Full wwPDB EM Validation Report ⓘ

Jun 22, 2023 – 10:36 AM JST

PDB ID	:	7W0Y
EMDB ID	:	EMD-32249
Title	:	Active state CI from Q10-NADH dataset, Subclass 2
Authors	:	Gu, J.K.; Yang, M.J.
Deposited on	:	2021-11-18
Resolution	:	3.40 Å(reported)

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

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

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

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

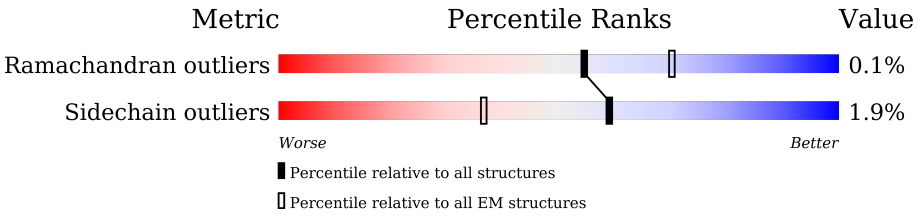
EMDB validation analysis	:	0.0.1.dev50
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry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

1 Overall quality at a glance

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

The reported resolution of this entry is 3.40 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	433	6% 100%
2	B	176	99%
3	C	156	99%
4	E	115	11% 100%
5	F	86	26% 98%
6	G	88	65% 95% 5%
6	X	88	22% 100%
7	H	112	10% 99%
8	I	112	22% 81% 5% 13%

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Mol	Chain	Length	Quality of chain
9	J	342	6% 98%
10	K	43	21% 98%
11	L	125	7% 98%
12	M	690	7% 99%
13	N	144	27% 98%
14	O	217	19% 99%
15	P	208	99%
16	Q	430	99%
17	S	70	97%
18	T	96	11% 100%
19	U	83	14% 96%
20	V	140	21% 98%
21	W	142	13% 96%
22	Y	67	37% 97%
23	Z	80	44% 99%
24	a	138	98%
25	b	126	16% 76% 22%
26	c	156	13% 99%
27	d	175	14% 99%
28	e	104	19% 97%
29	f	49	37% 98%
30	g	121	7% 99%
31	h	105	17% 96%
32	i	347	98%
33	j	115	6% 99%

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Mol	Chain	Length	Quality of chain
34	k	98	97%
35	l	606	5% 98%
36	m	175	21% 98%
37	n	56	32% 98%
38	o	128	15% 98%
39	p	178	11% 97%
40	r	459	99%
41	s	318	98%
42	u	171	13% 96%
43	v	124	35% 96%
44	w	320	13% 99%

2 Entry composition

There are 57 unique types of molecules in this entry. The entry contains 68093 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	669	422	127	119	1	0	0

- Molecule 6 is a protein called Acyl carrier protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	G	88	Total 689	C 445	N 102	O 137	S 5	0	0
6	X	88	Total 704	C 454	N 104	O 141	S 5	0	0

- Molecule 7 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 5.

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

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

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

- 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 2751	C 1783	N 481	O 478	S 9	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
10	K	43	Total 366	C 228	N 68	O 69	S 1	0	0

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

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

- 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
			5289	3316	922	1012	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
			1654	1054	278	312	10		

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
16	Q	430	Total	C	N	O	S	0	0
			3451	2208	594	625	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
			566	364	103	94	5		

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
20	V	140	Total	C	N	O	S	0	0
			1018	650	174	188	6		

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

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

- Molecule 22 is a protein called 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
			580	383	94	102	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
			633	412	106	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
			815	535	144	135	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
			1461	916	265	272	8		

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
33	j	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
			1295	864	188	230	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
			1530	980	279	263	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
			3629	2411	572	608	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
			2501	1672	385	423	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		

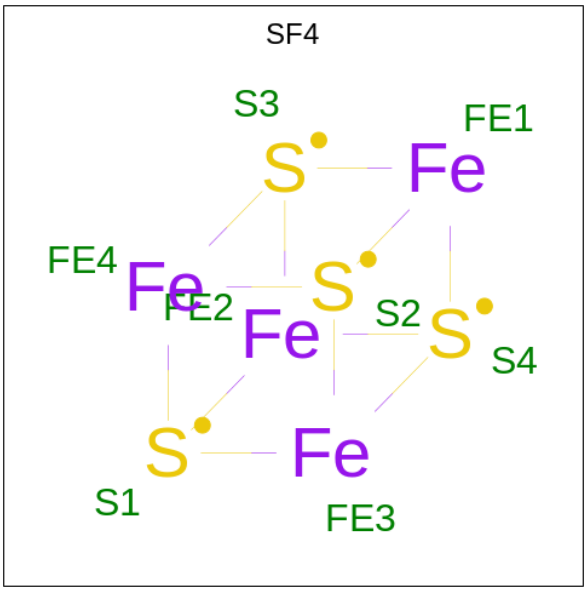
- Molecule 43 is a protein called Complex I-B18.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	v	124	Total	C	N	O	S	0	0
			1053	652	202	189	10		

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

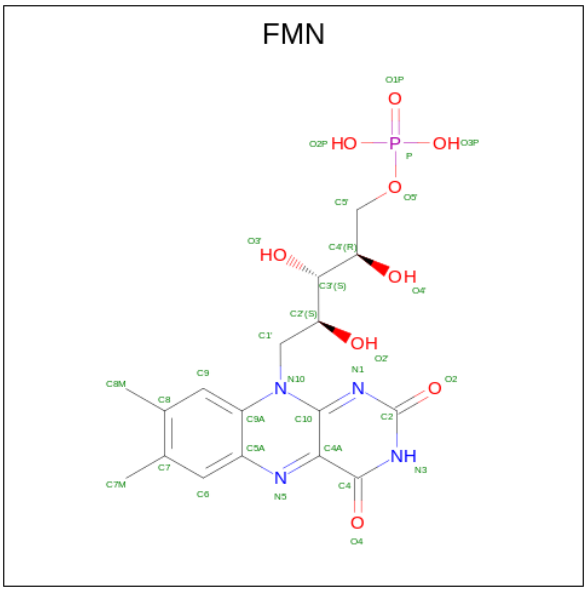
Mol	Chain	Residues	Atoms					AltConf	Trace
44	w	320	Total	C	N	O	S	0	0
			2575	1640	437	488	10		

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



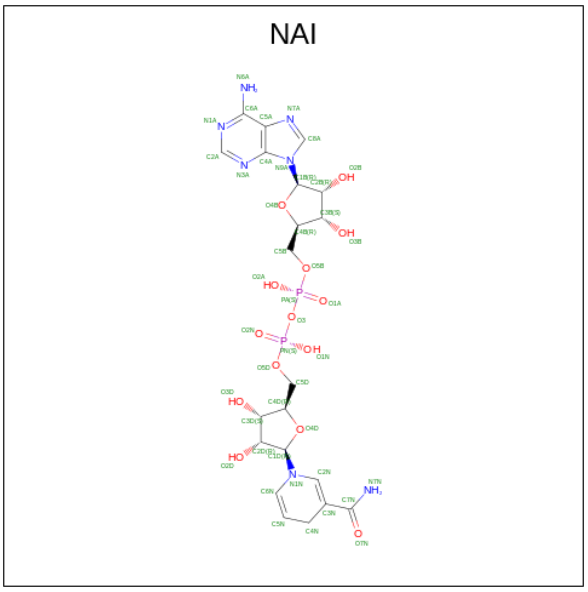
Mol	Chain	Residues	Atoms	AltConf
45	A	1	Total Fe S 8 4 4	0
45	B	1	Total Fe S 8 4 4	0
45	B	1	Total Fe S 8 4 4	0
45	C	1	Total Fe S 8 4 4	0
45	M	1	Total Fe S 8 4 4	0
45	M	1	Total Fe S 8 4 4	0

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



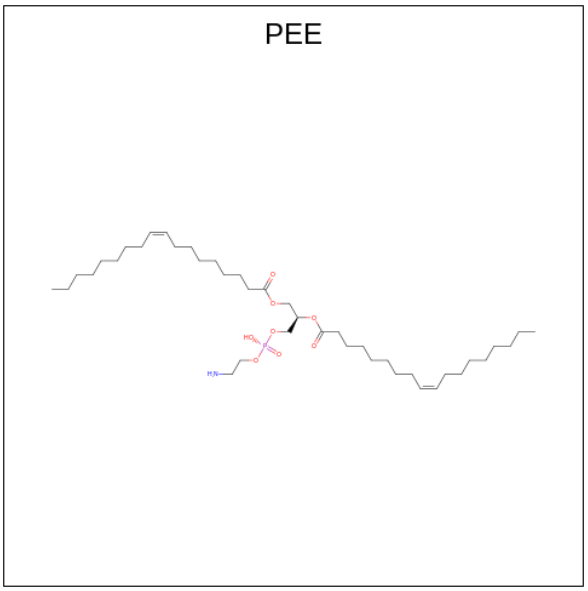
Mol	Chain	Residues	Atoms					AltConf
46	A	1	Total	C	N	O	P	0
			31	17	4	9	1	

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



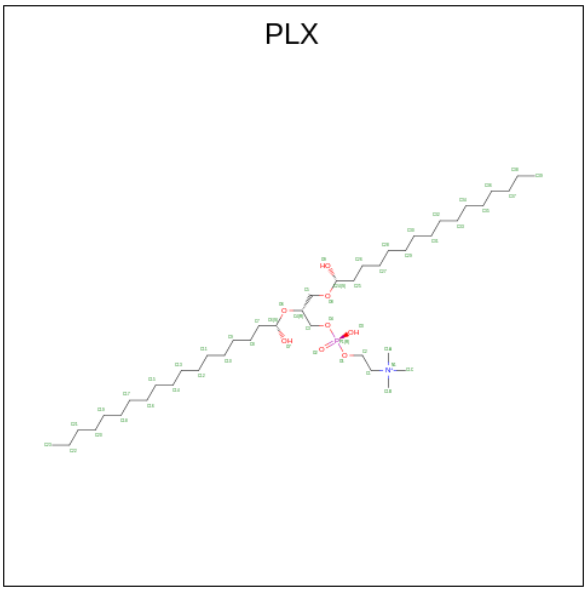
Mol	Chain	Residues	Atoms					AltConf
47	A	1	Total	C	N	O	P	0
			44	21	7	14	2	

- 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).



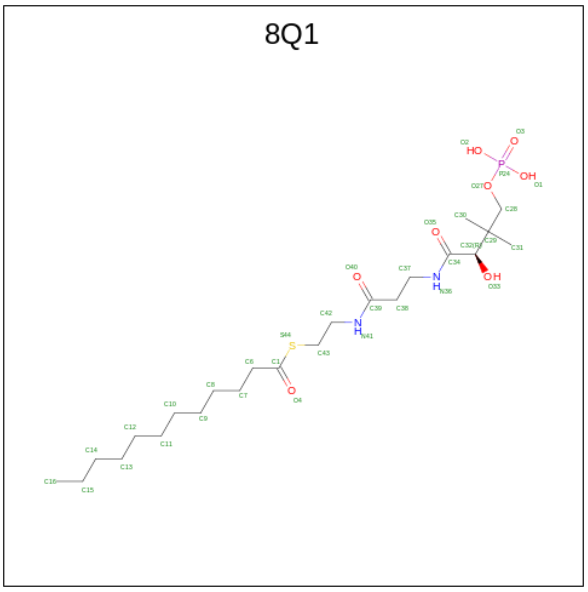
Mol	Chain	Residues	Atoms					AltConf
48	B	1	Total	C	N	O	P	0
			51	41	1	8	1	
48	C	1	Total	C	N	O	P	0
			47	37	1	8	1	
48	Q	1	Total	C	N	O	P	0
			47	37	1	8	1	
48	W	1	Total	C	N	O	P	0
			41	31	1	8	1	
48	b	1	Total	C	N	O	P	0
			46	36	1	8	1	
48	j	1	Total	C	N	O	P	0
			51	41	1	8	1	
48	l	1	Total	C	N	O	P	0
			40	30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



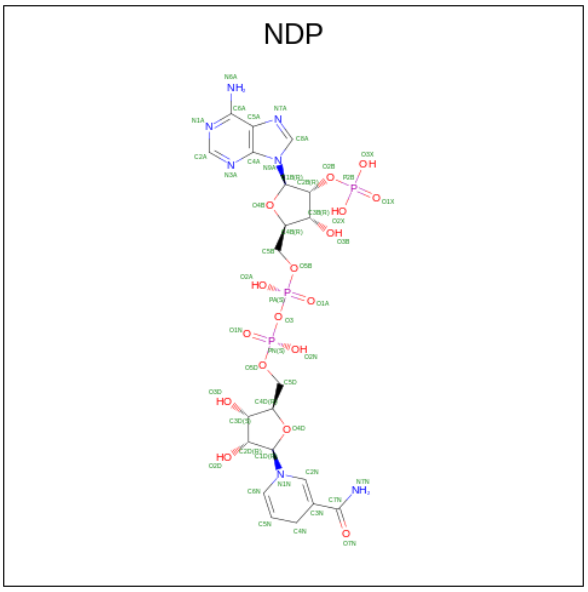
Mol	Chain	Residues	Atoms					AltConf
49	C	1	Total	C	N	O	P	0
			52	42	1	8	1	
49	a	1	Total	C	N	O	P	0
			52	42	1	8	1	
49	g	1	Total	C	N	O	P	0
			52	42	1	8	1	
49	j	1	Total	C	N	O	P	0
			52	42	1	8	1	
49	r	1	Total	C	N	O	P	0
			52	42	1	8	1	
49	r	1	Total	C	N	O	P	0
			52	42	1	8	1	

- Molecule 50 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).



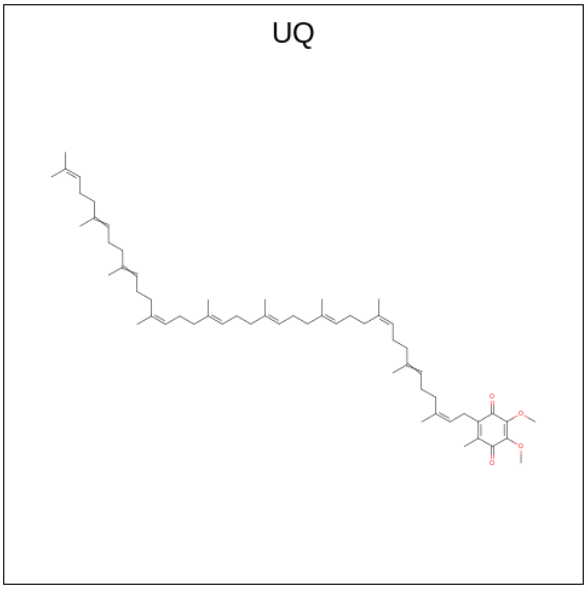
Mol	Chain	Residues	Atoms						AltConf
50	G	1	Total	C	N	O	P	S	0
			35	23	2	8	1	1	
50	X	1	Total	C	N	O	P	S	0
			35	23	2	8	1	1	

- Molecule 51 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).



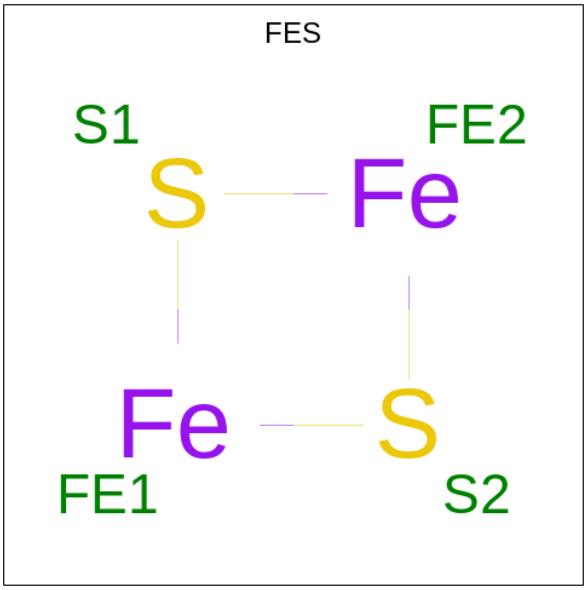
Mol	Chain	Residues	Atoms					AltConf
51	J	1	Total	C	N	O	P	0
			48	21	7	17	3	

- Molecule 52 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
52	J	1	Total C O 33 29 4	0
52	s	1	Total C O 38 34 4	0

- Molecule 53 is FE2/S2 (INORGANIC) CLUSTER (three-letter code: FES) (formula: Fe_2S_2) (labeled as "Ligand of Interest" by depositor).

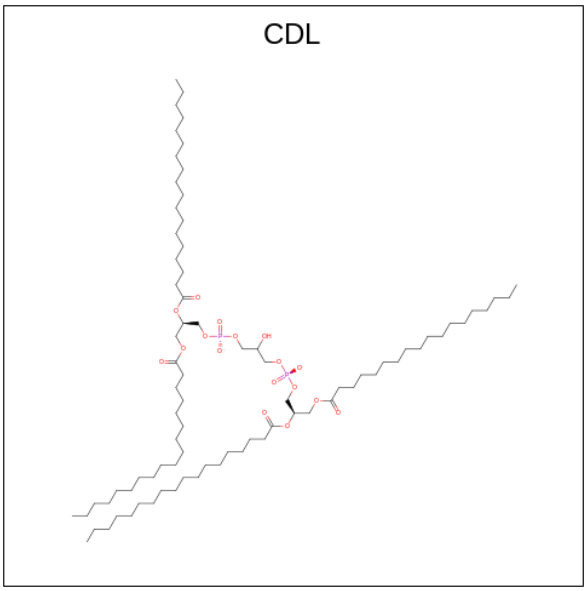


Mol	Chain	Residues	Atoms	AltConf
53	M	1	Total Fe S 4 2 2	0
53	O	1	Total Fe S 4 2 2	0

- Molecule 54 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

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

- Molecule 55 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
55	N	1	Total C O P 51 32 17 2	0
55	V	1	Total C O P 94 75 17 2	0
55	V	1	Total C O P 100 81 17 2	0
55	a	1	Total C O P 100 81 17 2	0
55	l	1	Total C O P 99 80 17 2	0
55	l	1	Total C O P 100 81 17 2	0

Continued on next page...

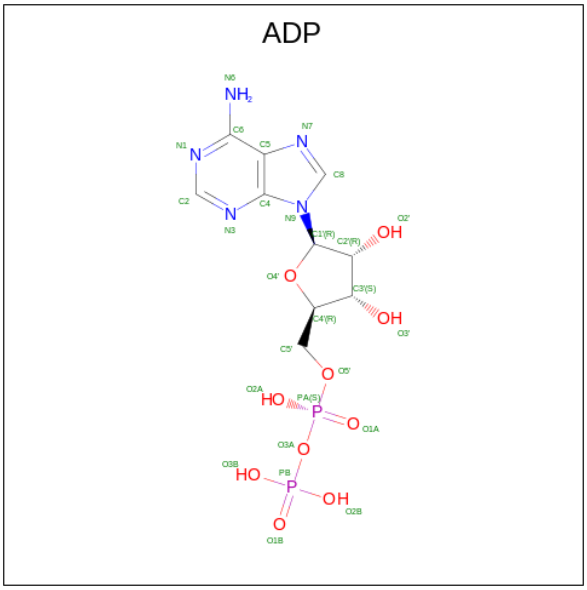
Continued from previous page...

Mol	Chain	Residues	Atoms				AltConf
55	m	1	Total	C	O	P	0
			100	81	17	2	
55	s	1	Total	C	O	P	0
			89	70	17	2	
55	u	1	Total	C	O	P	0
			55	36	17	2	
55	w	1	Total	C	O	P	0
			100	81	17	2	

- Molecule 56 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

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

- Molecule 57 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).



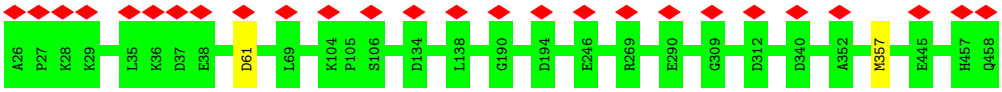
Mol	Chain	Residues	Atoms					AltConf
57	w	1	Total	C	N	O	P	0
			27	10	5	10	2	

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.

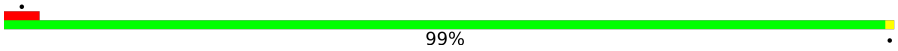
• Molecule 1: NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial

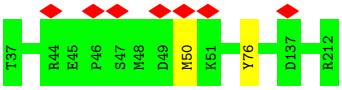
Chain A:



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

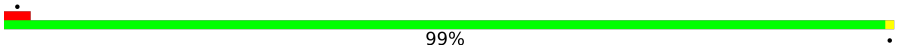
Chain B:

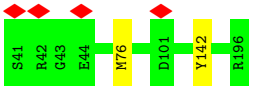




• Molecule 3: NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial

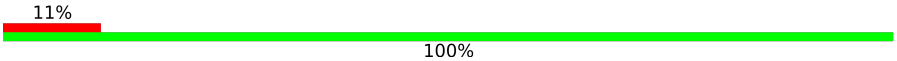
Chain C:

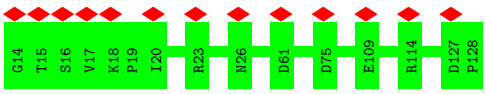




• Molecule 4: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6

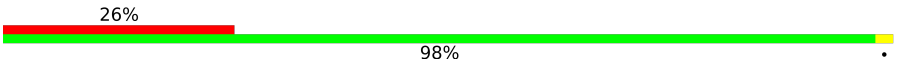
Chain E:

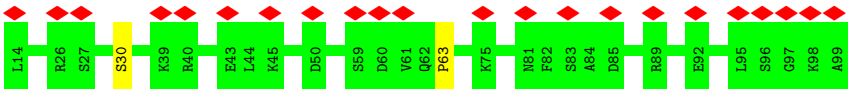




• Molecule 5: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2

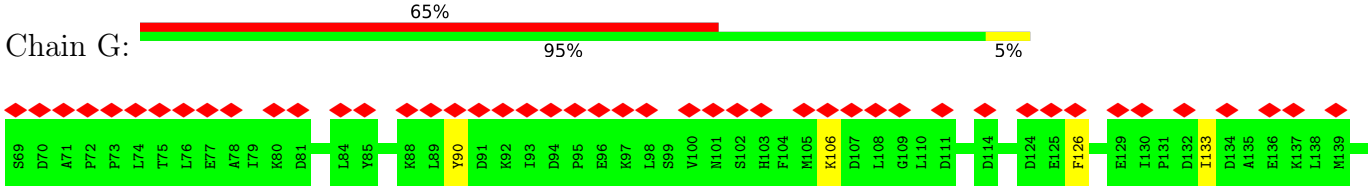
Chain F:





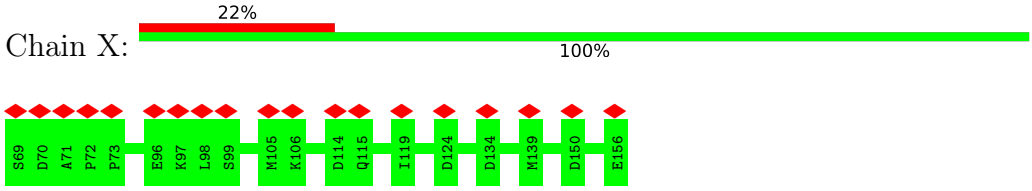
• Molecule 6: Acyl carrier protein

Chain G:



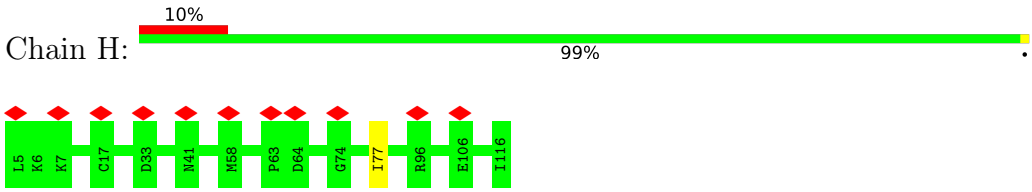
• Molecule 6: Acyl carrier protein

Chain X:



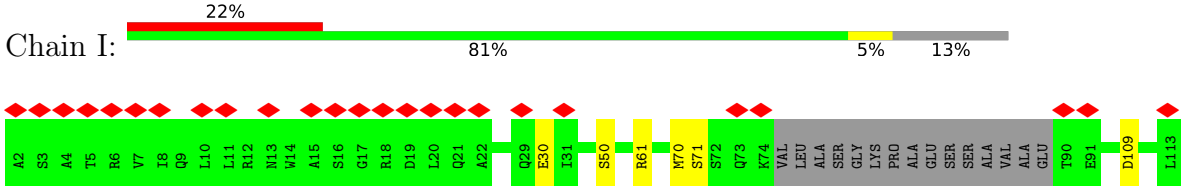
• Molecule 7: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 5

Chain H:



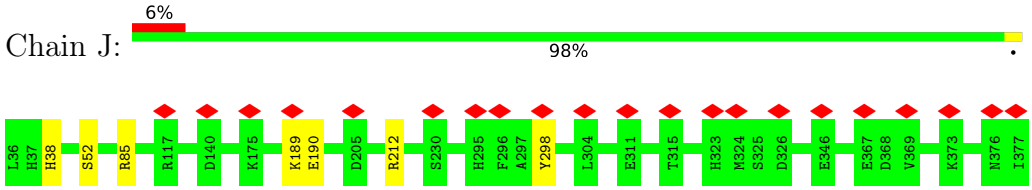
• Molecule 8: Complex I-B14.5a

Chain I:



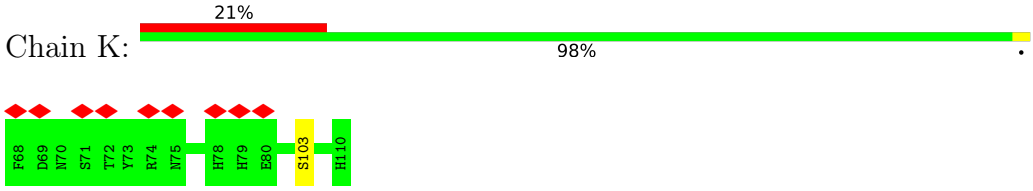
• Molecule 9: NADH dehydrogenase ubiquinone 1 alpha subcomplex subunit 9, mitochondrial

Chain J:



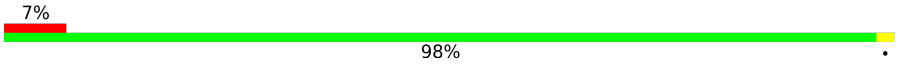
• Molecule 10: Complex I-9kD

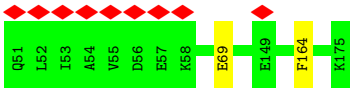
Chain K:



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

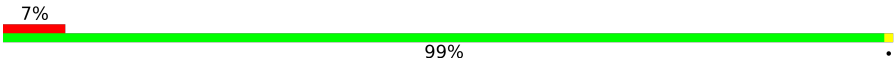
Chain L:

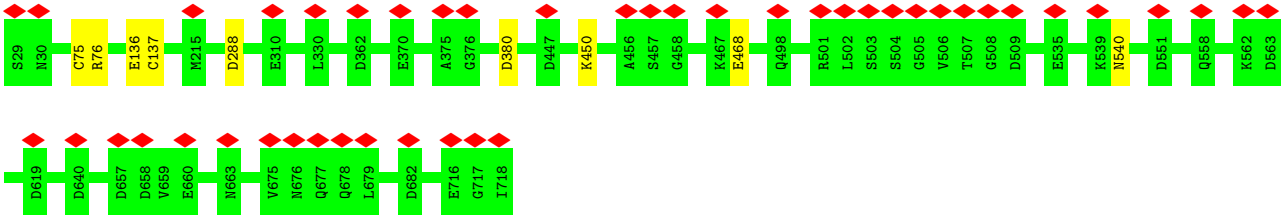




• Molecule 12: NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial

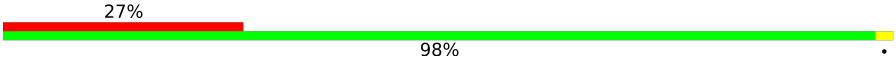
Chain M:

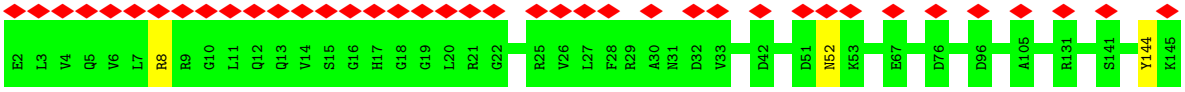




• Molecule 13: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12

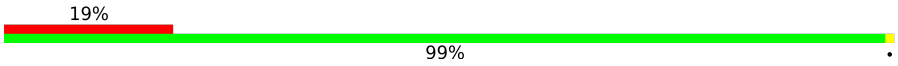
Chain N:

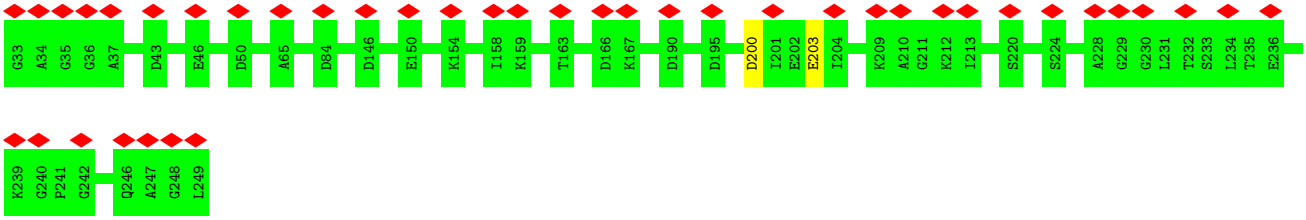




• Molecule 14: NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial

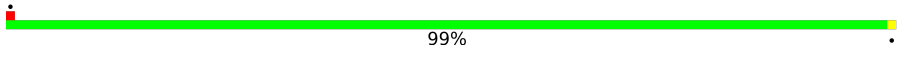
Chain O:

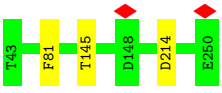




• Molecule 15: Complex I-30kD

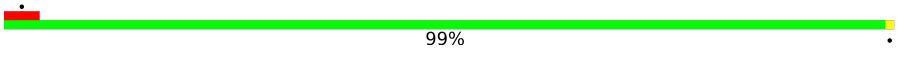
Chain P:

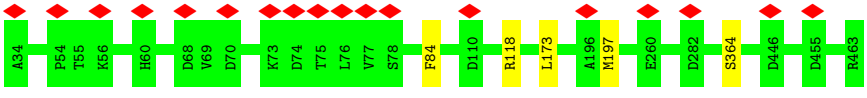




• Molecule 16: Complex I-49kD

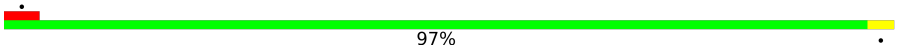
Chain Q:

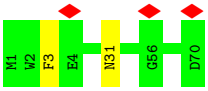




• Molecule 17: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1

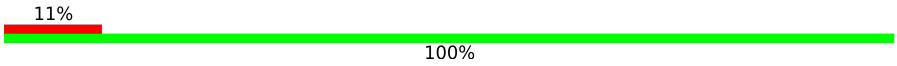
Chain S:

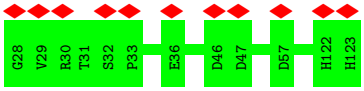




• Molecule 18: NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial

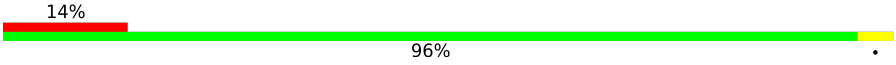
Chain T:

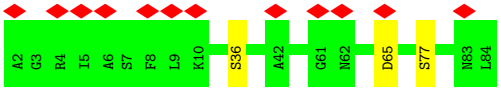




• Molecule 19: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3

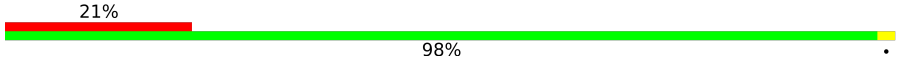
Chain U:

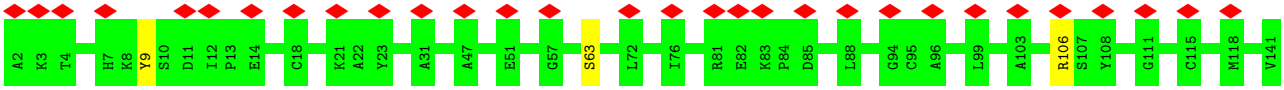




• Molecule 20: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11

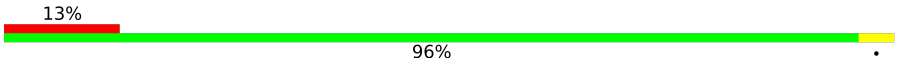
Chain V:

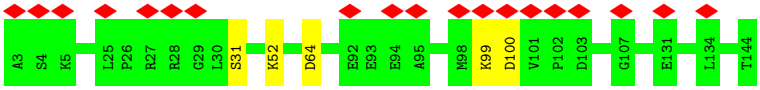




• Molecule 21: Complex I-B16.6

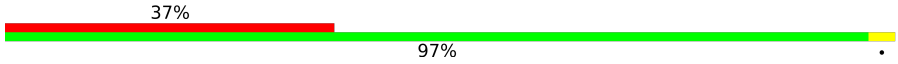
Chain W:

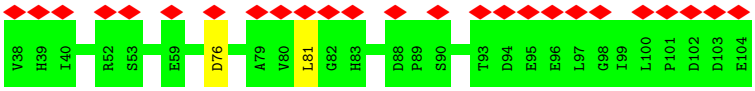




• Molecule 22: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 2, mitochondrial

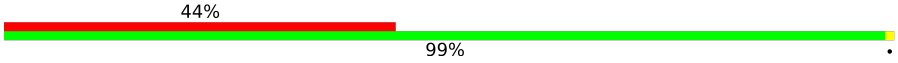
Chain Y:

