Full wwPDB EM Validation Report ⓘ

Jan 24, 2023 – 10:35 PM JST

PDB ID	:	7W2R
EMDB ID	:	EMD-32265
Title	:	Active state CI from DQ-NADH dataset, Subclass 1
Authors	:	Gu, J.K.; Yang, M.J.
Deposited on	:	2021-11-24
Resolution	:	2.90 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:

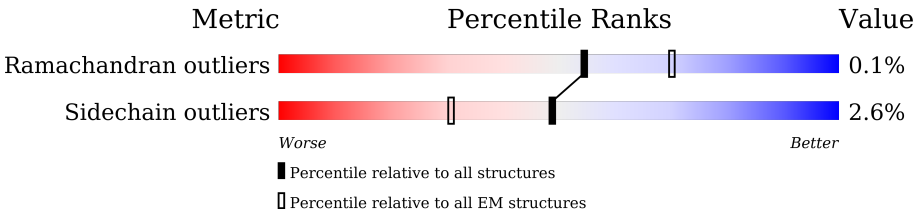
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

1 Overall quality at a glance

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

The reported resolution of this entry is 2.90 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	433	98%
2	B	176	99%
3	C	156	97%
4	E	115	98%
5	F	86	7% 93% 7%
6	G	88	31% 93% 7%
6	X	88	6% 94% 6%
7	H	112	97%
8	I	112	16% 85% 13%

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Mol	Chain	Length	Quality of chain
9	J	342	97%
10	K	43	19% 98%
11	L	125	6% 98%
12	M	690	98%
13	N	144	10% 97%
14	O	217	5% 98%
15	P	208	99%
16	Q	430	99%
17	S	70	97%
18	T	96	10% 99%
19	U	83	5% 98%
20	V	140	11% 96%
21	W	142	9% 98%
22	Y	67	22% 99%
23	Z	80	22% 99%
24	a	138	99%
25	b	126	10% 76% 22%
26	c	156	8% 99%
27	d	175	9% 95% 5%
28	e	104	13% 96%
29	f	49	24% 98%
30	g	122	100%
31	h	105	95% 5%
32	i	347	98%
33	j	115	96%

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Mol	Chain	Length	Quality of chain
34	k	98	98%
35	l	606	98%
36	m	175	18% 98%
37	n	56	25% 100%
38	o	128	5% 98%
39	p	178	97%
40	r	459	98%
41	s	318	98%
42	u	171	96%
43	v	125	23% 96%
44	w	320	5% 97%

2 Entry composition

There are 58 unique types of molecules in this entry. The entry contains 68128 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	433	3330	2103	593	614	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	1248	794	227	213	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	687	432	129	124	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
			693	447	102	139	5		
6	X	88	Total	C	N	O	S	0	0
			693	447	103	138	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	342	Total	C	N	O	S	0	0
			2751	1783	481	478	9		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
10	K	43	Total	C	N	O	S	0	0
			366	228	68	69	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
			5296	3320	923	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
			1732	1121	295	314	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
16	Q	430	Total	C	N	O	S	0	0
			3459	2212	594	629	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
			559	361	102	91	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
			1161	749	197	206	9		

- Molecule 22 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	Y	67	Total	C	N	O	S	0	0
			584	385	95	103	1		

- Molecule 23 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	Z	80	Total	C	N	O	S	0	0
			641	418	108	114	1		

- Molecule 24 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 5, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	a	138	Total	C	N	O	S	0	0
			1151	754	195	199	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
25	b	98	Total	C	N	O	S	0	0
			819	537	144	137	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
			1315	853	213	241	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
			1459	915	265	271	8		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
28	e	104	Total	C	N	O	S	0	0
			867	553	142	168	4		

- Molecule 29 is a protein called NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial.

Mol	Chain	Residues	Atoms				AltConf	Trace
29	f	49	Total	C	N	O	0	0
			378	246	65	67		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
30	g	122	Total	C	N	O	S	0	0
			1005	653	174	172	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	115	Total	C	N	O	S	0	0
			914	615	134	158	7		

- 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	606	Total	C	N	O	S	0	0
			4800	3182	744	823	51		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
36	m	175	Total	C	N	O	S	0	0
			1277	852	187	225	13		

- 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
			1534	982	279	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	318	Total	C	N	O	S	0	0
			2508	1678	385	424	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		

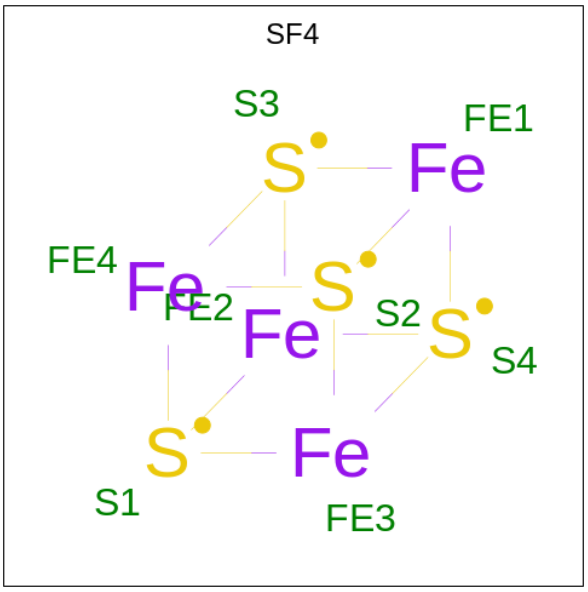
There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
v	1	MYR	-	acetylation	UNP F1SCH1

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

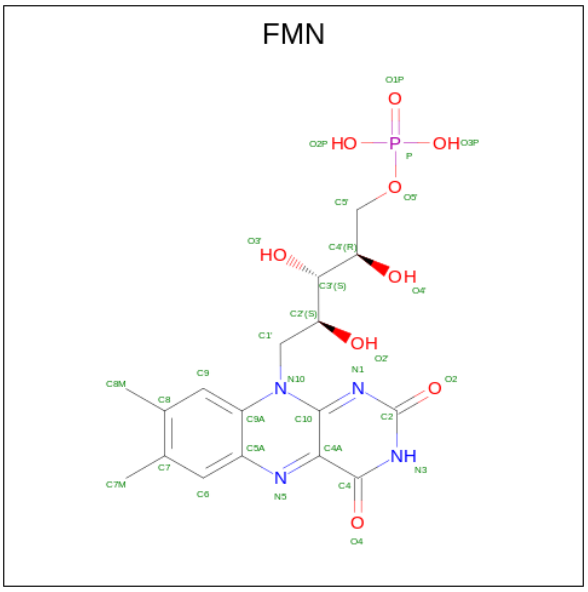
Mol	Chain	Residues	Atoms					AltConf	Trace
44	w	320	Total	C	N	O	S	0	0
			2579	1642	438	489	10		

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



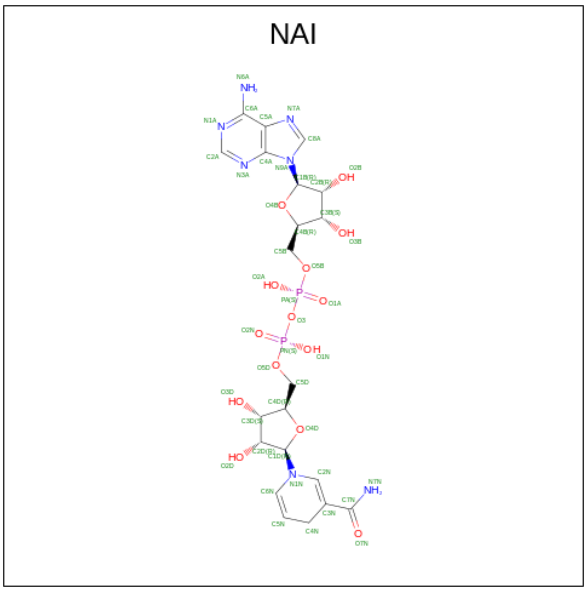
Mol	Chain	Residues	Atoms	AltConf
45	A	1	Total Fe S 8 4 4	0
45	B	1	Total Fe S 16 8 8	0
45	B	1	Total Fe S 16 8 8	0
45	C	1	Total Fe S 8 4 4	0
45	M	1	Total Fe S 16 8 8	0
45	M	1	Total Fe S 16 8 8	0

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



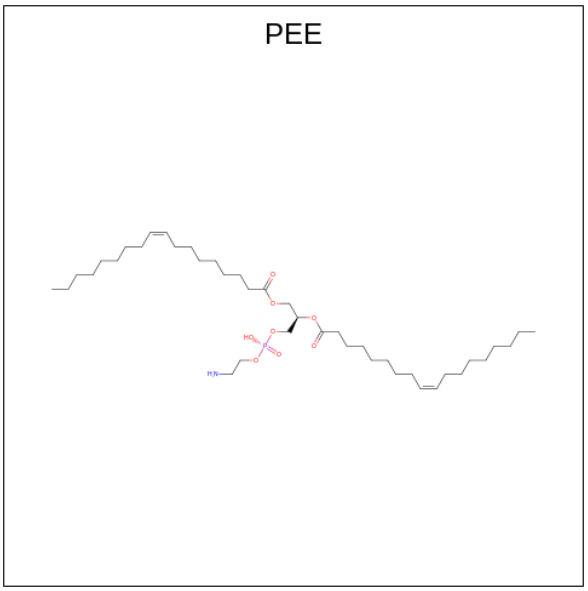
Mol	Chain	Residues	Atoms					AltConf
46	A	1	Total	C	N	O	P	0
			31	17	4	9	1	

- Molecule 47 is 1,4-DIHYDRONICOTINAMIDE ADENINE DINUCLEOTIDE (three-letter code: NAI) (formula: $C_{21}H_{29}N_7O_{14}P_2$) (labeled as "Ligand of Interest" by depositor).



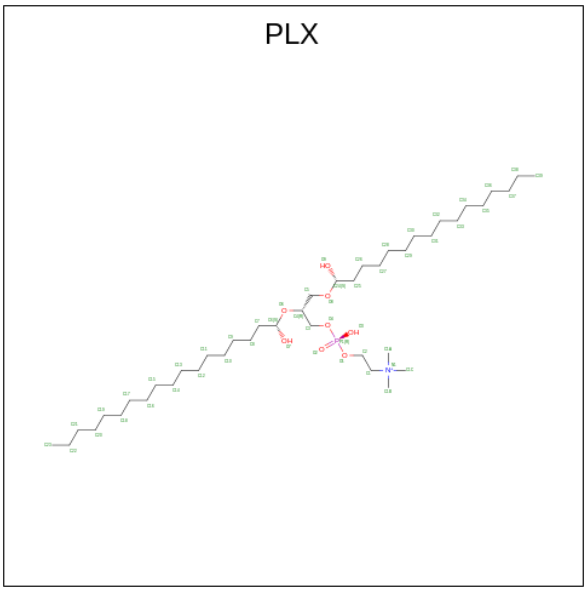
Mol	Chain	Residues	Atoms					AltConf
47	A	1	Total	C	N	O	P	0
			44	21	7	14	2	

- Molecule 48 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).



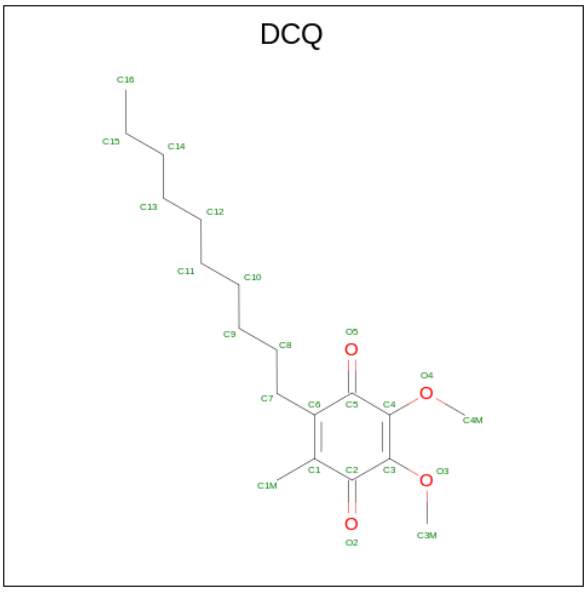
Mol	Chain	Residues	Atoms					AltConf
48	B	1	Total	C	N	O	P	0
			51	41	1	8	1	
48	C	1	Total	C	N	O	P	0
			47	37	1	8	1	
48	V	1	Total	C	N	O	P	0
			40	30	1	8	1	
48	W	1	Total	C	N	O	P	0
			41	31	1	8	1	
48	b	1	Total	C	N	O	P	0
			46	36	1	8	1	
48	j	1	Total	C	N	O	P	0
			51	41	1	8	1	
48	l	1	Total	C	N	O	P	0
			51	41	1	8	1	
48	r	1	Total	C	N	O	P	0
			51	41	1	8	1	
48	s	1	Total	C	N	O	P	0
			41	31	1	8	1	

- Molecule 49 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).



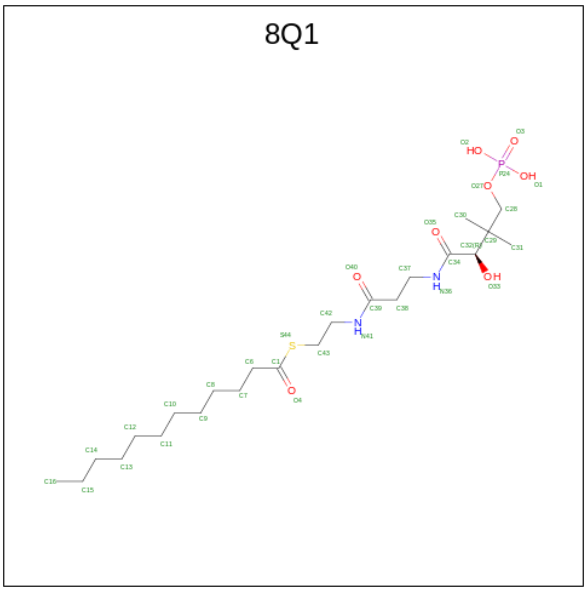
Mol	Chain	Residues	Atoms					AltConf
49	C	1	Total	C	N	O	P	0
			52	42	1	8	1	
49	J	1	Total	C	N	O	P	0
			52	42	1	8	1	
49	a	1	Total	C	N	O	P	0
			52	42	1	8	1	
49	g	1	Total	C	N	O	P	0
			52	42	1	8	1	
49	j	1	Total	C	N	O	P	0
			52	42	1	8	1	
49	r	1	Total	C	N	O	P	0
			104	84	2	16	2	
49	r	1	Total	C	N	O	P	0
			104	84	2	16	2	

- Molecule 50 is 2-decyl-5,6-dimethoxy-3-methylcyclohexa-2,5-diene-1,4-dione (three-letter code: DCQ) (formula: $C_{19}H_{30}O_4$) (labeled as "Ligand of Interest" by depositor).



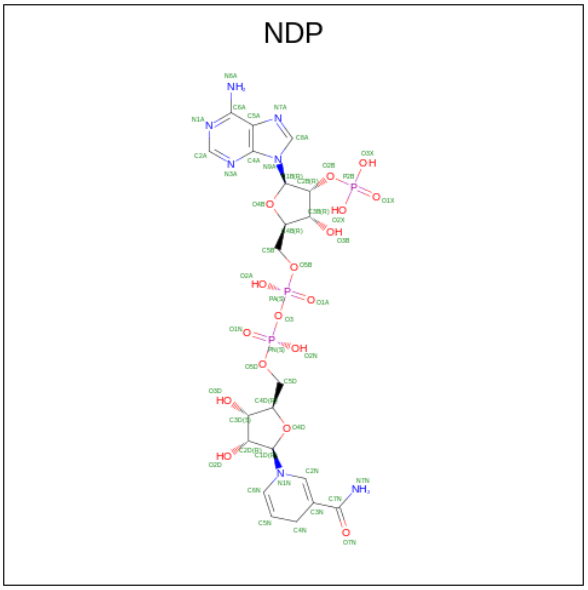
Mol	Chain	Residues	Atoms			AltConf
50	C	1	Total	C	O	0
			23	19	4	

- Molecule 51 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).



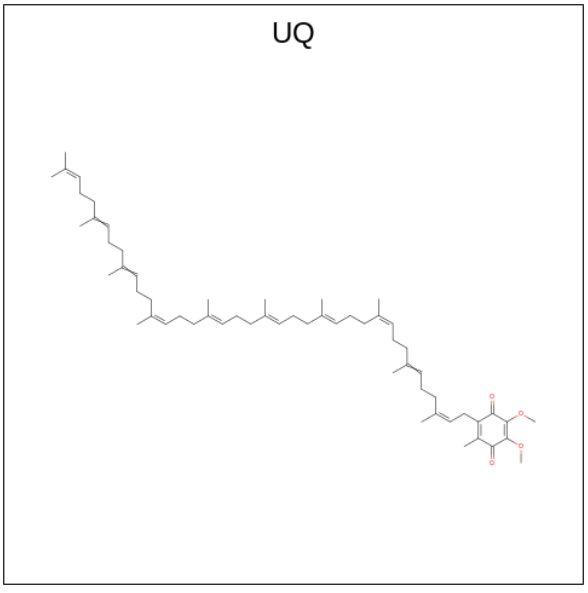
Mol	Chain	Residues	Atoms						AltConf
51	G	1	Total	C	N	O	P	S	0
			35	23	2	8	1	1	
51	X	1	Total	C	N	O	P	S	0
			35	23	2	8	1	1	

- Molecule 52 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).



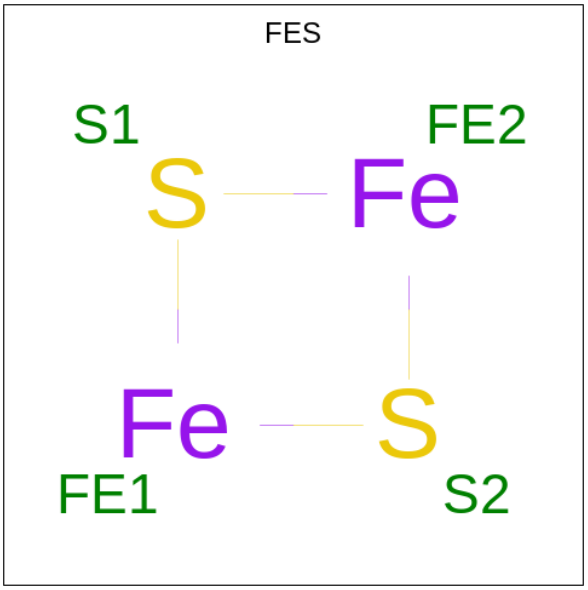
Mol	Chain	Residues	Atoms					AltConf
52	J	1	Total	C	N	O	P	0
			48	21	7	17	3	

- Molecule 53 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
53	J	1	Total C O 33 29 4	0
53	s	1	Total C O 38 34 4	0

- Molecule 54 is FE2/S2 (INORGANIC) CLUSTER (three-letter code: FES) (formula: Fe_2S_2) (labeled as "Ligand of Interest" by depositor).

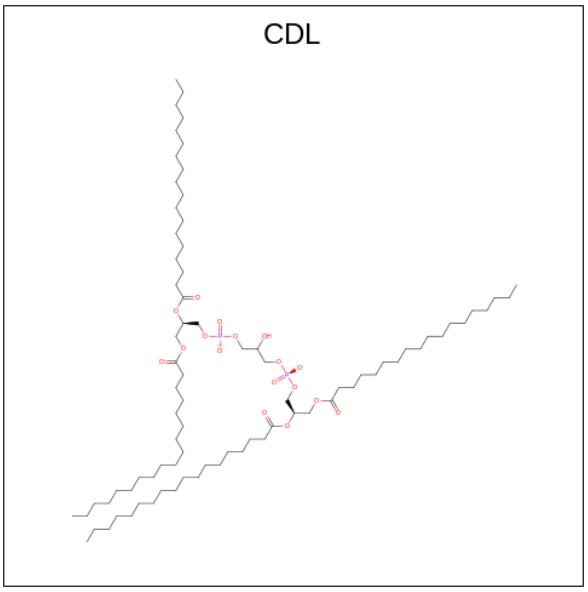


Mol	Chain	Residues	Atoms	AltConf
54	M	1	Total Fe S 4 2 2	0
54	O	1	Total Fe S 4 2 2	0

- Molecule 55 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

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

- Molecule 56 is CARDIOLIPIN (three-letter code: CDL) (formula: $C_{81}H_{156}O_{17}P_2$) (labeled as "Ligand of Interest" by depositor).

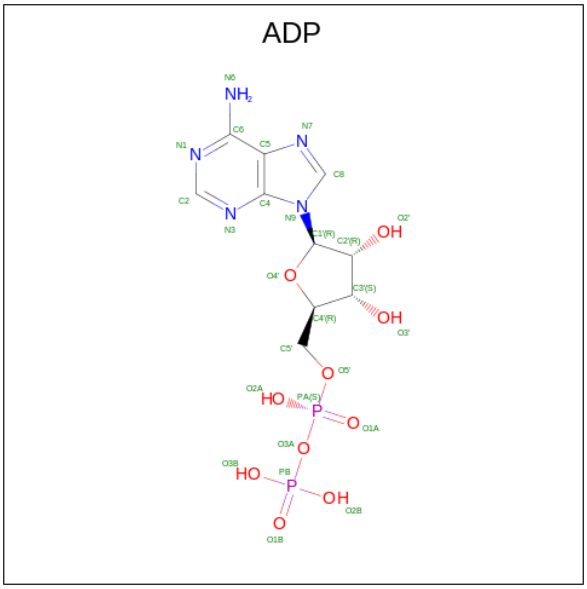


Mol	Chain	Residues	Atoms				AltConf
56	N	1	Total	C	O	P	0
			51	32	17	2	
56	V	1	Total	C	O	P	0
			94	75	17	2	
56	a	1	Total	C	O	P	0
			100	81	17	2	
56	i	1	Total	C	O	P	0
			87	68	17	2	
56	k	1	Total	C	O	P	0
			100	81	17	2	
56	l	1	Total	C	O	P	0
			99	80	17	2	
56	n	1	Total	C	O	P	0
			55	36	17	2	
56	o	1	Total	C	O	P	0
			100	81	17	2	
56	r	1	Total	C	O	P	0
			100	81	17	2	
56	s	1	Total	C	O	P	0
			89	70	17	2	

- Molecule 57 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

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

- Molecule 58 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).



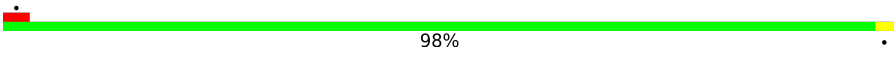
Mol	Chain	Residues	Atoms					AltConf
58	w	1	Total	C	N	O	P	0
			27	10	5	10	2	

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.

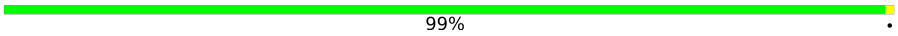
• Molecule 1: NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial

Chain A:



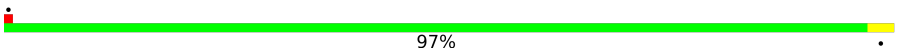
• Molecule 2: NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial

Chain B:



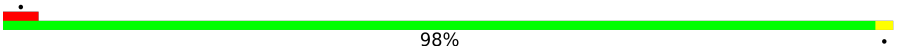
• Molecule 3: NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial

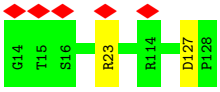
Chain C:



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

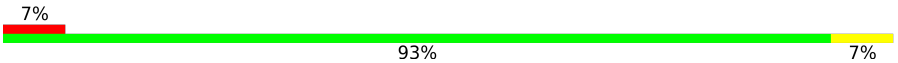
Chain E:

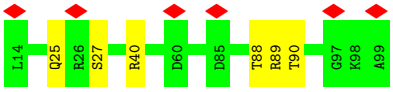




• Molecule 5: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2

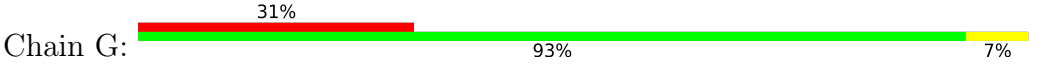
Chain F:

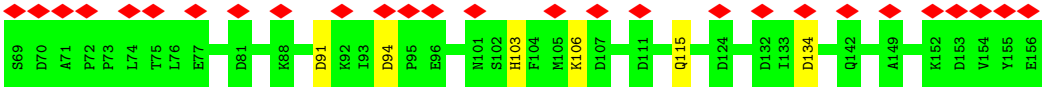




• Molecule 6: Acyl carrier protein

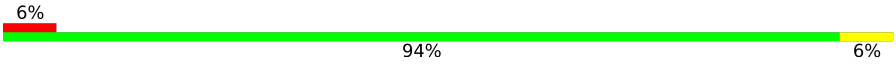
Chain G:

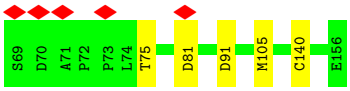




• Molecule 6: Acyl carrier protein

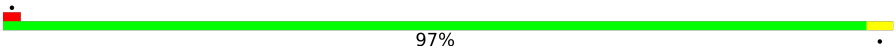
Chain X:

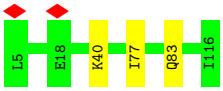




• Molecule 7: Complex I subunit B13

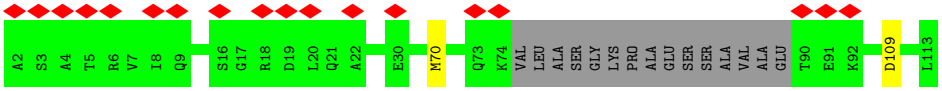
Chain H:





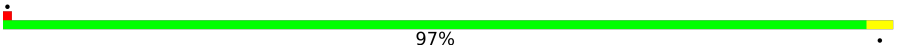
• Molecule 8: Complex I-B14.5a

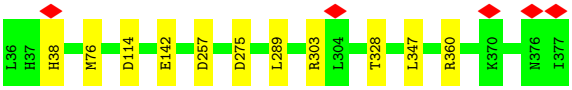
Chain I:



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

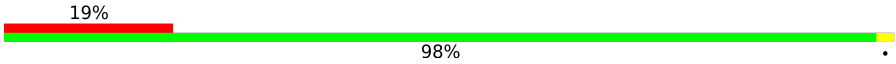
Chain J:

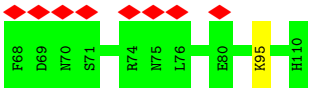




• Molecule 10: Complex I-9kD

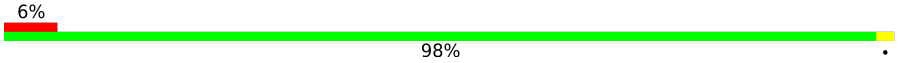
Chain K:

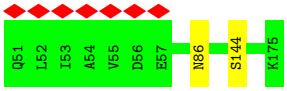




• Molecule 11: NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial

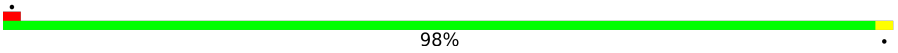
Chain L:

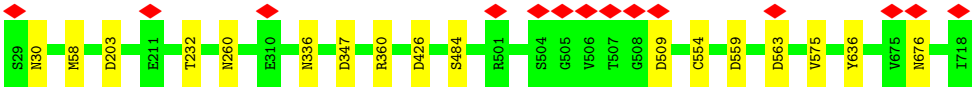




• Molecule 12: NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial

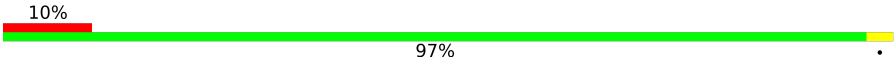
Chain M:

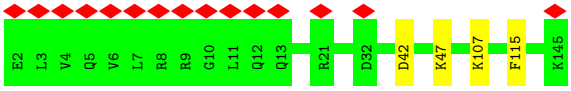




• Molecule 13: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12

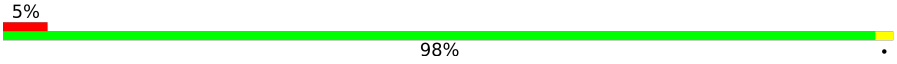
Chain N:

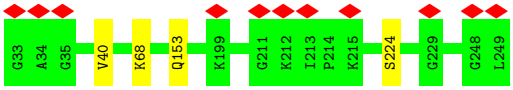




• Molecule 14: NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial

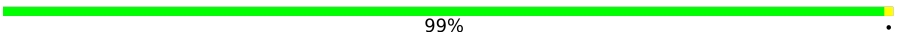
Chain O:

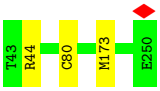




• Molecule 15: Complex I-30kD

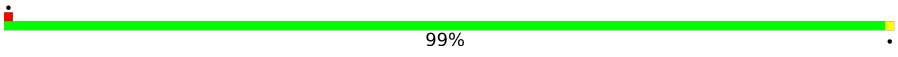
Chain P:

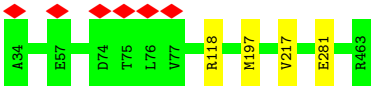




• Molecule 16: Complex I-49kD

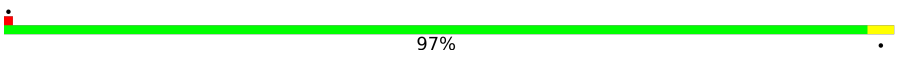
Chain Q:

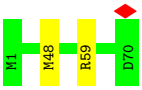




• Molecule 17: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1

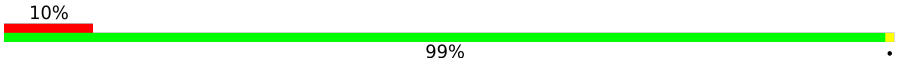
Chain S:

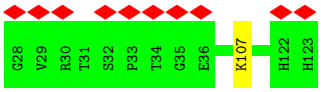




• Molecule 18: NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial

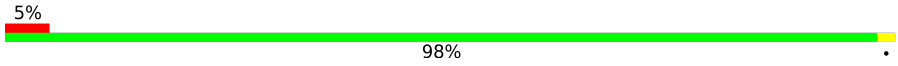
Chain T:

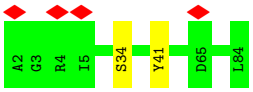




• Molecule 19: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3

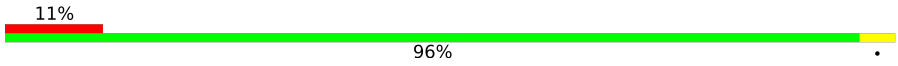
Chain U:

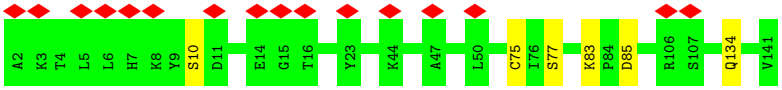




• Molecule 20: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11

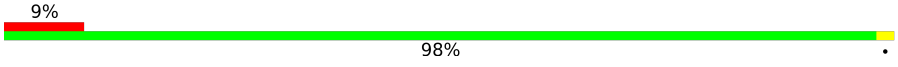
Chain V:

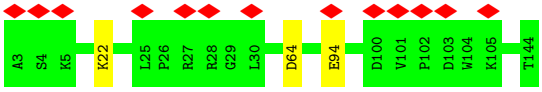




• Molecule 21: Complex I-B16.6

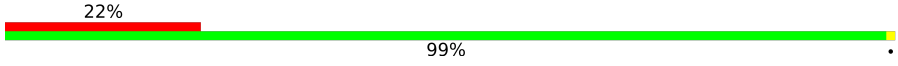
Chain W:

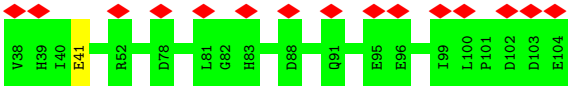




• Molecule 22: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 2, mitochondrial

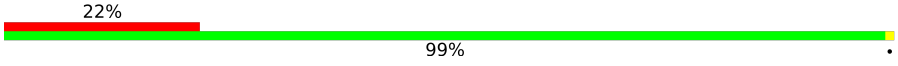
Chain Y:

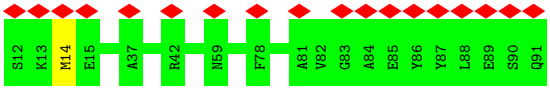




• Molecule 23: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 3

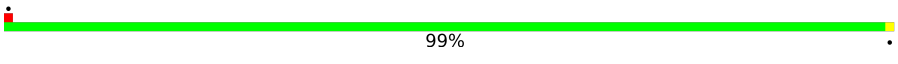
Chain Z:

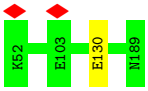




• Molecule 24: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 5, mitochondrial

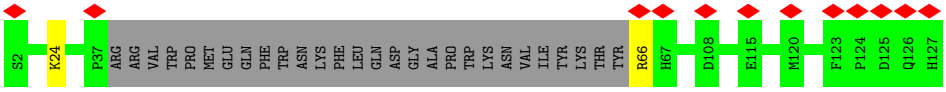
Chain a:





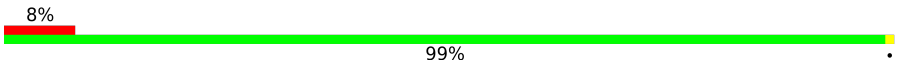
• Molecule 25: Complex I-B17

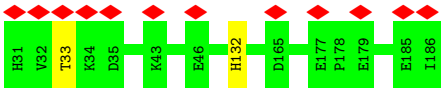
Chain b:



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

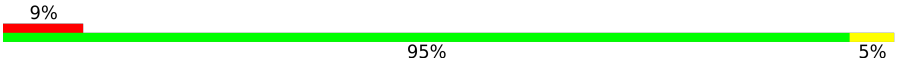
Chain c:

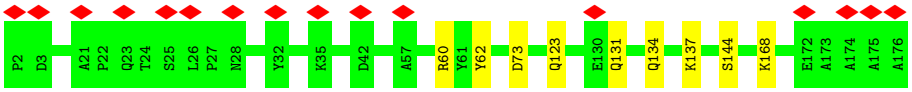




• Molecule 27: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10

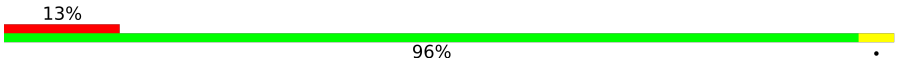
Chain d:

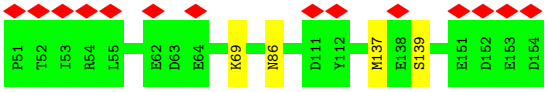




• Molecule 28: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 11, mitochondrial

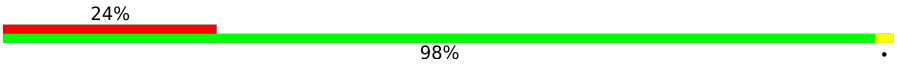
Chain e:

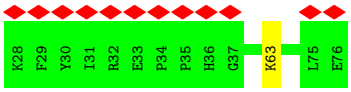




• Molecule 29: NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial

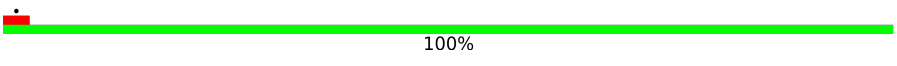
Chain f:





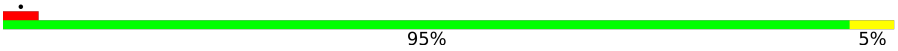
• Molecule 30: NADH dehydrogenase [ubiquinone] 1 subunit C2

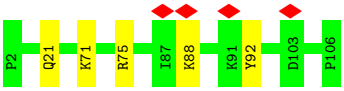
Chain g:



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

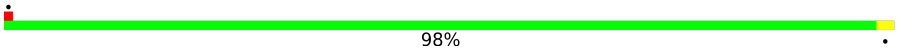
Chain h:

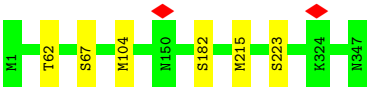




• Molecule 32: NADH-ubiquinone oxidoreductase chain 2

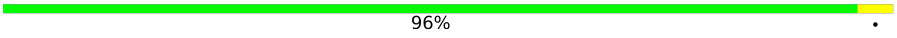
Chain i:

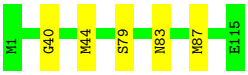




• Molecule 33: NADH-ubiquinone oxidoreductase chain 3

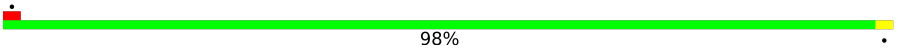
Chain j:

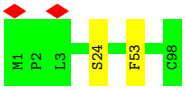




• Molecule 34: NADH-ubiquinone oxidoreductase chain 4L

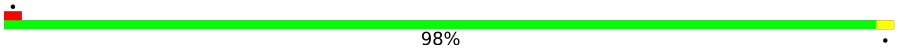
Chain k:

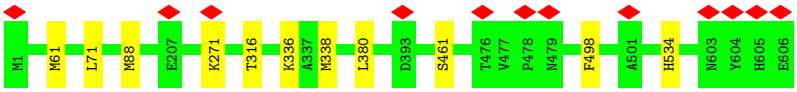




• Molecule 35: NADH-ubiquinone oxidoreductase chain 5

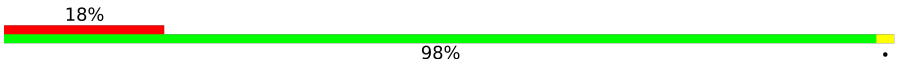
Chain l:

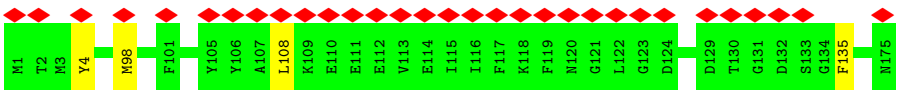




• Molecule 36: NADH-ubiquinone oxidoreductase chain 6

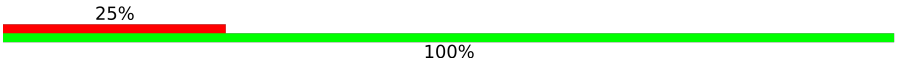
Chain m:

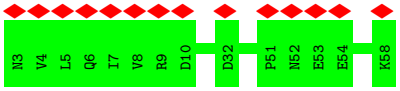




• Molecule 37: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 1

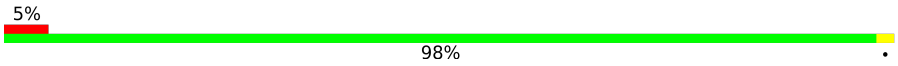
Chain n:

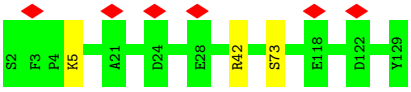




• Molecule 38: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4

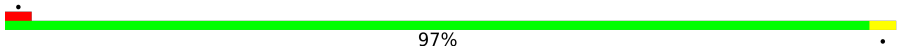
Chain o:

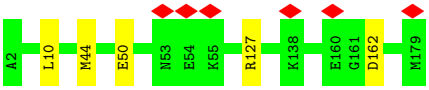




• Molecule 39: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 9

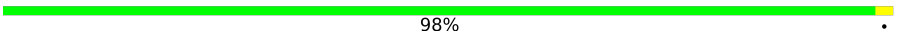
Chain p:

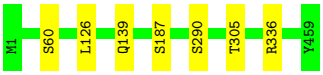




• Molecule 40: NADH-ubiquinone oxidoreductase chain 4

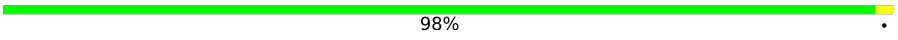
Chain r:





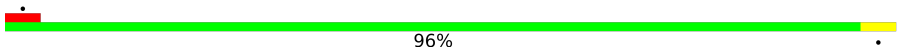
• Molecule 41: NADH-ubiquinone oxidoreductase chain 1

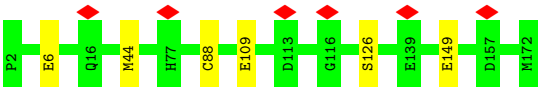
Chain s:



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

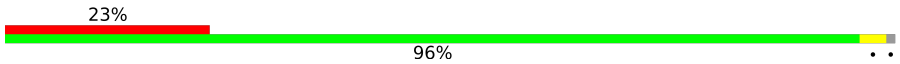
Chain u:

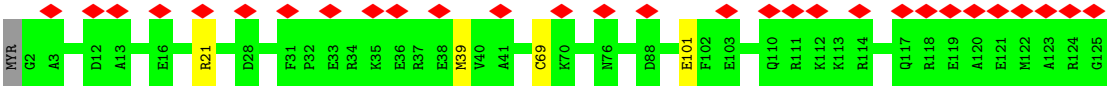




• Molecule 43: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 7

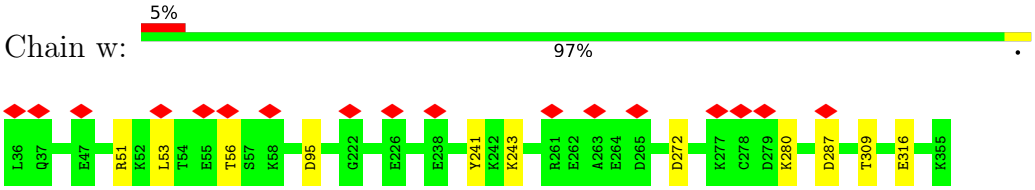
Chain v:





• 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	85858	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	0.175	Depositor
Minimum map value	-0.101	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.0267	Depositor
Map size (Å)	333.002, 333.002, 333.002	wwPDB
Map dimensions	310, 310, 310	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0742, 1.0742, 1.0742	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: MG, CDL, PLX, NDP, ADP, 8Q1, PEE, FMN, DCQ, FES, NAI, SF4, 2MR, ZN, UQ

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	0/3406	0.49	0/4603
2	B	0.28	0/1443	0.51	0/1952
3	C	0.29	0/1279	0.51	0/1730
4	E	0.25	0/995	0.48	0/1340
5	F	0.25	0/698	0.54	0/940
6	G	0.26	0/705	0.45	0/956
6	X	0.26	0/704	0.39	0/953
7	H	0.26	0/929	0.44	0/1258
8	I	0.27	0/798	0.54	0/1079
9	J	0.26	0/2828	0.50	0/3834
10	K	0.25	0/377	0.48	0/509
11	L	0.26	0/1039	0.51	0/1403
12	M	0.27	0/5384	0.50	1/7295 (0.0%)
13	N	0.26	0/1245	0.52	0/1694
14	O	0.26	0/1711	0.48	0/2328
15	P	0.28	0/1783	0.50	0/2429
16	Q	0.28	0/3538	0.49	0/4796
17	S	0.27	0/574	0.52	0/772
18	T	0.26	0/755	0.51	0/1018
19	U	0.26	0/664	0.45	0/912
20	V	0.27	0/1042	0.46	0/1411
21	W	0.27	0/1192	0.48	0/1610
22	Y	0.27	0/610	0.50	0/836
23	Z	0.25	0/660	0.46	0/892
24	a	0.27	0/1184	0.48	0/1603
25	b	0.28	0/844	0.54	0/1149
26	c	0.28	0/1371	0.47	0/1875
27	d	0.26	0/1492	0.50	0/2012
28	e	0.26	0/891	0.50	0/1210
29	f	0.25	0/386	0.39	0/523
30	g	0.28	0/1036	0.47	0/1401
31	h	0.26	0/889	0.50	0/1190

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
32	i	0.26	0/2773	0.45	0/3768
33	j	0.26	0/938	0.45	0/1281
34	k	0.26	0/759	0.42	0/1029
35	l	0.26	0/4929	0.45	0/6704
36	m	0.27	0/1309	0.49	0/1780
37	n	0.25	0/491	0.51	0/663
38	o	0.27	0/1092	0.50	0/1481
39	p	0.26	0/1590	0.49	0/2155
40	r	0.26	0/3723	0.45	0/5078
41	s	0.27	0/2581	0.46	0/3529
42	u	0.26	0/1436	0.50	0/1938
43	v	0.26	0/1052	0.50	0/1411
44	w	0.27	0/2639	0.47	0/3576
All	All	0.27	0/67764	0.48	1/91906 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	M	563	ASP	CB-CG-OD1	5.23	123.00	118.30

There are no chirality outliers.

There are no planarity outliers.

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	431/433 (100%)	421 (98%)	10 (2%)	0	100	100
2	B	174/176 (99%)	171 (98%)	3 (2%)	0	100	100
3	C	154/156 (99%)	149 (97%)	5 (3%)	0	100	100
4	E	113/115 (98%)	109 (96%)	4 (4%)	0	100	100
5	F	84/86 (98%)	81 (96%)	3 (4%)	0	100	100
6	G	86/88 (98%)	83 (96%)	3 (4%)	0	100	100
6	X	86/88 (98%)	85 (99%)	1 (1%)	0	100	100
7	H	110/112 (98%)	105 (96%)	4 (4%)	1 (1%)	17	48
8	I	93/112 (83%)	85 (91%)	8 (9%)	0	100	100
9	J	340/342 (99%)	329 (97%)	10 (3%)	1 (0%)	41	71
10	K	41/43 (95%)	40 (98%)	1 (2%)	0	100	100
11	L	123/125 (98%)	121 (98%)	2 (2%)	0	100	100
12	M	688/690 (100%)	672 (98%)	16 (2%)	0	100	100
13	N	142/144 (99%)	138 (97%)	4 (3%)	0	100	100
14	O	215/217 (99%)	204 (95%)	11 (5%)	0	100	100
15	P	206/208 (99%)	200 (97%)	5 (2%)	1 (0%)	29	61
16	Q	427/430 (99%)	416 (97%)	11 (3%)	0	100	100
17	S	68/70 (97%)	66 (97%)	2 (3%)	0	100	100
18	T	94/96 (98%)	92 (98%)	2 (2%)	0	100	100
19	U	81/83 (98%)	80 (99%)	1 (1%)	0	100	100
20	V	138/140 (99%)	134 (97%)	4 (3%)	0	100	100
21	W	140/142 (99%)	134 (96%)	6 (4%)	0	100	100
22	Y	65/67 (97%)	61 (94%)	4 (6%)	0	100	100
23	Z	78/80 (98%)	77 (99%)	1 (1%)	0	100	100
24	a	136/138 (99%)	134 (98%)	2 (2%)	0	100	100
25	b	94/126 (75%)	89 (95%)	5 (5%)	0	100	100
26	c	154/156 (99%)	144 (94%)	10 (6%)	0	100	100
27	d	173/175 (99%)	170 (98%)	3 (2%)	0	100	100
28	e	102/104 (98%)	97 (95%)	5 (5%)	0	100	100
29	f	47/49 (96%)	43 (92%)	4 (8%)	0	100	100
30	g	120/122 (98%)	114 (95%)	6 (5%)	0	100	100
31	h	103/105 (98%)	101 (98%)	2 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
32	i	345/347 (99%)	335 (97%)	10 (3%)	0	100 100
33	j	113/115 (98%)	108 (96%)	3 (3%)	2 (2%)	8 29
34	k	96/98 (98%)	95 (99%)	1 (1%)	0	100 100
35	l	604/606 (100%)	583 (96%)	21 (4%)	0	100 100
36	m	173/175 (99%)	160 (92%)	13 (8%)	0	100 100
37	n	54/56 (96%)	54 (100%)	0	0	100 100
38	o	126/128 (98%)	122 (97%)	4 (3%)	0	100 100
39	p	176/178 (99%)	168 (96%)	8 (4%)	0	100 100
40	r	457/459 (100%)	449 (98%)	8 (2%)	0	100 100
41	s	316/318 (99%)	303 (96%)	12 (4%)	1 (0%)	41 71
42	u	169/171 (99%)	164 (97%)	5 (3%)	0	100 100
43	v	122/125 (98%)	117 (96%)	5 (4%)	0	100 100
44	w	318/320 (99%)	310 (98%)	8 (2%)	0	100 100
All	All	8175/8314 (98%)	7913 (97%)	256 (3%)	6 (0%)	54 82

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
15	P	44	ARG
7	H	77	ILE
33	j	79	SER
9	J	38	HIS
33	j	40	GLY
41	s	208	VAL

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	346/346 (100%)	337 (97%)	9 (3%)	46 77
2	B	151/151 (100%)	149 (99%)	2 (1%)	69 90

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	C	132/132 (100%)	127 (96%)	5 (4%)	33	67
4	E	107/107 (100%)	105 (98%)	2 (2%)	57	84
5	F	75/76 (99%)	69 (92%)	6 (8%)	12	33
6	G	76/81 (94%)	70 (92%)	6 (8%)	12	34
6	X	75/81 (93%)	70 (93%)	5 (7%)	16	43
7	H	99/99 (100%)	97 (98%)	2 (2%)	55	82
8	I	87/97 (90%)	85 (98%)	2 (2%)	50	80
9	J	296/296 (100%)	286 (97%)	10 (3%)	37	71
10	K	42/42 (100%)	41 (98%)	1 (2%)	49	79
11	L	113/113 (100%)	111 (98%)	2 (2%)	59	85
12	M	580/580 (100%)	564 (97%)	16 (3%)	43	76
13	N	130/130 (100%)	126 (97%)	4 (3%)	40	74
14	O	183/183 (100%)	179 (98%)	4 (2%)	52	81
15	P	189/190 (100%)	187 (99%)	2 (1%)	73	92
16	Q	370/370 (100%)	367 (99%)	3 (1%)	81	94
17	S	55/58 (95%)	53 (96%)	2 (4%)	35	69
18	T	79/79 (100%)	78 (99%)	1 (1%)	69	90
19	U	69/69 (100%)	67 (97%)	2 (3%)	42	76
20	V	101/101 (100%)	95 (94%)	6 (6%)	19	49
21	W	121/123 (98%)	118 (98%)	3 (2%)	47	78
22	Y	62/62 (100%)	61 (98%)	1 (2%)	62	86
23	Z	62/62 (100%)	61 (98%)	1 (2%)	62	86
24	a	121/121 (100%)	120 (99%)	1 (1%)	81	94
25	b	90/119 (76%)	88 (98%)	2 (2%)	52	81
26	c	141/141 (100%)	139 (99%)	2 (1%)	67	89
27	d	154/155 (99%)	145 (94%)	9 (6%)	20	50
28	e	96/96 (100%)	92 (96%)	4 (4%)	30	63
29	f	36/45 (80%)	35 (97%)	1 (3%)	43	76
30	g	108/109 (99%)	108 (100%)	0	100	100
31	h	93/93 (100%)	88 (95%)	5 (5%)	22	54
32	i	311/311 (100%)	305 (98%)	6 (2%)	57	84

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
33	j	100/100 (100%)	97 (97%)	3 (3%)	41	75
34	k	85/85 (100%)	83 (98%)	2 (2%)	49	79
35	l	537/540 (99%)	526 (98%)	11 (2%)	55	82
36	m	126/141 (89%)	122 (97%)	4 (3%)	39	73
37	n	53/53 (100%)	53 (100%)	0	100	100
38	o	113/113 (100%)	110 (97%)	3 (3%)	44	77
39	p	159/159 (100%)	154 (97%)	5 (3%)	40	74
40	r	410/410 (100%)	403 (98%)	7 (2%)	60	86
41	s	275/275 (100%)	270 (98%)	5 (2%)	59	85
42	u	153/153 (100%)	147 (96%)	6 (4%)	32	66
43	v	104/111 (94%)	100 (96%)	4 (4%)	33	67
44	w	280/283 (99%)	269 (96%)	11 (4%)	32	66
All	All	7145/7241 (99%)	6957 (97%)	188 (3%)	49	77

All (188) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	29	LYS
1	A	48	ARG
1	A	97	LEU
1	A	119	GLU
1	A	134	ASP
1	A	184	LYS
1	A	277	ASN
1	A	344	GLN
1	A	351	THR
2	B	50	MET
2	B	52	SER
3	C	71	CYS
3	C	76	MET
3	C	119	LYS
3	C	142	TYR
3	C	188	LYS
4	E	23	ARG
4	E	127	ASP
5	F	25	GLN
5	F	27	SER
5	F	40	ARG

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Mol	Chain	Res	Type
5	F	88	THR
5	F	89	ARG
5	F	90	THR
6	G	91	ASP
6	G	94	ASP
6	G	103	HIS
6	G	106	LYS
6	G	115	GLN
6	G	134	ASP
7	H	40	LYS
7	H	83	GLN
8	I	70	MET
8	I	109	ASP
9	J	76	MET
9	J	114	ASP
9	J	142	GLU
9	J	257	ASP
9	J	275	ASP
9	J	289	LEU
9	J	303	ARG
9	J	328	THR
9	J	347	LEU
9	J	360	ARG
10	K	95	LYS
11	L	86	ASN
11	L	144	SER
12	M	30	ASN
12	M	58	MET
12	M	203	ASP
12	M	232	THR
12	M	260	ASN
12	M	336	ASN
12	M	347	ASP
12	M	360	ARG
12	M	426	ASP
12	M	484	SER
12	M	509	ASP
12	M	554	CYS
12	M	559	ASP
12	M	575	VAL
12	M	636	TYR
12	M	676	ASN

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Mol	Chain	Res	Type
13	N	42	ASP
13	N	47	LYS
13	N	107	LYS
13	N	115	PHE
14	O	40	VAL
14	O	68	LYS
14	O	153	GLN
14	O	224	SER
15	P	80	CYS
15	P	173	MET
16	Q	197	MET
16	Q	217	VAL
16	Q	281	GLU
17	S	48	MET
17	S	59	ARG
18	T	107	LYS
19	U	34	SER
19	U	41	TYR
20	V	10	SER
20	V	75	CYS
20	V	77	SER
20	V	83	LYS
20	V	85	ASP
20	V	134	GLN
21	W	22	LYS
21	W	64	ASP
21	W	94	GLU
6	X	75	THR
6	X	81	ASP
6	X	91	ASP
6	X	105	MET
6	X	140	CYS
22	Y	41	GLU
23	Z	14	MET
24	a	130	GLU
25	b	24	LYS
25	b	66	ARG
26	c	33	THR
26	c	132	HIS
27	d	60	ARG
27	d	62	TYR
27	d	73	ASP

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Mol	Chain	Res	Type
27	d	123	GLN
27	d	131	GLN
27	d	134	GLN
27	d	137	LYS
27	d	144	SER
27	d	168	LYS
28	e	69	LYS
28	e	86	ASN
28	e	137	MET
28	e	139	SER
29	f	63	LYS
31	h	21	GLN
31	h	71	LYS
31	h	75	ARG
31	h	88	LYS
31	h	92	TYR
32	i	62	THR
32	i	67	SER
32	i	104	MET
32	i	182	SER
32	i	215	MET
32	i	223	SER
33	j	44	MET
33	j	83	ASN
33	j	87	MET
34	k	24	SER
34	k	53	PHE
35	l	61	MET
35	l	71	LEU
35	l	88	MET
35	l	271	LYS
35	l	316	THR
35	l	336	LYS
35	l	338	MET
35	l	380	LEU
35	l	461	SER
35	l	498	PHE
35	l	534	HIS
36	m	4	TYR
36	m	98	MET
36	m	108	LEU
36	m	135	PHE

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Mol	Chain	Res	Type
38	o	5	LYS
38	o	42	ARG
38	o	73	SER
39	p	10	LEU
39	p	44	MET
39	p	50	GLU
39	p	127	ARG
39	p	162	ASP
40	r	60	SER
40	r	126	LEU
40	r	139	GLN
40	r	187	SER
40	r	290	SER
40	r	305	THR
40	r	336	ARG
41	s	59	GLU
41	s	170	GLU
41	s	224	PHE
41	s	282	TYR
41	s	286	MET
42	u	6	GLU
42	u	44	MET
42	u	88	CYS
42	u	109	GLU
42	u	126	SER
42	u	149	GLU
43	v	21	ARG
43	v	39	MET
43	v	69	CYS
43	v	101	GLU
44	w	51	ARG
44	w	53	LEU
44	w	56	THR
44	w	95	ASP
44	w	241	TYR
44	w	243	LYS
44	w	272	ASP
44	w	280	LYS
44	w	287	ASP
44	w	309	THR
44	w	316	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such

sidechains are listed below:

Mol	Chain	Res	Type
11	L	71	HIS
22	Y	54	GLN
32	i	221	HIS
35	l	524	ASN
35	l	603	ASN
40	r	390	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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	1.99	1 (10%)	5,13,15	6.00	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	-	2/10/13/15	-

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
16	Q	118	2MR	CZ-NE	5.66	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	12.33	130.79	119.48
16	Q	118	2MR	CD-NE-CZ	4.07	131.03	123.41
16	Q	118	2MR	CQ2-NH2-CZ	3.15	130.82	123.86

There are no chirality outliers.

All (2) 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

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 45 ligands modelled in this entry, 2 are monoatomic - leaving 43 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	$\#\|Z\| > 2$
49	PLX	j	202	-	51,51,51	1.14	4 (7%)	55,59,59	0.60	1 (1%)
56	CDL	n	101	-	54,54,99	1.36	8 (14%)	60,66,111	1.11	4 (6%)
48	PEE	b	201	-	45,45,50	1.22	6 (13%)	48,50,55	1.02	2 (4%)
45	SF4	B	301	2	0,12,12	-	-	-		
48	PEE	l	702	-	50,50,50	1.15	6 (12%)	53,55,55	0.94	2 (3%)
49	PLX	C	303	-	51,51,51	1.14	3 (5%)	55,59,59	0.59	1 (1%)
56	CDL	N	201	-	50,50,99	1.41	8 (16%)	56,62,111	1.13	4 (7%)
48	PEE	j	201	-	50,50,50	1.15	6 (12%)	53,55,55	0.96	2 (3%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
53	UQ	J	402	-	33,33,63	3.45	8 (24%)	40,43,79	2.77	13 (32%)
56	CDL	i	401	-	86,86,99	1.15	8 (9%)	92,98,111	0.91	4 (4%)
48	PEE	r	501	-	50,50,50	1.16	6 (12%)	53,55,55	1.00	2 (3%)
56	CDL	o	201	-	99,99,99	1.09	8 (8%)	105,111,111	0.87	4 (3%)
48	PEE	B	303	-	50,50,50	1.16	6 (12%)	53,55,55	1.01	2 (3%)
56	CDL	l	701	-	98,98,99	1.08	8 (8%)	104,110,111	0.90	4 (3%)
54	FES	O	301	14	0,4,4	-	-	-		
50	DCQ	C	304	-	23,23,23	1.32	5 (21%)	26,29,29	0.99	1 (3%)
49	PLX	r	503	-	51,51,51	1.14	3 (5%)	55,59,59	0.53	1 (1%)
53	UQ	s	403	-	38,38,63	3.53	11 (28%)	46,49,79	2.86	16 (34%)
48	PEE	s	401	-	40,40,50	1.15	5 (12%)	43,45,55	1.01	2 (4%)
56	CDL	s	402	-	88,88,99	1.13	8 (9%)	94,100,111	0.92	4 (4%)
56	CDL	k	101	-	99,99,99	1.09	8 (8%)	105,111,111	0.83	4 (3%)
54	FES	M	803	12	0,4,4	-	-	-		
56	CDL	V	201	-	93,93,99	1.11	9 (9%)	99,105,111	0.89	4 (4%)
48	PEE	W	201	-	40,40,50	1.14	5 (12%)	43,45,55	1.00	2 (4%)
48	PEE	V	202	-	39,39,50	1.31	6 (15%)	41,44,55	1.03	2 (4%)
52	NDP	J	401	-	45,52,52	4.57	20 (44%)	53,80,80	1.95	6 (11%)
49	PLX	a	202	-	51,51,51	1.15	4 (7%)	55,59,59	0.58	1 (1%)
56	CDL	r	504	-	99,99,99	1.08	8 (8%)	105,111,111	0.88	4 (3%)
48	PEE	C	302	-	46,46,50	1.20	6 (13%)	49,51,55	1.01	2 (4%)
58	ADP	w	401	-	24,29,29	3.13	6 (25%)	29,45,45	1.48	4 (13%)
45	SF4	B	302	2	0,12,12	-	-	-		
45	SF4	C	301	3	0,12,12	-	-	-		
49	PLX	J	403	-	51,51,51	1.15	3 (5%)	55,59,59	0.59	1 (1%)
49	PLX	r	502	-	51,51,51	1.14	4 (7%)	55,59,59	0.65	1 (1%)
45	SF4	A	501	1	0,12,12	-	-	-		
51	8Q1	X	201	-	31,34,34	1.70	5 (16%)	40,43,43	1.57	6 (15%)
51	8Q1	G	201	-	31,34,34	1.70	6 (19%)	40,43,43	1.63	6 (15%)
49	PLX	g	201	-	51,51,51	1.14	3 (5%)	55,59,59	0.61	1 (1%)
45	SF4	M	801	12	0,12,12	-	-	-		
47	NAI	A	503	-	42,48,48	4.93	18 (42%)	47,73,73	1.33	7 (14%)
56	CDL	a	201	-	99,99,99	1.09	8 (8%)	105,111,111	0.86	4 (3%)
45	SF4	M	802	12	0,12,12	-	-	-		
46	FMN	A	502	-	33,33,33	1.10	2 (6%)	48,50,50	1.26	8 (16%)

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
49	PLX	j	202	-	-	34/55/55/55	-
56	CDL	n	101	-	-	29/65/65/110	-
48	PEE	b	201	-	-	23/49/49/54	-
48	PEE	l	702	-	-	29/54/54/54	-
56	CDL	N	201	-	-	35/61/61/110	-
49	PLX	C	303	-	-	27/55/55/55	-
56	CDL	i	401	-	-	49/97/97/110	-
48	PEE	j	201	-	-	21/54/54/54	-
53	UQ	J	402	-	-	16/27/51/87	0/1/1/1
56	CDL	o	201	-	-	58/110/110/110	-
48	PEE	r	501	-	-	27/54/54/54	-
45	SF4	B	301	2	-	-	0/6/5/5
48	PEE	B	303	-	-	28/54/54/54	-
56	CDL	l	701	-	-	66/109/109/110	-
54	FES	O	301	14	-	-	0/1/1/1
50	DCQ	C	304	-	-	3/14/38/38	0/1/1/1
49	PLX	r	503	-	-	31/55/55/55	-
53	UQ	s	403	-	-	13/33/57/87	0/1/1/1
48	PEE	s	401	-	-	21/44/44/54	-
56	CDL	s	402	-	-	52/99/99/110	-
56	CDL	k	101	-	-	64/110/110/110	-
54	FES	M	803	12	-	-	0/1/1/1
56	CDL	V	201	-	-	60/104/104/110	-
48	PEE	W	201	-	-	17/44/44/54	-
48	PEE	V	202	-	-	20/43/43/54	-
52	NDP	J	401	-	-	9/30/77/77	0/4/5/5
49	PLX	a	202	-	-	26/55/55/55	-
56	CDL	r	504	-	-	62/110/110/110	-
48	PEE	C	302	-	-	24/50/50/54	-
58	ADP	w	401	-	-	4/12/32/32	0/3/3/3
45	SF4	B	302	2	-	-	0/6/5/5
45	SF4	C	301	3	-	-	0/6/5/5

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
49	PLX	J	403	-	-	31/55/55/55	-
49	PLX	r	502	-	-	26/55/55/55	-
51	8Q1	X	201	-	-	8/41/41/41	-
45	SF4	A	501	1	-	-	0/6/5/5
51	8Q1	G	201	-	-	9/41/41/41	-
49	PLX	g	201	-	-	29/55/55/55	-
45	SF4	M	801	12	-	-	0/6/5/5
47	NAI	A	503	-	-	9/25/72/72	0/5/5/5
56	CDL	a	201	-	-	54/110/110/110	-
45	SF4	M	802	12	-	-	0/6/5/5
46	FMN	A	502	-	-	7/18/18/18	0/3/3/3

