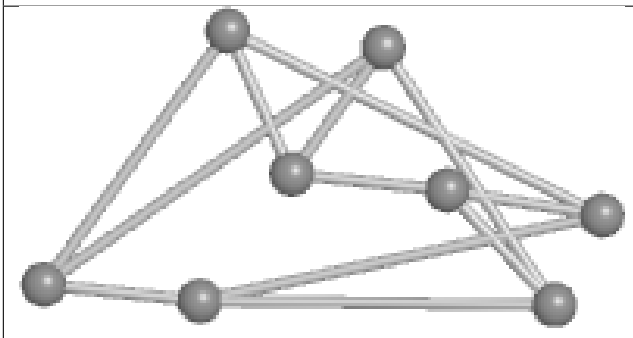
Ligand SF4 A 501



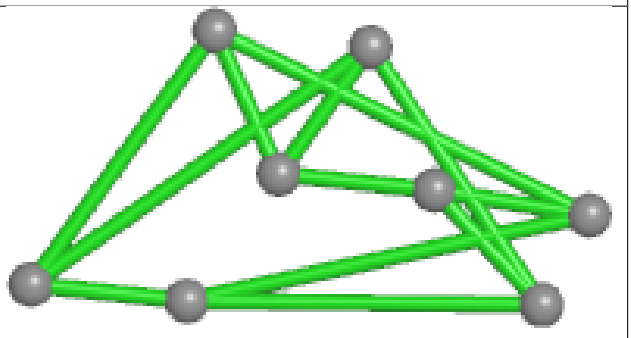
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

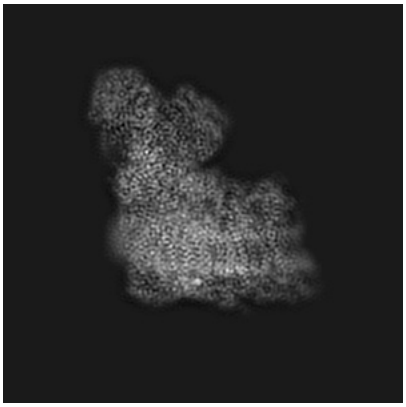
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-32242. These allow visual inspection of the internal detail of the map and identification of artifacts.

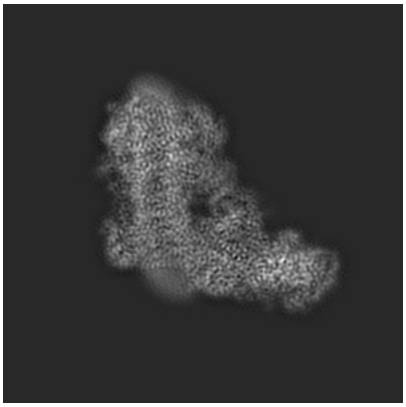
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

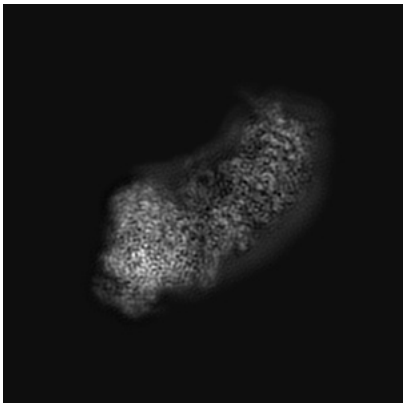
6.1.1 Primary map



X



Y

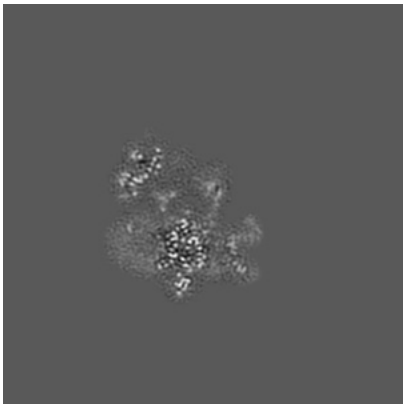


Z

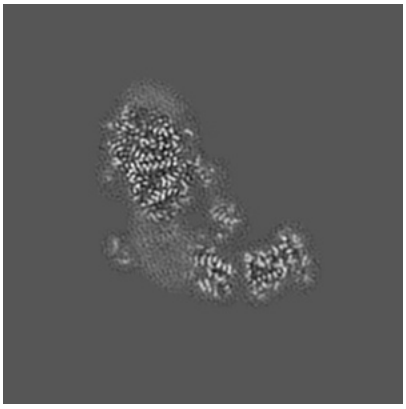
The images above show the map projected in three orthogonal directions.