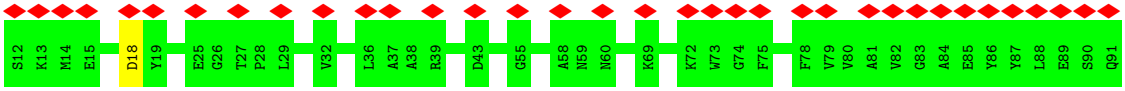




• Molecule 23: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 3

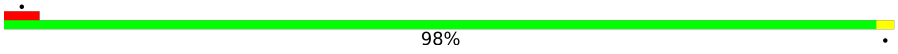
Chain Z:

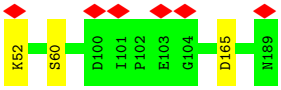




• Molecule 24: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 5, mitochondrial

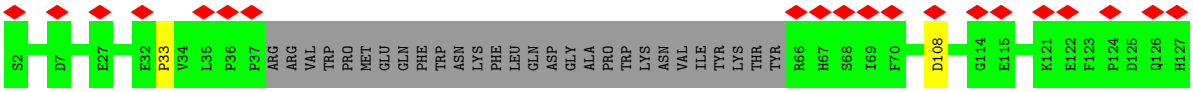
Chain a:





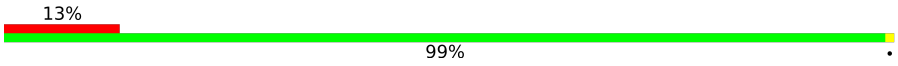
• Molecule 25: Complex I-B17

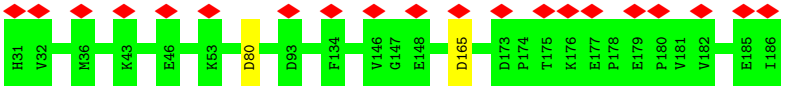
Chain b:



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

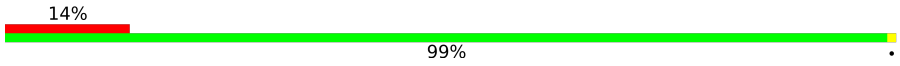
Chain c:

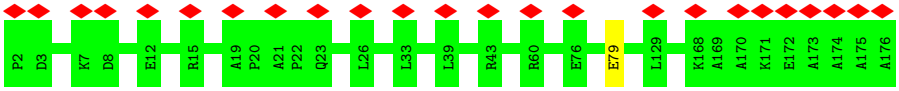




• Molecule 27: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10

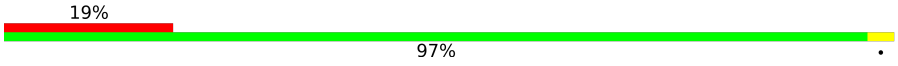
Chain d:

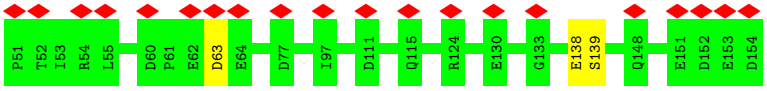




• Molecule 28: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 11, mitochondrial

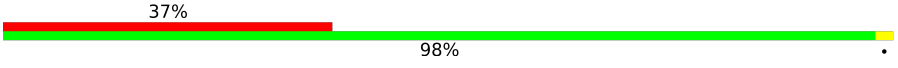
Chain e:

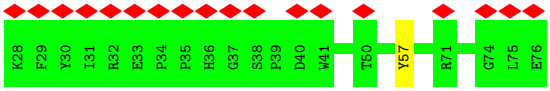




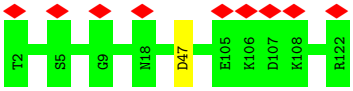
• Molecule 29: NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial

Chain f:

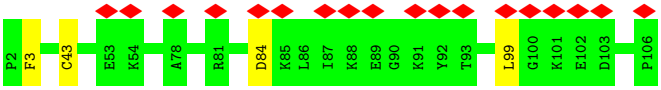




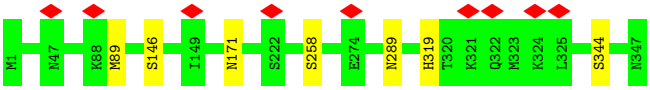
• Molecule 30: NADH dehydrogenase [ubiquinone] 1 subunit C2



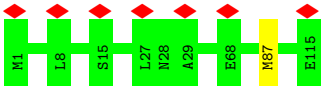
• Molecule 31: NADH dehydrogenase [ubiquinone] iron-sulfur protein 5



• Molecule 32: NADH-ubiquinone oxidoreductase chain 2

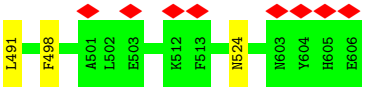


• Molecule 33: NADH-ubiquinone oxidoreductase chain 3

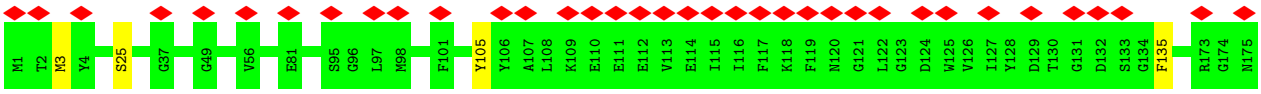


• Molecule 34: NADH-ubiquinone oxidoreductase chain 4L

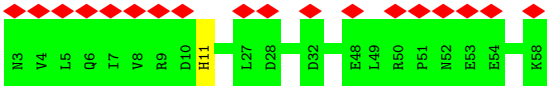
• Molecule 35: NADH-ubiquinone oxidoreductase chain 5



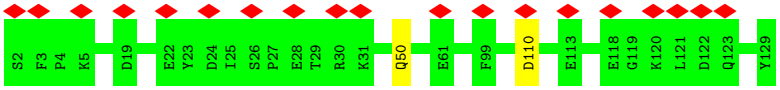
• Molecule 36: NADH-ubiquinone oxidoreductase chain 6



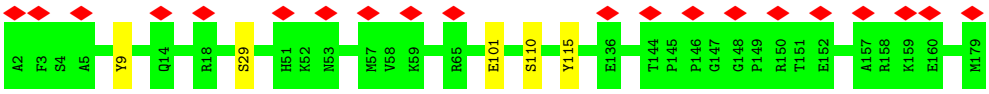
• Molecule 37: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 1



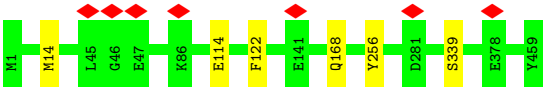
• Molecule 38: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4



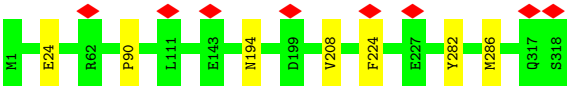
• Molecule 39: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 9



• Molecule 40: NADH-ubiquinone oxidoreductase chain 4

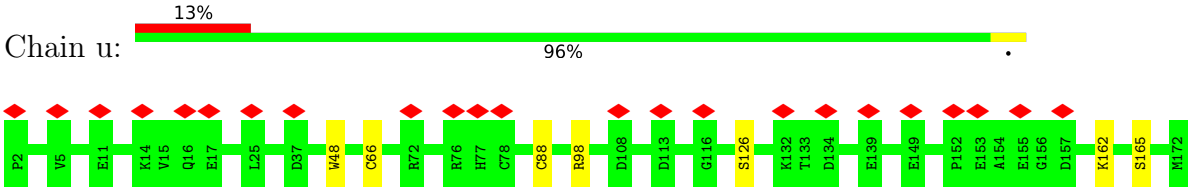


• Molecule 41: NADH-ubiquinone oxidoreductase chain 1



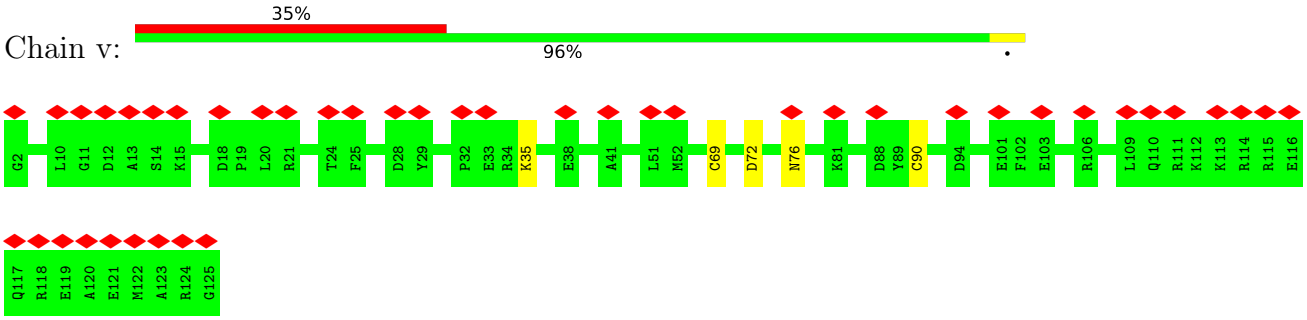
• Molecule 42: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8

Chain u:



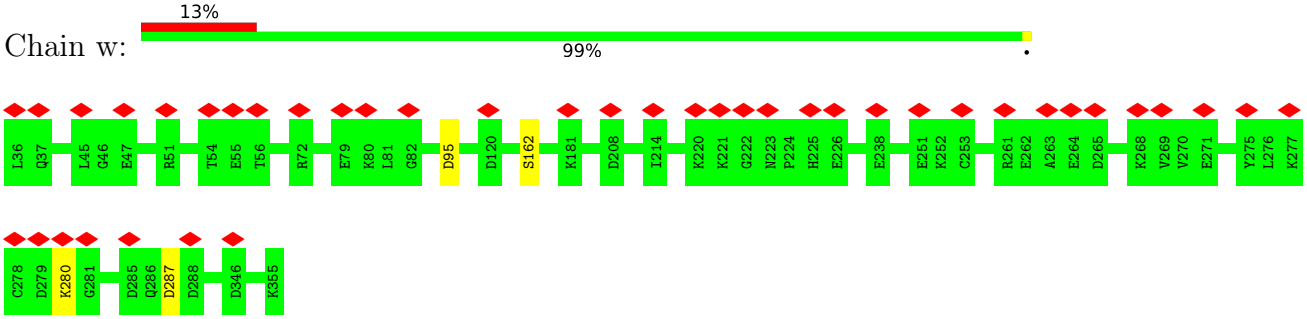
• Molecule 43: Complex I-B18

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	27755	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	0.246	Depositor
Minimum map value	-0.092	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.0305	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: FMN, PEE, 2MR, NDP, FES, SF4, MG, CDL, 8Q1, PLX, ADP, NAI, UQ, ZN

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	0.28	0/1279	0.51	0/1730
4	E	0.27	0/995	0.51	0/1340
5	F	0.26	0/680	0.56	0/918
6	G	0.26	0/701	0.47	0/951
6	X	0.25	0/716	0.41	0/968
7	H	0.26	0/929	0.44	0/1258
8	I	0.27	0/798	0.51	0/1079
9	J	0.26	0/2828	0.49	0/3834
10	K	0.27	0/377	0.49	0/509
11	L	0.26	0/1039	0.48	0/1403
12	M	0.26	0/5377	0.50	0/7287
13	N	0.25	0/1245	0.51	0/1694
14	O	0.26	0/1693	0.48	0/2306
15	P	0.29	0/1789	0.50	0/2436
16	Q	0.28	0/3530	0.49	0/4785
17	S	0.26	0/581	0.49	0/781
18	T	0.27	0/755	0.53	0/1018
19	U	0.26	0/664	0.43	0/912
20	V	0.26	0/1039	0.45	0/1407
21	W	0.28	0/1198	0.53	0/1617
22	Y	0.25	0/606	0.47	0/831
23	Z	0.26	0/652	0.47	0/884
24	a	0.27	0/1184	0.48	0/1603
25	b	0.26	0/840	0.50	0/1144
26	c	0.26	0/1371	0.46	0/1875
27	d	0.26	0/1494	0.51	0/2015
28	e	0.27	0/891	0.48	0/1210
29	f	0.27	0/386	0.48	0/523
30	g	0.28	0/1031	0.50	0/1394
31	h	0.28	0/889	0.51	0/1190

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
32	i	0.26	0/2773	0.46	0/3768
33	j	0.27	0/938	0.42	0/1281
34	k	0.26	0/759	0.44	0/1029
35	l	0.27	0/4929	0.44	0/6704
36	m	0.27	0/1328	0.45	0/1804
37	n	0.24	0/491	0.51	0/663
38	o	0.27	0/1092	0.50	0/1481
39	p	0.25	0/1586	0.49	0/2150
40	r	0.26	0/3721	0.46	0/5075
41	s	0.27	0/2573	0.47	0/3518
42	u	0.26	0/1436	0.49	0/1938
43	v	0.26	0/1076	0.54	0/1439
44	w	0.25	0/2635	0.48	0/3571
All	All	0.26	0/67743	0.48	0/91878

There are no bond length outliers.

There are no bond angle outliers.

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%)	420 (97%)	11 (3%)	0	100	100
2	B	174/176 (99%)	170 (98%)	4 (2%)	0	100	100
3	C	154/156 (99%)	149 (97%)	5 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	E	113/115 (98%)	109 (96%)	4 (4%)	0	100	100
5	F	84/86 (98%)	81 (96%)	2 (2%)	1 (1%)	13	41
6	G	86/88 (98%)	78 (91%)	7 (8%)	1 (1%)	13	41
6	X	86/88 (98%)	83 (96%)	3 (4%)	0	100	100
7	H	110/112 (98%)	102 (93%)	7 (6%)	1 (1%)	17	49
8	I	93/112 (83%)	85 (91%)	8 (9%)	0	100	100
9	J	340/342 (99%)	325 (96%)	14 (4%)	1 (0%)	41	72
10	K	41/43 (95%)	40 (98%)	1 (2%)	0	100	100
11	L	123/125 (98%)	120 (98%)	3 (2%)	0	100	100
12	M	688/690 (100%)	670 (97%)	18 (3%)	0	100	100
13	N	142/144 (99%)	139 (98%)	3 (2%)	0	100	100
14	O	215/217 (99%)	207 (96%)	8 (4%)	0	100	100
15	P	206/208 (99%)	200 (97%)	6 (3%)	0	100	100
16	Q	427/430 (99%)	411 (96%)	16 (4%)	0	100	100
17	S	68/70 (97%)	63 (93%)	5 (7%)	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%)	135 (98%)	3 (2%)	0	100	100
21	W	140/142 (99%)	135 (96%)	5 (4%)	0	100	100
22	Y	65/67 (97%)	61 (94%)	4 (6%)	0	100	100
23	Z	78/80 (98%)	74 (95%)	4 (5%)	0	100	100
24	a	136/138 (99%)	132 (97%)	4 (3%)	0	100	100
25	b	94/126 (75%)	90 (96%)	3 (3%)	1 (1%)	14	44
26	c	154/156 (99%)	144 (94%)	10 (6%)	0	100	100
27	d	173/175 (99%)	171 (99%)	2 (1%)	0	100	100
28	e	102/104 (98%)	95 (93%)	7 (7%)	0	100	100
29	f	47/49 (96%)	45 (96%)	2 (4%)	0	100	100
30	g	119/121 (98%)	113 (95%)	6 (5%)	0	100	100
31	h	103/105 (98%)	99 (96%)	4 (4%)	0	100	100
32	i	345/347 (99%)	332 (96%)	13 (4%)	0	100	100
33	j	113/115 (98%)	107 (95%)	6 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
34	k	96/98 (98%)	92 (96%)	4 (4%)	0	100 100
35	l	604/606 (100%)	575 (95%)	29 (5%)	0	100 100
36	m	173/175 (99%)	166 (96%)	6 (4%)	1 (1%)	25 57
37	n	54/56 (96%)	53 (98%)	1 (2%)	0	100 100
38	o	126/128 (98%)	124 (98%)	2 (2%)	0	100 100
39	p	176/178 (99%)	170 (97%)	6 (3%)	0	100 100
40	r	457/459 (100%)	451 (99%)	6 (1%)	0	100 100
41	s	316/318 (99%)	305 (96%)	9 (3%)	2 (1%)	25 57
42	u	169/171 (99%)	164 (97%)	5 (3%)	0	100 100
43	v	122/124 (98%)	118 (97%)	4 (3%)	0	100 100
44	w	318/320 (99%)	311 (98%)	7 (2%)	0	100 100
All	All	8174/8312 (98%)	7886 (96%)	280 (3%)	8 (0%)	54 82

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	G	133	ILE
41	s	208	VAL
9	J	38	HIS
41	s	90	PRO
5	F	63	PRO
7	H	77	ILE
25	b	33	PRO
36	m	25	SER

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%)	344 (99%)	2 (1%)	86 94
2	B	151/151 (100%)	149 (99%)	2 (1%)	69 84

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
3	C	132/132 (100%)	130 (98%)	2 (2%)	65 82
4	E	107/107 (100%)	107 (100%)	0	100 100
5	F	69/76 (91%)	68 (99%)	1 (1%)	67 83
6	G	75/81 (93%)	72 (96%)	3 (4%)	31 60
6	X	79/81 (98%)	79 (100%)	0	100 100
7	H	99/99 (100%)	99 (100%)	0	100 100
8	I	87/97 (90%)	81 (93%)	6 (7%)	15 45
9	J	296/296 (100%)	290 (98%)	6 (2%)	55 77
10	K	42/42 (100%)	41 (98%)	1 (2%)	49 74
11	L	113/113 (100%)	111 (98%)	2 (2%)	59 79
12	M	578/580 (100%)	569 (98%)	9 (2%)	62 81
13	N	130/130 (100%)	127 (98%)	3 (2%)	50 74
14	O	179/183 (98%)	177 (99%)	2 (1%)	73 86
15	P	190/190 (100%)	187 (98%)	3 (2%)	62 81
16	Q	367/370 (99%)	363 (99%)	4 (1%)	73 86
17	S	57/58 (98%)	55 (96%)	2 (4%)	36 65
18	T	79/79 (100%)	79 (100%)	0	100 100
19	U	69/69 (100%)	66 (96%)	3 (4%)	29 59
20	V	100/101 (99%)	97 (97%)	3 (3%)	41 68
21	W	122/123 (99%)	117 (96%)	5 (4%)	30 59
22	Y	61/62 (98%)	59 (97%)	2 (3%)	38 66
23	Z	60/62 (97%)	59 (98%)	1 (2%)	60 80
24	a	121/121 (100%)	118 (98%)	3 (2%)	47 72
25	b	89/119 (75%)	88 (99%)	1 (1%)	73 86
26	c	141/141 (100%)	139 (99%)	2 (1%)	67 83
27	d	155/155 (100%)	154 (99%)	1 (1%)	86 94
28	e	96/96 (100%)	93 (97%)	3 (3%)	40 68
29	f	36/45 (80%)	35 (97%)	1 (3%)	43 70
30	g	108/108 (100%)	107 (99%)	1 (1%)	78 90
31	h	93/93 (100%)	89 (96%)	4 (4%)	29 59
32	i	311/311 (100%)	304 (98%)	7 (2%)	50 74

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
33	j	100/100 (100%)	99 (99%)	1 (1%)	76 88
34	k	85/85 (100%)	82 (96%)	3 (4%)	36 65
35	l	537/540 (99%)	526 (98%)	11 (2%)	55 77
36	m	130/141 (92%)	127 (98%)	3 (2%)	50 74
37	n	53/53 (100%)	52 (98%)	1 (2%)	57 78
38	o	113/113 (100%)	111 (98%)	2 (2%)	59 79
39	p	158/159 (99%)	153 (97%)	5 (3%)	39 67
40	r	409/410 (100%)	403 (98%)	6 (2%)	65 82
41	s	274/275 (100%)	269 (98%)	5 (2%)	59 79
42	u	153/153 (100%)	146 (95%)	7 (5%)	27 57
43	v	110/111 (99%)	105 (96%)	5 (4%)	27 58
44	w	279/283 (99%)	275 (99%)	4 (1%)	67 83
All	All	7139/7240 (99%)	7001 (98%)	138 (2%)	59 78

All (138) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	61	ASP
1	A	357	MET
2	B	50	MET
2	B	76	TYR
3	C	76	MET
3	C	142	TYR
5	F	30	SER
6	G	90	TYR
6	G	106	LYS
6	G	126	PHE
8	I	30	GLU
8	I	50	SER
8	I	61	ARG
8	I	70	MET
8	I	71	SER
8	I	109	ASP
9	J	52	SER
9	J	85	ARG
9	J	189	LYS
9	J	190	GLU
9	J	212	ARG

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Mol	Chain	Res	Type
9	J	298	TYR
10	K	103	SER
11	L	69	GLU
11	L	164	PHE
12	M	75	CYS
12	M	76	ARG
12	M	136	GLU
12	M	137	CYS
12	M	288	ASP
12	M	380	ASP
12	M	450	LYS
12	M	468	GLU
12	M	540	ASN
13	N	8	ARG
13	N	52	ASN
13	N	144	TYR
14	O	200	ASP
14	O	203	GLU
15	P	81	PHE
15	P	145	THR
15	P	214	ASP
16	Q	84	PHE
16	Q	173	LEU
16	Q	197	MET
16	Q	364	SER
17	S	3	PHE
17	S	31	ASN
19	U	36	SER
19	U	65	ASP
19	U	77	SER
20	V	9	TYR
20	V	63	SER
20	V	106	ARG
21	W	31	SER
21	W	52	LYS
21	W	64	ASP
21	W	99	LYS
21	W	100	ASP
22	Y	76	ASP
22	Y	81	LEU
23	Z	18	ASP
24	a	52	LYS

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Mol	Chain	Res	Type
24	a	60	SER
24	a	165	ASP
25	b	108	ASP
26	c	80	ASP
26	c	165	ASP
27	d	79	GLU
28	e	63	ASP
28	e	138	GLU
28	e	139	SER
29	f	57	TYR
30	g	47	ASP
31	h	3	PHE
31	h	43	CYS
31	h	84	ASP
31	h	99	LEU
32	i	89	MET
32	i	146	SER
32	i	171	ASN
32	i	258	SER
32	i	289	ASN
32	i	319	HIS
32	i	344	SER
33	j	87	MET
34	k	7	ASN
34	k	44	SER
34	k	53	PHE
35	l	72	GLN
35	l	111	ASP
35	l	252	MET
35	l	314	MET
35	l	336	LYS
35	l	340	PHE
35	l	359	MET
35	l	393	ASP
35	l	491	LEU
35	l	498	PHE
35	l	524	ASN
36	m	3	MET
36	m	105	TYR
36	m	135	PHE
37	n	11	HIS
38	o	50	GLN

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Mol	Chain	Res	Type
38	o	110	ASP
39	p	9	TYR
39	p	29	SER
39	p	101	GLU
39	p	110	SER
39	p	115	TYR
40	r	14	MET
40	r	114	GLU
40	r	122	PHE
40	r	168	GLN
40	r	256	TYR
40	r	339	SER
41	s	24	GLU
41	s	194	ASN
41	s	224	PHE
41	s	282	TYR
41	s	286	MET
42	u	48	TRP
42	u	66	CYS
42	u	88	CYS
42	u	98	ARG
42	u	126	SER
42	u	162	LYS
42	u	165	SER
43	v	35	LYS
43	v	69	CYS
43	v	72	ASP
43	v	76	ASN
43	v	90	CYS
44	w	95	ASP
44	w	162	SER
44	w	280	LYS
44	w	287	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (21) such sidechains are listed below:

Mol	Chain	Res	Type
4	E	99	GLN
5	F	22	HIS
5	F	25	GLN
9	J	323	HIS
10	K	75	ASN

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Mol	Chain	Res	Type
14	O	182	ASN
16	Q	182	ASN
18	T	123	HIS
21	W	54	ASN
21	W	76	GLN
6	X	115	GLN
22	Y	83	HIS
31	h	27	HIS
32	i	77	ASN
33	j	10	ASN
35	l	135	ASN
35	l	274	GLN
35	l	320	ASN
39	p	141	GLN
42	u	64	ASN
44	w	132	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

1 non-standard protein/DNA/RNA residue is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
16	2MR	Q	118	16	10,12,13	1.98	1 (10%)	5,13,15	5.92	3 (60%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
16	2MR	Q	118	16	-	3/10/13/15	-

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
16	Q	118	2MR	CZ-NE	5.69	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	12.07	130.54	119.48
16	Q	118	2MR	CD-NE-CZ	4.26	131.39	123.41
16	Q	118	2MR	CQ2-NH2-CZ	3.18	130.89	123.86

There are no chirality outliers.

All (3) torsion outliers are listed below:

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

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 44 ligands modelled in this entry, 2 are monoatomic - leaving 42 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	$\#\|Z\|>2$
55	CDL	m	201	-	99,99,99	1.09	8 (8%)	105,111,111	0.84	4 (3%)
48	PEE	j	201	-	50,50,50	1.15	6 (12%)	53,55,55	0.96	2 (3%)
50	8Q1	G	201	-	31,34,34	1.68	6 (19%)	40,43,43	1.58	6 (15%)
55	CDL	w	401	-	99,99,99	1.08	8 (8%)	105,111,111	0.85	4 (3%)
55	CDL	V	201	-	93,93,99	1.11	9 (9%)	99,105,111	0.88	4 (4%)
49	PLX	a	202	-	51,51,51	1.15	4 (7%)	55,59,59	0.59	1 (1%)
55	CDL	u	201	-	54,54,99	1.37	9 (16%)	60,66,111	1.10	4 (6%)
57	ADP	w	402	-	24,29,29	3.13	6 (25%)	29,45,45	1.46	4 (13%)
48	PEE	l	701	-	39,39,50	1.30	6 (15%)	41,44,55	1.03	2 (4%)
48	PEE	B	303	-	50,50,50	1.16	6 (12%)	53,55,55	0.97	2 (3%)
46	FMN	A	502	-	33,33,33	1.09	2 (6%)	48,50,50	1.22	8 (16%)
48	PEE	s	401	-	40,40,50	1.15	5 (12%)	43,45,55	1.01	2 (4%)
45	SF4	B	301	2	0,12,12	-	-	-		
48	PEE	b	201	-	45,45,50	1.21	6 (13%)	48,50,55	0.99	2 (4%)
45	SF4	M	802	12	0,12,12	-	-	-		
48	PEE	r	501	-	50,50,50	1.16	6 (12%)	53,55,55	0.98	2 (3%)
49	PLX	j	202	-	51,51,51	1.14	4 (7%)	55,59,59	0.63	1 (1%)
45	SF4	C	301	3	0,12,12	-	-	-		
51	NDP	J	401	-	45,52,52	4.57	20 (44%)	53,80,80	1.95	7 (13%)
52	UQ	J	402	-	33,33,63	3.45	9 (27%)	40,43,79	2.75	13 (32%)
49	PLX	r	503	-	51,51,51	1.14	3 (5%)	55,59,59	0.63	1 (1%)
50	8Q1	X	201	-	31,34,34	1.73	6 (19%)	40,43,43	1.57	7 (17%)
55	CDL	l	702	-	98,98,99	1.09	8 (8%)	104,110,111	0.89	4 (3%)
55	CDL	s	402	-	88,88,99	1.14	9 (10%)	94,100,111	0.93	4 (4%)
48	PEE	l	704	-	50,50,50	1.16	6 (12%)	53,55,55	0.92	2 (3%)
55	CDL	V	202	-	99,99,99	1.09	8 (8%)	105,111,111	0.86	4 (3%)
52	UQ	s	403	-	38,38,63	3.52	10 (26%)	46,49,79	2.86	15 (32%)
55	CDL	l	703	-	99,99,99	1.08	8 (8%)	105,111,111	0.87	4 (3%)
49	PLX	C	303	-	51,51,51	1.15	4 (7%)	55,59,59	0.61	1 (1%)
49	PLX	r	502	-	51,51,51	1.15	5 (9%)	55,59,59	0.61	1 (1%)
48	PEE	Q	501	-	46,46,50	1.20	6 (13%)	49,51,55	1.01	2 (4%)
55	CDL	a	201	-	99,99,99	1.09	8 (8%)	105,111,111	0.84	4 (3%)
55	CDL	N	201	-	50,50,99	1.41	8 (16%)	56,62,111	1.12	4 (7%)
45	SF4	M	801	12	0,12,12	-	-	-		
53	FES	M	803	12	0,4,4	-	-	-		
45	SF4	A	501	1	0,12,12	-	-	-		

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
47	NAI	A	503	-	42,48,48	4.96	18 (42%)	47,73,73	1.34	7 (14%)
48	PEE	C	302	-	46,46,50	1.20	6 (13%)	49,51,55	1.01	2 (4%)
48	PEE	W	201	-	40,40,50	1.15	5 (12%)	43,45,55	0.97	2 (4%)
49	PLX	g	201	-	51,51,51	1.14	4 (7%)	55,59,59	0.63	1 (1%)
53	FES	O	301	14	0,4,4	-	-	-		
45	SF4	B	302	2	0,12,12	-	-	-		

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
55	CDL	m	201	-	-	61/110/110/110	-
48	PEE	j	201	-	-	30/54/54/54	-
50	8Q1	G	201	-	-	10/41/41/41	-
55	CDL	w	401	-	-	55/110/110/110	-
55	CDL	V	201	-	-	54/104/104/110	-
49	PLX	a	202	-	-	31/55/55/55	-
55	CDL	u	201	-	-	39/65/65/110	-
57	ADP	w	402	-	-	4/12/32/32	0/3/3/3
48	PEE	l	701	-	-	28/43/43/54	-
48	PEE	B	303	-	-	23/54/54/54	-
46	FMN	A	502	-	-	5/18/18/18	0/3/3/3
48	PEE	s	401	-	-	22/44/44/54	-
48	PEE	b	201	-	-	31/49/49/54	-
45	SF4	B	301	2	-	-	0/6/5/5
49	PLX	j	202	-	-	23/55/55/55	-
48	PEE	r	501	-	-	27/54/54/54	-
45	SF4	M	802	12	-	-	0/6/5/5
51	NDP	J	401	-	-	4/30/77/77	0/4/5/5
52	UQ	J	402	-	-	9/27/51/87	0/1/1/1
45	SF4	C	301	3	-	-	0/6/5/5
49	PLX	r	503	-	-	29/55/55/55	-
50	8Q1	X	201	-	-	16/41/41/41	-
55	CDL	l	702	-	-	64/109/109/110	-
55	CDL	s	402	-	-	52/99/99/110	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
48	PEE	l	704	-	-	29/54/54/54	-
55	CDL	V	202	-	-	64/110/110/110	-
52	UQ	s	403	-	-	17/33/57/87	0/1/1/1
55	CDL	l	703	-	-	55/110/110/110	-
49	PLX	C	303	-	-	30/55/55/55	-
49	PLX	r	502	-	-	30/55/55/55	-
48	PEE	Q	501	-	-	21/50/50/54	-
55	CDL	a	201	-	-	57/110/110/110	-
55	CDL	N	201	-	-	32/61/61/110	-
45	SF4	M	801	12	-	-	0/6/5/5
53	FES	M	803	12	-	-	0/1/1/1
47	NAI	A	503	-	-	8/25/72/72	0/5/5/5
48	PEE	C	302	-	-	23/50/50/54	-
45	SF4	A	501	1	-	-	0/6/5/5
48	PEE	W	201	-	-	20/44/44/54	-
49	PLX	g	201	-	-	30/55/55/55	-
53	FES	O	301	14	-	-	0/1/1/1
45	SF4	B	302	2	-	-	0/6/5/5