All (238) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	A	503	NAI	O4B-C1B	16.11	1.63	1.41
47	A	503	NAI	C2B-C1B	-15.36	1.30	1.53
52	J	401	NDP	C3B-C2B	-13.11	1.23	1.52
52	J	401	NDP	C6N-C5N	12.49	1.55	1.33
52	J	401	NDP	O4D-C4D	10.58	1.68	1.45
47	A	503	NAI	C3D-C4D	-10.31	1.26	1.53
52	J	401	NDP	C3D-C4D	-9.92	1.27	1.53
53	J	402	UQ	C18-C19	9.61	1.56	1.33
53	s	403	UQ	C18-C19	9.59	1.56	1.33
53	s	403	UQ	C13-C14	9.23	1.55	1.33
53	J	402	UQ	C13-C14	9.20	1.55	1.33
53	s	403	UQ	C23-C24	9.06	1.54	1.33
53	J	402	UQ	C8-C9	8.92	1.54	1.33
53	s	403	UQ	C8-C9	8.92	1.54	1.33
58	w	401	ADP	C3'-C4'	-8.89	1.30	1.53
52	J	401	NDP	O4B-C1B	8.50	1.52	1.41
47	A	503	NAI	O4B-C4B	-8.31	1.26	1.45
52	J	401	NDP	O4B-C4B	-7.91	1.27	1.45
53	J	402	UQ	C23-C24	7.87	1.55	1.32
58	w	401	ADP	O4'-C4'	7.70	1.62	1.45
53	s	403	UQ	C28-C29	7.63	1.54	1.32
47	A	503	NAI	C2D-C1D	-7.62	1.29	1.53
52	J	401	NDP	C2N-C3N	7.25	1.55	1.34
58	w	401	ADP	O4'-C1'	-6.99	1.31	1.41
47	A	503	NAI	O4D-C4D	6.82	1.60	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	A	503	NAI	C2D-C3D	5.94	1.69	1.53
47	A	503	NAI	C7N-N7N	5.74	1.48	1.33
52	J	401	NDP	P2B-O2B	5.55	1.69	1.59
51	X	201	8Q1	C34-N36	5.49	1.45	1.33
51	G	201	8Q1	C34-N36	5.43	1.45	1.33
47	A	503	NAI	O4D-C1D	5.40	1.54	1.42
51	X	201	8Q1	C39-N41	5.38	1.45	1.33
51	G	201	8Q1	C39-N41	5.37	1.45	1.33
52	J	401	NDP	C3B-C4B	5.28	1.66	1.53
47	A	503	NAI	C4N-C3N	-5.07	1.40	1.49
52	J	401	NDP	O4D-C1D	-4.86	1.30	1.42
52	J	401	NDP	C6N-N1N	4.84	1.49	1.37
47	A	503	NAI	O2B-C2B	4.51	1.53	1.43
52	J	401	NDP	O2D-C2D	-4.24	1.33	1.43
52	J	401	NDP	C7N-N7N	4.13	1.44	1.33
52	J	401	NDP	C6A-N6A	4.04	1.48	1.34
47	A	503	NAI	C6N-C5N	3.87	1.40	1.33
58	w	401	ADP	C6-N6	3.85	1.48	1.34
48	B	303	PEE	C18-C19	3.74	1.53	1.31
48	C	302	PEE	C18-C19	3.73	1.53	1.31
48	r	501	PEE	C18-C19	3.73	1.53	1.31
48	V	202	PEE	C18-C19	3.73	1.53	1.31
48	l	702	PEE	C18-C19	3.73	1.53	1.31
48	b	201	PEE	C18-C19	3.72	1.53	1.31
46	A	502	FMN	C4A-N5	3.72	1.38	1.30
48	s	401	PEE	C18-C19	3.71	1.53	1.31
48	W	201	PEE	C18-C19	3.71	1.53	1.31
48	j	201	PEE	C18-C19	3.70	1.53	1.31
48	b	201	PEE	C39-C38	3.66	1.53	1.31
48	V	202	PEE	C39-C38	3.66	1.53	1.31
48	r	501	PEE	C39-C38	3.65	1.52	1.31
48	C	302	PEE	C39-C38	3.63	1.52	1.31
48	j	201	PEE	C39-C38	3.63	1.52	1.31
48	B	303	PEE	C39-C38	3.62	1.52	1.31
48	l	702	PEE	C39-C38	3.62	1.52	1.31
47	A	503	NAI	C6A-N6A	3.59	1.47	1.34
47	A	503	NAI	C7N-C3N	3.55	1.56	1.48
56	l	701	CDL	OA8-CA7	3.52	1.43	1.33
56	n	101	CDL	OA8-CA7	3.48	1.43	1.33
56	i	401	CDL	OA8-CA7	3.48	1.43	1.33
56	o	201	CDL	OA8-CA7	3.48	1.43	1.33
56	a	201	CDL	OA8-CA7	3.47	1.43	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	N	201	CDL	OA8-CA7	3.46	1.43	1.33
56	k	101	CDL	OA8-CA7	3.45	1.43	1.33
56	s	402	CDL	OA8-CA7	3.43	1.43	1.33
56	V	201	CDL	OA8-CA7	3.40	1.43	1.33
56	r	504	CDL	OA8-CA7	3.37	1.43	1.33
58	w	401	ADP	O2'-C2'	-3.33	1.35	1.43
47	A	503	NAI	C4N-C5N	-3.32	1.40	1.48
56	V	201	CDL	OA6-CA5	3.15	1.43	1.34
56	k	101	CDL	OA6-CA5	3.10	1.43	1.34
58	w	401	ADP	O3'-C3'	3.09	1.50	1.43
56	r	504	CDL	OB6-CB5	3.06	1.42	1.34
56	a	201	CDL	OB8-CB7	3.06	1.42	1.33
56	k	101	CDL	OB6-CB5	3.04	1.42	1.34
56	o	201	CDL	OA6-CA5	3.04	1.42	1.34
56	i	401	CDL	OB6-CB5	3.03	1.42	1.34
56	a	201	CDL	OB6-CB5	3.02	1.42	1.34
56	N	201	CDL	OB6-CB5	3.02	1.42	1.34
56	i	401	CDL	OB8-CB7	3.01	1.42	1.33
56	n	101	CDL	OB8-CB7	3.01	1.42	1.33
56	N	201	CDL	OB8-CB7	3.01	1.42	1.33
56	n	101	CDL	OB6-CB5	3.01	1.42	1.34
56	s	402	CDL	OB6-CB5	3.00	1.42	1.34
56	i	401	CDL	OA6-CA5	3.00	1.42	1.34
56	r	504	CDL	OB8-CB7	3.00	1.42	1.33
52	J	401	NDP	O3D-C3D	2.99	1.50	1.43
56	s	402	CDL	OA6-CA5	2.98	1.42	1.34
56	V	201	CDL	OB8-CB7	2.98	1.42	1.33
56	N	201	CDL	OA6-CA5	2.98	1.42	1.34
56	l	701	CDL	OB6-CB5	2.97	1.42	1.34
56	o	201	CDL	OB8-CB7	2.96	1.42	1.33
56	o	201	CDL	OB6-CB5	2.96	1.42	1.34
56	k	101	CDL	OB8-CB7	2.95	1.42	1.33
56	l	701	CDL	OB8-CB7	2.94	1.41	1.33
56	V	201	CDL	OB6-CB5	2.93	1.42	1.34
56	a	201	CDL	OA6-CA5	2.93	1.42	1.34
52	J	401	NDP	C7N-C3N	2.91	1.54	1.48
56	n	101	CDL	OA6-CA5	2.90	1.42	1.34
56	r	504	CDL	OA6-CA5	2.87	1.42	1.34
56	l	701	CDL	OA6-CA5	2.87	1.42	1.34
56	s	402	CDL	OB8-CB7	2.84	1.41	1.33
53	J	402	UQ	C6-C1	2.79	1.54	1.46
49	g	201	PLX	O6-C4	-2.69	1.41	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	r	503	PLX	O6-C4	-2.69	1.41	1.44
49	C	303	PLX	O6-C4	-2.66	1.41	1.44
53	s	403	UQ	C6-C1	2.66	1.54	1.46
49	a	202	PLX	O6-C4	-2.64	1.41	1.44
49	J	403	PLX	O6-C4	-2.57	1.41	1.44
49	j	202	PLX	O6-C4	-2.54	1.41	1.44
48	j	201	PEE	O2-C2	-2.51	1.40	1.46
47	A	503	NAI	O3B-C3B	-2.50	1.37	1.43
53	J	402	UQ	C7-C8	2.50	1.54	1.50
48	V	202	PEE	O3-C30	2.48	1.40	1.33
53	s	403	UQ	C7-C8	2.47	1.54	1.50
48	B	303	PEE	O2-C2	-2.47	1.40	1.46
48	s	401	PEE	O3-C30	2.47	1.40	1.33
48	W	201	PEE	O3-C30	2.47	1.40	1.33
48	C	302	PEE	O2-C2	-2.46	1.40	1.46
56	a	201	CDL	OA6-CA4	-2.46	1.40	1.46
56	l	701	CDL	OA6-CA4	-2.46	1.40	1.46
48	B	303	PEE	O3-C30	2.46	1.40	1.33
48	C	302	PEE	O3-C30	2.46	1.40	1.33
56	n	101	CDL	OA6-CA4	-2.42	1.40	1.46
48	r	501	PEE	O2-C2	-2.42	1.40	1.46
49	r	502	PLX	O6-C4	-2.41	1.41	1.44
51	X	201	8Q1	C1-S44	2.41	1.82	1.76
56	r	504	CDL	OA6-CA4	-2.41	1.40	1.46
48	l	702	PEE	O3-C30	2.41	1.40	1.33
48	j	201	PEE	O3-C30	2.40	1.40	1.33
48	l	702	PEE	O2-C2	-2.40	1.40	1.46
48	W	201	PEE	O2-C2	-2.40	1.40	1.46
49	a	202	PLX	C7-C6	2.40	1.55	1.50
51	G	201	8Q1	C1-S44	2.40	1.81	1.76
48	s	401	PEE	O2-C2	-2.40	1.40	1.46
56	s	402	CDL	OA6-CA4	-2.39	1.40	1.46
47	A	503	NAI	PN-O5D	2.38	1.68	1.59
56	o	201	CDL	OA6-CA4	-2.38	1.40	1.46
49	g	201	PLX	C7-C6	2.35	1.55	1.50
48	r	501	PEE	O3-C30	2.35	1.40	1.33
49	j	202	PLX	C7-C6	2.35	1.55	1.50
49	r	502	PLX	C7-C6	2.35	1.55	1.50
48	b	201	PEE	O2-C10	2.34	1.40	1.34
49	C	303	PLX	C7-C6	2.34	1.55	1.50
52	J	401	NDP	O2B-C2B	2.33	1.52	1.44
48	b	201	PEE	O3-C30	2.33	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	r	503	PLX	C7-C6	2.33	1.55	1.50
46	A	502	FMN	C10-N1	2.32	1.38	1.33
48	V	202	PEE	O2-C10	2.32	1.40	1.34
48	l	702	PEE	O2-C10	2.32	1.40	1.34
52	J	401	NDP	C2D-C3D	2.31	1.59	1.53
56	i	401	CDL	OA6-CA4	-2.31	1.40	1.46
56	N	201	CDL	OA6-CA4	-2.30	1.40	1.46
49	J	403	PLX	C7-C6	2.30	1.55	1.50
48	b	201	PEE	O2-C2	-2.29	1.40	1.46
51	G	201	8Q1	O40-C39	-2.28	1.18	1.23
48	B	303	PEE	O2-C10	2.27	1.40	1.34
48	V	202	PEE	O2-C2	-2.27	1.40	1.46
48	W	201	PEE	O2-C10	2.27	1.40	1.34
47	A	503	NAI	C5B-C4B	2.26	1.58	1.51
51	X	201	8Q1	O35-C34	-2.25	1.18	1.23
51	G	201	8Q1	O35-C34	-2.25	1.18	1.23
51	X	201	8Q1	O40-C39	-2.25	1.18	1.23
50	C	304	DCQ	C6-C5	2.24	1.52	1.46
48	r	501	PEE	O2-C10	2.24	1.40	1.34
56	o	201	CDL	PB2-OB2	2.24	1.68	1.59
56	V	201	CDL	OB6-CB4	-2.23	1.41	1.46
56	V	201	CDL	PB2-OB2	2.23	1.68	1.59
52	J	401	NDP	O7N-C7N	-2.22	1.19	1.24
56	i	401	CDL	PB2-OB2	2.22	1.68	1.59
48	j	201	PEE	O2-C10	2.21	1.40	1.34
48	C	302	PEE	O2-C10	2.20	1.40	1.34
56	r	504	CDL	PB2-OB2	2.20	1.68	1.59
48	s	401	PEE	O2-C10	2.20	1.40	1.34
56	i	401	CDL	PB2-OB5	2.19	1.68	1.59
56	l	701	CDL	PB2-OB5	2.19	1.68	1.59
49	j	202	PLX	P1-O4	2.19	1.68	1.59
56	r	504	CDL	PB2-OB5	2.19	1.68	1.59
56	V	201	CDL	PB2-OB5	2.18	1.68	1.59
56	l	701	CDL	OB6-CB4	-2.18	1.41	1.46
48	r	501	PEE	O3-C3	-2.18	1.40	1.45
56	o	201	CDL	OB6-CB4	-2.18	1.41	1.46
56	N	201	CDL	PB2-OB2	2.17	1.68	1.59
56	s	402	CDL	PB2-OB2	2.17	1.68	1.59
56	n	101	CDL	OB6-CB4	-2.16	1.41	1.46
56	N	201	CDL	PB2-OB5	2.16	1.68	1.59
48	l	702	PEE	O3-C3	-2.16	1.40	1.45
56	o	201	CDL	PB2-OB5	2.16	1.68	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	n	101	CDL	PB2-OB2	2.16	1.68	1.59
48	W	201	PEE	O3-C3	-2.16	1.40	1.45
50	C	304	DCQ	O4-C4M	-2.15	1.40	1.45
48	B	303	PEE	O3-C3	-2.15	1.40	1.45
56	n	101	CDL	PB2-OB5	2.15	1.68	1.59
56	a	201	CDL	PB2-OB2	2.15	1.68	1.59
48	b	201	PEE	O3-C3	-2.15	1.40	1.45
56	a	201	CDL	OB6-CB4	-2.15	1.41	1.46
56	a	201	CDL	PB2-OB5	2.15	1.68	1.59
56	k	101	CDL	PB2-OB2	2.15	1.68	1.59
56	l	701	CDL	PB2-OB2	2.15	1.68	1.59
56	k	101	CDL	OB6-CB4	-2.15	1.41	1.46
56	s	402	CDL	OB6-CB4	-2.14	1.41	1.46
56	k	101	CDL	PB2-OB5	2.14	1.68	1.59
49	a	202	PLX	P1-O4	2.14	1.68	1.59
56	k	101	CDL	OA6-CA4	-2.14	1.41	1.46
49	r	502	PLX	P1-O4	2.13	1.67	1.59
48	V	202	PEE	O3-C3	-2.13	1.40	1.45
49	J	403	PLX	P1-O4	2.13	1.67	1.59
53	J	402	UQ	O4-C4	-2.13	1.18	1.23
50	C	304	DCQ	O5-C5	-2.13	1.18	1.23
53	s	403	UQ	O4-C4	-2.13	1.18	1.23
56	i	401	CDL	OB6-CB4	-2.12	1.41	1.46
49	g	201	PLX	P1-O4	2.12	1.67	1.59
48	j	201	PEE	O3-C3	-2.11	1.40	1.45
56	N	201	CDL	OB6-CB4	-2.11	1.41	1.46
50	C	304	DCQ	O3-C3M	-2.10	1.40	1.45
56	s	402	CDL	PB2-OB5	2.10	1.67	1.59
53	s	403	UQ	O1-C1	-2.10	1.18	1.23
51	G	201	8Q1	C6-C1	2.09	1.53	1.50
49	C	303	PLX	P1-O4	2.09	1.67	1.59
49	r	503	PLX	P1-O4	2.08	1.67	1.59
56	r	504	CDL	OB6-CB4	-2.08	1.41	1.46
50	C	304	DCQ	O2-C2	-2.08	1.18	1.23
56	V	201	CDL	C11-CA5	2.06	1.56	1.50
56	V	201	CDL	OA6-CA4	-2.06	1.41	1.46
49	r	502	PLX	P1-O1	2.05	1.67	1.59
49	j	202	PLX	P1-O1	2.05	1.67	1.59
53	s	403	UQ	C21-C19	2.05	1.55	1.51
48	C	302	PEE	O3-C3	-2.05	1.40	1.45
53	J	402	UQ	C21-C19	2.04	1.55	1.51
48	s	401	PEE	O3-C3	-2.04	1.40	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	s	403	UQ	O3-CM3	-2.03	1.40	1.45
49	a	202	PLX	C25-C24	2.01	1.55	1.50
52	J	401	NDP	PA-O5B	2.01	1.67	1.59

All (132) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
52	J	401	NDP	C3N-C2N-N1N	-9.38	109.70	123.10
53	s	403	UQ	C7-C8-C9	-8.04	113.41	126.79
53	J	402	UQ	C7-C8-C9	-7.25	114.72	126.79
51	G	201	8Q1	C6-C1-S44	6.29	120.77	113.46
53	J	402	UQ	C12-C13-C14	-6.19	112.76	127.66
53	J	402	UQ	C17-C18-C19	-6.06	113.07	127.66
52	J	401	NDP	C1D-N1N-C2N	-5.95	111.21	121.11
53	s	403	UQ	C12-C13-C14	-5.88	113.51	127.66
53	s	403	UQ	C22-C23-C24	-5.85	113.58	127.66
51	X	201	8Q1	C6-C1-S44	5.80	120.20	113.46
53	s	403	UQ	C17-C18-C19	-5.76	113.78	127.66
53	J	402	UQ	C10-C9-C8	-4.80	111.36	123.68
52	J	401	NDP	C1D-N1N-C6N	-4.63	110.85	120.83
53	s	403	UQ	C10-C9-C8	-4.60	111.88	123.68
58	w	401	ADP	N3-C2-N1	-4.57	121.53	128.68
53	s	403	UQ	C27-C28-C29	-4.45	112.53	127.75
53	J	402	UQ	C15-C14-C13	-4.43	112.32	123.68
47	A	503	NAI	N3A-C2A-N1A	-4.35	121.88	128.68
53	s	403	UQ	C25-C24-C23	-4.33	112.57	123.68
53	J	402	UQ	C16-C14-C13	-4.32	112.38	121.12
53	s	403	UQ	C21-C19-C18	-4.22	112.58	121.12
53	J	402	UQ	C11-C9-C8	-4.21	112.60	121.12
48	s	401	PEE	O2-C10-C11	4.17	120.48	111.50
53	J	402	UQ	C22-C23-C24	-4.15	113.56	127.75
56	N	201	CDL	OB6-CB5-C51	4.13	120.40	111.50
56	l	701	CDL	OB6-CB5-C51	4.12	120.39	111.50
56	o	201	CDL	OB6-CB5-C51	4.12	120.37	111.50
56	s	402	CDL	OB6-CB5-C51	4.11	120.35	111.50
53	J	402	UQ	C20-C19-C18	-4.08	113.20	123.68
48	r	501	PEE	O2-C10-C11	4.06	120.26	111.50
53	s	403	UQ	C11-C9-C8	-4.05	112.93	121.12
56	a	201	CDL	OB6-CB5-C51	4.05	120.22	111.50
56	i	401	CDL	OA6-CA5-C11	4.04	120.22	111.50
56	n	101	CDL	OB6-CB5-C51	4.04	120.22	111.50
52	J	401	NDP	N3A-C2A-N1A	-4.04	122.36	128.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	i	401	CDL	OB6-CB5-C51	4.04	120.21	111.50
53	s	403	UQ	C20-C19-C18	-4.02	113.36	123.68
56	o	201	CDL	OA6-CA5-C11	4.02	120.16	111.50
56	r	504	CDL	OA6-CA5-C11	4.01	120.15	111.50
48	V	202	PEE	O2-C10-C11	4.01	120.14	111.50
56	r	504	CDL	OB6-CB5-C51	4.01	120.14	111.50
56	V	201	CDL	OA6-CA5-C11	4.00	120.12	111.50
56	n	101	CDL	OA6-CA5-C11	3.99	120.11	111.50
56	k	101	CDL	OB6-CB5-C51	3.98	120.07	111.50
53	s	403	UQ	C16-C14-C13	-3.97	113.08	121.12
56	V	201	CDL	OB6-CB5-C51	3.97	120.06	111.50
56	s	402	CDL	OA6-CA5-C11	3.97	120.06	111.50
48	b	201	PEE	O2-C10-C11	3.97	120.05	111.50
53	s	403	UQ	C26-C24-C23	-3.97	113.09	121.12
48	C	302	PEE	O2-C10-C11	3.96	120.03	111.50
48	W	201	PEE	O2-C10-C11	3.95	120.02	111.50
53	J	402	UQ	C21-C19-C18	-3.95	113.12	121.12
56	N	201	CDL	OA6-CA5-C11	3.93	119.96	111.50
48	B	303	PEE	O2-C10-C11	3.89	119.89	111.50
56	l	701	CDL	OA6-CA5-C11	3.86	119.82	111.50
48	j	201	PEE	O2-C10-C11	3.84	119.79	111.50
51	G	201	8Q1	C37-C38-C39	3.84	118.75	112.36
53	s	403	UQ	C15-C14-C13	-3.83	113.85	123.68
51	G	201	8Q1	O4-C1-C6	-3.78	119.53	123.99
48	l	702	PEE	O2-C10-C11	3.77	119.62	111.50
56	a	201	CDL	OA6-CA5-C11	3.77	119.62	111.50
51	X	201	8Q1	O4-C1-C6	-3.61	119.73	123.99
53	s	403	UQ	C31-C29-C28	-3.38	112.89	122.65
46	A	502	FMN	C4-N3-C2	-3.35	119.44	125.64
56	k	101	CDL	OA6-CA5-C11	3.35	118.73	111.50
53	s	403	UQ	C30-C29-C28	-3.35	112.98	122.65
53	J	402	UQ	C25-C24-C23	-3.29	113.14	122.65
51	X	201	8Q1	C37-C38-C39	3.26	117.79	112.36
47	A	503	NAI	C3D-C2D-C1D	3.26	107.61	101.43
56	n	101	CDL	OA8-CA7-C31	3.10	119.51	111.38
53	J	402	UQ	C26-C24-C23	-3.09	113.73	122.65
58	w	401	ADP	O4'-C1'-C2'	-3.05	102.46	106.93
47	A	503	NAI	C3B-C2B-C1B	2.89	105.33	100.98
48	B	303	PEE	O3-C30-C31	2.84	120.81	111.91
47	A	503	NAI	C2D-C3D-C4D	2.79	108.06	102.64
56	l	701	CDL	OA8-CA7-C31	2.78	120.62	111.91
48	r	501	PEE	O3-C30-C31	2.77	120.61	111.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
46	A	502	FMN	C4A-C4-N3	2.77	120.23	113.19
48	l	702	PEE	O3-C30-C31	2.75	120.53	111.91
53	J	402	UQ	CM5-C5-C6	-2.74	119.93	124.40
48	b	201	PEE	O3-C30-C31	2.74	120.51	111.91
56	V	201	CDL	OB8-CB7-C71	2.73	120.49	111.91
56	k	101	CDL	OA8-CA7-C31	2.73	120.47	111.91
56	i	401	CDL	OA8-CA7-C31	2.72	120.45	111.91
56	a	201	CDL	OB8-CB7-C71	2.71	120.40	111.91
56	r	504	CDL	OB8-CB7-C71	2.68	120.32	111.91
48	C	302	PEE	O3-C30-C31	2.67	120.28	111.91
56	o	201	CDL	OB8-CB7-C71	2.65	120.22	111.91
56	r	504	CDL	OA8-CA7-C31	2.65	120.21	111.91
56	n	101	CDL	OB8-CB7-C71	2.63	120.15	111.91
56	N	201	CDL	OB8-CB7-C71	2.63	120.15	111.91
56	a	201	CDL	OA8-CA7-C31	2.62	120.14	111.91
56	s	402	CDL	OA8-CA7-C31	2.62	120.13	111.91
46	A	502	FMN	O4-C4-C4A	-2.62	119.66	126.60
56	s	402	CDL	OB8-CB7-C71	2.61	120.11	111.91
56	k	101	CDL	OB8-CB7-C71	2.61	120.10	111.91
50	C	304	DCQ	C1M-C1-C6	-2.60	120.15	124.40
56	i	401	CDL	OB8-CB7-C71	2.59	120.03	111.91
56	l	701	CDL	OB8-CB7-C71	2.58	120.01	111.91
48	V	202	PEE	O3-C30-C31	2.57	119.97	111.91
48	W	201	PEE	O3-C30-C31	2.56	119.95	111.91
47	A	503	NAI	C4A-C5A-N7A	-2.56	106.73	109.40
47	A	503	NAI	C4D-O4D-C1D	-2.56	103.83	109.47
56	N	201	CDL	OA8-CA7-C31	2.55	119.92	111.91
52	J	401	NDP	PN-O3-PA	-2.55	124.08	132.83
47	A	503	NAI	PN-O3-PA	-2.53	124.15	132.83
49	r	502	PLX	C1A-N1-C1	2.53	120.25	109.92
48	j	201	PEE	O3-C30-C31	2.52	119.80	111.91
56	V	201	CDL	OA8-CA7-C31	2.50	119.75	111.91
58	w	401	ADP	PA-O3A-PB	-2.50	124.26	132.83
48	s	401	PEE	O3-C30-C31	2.49	119.73	111.91
51	G	201	8Q1	C43-S44-C1	2.45	109.49	101.87
53	s	403	UQ	CM5-C5-C6	-2.42	120.46	124.40
56	o	201	CDL	OA8-CA7-C31	2.40	119.45	111.91
49	g	201	PLX	C1A-N1-C1	2.39	119.71	109.92
46	A	502	FMN	C4A-C10-N1	-2.39	119.20	124.73
46	A	502	FMN	C4A-C10-N10	2.38	119.97	116.48
51	X	201	8Q1	C38-C39-N41	2.33	120.34	116.42
52	J	401	NDP	C4A-C5A-N7A	-2.31	106.99	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
51	X	201	8Q1	C43-S44-C1	2.31	109.05	101.87
49	j	202	PLX	C1A-N1-C1	2.30	119.34	109.92
58	w	401	ADP	C4-C5-N7	-2.27	107.04	109.40
49	C	303	PLX	C1A-N1-C1	2.26	119.14	109.92
49	a	202	PLX	C1A-N1-C1	2.25	119.12	109.92
46	A	502	FMN	C9A-C5A-N5	-2.25	119.99	122.43
51	G	201	8Q1	O4-C1-S44	-2.24	119.70	122.61
49	J	403	PLX	C1A-N1-C1	2.22	119.01	109.92
46	A	502	FMN	C10-C4A-N5	-2.18	120.24	124.86
51	G	201	8Q1	C38-C39-N41	2.13	120.01	116.42
46	A	502	FMN	C5A-C9A-N10	2.10	120.12	117.95
49	r	503	PLX	C1A-N1-C1	2.07	118.40	109.92
51	X	201	8Q1	C32-C34-N36	2.03	120.61	116.58

There are no chirality outliers.

All (1021) 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	C3'-C4'-C5'-O5'
46	A	502	FMN	O4'-C4'-C5'-O5'
46	A	502	FMN	C5'-O5'-P-O2P
46	A	502	FMN	C5'-O5'-P-O3P
47	A	503	NAI	PN-O3-PA-O5B
48	C	302	PEE	C1-O3P-P-O1P
48	V	202	PEE	C18-C19-C20-C21
48	V	202	PEE	C11-C10-O2-C2
48	V	202	PEE	C1-O3P-P-O2P
48	V	202	PEE	C1-O3P-P-O1P
48	V	202	PEE	C1-O3P-P-O4P
48	j	201	PEE	C11-C10-O2-C2
48	j	201	PEE	C1-O3P-P-O1P
48	l	702	PEE	C11-C10-O2-C2
48	l	702	PEE	C4-O4P-P-O3P
48	r	501	PEE	C1-O3P-P-O2P
48	s	401	PEE	C11-C10-O2-C2
48	s	401	PEE	O4P-C4-C5-N
49	C	303	PLX	O6-C4-C5-O8
49	C	303	PLX	C2-O1-P1-O2
49	C	303	PLX	N1-C1-C2-O1
49	C	303	PLX	O9-C24-O8-C5

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Mol	Chain	Res	Type	Atoms
49	J	403	PLX	O7-C6-C7-C8
49	J	403	PLX	O7-C6-O6-C4
49	J	403	PLX	C5-C4-O6-C6
49	J	403	PLX	C2-O1-P1-O2
49	a	202	PLX	O7-C6-O6-C4
49	a	202	PLX	O9-C24-C25-C26
49	g	201	PLX	C2-O1-P1-O2
49	g	201	PLX	C2-O1-P1-O3
49	g	201	PLX	C25-C24-O8-C5
49	j	202	PLX	O7-C6-C7-C8
49	j	202	PLX	O7-C6-O6-C4
49	j	202	PLX	C3-O4-P1-O2
49	j	202	PLX	C25-C24-O8-C5
49	j	202	PLX	O9-C24-C25-C26
49	r	502	PLX	O7-C6-C7-C8
49	r	502	PLX	C5-C4-O6-C6
49	r	502	PLX	C3-O4-P1-O2
49	r	502	PLX	C2-O1-P1-O2
49	r	502	PLX	C2-O1-P1-O3
49	r	502	PLX	O9-C24-C25-C26
49	r	503	PLX	O7-C6-O6-C4
49	r	503	PLX	C5-C4-O6-C6
49	r	503	PLX	C3-O4-P1-O2
49	r	503	PLX	O9-C24-O8-C5
49	r	503	PLX	O9-C24-C25-C26
51	G	201	8Q1	O4-C1-S44-C43
51	G	201	8Q1	C6-C1-S44-C43
51	G	201	8Q1	N41-C42-C43-S44
51	G	201	8Q1	C28-O27-P24-O3
51	G	201	8Q1	C28-O27-P24-O2
51	G	201	8Q1	C28-O27-P24-O1
51	X	201	8Q1	C42-C43-S44-C1
52	J	401	NDP	C5D-O5D-PN-O1N
52	J	401	NDP	O4D-C1D-N1N-C6N
53	J	402	UQ	C7-C8-C9-C11
53	J	402	UQ	C12-C13-C14-C15
53	J	402	UQ	C12-C13-C14-C16
53	J	402	UQ	C14-C16-C17-C18
53	J	402	UQ	C16-C17-C18-C19
53	J	402	UQ	C17-C18-C19-C20
53	J	402	UQ	C17-C18-C19-C21
53	J	402	UQ	C22-C23-C24-C25

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Mol	Chain	Res	Type	Atoms
53	s	403	UQ	C7-C8-C9-C10
53	s	403	UQ	C7-C8-C9-C11
53	s	403	UQ	C12-C13-C14-C16
53	s	403	UQ	C18-C19-C21-C22
53	s	403	UQ	C22-C23-C24-C26
56	N	201	CDL	CA2-OA2-PA1-OA4
56	N	201	CDL	OA5-CA3-CA4-OA6
56	N	201	CDL	CB2-OB2-PB2-OB3
56	N	201	CDL	CB3-OB5-PB2-OB3
56	V	201	CDL	CA3-OA5-PA1-OA3
56	V	201	CDL	CA3-OA5-PA1-OA4
56	V	201	CDL	C11-CA5-OA6-CA4
56	V	201	CDL	CB2-OB2-PB2-OB3
56	V	201	CDL	CB2-OB2-PB2-OB4
56	V	201	CDL	CB3-OB5-PB2-OB3
56	V	201	CDL	CB3-OB5-PB2-OB4
56	a	201	CDL	CA2-OA2-PA1-OA3
56	a	201	CDL	CA2-OA2-PA1-OA4
56	a	201	CDL	CB2-OB2-PB2-OB3
56	a	201	CDL	CB2-OB2-PB2-OB4
56	a	201	CDL	CB3-OB5-PB2-OB2
56	a	201	CDL	CB3-OB5-PB2-OB3
56	a	201	CDL	CB3-OB5-PB2-OB4
56	i	401	CDL	CB2-C1-CA2-OA2
56	i	401	CDL	CA2-OA2-PA1-OA3
56	i	401	CDL	CA3-OA5-PA1-OA2
56	i	401	CDL	CA3-OA5-PA1-OA3
56	i	401	CDL	CA3-OA5-PA1-OA4
56	i	401	CDL	OA9-CA7-OA8-CA6
56	i	401	CDL	C31-CA7-OA8-CA6
56	i	401	CDL	CB3-OB5-PB2-OB3
56	i	401	CDL	OB6-CB4-CB6-OB8
56	k	101	CDL	CB2-OB2-PB2-OB3
56	k	101	CDL	CB2-OB2-PB2-OB4
56	l	701	CDL	CA2-C1-CB2-OB2
56	l	701	CDL	OA5-CA3-CA4-OA6
56	l	701	CDL	OA9-CA7-OA8-CA6
56	l	701	CDL	C31-CA7-OA8-CA6
56	l	701	CDL	CB2-OB2-PB2-OB3
56	l	701	CDL	CB2-OB2-PB2-OB4
56	l	701	CDL	CB2-OB2-PB2-OB5
56	l	701	CDL	CB3-OB5-PB2-OB3

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Mol	Chain	Res	Type	Atoms
56	l	701	CDL	CB3-OB5-PB2-OB4
56	n	101	CDL	O1-C1-CA2-OA2
56	n	101	CDL	CB2-C1-CA2-OA2
56	n	101	CDL	CA2-OA2-PA1-OA4
56	n	101	CDL	OA6-CA4-CA6-OA8
56	n	101	CDL	CB2-OB2-PB2-OB3
56	o	201	CDL	CB2-OB2-PB2-OB3
56	o	201	CDL	CB3-OB5-PB2-OB3
56	o	201	CDL	C51-CB5-OB6-CB4
56	r	504	CDL	O1-C1-CA2-OA2
56	r	504	CDL	CA2-OA2-PA1-OA3
56	r	504	CDL	CA3-OA5-PA1-OA2
56	r	504	CDL	CA3-OA5-PA1-OA3
56	r	504	CDL	CB2-OB2-PB2-OB3
56	r	504	CDL	CB2-OB2-PB2-OB4
56	r	504	CDL	CB2-OB2-PB2-OB5
56	r	504	CDL	CB3-OB5-PB2-OB3
56	r	504	CDL	CB3-OB5-PB2-OB4
56	s	402	CDL	OA9-CA7-OA8-CA6
56	s	402	CDL	C31-CA7-OA8-CA6
56	s	402	CDL	C51-CB5-OB6-CB4
58	w	401	ADP	C5'-O5'-PA-O3A
58	w	401	ADP	O4'-C4'-C5'-O5'
48	V	202	PEE	O4-C10-O2-C2
48	b	201	PEE	O4-C10-O2-C2
48	j	201	PEE	O4-C10-O2-C2
48	l	702	PEE	O4-C10-O2-C2
48	s	401	PEE	O4-C10-O2-C2
56	V	201	CDL	OA7-CA5-OA6-CA4
56	o	201	CDL	OB7-CB5-OB6-CB4
56	s	402	CDL	OB7-CB5-OB6-CB4
50	C	304	DCQ	C6-C7-C8-C9
48	l	702	PEE	C31-C30-O3-C3
48	b	201	PEE	C11-C10-O2-C2
53	J	402	UQ	C12-C11-C9-C8
48	V	202	PEE	C17-C18-C19-C20
48	W	201	PEE	C17-C18-C19-C20
48	j	201	PEE	C17-C18-C19-C20
49	r	502	PLX	C11-C12-C13-C14
53	s	403	UQ	C17-C18-C19-C21
48	l	702	PEE	O5-C30-O3-C3
56	N	201	CDL	O1-C1-CA2-OA2

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Mol	Chain	Res	Type	Atoms
56	i	401	CDL	O1-C1-CA2-OA2
56	i	401	CDL	O1-C1-CB2-OB2
56	k	101	CDL	O1-C1-CB2-OB2
56	l	701	CDL	O1-C1-CA2-OA2
56	l	701	CDL	O1-C1-CB2-OB2
56	n	101	CDL	O1-C1-CB2-OB2
56	V	201	CDL	C31-CA7-OA8-CA6
56	V	201	CDL	C71-CB7-OB8-CB6
56	a	201	CDL	C51-CB5-OB6-CB4
56	r	504	CDL	C51-CB5-OB6-CB4
49	j	202	PLX	C13-C14-C15-C16
53	s	403	UQ	C27-C28-C29-C31
56	V	201	CDL	OA9-CA7-OA8-CA6
49	g	201	PLX	C9-C10-C11-C12
49	g	201	PLX	C7-C8-C9-C10
49	j	202	PLX	C28-C29-C30-C31
49	r	502	PLX	C9-C10-C11-C12
49	r	502	PLX	C7-C8-C9-C10
56	V	201	CDL	C32-C33-C34-C35
56	o	201	CDL	C33-C34-C35-C36
56	k	101	CDL	C60-C61-C62-C63
58	w	401	ADP	C3'-C4'-C5'-O5'
56	r	504	CDL	OB7-CB5-OB6-CB4
56	k	101	CDL	C62-C63-C64-C65
56	n	101	CDL	C55-C56-C57-C58
56	o	201	CDL	C17-C18-C19-C20
53	J	402	UQ	C13-C14-C16-C17
56	V	201	CDL	OB9-CB7-OB8-CB6
56	V	201	CDL	C62-C63-C64-C65
53	J	402	UQ	C22-C23-C24-C26
48	B	303	PEE	C11-C12-C13-C14
48	l	702	PEE	C33-C34-C35-C36
56	l	701	CDL	C55-C56-C57-C58
56	l	701	CDL	CB2-C1-CA2-OA2
56	n	101	CDL	CA2-C1-CB2-OB2
56	s	402	CDL	CA2-C1-CB2-OB2
48	r	501	PEE	C41-C42-C43-C44
48	j	201	PEE	C31-C30-O3-C3
56	l	701	CDL	C58-C59-C60-C61
56	V	201	CDL	C59-C60-C61-C62
48	l	702	PEE	O3P-C1-C2-O2
56	s	402	CDL	OA5-CA3-CA4-OA6