6.2 Central slices

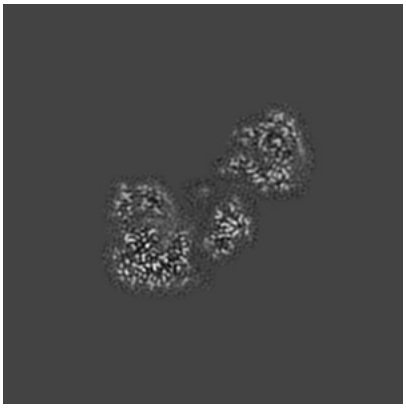
6.2.1 Primary map



X Index: 165



Y Index: 165



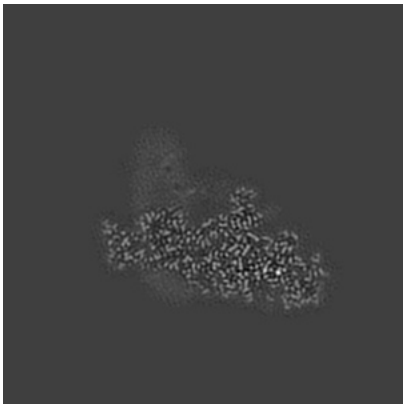
Z Index: 165

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

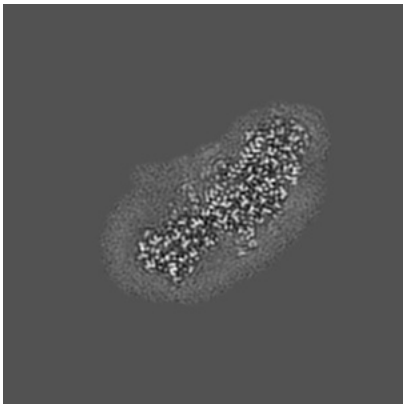
6.3 Largest variance slices (i)

6.3.1 Primary map

X Index: 115



Y Index: 120

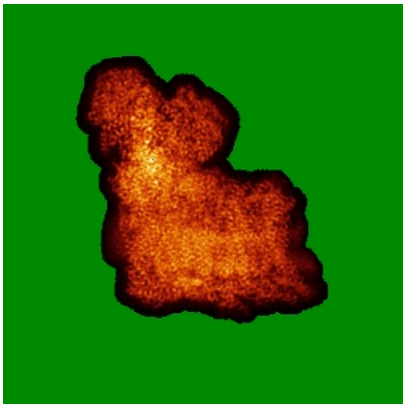


Z Index: 137

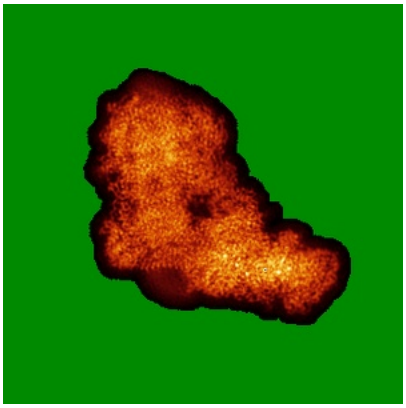
The images above show the largest variance slices of the map in three orthogonal directions.

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

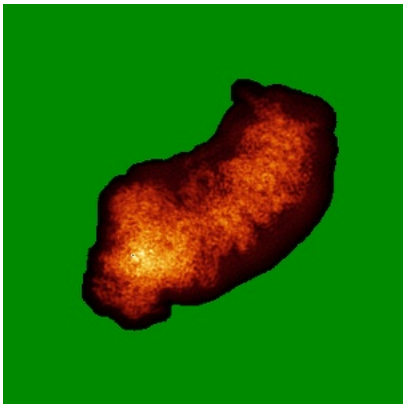
6.4.1 Primary map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.0187. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