All (242) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	A	503	NAI	O4B-C1B	16.27	1.63	1.41
47	A	503	NAI	C2B-C1B	-15.51	1.30	1.53
51	J	401	NDP	C3B-C2B	-13.08	1.23	1.52
51	J	401	NDP	C6N-C5N	12.37	1.55	1.33
51	J	401	NDP	O4D-C4D	10.67	1.68	1.45
47	A	503	NAI	C3D-C4D	-10.39	1.26	1.53
51	J	401	NDP	C3D-C4D	-9.98	1.27	1.53
52	J	402	UQ	C18-C19	9.63	1.56	1.33
52	s	403	UQ	C18-C19	9.56	1.55	1.33
52	J	402	UQ	C13-C14	9.28	1.55	1.33
52	s	403	UQ	C13-C14	9.14	1.54	1.33
52	s	403	UQ	C23-C24	9.07	1.54	1.33
52	J	402	UQ	C8-C9	9.04	1.54	1.33
57	w	402	ADP	C3'-C4'	-8.90	1.30	1.53
52	s	403	UQ	C8-C9	8.79	1.54	1.33
51	J	401	NDP	O4B-C1B	8.38	1.52	1.41
47	A	503	NAI	O4B-C4B	-8.33	1.26	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
51	J	401	NDP	O4B-C4B	-7.86	1.27	1.45
57	w	402	ADP	O4'-C4'	7.80	1.62	1.45
52	J	402	UQ	C23-C24	7.79	1.54	1.32
52	s	403	UQ	C28-C29	7.73	1.54	1.32
47	A	503	NAI	C2D-C1D	-7.57	1.29	1.53
51	J	401	NDP	C2N-C3N	7.30	1.55	1.34
47	A	503	NAI	O4D-C4D	6.85	1.60	1.45
57	w	402	ADP	O4'-C1'	-6.82	1.31	1.41
47	A	503	NAI	C2D-C3D	5.98	1.69	1.53
47	A	503	NAI	C7N-N7N	5.73	1.48	1.33
51	J	401	NDP	P2B-O2B	5.63	1.69	1.59
47	A	503	NAI	O4D-C1D	5.49	1.55	1.42
50	X	201	8Q1	C34-N36	5.47	1.45	1.33
50	G	201	8Q1	C34-N36	5.42	1.45	1.33
50	X	201	8Q1	C39-N41	5.37	1.45	1.33
51	J	401	NDP	C3B-C4B	5.29	1.66	1.53
50	G	201	8Q1	C39-N41	5.25	1.45	1.33
47	A	503	NAI	C4N-C3N	-5.12	1.39	1.49
51	J	401	NDP	O4D-C1D	-4.85	1.30	1.42
51	J	401	NDP	C6N-N1N	4.85	1.49	1.37
47	A	503	NAI	O2B-C2B	4.51	1.53	1.43
51	J	401	NDP	O2D-C2D	-4.22	1.33	1.43
51	J	401	NDP	C7N-N7N	4.21	1.44	1.33
51	J	401	NDP	C6A-N6A	4.08	1.48	1.34
47	A	503	NAI	C6N-C5N	4.04	1.40	1.33
57	w	402	ADP	C6-N6	3.85	1.48	1.34
48	s	401	PEE	C18-C19	3.74	1.53	1.31
46	A	502	FMN	C4A-N5	3.74	1.38	1.30
48	l	704	PEE	C18-C19	3.73	1.53	1.31
48	B	303	PEE	C18-C19	3.73	1.53	1.31
48	l	701	PEE	C18-C19	3.73	1.53	1.31
48	b	201	PEE	C18-C19	3.72	1.53	1.31
48	C	302	PEE	C18-C19	3.72	1.53	1.31
48	r	501	PEE	C18-C19	3.71	1.53	1.31
48	W	201	PEE	C18-C19	3.70	1.53	1.31
48	Q	501	PEE	C18-C19	3.70	1.53	1.31
48	j	201	PEE	C18-C19	3.69	1.53	1.31
48	j	201	PEE	C39-C38	3.64	1.52	1.31
47	A	503	NAI	C7N-C3N	3.64	1.56	1.48
48	r	501	PEE	C39-C38	3.64	1.52	1.31
48	l	701	PEE	C39-C38	3.63	1.52	1.31
48	l	704	PEE	C39-C38	3.62	1.52	1.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	Q	501	PEE	C39-C38	3.61	1.52	1.31
48	b	201	PEE	C39-C38	3.61	1.52	1.31
48	C	302	PEE	C39-C38	3.61	1.52	1.31
48	B	303	PEE	C39-C38	3.61	1.52	1.31
47	A	503	NAI	C6A-N6A	3.60	1.47	1.34
55	l	702	CDL	OA8-CA7	3.52	1.43	1.33
55	N	201	CDL	OA8-CA7	3.52	1.43	1.33
55	u	201	CDL	OA8-CA7	3.50	1.43	1.33
55	l	703	CDL	OA8-CA7	3.47	1.43	1.33
55	s	402	CDL	OA8-CA7	3.46	1.43	1.33
55	V	201	CDL	OA8-CA7	3.45	1.43	1.33
55	V	202	CDL	OA8-CA7	3.44	1.43	1.33
55	a	201	CDL	OA8-CA7	3.42	1.43	1.33
55	m	201	CDL	OA8-CA7	3.40	1.43	1.33
55	w	401	CDL	OA8-CA7	3.39	1.43	1.33
57	w	402	ADP	O2'-C2'	-3.36	1.35	1.43
47	A	503	NAI	C4N-C5N	-3.27	1.40	1.48
55	m	201	CDL	OA6-CA5	3.12	1.43	1.34
55	V	201	CDL	OA6-CA5	3.10	1.43	1.34
55	a	201	CDL	OB8-CB7	3.06	1.42	1.33
57	w	402	ADP	O3'-C3'	3.06	1.50	1.43
55	V	202	CDL	OB6-CB5	3.05	1.42	1.34
55	l	702	CDL	OB8-CB7	3.04	1.42	1.33
55	w	401	CDL	OB6-CB5	3.03	1.42	1.34
55	a	201	CDL	OB6-CB5	3.03	1.42	1.34
55	s	402	CDL	OA6-CA5	3.03	1.42	1.34
55	u	201	CDL	OB8-CB7	3.03	1.42	1.33
55	m	201	CDL	OB6-CB5	3.03	1.42	1.34
55	N	201	CDL	OB6-CB5	3.01	1.42	1.34
55	V	202	CDL	OB8-CB7	2.99	1.42	1.33
55	l	702	CDL	OB6-CB5	2.99	1.42	1.34
55	l	703	CDL	OB6-CB5	2.99	1.42	1.34
55	m	201	CDL	OB8-CB7	2.99	1.42	1.33
55	N	201	CDL	OB8-CB7	2.98	1.42	1.33
55	V	201	CDL	OB6-CB5	2.98	1.42	1.34
55	s	402	CDL	OB6-CB5	2.97	1.42	1.34
55	u	201	CDL	OA6-CA5	2.97	1.42	1.34
51	J	401	NDP	O3D-C3D	2.96	1.49	1.43
55	w	401	CDL	OB8-CB7	2.95	1.42	1.33
55	u	201	CDL	OB6-CB5	2.95	1.42	1.34
51	J	401	NDP	C7N-C3N	2.95	1.55	1.48
55	l	702	CDL	OA6-CA5	2.94	1.42	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	N	201	CDL	OA6-CA5	2.94	1.42	1.34
55	a	201	CDL	OA6-CA5	2.93	1.42	1.34
55	s	402	CDL	OB8-CB7	2.93	1.41	1.33
55	V	202	CDL	OA6-CA5	2.92	1.42	1.34
55	l	703	CDL	OA6-CA5	2.92	1.42	1.34
55	l	703	CDL	OB8-CB7	2.91	1.41	1.33
55	V	201	CDL	OB8-CB7	2.89	1.41	1.33
55	w	401	CDL	OA6-CA5	2.88	1.42	1.34
49	a	202	PLX	O6-C4	-2.80	1.40	1.44
52	s	403	UQ	C6-C1	2.75	1.54	1.46
49	r	503	PLX	O6-C4	-2.73	1.41	1.44
49	g	201	PLX	O6-C4	-2.71	1.41	1.44
49	C	303	PLX	O6-C4	-2.70	1.41	1.44
52	J	402	UQ	C6-C1	2.69	1.54	1.46
49	r	502	PLX	O6-C4	-2.67	1.41	1.44
49	j	202	PLX	O6-C4	-2.62	1.41	1.44
50	X	201	8Q1	C6-C1	2.56	1.53	1.50
52	s	403	UQ	C7-C8	2.54	1.54	1.50
47	A	503	NAI	O3B-C3B	-2.53	1.37	1.43
48	r	501	PEE	O3-C30	2.53	1.40	1.33
52	J	402	UQ	C7-C8	2.52	1.54	1.50
48	Q	501	PEE	O2-C2	-2.49	1.40	1.46
48	j	201	PEE	O3-C30	2.49	1.40	1.33
55	w	401	CDL	OA6-CA4	-2.48	1.40	1.46
48	s	401	PEE	O3-C30	2.48	1.40	1.33
48	B	303	PEE	O3-C30	2.47	1.40	1.33
48	W	201	PEE	O2-C2	-2.47	1.40	1.46
50	X	201	8Q1	C1-S44	2.47	1.82	1.76
48	B	303	PEE	O2-C2	-2.46	1.40	1.46
48	l	704	PEE	O3-C30	2.46	1.40	1.33
55	a	201	CDL	OA6-CA4	-2.46	1.40	1.46
48	W	201	PEE	O3-C30	2.45	1.40	1.33
48	C	302	PEE	O3-C30	2.45	1.40	1.33
47	A	503	NAI	PN-O5D	2.45	1.69	1.59
48	b	201	PEE	O3-C30	2.44	1.40	1.33
48	l	701	PEE	O3-C30	2.44	1.40	1.33
55	u	201	CDL	OA6-CA4	-2.44	1.40	1.46
48	l	704	PEE	O2-C2	-2.44	1.40	1.46
48	Q	501	PEE	O3-C30	2.43	1.40	1.33
46	A	502	FMN	C10-N1	2.41	1.38	1.33
55	V	202	CDL	OA6-CA4	-2.40	1.40	1.46
49	j	202	PLX	C7-C6	2.40	1.55	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	C	302	PEE	O2-C2	-2.40	1.40	1.46
48	r	501	PEE	O2-C2	-2.40	1.40	1.46
55	s	402	CDL	OA6-CA4	-2.39	1.40	1.46
55	N	201	CDL	OA6-CA4	-2.39	1.40	1.46
55	l	702	CDL	OA6-CA4	-2.39	1.40	1.46
49	g	201	PLX	C7-C6	2.38	1.55	1.50
51	J	401	NDP	O2B-C2B	2.37	1.52	1.44
48	j	201	PEE	O2-C2	-2.36	1.40	1.46
48	s	401	PEE	O2-C2	-2.35	1.40	1.46
49	r	502	PLX	C7-C6	2.35	1.55	1.50
49	a	202	PLX	C7-C6	2.35	1.55	1.50
48	l	701	PEE	O2-C2	-2.33	1.40	1.46
50	G	201	8Q1	C1-S44	2.33	1.81	1.76
48	b	201	PEE	O2-C2	-2.33	1.40	1.46
55	l	703	CDL	OA6-CA4	-2.33	1.40	1.46
48	C	302	PEE	O2-C10	2.32	1.40	1.34
49	r	503	PLX	C7-C6	2.32	1.55	1.50
50	G	201	8Q1	O40-C39	-2.30	1.18	1.23
51	J	401	NDP	C2D-C3D	2.30	1.59	1.53
49	C	303	PLX	C7-C6	2.29	1.55	1.50
52	s	403	UQ	O4-C4	-2.29	1.18	1.23
48	B	303	PEE	O2-C10	2.29	1.40	1.34
48	b	201	PEE	O2-C10	2.29	1.40	1.34
50	X	201	8Q1	O35-C34	-2.28	1.18	1.23
48	s	401	PEE	O2-C10	2.28	1.40	1.34
48	l	701	PEE	O2-C10	2.27	1.40	1.34
48	j	201	PEE	O2-C10	2.26	1.40	1.34
48	W	201	PEE	O2-C10	2.26	1.40	1.34
55	V	201	CDL	OB6-CB4	-2.25	1.41	1.46
50	X	201	8Q1	O40-C39	-2.25	1.18	1.23
55	l	703	CDL	OB6-CB4	-2.25	1.41	1.46
55	V	202	CDL	PB2-OB2	2.24	1.68	1.59
48	l	704	PEE	O2-C10	2.24	1.40	1.34
55	m	201	CDL	OA6-CA4	-2.24	1.41	1.46
50	G	201	8Q1	O35-C34	-2.24	1.18	1.23
55	V	201	CDL	PB2-OB2	2.23	1.68	1.59
48	Q	501	PEE	O2-C10	2.23	1.40	1.34
55	a	201	CDL	PB2-OB2	2.23	1.68	1.59
52	J	402	UQ	O4-C4	-2.22	1.18	1.23
55	m	201	CDL	OB6-CB4	-2.22	1.41	1.46
55	l	702	CDL	OB6-CB4	-2.22	1.41	1.46
55	l	703	CDL	PB2-OB2	2.22	1.68	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	l	702	CDL	PB2-OB2	2.21	1.68	1.59
55	m	201	CDL	PB2-OB5	2.20	1.68	1.59
55	N	201	CDL	PB2-OB2	2.20	1.68	1.59
47	A	503	NAI	C5B-C4B	2.20	1.58	1.51
55	u	201	CDL	OB6-CB4	-2.20	1.41	1.46
48	r	501	PEE	O2-C10	2.19	1.40	1.34
55	m	201	CDL	PB2-OB2	2.19	1.68	1.59
55	a	201	CDL	PB2-OB5	2.19	1.68	1.59
55	N	201	CDL	OB6-CB4	-2.19	1.41	1.46
55	u	201	CDL	PB2-OB2	2.19	1.68	1.59
55	s	402	CDL	OB6-CB4	-2.18	1.41	1.46
55	l	702	CDL	PB2-OB5	2.18	1.68	1.59
55	w	401	CDL	PB2-OB2	2.18	1.68	1.59
48	l	704	PEE	O3-C3	-2.16	1.40	1.45
55	w	401	CDL	PB2-OB5	2.16	1.68	1.59
55	s	402	CDL	PB2-OB5	2.16	1.68	1.59
55	V	202	CDL	PB2-OB5	2.16	1.68	1.59
55	s	402	CDL	PB2-OB2	2.15	1.68	1.59
55	u	201	CDL	PB2-OB5	2.15	1.68	1.59
50	G	201	8Q1	C6-C1	2.15	1.53	1.50
55	V	201	CDL	PB2-OB5	2.14	1.68	1.59
49	a	202	PLX	P1-O4	2.14	1.68	1.59
48	Q	501	PEE	O3-C3	-2.13	1.40	1.45
49	g	201	PLX	P1-O4	2.12	1.67	1.59
55	N	201	CDL	PB2-OB5	2.12	1.67	1.59
51	J	401	NDP	O7N-C7N	-2.12	1.19	1.24
49	r	503	PLX	P1-O4	2.11	1.67	1.59
48	W	201	PEE	O3-C3	-2.11	1.40	1.45
55	l	703	CDL	PB2-OB5	2.11	1.67	1.59
55	a	201	CDL	OB6-CB4	-2.11	1.41	1.46
51	J	401	NDP	PA-O5B	2.11	1.67	1.59
48	r	501	PEE	O3-C3	-2.10	1.40	1.45
49	C	303	PLX	P1-O4	2.10	1.67	1.59
52	s	403	UQ	O3-CM3	-2.10	1.40	1.45
49	j	202	PLX	P1-O4	2.09	1.67	1.59
55	w	401	CDL	OB6-CB4	-2.09	1.41	1.46
48	C	302	PEE	O3-C3	-2.09	1.40	1.45
55	V	202	CDL	OB6-CB4	-2.09	1.41	1.46
49	r	502	PLX	P1-O4	2.09	1.67	1.59
52	s	403	UQ	O1-C1	-2.08	1.18	1.23
48	j	201	PEE	O3-C3	-2.08	1.40	1.45
55	V	201	CDL	OA6-CA4	-2.07	1.41	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	b	201	PEE	O3-C3	-2.07	1.40	1.45
55	V	201	CDL	C11-CA5	2.06	1.56	1.50
48	l	701	PEE	O3-C3	-2.05	1.40	1.45
49	C	303	PLX	P1-O1	2.04	1.67	1.59
49	r	502	PLX	P1-O1	2.03	1.67	1.59
48	B	303	PEE	O3-C3	-2.03	1.40	1.45
49	r	502	PLX	C25-C24	2.03	1.55	1.50
49	a	202	PLX	P1-O1	2.02	1.67	1.59
48	s	401	PEE	O3-C3	-2.02	1.40	1.45
49	j	202	PLX	P1-O1	2.02	1.67	1.59
55	u	201	CDL	C11-CA5	2.01	1.56	1.50
52	J	402	UQ	O1-C1	-2.01	1.19	1.23
52	J	402	UQ	O3-CM3	-2.01	1.40	1.45
55	s	402	CDL	C11-CA5	2.01	1.56	1.50
49	g	201	PLX	P1-O1	2.00	1.67	1.59

All (133) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
52	J	402	UQ	C7-C8-C9	-8.41	112.79	126.79
52	s	403	UQ	C7-C8-C9	-7.71	113.96	126.79
51	J	401	NDP	C3N-C2N-N1N	-7.44	112.48	123.10
51	J	401	NDP	C1D-N1N-C2N	-7.23	109.08	121.11
52	s	403	UQ	C12-C13-C14	-6.30	112.48	127.66
52	J	402	UQ	C17-C18-C19	-6.17	112.80	127.66
50	G	201	8Q1	C6-C1-S44	6.06	120.52	113.46
52	s	403	UQ	C22-C23-C24	-5.96	113.30	127.66
52	s	403	UQ	C17-C18-C19	-5.91	113.43	127.66
52	J	402	UQ	C12-C13-C14	-5.61	114.14	127.66
50	X	201	8Q1	C6-C1-S44	5.44	119.78	113.46
51	J	401	NDP	C1D-N1N-C6N	-5.09	109.87	120.83
52	s	403	UQ	C11-C9-C8	-4.67	111.66	121.12
57	w	402	ADP	N3-C2-N1	-4.49	121.66	128.68
52	s	403	UQ	C10-C9-C8	-4.46	112.23	123.68
52	s	403	UQ	C27-C28-C29	-4.33	112.95	127.75
52	s	403	UQ	C25-C24-C23	-4.33	112.57	123.68
52	J	402	UQ	C22-C23-C24	-4.33	112.96	127.75
47	A	503	NAI	N3A-C2A-N1A	-4.30	121.95	128.68
55	s	402	CDL	OA6-CA5-C11	4.21	120.58	111.50
52	s	403	UQ	C21-C19-C18	-4.19	112.63	121.12
55	V	202	CDL	OB6-CB5-C51	4.16	120.46	111.50
55	l	702	CDL	OA6-CA5-C11	4.15	120.45	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
52	J	402	UQ	C20-C19-C18	-4.14	113.06	123.68
55	l	703	CDL	OB6-CB5-C51	4.13	120.41	111.50
48	b	201	PEE	O2-C10-C11	4.11	120.36	111.50
52	J	402	UQ	C10-C9-C8	-4.10	113.15	123.68
55	V	201	CDL	OA6-CA5-C11	4.09	120.33	111.50
48	s	401	PEE	O2-C10-C11	4.09	120.31	111.50
48	r	501	PEE	O2-C10-C11	4.08	120.30	111.50
52	s	403	UQ	C15-C14-C13	-4.07	113.23	123.68
51	J	401	NDP	N3A-C2A-N1A	-4.06	122.34	128.68
55	V	201	CDL	OB6-CB5-C51	4.03	120.18	111.50
52	J	402	UQ	C16-C14-C13	-4.02	112.99	121.12
48	l	701	PEE	O2-C10-C11	4.01	120.15	111.50
55	s	402	CDL	OB6-CB5-C51	4.00	120.11	111.50
52	s	403	UQ	C20-C19-C18	-3.99	113.44	123.68
52	s	403	UQ	C16-C14-C13	-3.97	113.08	121.12
52	s	403	UQ	C26-C24-C23	-3.97	113.08	121.12
48	C	302	PEE	O2-C10-C11	3.97	120.05	111.50
55	m	201	CDL	OB6-CB5-C51	3.96	120.03	111.50
55	a	201	CDL	OB6-CB5-C51	3.96	120.03	111.50
48	B	303	PEE	O2-C10-C11	3.95	120.02	111.50
55	l	702	CDL	OB6-CB5-C51	3.95	120.01	111.50
55	w	401	CDL	OB6-CB5-C51	3.95	120.01	111.50
55	u	201	CDL	OA6-CA5-C11	3.95	120.00	111.50
48	W	201	PEE	O2-C10-C11	3.94	120.00	111.50
52	J	402	UQ	C21-C19-C18	-3.94	113.14	121.12
48	j	201	PEE	O2-C10-C11	3.94	119.99	111.50
55	u	201	CDL	OB6-CB5-C51	3.92	119.95	111.50
48	Q	501	PEE	O2-C10-C11	3.91	119.93	111.50
55	l	703	CDL	OA6-CA5-C11	3.91	119.92	111.50
55	N	201	CDL	OA6-CA5-C11	3.90	119.91	111.50
55	N	201	CDL	OB6-CB5-C51	3.85	119.80	111.50
55	a	201	CDL	OA6-CA5-C11	3.80	119.68	111.50
48	l	704	PEE	O2-C10-C11	3.79	119.67	111.50
55	V	202	CDL	OA6-CA5-C11	3.74	119.56	111.50
55	w	401	CDL	OA6-CA5-C11	3.72	119.53	111.50
52	J	402	UQ	C15-C14-C13	-3.71	114.16	123.68
52	J	402	UQ	C11-C9-C8	-3.69	113.64	121.12
55	m	201	CDL	OA6-CA5-C11	3.62	119.30	111.50
50	G	201	8Q1	O4-C1-C6	-3.61	119.73	123.99
52	J	402	UQ	C25-C24-C23	-3.41	112.80	122.65
47	A	503	NAI	C3D-C2D-C1D	3.34	107.78	101.43
52	J	402	UQ	C26-C24-C23	-3.32	113.06	122.65

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
52	s	403	UQ	C30-C29-C28	-3.29	113.13	122.65
52	s	403	UQ	C31-C29-C28	-3.28	113.17	122.65
55	u	201	CDL	OA8-CA7-C31	3.22	119.83	111.38
46	A	502	FMN	C4-N3-C2	-3.21	119.71	125.64
50	X	201	8Q1	C37-C38-C39	2.96	117.29	112.36
50	G	201	8Q1	C37-C38-C39	2.94	117.26	112.36
57	w	402	ADP	O4'-C1'-C2'	-2.92	102.66	106.93
50	X	201	8Q1	O4-C1-C6	-2.92	120.55	123.99
47	A	503	NAI	C4D-O4D-C1D	-2.90	103.08	109.47
57	w	402	ADP	PA-O3A-PB	-2.84	123.07	132.83
48	B	303	PEE	O3-C30-C31	2.81	120.72	111.91
55	l	702	CDL	OA8-CA7-C31	2.78	120.62	111.91
51	J	401	NDP	PN-O3-PA	-2.76	123.35	132.83
55	N	201	CDL	OB8-CB7-C71	2.74	120.50	111.91
48	r	501	PEE	O3-C30-C31	2.71	120.42	111.91
55	m	201	CDL	OB8-CB7-C71	2.70	120.39	111.91
48	Q	501	PEE	O3-C30-C31	2.70	120.38	111.91
48	C	302	PEE	O3-C30-C31	2.68	120.32	111.91
55	w	401	CDL	OB8-CB7-C71	2.67	120.28	111.91
55	N	201	CDL	OA8-CA7-C31	2.66	120.27	111.91
48	j	201	PEE	O3-C30-C31	2.66	120.27	111.91
46	A	502	FMN	C4A-C4-N3	2.66	119.95	113.19
55	m	201	CDL	OA8-CA7-C31	2.66	120.25	111.91
55	s	402	CDL	OA8-CA7-C31	2.65	120.22	111.91
55	a	201	CDL	OB8-CB7-C71	2.63	120.18	111.91
55	l	702	CDL	OB8-CB7-C71	2.63	120.17	111.91
47	A	503	NAI	C4A-C5A-N7A	-2.63	106.66	109.40
55	l	703	CDL	OB8-CB7-C71	2.63	120.15	111.91
55	V	201	CDL	OB8-CB7-C71	2.62	120.13	111.91
47	A	503	NAI	PN-O3-PA	-2.61	123.85	132.83
46	A	502	FMN	O4-C4-C4A	-2.61	119.68	126.60
55	s	402	CDL	OB8-CB7-C71	2.59	120.05	111.91
47	A	503	NAI	C3B-C2B-C1B	2.59	104.88	100.98
49	r	503	PLX	C1A-N1-C1	2.59	120.51	109.92
55	u	201	CDL	OB8-CB7-C71	2.59	120.02	111.91
55	a	201	CDL	OA8-CA7-C31	2.58	120.02	111.91
55	V	202	CDL	OB8-CB7-C71	2.58	120.01	111.91
55	V	202	CDL	OA8-CA7-C31	2.56	119.95	111.91
50	X	201	8Q1	C43-S44-C1	2.56	109.85	101.87
48	s	401	PEE	O3-C30-C31	2.55	119.92	111.91
48	l	704	PEE	O3-C30-C31	2.55	119.91	111.91
51	J	401	NDP	C4A-C5A-N7A	-2.55	106.74	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
55	w	401	CDL	OA8-CA7-C31	2.55	119.91	111.91
48	b	201	PEE	O3-C30-C31	2.54	119.88	111.91
48	W	201	PEE	O3-C30-C31	2.52	119.81	111.91
49	g	201	PLX	C1A-N1-C1	2.50	120.14	109.92
48	l	701	PEE	O3-C30-C31	2.50	119.75	111.91
46	A	502	FMN	C4A-C10-N10	2.48	120.10	116.48
52	J	402	UQ	CM5-C5-C6	-2.47	120.38	124.40
55	l	703	CDL	OA8-CA7-C31	2.46	119.64	111.91
49	j	202	PLX	C1A-N1-C1	2.46	119.98	109.92
49	a	202	PLX	C1A-N1-C1	2.42	119.80	109.92
49	r	502	PLX	C1A-N1-C1	2.38	119.65	109.92
55	V	201	CDL	OA8-CA7-C31	2.36	119.31	111.91
49	C	303	PLX	C1A-N1-C1	2.34	119.48	109.92
50	G	201	8Q1	C38-C39-N41	2.31	120.31	116.42
46	A	502	FMN	C4A-C10-N1	-2.29	119.42	124.73
47	A	503	NAI	C2D-C3D-C4D	2.28	107.08	102.64
50	X	201	8Q1	O4-C1-S44	-2.27	119.67	122.61
50	X	201	8Q1	C32-C34-N36	2.25	121.05	116.58
57	w	402	ADP	C4-C5-N7	-2.21	107.09	109.40
50	X	201	8Q1	C38-C39-N41	2.21	120.14	116.42
50	G	201	8Q1	O4-C1-S44	-2.20	119.76	122.61
46	A	502	FMN	C5A-C9A-N10	2.20	120.22	117.95
51	J	401	NDP	C2D-C3D-C4D	2.16	106.84	102.64
46	A	502	FMN	C10-C4A-N5	-2.16	120.28	124.86
50	G	201	8Q1	C43-S44-C1	2.10	108.41	101.87
46	A	502	FMN	C9A-C5A-N5	-2.08	120.17	122.43

There are no chirality outliers.

All (1033) 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	C5'-O5'-P-O1P
46	A	502	FMN	C5'-O5'-P-O2P
47	A	503	NAI	C5B-O5B-PA-O3
48	C	302	PEE	C11-C10-O2-C2
48	C	302	PEE	C1-O3P-P-O1P
48	Q	501	PEE	C11-C10-O2-C2
48	Q	501	PEE	O4-C10-O2-C2
48	Q	501	PEE	C4-O4P-P-O1P
48	W	201	PEE	C1-O3P-P-O2P

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Mol	Chain	Res	Type	Atoms
48	W	201	PEE	C1-O3P-P-O1P
48	W	201	PEE	C1-O3P-P-O4P
48	j	201	PEE	C1-O3P-P-O1P
48	j	201	PEE	C4-O4P-P-O3P
48	j	201	PEE	C4-O4P-P-O2P
48	j	201	PEE	C4-O4P-P-O1P
48	l	701	PEE	C11-C10-O2-C2
48	l	701	PEE	C1-O3P-P-O2P
48	l	701	PEE	C1-O3P-P-O1P
48	l	701	PEE	C1-O3P-P-O4P
48	l	704	PEE	O3P-C1-C2-O2
48	l	704	PEE	C4-O4P-P-O2P
48	l	704	PEE	C4-O4P-P-O1P
48	r	501	PEE	C1-O3P-P-O1P
48	r	501	PEE	C4-O4P-P-O3P
48	r	501	PEE	C4-O4P-P-O2P
48	r	501	PEE	C4-O4P-P-O1P
48	s	401	PEE	C4-O4P-P-O3P
48	s	401	PEE	C4-O4P-P-O2P
49	C	303	PLX	N1-C1-C2-O1
49	C	303	PLX	O9-C24-O8-C5
49	a	202	PLX	O7-C6-O6-C4
49	a	202	PLX	C5-C4-O6-C6
49	a	202	PLX	C3-O4-P1-O1
49	a	202	PLX	C3-O4-P1-O2
49	a	202	PLX	C3-O4-P1-O3
49	a	202	PLX	C2-O1-P1-O2
49	a	202	PLX	C2-O1-P1-O3
49	a	202	PLX	O9-C24-C25-C26
49	g	201	PLX	O6-C4-C5-O8
49	g	201	PLX	O9-C24-C25-C26
49	j	202	PLX	O7-C6-C7-C8
49	j	202	PLX	O9-C24-O8-C5
49	j	202	PLX	O9-C24-C25-C26
49	r	502	PLX	O7-C6-C7-C8
49	r	502	PLX	O7-C6-O6-C4
49	r	502	PLX	C2-O1-P1-O2
49	r	502	PLX	C25-C24-O8-C5
49	r	502	PLX	O9-C24-C25-C26
49	r	503	PLX	O7-C6-O6-C4
49	r	503	PLX	C2-O1-P1-O2
49	r	503	PLX	O9-C24-O8-C5

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Mol	Chain	Res	Type	Atoms
50	G	201	8Q1	C42-C43-S44-C1
50	G	201	8Q1	C28-O27-P24-O3
50	G	201	8Q1	C28-O27-P24-O2
50	G	201	8Q1	C28-O27-P24-O1
50	X	201	8Q1	C1-C6-C7-C8
50	X	201	8Q1	O4-C1-S44-C43
50	X	201	8Q1	C6-C1-S44-C43
50	X	201	8Q1	O27-C28-C29-C30
50	X	201	8Q1	O27-C28-C29-C32
50	X	201	8Q1	C28-O27-P24-O3
50	X	201	8Q1	C28-O27-P24-O2
50	X	201	8Q1	C28-O27-P24-O1
52	J	402	UQ	C7-C8-C9-C10
52	J	402	UQ	C7-C8-C9-C11
52	J	402	UQ	C12-C13-C14-C16
52	J	402	UQ	C17-C18-C19-C20
52	J	402	UQ	C19-C21-C22-C23
52	s	403	UQ	C7-C8-C9-C10
52	s	403	UQ	C7-C8-C9-C11
52	s	403	UQ	C18-C19-C21-C22
52	s	403	UQ	C22-C23-C24-C26
52	s	403	UQ	C23-C24-C26-C27
55	N	201	CDL	CA2-OA2-PA1-OA5
55	N	201	CDL	OA5-CA3-CA4-OA6
55	N	201	CDL	CB2-OB2-PB2-OB3
55	N	201	CDL	CB3-OB5-PB2-OB3
55	V	201	CDL	CB2-C1-CA2-OA2
55	V	201	CDL	CA2-OA2-PA1-OA3
55	V	201	CDL	CA2-OA2-PA1-OA4
55	V	201	CDL	CA2-OA2-PA1-OA5
55	V	201	CDL	C11-CA5-OA6-CA4
55	V	201	CDL	CB2-OB2-PB2-OB3
55	V	201	CDL	CB3-OB5-PB2-OB3
55	V	201	CDL	CB3-OB5-PB2-OB4
55	V	202	CDL	CB2-C1-CA2-OA2
55	V	202	CDL	CA2-C1-CB2-OB2
55	V	202	CDL	CB2-OB2-PB2-OB3
55	a	201	CDL	CB2-C1-CA2-OA2
55	a	201	CDL	CA2-C1-CB2-OB2
55	a	201	CDL	CB2-OB2-PB2-OB3
55	a	201	CDL	CB3-OB5-PB2-OB3
55	a	201	CDL	CB3-OB5-PB2-OB4

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Mol	Chain	Res	Type	Atoms
55	l	702	CDL	CA2-C1-CB2-OB2
55	l	702	CDL	CA2-OA2-PA1-OA5
55	l	702	CDL	OA5-CA3-CA4-OA6
55	l	702	CDL	OA9-CA7-OA8-CA6
55	l	702	CDL	C31-CA7-OA8-CA6
55	l	702	CDL	CB2-OB2-PB2-OB3
55	l	702	CDL	CB2-OB2-PB2-OB4
55	l	703	CDL	CB2-C1-CA2-OA2
55	l	703	CDL	CA3-OA5-PA1-OA3
55	l	703	CDL	CA3-OA5-PA1-OA4
55	m	201	CDL	CA2-OA2-PA1-OA3
55	m	201	CDL	CA3-OA5-PA1-OA4
55	m	201	CDL	OA5-CA3-CA4-OA6
55	m	201	CDL	CB2-OB2-PB2-OB3
55	m	201	CDL	CB3-OB5-PB2-OB2
55	m	201	CDL	CB3-OB5-PB2-OB3
55	m	201	CDL	CB3-OB5-PB2-OB4
55	s	402	CDL	CA2-OA2-PA1-OA3
55	s	402	CDL	CA2-OA2-PA1-OA4
55	s	402	CDL	OA5-CA3-CA4-OA6
55	s	402	CDL	C31-CA7-OA8-CA6
55	s	402	CDL	CB3-OB5-PB2-OB2
55	u	201	CDL	CB2-C1-CA2-OA2
55	u	201	CDL	CA2-C1-CB2-OB2
55	u	201	CDL	CB2-OB2-PB2-OB3
55	u	201	CDL	CB2-OB2-PB2-OB4
55	u	201	CDL	CB3-OB5-PB2-OB3
55	u	201	CDL	CB3-OB5-PB2-OB4
55	w	401	CDL	OA6-CA4-CA6-OA8
55	w	401	CDL	CB2-OB2-PB2-OB3
55	w	401	CDL	CB2-OB2-PB2-OB5
55	w	401	CDL	CB3-OB5-PB2-OB2
55	w	401	CDL	CB3-OB5-PB2-OB3
55	w	401	CDL	CB3-OB5-PB2-OB4
57	w	402	ADP	C5'-O5'-PA-O1A
57	w	402	ADP	C5'-O5'-PA-O2A
57	w	402	ADP	C5'-O5'-PA-O3A
48	Q	501	PEE	O5-C30-O3-C3
55	s	402	CDL	OA9-CA7-OA8-CA6
48	Q	501	PEE	C31-C30-O3-C3
48	C	302	PEE	O4-C10-O2-C2
48	l	701	PEE	O4-C10-O2-C2

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Mol	Chain	Res	Type	Atoms
48	s	401	PEE	O4-C10-O2-C2
55	V	201	CDL	OA7-CA5-OA6-CA4
55	a	201	CDL	OB7-CB5-OB6-CB4
48	s	401	PEE	C11-C10-O2-C2
55	a	201	CDL	C51-CB5-OB6-CB4
48	l	704	PEE	C31-C30-O3-C3
55	l	703	CDL	C71-CB7-OB8-CB6
48	W	201	PEE	C17-C18-C19-C20
48	b	201	PEE	C37-C38-C39-C40
48	j	201	PEE	C17-C18-C19-C20
52	s	403	UQ	C17-C18-C19-C21
48	l	704	PEE	O5-C30-O3-C3
55	N	201	CDL	O1-C1-CA2-OA2
55	V	201	CDL	O1-C1-CA2-OA2
55	V	201	CDL	O1-C1-CB2-OB2
55	V	202	CDL	O1-C1-CA2-OA2
55	a	201	CDL	O1-C1-CA2-OA2
55	l	702	CDL	O1-C1-CA2-OA2
55	l	703	CDL	O1-C1-CA2-OA2
55	s	402	CDL	O1-C1-CA2-OA2
55	s	402	CDL	O1-C1-CB2-OB2
55	u	201	CDL	O1-C1-CA2-OA2
48	B	303	PEE	C11-C10-O2-C2
48	l	704	PEE	C11-C10-O2-C2
55	V	202	CDL	C51-CB5-OB6-CB4
52	J	402	UQ	C22-C23-C24-C26
49	C	303	PLX	C27-C28-C29-C30
49	g	201	PLX	C17-C18-C19-C20
49	g	201	PLX	C9-C10-C11-C12
49	r	502	PLX	C11-C12-C13-C14
55	V	202	CDL	C32-C33-C34-C35
55	u	201	CDL	C55-C56-C57-C58
55	w	401	CDL	C60-C61-C62-C63
49	g	201	PLX	C7-C8-C9-C10
49	r	502	PLX	C9-C10-C11-C12
55	V	201	CDL	C59-C60-C61-C62
55	m	201	CDL	C73-C74-C75-C76
55	s	402	CDL	C37-C38-C39-C40
55	u	201	CDL	C74-C75-C76-C77
48	j	201	PEE	C30-C31-C32-C33
55	m	201	CDL	CB5-C51-C52-C53
55	w	401	CDL	C74-C75-C76-C77