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Mol	Chain	Res	Type	Atoms
56	r	504	CDL	C74-C75-C76-C77
56	s	402	CDL	O1-C1-CB2-OB2
56	a	201	CDL	CB5-C51-C52-C53
56	l	701	CDL	OA6-CA4-CA6-OA8
56	N	201	CDL	CB5-C51-C52-C53
56	l	701	CDL	CB5-C51-C52-C53
56	i	401	CDL	CB7-C71-C72-C73
56	k	101	CDL	CA7-C31-C32-C33
49	J	403	PLX	C9-C10-C11-C12
48	l	702	PEE	C30-C31-C32-C33
56	N	201	CDL	CA7-C31-C32-C33
56	V	201	CDL	CB7-C71-C72-C73
56	n	101	CDL	CB5-C51-C52-C53
56	o	201	CDL	CB7-C71-C72-C73
48	b	201	PEE	C31-C30-O3-C3
48	W	201	PEE	C11-C12-C13-C14
56	a	201	CDL	C36-C37-C38-C39
56	a	201	CDL	OB7-CB5-OB6-CB4
49	g	201	PLX	C2-C1-N1-C1A
53	s	403	UQ	C14-C16-C17-C18
56	l	701	CDL	C34-C35-C36-C37
56	a	201	CDL	CB7-C71-C72-C73
56	a	201	CDL	O1-C1-CA2-OA2
56	k	101	CDL	O1-C1-CA2-OA2
56	o	201	CDL	O1-C1-CB2-OB2
48	j	201	PEE	O5-C30-O3-C3
48	B	303	PEE	C11-C10-O2-C2
56	k	101	CDL	C11-CA5-OA6-CA4
48	B	303	PEE	C1-O3P-P-O4P
48	C	302	PEE	C1-O3P-P-O4P
48	V	202	PEE	C4-O4P-P-O3P
48	j	201	PEE	C1-O3P-P-O4P
48	r	501	PEE	C1-O3P-P-O4P
49	J	403	PLX	C2-O1-P1-O4
49	a	202	PLX	C3-O4-P1-O1
49	g	201	PLX	C2-O1-P1-O4
49	j	202	PLX	C3-O4-P1-O1
49	r	502	PLX	C2-O1-P1-O4
49	r	503	PLX	C3-O4-P1-O1
56	N	201	CDL	CA2-OA2-PA1-OA5
56	N	201	CDL	CA3-OA5-PA1-OA2
56	N	201	CDL	CB2-OB2-PB2-OB5

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Mol	Chain	Res	Type	Atoms
56	N	201	CDL	CB3-OB5-PB2-OB2
56	V	201	CDL	CA3-OA5-PA1-OA2
56	V	201	CDL	CB2-OB2-PB2-OB5
56	V	201	CDL	CB3-OB5-PB2-OB2
56	a	201	CDL	CA2-OA2-PA1-OA5
56	a	201	CDL	CB2-OB2-PB2-OB5
56	i	401	CDL	CA2-OA2-PA1-OA5
56	i	401	CDL	CB3-OB5-PB2-OB2
56	k	101	CDL	CA2-OA2-PA1-OA5
56	k	101	CDL	CA3-OA5-PA1-OA2
56	k	101	CDL	CB2-OB2-PB2-OB5
56	l	701	CDL	CB3-OB5-PB2-OB2
56	n	101	CDL	CA2-OA2-PA1-OA5
56	o	201	CDL	CA2-OA2-PA1-OA5
56	o	201	CDL	CB2-OB2-PB2-OB5
56	o	201	CDL	CB3-OB5-PB2-OB2
56	r	504	CDL	CB3-OB5-PB2-OB2
56	s	402	CDL	CB2-OB2-PB2-OB5
48	W	201	PEE	C31-C30-O3-C3
56	V	201	CDL	CA5-C11-C12-C13
56	N	201	CDL	CB2-C1-CA2-OA2
56	a	201	CDL	CB2-C1-CA2-OA2
56	i	401	CDL	CA2-C1-CB2-OB2
56	k	101	CDL	CB2-C1-CA2-OA2
56	o	201	CDL	CA2-C1-CB2-OB2
56	r	504	CDL	CB2-C1-CA2-OA2
48	B	303	PEE	O4-C10-O2-C2
56	k	101	CDL	OA7-CA5-OA6-CA4
49	g	201	PLX	C2-C1-N1-C1B
49	g	201	PLX	O6-C6-C7-C8
49	r	502	PLX	O6-C6-C7-C8
56	o	201	CDL	C37-C38-C39-C40
56	N	201	CDL	CB7-C71-C72-C73
49	a	202	PLX	C17-C18-C19-C20
47	A	503	NAI	C3D-C4D-C5D-O5D
48	r	501	PEE	C11-C12-C13-C14
48	s	401	PEE	C14-C15-C16-C17
49	J	403	PLX	C12-C13-C14-C15
49	r	502	PLX	C11-C10-C9-C8
49	r	503	PLX	C25-C26-C27-C28
56	a	201	CDL	C35-C36-C37-C38
56	i	401	CDL	C76-C77-C78-C79

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Mol	Chain	Res	Type	Atoms
56	k	101	CDL	C55-C56-C57-C58
56	k	101	CDL	C75-C76-C77-C78
56	l	701	CDL	C71-C72-C73-C74
56	n	101	CDL	C52-C53-C54-C55
56	n	101	CDL	C54-C55-C56-C57
56	o	201	CDL	C59-C60-C61-C62
56	r	504	CDL	C53-C54-C55-C56
56	o	201	CDL	C31-CA7-OA8-CA6
48	B	303	PEE	C42-C43-C44-C45
48	C	302	PEE	C34-C35-C36-C37
48	W	201	PEE	C13-C14-C15-C16
49	a	202	PLX	C7-C8-C9-C10
49	g	201	PLX	C32-C33-C34-C35
49	j	202	PLX	C12-C13-C14-C15
49	r	502	PLX	C27-C28-C29-C30
51	X	201	8Q1	C11-C10-C9-C8
56	i	401	CDL	C55-C56-C57-C58
56	k	101	CDL	C14-C15-C16-C17
56	l	701	CDL	C52-C53-C54-C55
56	s	402	CDL	C82-C83-C84-C85
56	i	401	CDL	CA7-C31-C32-C33
56	l	701	CDL	CA5-C11-C12-C13
48	C	302	PEE	C41-C42-C43-C44
49	C	303	PLX	C14-C15-C16-C17
49	j	202	PLX	C25-C26-C27-C28
56	k	101	CDL	C59-C60-C61-C62
56	l	701	CDL	C62-C63-C64-C65
56	o	201	CDL	C13-C14-C15-C16
49	a	202	PLX	C9-C10-C11-C12
49	r	503	PLX	C13-C14-C15-C16
56	k	101	CDL	C17-C18-C19-C20
56	r	504	CDL	C59-C60-C61-C62
56	s	402	CDL	C73-C74-C75-C76
48	r	501	PEE	C31-C32-C33-C34
48	s	401	PEE	C23-C24-C25-C26
49	C	303	PLX	C9-C10-C11-C12
56	o	201	CDL	C34-C35-C36-C37
48	V	202	PEE	C30-C31-C32-C33
56	i	401	CDL	CA5-C11-C12-C13
56	l	701	CDL	CB7-C71-C72-C73
48	B	303	PEE	C20-C21-C22-C23
49	g	201	PLX	C33-C34-C35-C36

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Mol	Chain	Res	Type	Atoms
50	C	304	DCQ	C7-C8-C9-C10
56	V	201	CDL	C52-C53-C54-C55
56	k	101	CDL	C56-C57-C58-C59
56	l	701	CDL	C75-C76-C77-C78
56	s	402	CDL	C17-C18-C19-C20
48	b	201	PEE	O5-C30-O3-C3
49	C	303	PLX	C10-C11-C12-C13
56	a	201	CDL	C62-C63-C64-C65
56	k	101	CDL	C73-C74-C75-C76
56	l	701	CDL	C11-C12-C13-C14
56	o	201	CDL	C73-C74-C75-C76
56	r	504	CDL	C37-C38-C39-C40
56	r	504	CDL	C43-C44-C45-C46
56	r	504	CDL	C55-C56-C57-C58
56	o	201	CDL	CA7-C31-C32-C33
49	J	403	PLX	C10-C11-C12-C13
56	l	701	CDL	C56-C57-C58-C59
56	r	504	CDL	C62-C63-C64-C65
49	a	202	PLX	C14-C15-C16-C17
49	a	202	PLX	C27-C28-C29-C30
49	a	202	PLX	C31-C32-C33-C34
49	j	202	PLX	C33-C34-C35-C36
56	a	201	CDL	C18-C19-C20-C21
56	i	401	CDL	C37-C38-C39-C40
56	i	401	CDL	C59-C60-C61-C62
48	s	401	PEE	C11-C12-C13-C14
49	a	202	PLX	C12-C13-C14-C15
49	g	201	PLX	C13-C14-C15-C16
56	a	201	CDL	C60-C61-C62-C63
56	k	101	CDL	C51-C52-C53-C54
56	k	101	CDL	C71-C72-C73-C74
56	r	504	CDL	C41-C42-C43-C44
56	s	402	CDL	C32-C33-C34-C35
56	s	402	CDL	C38-C39-C40-C41
56	s	402	CDL	C71-C72-C73-C74
56	k	101	CDL	CB5-C51-C52-C53
56	s	402	CDL	CB7-C71-C72-C73
48	C	302	PEE	C11-C12-C13-C14
49	C	303	PLX	C11-C12-C13-C14
49	C	303	PLX	C27-C28-C29-C30
49	J	403	PLX	C34-C35-C36-C37
49	j	202	PLX	C14-C15-C16-C17

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Mol	Chain	Res	Type	Atoms
49	r	502	PLX	C30-C31-C32-C33
56	N	201	CDL	C11-C12-C13-C14
56	V	201	CDL	C55-C56-C57-C58
56	k	101	CDL	C39-C40-C41-C42
56	l	701	CDL	C37-C38-C39-C40
56	r	504	CDL	C33-C34-C35-C36
56	r	504	CDL	C75-C76-C77-C78
56	r	504	CDL	C77-C78-C79-C80
56	s	402	CDL	C52-C53-C54-C55
49	C	303	PLX	C17-C18-C19-C20
56	V	201	CDL	C12-C13-C14-C15
56	l	701	CDL	C31-C32-C33-C34
56	n	101	CDL	C51-C52-C53-C54
48	b	201	PEE	C32-C33-C34-C35
49	J	403	PLX	C28-C29-C30-C31
49	g	201	PLX	C12-C13-C14-C15
56	k	101	CDL	C19-C20-C21-C22
56	k	101	CDL	C81-C82-C83-C84
56	o	201	CDL	C83-C84-C85-C86
49	g	201	PLX	C25-C26-C27-C28
49	j	202	PLX	C10-C11-C12-C13
56	a	201	CDL	C21-C22-C23-C24
56	l	701	CDL	C35-C36-C37-C38
56	l	701	CDL	C71-CB7-OB8-CB6
49	j	202	PLX	C11-C12-C13-C14
49	j	202	PLX	C27-C28-C29-C30
49	r	502	PLX	C28-C29-C30-C31
56	i	401	CDL	C14-C15-C16-C17
56	s	402	CDL	C34-C35-C36-C37
49	g	201	PLX	C27-C28-C29-C30
49	g	201	PLX	C30-C31-C32-C33
49	r	502	PLX	C31-C32-C33-C34
56	l	701	CDL	C59-C60-C61-C62
56	r	504	CDL	CB5-C51-C52-C53
48	V	202	PEE	C32-C33-C34-C35
49	g	201	PLX	C11-C12-C13-C14
56	i	401	CDL	C73-C74-C75-C76
56	k	101	CDL	C78-C79-C80-C81
56	r	504	CDL	C71-C72-C73-C74
48	b	201	PEE	C12-C13-C14-C15
49	J	403	PLX	C33-C34-C35-C36
56	a	201	CDL	C32-C33-C34-C35

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Mol	Chain	Res	Type	Atoms
48	W	201	PEE	C10-C11-C12-C13
51	G	201	8Q1	C12-C13-C14-C15
56	o	201	CDL	C55-C56-C57-C58
56	s	402	CDL	C37-C38-C39-C40
48	r	501	PEE	C11-C10-O2-C2
56	V	201	CDL	C73-C74-C75-C76
56	k	101	CDL	C52-C53-C54-C55
49	g	201	PLX	O7-C6-C7-C8
49	g	201	PLX	O9-C24-C25-C26
56	n	101	CDL	C74-C75-C76-C77
56	r	504	CDL	C34-C35-C36-C37
56	s	402	CDL	C35-C36-C37-C38
48	s	401	PEE	C15-C16-C17-C18
48	W	201	PEE	O5-C30-O3-C3
49	j	202	PLX	C9-C10-C11-C12
56	N	201	CDL	O1-C1-CB2-OB2
49	r	503	PLX	C29-C30-C31-C32
49	j	202	PLX	C15-C16-C17-C18
56	l	701	CDL	C14-C15-C16-C17
56	l	701	CDL	C51-C52-C53-C54
48	r	501	PEE	O4-C10-O2-C2
49	C	303	PLX	C33-C34-C35-C36
56	i	401	CDL	C77-C78-C79-C80
56	n	101	CDL	C75-C76-C77-C78
56	o	201	CDL	OA9-CA7-OA8-CA6
49	g	201	PLX	C28-C29-C30-C31
49	r	503	PLX	C11-C10-C9-C8
56	k	101	CDL	C37-C38-C39-C40
49	g	201	PLX	C2-C1-N1-C1C
56	o	201	CDL	C60-C61-C62-C63
56	s	402	CDL	C75-C76-C77-C78
48	B	303	PEE	C31-C30-O3-C3
56	N	201	CDL	C31-CA7-OA8-CA6
56	N	201	CDL	C51-CB5-OB6-CB4
49	a	202	PLX	C13-C14-C15-C16
56	V	201	CDL	C53-C54-C55-C56
48	B	303	PEE	C12-C13-C14-C15
48	b	201	PEE	C14-C15-C16-C17
49	J	403	PLX	C27-C28-C29-C30
56	l	701	CDL	OB9-CB7-OB8-CB6
56	i	401	CDL	C71-C72-C73-C74
48	C	302	PEE	C35-C36-C37-C38

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Mol	Chain	Res	Type	Atoms
56	V	201	CDL	OB7-CB5-OB6-CB4
56	k	101	CDL	OB7-CB5-OB6-CB4
56	k	101	CDL	C71-CB7-OB8-CB6
56	o	201	CDL	C71-CB7-OB8-CB6
49	g	201	PLX	C10-C11-C12-C13
49	j	202	PLX	C34-C35-C36-C37
51	X	201	8Q1	C12-C13-C14-C15
56	a	201	CDL	C38-C39-C40-C41
56	k	101	CDL	C64-C65-C66-C67
48	W	201	PEE	C22-C23-C24-C25
48	l	702	PEE	C40-C41-C42-C43
56	o	201	CDL	C56-C57-C58-C59
56	o	201	CDL	C62-C63-C64-C65
49	j	202	PLX	C29-C30-C31-C32
49	r	503	PLX	C17-C18-C19-C20
56	r	504	CDL	C81-C82-C83-C84
56	V	201	CDL	C57-C58-C59-C60
56	V	201	CDL	C76-C77-C78-C79
49	r	502	PLX	C13-C14-C15-C16
49	r	503	PLX	C28-C29-C30-C31
56	s	402	CDL	C19-C20-C21-C22
51	X	201	8Q1	C10-C11-C12-C13
56	N	201	CDL	C51-C52-C53-C54
48	C	302	PEE	C11-C10-O2-C2
56	V	201	CDL	C51-CB5-OB6-CB4
56	a	201	CDL	C11-CA5-OA6-CA4
56	k	101	CDL	C51-CB5-OB6-CB4
56	s	402	CDL	C11-CA5-OA6-CA4
56	V	201	CDL	OB5-CB3-CB4-OB6
48	l	702	PEE	C21-C22-C23-C24
49	J	403	PLX	C7-C8-C9-C10
49	r	502	PLX	C14-C15-C16-C17
56	k	101	CDL	C76-C77-C78-C79
56	N	201	CDL	OB7-CB5-OB6-CB4
56	s	402	CDL	OA7-CA5-OA6-CA4
56	k	101	CDL	OB6-CB4-CB6-OB8
56	a	201	CDL	C75-C76-C77-C78
56	n	101	CDL	C72-C73-C74-C75
56	r	504	CDL	C36-C37-C38-C39
56	l	701	CDL	C73-C74-C75-C76
56	r	504	CDL	C82-C83-C84-C85
48	C	302	PEE	C19-C20-C21-C22

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Mol	Chain	Res	Type	Atoms
48	r	501	PEE	C39-C40-C41-C42
48	W	201	PEE	C12-C13-C14-C15
49	r	503	PLX	C27-C28-C29-C30
56	i	401	CDL	C81-C82-C83-C84
47	A	503	NAI	O4B-C4B-C5B-O5B
49	j	202	PLX	C7-C8-C9-C10
49	r	502	PLX	C25-C26-C27-C28
49	C	303	PLX	C28-C29-C30-C31
48	B	303	PEE	O5-C30-O3-C3
56	k	101	CDL	OB9-CB7-OB8-CB6
56	a	201	CDL	OA7-CA5-OA6-CA4
48	B	303	PEE	C36-C37-C38-C39
48	b	201	PEE	C1-O3P-P-O4P
49	C	303	PLX	C2-O1-P1-O4
49	r	502	PLX	C3-O4-P1-O1
56	o	201	CDL	CA3-OA5-PA1-OA2
48	B	303	PEE	C34-C35-C36-C37
56	a	201	CDL	C11-C12-C13-C14
56	N	201	CDL	OA9-CA7-OA8-CA6
49	J	403	PLX	O4-C3-C4-C5
56	N	201	CDL	OA5-CA3-CA4-CA6
56	a	201	CDL	OB5-CB3-CB4-CB6
56	s	402	CDL	OA5-CA3-CA4-CA6
49	g	201	PLX	C14-C15-C16-C17
56	l	701	CDL	C16-C17-C18-C19
56	r	504	CDL	C84-C85-C86-C87
56	s	402	CDL	C55-C56-C57-C58
56	n	101	CDL	CB7-C71-C72-C73
49	C	303	PLX	C13-C14-C15-C16
56	k	101	CDL	C82-C83-C84-C85
56	r	504	CDL	C83-C84-C85-C86
49	j	202	PLX	C30-C31-C32-C33
56	a	201	CDL	C71-CB7-OB8-CB6
48	l	702	PEE	C13-C14-C15-C16
56	a	201	CDL	C52-C53-C54-C55
56	i	401	CDL	C62-C63-C64-C65
56	k	101	CDL	C15-C16-C17-C18
56	r	504	CDL	C35-C36-C37-C38
49	J	403	PLX	C30-C31-C32-C33
56	a	201	CDL	C31-C32-C33-C34
56	k	101	CDL	C43-C44-C45-C46
56	o	201	CDL	OB9-CB7-OB8-CB6

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Mol	Chain	Res	Type	Atoms
49	a	202	PLX	C11-C12-C13-C14
48	W	201	PEE	C1-C2-C3-O3
48	b	201	PEE	C1-C2-C3-O3
49	C	303	PLX	C3-C4-C5-O8
49	g	201	PLX	C3-C4-C5-O8
56	i	401	CDL	CA3-CA4-CA6-OA8
56	i	401	CDL	CB3-CB4-CB6-OB8
56	k	101	CDL	CB3-CB4-CB6-OB8
56	l	701	CDL	C18-C19-C20-C21
56	l	701	CDL	C32-C33-C34-C35
56	s	402	CDL	CB3-CB4-CB6-OB8
56	N	201	CDL	C52-C53-C54-C55
56	s	402	CDL	C12-C13-C14-C15
48	V	202	PEE	C10-C11-C12-C13
56	r	504	CDL	CA5-C11-C12-C13
49	r	503	PLX	C7-C8-C9-C10
56	o	201	CDL	C19-C20-C21-C22
56	r	504	CDL	C13-C14-C15-C16
49	J	403	PLX	O6-C6-C7-C8
48	s	401	PEE	C31-C30-O3-C3
48	j	201	PEE	C36-C37-C38-C39
48	r	501	PEE	C14-C15-C16-C17
49	J	403	PLX	C36-C37-C38-C39
49	a	202	PLX	C16-C17-C18-C19
49	a	202	PLX	C25-C26-C27-C28
56	i	401	CDL	C52-C53-C54-C55
56	s	402	CDL	C15-C16-C17-C18
48	B	303	PEE	C23-C24-C25-C26
49	J	403	PLX	C14-C15-C16-C17
52	J	401	NDP	O4D-C4D-C5D-O5D
56	V	201	CDL	C75-C76-C77-C78
48	r	501	PEE	C10-C11-C12-C13
56	s	402	CDL	C71-CB7-OB8-CB6
56	k	101	CDL	CA6-CA4-OA6-CA5
56	a	201	CDL	C55-C56-C57-C58
56	r	504	CDL	C14-C15-C16-C17
56	s	402	CDL	C18-C19-C20-C21
49	r	503	PLX	C11-C12-C13-C14
56	V	201	CDL	C14-C15-C16-C17
56	r	504	CDL	C15-C16-C17-C18
46	A	502	FMN	C5'-O5'-P-O1P
56	i	401	CDL	C71-CB7-OB8-CB6

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Mol	Chain	Res	Type	Atoms
56	r	504	CDL	C71-CB7-OB8-CB6
49	J	403	PLX	O4-C3-C4-O6
56	k	101	CDL	OA5-CA3-CA4-OA6
56	l	701	CDL	OB5-CB3-CB4-OB6
48	r	501	PEE	C17-C18-C19-C20
56	a	201	CDL	OB9-CB7-OB8-CB6
48	l	702	PEE	C32-C33-C34-C35
49	g	201	PLX	O6-C4-C5-O8
56	a	201	CDL	C37-C38-C39-C40
56	a	201	CDL	C84-C85-C86-C87
56	r	504	CDL	C32-C33-C34-C35
48	C	302	PEE	O4-C10-O2-C2
48	s	401	PEE	O5-C30-O3-C3
56	V	201	CDL	C43-C44-C45-C46
56	i	401	CDL	C64-C65-C66-C67
48	l	702	PEE	C31-C32-C33-C34
49	j	202	PLX	C17-C18-C19-C20
56	l	701	CDL	C72-C73-C74-C75
48	j	201	PEE	C41-C42-C43-C44
49	r	503	PLX	C31-C32-C33-C34
52	J	401	NDP	PN-O3-PA-O1A
49	r	502	PLX	C12-C13-C14-C15
56	i	401	CDL	OB9-CB7-OB8-CB6
56	s	402	CDL	OB9-CB7-OB8-CB6
56	V	201	CDL	C33-C34-C35-C36
56	l	701	CDL	C81-C82-C83-C84
56	n	101	CDL	C56-C57-C58-C59
48	b	201	PEE	C37-C38-C39-C40
48	r	501	PEE	C42-C43-C44-C45
47	A	503	NAI	C3B-C4B-C5B-O5B
48	C	302	PEE	O3P-C1-C2-C3
48	l	702	PEE	O3P-C1-C2-C3
56	N	201	CDL	OB5-CB3-CB4-CB6
56	V	201	CDL	OB5-CB3-CB4-CB6
56	l	701	CDL	OA5-CA3-CA4-CA6
56	n	101	CDL	OA5-CA3-CA4-CA6
53	J	402	UQ	C19-C21-C22-C23
48	W	201	PEE	O4P-C4-C5-N
48	j	201	PEE	C40-C41-C42-C43
56	V	201	CDL	C35-C36-C37-C38
56	a	201	CDL	C31-CA7-OA8-CA6
48	b	201	PEE	C13-C14-C15-C16

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Mol	Chain	Res	Type	Atoms
53	s	403	UQ	C23-C24-C26-C27
56	s	402	CDL	CB5-C51-C52-C53
48	B	303	PEE	C33-C34-C35-C36
48	b	201	PEE	C31-C32-C33-C34
49	C	303	PLX	C16-C17-C18-C19
49	j	202	PLX	C16-C17-C18-C19
56	s	402	CDL	C54-C55-C56-C57
56	o	201	CDL	C12-C13-C14-C15
56	o	201	CDL	C57-C58-C59-C60
48	r	501	PEE	C36-C37-C38-C39
56	k	101	CDL	C84-C85-C86-C87
51	X	201	8Q1	C13-C14-C15-C16
56	k	101	CDL	C54-C55-C56-C57
56	l	701	CDL	C42-C43-C44-C45
49	J	403	PLX	C13-C14-C15-C16
56	a	201	CDL	C73-C74-C75-C76
48	V	202	PEE	C1-C2-C3-O3
48	s	401	PEE	C1-C2-C3-O3
49	r	502	PLX	C3-C4-C5-O8
49	r	503	PLX	C3-C4-C5-O8
56	V	201	CDL	CA3-CA4-CA6-OA8
56	l	701	CDL	CA3-CA4-CA6-OA8
56	n	101	CDL	CA3-CA4-CA6-OA8
56	o	201	CDL	CB3-CB4-CB6-OB8
56	r	504	CDL	CB3-CB4-CB6-OB8
49	r	503	PLX	C10-C11-C12-C13
56	i	401	CDL	C35-C36-C37-C38
48	B	303	PEE	C17-C18-C19-C20
56	a	201	CDL	C44-C45-C46-C47
48	j	201	PEE	C21-C22-C23-C24
56	i	401	CDL	C74-C75-C76-C77
48	C	302	PEE	C20-C21-C22-C23
56	k	101	CDL	C35-C36-C37-C38
49	a	202	PLX	C5-C4-O6-C6
56	n	101	CDL	CB2-OB2-PB2-OB5
56	r	504	CDL	CA2-OA2-PA1-OA5
48	r	501	PEE	C40-C41-C42-C43
49	C	303	PLX	O7-C6-C7-C8
56	k	101	CDL	C31-C32-C33-C34
56	N	201	CDL	OB5-CB3-CB4-OB6
48	V	202	PEE	C31-C30-O3-C3
56	r	504	CDL	OB9-CB7-OB8-CB6

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Mol	Chain	Res	Type	Atoms
49	r	502	PLX	C16-C17-C18-C19
56	V	201	CDL	C51-C52-C53-C54
56	o	201	CDL	C84-C85-C86-C87
56	V	201	CDL	C64-C65-C66-C67
47	A	503	NAI	O4D-C4D-C5D-O5D
56	V	201	CDL	C34-C35-C36-C37
48	b	201	PEE	O2-C2-C3-O3
48	s	401	PEE	O2-C2-C3-O3
49	r	503	PLX	O6-C4-C5-O8
56	o	201	CDL	OB6-CB4-CB6-OB8
56	r	504	CDL	OB6-CB4-CB6-OB8
56	s	402	CDL	OB6-CB4-CB6-OB8
48	B	303	PEE	C38-C39-C40-C41
49	C	303	PLX	C25-C26-C27-C28
49	C	303	PLX	C26-C27-C28-C29
56	k	101	CDL	C13-C14-C15-C16
56	k	101	CDL	CA2-C1-CB2-OB2
56	o	201	CDL	CB2-C1-CA2-OA2
48	C	302	PEE	C12-C13-C14-C15
56	l	701	CDL	C44-C45-C46-C47
56	n	101	CDL	C73-C74-C75-C76
56	V	201	CDL	C1-CB2-OB2-PB2
56	i	401	CDL	C1-CB2-OB2-PB2
56	k	101	CDL	C16-C17-C18-C19
56	k	101	CDL	C79-C80-C81-C82
56	r	504	CDL	C64-C65-C66-C67
51	X	201	8Q1	O4-C1-S44-C43
49	j	202	PLX	C18-C19-C20-C21
48	B	303	PEE	C21-C22-C23-C24
48	l	702	PEE	C44-C45-C46-C47
56	l	701	CDL	C40-C41-C42-C43
56	r	504	CDL	C73-C74-C75-C76
48	s	401	PEE	C24-C25-C26-C27
49	g	201	PLX	O8-C24-C25-C26
49	r	502	PLX	O8-C24-C25-C26
56	n	101	CDL	C71-C72-C73-C74
56	i	401	CDL	OB5-CB3-CB4-CB6
56	k	101	CDL	OA5-CA3-CA4-CA6
56	l	701	CDL	OB5-CB3-CB4-CB6
56	V	201	CDL	O1-C1-CB2-OB2
56	o	201	CDL	C32-C33-C34-C35
49	r	503	PLX	C26-C27-C28-C29

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Mol	Chain	Res	Type	Atoms
48	s	401	PEE	C19-C20-C21-C22
48	s	401	PEE	C12-C13-C14-C15
48	B	303	PEE	C31-C32-C33-C34
49	a	202	PLX	C15-C16-C17-C18
49	a	202	PLX	C30-C31-C32-C33
56	o	201	CDL	C18-C19-C20-C21
51	X	201	8Q1	C6-C1-S44-C43
56	V	201	CDL	CA6-CA4-OA6-CA5
56	i	401	CDL	C51-C52-C53-C54
56	k	101	CDL	C18-C19-C20-C21
56	k	101	CDL	C11-C12-C13-C14
56	r	504	CDL	C58-C59-C60-C61
48	B	303	PEE	C15-C16-C17-C18
48	C	302	PEE	C1-C2-C3-O3
49	a	202	PLX	C3-C4-C5-O8
49	j	202	PLX	C7-C6-O6-C4
56	N	201	CDL	CA3-CA4-CA6-OA8
56	k	101	CDL	CA4-CA3-OA5-PA1
56	r	504	CDL	C1-CB2-OB2-PB2
56	a	201	CDL	OA9-CA7-OA8-CA6
48	C	302	PEE	O3P-C1-C2-O2
48	r	501	PEE	O3P-C1-C2-O2
56	i	401	CDL	OB5-CB3-CB4-OB6
56	o	201	CDL	OA5-CA3-CA4-OA6
48	W	201	PEE	C21-C22-C23-C24
56	r	504	CDL	C17-C18-C19-C20
49	J	403	PLX	C24-C25-C26-C27
52	J	401	NDP	C2D-C1D-N1N-C2N
48	l	702	PEE	C24-C25-C26-C27
56	l	701	CDL	CA7-C31-C32-C33
49	r	502	PLX	O6-C4-C5-O8
56	V	201	CDL	OA6-CA4-CA6-OA8
56	s	402	CDL	OA6-CA4-CA6-OA8
48	b	201	PEE	C20-C21-C22-C23
48	C	302	PEE	C32-C33-C34-C35
56	r	504	CDL	C56-C57-C58-C59
56	l	701	CDL	C51-CB5-OB6-CB4
56	n	101	CDL	C53-C54-C55-C56
48	V	202	PEE	O5-C30-O3-C3
48	r	501	PEE	C33-C34-C35-C36
56	a	201	CDL	C34-C35-C36-C37
56	r	504	CDL	C72-C71-CB7-OB8

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Mol	Chain	Res	Type	Atoms
48	C	302	PEE	C44-C45-C46-C47
48	r	501	PEE	C24-C25-C26-C27
56	s	402	CDL	C84-C85-C86-C87
48	r	501	PEE	C30-C31-C32-C33
56	o	201	CDL	C75-C76-C77-C78
56	s	402	CDL	C59-C60-C61-C62
49	a	202	PLX	C24-C25-C26-C27
49	r	503	PLX	C24-C25-C26-C27
48	j	201	PEE	C4-O4P-P-O3P
56	V	201	CDL	CA2-OA2-PA1-OA5
56	l	701	CDL	CA2-OA2-PA1-OA5
56	s	402	CDL	CB3-OB5-PB2-OB2
48	j	201	PEE	C34-C35-C36-C37
56	r	504	CDL	C51-C52-C53-C54
48	B	303	PEE	C1-O3P-P-O2P
48	B	303	PEE	C1-O3P-P-O1P
48	B	303	PEE	C4-O4P-P-O1P
48	C	302	PEE	C1-O3P-P-O2P
48	V	202	PEE	C4-O4P-P-O1P
48	b	201	PEE	C1-O3P-P-O1P
48	j	201	PEE	C1-O3P-P-O2P
48	l	702	PEE	C4-O4P-P-O2P
48	r	501	PEE	C1-O3P-P-O1P
48	s	401	PEE	C4-O4P-P-O1P
49	C	303	PLX	C2-O1-P1-O3
49	J	403	PLX	C3-O4-P1-O2
49	J	403	PLX	C2-O1-P1-O3
49	a	202	PLX	C3-O4-P1-O2
49	a	202	PLX	C3-O4-P1-O3
49	j	202	PLX	C3-O4-P1-O3
49	r	503	PLX	C3-O4-P1-O3
56	N	201	CDL	CA3-OA5-PA1-OA3
56	N	201	CDL	CA3-OA5-PA1-OA4
56	N	201	CDL	CB2-OB2-PB2-OB4
56	N	201	CDL	CB3-OB5-PB2-OB4
56	i	401	CDL	CB3-OB5-PB2-OB4
56	k	101	CDL	CA2-OA2-PA1-OA3
56	k	101	CDL	CA2-OA2-PA1-OA4
56	k	101	CDL	CA3-OA5-PA1-OA4
56	l	701	CDL	CA2-OA2-PA1-OA3
56	n	101	CDL	CB2-OB2-PB2-OB4
56	o	201	CDL	CA2-OA2-PA1-OA4