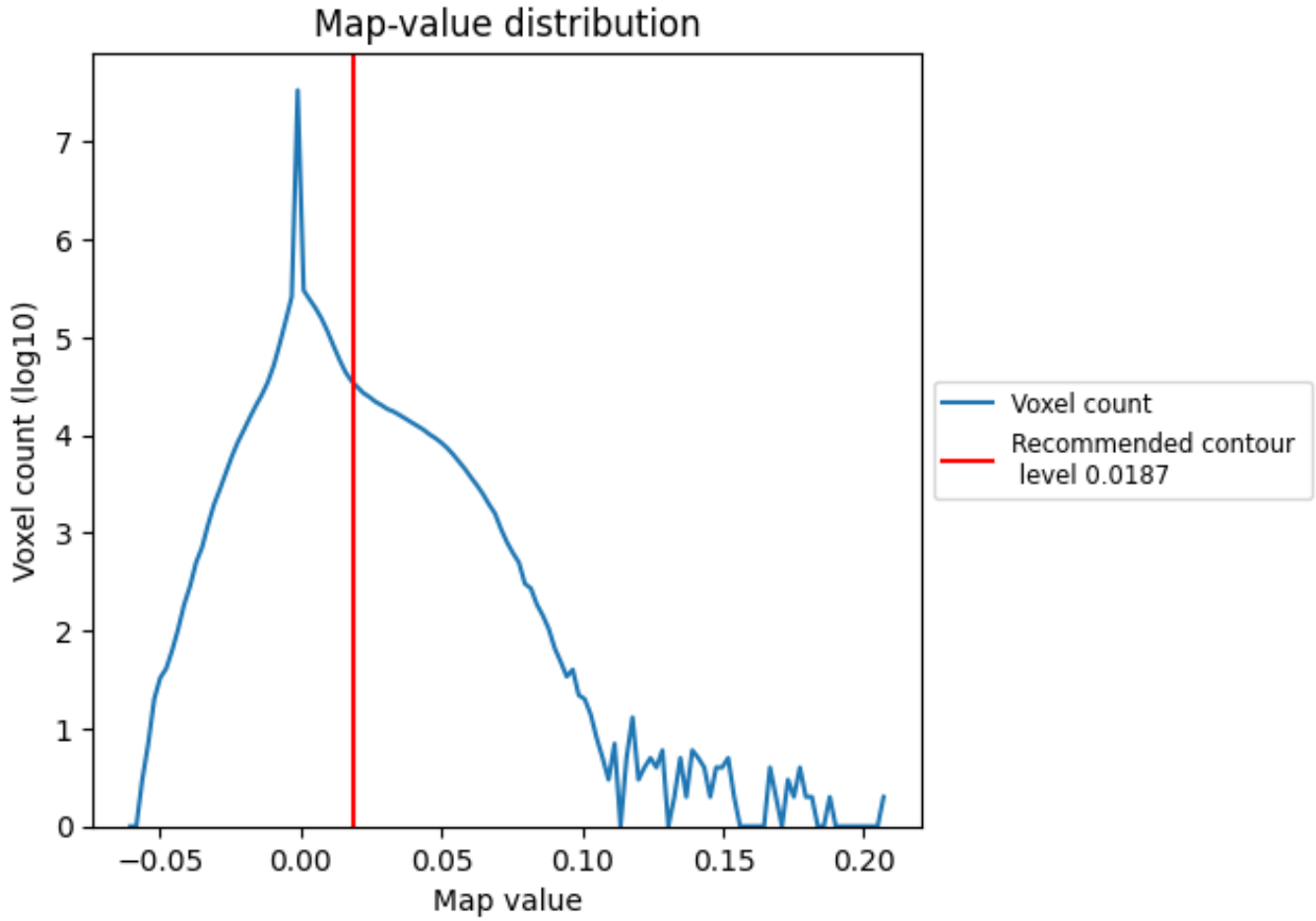
6.6 Mask visualisation (i)