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Mol	Chain	Res	Type	Atoms
47	A	503	NAI	C3D-C4D-C5D-O5D
48	l	701	PEE	C31-C30-O3-C3
55	V	201	CDL	C71-CB7-OB8-CB6
55	l	702	CDL	C55-C56-C57-C58
55	l	703	CDL	OB9-CB7-OB8-CB6
52	s	403	UQ	C27-C28-C29-C31
52	J	402	UQ	C13-C14-C16-C17
52	J	402	UQ	C18-C19-C21-C22
48	l	701	PEE	O5-C30-O3-C3
55	V	201	CDL	OB9-CB7-OB8-CB6
52	s	403	UQ	C14-C16-C17-C18
48	j	201	PEE	C31-C30-O3-C3
48	b	201	PEE	C11-C10-O2-C2
55	w	401	CDL	C51-CB5-OB6-CB4
55	V	201	CDL	CA2-C1-CB2-OB2
55	s	402	CDL	CA2-C1-CB2-OB2
48	B	303	PEE	O4-C10-O2-C2
48	l	704	PEE	O4-C10-O2-C2
55	V	202	CDL	OB7-CB5-OB6-CB4
49	g	201	PLX	C2-C1-N1-C1A
48	s	401	PEE	C31-C30-O3-C3
55	V	202	CDL	C71-CB7-OB8-CB6
55	l	702	CDL	C71-CB7-OB8-CB6
55	u	201	CDL	CB5-C51-C52-C53
55	V	201	CDL	C62-C63-C64-C65
55	l	702	CDL	C58-C59-C60-C61
55	l	703	CDL	C35-C36-C37-C38
55	m	201	CDL	C40-C41-C42-C43
55	u	201	CDL	OA5-CA3-CA4-OA6
48	l	704	PEE	C33-C34-C35-C36
55	V	202	CDL	O1-C1-CB2-OB2
55	V	202	CDL	OA6-CA4-CA6-OA8
55	l	703	CDL	OA6-CA4-CA6-OA8
55	m	201	CDL	C11-CA5-OA6-CA4
55	l	703	CDL	CA7-C31-C32-C33
51	J	401	NDP	C2D-C1D-N1N-C6N
48	s	401	PEE	O5-C30-O3-C3
55	l	702	CDL	OB9-CB7-OB8-CB6
55	u	201	CDL	CB7-C71-C72-C73
48	l	701	PEE	C11-C12-C13-C14
55	s	402	CDL	C14-C15-C16-C17
52	s	403	UQ	C12-C13-C14-C15

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Mol	Chain	Res	Type	Atoms
48	W	201	PEE	C10-C11-C12-C13
48	l	701	PEE	C10-C11-C12-C13
48	r	501	PEE	C10-C11-C12-C13
55	N	201	CDL	CA7-C31-C32-C33
55	V	202	CDL	CB7-C71-C72-C73
55	l	702	CDL	CB5-C51-C52-C53
55	l	702	CDL	CB7-C71-C72-C73
55	m	201	CDL	CA7-C31-C32-C33
55	w	401	CDL	CA7-C31-C32-C33
55	a	201	CDL	C36-C37-C38-C39
55	s	402	CDL	C33-C34-C35-C36
55	s	402	CDL	C71-CB7-OB8-CB6
49	g	201	PLX	C2-C1-N1-C1B
48	l	704	PEE	C30-C31-C32-C33
55	a	201	CDL	CB5-C51-C52-C53
55	l	703	CDL	CB7-C71-C72-C73
55	l	702	CDL	C34-C35-C36-C37
55	m	201	CDL	C60-C61-C62-C63
55	V	202	CDL	OB9-CB7-OB8-CB6
52	s	403	UQ	C9-C11-C12-C13
55	a	201	CDL	O1-C1-CB2-OB2
55	l	702	CDL	O1-C1-CB2-OB2
55	u	201	CDL	O1-C1-CB2-OB2
48	b	201	PEE	O4-C10-O2-C2
55	m	201	CDL	OA7-CA5-OA6-CA4
55	w	401	CDL	OB7-CB5-OB6-CB4
48	b	201	PEE	C31-C30-O3-C3
48	j	201	PEE	O5-C30-O3-C3
55	V	201	CDL	C43-C44-C45-C46
55	s	402	CDL	OB9-CB7-OB8-CB6
49	C	303	PLX	C25-C26-C27-C28
55	V	202	CDL	C76-C77-C78-C79
48	C	302	PEE	C1-O3P-P-O4P
48	b	201	PEE	C1-O3P-P-O4P
48	j	201	PEE	C1-O3P-P-O4P
48	l	701	PEE	C4-O4P-P-O3P
48	l	704	PEE	C4-O4P-P-O3P
48	r	501	PEE	C1-O3P-P-O4P
49	a	202	PLX	C2-O1-P1-O4
49	g	201	PLX	C2-O1-P1-O4
55	N	201	CDL	CB2-OB2-PB2-OB5
55	N	201	CDL	CB3-OB5-PB2-OB2

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Mol	Chain	Res	Type	Atoms
55	V	201	CDL	CB2-OB2-PB2-OB5
55	V	201	CDL	CB3-OB5-PB2-OB2
55	V	202	CDL	CA2-OA2-PA1-OA5
55	V	202	CDL	CA3-OA5-PA1-OA2
55	V	202	CDL	CB2-OB2-PB2-OB5
55	V	202	CDL	CB3-OB5-PB2-OB2
55	a	201	CDL	CB2-OB2-PB2-OB5
55	a	201	CDL	CB3-OB5-PB2-OB2
55	l	702	CDL	CB2-OB2-PB2-OB5
55	l	703	CDL	CA3-OA5-PA1-OA2
55	m	201	CDL	CA3-OA5-PA1-OA2
55	m	201	CDL	CB2-OB2-PB2-OB5
55	s	402	CDL	CA2-OA2-PA1-OA5
55	u	201	CDL	CA2-OA2-PA1-OA5
55	u	201	CDL	CA3-OA5-PA1-OA2
55	u	201	CDL	CB2-OB2-PB2-OB5
55	u	201	CDL	CB3-OB5-PB2-OB2
49	j	202	PLX	C13-C14-C15-C16
55	N	201	CDL	CB2-C1-CA2-OA2
55	l	702	CDL	CB2-C1-CA2-OA2
55	s	402	CDL	CB2-C1-CA2-OA2
55	V	201	CDL	C32-C33-C34-C35
55	w	401	CDL	C71-CB7-OB8-CB6
49	C	303	PLX	O6-C6-C7-C8
49	r	502	PLX	O6-C6-C7-C8
55	l	702	CDL	C20-C21-C22-C23
48	l	704	PEE	C19-C20-C21-C22
55	l	702	CDL	CA7-C31-C32-C33
49	r	503	PLX	C25-C26-C27-C28
55	V	201	CDL	C55-C56-C57-C58
55	w	401	CDL	C23-C24-C25-C26
48	j	201	PEE	C11-C10-O2-C2
48	r	501	PEE	C11-C10-O2-C2
48	B	303	PEE	C23-C24-C25-C26
48	l	704	PEE	C34-C35-C36-C37
55	l	702	CDL	C62-C63-C64-C65
55	l	703	CDL	C59-C60-C61-C62
50	X	201	8Q1	O27-C28-C29-C31
55	N	201	CDL	C71-CB7-OB8-CB6
48	s	401	PEE	C11-C12-C13-C14
49	a	202	PLX	C13-C14-C15-C16
49	r	502	PLX	C30-C31-C32-C33

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Mol	Chain	Res	Type	Atoms
49	r	503	PLX	C28-C29-C30-C31
55	a	201	CDL	C60-C61-C62-C63
55	a	201	CDL	C62-C63-C64-C65
55	l	703	CDL	C41-C42-C43-C44
55	u	201	CDL	C52-C53-C54-C55
48	j	201	PEE	O4-C10-O2-C2
48	r	501	PEE	O4-C10-O2-C2
49	a	202	PLX	C14-C15-C16-C17
49	a	202	PLX	C10-C11-C12-C13
49	j	202	PLX	C34-C35-C36-C37
55	V	201	CDL	C52-C53-C54-C55
55	l	702	CDL	C56-C57-C58-C59
55	l	703	CDL	C75-C76-C77-C78
55	m	201	CDL	C59-C60-C61-C62
48	r	501	PEE	C17-C18-C19-C20
48	B	303	PEE	C13-C14-C15-C16
49	g	201	PLX	C32-C33-C34-C35
49	r	503	PLX	C10-C11-C12-C13
50	X	201	8Q1	C11-C12-C13-C14
55	l	702	CDL	C74-C75-C76-C77
55	l	702	CDL	C75-C76-C77-C78
55	s	402	CDL	C73-C74-C75-C76
55	m	201	CDL	O1-C1-CB2-OB2
48	l	701	PEE	C32-C33-C34-C35
49	r	502	PLX	C34-C35-C36-C37
55	V	202	CDL	C37-C38-C39-C40
55	l	702	CDL	C19-C20-C21-C22
55	l	702	CDL	C71-C72-C73-C74
55	u	201	CDL	C73-C74-C75-C76
55	w	401	CDL	C62-C63-C64-C65
55	s	402	CDL	CB7-C71-C72-C73
48	j	201	PEE	C21-C22-C23-C24
48	j	201	PEE	C13-C14-C15-C16
49	a	202	PLX	C35-C36-C37-C38
49	g	201	PLX	C30-C31-C32-C33
50	X	201	8Q1	C12-C13-C14-C15
48	W	201	PEE	C13-C14-C15-C16
48	b	201	PEE	C31-C32-C33-C34
49	j	202	PLX	C7-C8-C9-C10
55	a	201	CDL	C73-C74-C75-C76
55	s	402	CDL	C11-C12-C13-C14
49	r	502	PLX	C28-C29-C30-C31

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Mol	Chain	Res	Type	Atoms
55	V	201	CDL	C34-C35-C36-C37
55	V	201	CDL	C35-C36-C37-C38
55	V	201	CDL	C37-C38-C39-C40
55	V	202	CDL	C35-C36-C37-C38
55	l	702	CDL	C37-C38-C39-C40
55	s	402	CDL	C51-C52-C53-C54
55	w	401	CDL	C57-C58-C59-C60
48	b	201	PEE	O5-C30-O3-C3
48	r	501	PEE	C31-C32-C33-C34
49	g	201	PLX	C25-C26-C27-C28
49	g	201	PLX	C33-C34-C35-C36
49	j	202	PLX	C16-C17-C18-C19
49	j	202	PLX	C31-C32-C33-C34
55	V	202	CDL	C82-C83-C84-C85
55	m	201	CDL	C16-C17-C18-C19
55	m	201	CDL	C21-C22-C23-C24
55	m	201	CDL	C55-C56-C57-C58
55	w	401	CDL	C43-C44-C45-C46
48	b	201	PEE	C33-C34-C35-C36
48	r	501	PEE	C13-C14-C15-C16
49	C	303	PLX	C10-C11-C12-C13
49	j	202	PLX	C9-C10-C11-C12
49	r	502	PLX	C31-C32-C33-C34
49	r	503	PLX	C13-C14-C15-C16
55	s	402	CDL	C71-C72-C73-C74
48	j	201	PEE	C19-C20-C21-C22
55	V	201	CDL	CA5-C11-C12-C13
55	l	703	CDL	CB5-C51-C52-C53
49	C	303	PLX	C13-C14-C15-C16
49	g	201	PLX	C13-C14-C15-C16
49	r	503	PLX	C31-C32-C33-C34
55	V	201	CDL	C12-C13-C14-C15
55	V	201	CDL	C75-C76-C77-C78
55	V	202	CDL	C52-C53-C54-C55
55	V	202	CDL	C59-C60-C61-C62
55	l	702	CDL	C13-C14-C15-C16
55	l	702	CDL	C36-C37-C38-C39
55	l	703	CDL	C31-C32-C33-C34
55	l	703	CDL	C34-C35-C36-C37
55	m	201	CDL	C15-C16-C17-C18
55	s	402	CDL	C36-C37-C38-C39
55	w	401	CDL	C54-C55-C56-C57

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Mol	Chain	Res	Type	Atoms
49	C	303	PLX	C2-C1-N1-C1A
48	W	201	PEE	C21-C22-C23-C24
48	W	201	PEE	C12-C13-C14-C15
49	C	303	PLX	C28-C29-C30-C31
49	C	303	PLX	C33-C34-C35-C36
49	g	201	PLX	C27-C28-C29-C30
49	r	502	PLX	C12-C13-C14-C15
49	r	502	PLX	C33-C34-C35-C36
55	l	703	CDL	C71-C72-C73-C74
55	m	201	CDL	C58-C59-C60-C61
55	s	402	CDL	C59-C60-C61-C62
55	w	401	CDL	C63-C64-C65-C66
49	j	202	PLX	C33-C34-C35-C36
55	V	202	CDL	C33-C34-C35-C36
55	u	201	CDL	C71-C72-C73-C74
55	V	202	CDL	CA7-C31-C32-C33
48	j	201	PEE	C42-C43-C44-C45
48	l	701	PEE	C33-C34-C35-C36
49	r	502	PLX	C11-C10-C9-C8
55	a	201	CDL	C75-C76-C77-C78
55	s	402	CDL	C55-C56-C57-C58
55	w	401	CDL	C71-C72-C73-C74
55	m	201	CDL	C71-CB7-OB8-CB6
48	l	701	PEE	C31-C32-C33-C34
48	s	401	PEE	C14-C15-C16-C17
49	j	202	PLX	C14-C15-C16-C17
55	l	703	CDL	C51-C52-C53-C54
55	m	201	CDL	C37-C38-C39-C40
55	w	401	CDL	C32-C33-C34-C35
55	a	201	CDL	C35-C36-C37-C38
55	a	201	CDL	C37-C38-C39-C40
55	a	201	CDL	C54-C55-C56-C57
55	l	703	CDL	C14-C15-C16-C17
55	w	401	CDL	C31-C32-C33-C34
48	r	501	PEE	C21-C22-C23-C24
49	r	503	PLX	C12-C13-C14-C15
55	s	402	CDL	C75-C76-C77-C78
55	u	201	CDL	C54-C55-C56-C57
48	l	701	PEE	C17-C18-C19-C20
49	a	202	PLX	C25-C26-C27-C28
55	V	202	CDL	C73-C74-C75-C76
55	l	703	CDL	C54-C55-C56-C57

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Mol	Chain	Res	Type	Atoms
55	m	201	CDL	C79-C80-C81-C82
55	l	702	CDL	C11-CA5-OA6-CA4
55	a	201	CDL	C71-C72-C73-C74
49	C	303	PLX	O7-C6-C7-C8
49	g	201	PLX	O7-C6-C7-C8
48	B	303	PEE	C22-C23-C24-C25
48	B	303	PEE	C34-C35-C36-C37
48	b	201	PEE	C22-C23-C24-C25
48	b	201	PEE	C13-C14-C15-C16
49	g	201	PLX	C28-C29-C30-C31
55	a	201	CDL	C32-C33-C34-C35
55	s	402	CDL	C32-C33-C34-C35
55	w	401	CDL	C75-C76-C77-C78
48	B	303	PEE	C19-C20-C21-C22
55	w	401	CDL	OB9-CB7-OB8-CB6
55	N	201	CDL	C11-C12-C13-C14
49	a	202	PLX	C9-C10-C11-C12
55	w	401	CDL	C11-C12-C13-C14
48	j	201	PEE	C14-C15-C16-C17
55	V	202	CDL	C60-C61-C62-C63
55	l	703	CDL	C11-C12-C13-C14
55	l	703	CDL	C58-C59-C60-C61
55	m	201	CDL	C52-C53-C54-C55
55	u	201	CDL	C51-C52-C53-C54
49	C	303	PLX	C11-C12-C13-C14
49	g	201	PLX	C12-C13-C14-C15
49	j	202	PLX	C27-C28-C29-C30
55	N	201	CDL	C71-C72-C73-C74
55	V	202	CDL	C55-C56-C57-C58
55	a	201	CDL	C22-C23-C24-C25
55	l	702	CDL	C52-C53-C54-C55
55	l	702	CDL	C59-C60-C61-C62
55	N	201	CDL	OB9-CB7-OB8-CB6
48	C	302	PEE	C32-C33-C34-C35
55	s	402	CDL	C54-C55-C56-C57
49	g	201	PLX	C2-C1-N1-C1C
49	C	303	PLX	C14-C15-C16-C17
49	g	201	PLX	C10-C11-C12-C13
49	r	503	PLX	C14-C15-C16-C17
48	W	201	PEE	C31-C30-O3-C3
55	a	201	CDL	C71-CB7-OB8-CB6
55	l	703	CDL	C51-CB5-OB6-CB4

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Mol	Chain	Res	Type	Atoms
48	r	501	PEE	C41-C42-C43-C44
55	V	202	CDL	C57-C58-C59-C60
55	a	201	CDL	C31-C32-C33-C34
55	l	702	CDL	C12-C13-C14-C15
55	l	703	CDL	C32-C33-C34-C35
55	l	703	CDL	C43-C44-C45-C46
55	l	703	CDL	C74-C75-C76-C77
55	m	201	CDL	C34-C35-C36-C37
55	V	201	CDL	CB7-C71-C72-C73
48	l	704	PEE	C11-C12-C13-C14
49	a	202	PLX	C27-C28-C29-C30
55	m	201	CDL	C41-C42-C43-C44
55	m	201	CDL	OB9-CB7-OB8-CB6
55	m	201	CDL	C20-C21-C22-C23
48	B	303	PEE	C35-C36-C37-C38
48	C	302	PEE	C35-C36-C37-C38
48	Q	501	PEE	C19-C20-C21-C22
48	Q	501	PEE	C35-C36-C37-C38
48	r	501	PEE	C15-C16-C17-C18
48	b	201	PEE	C10-C11-C12-C13
55	a	201	CDL	CA5-C11-C12-C13
55	a	201	CDL	OB9-CB7-OB8-CB6
55	l	702	CDL	C17-C18-C19-C20
48	s	401	PEE	C30-C31-C32-C33
48	r	501	PEE	C11-C12-C13-C14
55	V	202	CDL	C11-C12-C13-C14
55	a	201	CDL	C82-C83-C84-C85
55	l	702	CDL	C73-C74-C75-C76
55	s	402	CDL	C16-C17-C18-C19
55	w	401	CDL	C17-C18-C19-C20
48	C	302	PEE	C43-C44-C45-C46
50	X	201	8Q1	C9-C10-C11-C12
55	s	402	CDL	C52-C53-C54-C55
55	m	201	CDL	C62-C63-C64-C65
55	N	201	CDL	C51-CB5-OB6-CB4
55	V	201	CDL	C51-CB5-OB6-CB4
55	m	201	CDL	OB5-CB3-CB4-OB6
49	a	202	PLX	C33-C34-C35-C36
55	m	201	CDL	C11-C12-C13-C14
55	w	401	CDL	C53-C54-C55-C56
55	N	201	CDL	OB7-CB5-OB6-CB4
55	V	201	CDL	OB7-CB5-OB6-CB4

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Mol	Chain	Res	Type	Atoms
55	l	702	CDL	OA7-CA5-OA6-CA4
55	l	703	CDL	OB7-CB5-OB6-CB4
55	w	401	CDL	C83-C84-C85-C86
55	l	702	CDL	OA6-CA4-CA6-OA8
49	C	303	PLX	C2-C1-N1-C1C
49	g	201	PLX	C11-C12-C13-C14
49	r	502	PLX	C27-C28-C29-C30
55	m	201	CDL	C75-C76-C77-C78
48	s	401	PEE	C19-C20-C21-C22
52	s	403	UQ	C13-C14-C16-C17
48	C	302	PEE	C41-C42-C43-C44
55	V	202	CDL	C56-C57-C58-C59
51	J	401	NDP	O4B-C4B-C5B-O5B
49	C	303	PLX	C7-C8-C9-C10
49	r	503	PLX	C27-C28-C29-C30
55	V	202	CDL	C62-C63-C64-C65
55	m	201	CDL	C33-C34-C35-C36
55	w	401	CDL	C52-C53-C54-C55
48	W	201	PEE	O5-C30-O3-C3
55	l	702	CDL	C51-CB5-OB6-CB4
55	m	201	CDL	C14-C15-C16-C17
55	s	402	CDL	C35-C36-C37-C38
48	B	303	PEE	C36-C37-C38-C39
48	B	303	PEE	C38-C39-C40-C41
49	r	502	PLX	C2-O1-P1-O4
49	r	503	PLX	C2-O1-P1-O4
55	m	201	CDL	CA2-OA2-PA1-OA5
55	N	201	CDL	C51-C52-C53-C54
55	w	401	CDL	C73-C74-C75-C76
55	w	401	CDL	CA5-C11-C12-C13
49	r	503	PLX	C30-C31-C32-C33
55	a	201	CDL	C11-C12-C13-C14
48	l	704	PEE	O3P-C1-C2-C3
55	N	201	CDL	OA5-CA3-CA4-CA6
55	m	201	CDL	OA5-CA3-CA4-CA6
49	r	502	PLX	C14-C15-C16-C17
55	V	202	CDL	C84-C85-C86-C87
55	a	201	CDL	C55-C56-C57-C58
55	a	201	CDL	C76-C77-C78-C79
49	j	202	PLX	C29-C30-C31-C32
49	a	202	PLX	C18-C19-C20-C21
55	V	202	CDL	C54-C55-C56-C57

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Mol	Chain	Res	Type	Atoms
48	s	401	PEE	C15-C16-C17-C18
48	Q	501	PEE	C21-C22-C23-C24
49	a	202	PLX	C16-C17-C18-C19
55	V	201	CDL	C58-C59-C60-C61
55	V	202	CDL	C12-C13-C14-C15
55	a	201	CDL	C52-C53-C54-C55
55	l	702	CDL	C51-C52-C53-C54
55	s	402	CDL	C17-C18-C19-C20
48	l	704	PEE	C40-C41-C42-C43
49	j	202	PLX	C25-C26-C27-C28
55	m	201	CDL	C36-C37-C38-C39
55	s	402	CDL	C31-C32-C33-C34
48	s	401	PEE	C1-C2-C3-O3
49	C	303	PLX	C3-C4-C5-O8
49	g	201	PLX	C3-C4-C5-O8
49	j	202	PLX	C26-C27-C28-C29
49	r	503	PLX	C3-C4-C5-O8
55	l	703	CDL	CA3-CA4-CA6-OA8
55	m	201	CDL	CB3-CB4-CB6-OB8
48	Q	501	PEE	C11-C12-C13-C14
55	l	703	CDL	C64-C65-C66-C67
49	r	502	PLX	C4-C5-O8-C24
55	a	201	CDL	C84-C85-C86-C87
48	B	303	PEE	C12-C13-C14-C15
55	w	401	CDL	C56-C57-C58-C59
55	V	202	CDL	C13-C14-C15-C16
49	j	202	PLX	O6-C6-C7-C8
55	l	702	CDL	C15-C16-C17-C18
48	r	501	PEE	C36-C37-C38-C39
49	j	202	PLX	C11-C12-C13-C14
55	w	401	CDL	C59-C60-C61-C62
48	l	704	PEE	C39-C40-C41-C42
52	s	403	UQ	C22-C23-C24-C25
55	s	402	CDL	CB5-C51-C52-C53
49	C	303	PLX	C11-C10-C9-C8
49	g	201	PLX	C18-C19-C20-C21
55	V	202	CDL	C17-C18-C19-C20
55	w	401	CDL	C42-C43-C44-C45
55	m	201	CDL	C39-C40-C41-C42
55	V	201	CDL	CA6-CA4-OA6-CA5
55	u	201	CDL	C75-C76-C77-C78
55	N	201	CDL	C52-C53-C54-C55

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Mol	Chain	Res	Type	Atoms
49	C	303	PLX	O4-C3-C4-O6
55	V	202	CDL	OA5-CA3-CA4-OA6
55	l	702	CDL	OB5-CB3-CB4-OB6
49	C	303	PLX	C2-C1-N1-C1B
48	l	704	PEE	C13-C14-C15-C16
55	a	201	CDL	C20-C21-C22-C23
48	W	201	PEE	C24-C25-C26-C27
55	a	201	CDL	C74-C75-C76-C77
48	b	201	PEE	O2-C2-C3-O3
49	C	303	PLX	O6-C4-C5-O8
55	s	402	CDL	OB6-CB4-CB6-OB8
55	V	201	CDL	C73-C74-C75-C76
55	l	702	CDL	C35-C36-C37-C38
48	l	701	PEE	C13-C14-C15-C16
49	r	503	PLX	C32-C33-C34-C35
49	r	503	PLX	C7-C8-C9-C10
55	V	202	CDL	C75-C76-C77-C78
48	j	201	PEE	C34-C35-C36-C37
48	r	501	PEE	C33-C34-C35-C36
55	w	401	CDL	C16-C17-C18-C19
55	w	401	CDL	C84-C85-C86-C87
48	l	704	PEE	C32-C33-C34-C35
55	l	703	CDL	C52-C53-C54-C55
55	m	201	CDL	C56-C57-C58-C59
55	w	401	CDL	C64-C65-C66-C67
48	Q	501	PEE	C14-C15-C16-C17
55	V	202	CDL	C34-C35-C36-C37
55	l	703	CDL	C62-C63-C64-C65
49	C	303	PLX	O4-C3-C4-C5
55	V	201	CDL	OA5-CA3-CA4-CA6
55	V	201	CDL	OB5-CB3-CB4-CB6
55	a	201	CDL	OB5-CB3-CB4-CB6
55	l	702	CDL	OA5-CA3-CA4-CA6
55	m	201	CDL	OB5-CB3-CB4-CB6
55	s	402	CDL	OA5-CA3-CA4-CA6
55	u	201	CDL	OA5-CA3-CA4-CA6
55	l	703	CDL	C38-C39-C40-C41
55	l	703	CDL	C84-C85-C86-C87
48	C	302	PEE	C13-C14-C15-C16
48	Q	501	PEE	C23-C24-C25-C26
55	s	402	CDL	C12-C13-C14-C15
52	s	403	UQ	C12-C11-C9-C10

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Mol	Chain	Res	Type	Atoms
49	r	503	PLX	C36-C37-C38-C39
48	j	201	PEE	C22-C23-C24-C25
55	l	702	CDL	C76-C77-C78-C79
49	r	503	PLX	C16-C17-C18-C19
55	s	402	CDL	CA5-C11-C12-C13
48	Q	501	PEE	C24-C25-C26-C27
48	b	201	PEE	C23-C24-C25-C26
50	X	201	8Q1	N41-C42-C43-S44
48	Q	501	PEE	C18-C19-C20-C21
48	j	201	PEE	C38-C39-C40-C41
55	V	202	CDL	C74-C75-C76-C77
48	s	401	PEE	C12-C13-C14-C15
49	C	303	PLX	C19-C20-C21-C22
48	s	401	PEE	C13-C14-C15-C16
55	s	402	CDL	C15-C16-C17-C18
55	l	702	CDL	C31-C32-C33-C34
55	l	702	CDL	C54-C55-C56-C57
48	b	201	PEE	C1-C2-C3-O3
48	l	701	PEE	C1-C2-C3-O3
48	r	501	PEE	C1-C2-C3-O3
49	a	202	PLX	C3-C4-C5-O8
49	r	502	PLX	C3-C4-C5-O8
55	V	202	CDL	CA3-CA4-CA6-OA8
55	l	702	CDL	CA3-CA4-CA6-OA8
55	s	402	CDL	CB3-CB4-CB6-OB8
55	a	201	CDL	C38-C39-C40-C41
48	B	303	PEE	C17-C18-C19-C20
55	V	201	CDL	C38-C39-C40-C41
55	l	702	CDL	C22-C23-C24-C25
49	a	202	PLX	C7-C8-C9-C10
55	V	201	CDL	C44-C45-C46-C47
49	r	503	PLX	C5-C4-O6-C6
52	s	403	UQ	C27-C28-C29-C30
49	C	303	PLX	O9-C24-C25-C26
55	m	201	CDL	C32-C33-C34-C35
48	B	303	PEE	O3P-C1-C2-O2
55	V	201	CDL	OB5-CB3-CB4-OB6
55	a	201	CDL	OA5-CA3-CA4-OA6
55	s	402	CDL	C34-C35-C36-C37
47	A	503	NAI	O4D-C4D-C5D-O5D
51	J	401	NDP	C3B-C4B-C5B-O5B
49	a	202	PLX	C30-C31-C32-C33

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Mol	Chain	Res	Type	Atoms
55	V	201	CDL	C72-C73-C74-C75
55	l	703	CDL	C44-C45-C46-C47
48	l	701	PEE	O2-C2-C3-O3
48	s	401	PEE	O2-C2-C3-O3
55	V	202	CDL	OB6-CB4-CB6-OB8
55	m	201	CDL	OB6-CB4-CB6-OB8
55	V	201	CDL	C64-C65-C66-C67
55	a	201	CDL	C12-C13-C14-C15
55	V	201	CDL	C54-C55-C56-C57
55	V	201	CDL	C71-C72-C73-C74
55	l	702	CDL	OB7-CB5-OB6-CB4
48	b	201	PEE	C32-C33-C34-C35
55	V	201	CDL	CB4-CB3-OB5-PB2
48	B	303	PEE	C21-C22-C23-C24
49	a	202	PLX	C28-C29-C30-C31
55	w	401	CDL	C41-C42-C43-C44
48	j	201	PEE	C36-C37-C38-C39
48	l	701	PEE	C18-C19-C20-C21
49	g	201	PLX	O6-C6-C7-C8
48	W	201	PEE	O3P-C1-C2-C3
48	r	501	PEE	O3P-C1-C2-C3
55	N	201	CDL	OB5-CB3-CB4-CB6
55	V	202	CDL	OA5-CA3-CA4-CA6
55	a	201	CDL	OA5-CA3-CA4-CA6
48	l	704	PEE	C44-C45-C46-C47
49	C	303	PLX	C12-C13-C14-C15
55	V	201	CDL	C17-C18-C19-C20
55	w	401	CDL	C13-C14-C15-C16
48	j	201	PEE	C15-C16-C17-C18
48	s	401	PEE	C23-C24-C25-C26
55	a	201	CDL	C14-C15-C16-C17
48	l	704	PEE	C31-C32-C33-C34
49	j	202	PLX	C10-C11-C12-C13
55	l	703	CDL	C12-C13-C14-C15
48	l	704	PEE	C3-C2-O2-C10
55	m	201	CDL	CA6-CA4-OA6-CA5
55	s	402	CDL	C40-C41-C42-C43
55	m	201	CDL	CA4-CA3-OA5-PA1
55	w	401	CDL	CA3-CA4-CA6-OA8
48	W	201	PEE	O3P-C1-C2-O2
48	j	201	PEE	O3P-C1-C2-O2
49	r	502	PLX	O4-C3-C4-O6

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Mol	Chain	Res	Type	Atoms
49	r	503	PLX	O4-C3-C4-O6
55	N	201	CDL	OB5-CB3-CB4-OB6
55	a	201	CDL	OB5-CB3-CB4-OB6
55	l	703	CDL	OA5-CA3-CA4-OA6
55	u	201	CDL	OB5-CB3-CB4-OB6
55	s	402	CDL	C80-C81-C82-C83
49	a	202	PLX	C11-C12-C13-C14
48	r	501	PEE	O2-C2-C3-O3
48	b	201	PEE	C34-C35-C36-C37
55	w	401	CDL	C11-CA5-OA6-CA4
55	w	401	CDL	C15-C16-C17-C18
55	V	202	CDL	C64-C65-C66-C67
55	m	201	CDL	C71-C72-C73-C74
57	w	402	ADP	PB-O3A-PA-O1A
55	l	702	CDL	C12-C11-CA5-OA6
48	Q	501	PEE	C4-O4P-P-O3P
55	l	702	CDL	CB3-OB5-PB2-OB2
55	l	703	CDL	CA2-OA2-PA1-OA5
55	a	201	CDL	C18-C19-C20-C21
55	w	401	CDL	C77-C78-C79-C80
48	l	701	PEE	C2-C1-O3P-P
55	V	201	CDL	CA4-CA3-OA5-PA1
55	w	401	CDL	C1-CB2-OB2-PB2
47	A	503	NAI	C5B-O5B-PA-O1A
47	A	503	NAI	C5B-O5B-PA-O2A
48	C	302	PEE	C1-O3P-P-O2P
48	Q	501	PEE	C1-O3P-P-O1P
48	Q	501	PEE	C4-O4P-P-O2P
48	b	201	PEE	C1-O3P-P-O2P
48	b	201	PEE	C1-O3P-P-O1P
48	j	201	PEE	C1-O3P-P-O2P
48	l	701	PEE	C4-O4P-P-O1P
48	s	401	PEE	C4-O4P-P-O1P
49	g	201	PLX	C2-O1-P1-O3
49	r	502	PLX	C2-O1-P1-O3
49	r	503	PLX	C2-O1-P1-O3
52	s	403	UQ	C6-C7-C8-C9
55	N	201	CDL	CA2-OA2-PA1-OA4
55	N	201	CDL	CB2-OB2-PB2-OB4
55	N	201	CDL	CB3-OB5-PB2-OB4
55	V	201	CDL	CB2-OB2-PB2-OB4
55	V	202	CDL	CA2-OA2-PA1-OA4