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Mol	Chain	Res	Type	Atoms
56	o	201	CDL	CA3-OA5-PA1-OA3
56	o	201	CDL	CA3-OA5-PA1-OA4
56	o	201	CDL	CB2-OB2-PB2-OB4
56	o	201	CDL	CB3-OB5-PB2-OB4
56	r	504	CDL	CA2-OA2-PA1-OA4
56	s	402	CDL	CB2-OB2-PB2-OB3
56	s	402	CDL	CB2-OB2-PB2-OB4
58	w	401	ADP	C5'-O5'-PA-O2A
49	r	503	PLX	O4-C3-C4-C5
56	V	201	CDL	C15-C16-C17-C18
56	V	201	CDL	C42-C43-C44-C45
56	r	504	CDL	C11-C12-C13-C14
49	J	403	PLX	C25-C24-O8-C5
49	a	202	PLX	C25-C24-O8-C5
49	J	403	PLX	C31-C32-C33-C34
48	B	303	PEE	C30-C31-C32-C33
53	s	403	UQ	C12-C11-C9-C10
49	r	503	PLX	O4-C3-C4-O6
56	a	201	CDL	OB5-CB3-CB4-OB6
56	n	101	CDL	OA5-CA3-CA4-OA6
56	o	201	CDL	C64-C65-C66-C67
49	j	202	PLX	C35-C36-C37-C38
56	o	201	CDL	O1-C1-CA2-OA2
56	s	402	CDL	C14-C15-C16-C17
56	s	402	CDL	C40-C41-C42-C43
48	l	702	PEE	C1-C2-C3-O3
48	r	501	PEE	C1-C2-C3-O3
49	J	403	PLX	N1-C1-C2-O1
56	s	402	CDL	CA3-CA4-CA6-OA8
56	l	701	CDL	OB7-CB5-OB6-CB4
48	V	202	PEE	O2-C2-C3-O3
48	W	201	PEE	O2-C2-C3-O3
48	l	702	PEE	O2-C2-C3-O3
48	r	501	PEE	O2-C2-C3-O3
49	j	202	PLX	O6-C4-C5-O8
56	i	401	CDL	OA6-CA4-CA6-OA8
48	C	302	PEE	C16-C17-C18-C19
56	l	701	CDL	C77-C78-C79-C80
56	i	401	CDL	C34-C35-C36-C37
49	r	503	PLX	O8-C24-C25-C26
48	r	501	PEE	C13-C14-C15-C16
56	V	201	CDL	C44-C45-C46-C47

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Mol	Chain	Res	Type	Atoms
56	l	701	CDL	C54-C55-C56-C57
49	r	503	PLX	C16-C17-C18-C19
48	s	401	PEE	C21-C22-C23-C24
49	g	201	PLX	C36-C37-C38-C39
48	B	303	PEE	C44-C45-C46-C47
49	r	503	PLX	C35-C36-C37-C38
56	o	201	CDL	C51-C52-C53-C54
53	s	403	UQ	C13-C14-C16-C17
49	a	202	PLX	C33-C34-C35-C36
48	b	201	PEE	C34-C35-C36-C37
56	V	201	CDL	C31-C32-C33-C34
56	a	201	CDL	C76-C77-C78-C79
48	l	702	PEE	C1-C2-O2-C10
56	o	201	CDL	OA5-CA3-CA4-CA6
56	l	701	CDL	C24-C25-C26-C27
49	j	202	PLX	C31-C32-C33-C34
56	o	201	CDL	C1-CB2-OB2-PB2
48	j	201	PEE	C37-C38-C39-C40
49	J	403	PLX	C11-C12-C13-C14
53	J	402	UQ	C12-C11-C9-C10
48	W	201	PEE	O4-C10-O2-C2
56	i	401	CDL	C75-C76-C77-C78
48	s	401	PEE	C33-C34-C35-C36
49	C	303	PLX	C18-C19-C20-C21
49	r	503	PLX	C12-C13-C14-C15
49	C	303	PLX	C3-O4-P1-O1
49	J	403	PLX	C3-O4-P1-O1
49	a	202	PLX	C2-O1-P1-O4
49	r	503	PLX	C2-O1-P1-O4
47	A	503	NAI	C2D-C1D-N1N-C2N
52	J	401	NDP	C3D-C4D-C5D-O5D
56	V	201	CDL	C18-C19-C20-C21
48	l	702	PEE	C39-C40-C41-C42
47	A	503	NAI	O4D-C1D-N1N-C2N
56	k	101	CDL	C57-C58-C59-C60
56	k	101	CDL	C58-C59-C60-C61
56	l	701	CDL	C82-C83-C84-C85
56	s	402	CDL	C77-C78-C79-C80
56	s	402	CDL	C56-C57-C58-C59
56	V	201	CDL	CA4-CA3-OA5-PA1
56	r	504	CDL	CB4-CB3-OB5-PB2
48	l	702	PEE	C37-C38-C39-C40

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Mol	Chain	Res	Type	Atoms
56	s	402	CDL	C80-C81-C82-C83
56	V	201	CDL	CA7-C31-C32-C33
48	b	201	PEE	C16-C17-C18-C19
48	j	201	PEE	C38-C39-C40-C41
48	r	501	PEE	C38-C39-C40-C41
52	J	401	NDP	O4B-C4B-C5B-O5B
49	j	202	PLX	C24-C25-C26-C27
56	l	701	CDL	C23-C24-C25-C26
48	W	201	PEE	C11-C10-O2-C2
56	o	201	CDL	OB5-CB3-CB4-OB6
49	C	303	PLX	C11-C10-C9-C8
56	i	401	CDL	C13-C14-C15-C16
51	X	201	8Q1	C11-C12-C13-C14
48	B	303	PEE	C13-C14-C15-C16
48	b	201	PEE	C39-C40-C41-C42
49	g	201	PLX	C11-C10-C9-C8
49	j	202	PLX	O6-C6-C7-C8
48	b	201	PEE	C2-C1-O3P-P
48	s	401	PEE	C16-C17-C18-C19
56	r	504	CDL	C54-C55-C56-C57
56	s	402	CDL	C39-C40-C41-C42
48	j	201	PEE	C30-C31-C32-C33
48	j	201	PEE	C19-C20-C21-C22
49	J	403	PLX	C19-C20-C21-C22
56	l	701	CDL	C36-C37-C38-C39
49	C	303	PLX	C24-C25-C26-C27
49	J	403	PLX	C6-C7-C8-C9
49	j	202	PLX	C3-C4-C5-O8
48	b	201	PEE	C18-C19-C20-C21
53	J	402	UQ	C7-C8-C9-C10
56	o	201	CDL	C39-C40-C41-C42
56	r	504	CDL	C78-C79-C80-C81
56	i	401	CDL	C33-C34-C35-C36
49	r	503	PLX	C30-C31-C32-C33
48	l	702	PEE	C20-C21-C22-C23
56	V	201	CDL	C38-C39-C40-C41
56	r	504	CDL	C52-C53-C54-C55
56	i	401	CDL	CA4-CA3-OA5-PA1
53	s	403	UQ	C6-C7-C8-C9
56	k	101	CDL	C44-C45-C46-C47
56	a	201	CDL	C82-C83-C84-C85
51	G	201	8Q1	C42-C43-S44-C1

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Mol	Chain	Res	Type	Atoms
48	C	302	PEE	O2-C2-C3-O3
52	J	401	NDP	O4D-C1D-N1N-C2N
56	V	201	CDL	CA2-C1-CB2-OB2
48	C	302	PEE	C38-C39-C40-C41
56	l	701	CDL	C21-C22-C23-C24
56	l	701	CDL	C80-C81-C82-C83
56	l	701	CDL	C84-C85-C86-C87
56	a	201	CDL	C64-C65-C66-C67
48	V	202	PEE	C2-C1-O3P-P
56	l	701	CDL	C39-C40-C41-C42
56	a	201	CDL	C20-C21-C22-C23
56	r	504	CDL	C76-C77-C78-C79
56	o	201	CDL	C32-C31-CA7-OA8
56	V	201	CDL	C56-C57-C58-C59
56	i	401	CDL	C36-C37-C38-C39
53	s	403	UQ	C22-C23-C24-C25
49	a	202	PLX	C4-C5-O8-C24
49	j	202	PLX	C4-C5-O8-C24
53	J	402	UQ	C5-C6-C7-C8
48	V	202	PEE	C38-C39-C40-C41
49	a	202	PLX	C10-C11-C12-C13
49	j	202	PLX	O8-C24-C25-C26
48	V	202	PEE	O4P-C4-C5-N
56	l	701	CDL	C74-C75-C76-C77
51	G	201	8Q1	C10-C11-C12-C13
49	C	303	PLX	C12-C13-C14-C15
56	n	101	CDL	CA5-C11-C12-C13
56	N	201	CDL	OA6-CA4-CA6-OA8
48	C	302	PEE	C42-C43-C44-C45
56	o	201	CDL	C82-C83-C84-C85
48	V	202	PEE	C16-C17-C18-C19
56	a	201	CDL	C77-C78-C79-C80
56	k	101	CDL	C23-C24-C25-C26
56	a	201	CDL	CA5-C11-C12-C13
56	k	101	CDL	C36-C37-C38-C39
53	J	402	UQ	C1-C6-C7-C8
49	C	303	PLX	C31-C32-C33-C34
56	l	701	CDL	C20-C21-C22-C23
56	k	101	CDL	C52-C51-CB5-OB6
48	l	702	PEE	C16-C17-C18-C19
48	l	702	PEE	C36-C37-C38-C39
48	s	401	PEE	C18-C19-C20-C21

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Mol	Chain	Res	Type	Atoms
48	l	702	PEE	C3-C2-O2-C10
56	r	504	CDL	C60-C61-C62-C63
48	j	201	PEE	C12-C13-C14-C15
56	o	201	CDL	C38-C39-C40-C41
50	C	304	DCQ	C2-C3-O3-C3M
48	C	302	PEE	C15-C16-C17-C18
48	W	201	PEE	C15-C16-C17-C18
56	s	402	CDL	C74-C75-C76-C77
56	V	201	CDL	C78-C79-C80-C81
49	g	201	PLX	C6-C7-C8-C9
48	s	401	PEE	C32-C33-C34-C35
49	r	502	PLX	C33-C34-C35-C36
56	r	504	CDL	C12-C13-C14-C15
48	r	501	PEE	O3P-C1-C2-C3
56	a	201	CDL	C32-C31-CA7-OA8
48	l	702	PEE	C38-C39-C40-C41
48	r	501	PEE	C16-C17-C18-C19
56	i	401	CDL	C54-C55-C56-C57
49	C	303	PLX	O9-C24-C25-C26
49	J	403	PLX	O9-C24-C25-C26
56	o	201	CDL	C78-C79-C80-C81
48	B	303	PEE	C16-C17-C18-C19
48	W	201	PEE	C16-C17-C18-C19
48	r	501	PEE	C18-C19-C20-C21
48	b	201	PEE	C30-C31-C32-C33
56	a	201	CDL	C15-C16-C17-C18
56	N	201	CDL	C12-C11-CA5-OA6
56	s	402	CDL	C12-C11-CA5-OA6
49	r	503	PLX	C32-C33-C34-C35
48	B	303	PEE	C18-C19-C20-C21
56	a	201	CDL	C83-C84-C85-C86
56	o	201	CDL	C15-C16-C17-C18
56	N	201	CDL	C72-C71-CB7-OB8
56	l	701	CDL	C72-C71-CB7-OB8
56	V	201	CDL	C36-C37-C38-C39
48	B	303	PEE	C39-C40-C41-C42
48	B	303	PEE	C22-C23-C24-C25
47	A	503	NAI	C2N-C3N-C7N-N7N
48	C	302	PEE	C4-O4P-P-O2P
48	W	201	PEE	C4-O4P-P-O1P
48	b	201	PEE	C1-O3P-P-O2P
48	j	201	PEE	C4-O4P-P-O1P

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Mol	Chain	Res	Type	Atoms
48	l	702	PEE	C1-O3P-P-O1P
52	J	401	NDP	C2N-C3N-C7N-N7N
56	k	101	CDL	CB3-OB5-PB2-OB3
56	n	101	CDL	CA2-OA2-PA1-OA3
56	n	101	CDL	CA3-OA5-PA1-OA3
56	s	402	CDL	CA2-OA2-PA1-OA3
56	o	201	CDL	OB5-CB3-CB4-CB6
56	r	504	CDL	C80-C81-C82-C83
56	s	402	CDL	C12-C11-CA5-OA7
56	a	201	CDL	C12-C11-CA5-OA6
56	r	504	CDL	OA7-CA5-OA6-CA4
56	a	201	CDL	C72-C73-C74-C75
56	N	201	CDL	C12-C11-CA5-OA7
48	s	401	PEE	C5-C4-O4P-P
56	s	402	CDL	CA6-CA4-OA6-CA5
56	V	201	CDL	C58-C59-C60-C61
47	A	503	NAI	C2D-C1D-N1N-C6N
48	C	302	PEE	O3-C30-C31-C32
56	a	201	CDL	C72-C71-CB7-OB8
48	j	201	PEE	C24-C25-C26-C27
56	V	201	CDL	C19-C20-C21-C22
48	r	501	PEE	O2-C10-C11-C12
56	N	201	CDL	C52-C51-CB5-OB6
56	a	201	CDL	C32-C31-CA7-OA9
48	l	702	PEE	C10-C11-C12-C13
56	N	201	CDL	C72-C71-CB7-OB9
56	l	701	CDL	C72-C71-CB7-OB9
56	o	201	CDL	C76-C77-C78-C79
48	b	201	PEE	O2-C10-C11-C12
56	V	201	CDL	C12-C11-CA5-OA6
56	i	401	CDL	C12-C11-CA5-OA6

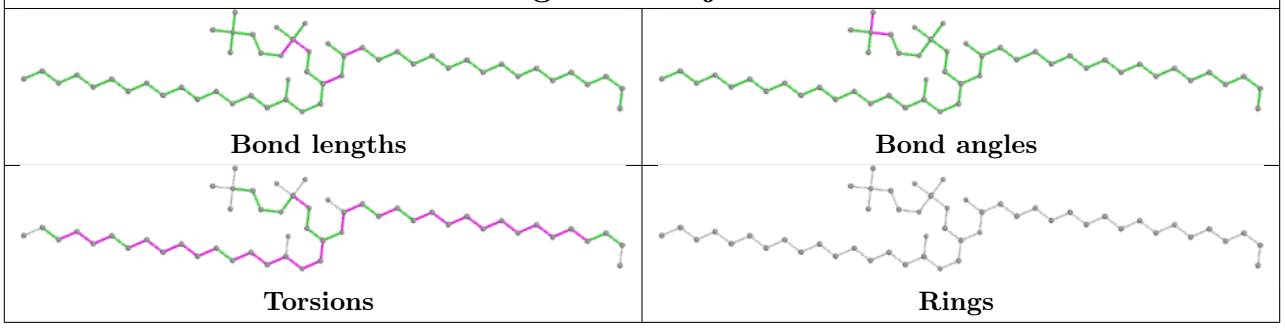
There are no ring outliers.

No monomer is involved in short contacts.

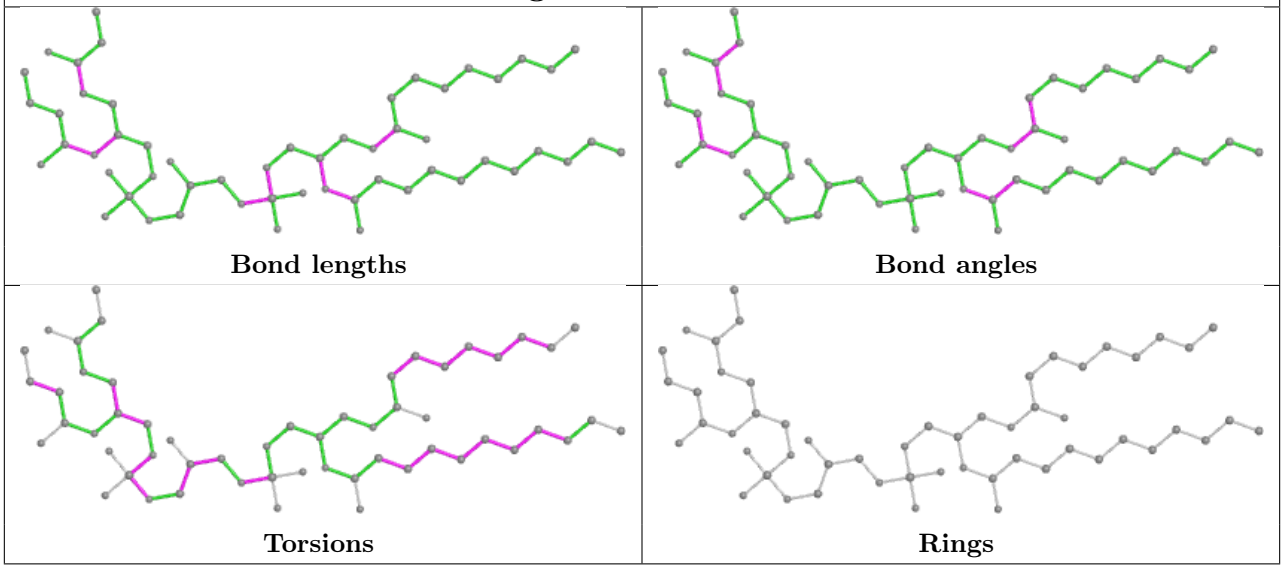
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.

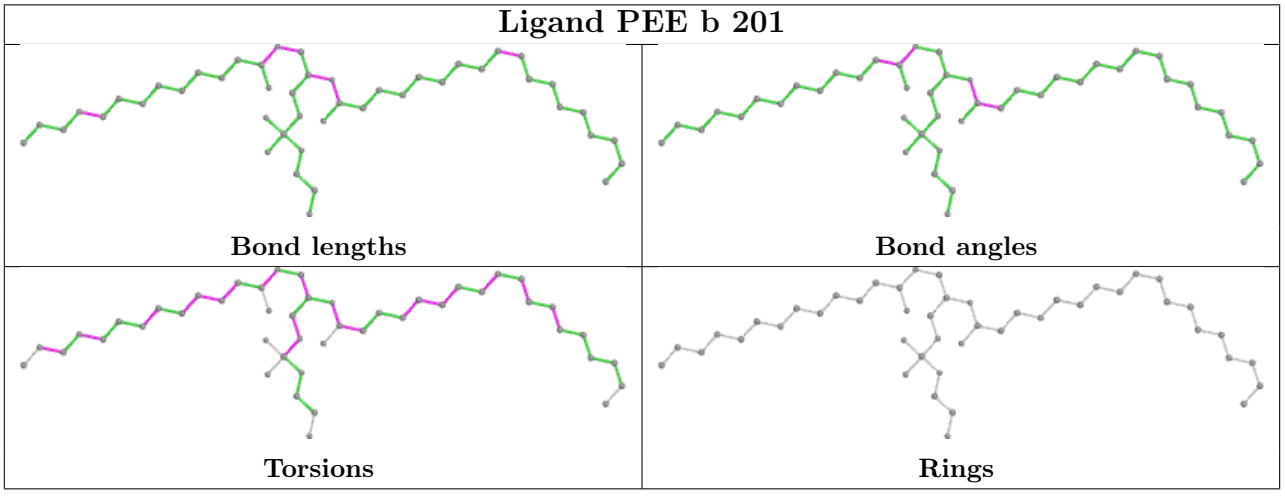
Ligand PLX j 202



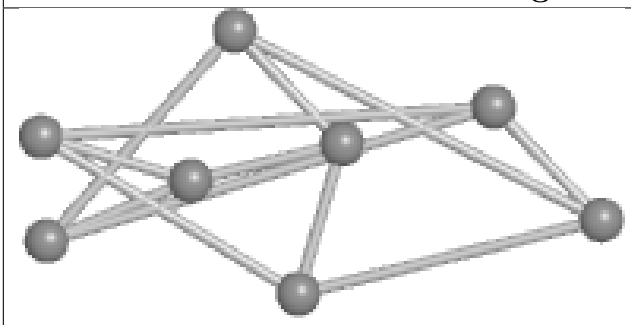
Ligand CDL n 101



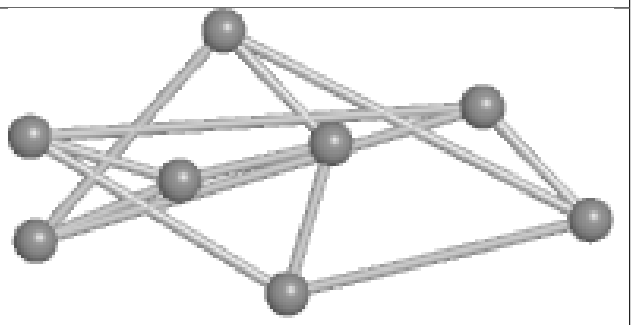
Ligand PEE b 201



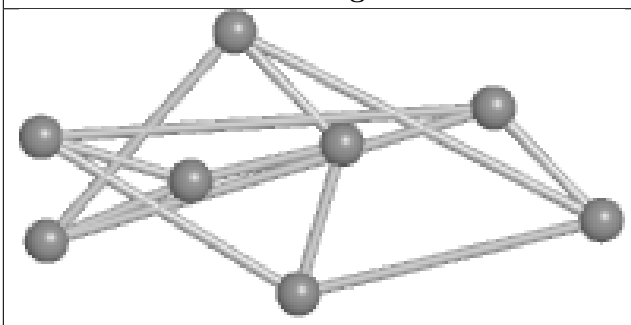
Ligand SF4 B 301



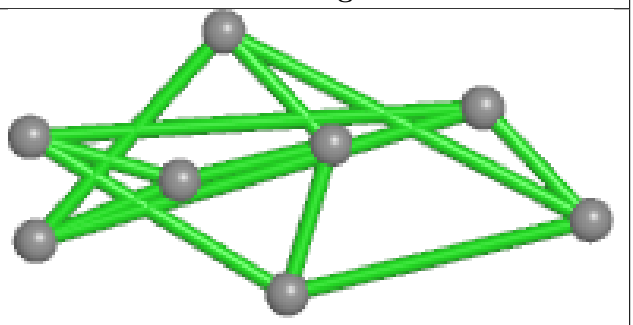
Bond lengths



Bond angles

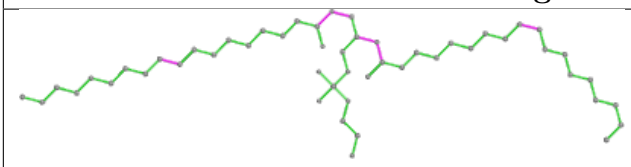


Torsions

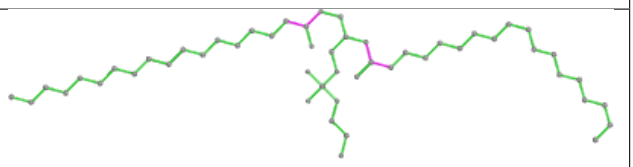


Rings

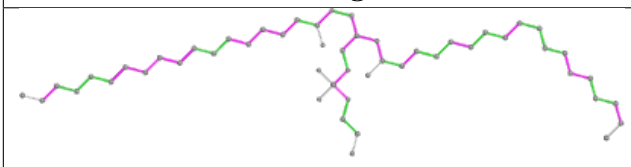
Ligand PEE l 702



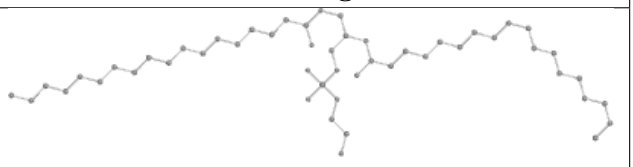
Bond lengths



Bond angles

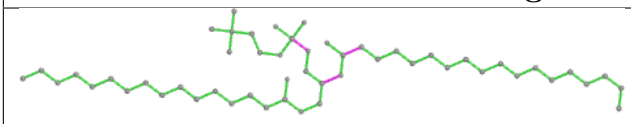


Torsions

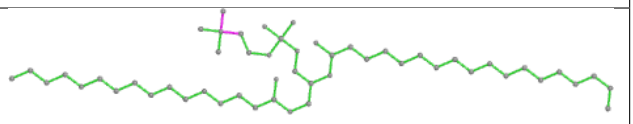


Rings

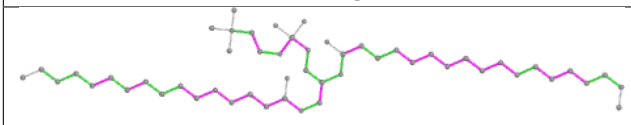
Ligand PLX C 303



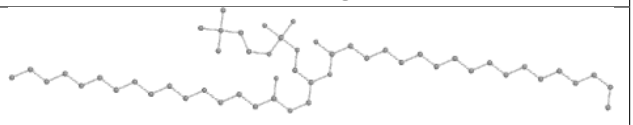
Bond lengths



Bond angles

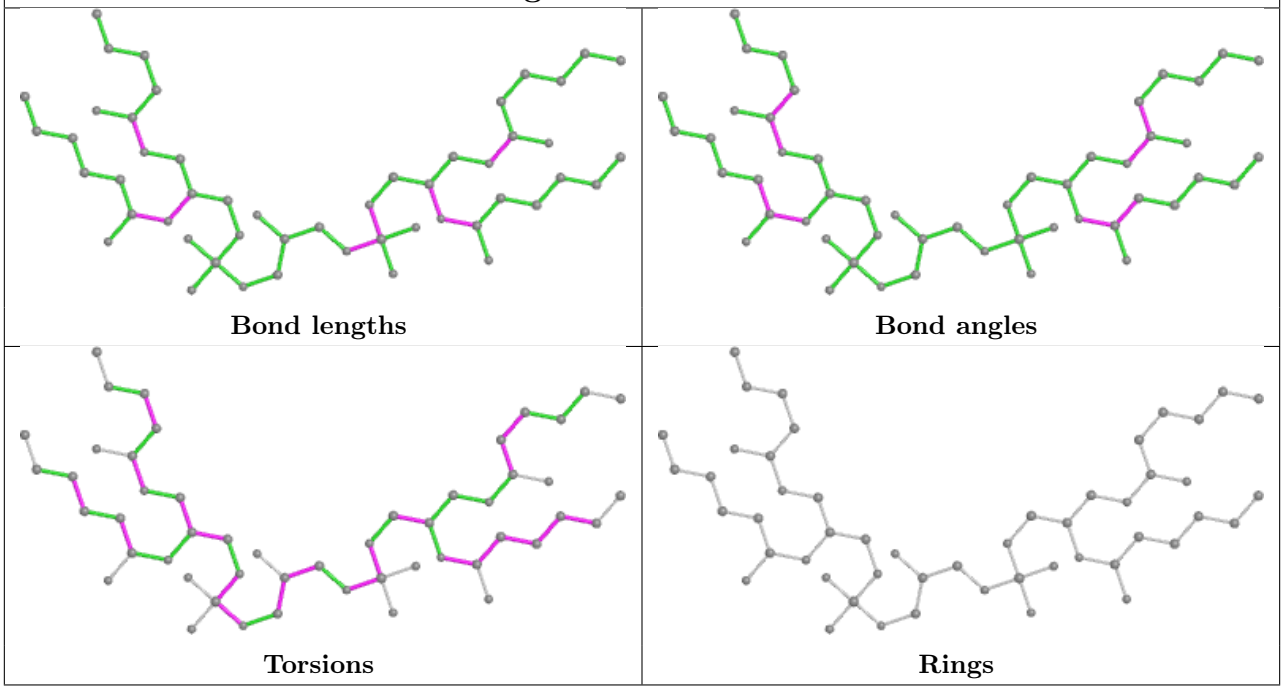


Torsions

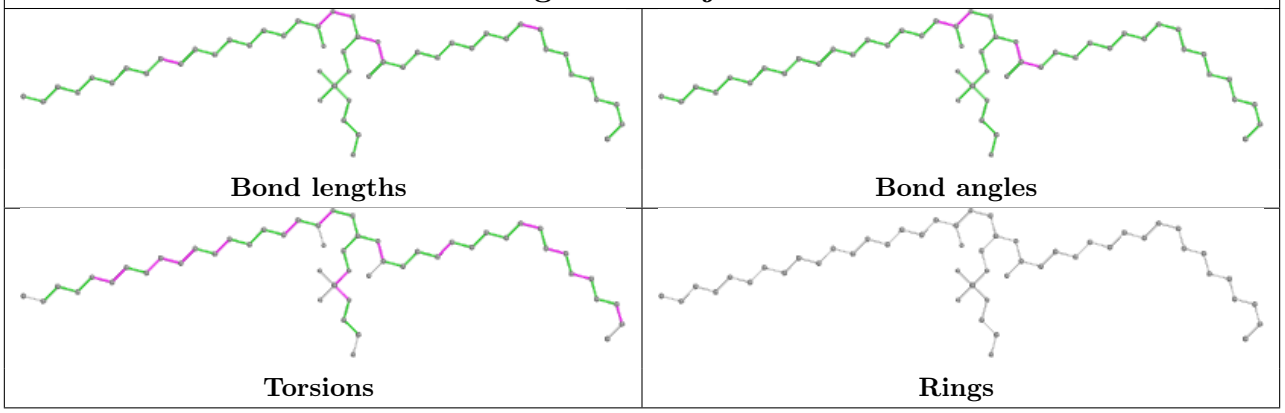


Rings

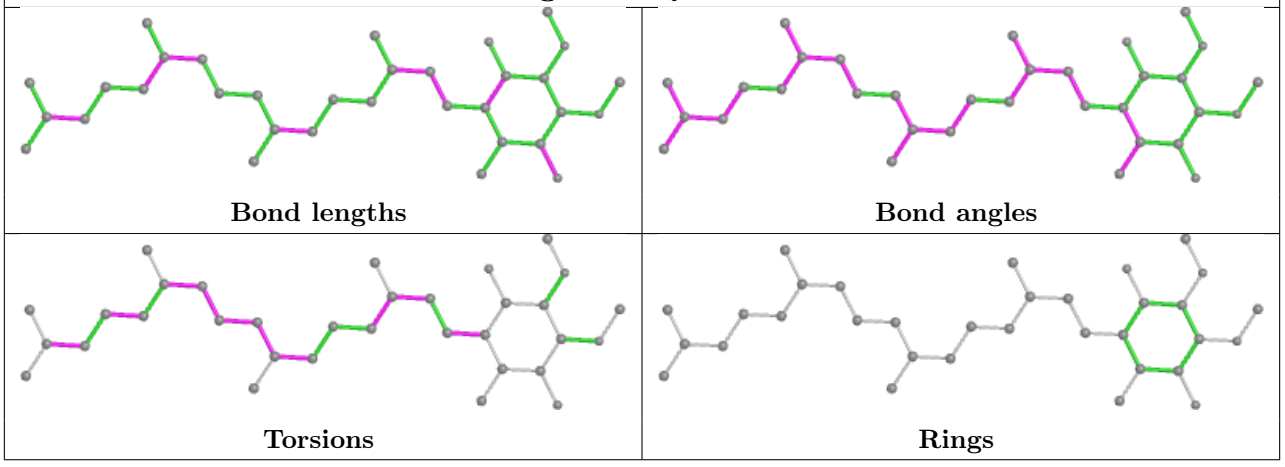
Ligand CDL N 201



Ligand PEE j 201



Ligand UQ J 402



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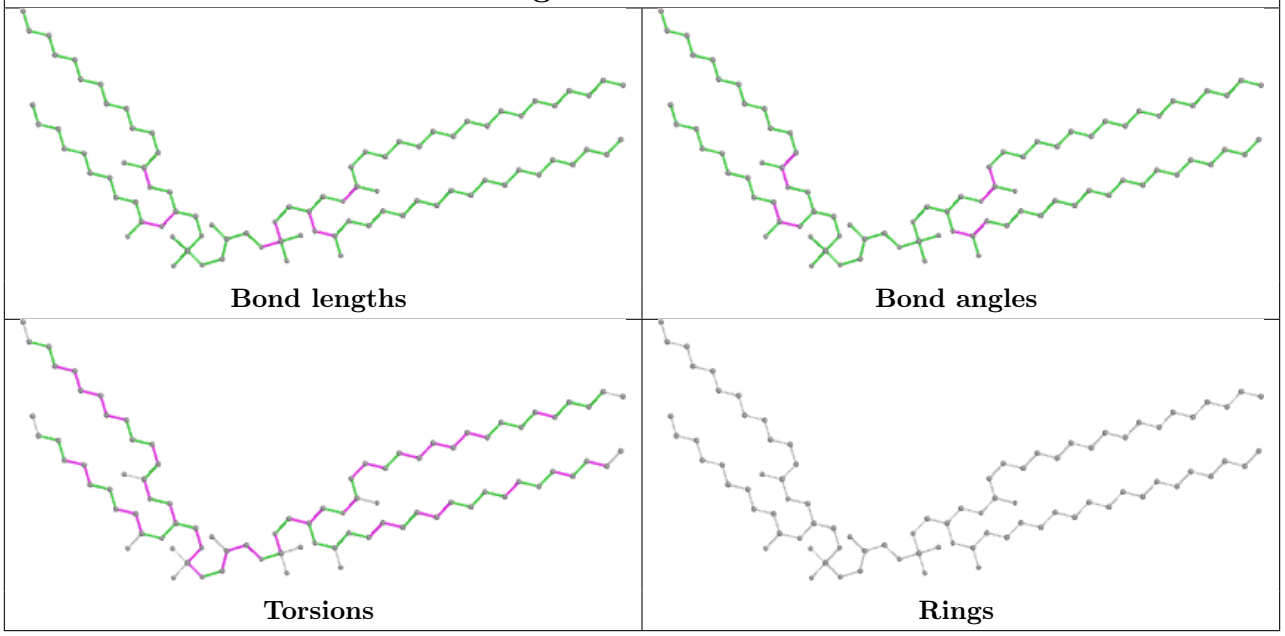
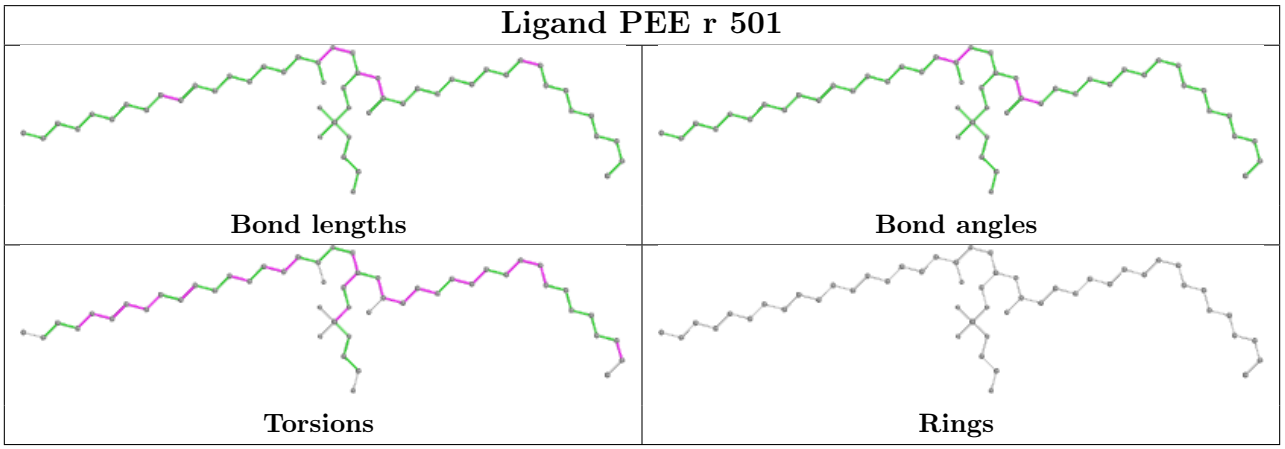
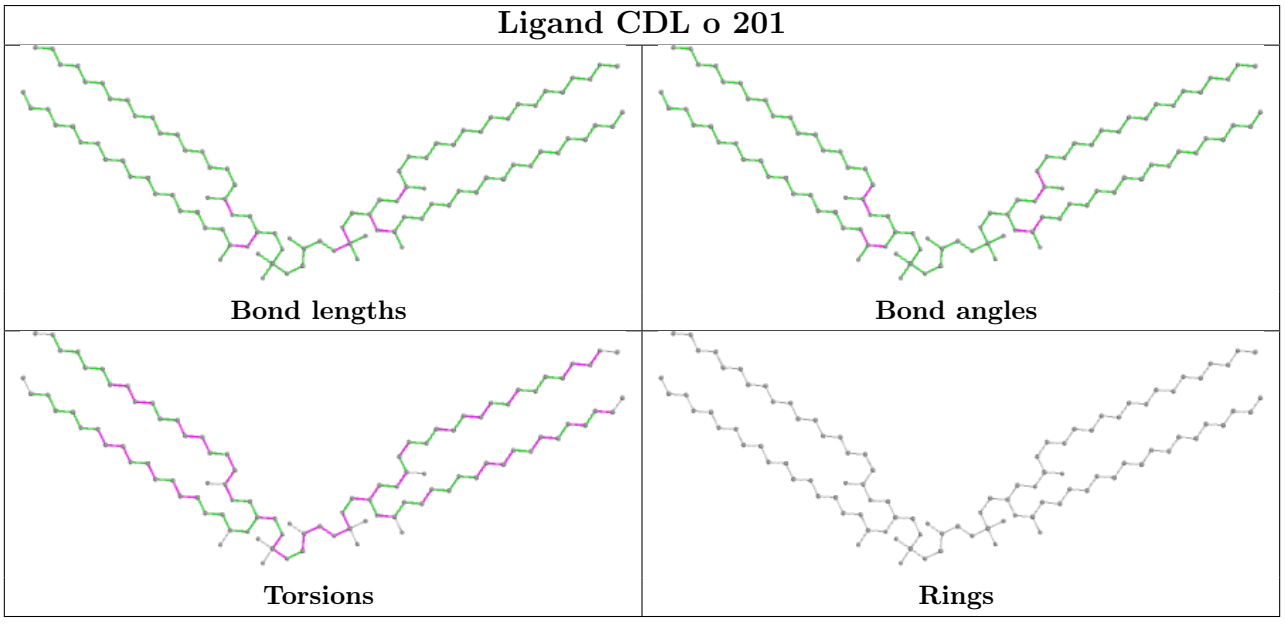