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

7 Map analysis

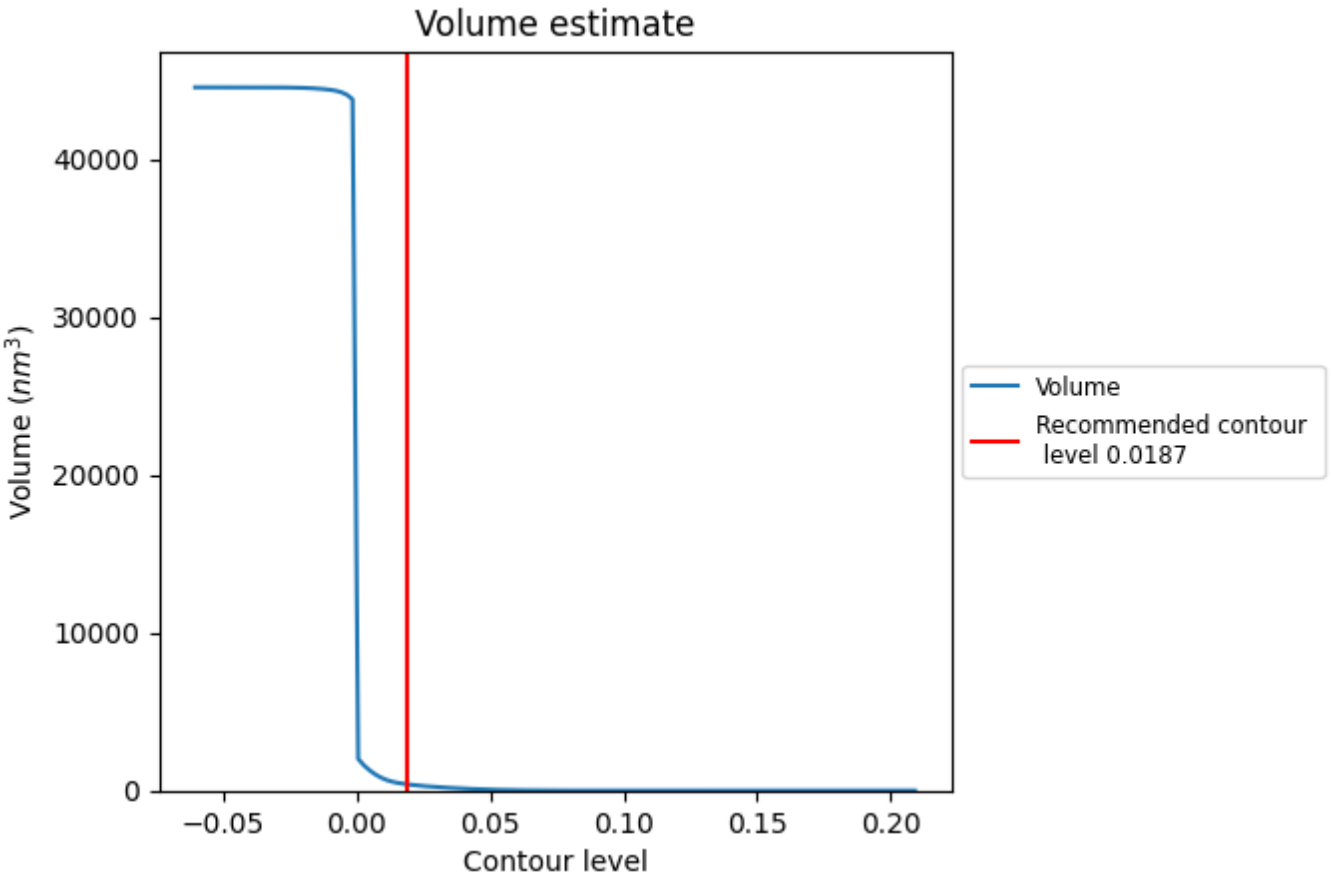
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