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Mol	Chain	Res	Type	Atoms
55	V	202	CDL	CA3-OA5-PA1-OA3
55	V	202	CDL	CA3-OA5-PA1-OA4
55	V	202	CDL	CB2-OB2-PB2-OB4
55	V	202	CDL	CB3-OB5-PB2-OB3
55	V	202	CDL	CB3-OB5-PB2-OB4
55	a	201	CDL	CB2-OB2-PB2-OB4
55	l	702	CDL	CB3-OB5-PB2-OB3
55	l	702	CDL	CB3-OB5-PB2-OB4
55	l	703	CDL	CB3-OB5-PB2-OB3
55	m	201	CDL	CB2-OB2-PB2-OB4
55	u	201	CDL	CA2-OA2-PA1-OA4
55	u	201	CDL	CA3-OA5-PA1-OA4
55	w	401	CDL	CB2-OB2-PB2-OB4
55	u	201	CDL	C71-CB7-OB8-CB6
48	j	201	PEE	O3P-C1-C2-C3
48	l	701	PEE	O3P-C1-C2-C3
49	r	502	PLX	O4-C3-C4-C5
49	r	503	PLX	O4-C3-C4-C5
55	l	703	CDL	OA5-CA3-CA4-CA6
55	V	201	CDL	C74-C75-C76-C77
55	s	402	CDL	C74-C75-C76-C77
55	V	202	CDL	C15-C16-C17-C18
55	V	202	CDL	C58-C59-C60-C61
48	j	201	PEE	C37-C38-C39-C40
49	a	202	PLX	C25-C24-O8-C5
49	g	201	PLX	C25-C24-O8-C5
55	l	703	CDL	C12-C11-CA5-OA6
49	j	202	PLX	C15-C16-C17-C18
55	N	201	CDL	CB5-C51-C52-C53
55	w	401	CDL	OA7-CA5-OA6-CA4
48	b	201	PEE	O3P-C1-C2-O2
48	l	701	PEE	O3P-C1-C2-O2
48	r	501	PEE	O3P-C1-C2-O2
55	V	202	CDL	CA5-C11-C12-C13
48	b	201	PEE	C14-C15-C16-C17
55	l	703	CDL	C55-C56-C57-C58
55	u	201	CDL	OB9-CB7-OB8-CB6
55	l	703	CDL	CB3-CB4-CB6-OB8
48	l	704	PEE	O2-C2-C3-O3
49	a	202	PLX	O6-C4-C5-O8
49	r	502	PLX	O6-C4-C5-O8
49	r	503	PLX	O6-C4-C5-O8

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Mol	Chain	Res	Type	Atoms
55	l	703	CDL	OB6-CB4-CB6-OB8
55	l	703	CDL	C39-C40-C41-C42
49	a	202	PLX	C34-C35-C36-C37
49	r	502	PLX	C16-C17-C18-C19
49	r	503	PLX	C11-C12-C13-C14
48	W	201	PEE	C23-C24-C25-C26
49	j	202	PLX	O8-C24-C25-C26
49	r	502	PLX	O8-C24-C25-C26
52	J	402	UQ	C9-C11-C12-C13
55	l	702	CDL	C80-C81-C82-C83
51	J	401	NDP	O4D-C1D-N1N-C6N
55	N	201	CDL	O1-C1-CB2-OB2
55	w	401	CDL	C44-C45-C46-C47
55	s	402	CDL	C13-C14-C15-C16
52	s	403	UQ	C1-C2-O2-CM2
55	V	202	CDL	C83-C84-C85-C86
55	l	703	CDL	C60-C61-C62-C63
55	m	201	CDL	C54-C55-C56-C57
50	G	201	8Q1	O27-C28-C29-C30
48	C	302	PEE	C34-C35-C36-C37
55	l	703	CDL	C32-C31-CA7-OA8
55	u	201	CDL	C72-C73-C74-C75
48	B	303	PEE	O3P-C1-C2-C3
48	b	201	PEE	O3P-C1-C2-C3
55	l	702	CDL	OB5-CB3-CB4-CB6
55	s	402	CDL	C83-C84-C85-C86
48	C	302	PEE	C11-C12-C13-C14
48	r	501	PEE	C20-C21-C22-C23
49	r	502	PLX	C25-C26-C27-C28
48	B	303	PEE	C16-C17-C18-C19
48	C	302	PEE	C12-C13-C14-C15
55	V	201	CDL	OA5-CA3-CA4-OA6
48	B	303	PEE	O5-C30-O3-C3
55	w	401	CDL	C19-C20-C21-C22
48	l	704	PEE	C23-C24-C25-C26
55	a	201	CDL	C39-C40-C41-C42
55	N	201	CDL	C31-CA7-OA8-CA6
55	V	202	CDL	C19-C20-C21-C22
49	g	201	PLX	C20-C21-C22-C23
48	B	303	PEE	C31-C30-O3-C3
49	C	303	PLX	C3-O4-P1-O1
55	w	401	CDL	CA3-OA5-PA1-OA2

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Mol	Chain	Res	Type	Atoms
48	B	303	PEE	C42-C43-C44-C45
55	s	402	CDL	C84-C85-C86-C87
48	C	302	PEE	C42-C43-C44-C45
55	a	201	CDL	C34-C35-C36-C37
55	V	202	CDL	CB3-CB4-CB6-OB8
55	m	201	CDL	C84-C85-C86-C87
49	j	202	PLX	C12-C13-C14-C15
55	l	703	CDL	C57-C58-C59-C60
55	l	702	CDL	CB4-CB3-OB5-PB2
55	l	703	CDL	C1-CB2-OB2-PB2
48	r	501	PEE	C38-C39-C40-C41
48	s	401	PEE	C18-C19-C20-C21
55	N	201	CDL	OA9-CA7-OA8-CA6
48	C	302	PEE	C15-C16-C17-C18
55	s	402	CDL	C77-C78-C79-C80
55	m	201	CDL	C13-C14-C15-C16
48	b	201	PEE	C18-C19-C20-C21
48	b	201	PEE	C16-C17-C18-C19
48	s	401	PEE	C16-C17-C18-C19
48	W	201	PEE	C34-C35-C36-C37
55	u	201	CDL	C57-C58-C59-C60
55	u	201	CDL	C56-C57-C58-C59
49	C	303	PLX	O8-C24-C25-C26
49	a	202	PLX	O8-C24-C25-C26
55	w	401	CDL	OB6-CB4-CB6-OB8
48	W	201	PEE	C33-C34-C35-C36
47	A	503	NAI	O4D-C1D-N1N-C2N
50	X	201	8Q1	C10-C11-C12-C13
55	l	702	CDL	C24-C25-C26-C27
55	l	702	CDL	C33-C34-C35-C36
50	G	201	8Q1	O27-C28-C29-C31
55	V	202	CDL	C77-C78-C79-C80
55	a	201	CDL	C40-C41-C42-C43
50	G	201	8Q1	C29-C32-C34-N36
48	b	201	PEE	C15-C16-C17-C18
48	B	303	PEE	C44-C45-C46-C47
55	s	402	CDL	C18-C19-C20-C21
55	V	202	CDL	C71-C72-C73-C74
48	r	501	PEE	C16-C17-C18-C19
55	V	202	CDL	C32-C31-CA7-OA8
48	l	704	PEE	C10-C11-C12-C13
48	r	501	PEE	C31-C30-O3-C3

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Mol	Chain	Res	Type	Atoms
55	m	201	CDL	C31-CA7-OA8-CA6
47	A	503	NAI	C2D-C1D-N1N-C2N
49	a	202	PLX	C24-C25-C26-C27
48	b	201	PEE	C11-C12-C13-C14
49	r	503	PLX	C33-C34-C35-C36
55	u	201	CDL	OB5-CB3-CB4-CB6
49	g	201	PLX	C16-C17-C18-C19
48	j	201	PEE	C2-C3-O3-C30
48	B	303	PEE	C10-C11-C12-C13
55	V	202	CDL	C42-C43-C44-C45
55	l	703	CDL	C15-C16-C17-C18
50	X	201	8Q1	C42-C43-S44-C1
49	C	303	PLX	C15-C16-C17-C18
55	m	201	CDL	OA9-CA7-OA8-CA6
55	a	201	CDL	C79-C80-C81-C82
48	j	201	PEE	C32-C33-C34-C35
48	r	501	PEE	O5-C30-O3-C3
55	s	402	CDL	C39-C40-C41-C42
49	r	503	PLX	C35-C36-C37-C38
55	w	401	CDL	C72-C71-CB7-OB8
48	l	701	PEE	C36-C37-C38-C39
48	Q	501	PEE	C34-C35-C36-C37
49	r	503	PLX	C15-C16-C17-C18
48	C	302	PEE	C19-C20-C21-C22
48	l	704	PEE	C15-C16-C17-C18
48	j	201	PEE	C40-C41-C42-C43
55	s	402	CDL	C72-C71-CB7-OB8
49	g	201	PLX	O8-C24-C25-C26
48	b	201	PEE	C21-C22-C23-C24
49	C	303	PLX	C31-C32-C33-C34
48	C	302	PEE	O4P-C4-C5-N
48	s	401	PEE	O4P-C4-C5-N
48	C	302	PEE	C16-C17-C18-C19
55	u	201	CDL	CA5-C11-C12-C13
55	m	201	CDL	CA2-C1-CB2-OB2
55	l	702	CDL	OB6-CB4-CB6-OB8
55	u	201	CDL	OA6-CA4-CA6-OA8
55	s	402	CDL	C12-C11-CA5-OA6
55	a	201	CDL	C61-C62-C63-C64
48	Q	501	PEE	C16-C17-C18-C19
48	W	201	PEE	C18-C19-C20-C21
46	A	502	FMN	C5'-O5'-P-O3P

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Mol	Chain	Res	Type	Atoms
49	j	202	PLX	C28-C29-C30-C31
55	V	201	CDL	C53-C54-C55-C56
55	l	703	CDL	C72-C71-CB7-OB8
48	l	704	PEE	C41-C42-C43-C44
55	N	201	CDL	C12-C11-CA5-OA6
55	V	201	CDL	C12-C11-CA5-OA6
55	V	202	CDL	C52-C51-CB5-OB6
48	s	401	PEE	C22-C23-C24-C25
48	C	302	PEE	O3-C30-C31-C32
55	l	702	CDL	C72-C71-CB7-OB8
55	u	201	CDL	C52-C51-CB5-OB6
48	C	302	PEE	C38-C39-C40-C41
48	Q	501	PEE	C38-C39-C40-C41
48	b	201	PEE	C38-C39-C40-C41
48	l	704	PEE	C16-C17-C18-C19
55	a	201	CDL	C44-C45-C46-C47
55	l	702	CDL	C82-C83-C84-C85
49	r	502	PLX	C18-C19-C20-C21
49	C	303	PLX	C16-C17-C18-C19
48	l	701	PEE	C38-C39-C40-C41
48	B	303	PEE	C39-C40-C41-C42
55	a	201	CDL	C64-C65-C66-C67
48	l	704	PEE	C1-C2-C3-O3
49	j	202	PLX	C7-C6-O6-C4
48	s	401	PEE	C31-C32-C33-C34
49	r	503	PLX	C9-C10-C11-C12
55	w	401	CDL	C52-C51-CB5-OB6
48	j	201	PEE	C23-C24-C25-C26
48	b	201	PEE	C20-C21-C22-C23
55	a	201	CDL	C33-C34-C35-C36
55	l	703	CDL	C63-C64-C65-C66
48	b	201	PEE	O3-C30-C31-C32
55	N	201	CDL	C72-C71-CB7-OB8
50	G	201	8Q1	C11-C12-C13-C14
49	g	201	PLX	C6-C7-C8-C9
48	l	704	PEE	C36-C37-C38-C39
55	a	201	CDL	C32-C31-CA7-OA8
55	m	201	CDL	C52-C51-CB5-OB6
49	r	502	PLX	C35-C36-C37-C38
55	a	201	CDL	C58-C59-C60-C61
55	V	202	CDL	OA7-CA5-OA6-CA4
48	W	201	PEE	C16-C17-C18-C19

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Mol	Chain	Res	Type	Atoms
55	a	201	CDL	C21-C22-C23-C24
55	w	401	CDL	C12-C11-CA5-OA6
48	C	302	PEE	C44-C45-C46-C47
55	l	702	CDL	C72-C71-CB7-OB9
48	l	701	PEE	O2-C10-C11-C12
55	V	201	CDL	C32-C31-CA7-OA8
49	g	201	PLX	C11-C10-C9-C8
50	G	201	8Q1	C12-C13-C14-C15
55	l	703	CDL	C72-C71-CB7-OB9
55	N	201	CDL	C12-C11-CA5-OA7
55	V	201	CDL	C12-C11-CA5-OA7
55	s	402	CDL	C12-C11-CA5-OA7
55	u	201	CDL	C52-C51-CB5-OB7
49	a	202	PLX	C12-C13-C14-C15
48	C	302	PEE	O5-C30-C31-C32
48	b	201	PEE	O5-C30-C31-C32
55	V	202	CDL	C52-C51-CB5-OB7
55	w	401	CDL	C52-C51-CB5-OB7
55	l	703	CDL	C40-C41-C42-C43
48	Q	501	PEE	C2-C1-O3P-P
49	r	503	PLX	C18-C19-C20-C21
47	A	503	NAI	C2N-C3N-C7N-N7N
48	W	201	PEE	C4-O4P-P-O2P
48	b	201	PEE	C4-O4P-P-O1P
49	r	502	PLX	C3-O4-P1-O2
55	N	201	CDL	CA3-OA5-PA1-OA3
55	m	201	CDL	CA2-OA2-PA1-OA4
55	w	401	CDL	CA3-OA5-PA1-OA3
55	l	702	CDL	C63-C64-C65-C66
55	m	201	CDL	C52-C51-CB5-OB7
55	l	703	CDL	C82-C83-C84-C85
48	W	201	PEE	C5-C4-O4P-P
48	r	501	PEE	C5-C4-O4P-P
49	C	303	PLX	C1-C2-O1-P1
50	G	201	8Q1	C29-C32-C34-O35
48	l	701	PEE	C12-C13-C14-C15
48	Q	501	PEE	C36-C37-C38-C39
55	a	201	CDL	C17-C18-C19-C20
55	l	702	CDL	C14-C15-C16-C17
48	j	201	PEE	O3-C30-C31-C32
55	u	201	CDL	C72-C71-CB7-OB8
55	a	201	CDL	C32-C31-CA7-OA9

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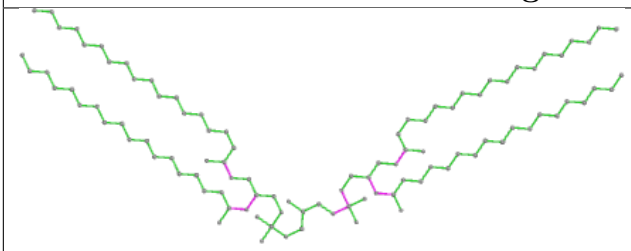
Mol	Chain	Res	Type	Atoms
55	V	202	CDL	C63-C64-C65-C66
49	a	202	PLX	C6-C7-C8-C9
55	w	401	CDL	C12-C11-CA5-OA7
50	X	201	8Q1	C6-C7-C8-C9
48	C	302	PEE	O2-C10-C11-C12
48	B	303	PEE	C14-C15-C16-C17
52	s	403	UQ	C3-C2-O2-CM2
55	N	201	CDL	C72-C71-CB7-OB9
55	V	201	CDL	C32-C31-CA7-OA9
55	m	201	CDL	C32-C31-CA7-OA8
48	l	701	PEE	O4-C10-C11-C12
48	l	701	PEE	C16-C17-C18-C19
55	u	201	CDL	C72-C71-CB7-OB9
55	m	201	CDL	C17-C18-C19-C20

There are no ring outliers.

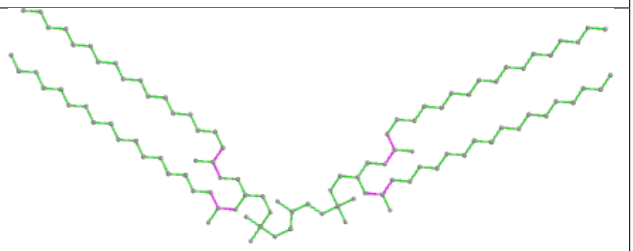
No monomer is involved in short contacts.

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

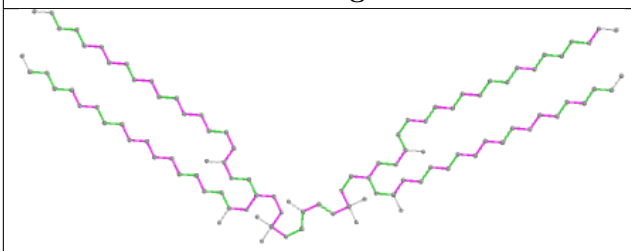
Ligand CDL m 201



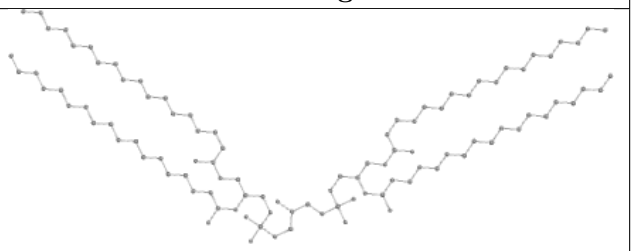
Bond lengths



Bond angles

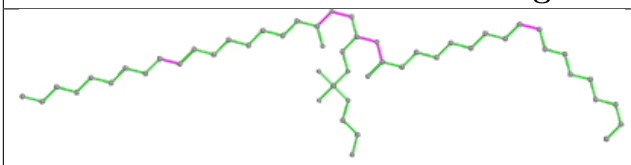


Torsions

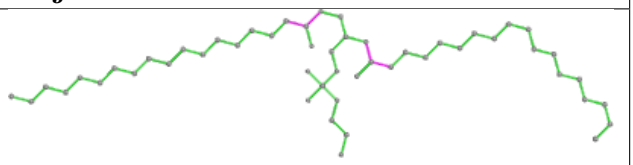


Rings

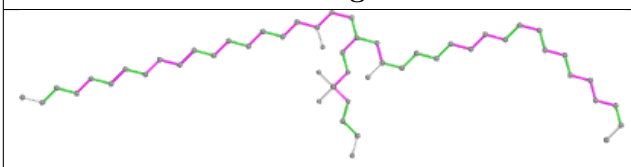
Ligand PEE j 201



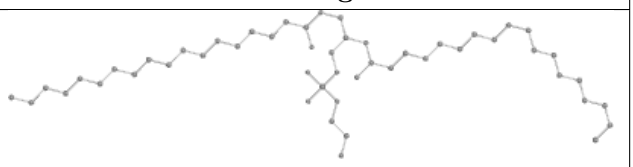
Bond lengths



Bond angles

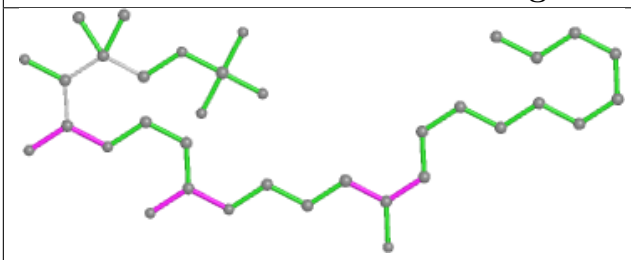


Torsions



Rings

Ligand 8Q1 G 201



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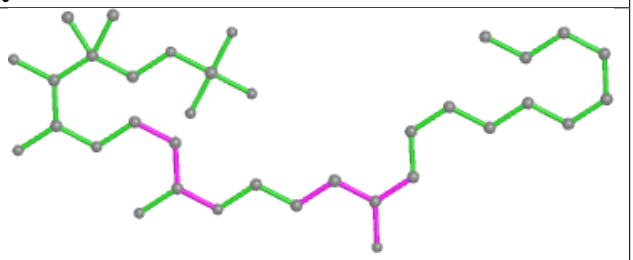
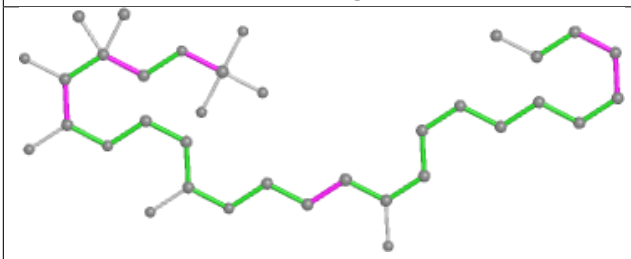


Bond angles



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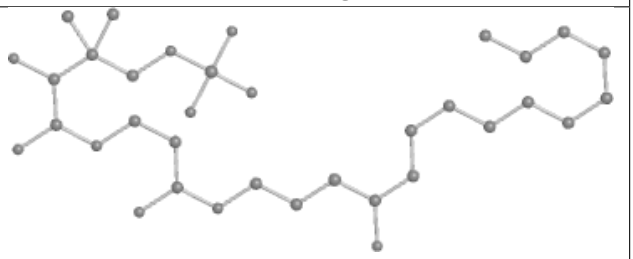
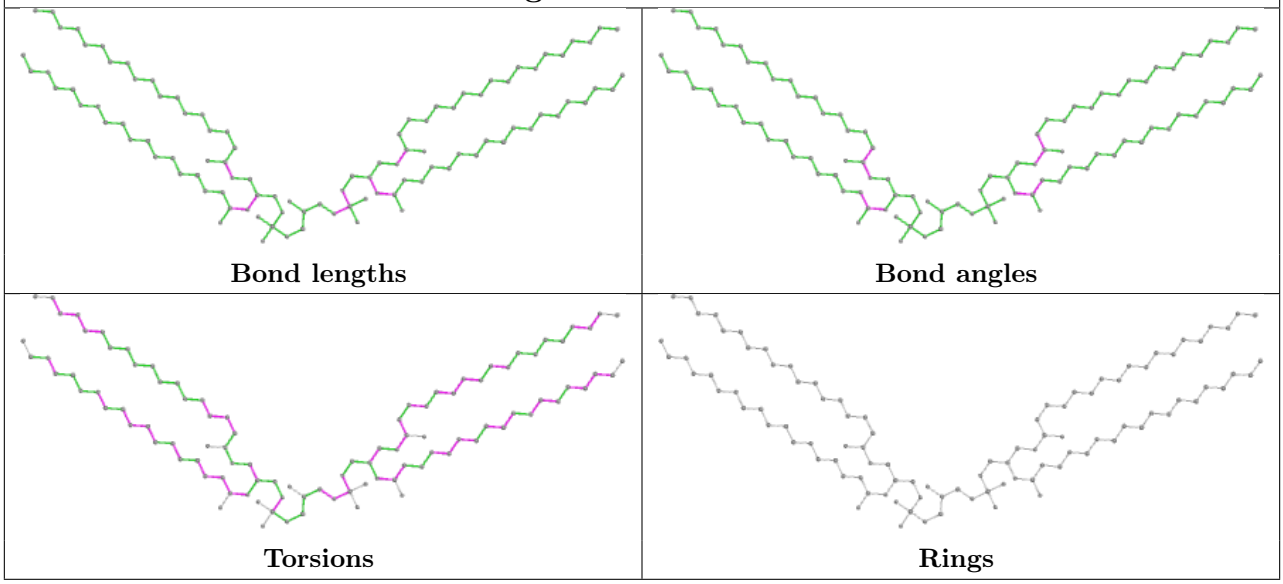


Rings

Ligand CDL w 401



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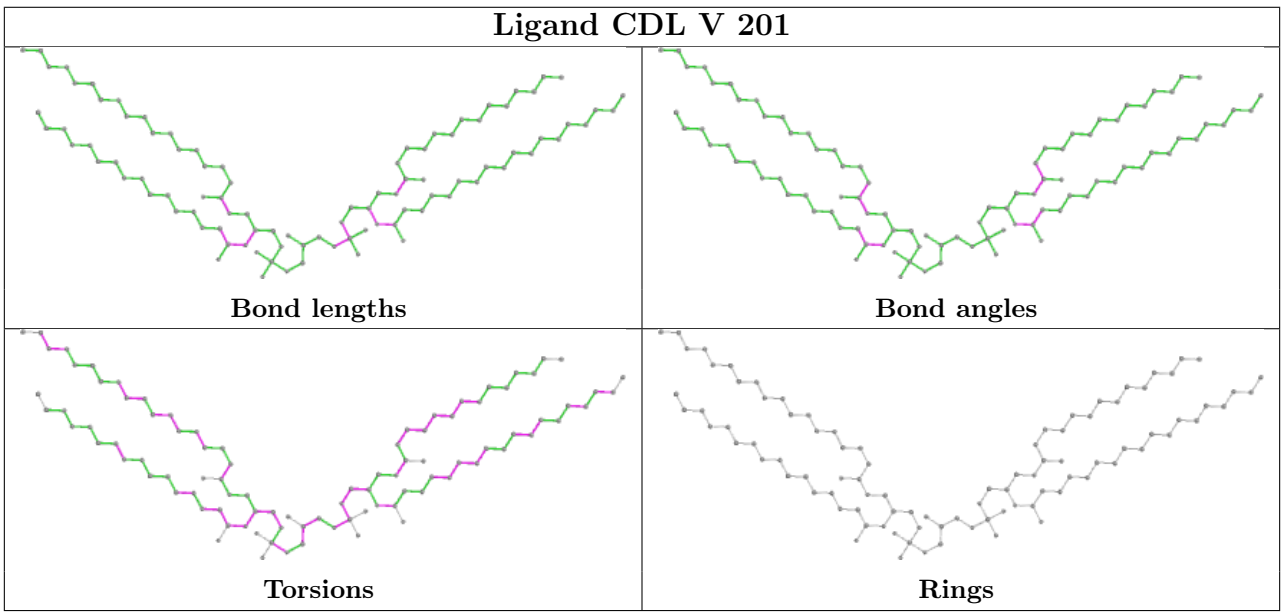
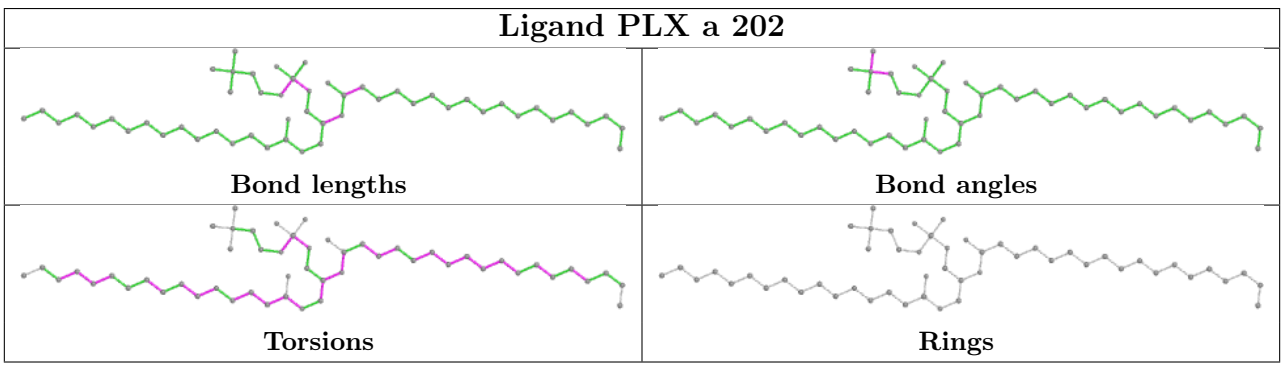


Ligand PLX a 202



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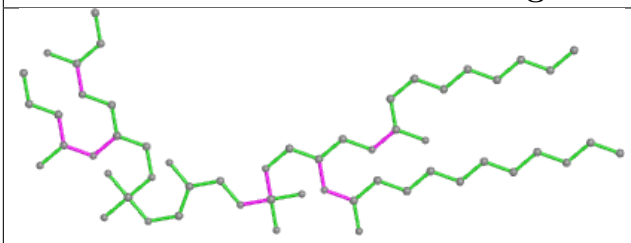
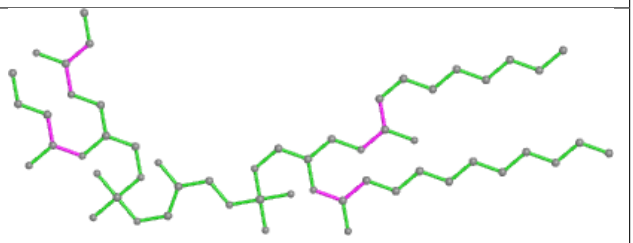
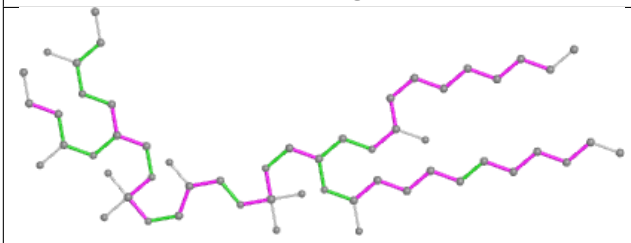


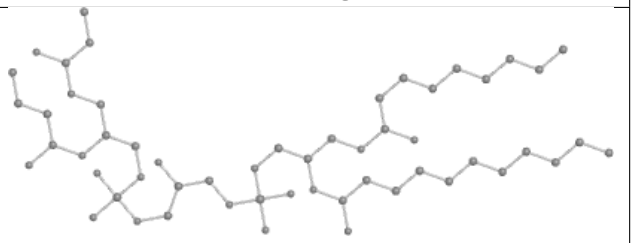
Bond lengths



Bond angles

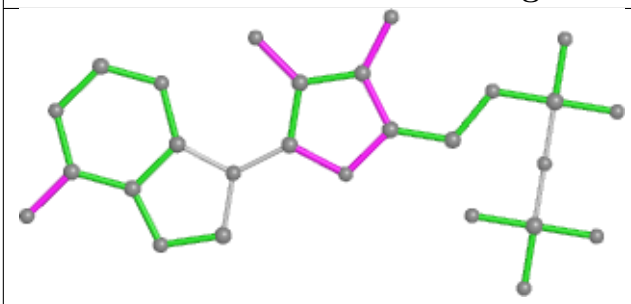


Torsions



Rings

Ligand ADP w 402



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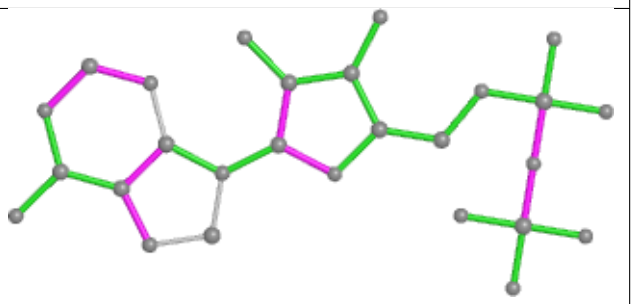
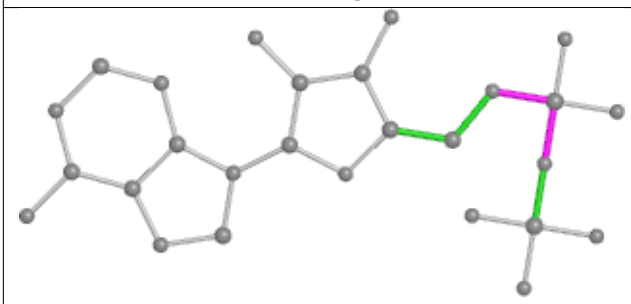


Bond angles



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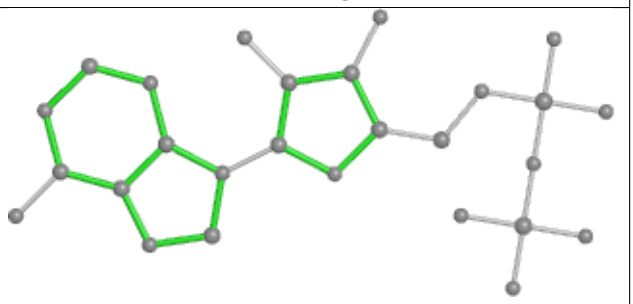
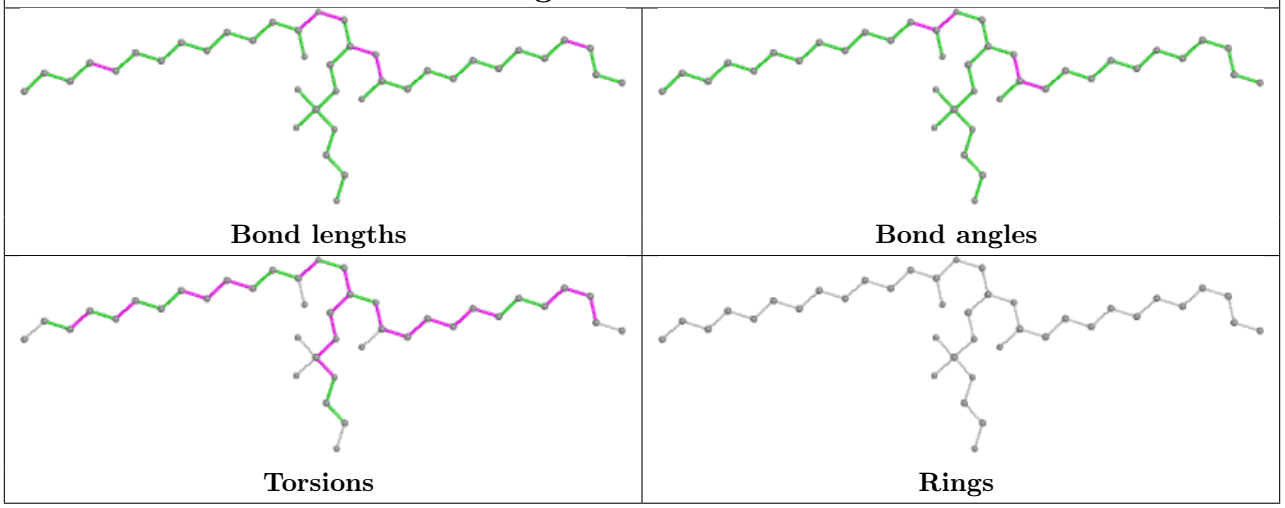
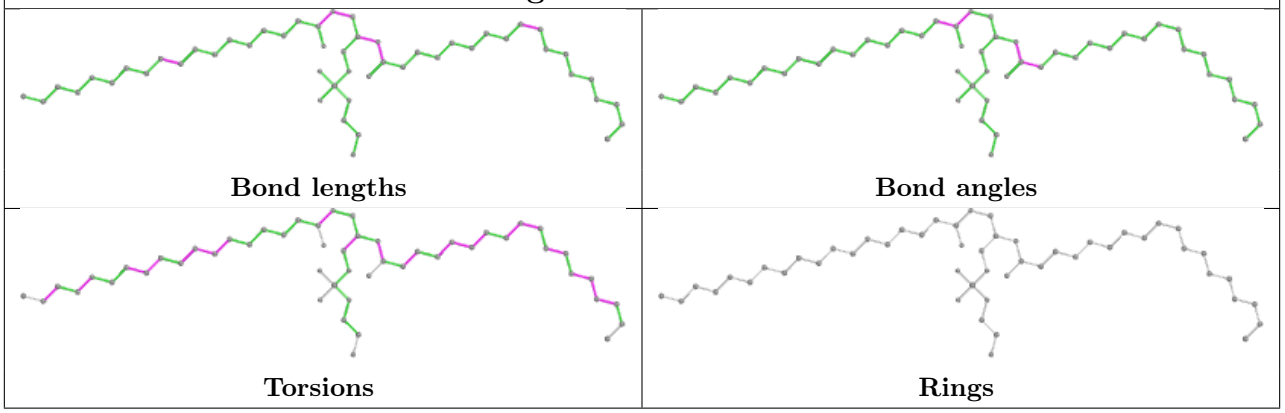