Ligand PEE r 501



Ligand CDL o 201



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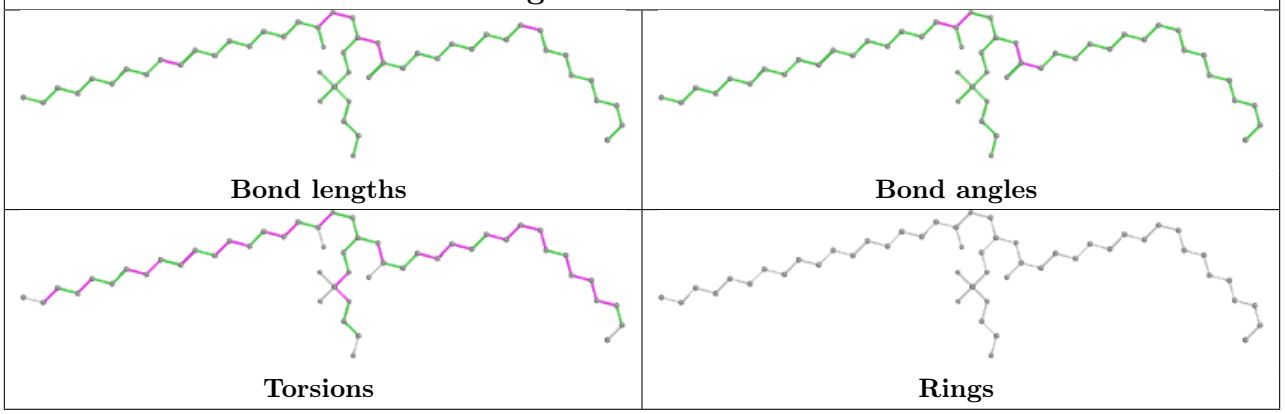
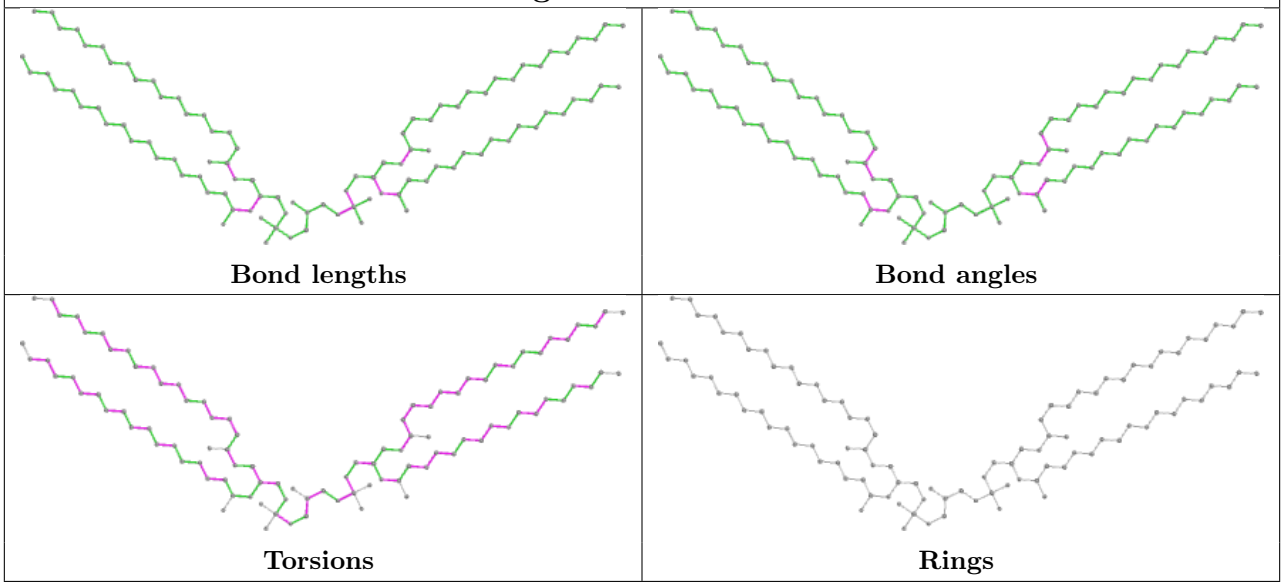
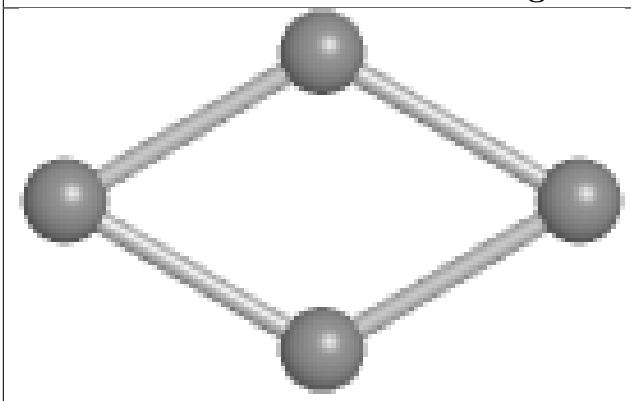


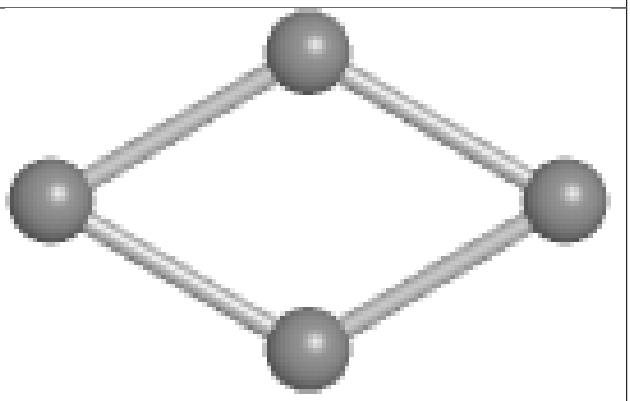
Ligand CDL l 701



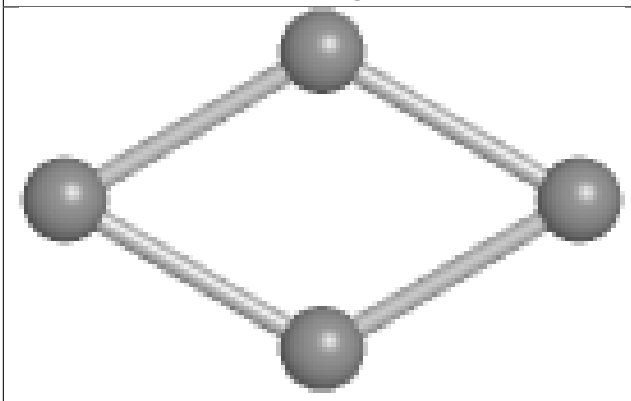
Ligand FES O 301



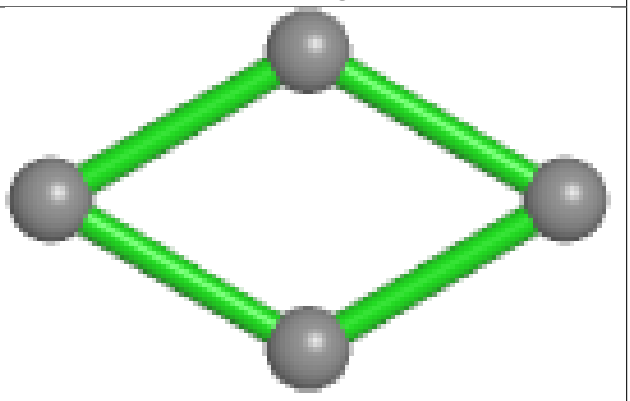
Bond lengths



Bond angles

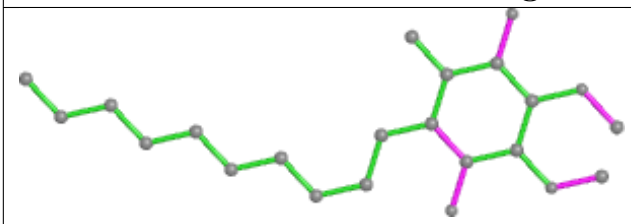


Torsions

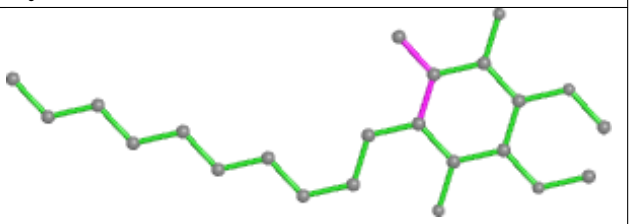


Rings

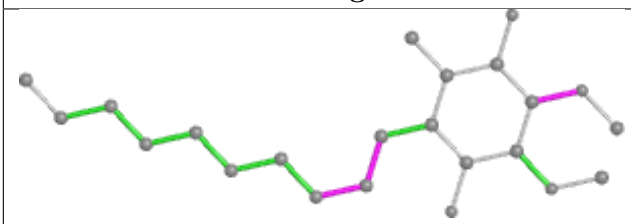
Ligand DCQ C 304



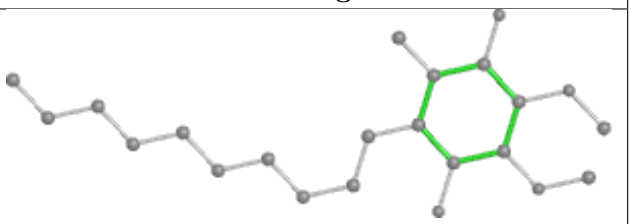
Bond lengths



Bond angles

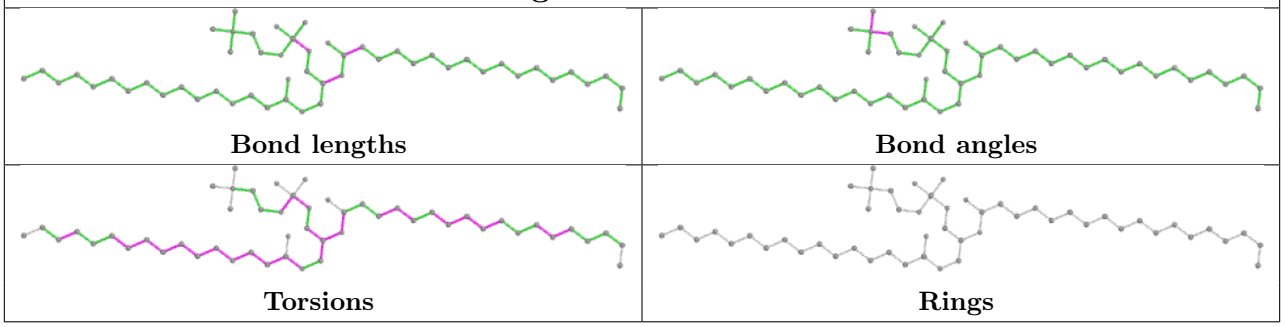


Torsions

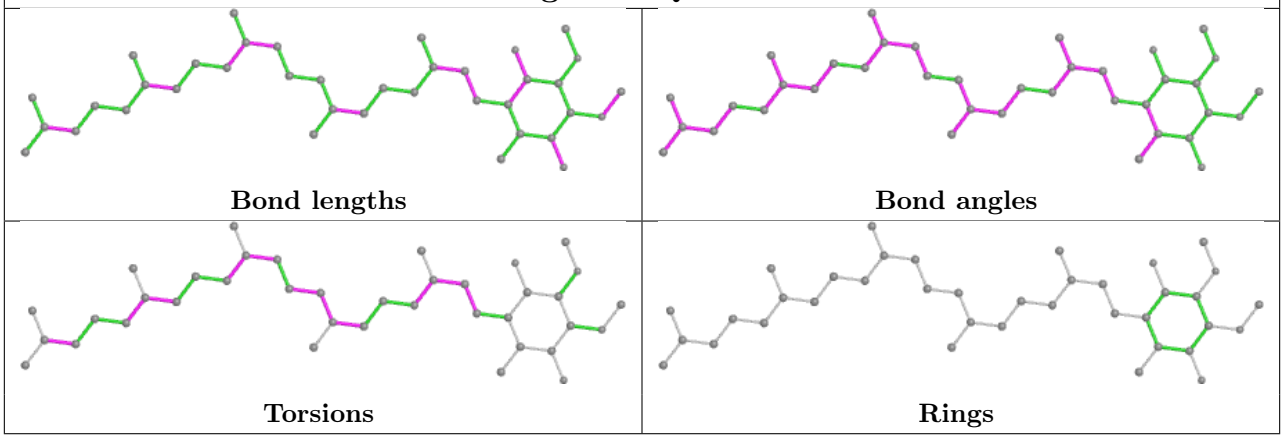


Rings

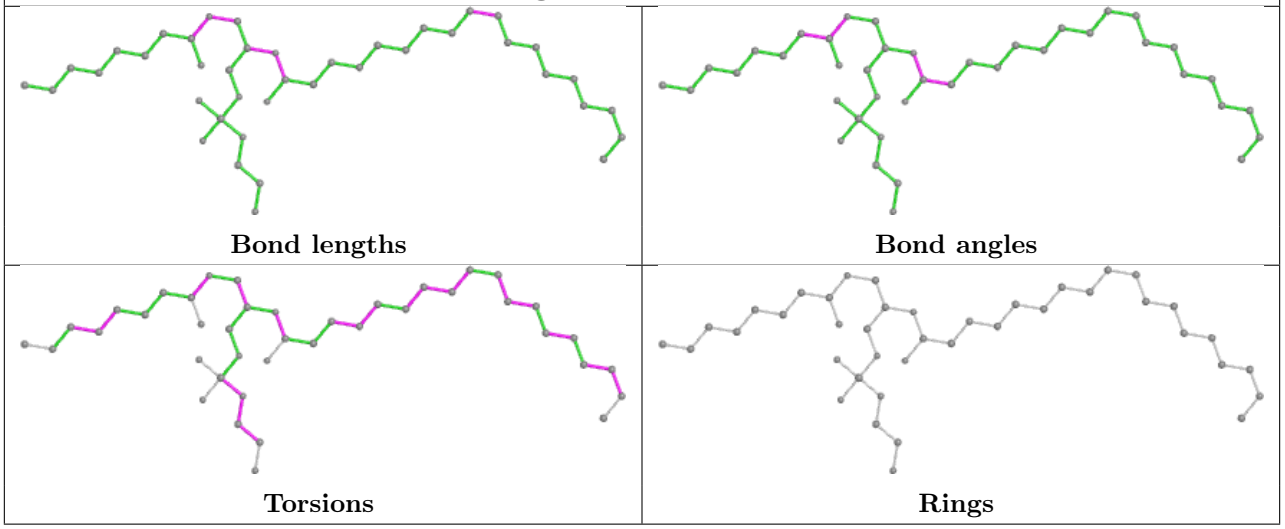
Ligand PLX r 503



Ligand UQ s 403



Ligand PEE s 401



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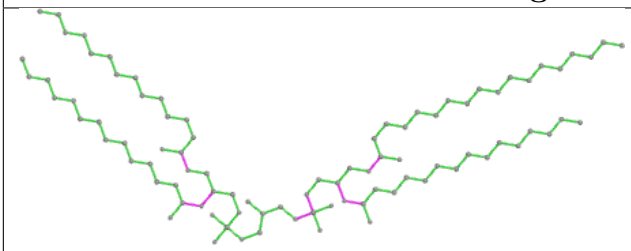
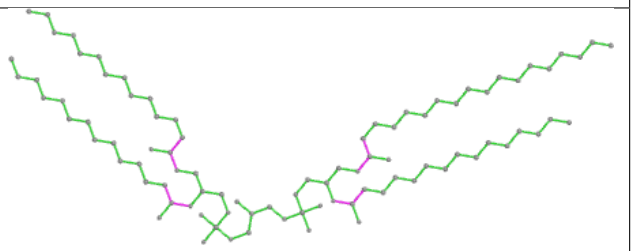
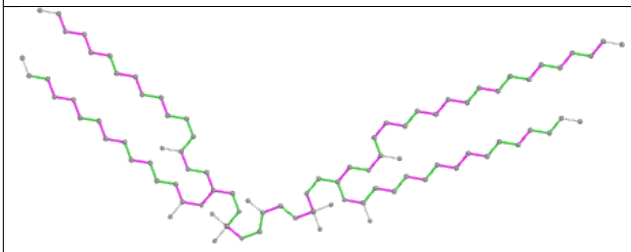


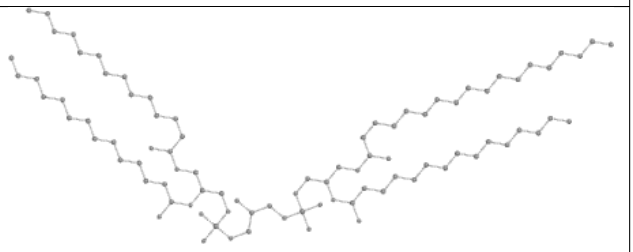
Bond lengths



Bond angles

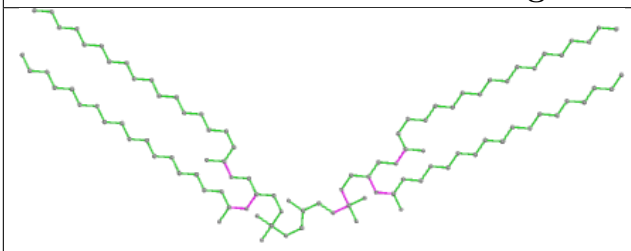


Torsions

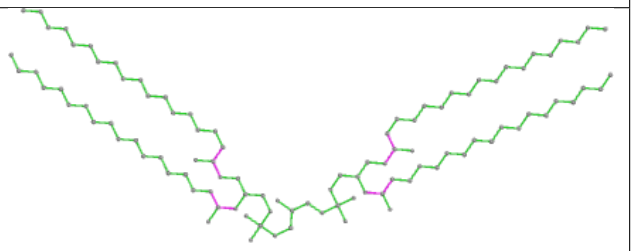


Rings

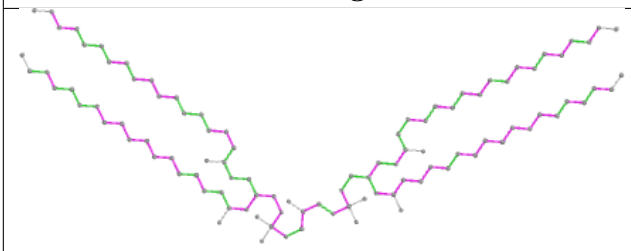
Ligand CDL k 101



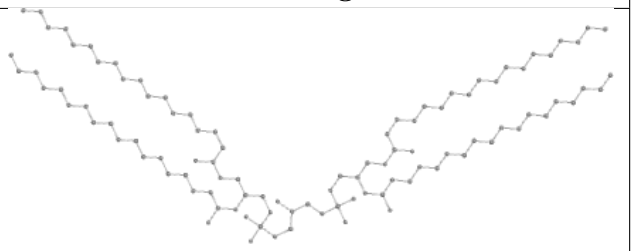
Bond lengths



Bond angles

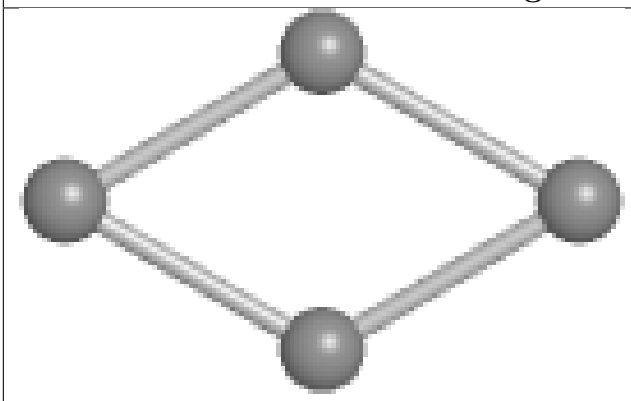


Torsions

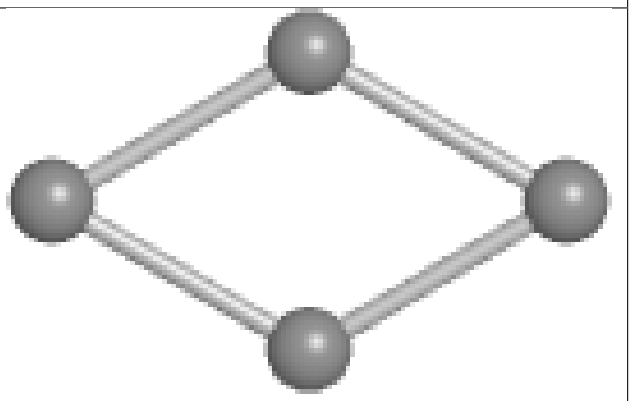


Rings

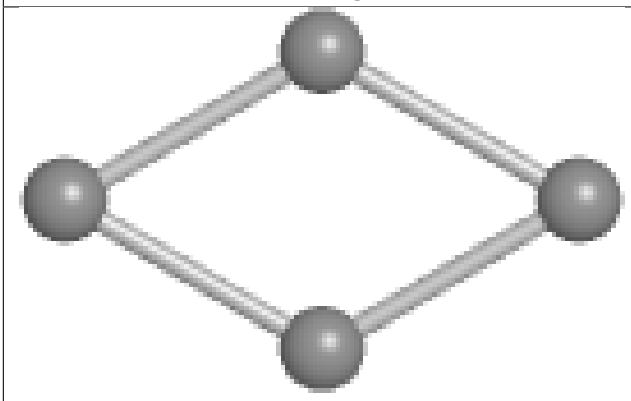
Ligand FES M 803



Bond lengths



Bond angles



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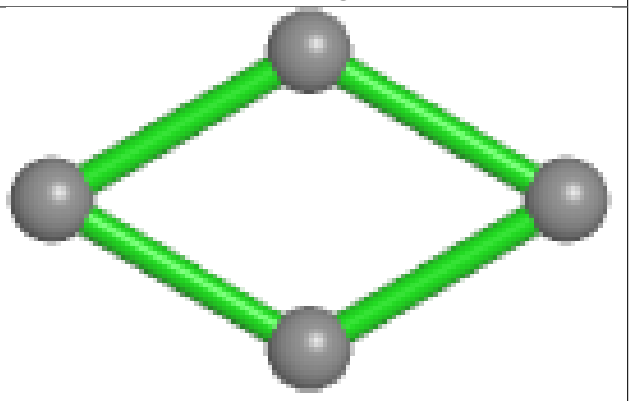
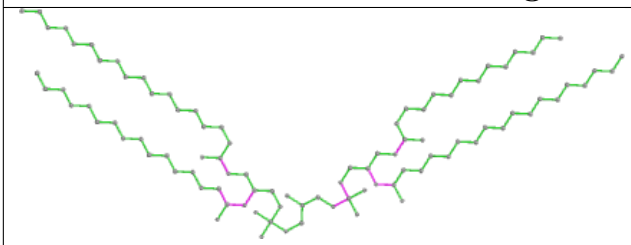
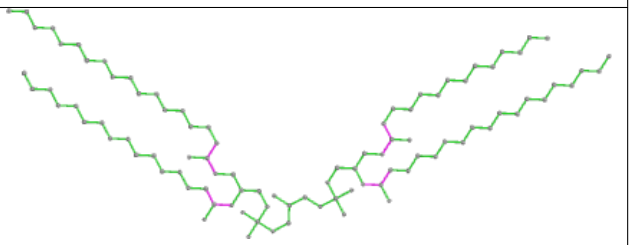


Rings

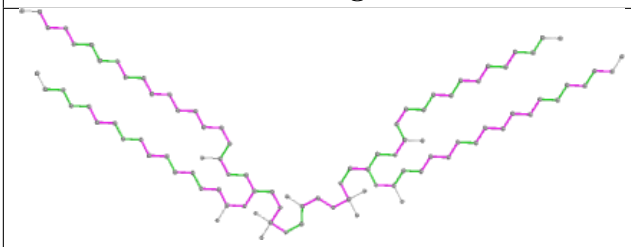
Ligand CDL V 201



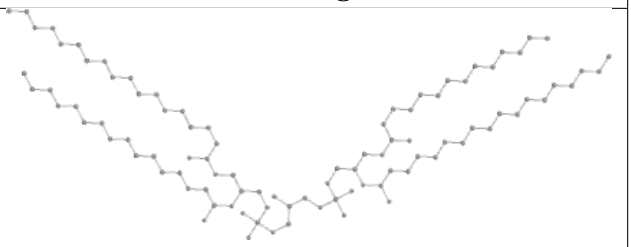
Bond lengths



Bond angles



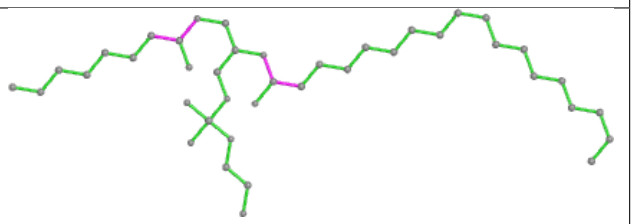
Torsions



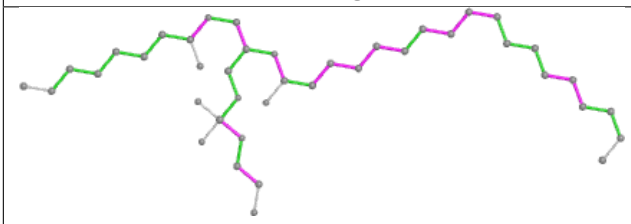
Rings

Ligand PEE W 201

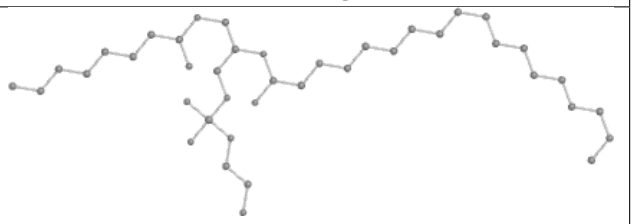
Bond lengths



Bond angles

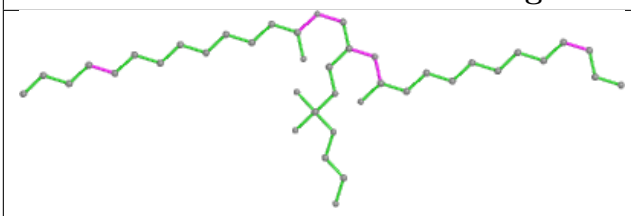


Torsions



Rings

Ligand PEE V 202



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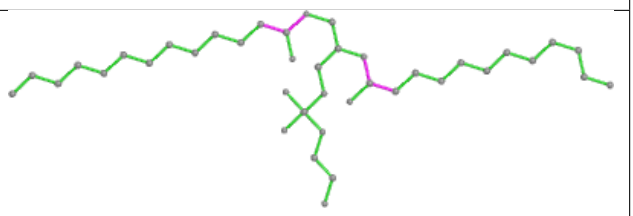
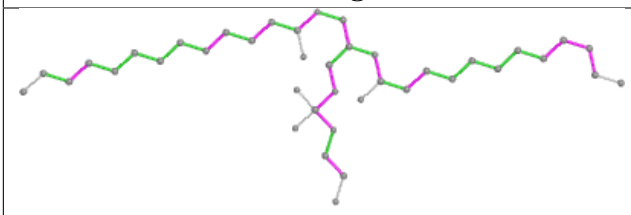


Bond angles



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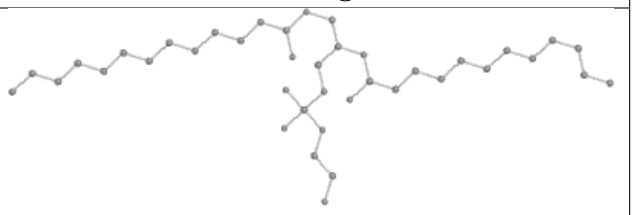
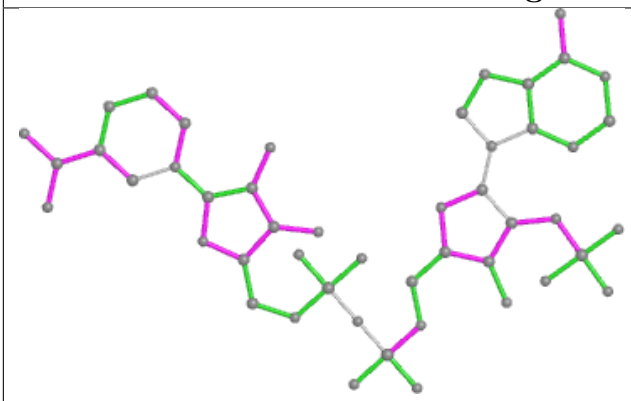
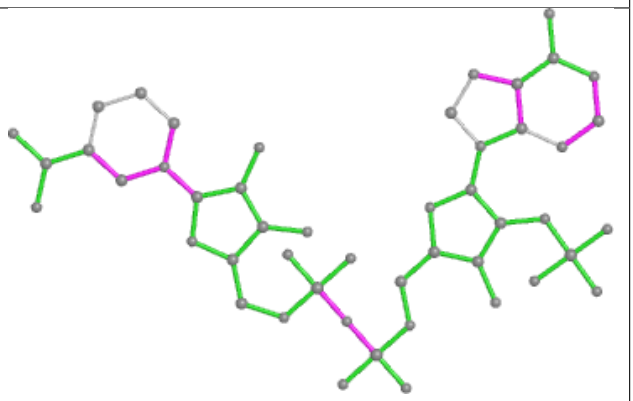