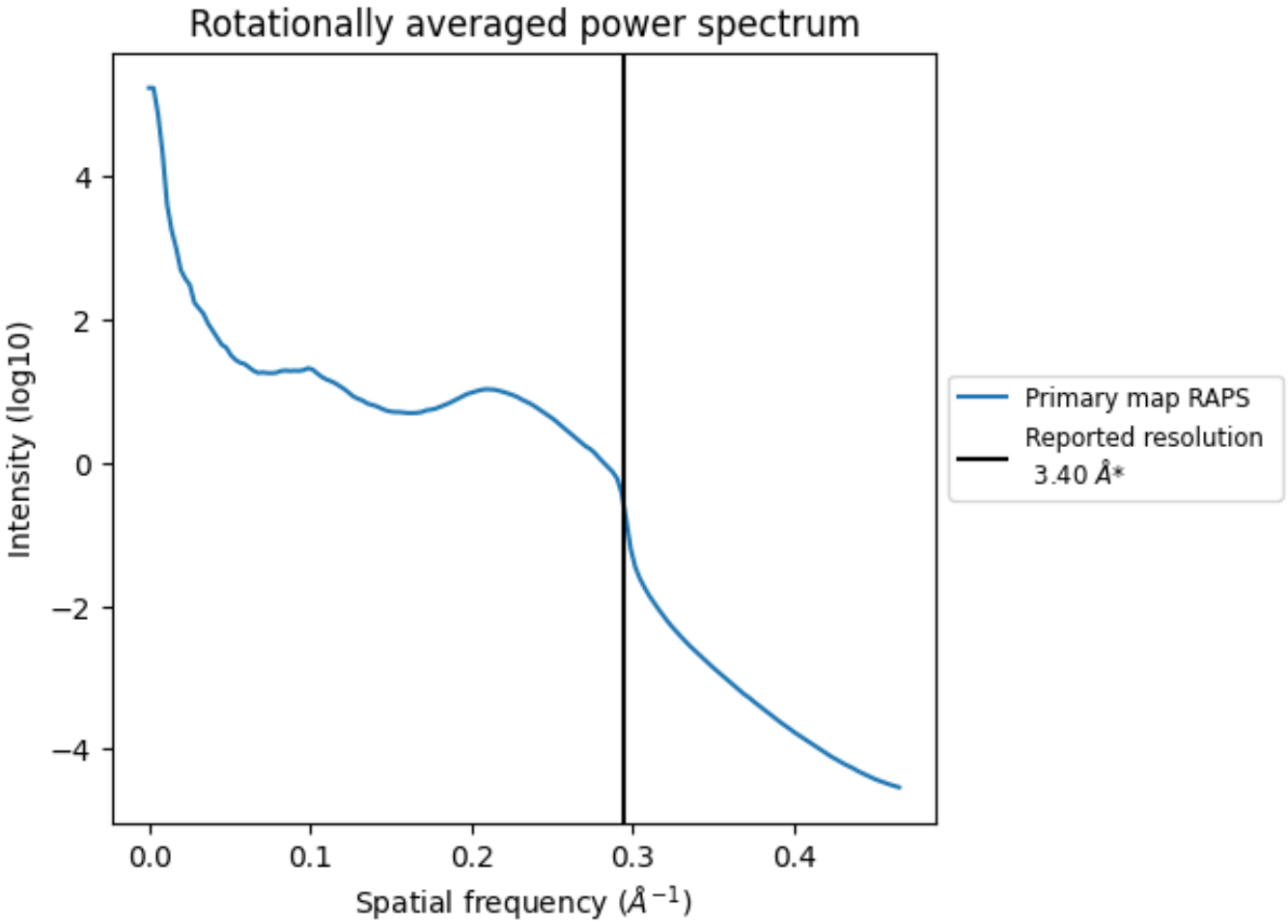
7.2 Volume estimate



The volume at the recommended contour level is 399 nm^3; this corresponds to an approximate mass of 360 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.294 $Å^{-1}$

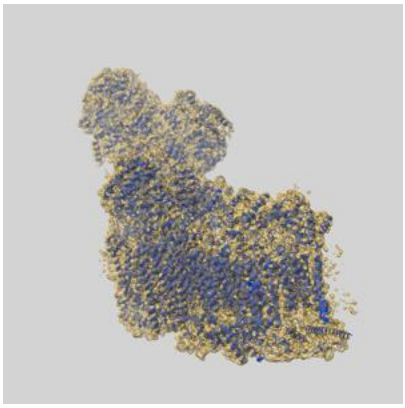
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

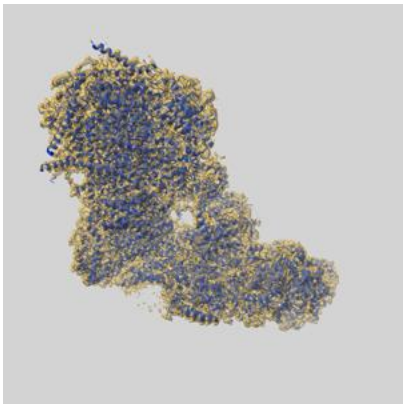
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-32242 and PDB model 7W0H. Per-residue inclusion information can be found in section 3 on page 20.