Rings

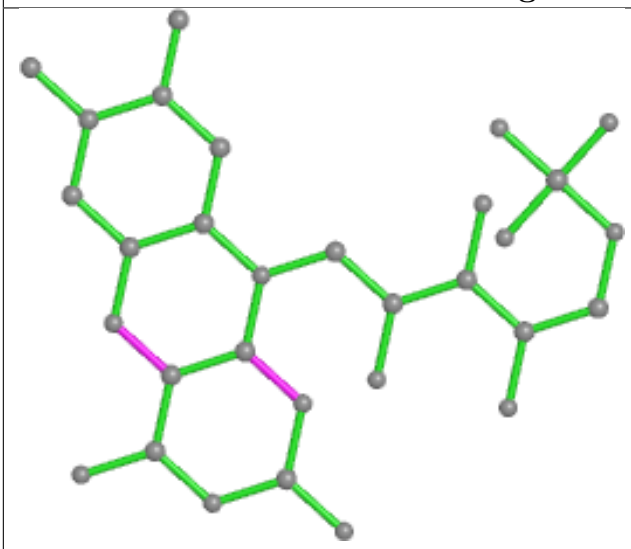
Ligand PEE l 701



Ligand PEE B 303



Ligand FMN A 502



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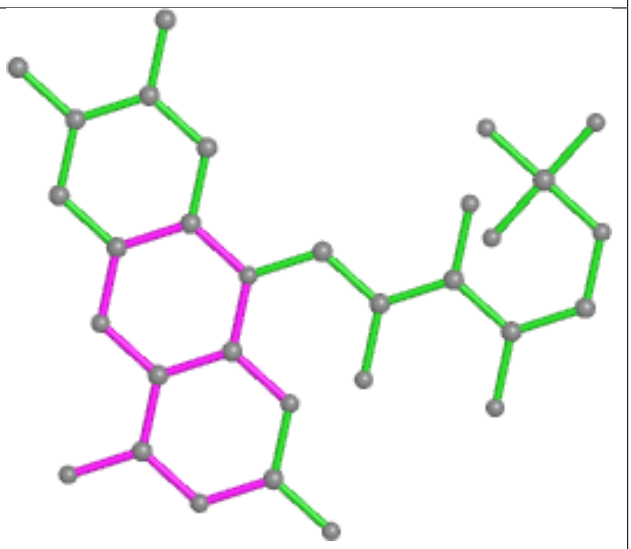
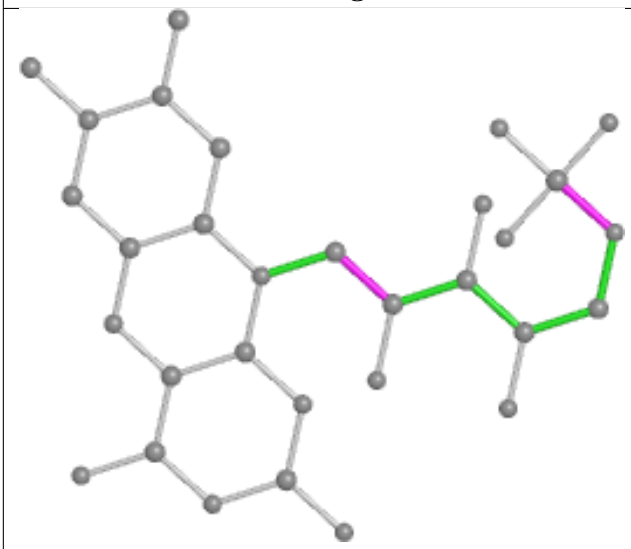


Bond angles



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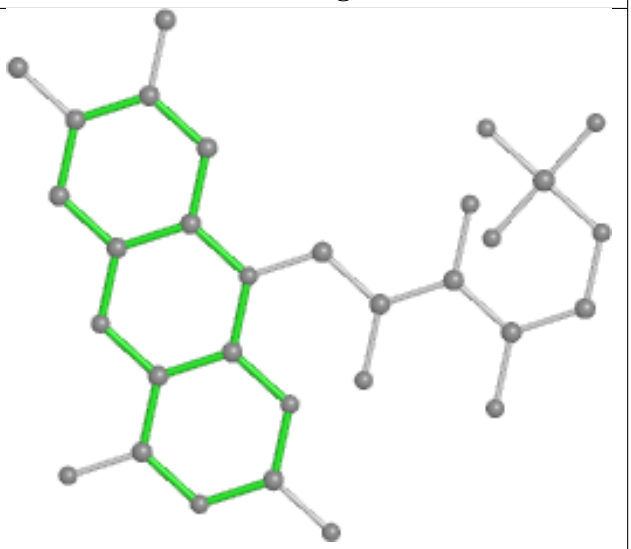
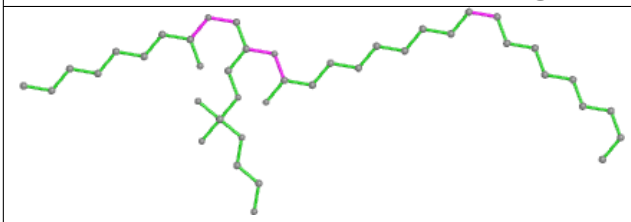


Rings

Ligand PEE s 401



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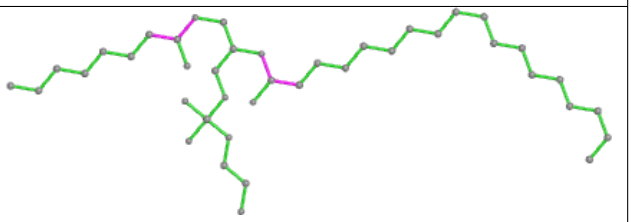

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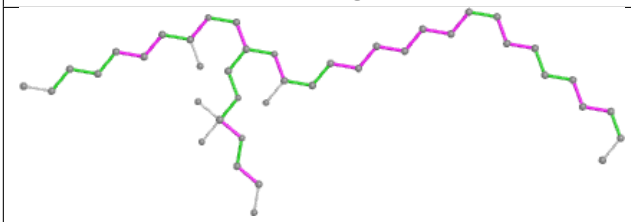

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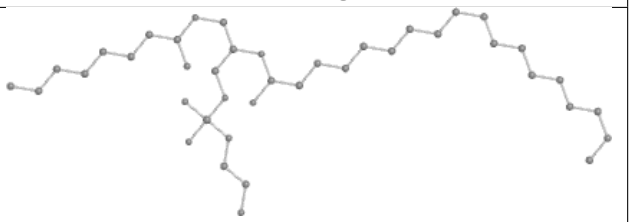
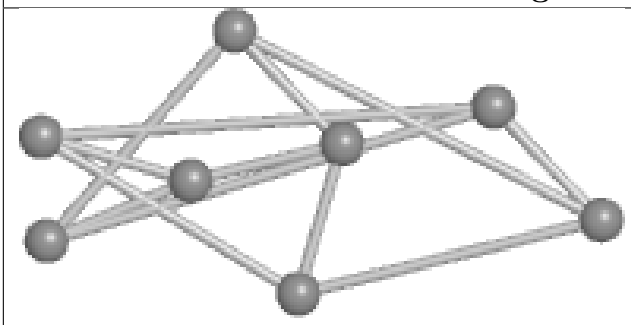


Rings

Ligand SF4 B 301



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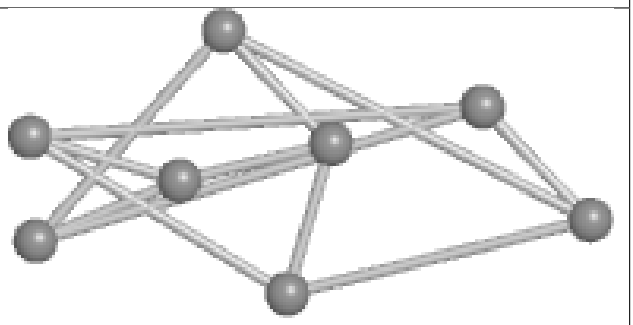
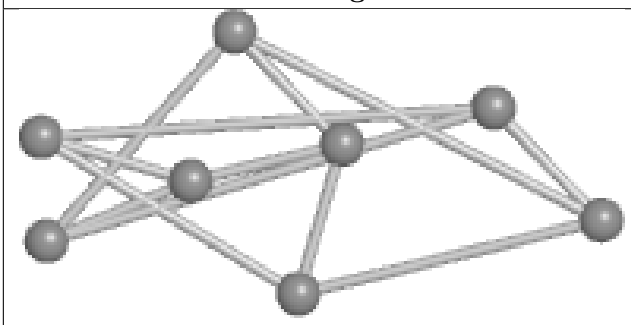


Bond angles



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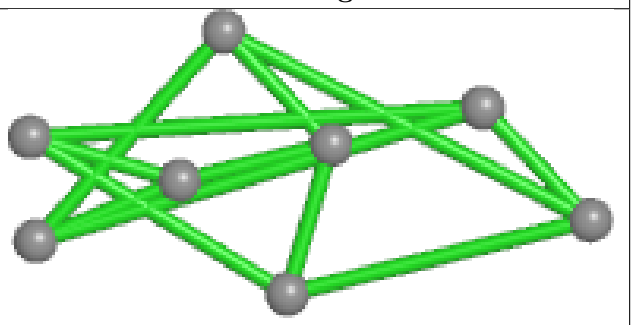
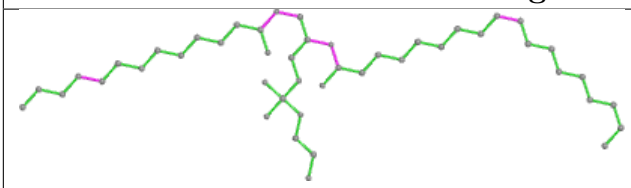


Rings

Ligand PEE b 201



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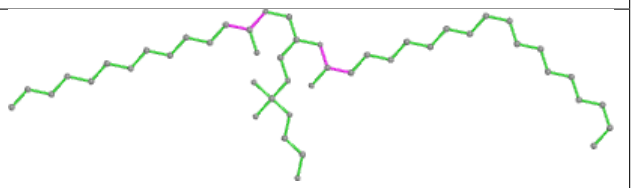
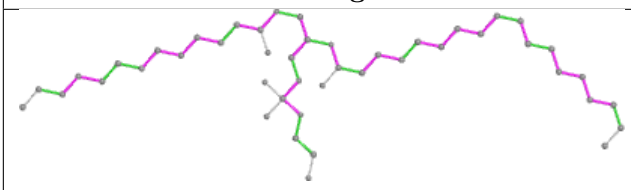
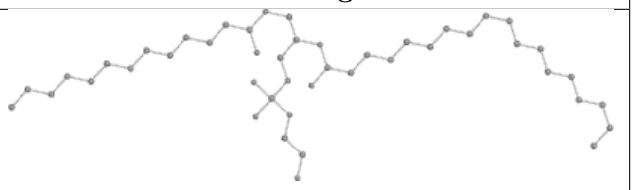


Bond angles

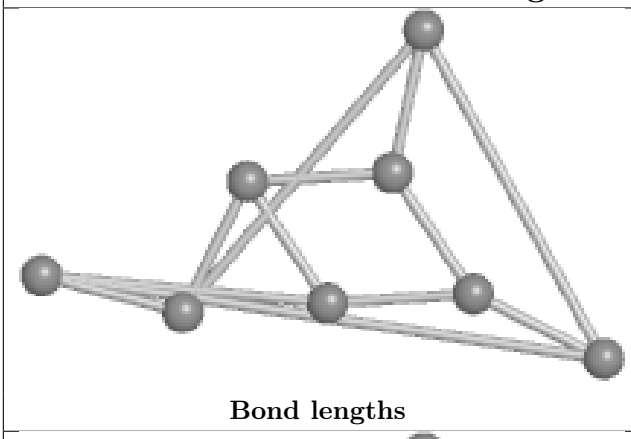


Torsions



Rings

Ligand SF4 M 802



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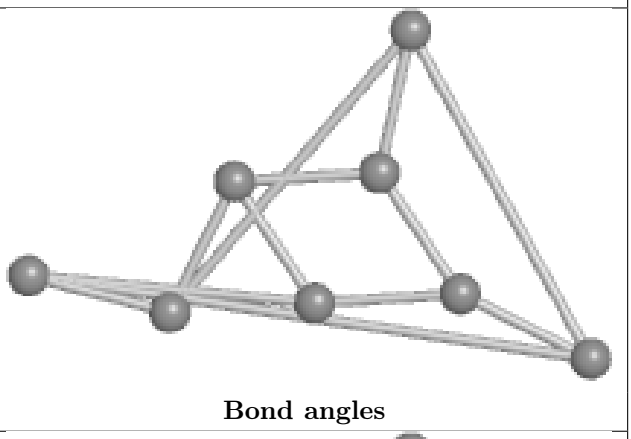
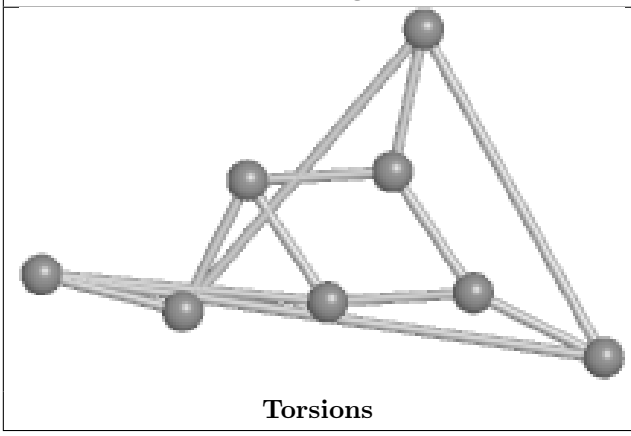


Bond angles



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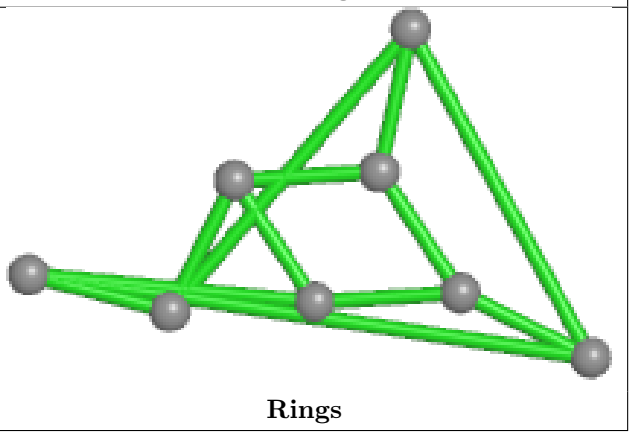
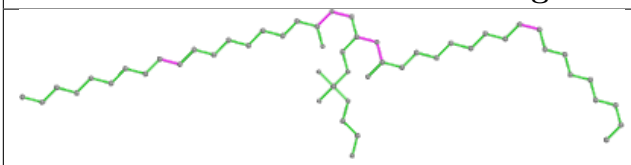


Rings

Ligand PEE r 501



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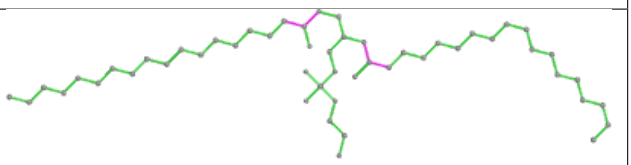
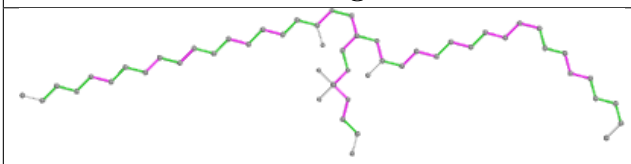


Bond angles



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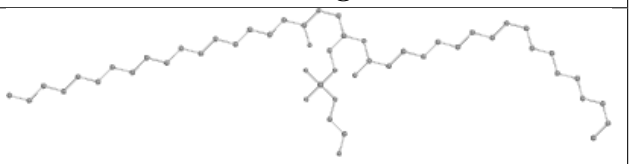
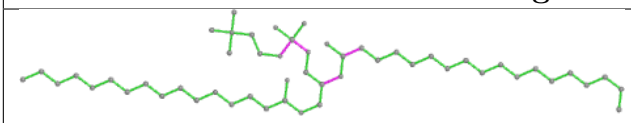


Rings

Ligand PLX j 202



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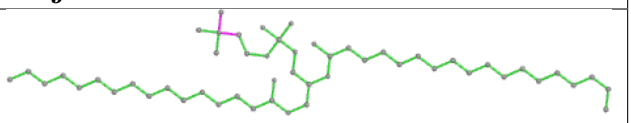
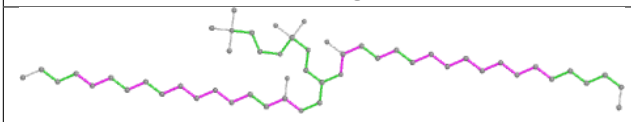


Bond angles



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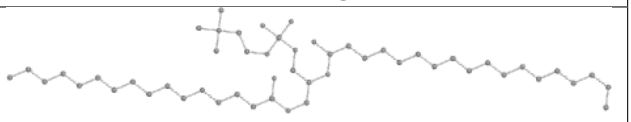
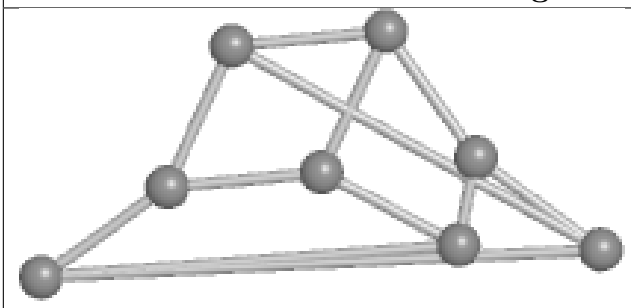


Rings

Ligand SF4 C 301



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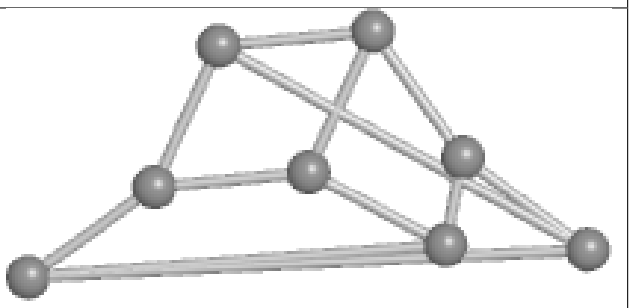
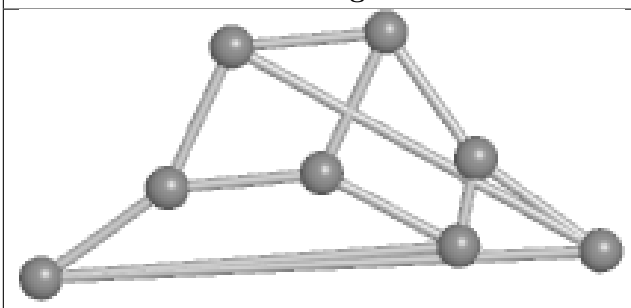


Bond angles



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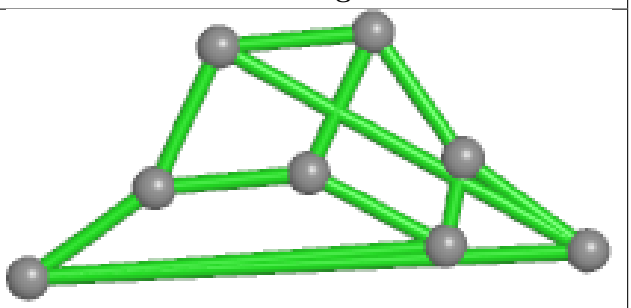
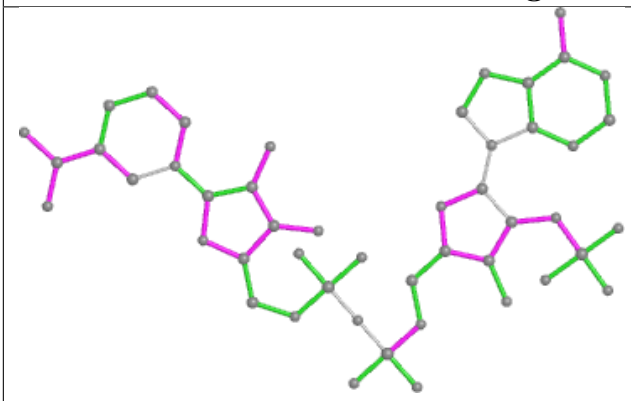
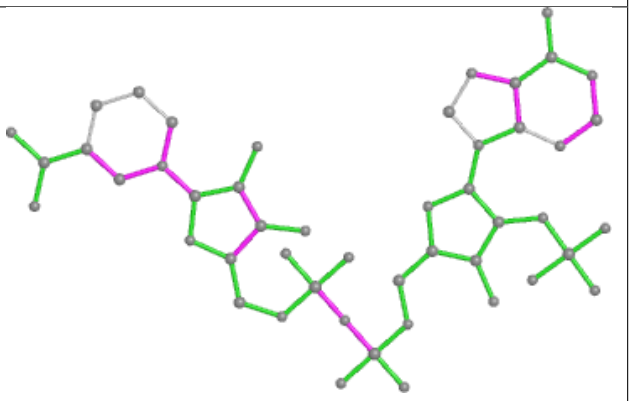


Rings

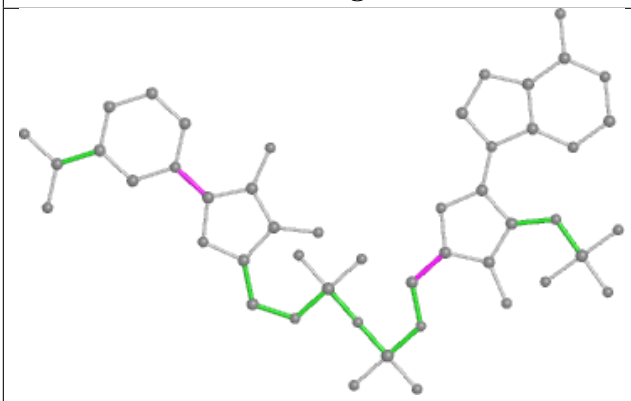
Ligand NDP J 401



Bond lengths



Bond angles



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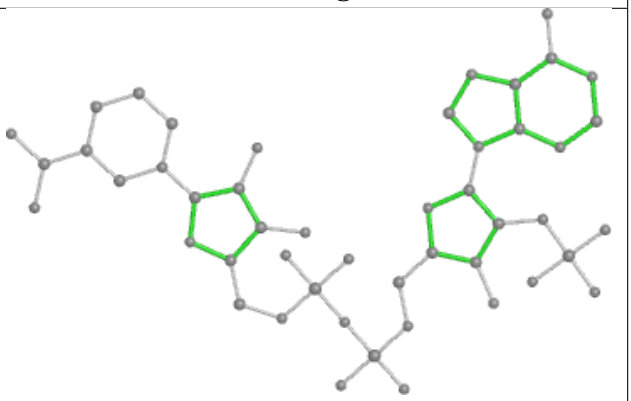
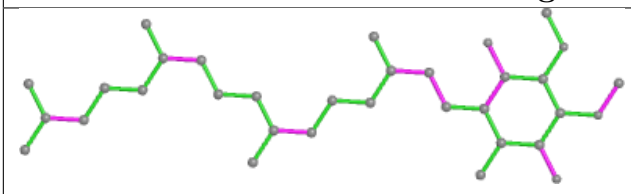
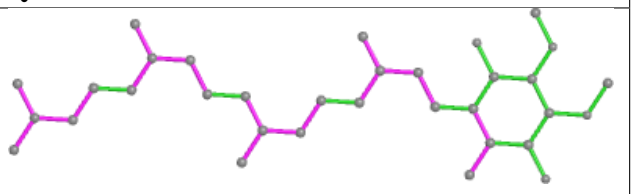
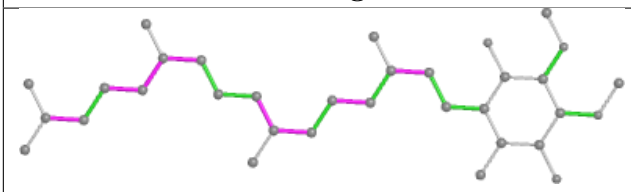


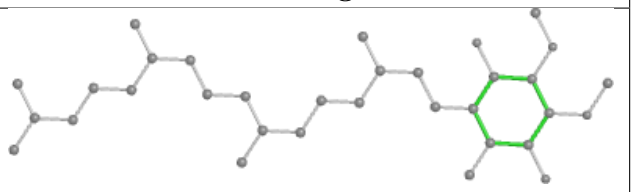
Rings

Ligand UQ J 402

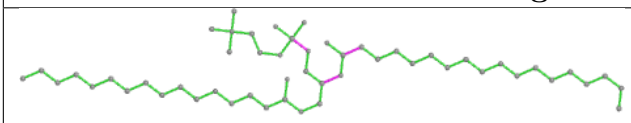

Bond lengths


Bond angles


Torsions


Rings

Ligand PLX r 503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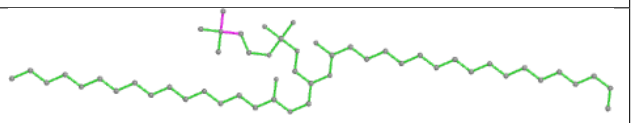
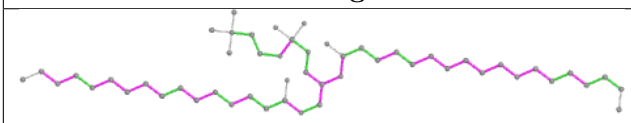
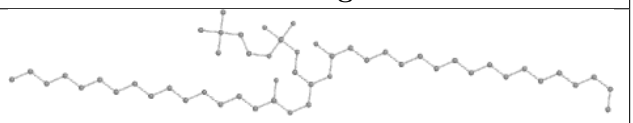
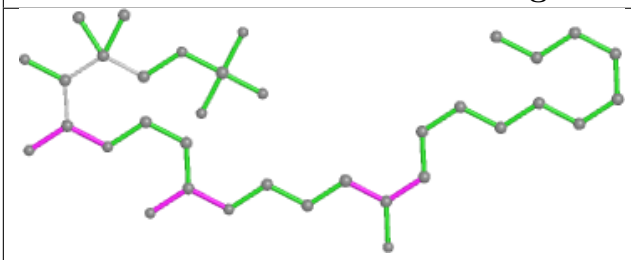
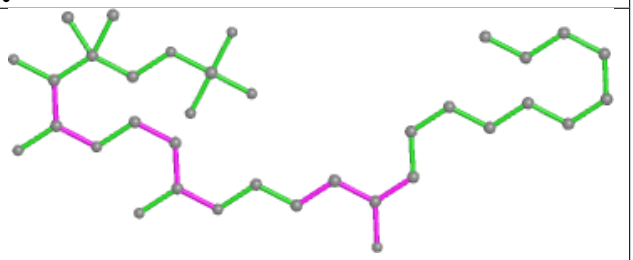