Rings

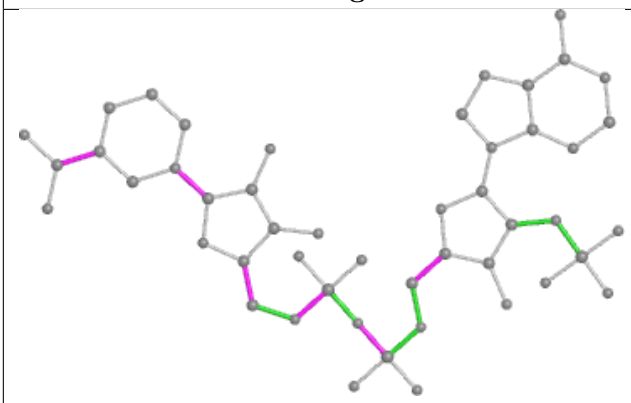
Ligand NDP J 401



Bond lengths



Bond angles



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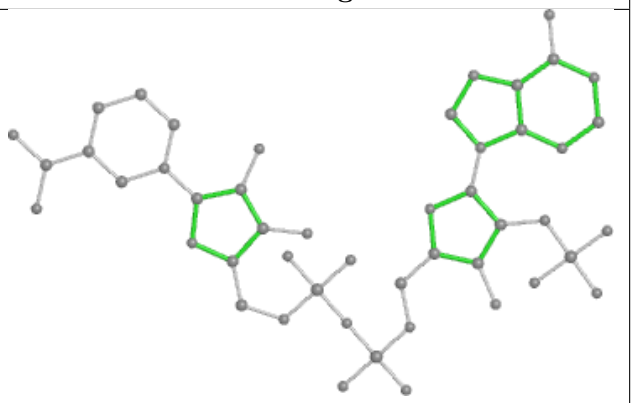
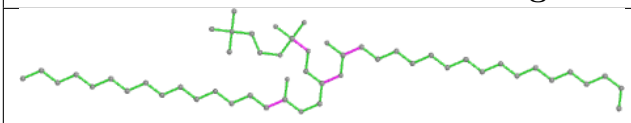
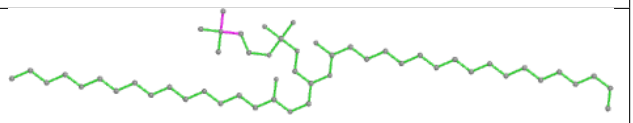


Rings

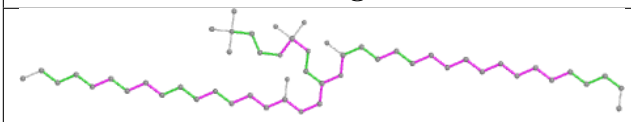
Ligand PLX a 202



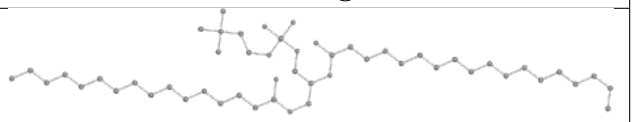
Bond lengths



Bond angles

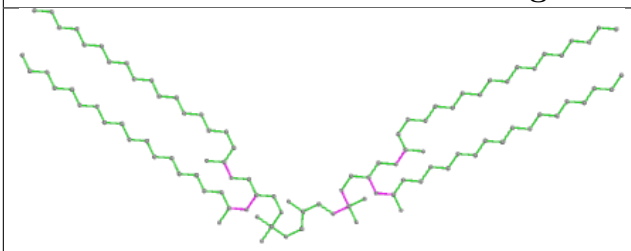


Torsions



Rings

Ligand CDL r 504



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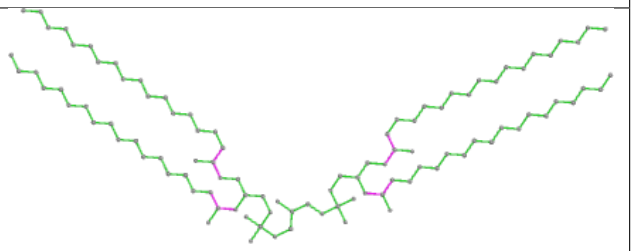
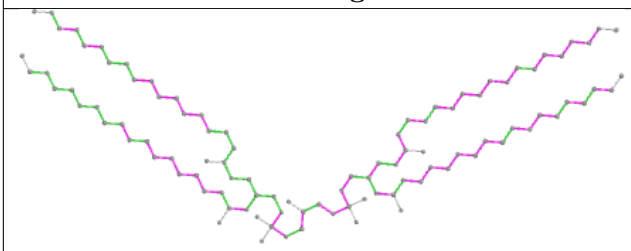


Bond angles



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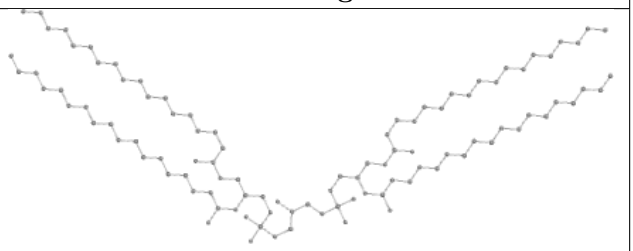
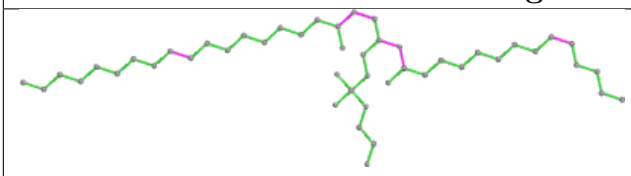


Rings

Ligand PEE C 302



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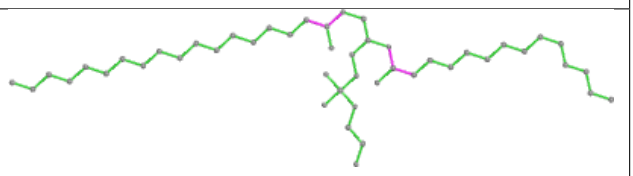
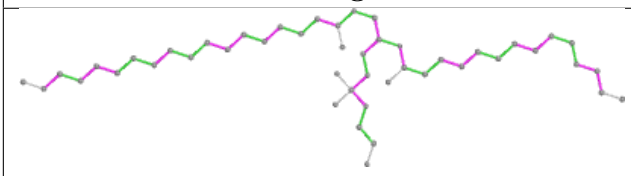


Bond angles



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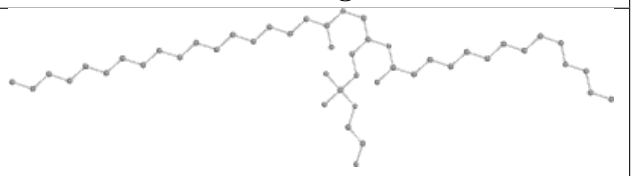
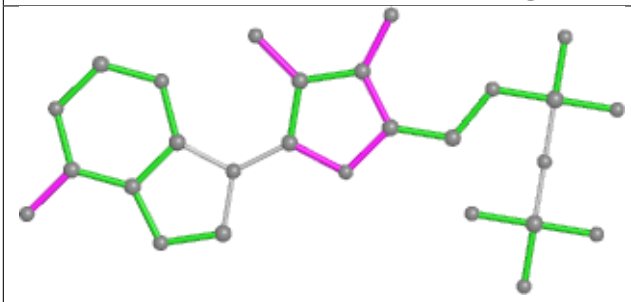
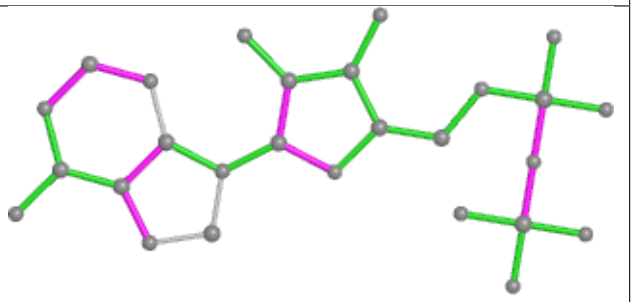


Rings

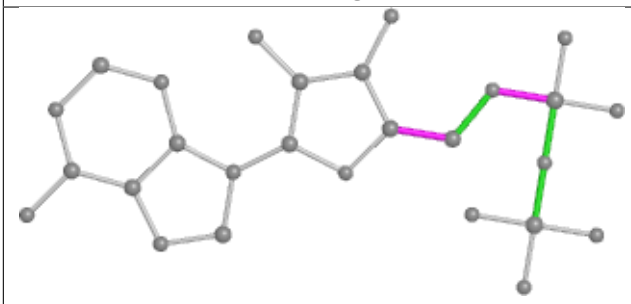
Ligand ADP w 401



Bond lengths



Bond angles



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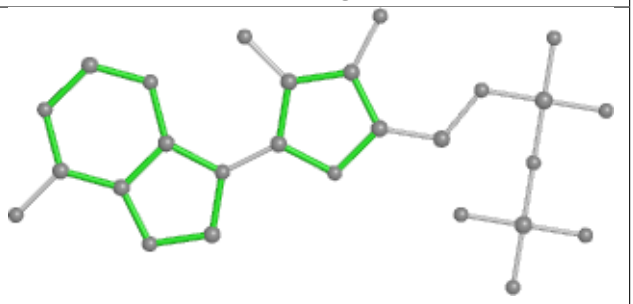
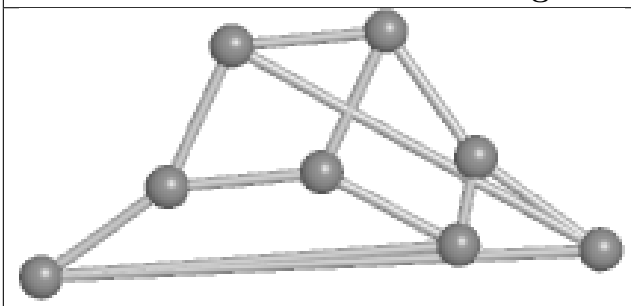


Rings

Ligand SF4 B 302



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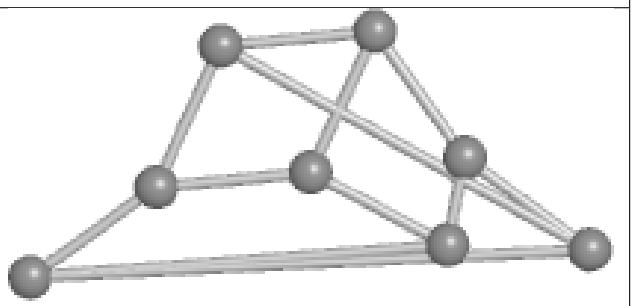
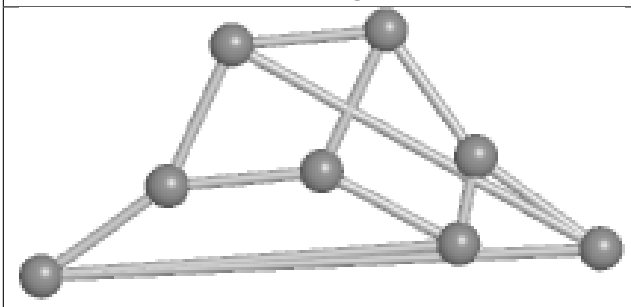


Bond angles



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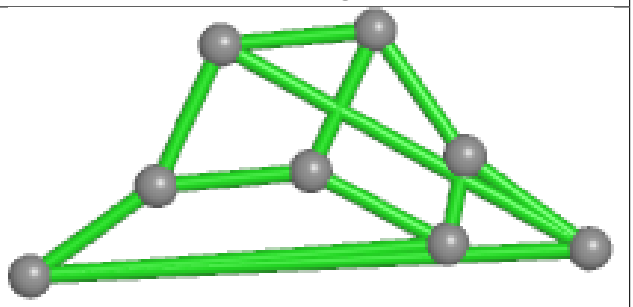
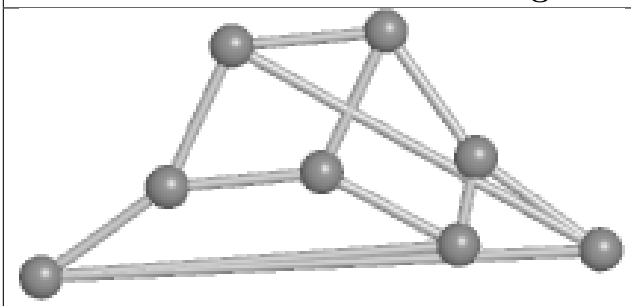
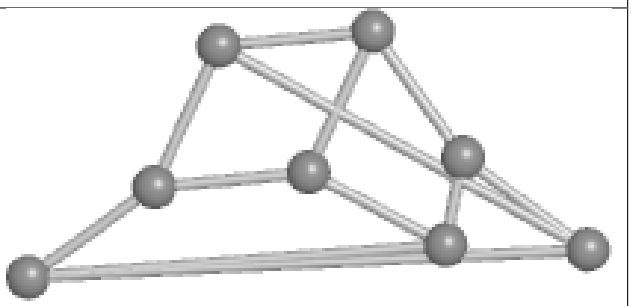


Rings

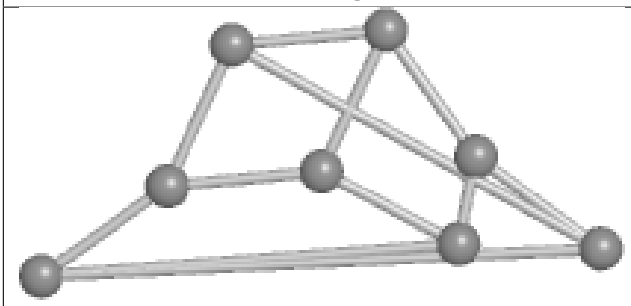
Ligand SF4 C 301



Bond lengths



Bond angles



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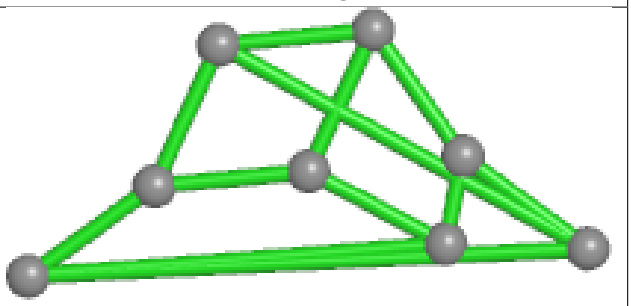
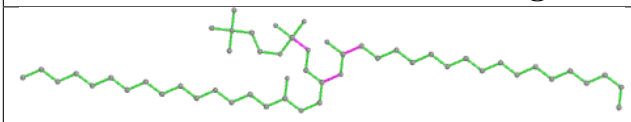
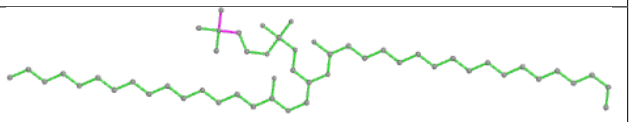


Rings

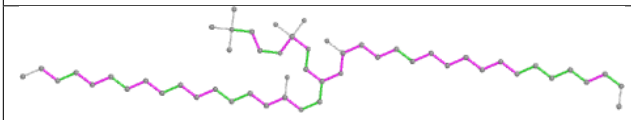
Ligand PLX J 403



Bond lengths



Bond angles



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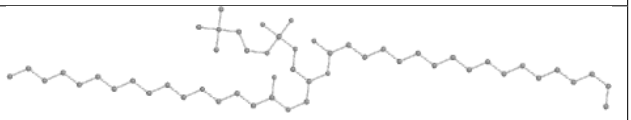
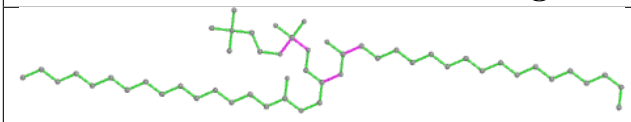
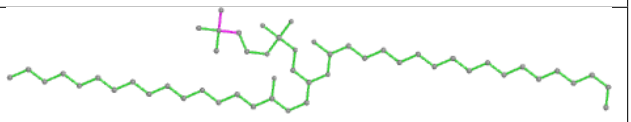


Rings

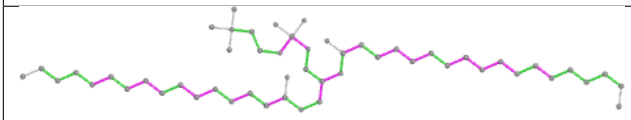
Ligand PLX r 502



Bond lengths



Bond angles



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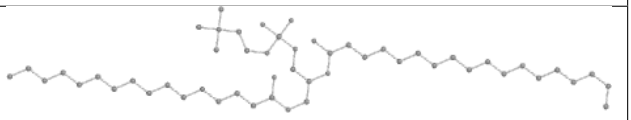
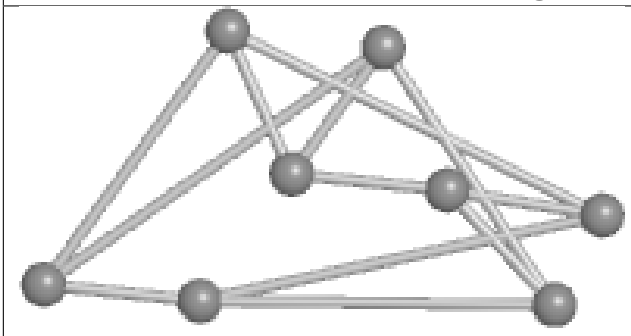
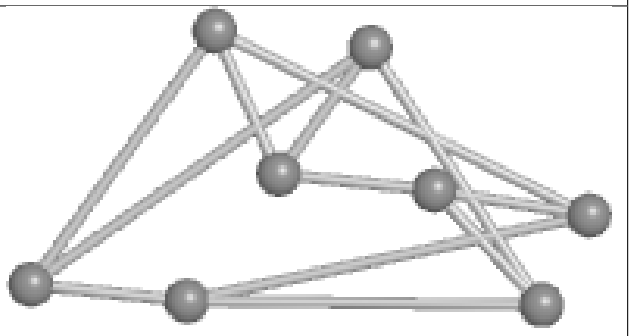


Rings

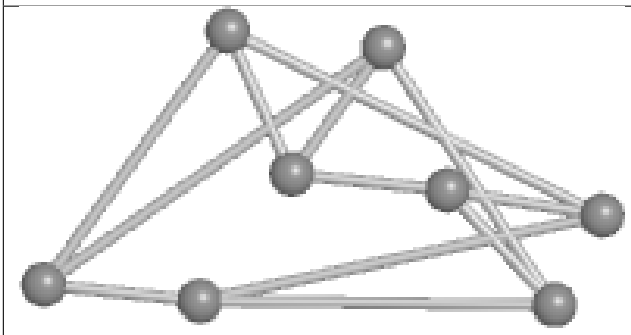
Ligand SF4 A 501



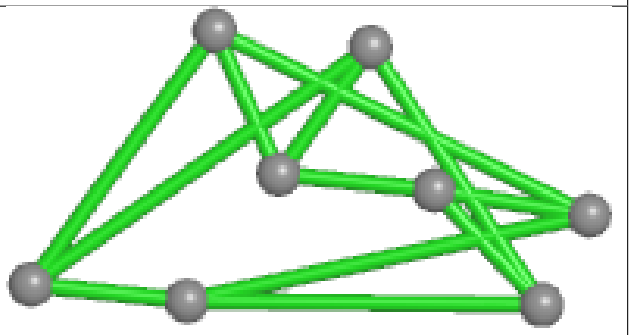
Bond lengths



Bond angles

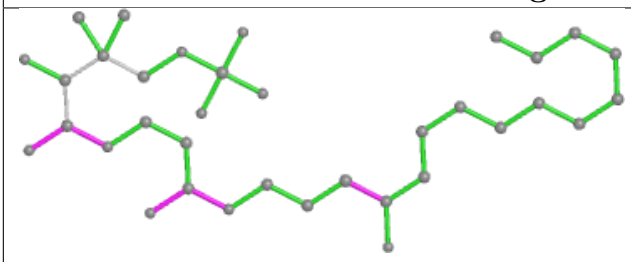


Torsions

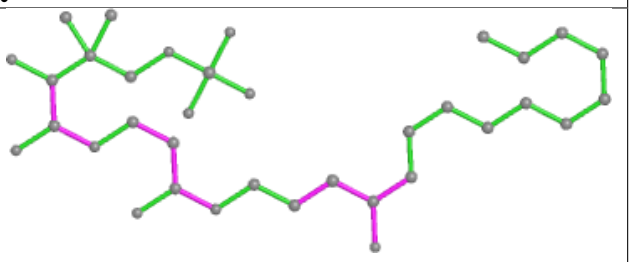


Rings

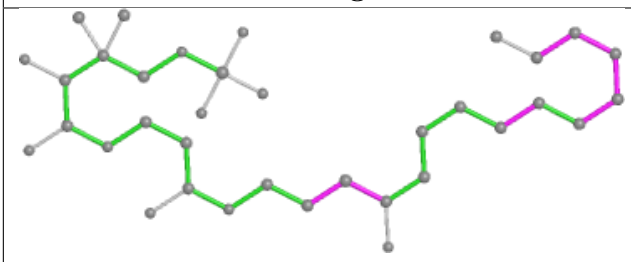
Ligand 8Q1 X 201



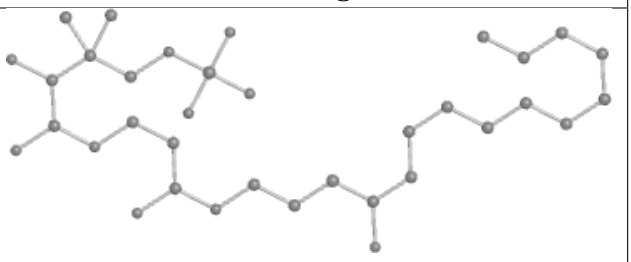
Bond lengths



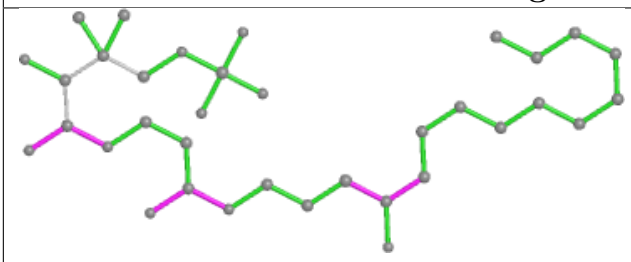
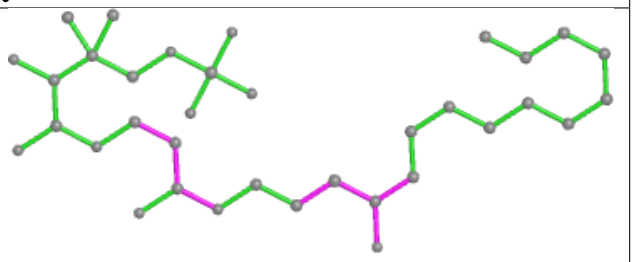
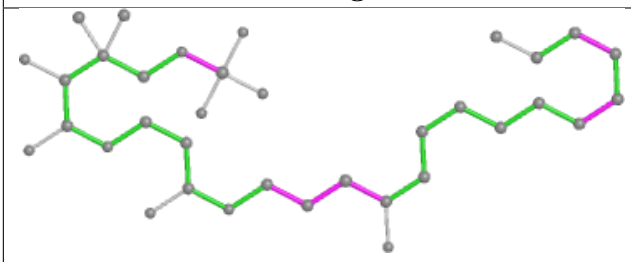
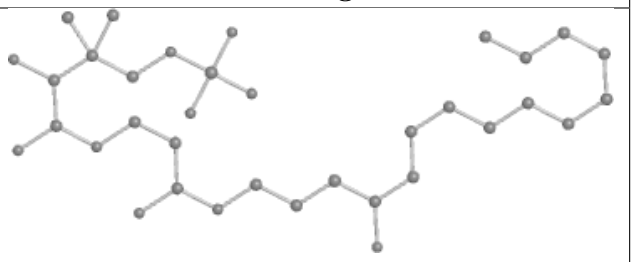
Bond angles

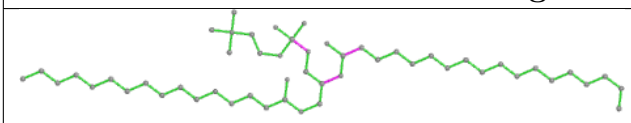
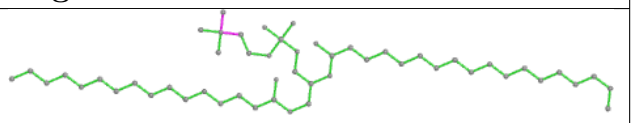
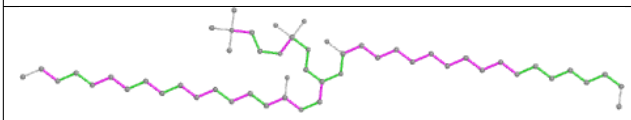
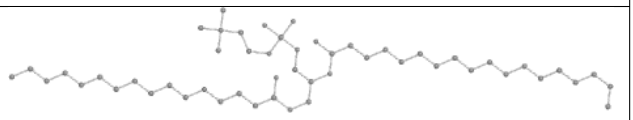


Torsions

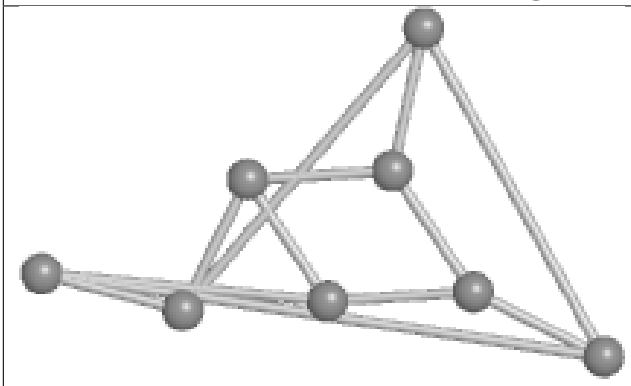


Rings

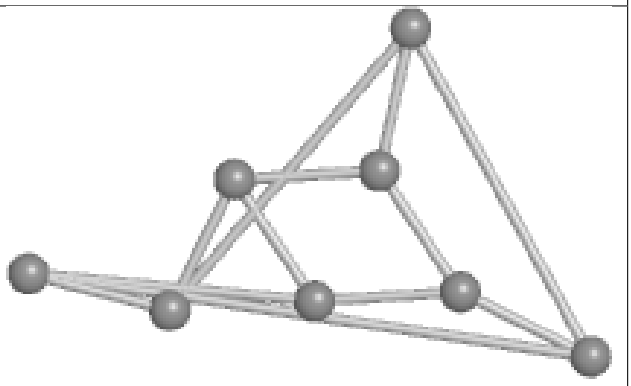
Ligand 8Q1 G 201	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand PLX g 201	
	