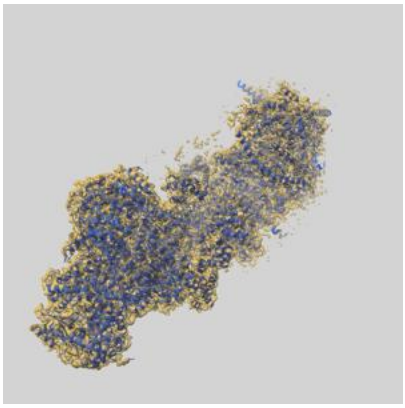
9.1 Map-model overlay



X



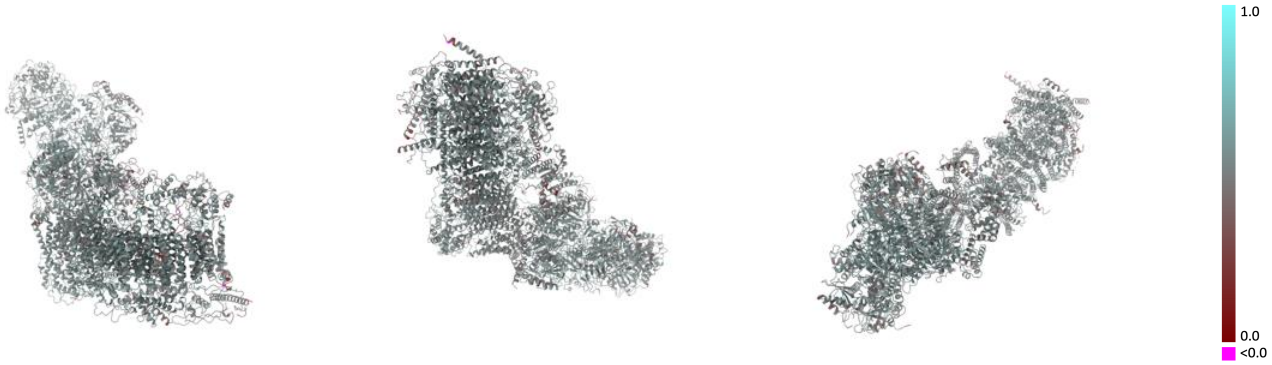
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0187 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

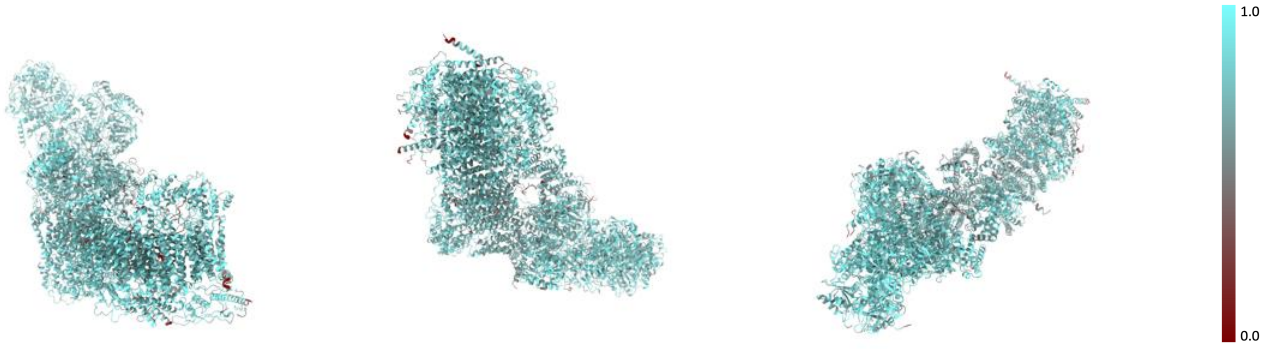
9.2 Q-score mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