Bond angles

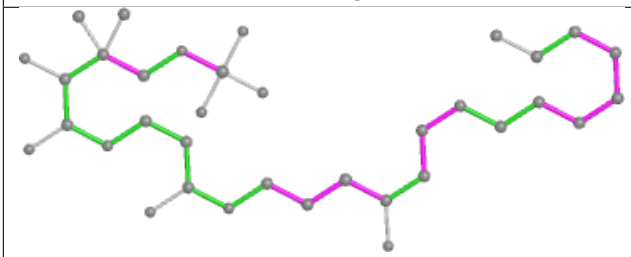

Torsions

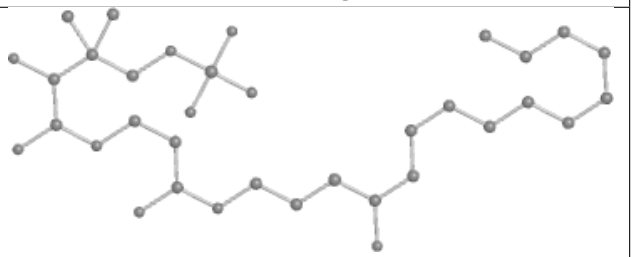

Rings

Ligand 8Q1 X 201

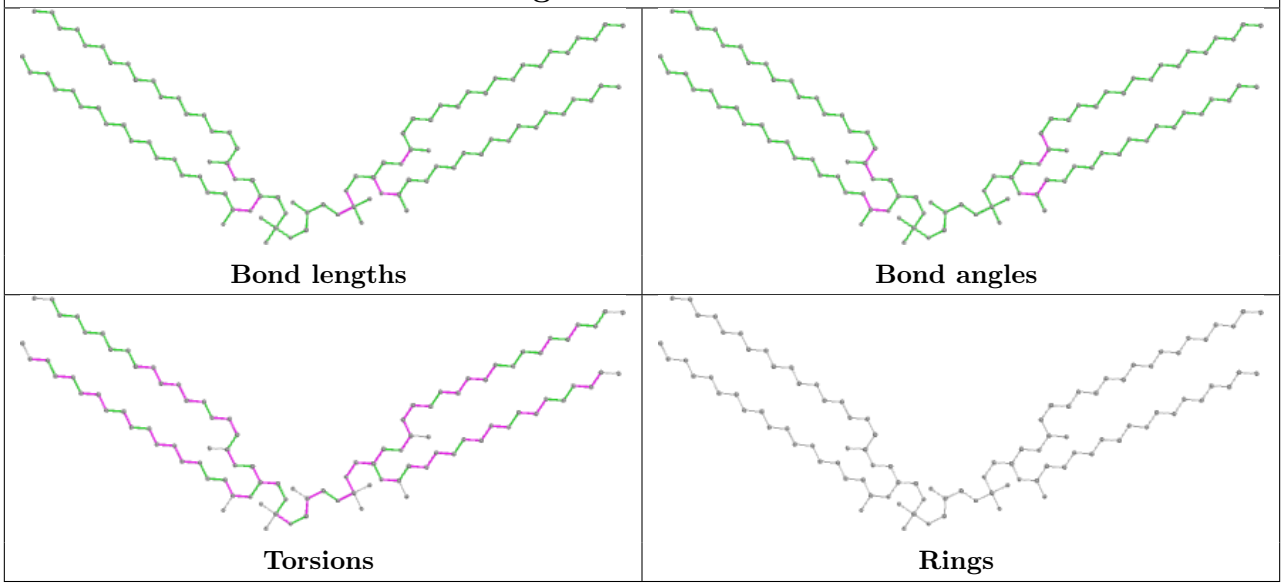

Bond lengths


Bond angles

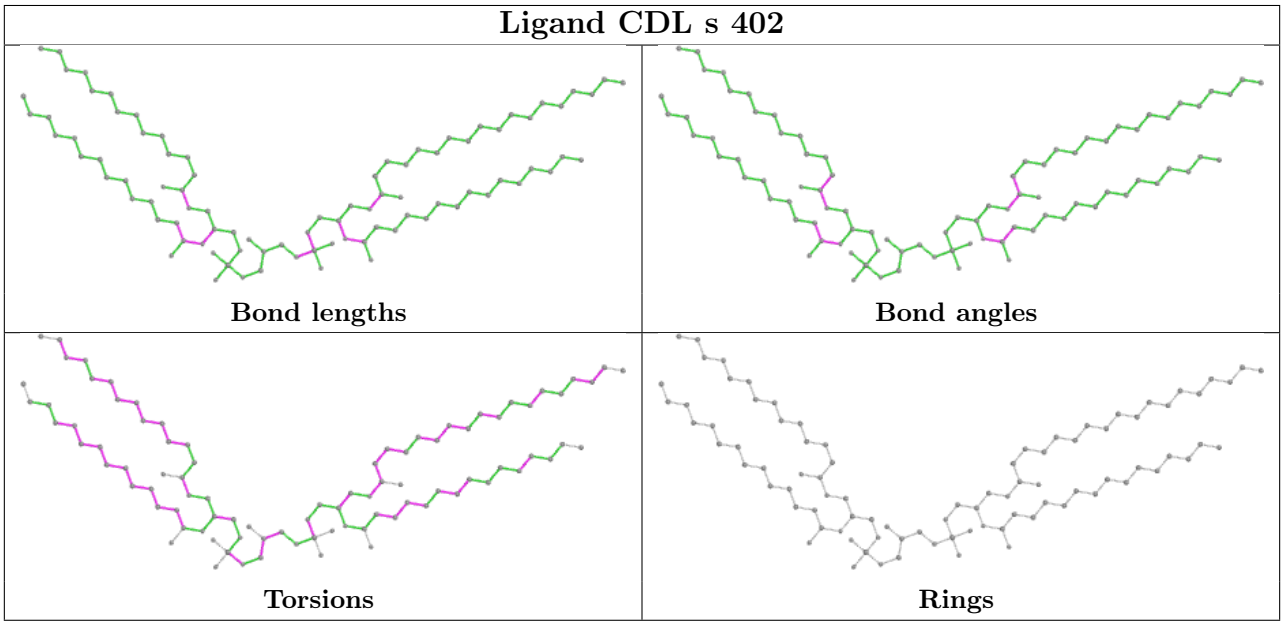

Torsions


Rings

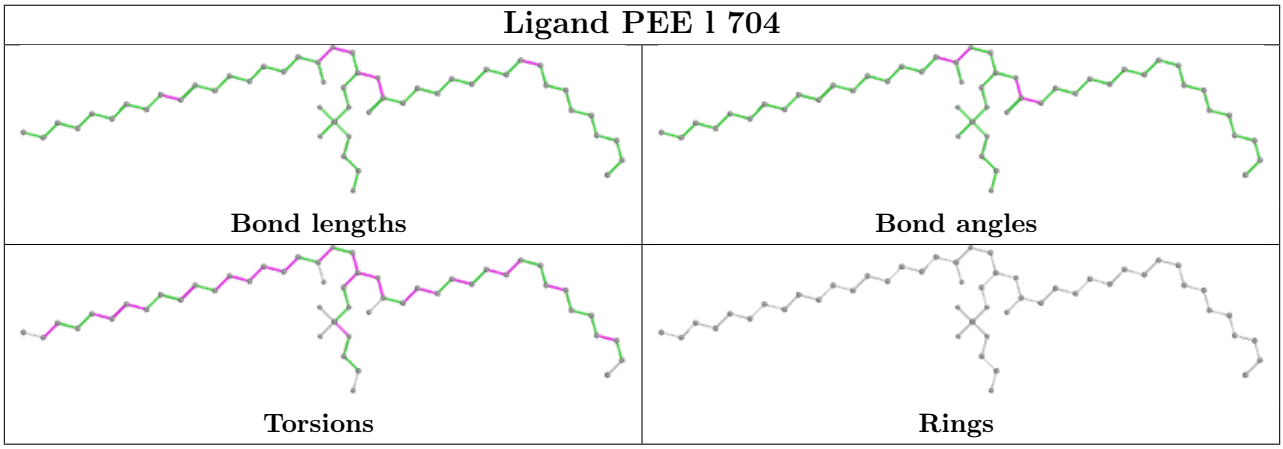
Ligand CDL l 702



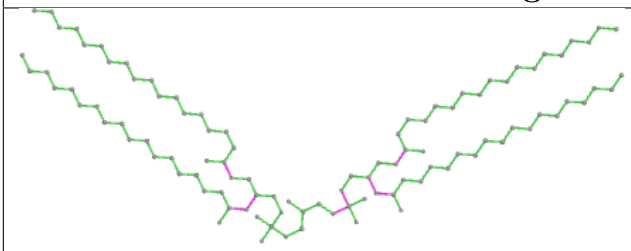
Ligand CDL s 402



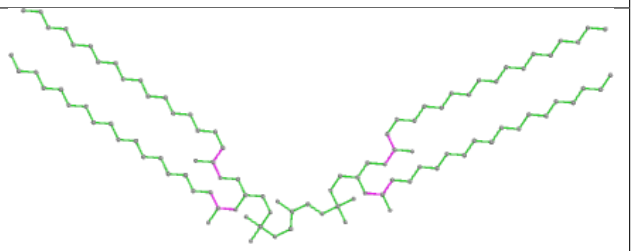
Ligand PEE l 704



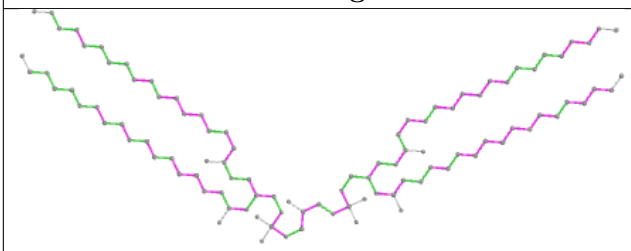
Ligand CDL V 202



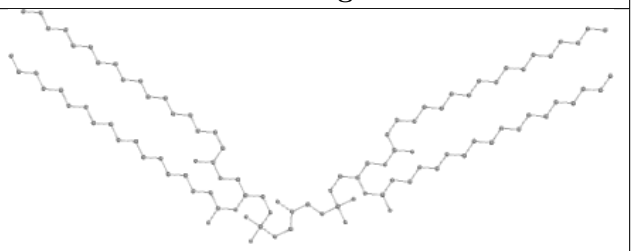
Bond lengths



Bond angles

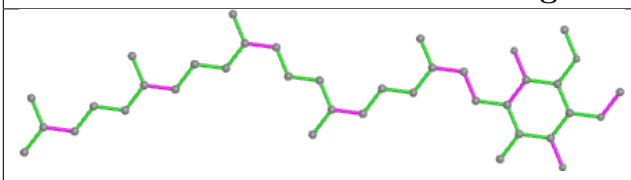


Torsions

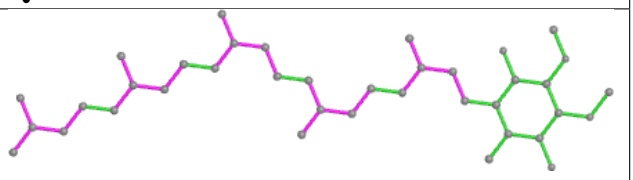


Rings

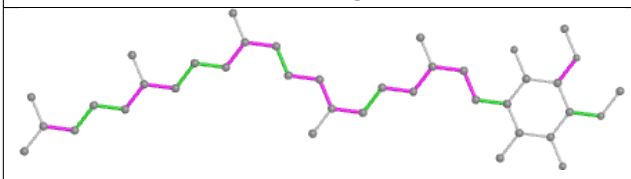
Ligand UQ s 403



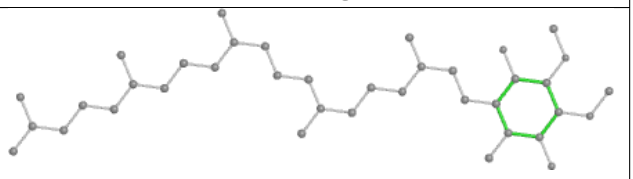
Bond lengths



Bond angles

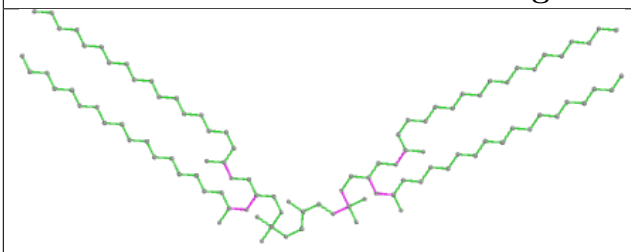


Torsions

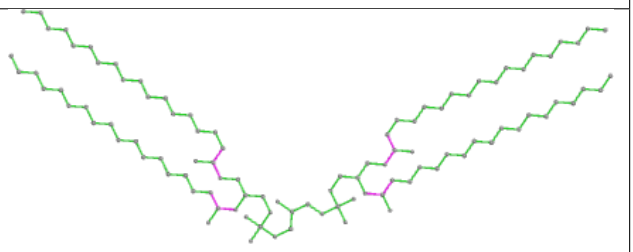


Rings

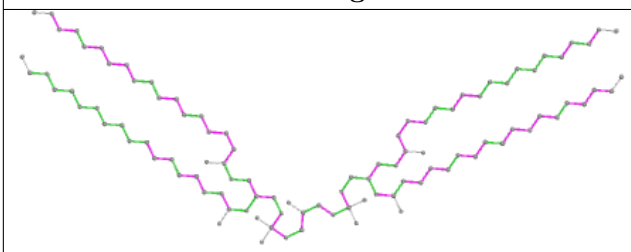
Ligand CDL l 703



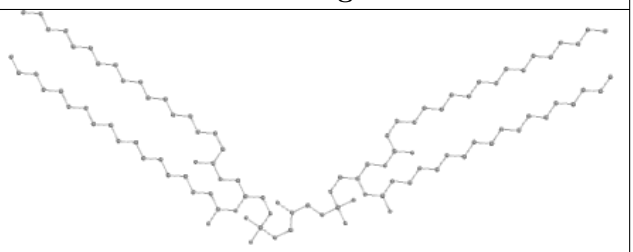
Bond lengths



Bond angles

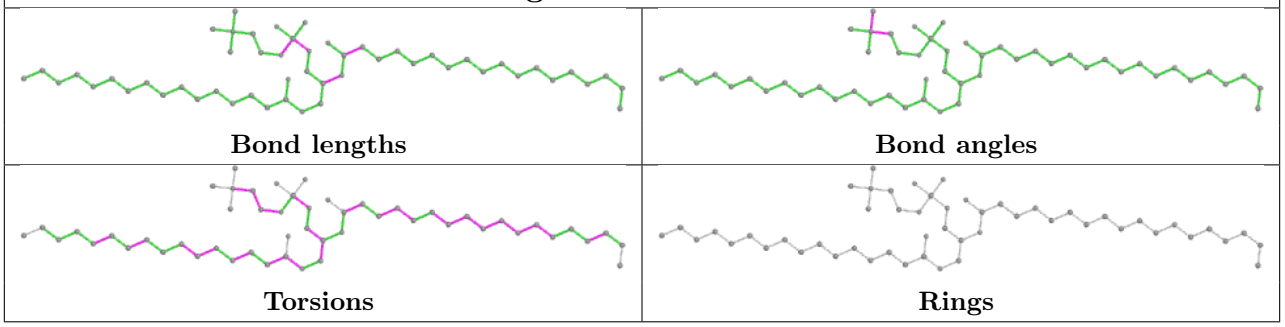


Torsions

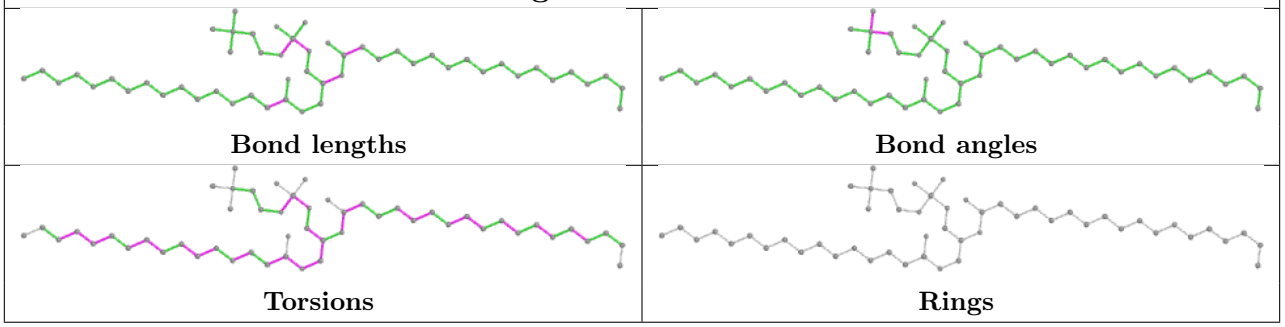


Rings

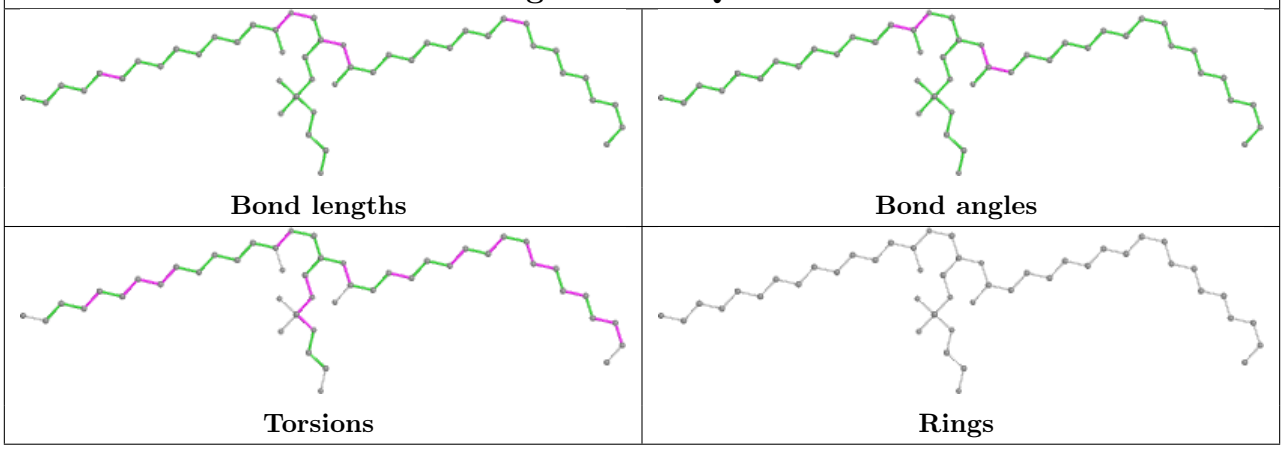
Ligand PLX C 303



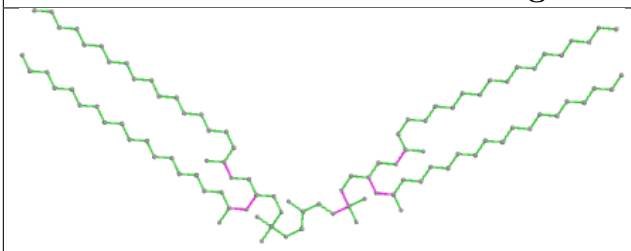
Ligand PLX r 502



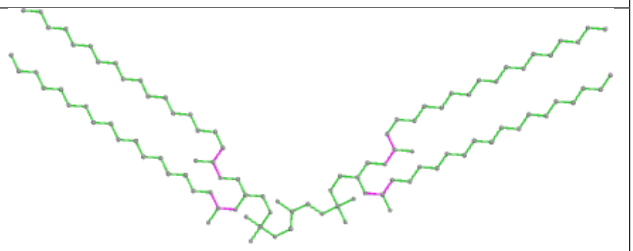
Ligand PEE Q 501



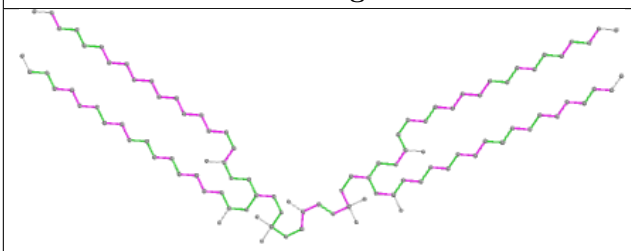
Ligand CDL a 201



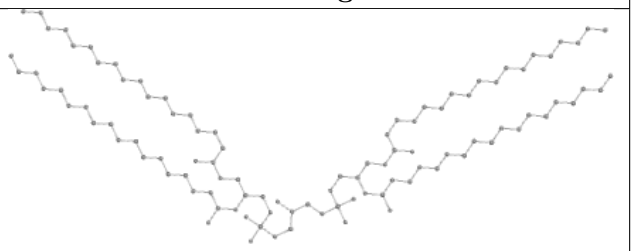
Bond lengths



Bond angles

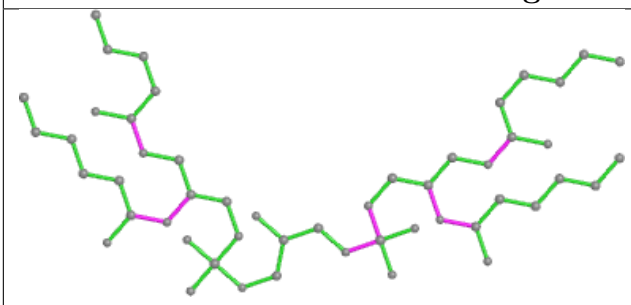


Torsions

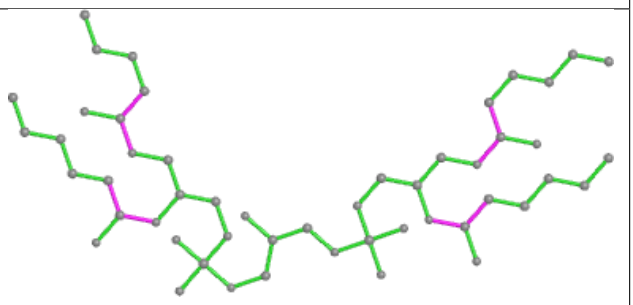


Rings

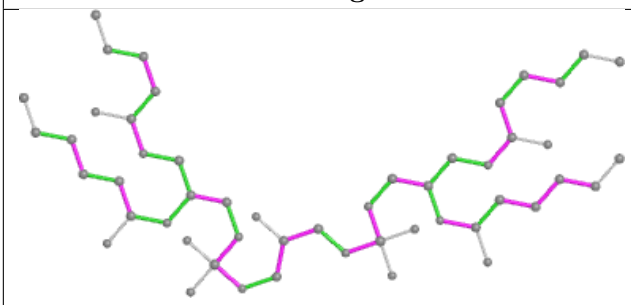
Ligand CDL N 201



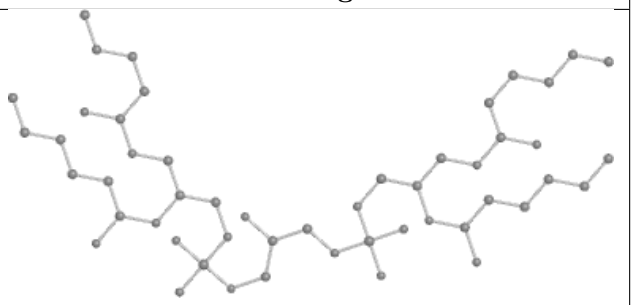
Bond lengths



Bond angles

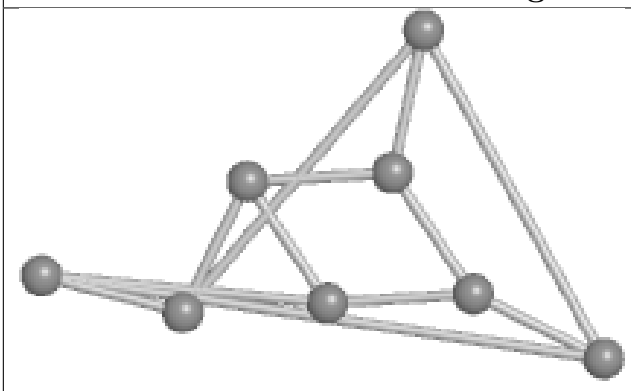


Torsions

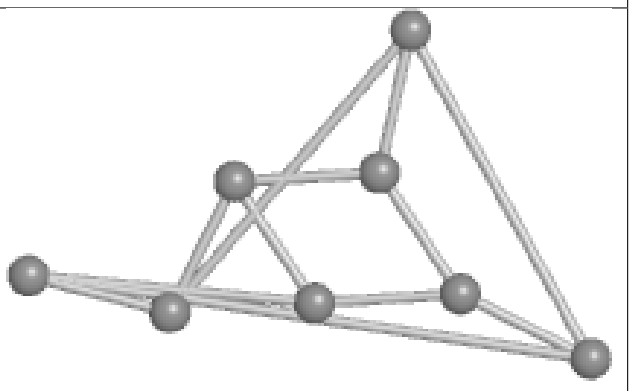


Rings

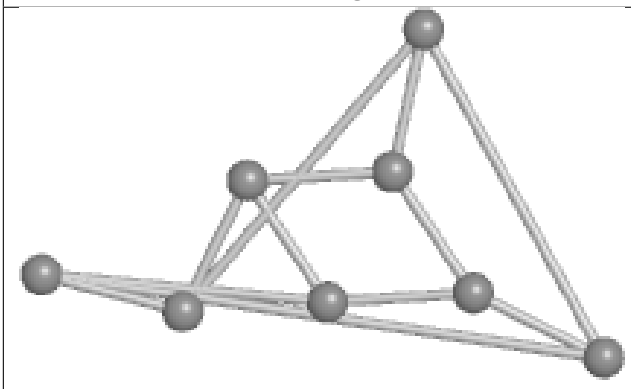
Ligand SF4 M 801



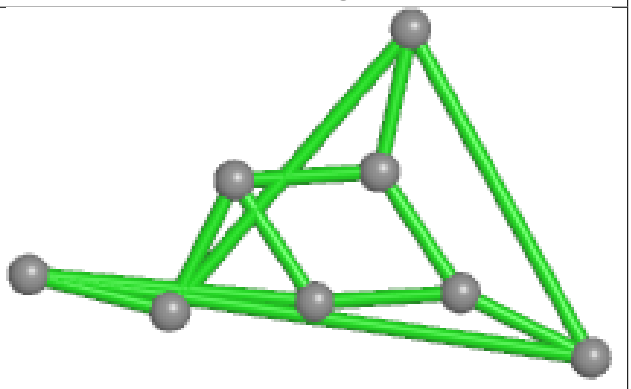
Bond lengths



Bond angles

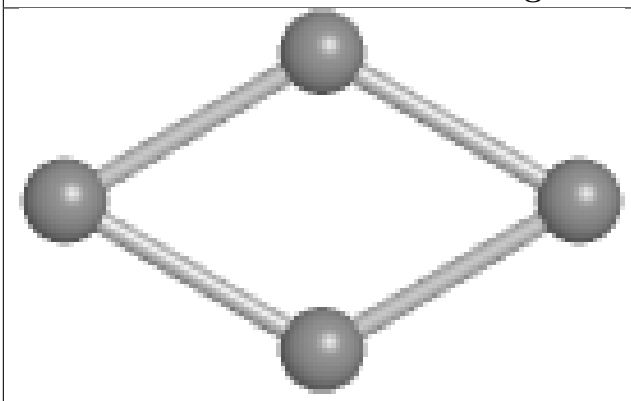


Torsions

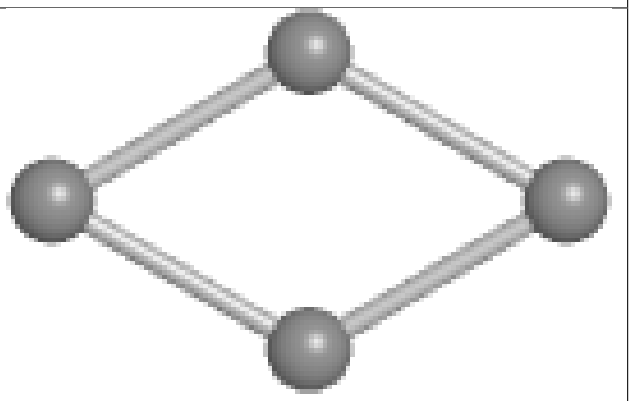


Rings

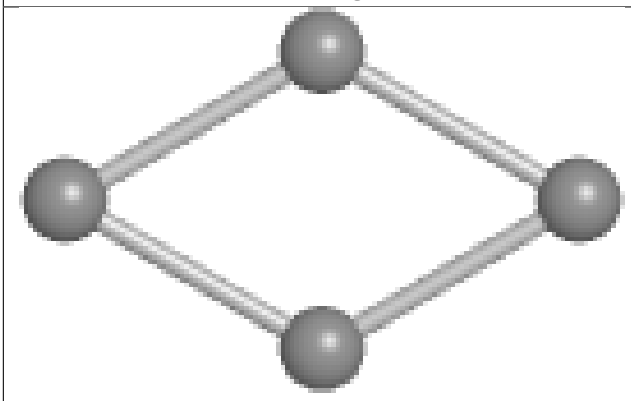
Ligand FES M 803



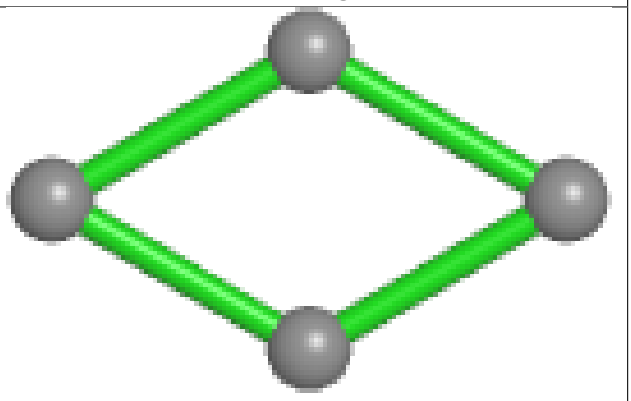
Bond lengths



Bond angles

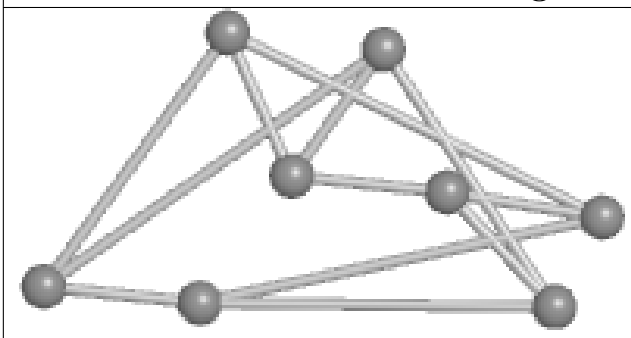


Torsions

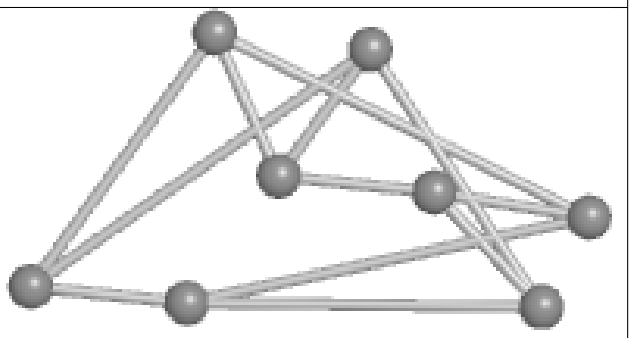


Rings

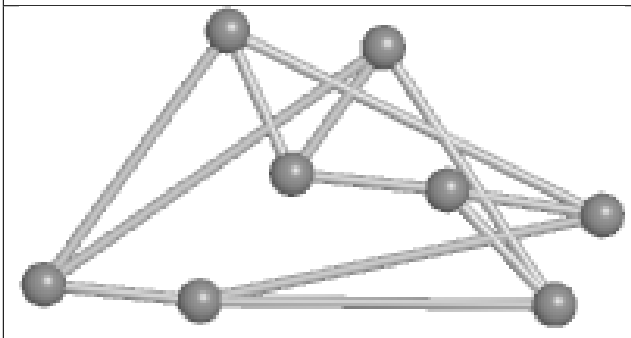
Ligand SF4 A 501



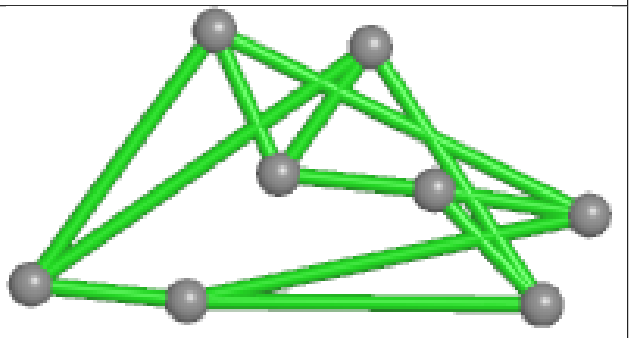
Bond lengths



Bond angles

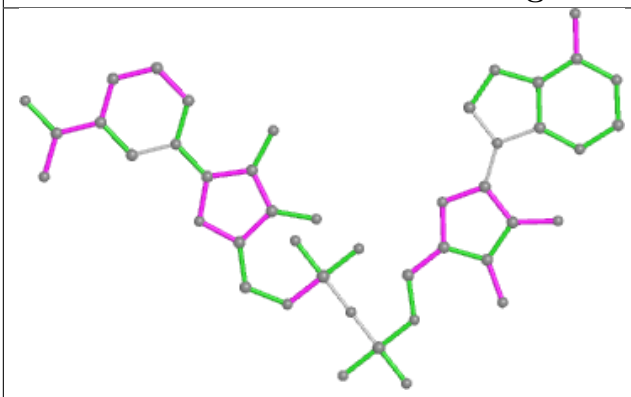


Torsions

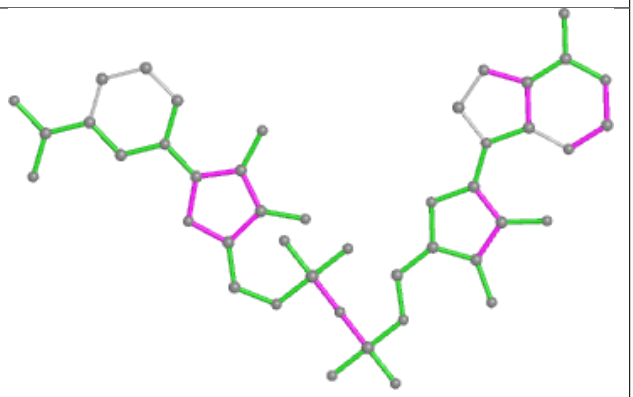


Rings

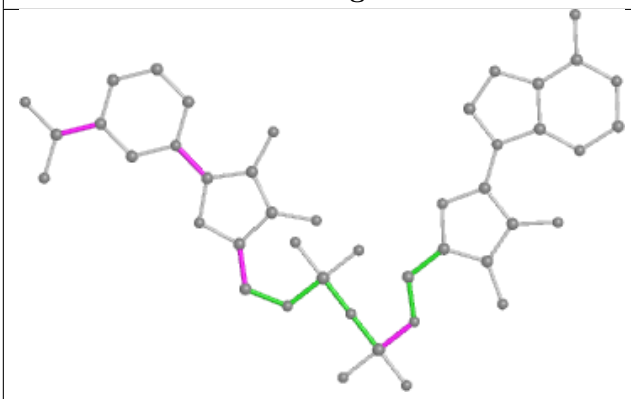
Ligand NAI A 503



Bond lengths



Bond angles



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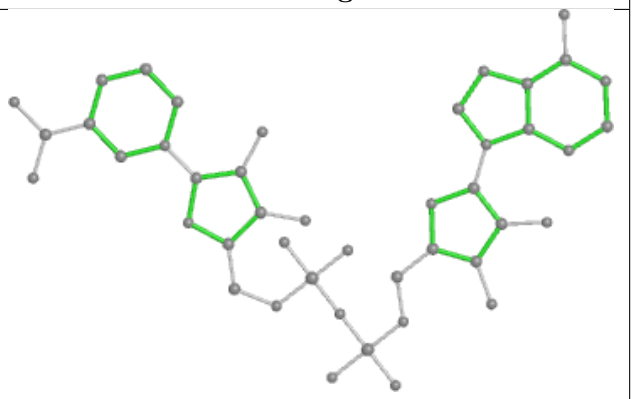
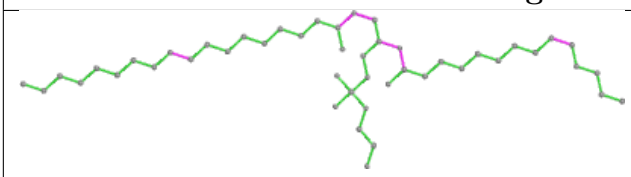
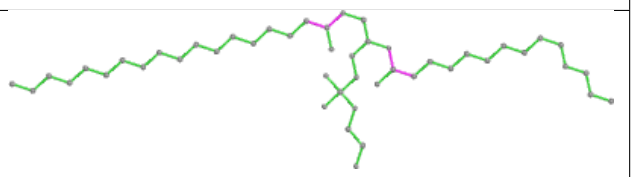