Bond lengths	Bond angles
	
Torsions	Rings

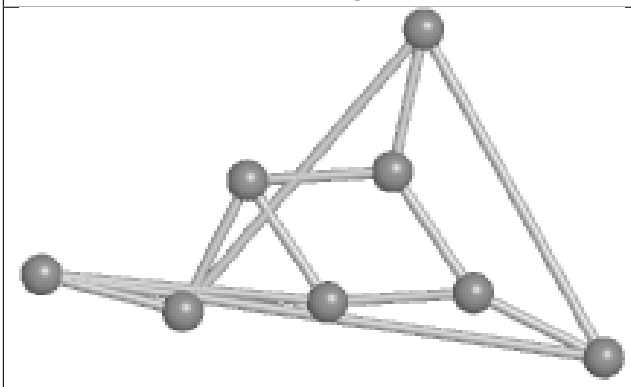
Ligand SF4 M 801



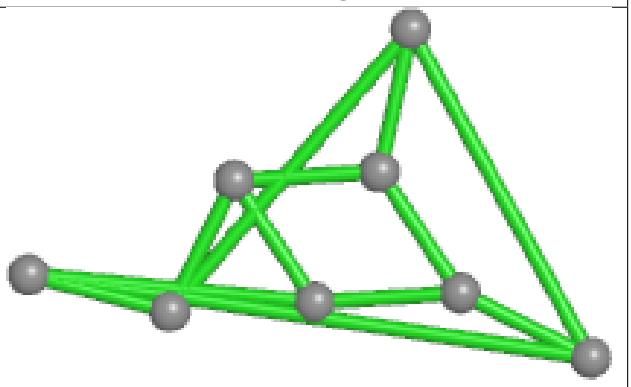
Bond lengths



Bond angles

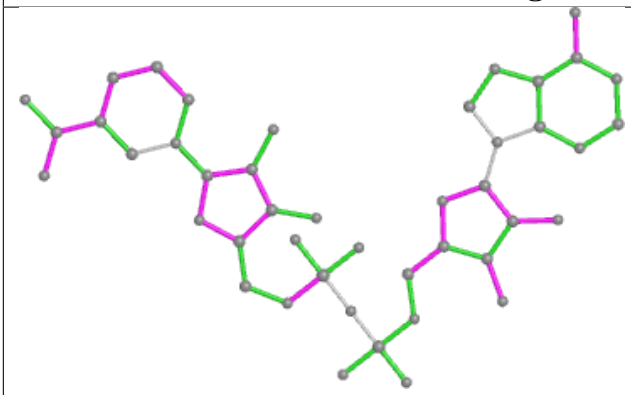


Torsions

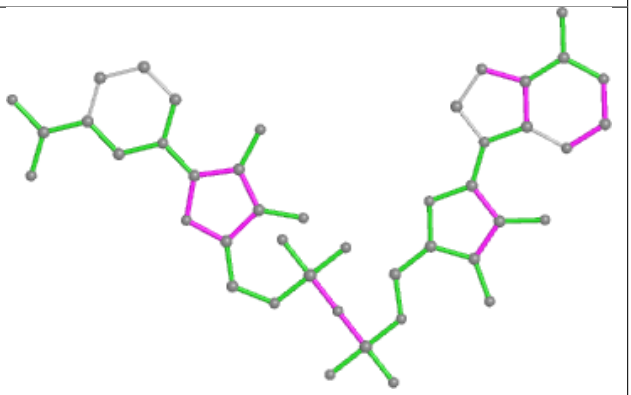


Rings

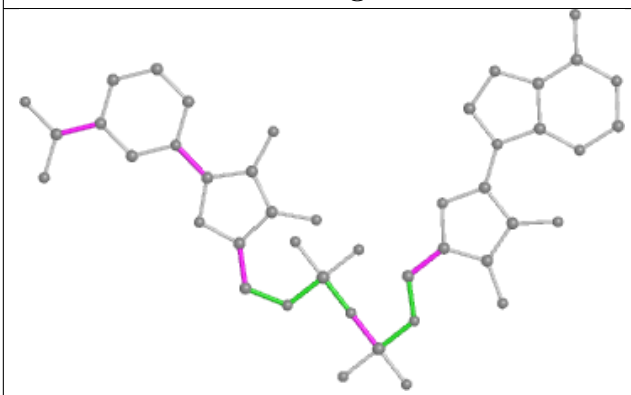
Ligand NAI A 503



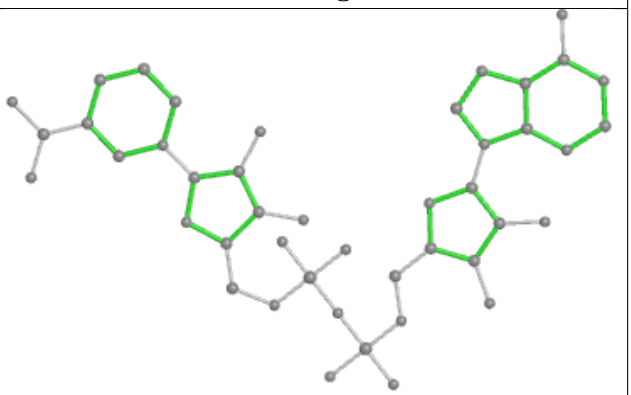
Bond lengths



Bond angles

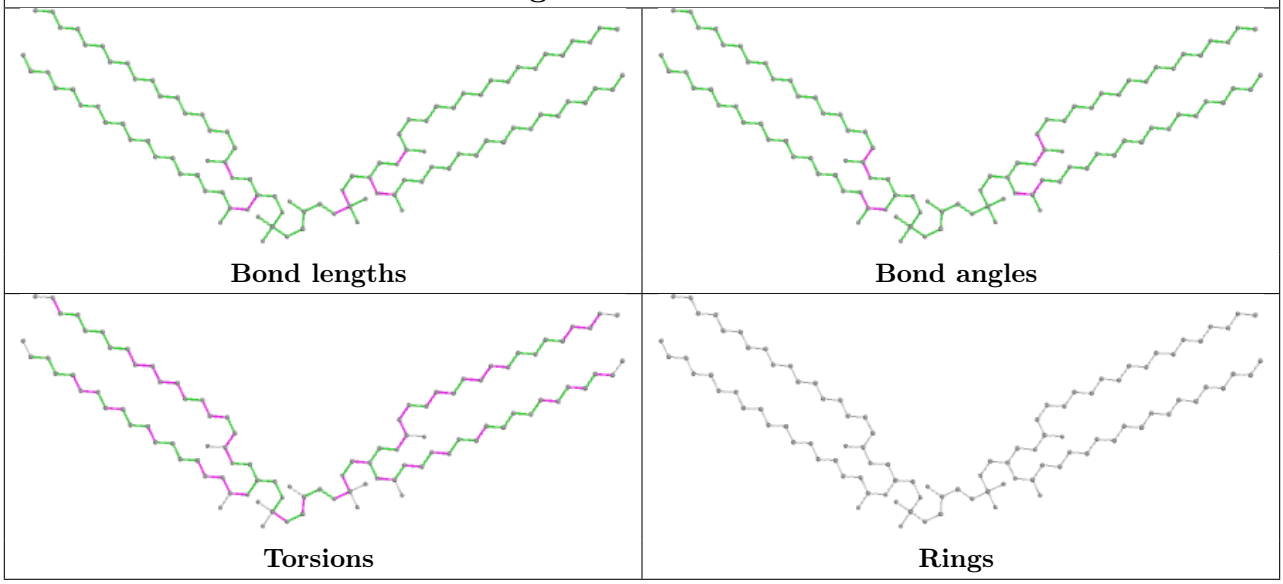


Torsions

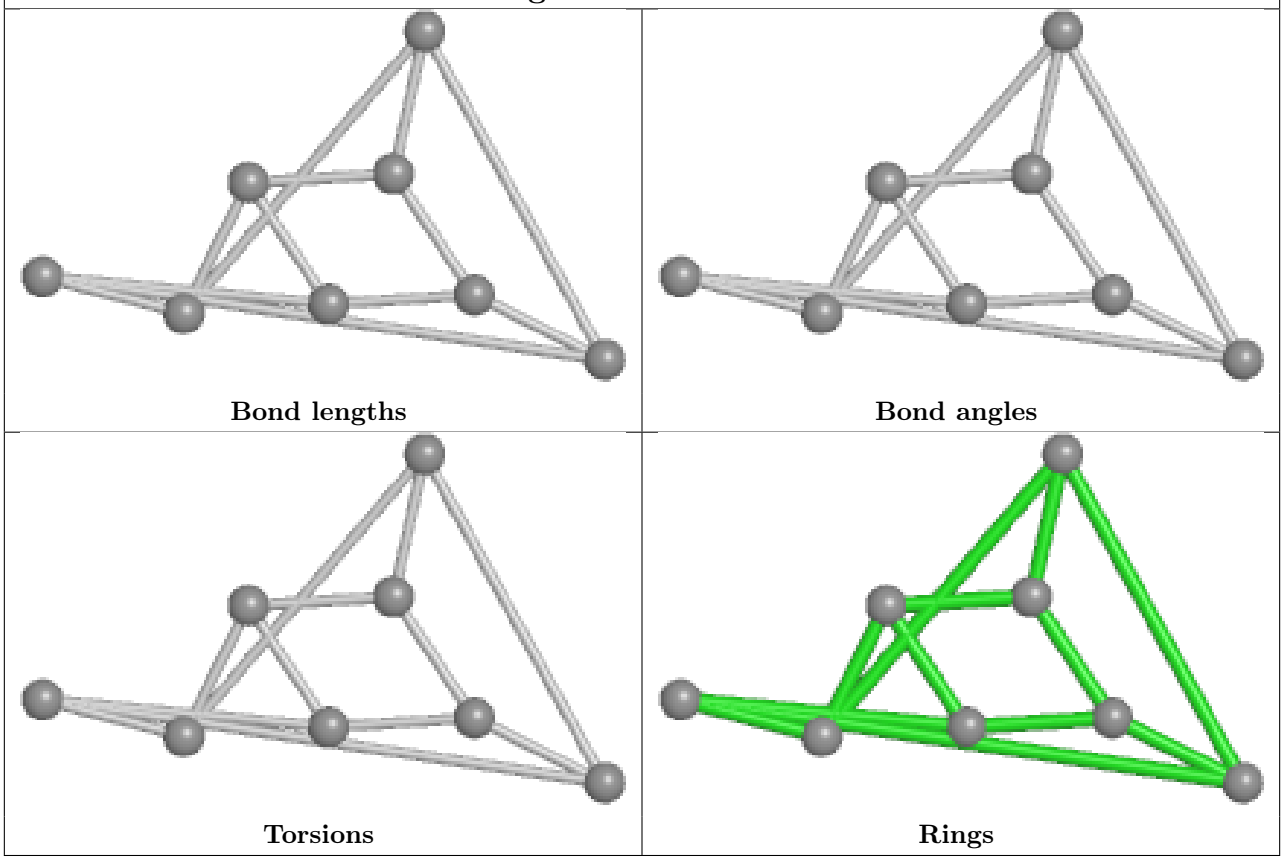


Rings

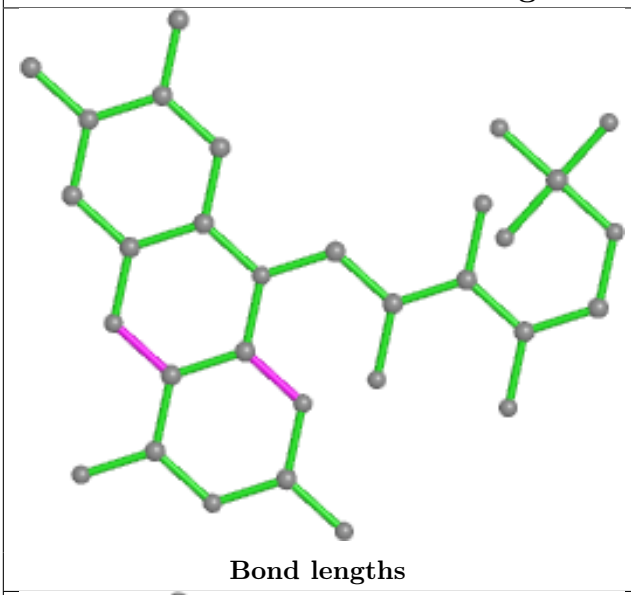
Ligand CDL a 201



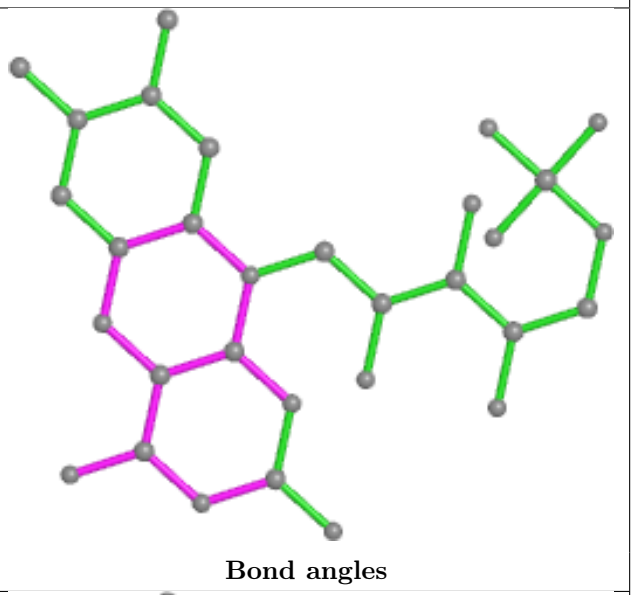
Ligand SF4 M 802



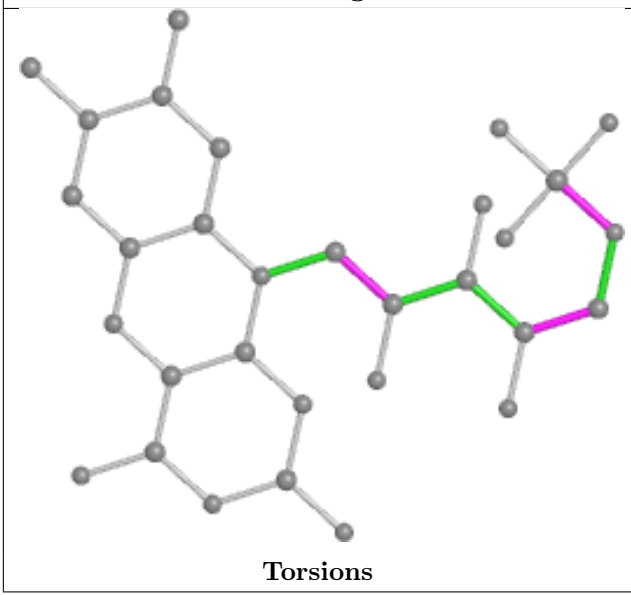
Ligand FMN A 502



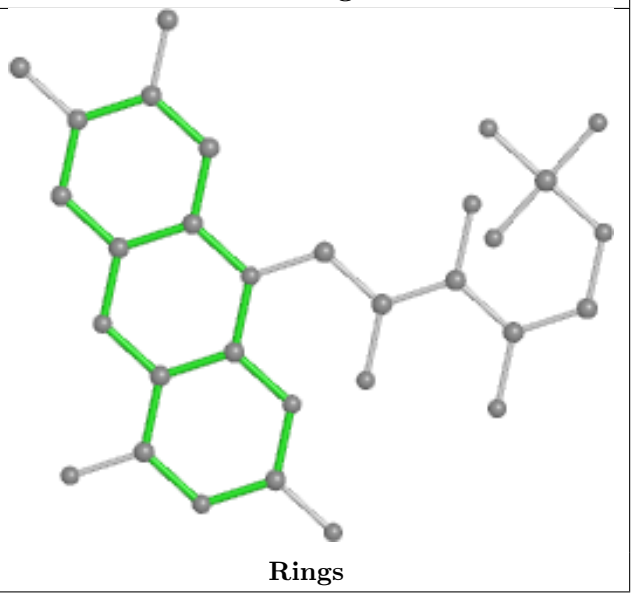
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

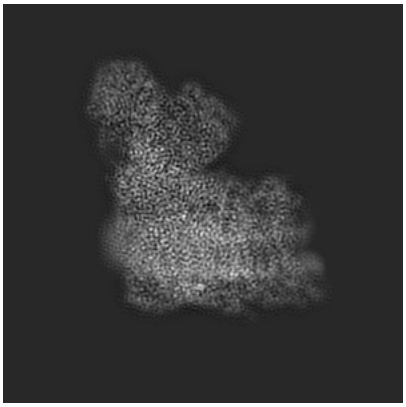
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-32265. These allow visual inspection of the internal detail of the map and identification of artifacts.

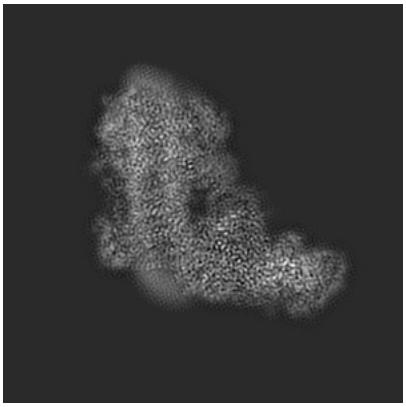
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

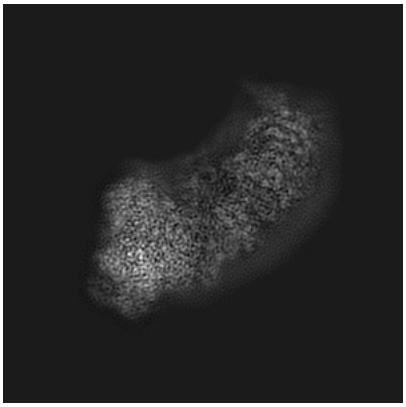
6.1.1 Primary map



X



Y

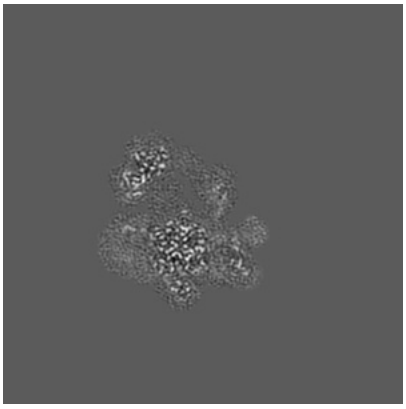


Z

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

6.2 Central slices

6.2.1 Primary map



X Index: 155

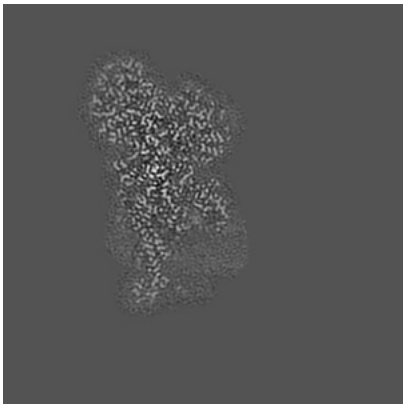
Y Index: 155

Z Index: 155

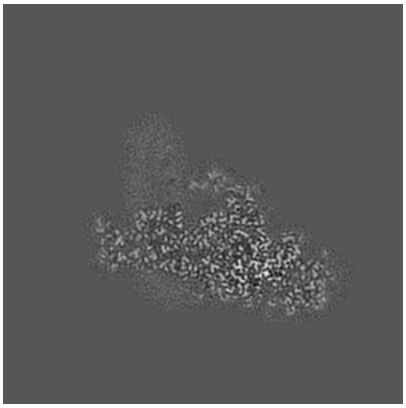
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

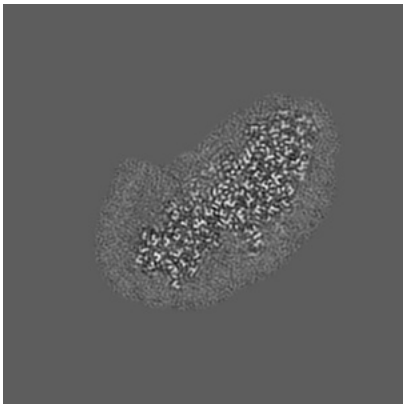
6.3.1 Primary map



X Index: 106



Y Index: 112

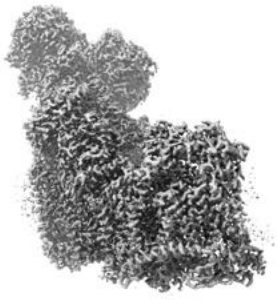


Z Index: 127

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

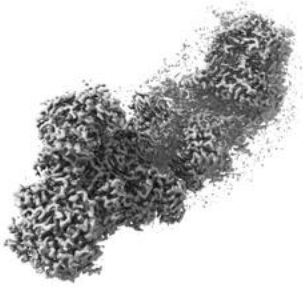
6.4 Orthogonal surface views (i)

6.4.1 Primary map



X

Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0267. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

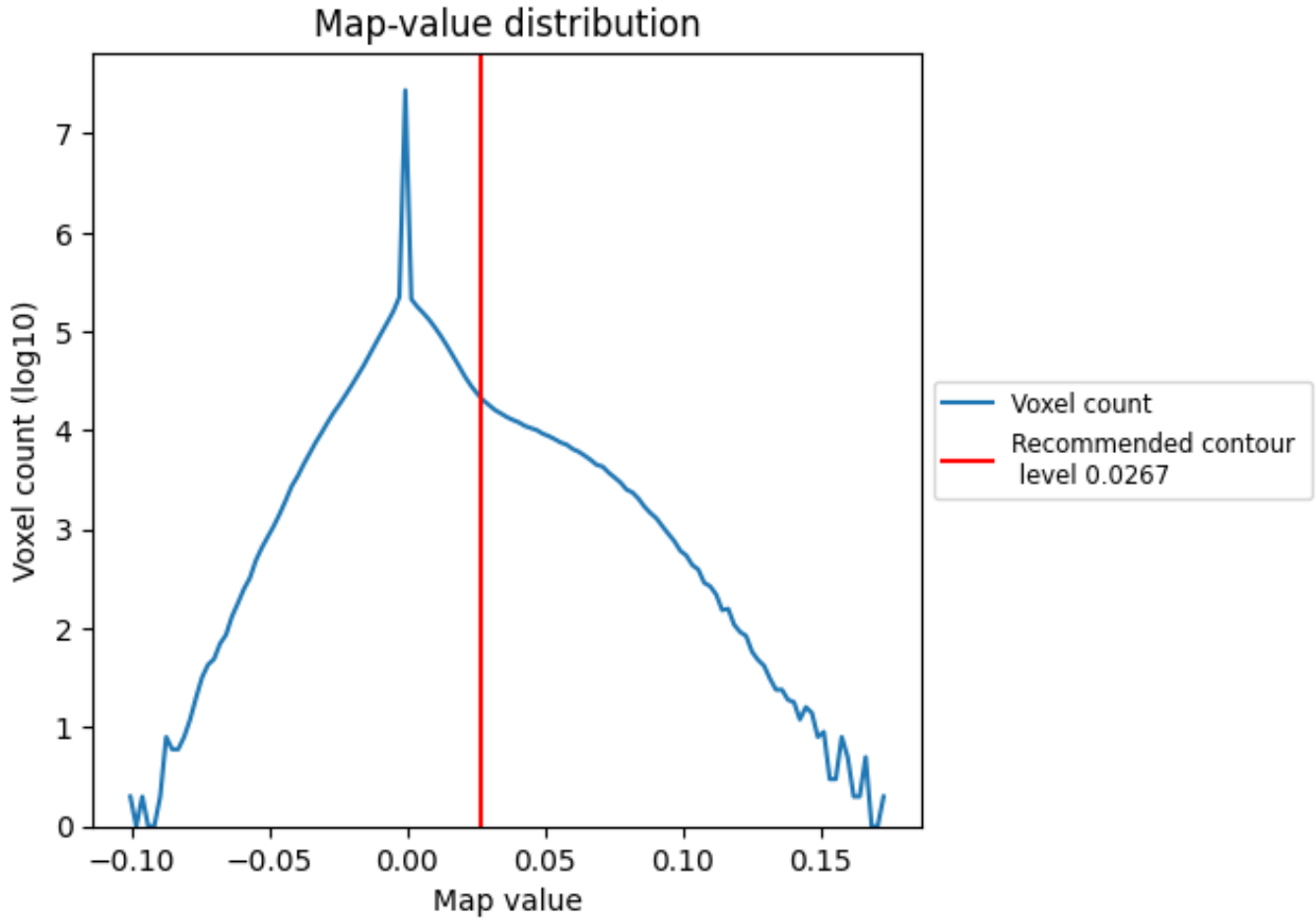
6.5 Mask visualisation (i)

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

7 Map analysis

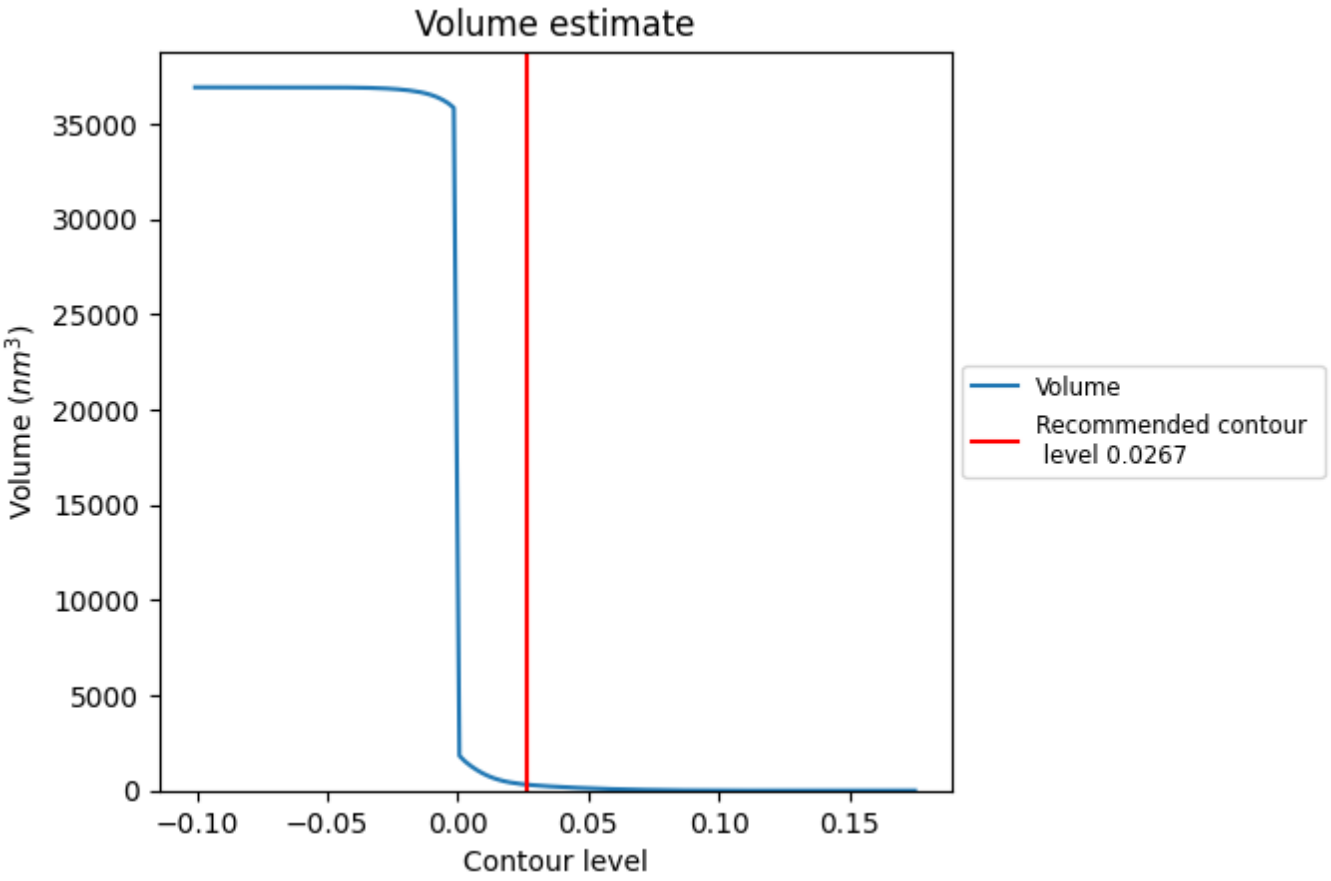
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

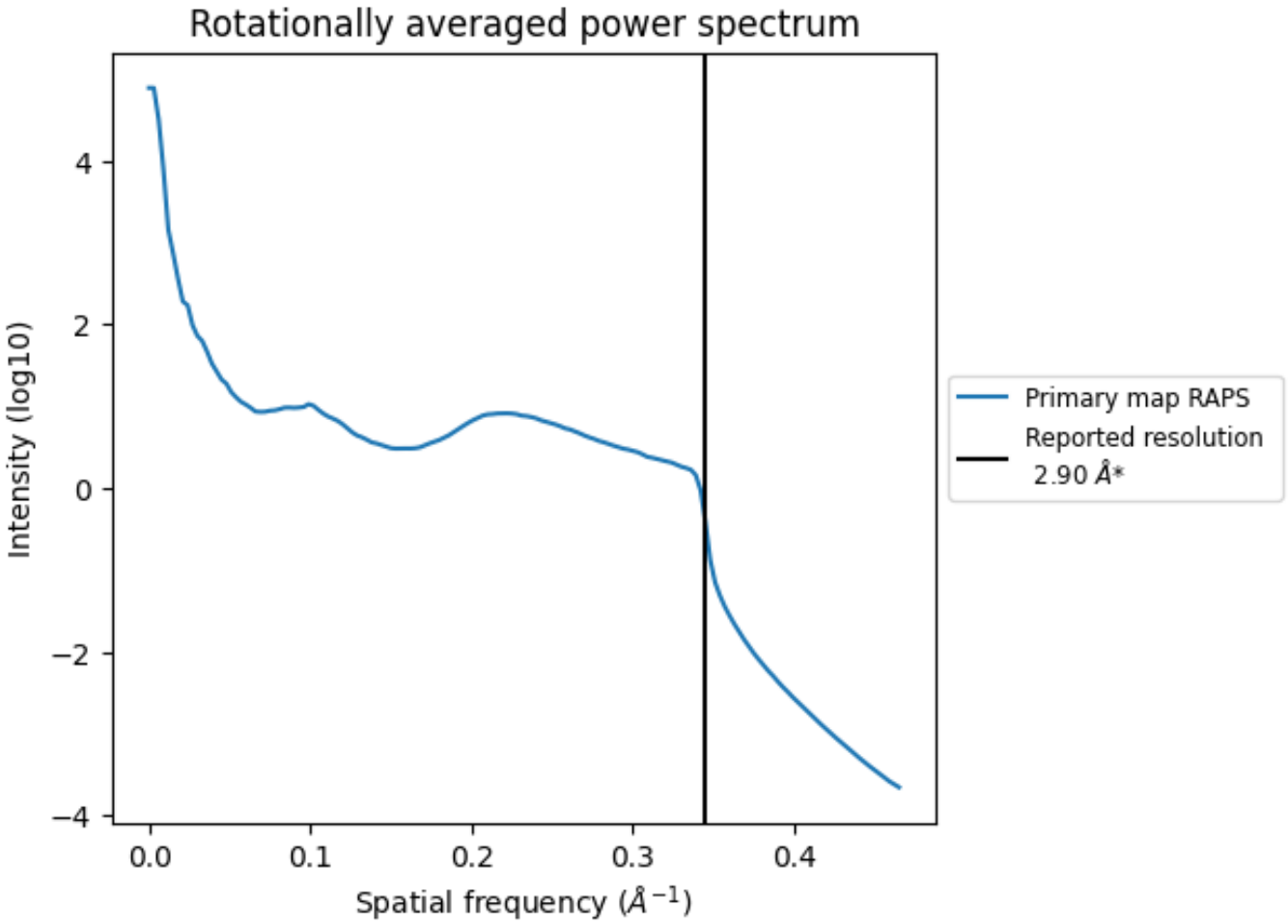
7.2 Volume estimate (i)



The volume at the recommended contour level is 308 nm^3; this corresponds to an approximate mass of 278 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 0.345 Å^{-1}

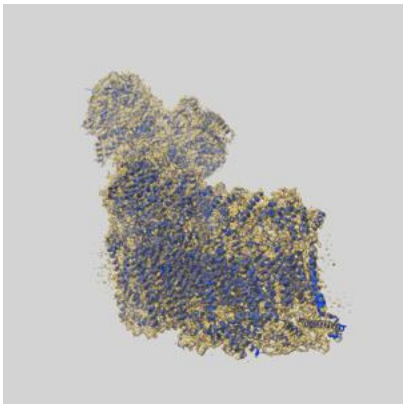
8 Fourier-Shell correlation (i)

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

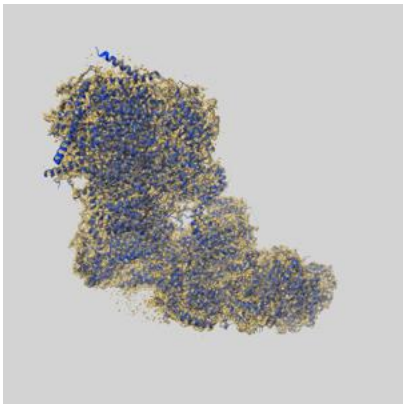
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-32265 and PDB model 7W2R. Per-residue inclusion information can be found in section 3 on page 21.

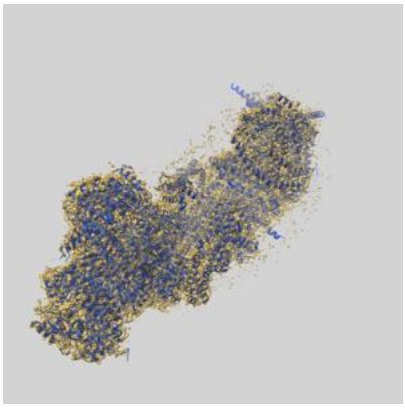
9.1 Map-model overlay



X



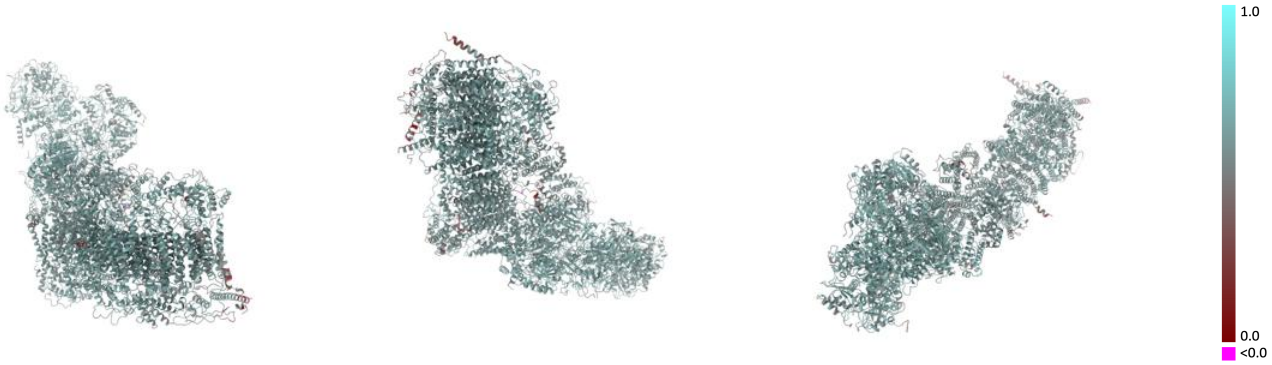
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0267 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

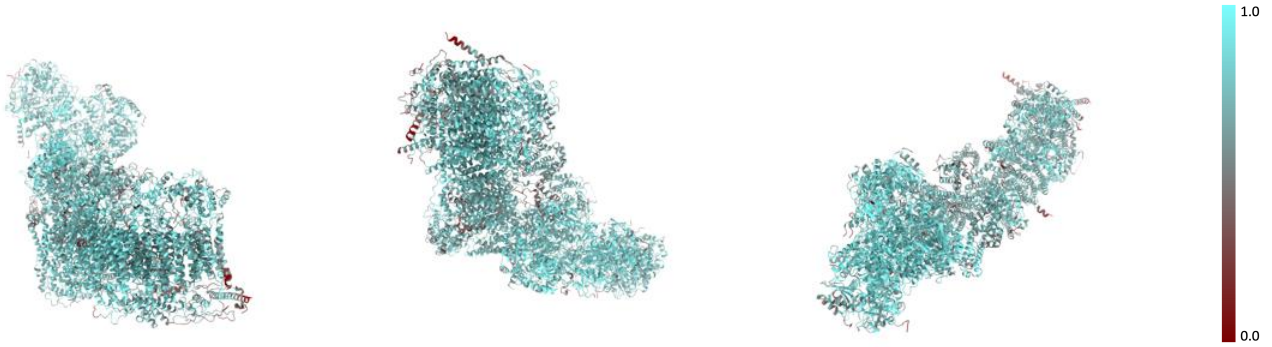
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

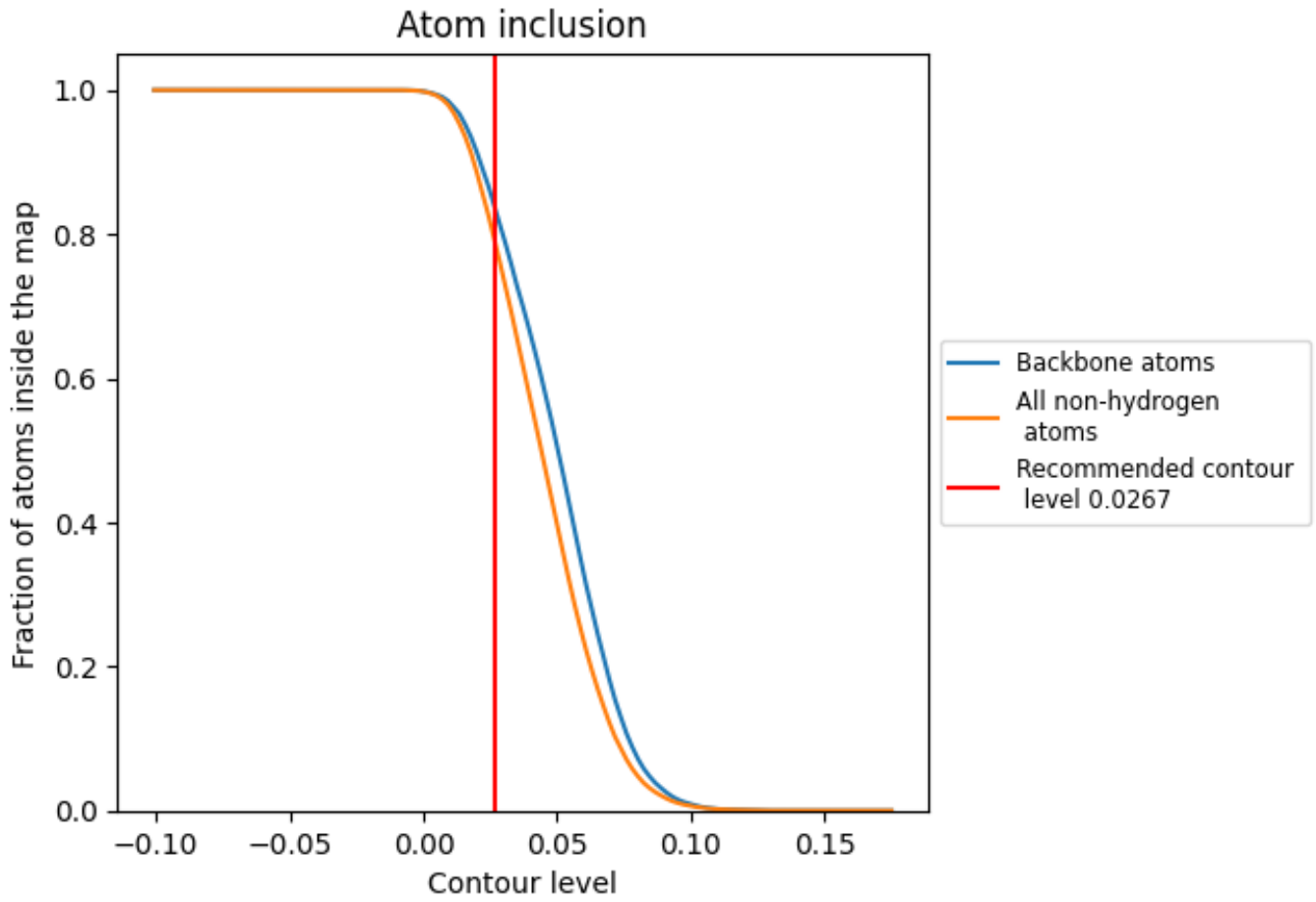
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0267).

9.4 Atom inclusion (i)



At the recommended contour level, 84% 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 (0.0267) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7908	0.5970
A	0.8165	0.5980
B	0.9139	0.6370
C	0.8842	0.6350
E	0.8238	0.6130
F	0.7515	0.5730
G	0.5429	0.4820
H	0.8156	0.6020
I	0.7130	0.5830
J	0.8365	0.6110
K	0.6732	0.5560
L	0.8541	0.6240
M	0.8662	0.6180
N	0.7311	0.5970
O	0.7558	0.5840
P	0.9265	0.6440
Q	0.9020	0.6360
S	0.8642	0.6110
T	0.7645	0.6010
U	0.7679	0.5660
V	0.6018	0.5590
W	0.7774	0.5830
X	0.7410	0.5740
Y	0.6028	0.5240
Z	0.5808	0.5160
a	0.7685	0.5980
b	0.6571	0.5450
c	0.7717	0.5870
d	0.7240	0.5760
e	0.7151	0.5690
f	0.5838	0.5330
g	0.8080	0.6010
h	0.7837	0.5850
i	0.8485	0.6180
j	0.7877	0.6090

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
k	0.7696	0.6010
l	0.7707	0.5970
m	0.7163	0.5650
n	0.6358	0.5440
o	0.7210	0.5760
p	0.7739	0.5900
r	0.8236	0.6110
s	0.8465	0.6170
u	0.7862	0.5870
v	0.5982	0.5210
w	0.7332	0.5790