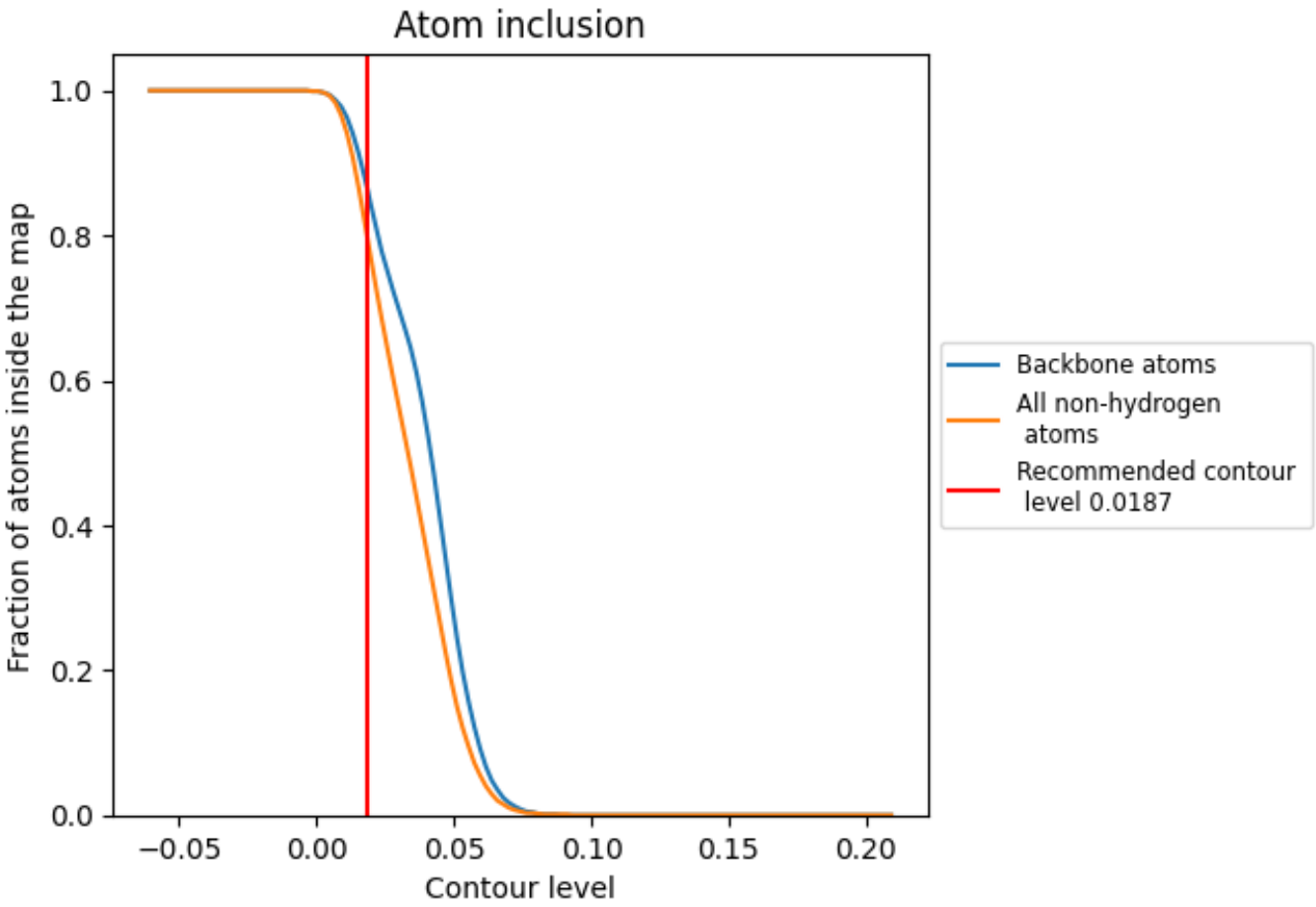
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0187).

9.4 Atom inclusion (i)



At the recommended contour level, 86% of all backbone atoms, 79% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.0187) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7930	0.5260
A	0.8190	0.5230
B	0.8870	0.5560
C	0.8230	0.5470
E	0.7780	0.5220
F	0.7600	0.4780
G	0.6280	0.4370
H	0.8040	0.5120
I	0.7780	0.5360
J	0.7860	0.5190
K	0.8110	0.5260
L	0.8080	0.5490
M	0.8300	0.5370
N	0.7480	0.5310
O	0.8010	0.5130
P	0.8530	0.5550
Q	0.8410	0.5510
S	0.8410	0.5430
T	0.8060	0.5470
U	0.8060	0.5260
V	0.6060	0.4940
W	0.8270	0.5330
X	0.7530	0.5000
Y	0.7390	0.4830
Z	0.6530	0.4570
a	0.7940	0.5360
b	0.7080	0.4950
c	0.8080	0.5210
d	0.7840	0.5120
e	0.7250	0.5070
f	0.7320	0.4990
g	0.8270	0.5450
h	0.8170	0.5330
i	0.8150	0.5430
j	0.7050	0.5030

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Continued from previous page...

Chain	Atom inclusion	Q-score
k	0.7430	0.5220
l	0.7860	0.5300
m	0.7520	0.5040
n	0.7130	0.5080
o	0.7430	0.5210
p	0.8040	0.5180
r	0.7930	0.5440
s	0.8090	0.5320
u	0.8170	0.5330
v	0.7650	0.4890
w	0.7810	0.5120