Rings

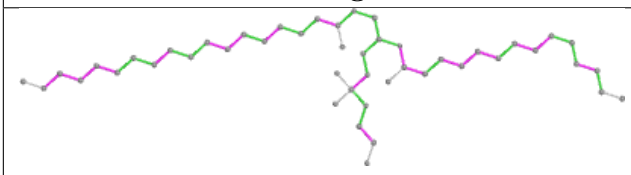
Ligand PEE C 302



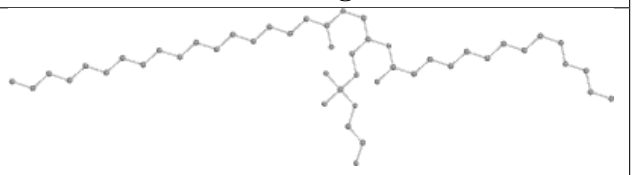
Bond lengths



Bond angles

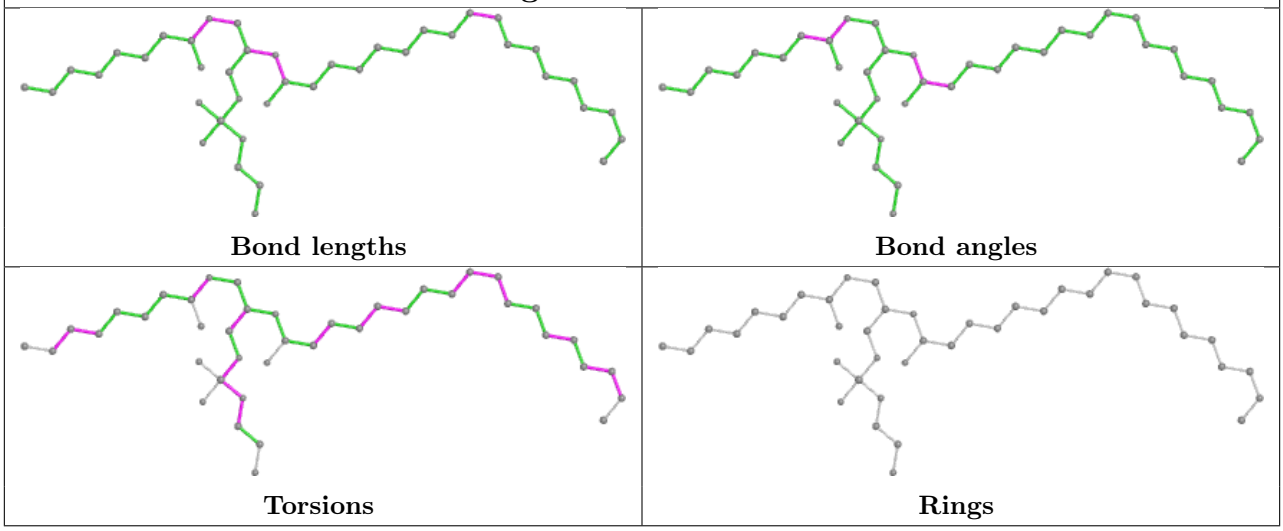


Torsions

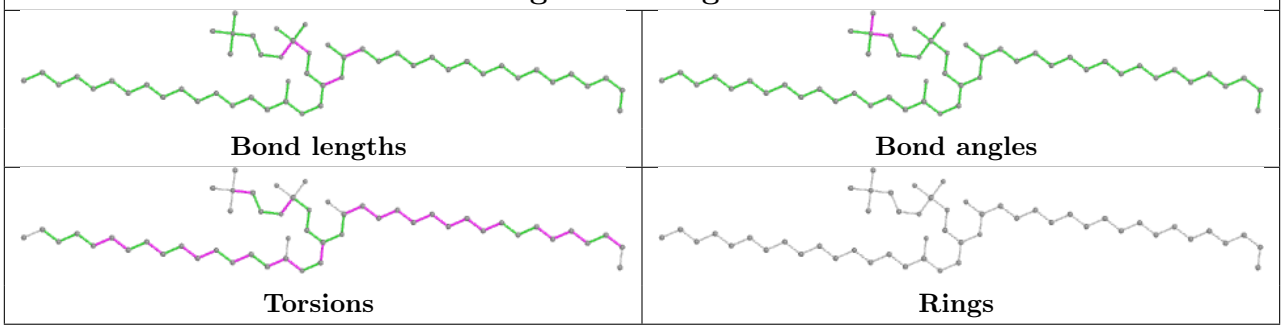


Rings

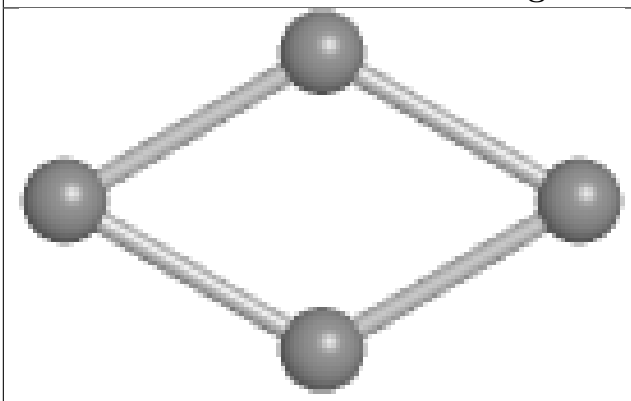
Ligand PEE W 201



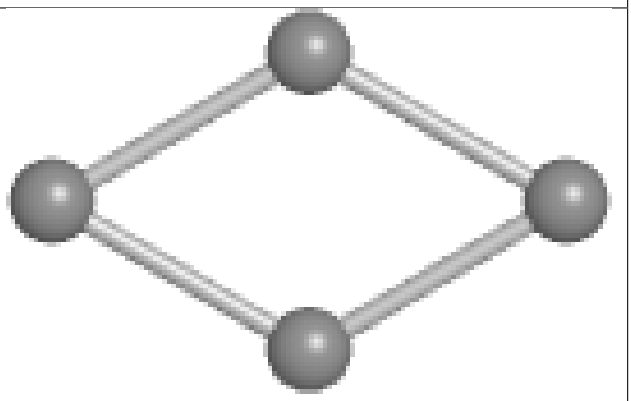
Ligand PLX g 201



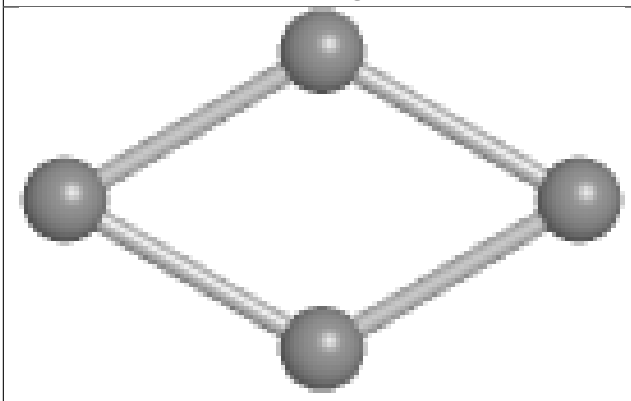
Ligand FES O 301



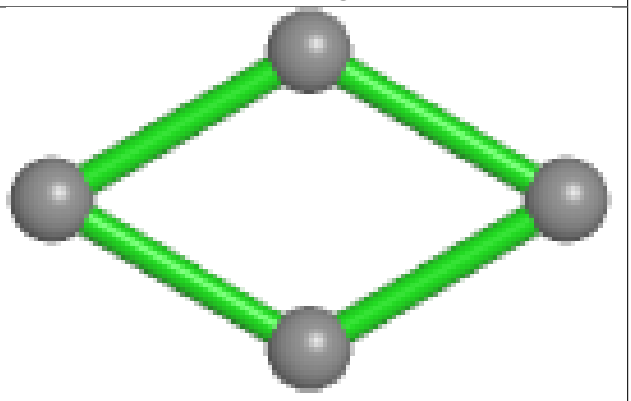
Bond lengths



Bond angles

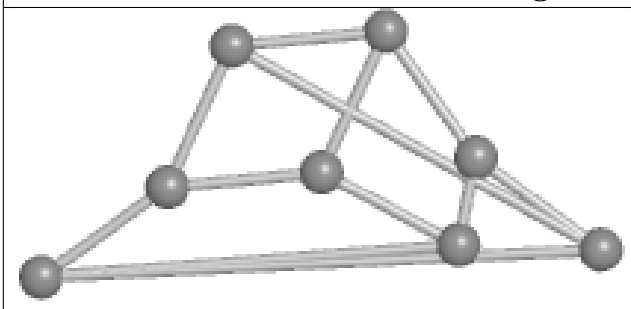


Torsions

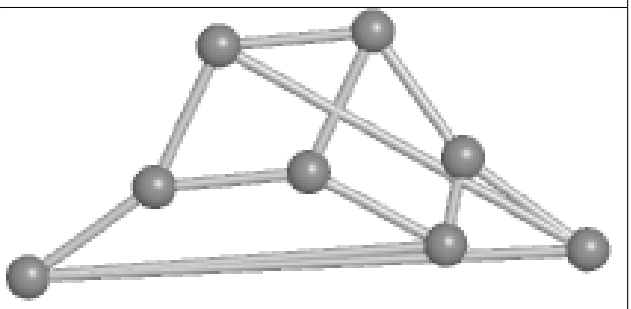


Rings

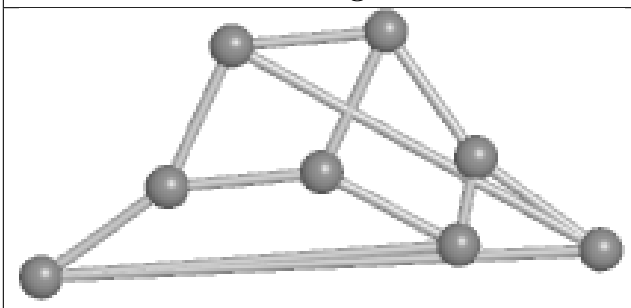
Ligand SF4 B 302



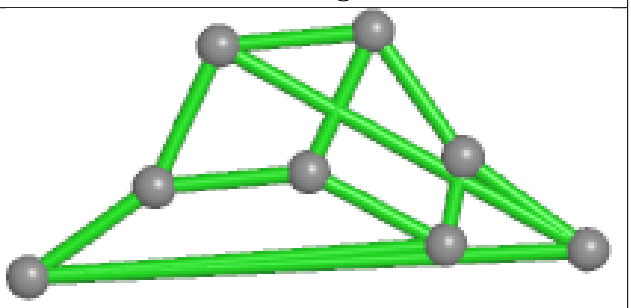
Bond lengths



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.

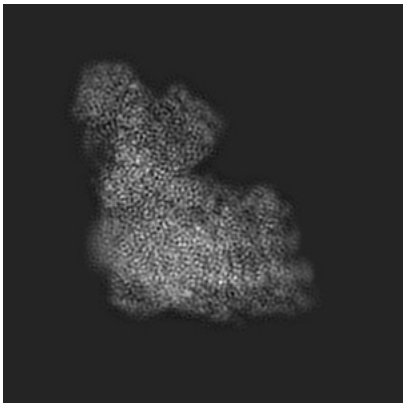
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-32249. These allow visual inspection of the internal detail of the map and identification of artifacts.

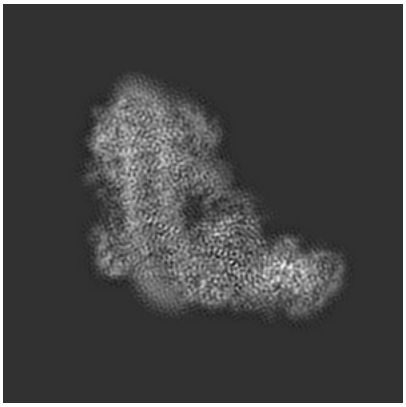
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

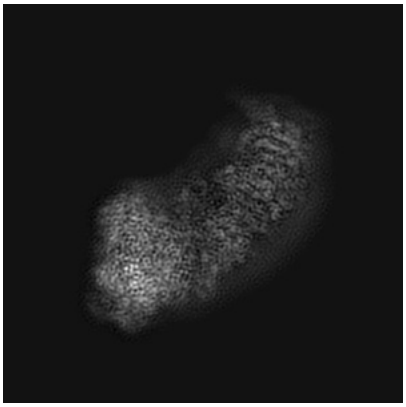
6.1.1 Primary map



X



Y

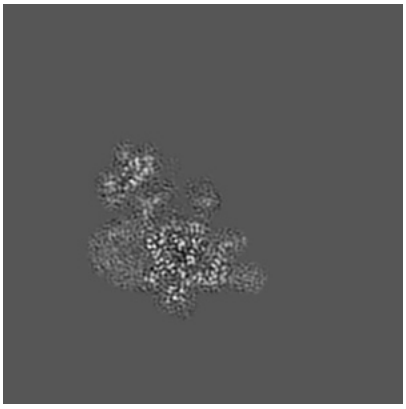


Z

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

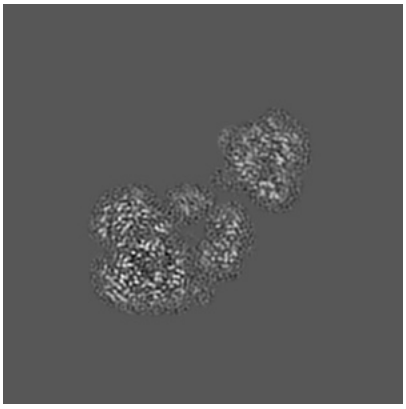
6.2 Central slices

6.2.1 Primary map



X Index: 155

Y Index: 155



Z Index: 155

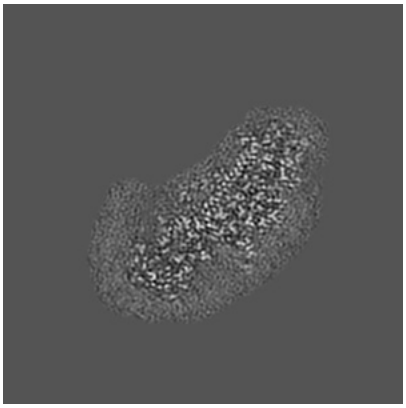
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

6.3.1 Primary map

X Index: 102

Y Index: 101

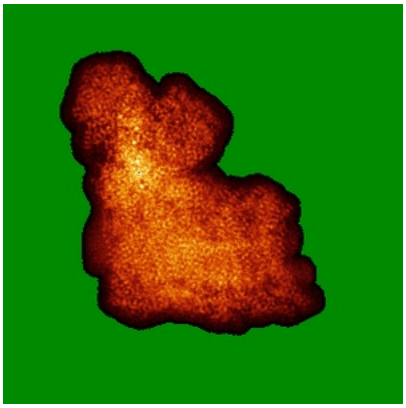


Z Index: 122

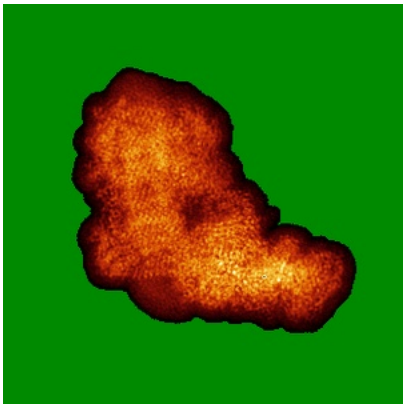
The images above show the largest variance slices of the map in three orthogonal directions.

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

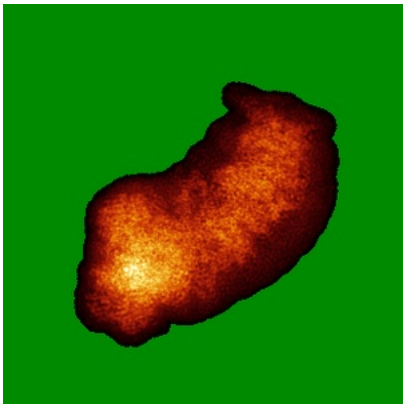
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.0305. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

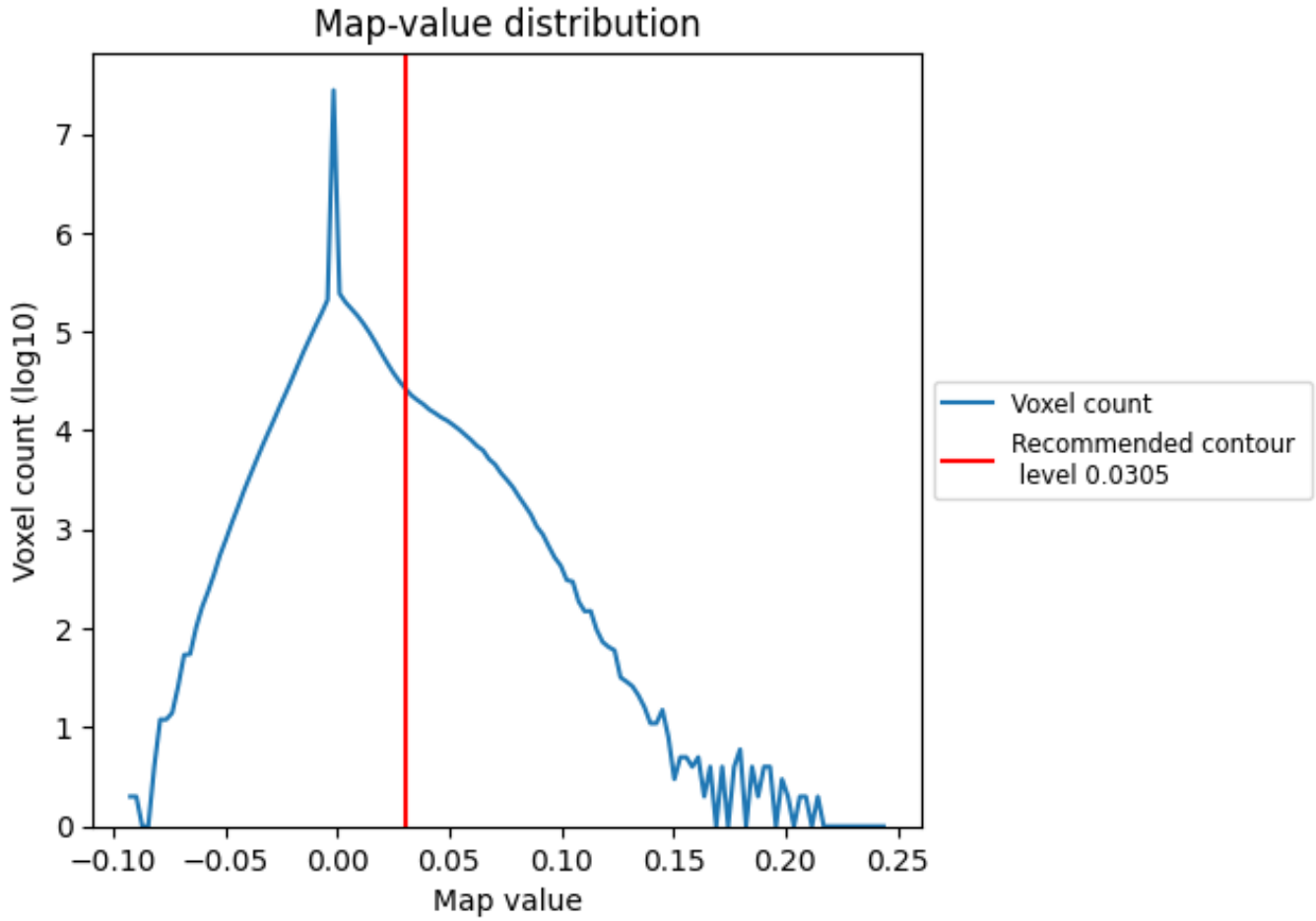
6.6 Mask visualisation (i)

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

7 Map analysis

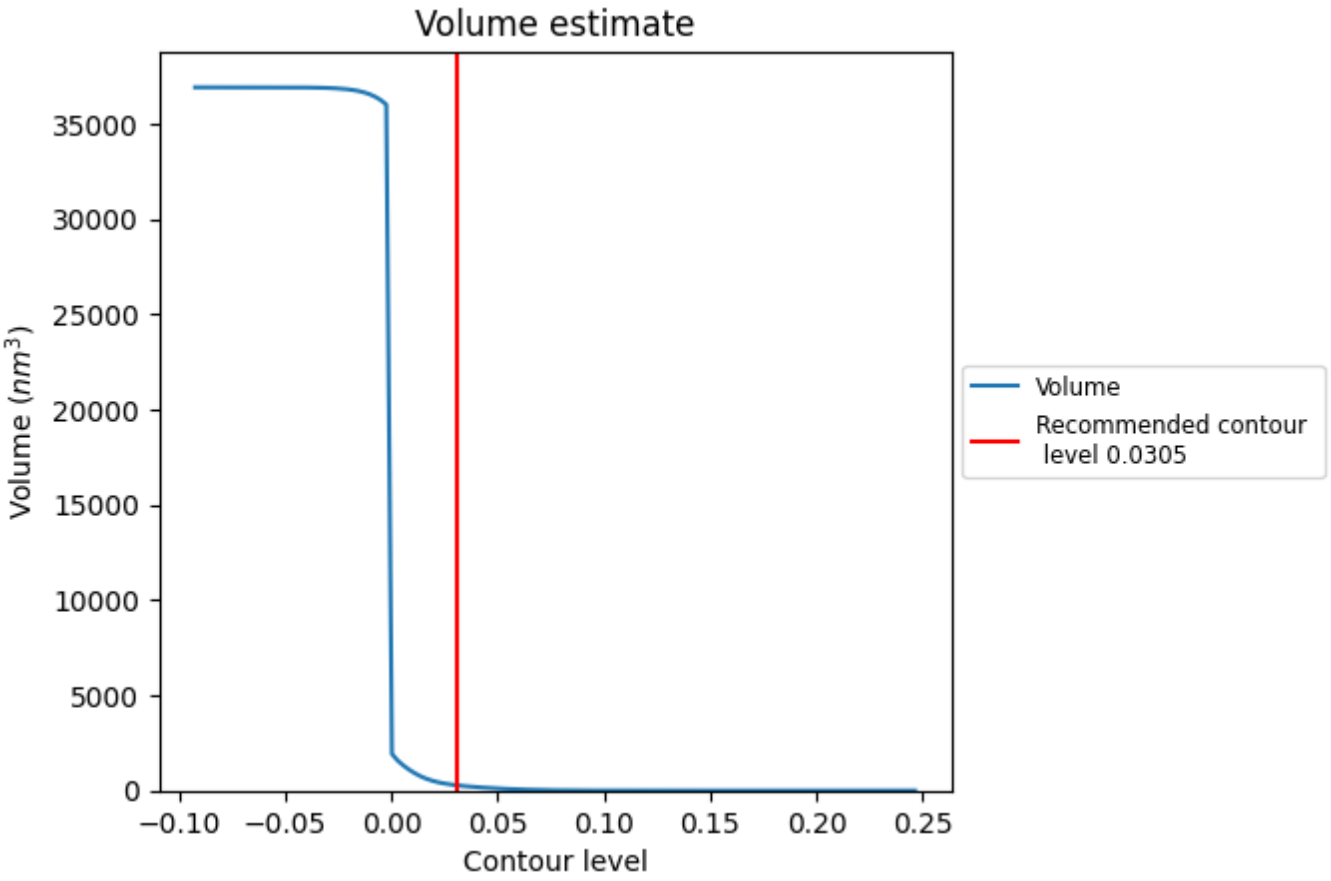
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

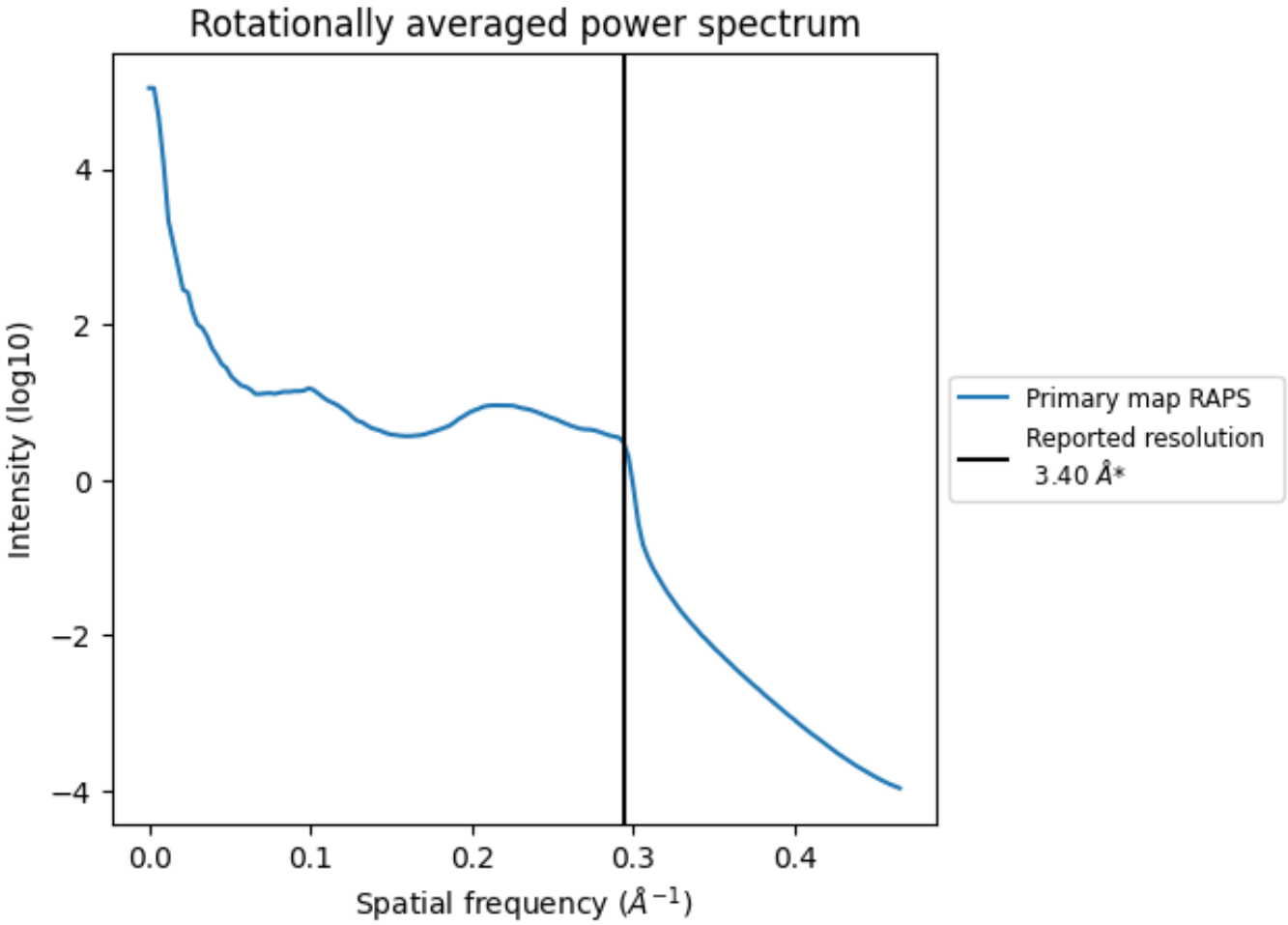
7.2 Volume estimate



The volume at the recommended contour level is 281 nm^3; this corresponds to an approximate mass of 254 kDa.

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

7.3 Rotationally averaged power spectrum (i)



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

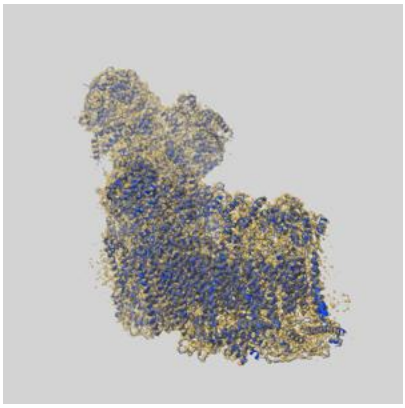
8 Fourier-Shell correlation

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

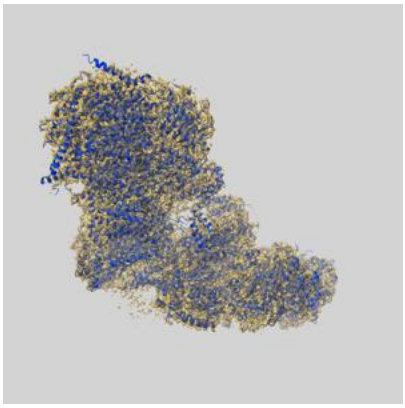
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-32249 and PDB model 7W0Y. Per-residue inclusion information can be found in section 3 on page 20.

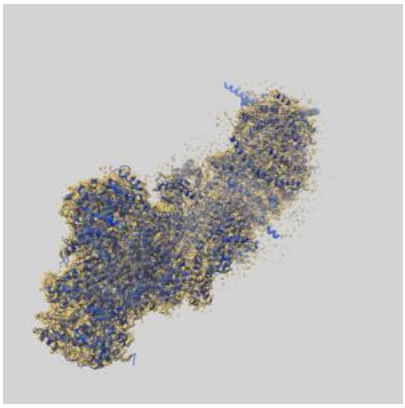
9.1 Map-model overlay



X



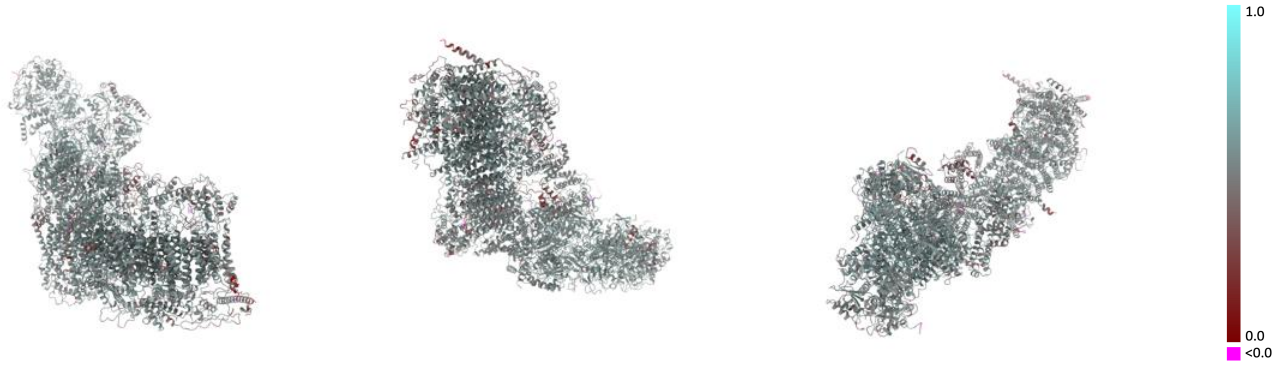
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0305 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.

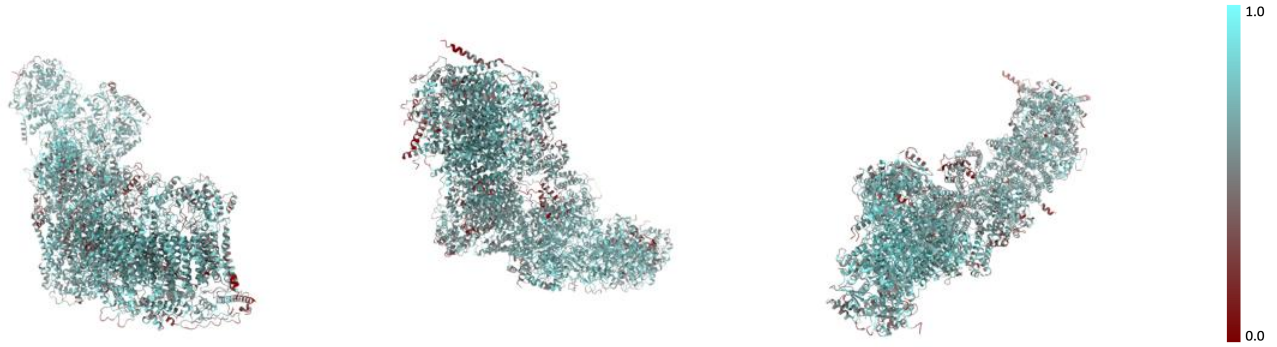
9.2 Q-score mapped to coordinate model (i)



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.

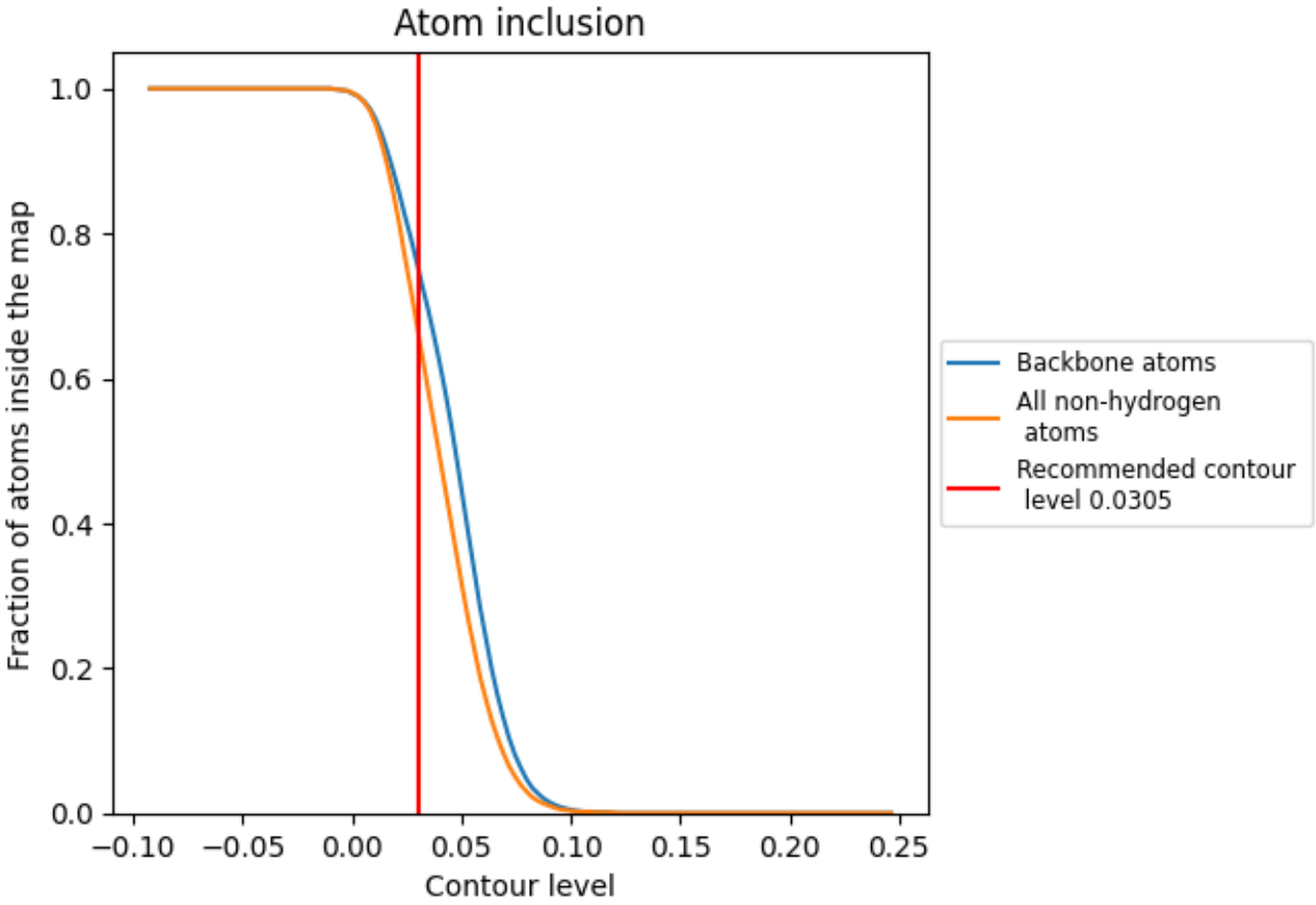
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.0305).

9.4 Atom inclusion (i)



At the recommended contour level, 75% of all backbone atoms, 66% 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 (0.0305) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6590	0.5230
A	0.6700	0.5240
B	0.7860	0.5630
C	0.7610	0.5660
E	0.6800	0.5350
F	0.5750	0.4700
G	0.3260	0.3600
H	0.6370	0.5180
I	0.5990	0.5140
J	0.6880	0.5340
K	0.6310	0.5220
L	0.7170	0.5480
M	0.7170	0.5420
N	0.5780	0.5090
O	0.6430	0.5110
P	0.7950	0.5700
Q	0.7580	0.5610
S	0.6960	0.5290
T	0.6880	0.5470
U	0.6250	0.4960
V	0.4800	0.4810
W	0.6450	0.5060
X	0.5520	0.4780
Y	0.5190	0.4490
Z	0.4570	0.4320
a	0.6420	0.5340
b	0.5600	0.4790
c	0.6550	0.5210
d	0.6250	0.5020
e	0.6140	0.5130
f	0.4460	0.4210
g	0.6760	0.5280
h	0.6280	0.5090
i	0.7320	0.5520
j	0.6360	0.5190

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
k	0.6830	0.5340
l	0.6470	0.5280
m	0.5480	0.4850
n	0.5410	0.4770
o	0.6360	0.5030
p	0.6610	0.5140
r	0.7140	0.5450
s	0.6960	0.5390
u	0.6320	0.5110
v	0.5140	0.4580
w	0.6070	0.5070