Full wwPDB EM Validation Report ⓘ

Jun 22, 2023 – 11:47 AM JST

PDB ID	:	7W4J
EMDB ID	:	EMD-32305
Title	:	Deactive state CI from Q1-NADH dataset, Subclass 1
Authors	:	Gu, J.; Yang, M.
Deposited on	:	2021-11-28
Resolution	:	3.20 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:

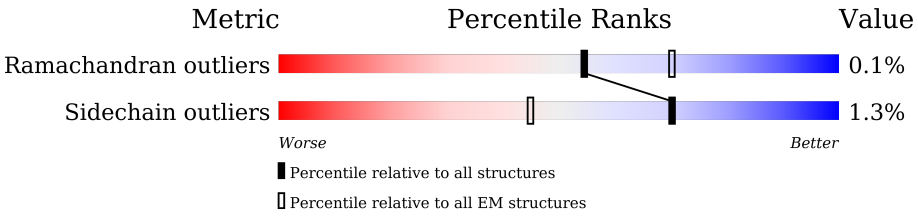
EMDB validation analysis	:	0.0.1.dev50
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (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 3.20 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	14% 99%
2	B	176	99%
3	C	156	97%
4	E	115	12% 100%
5	F	86	35% 94% 6%
6	G	88	64% 98%
6	X	88	18% 100%
7	H	112	12% 100%
8	I	112	7% 85% 13%

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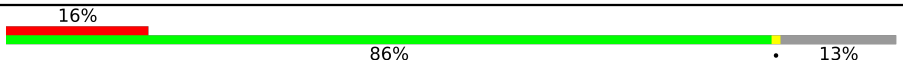
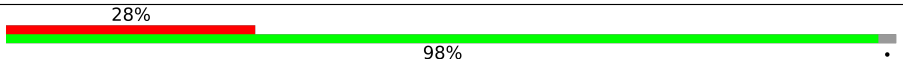
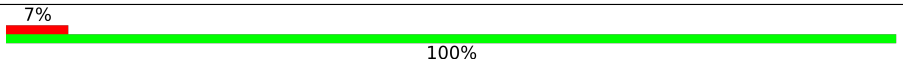
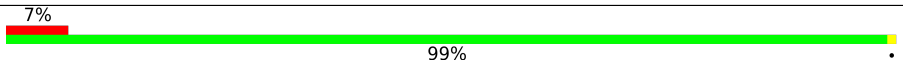
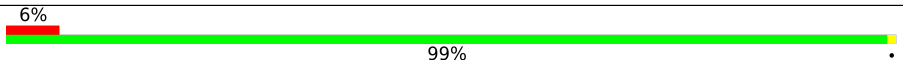
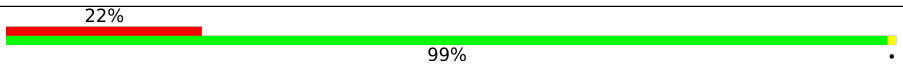
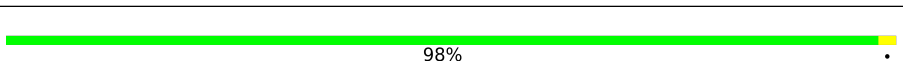
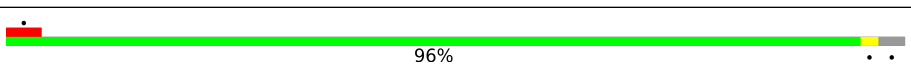
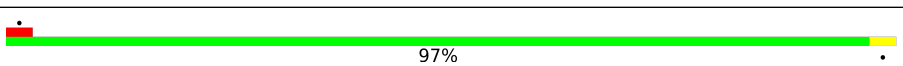
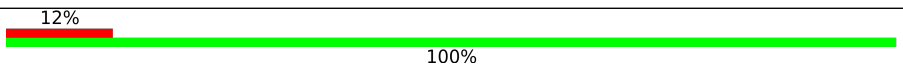
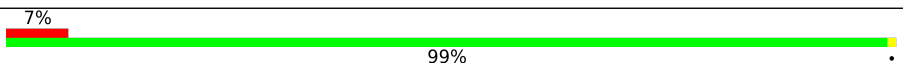
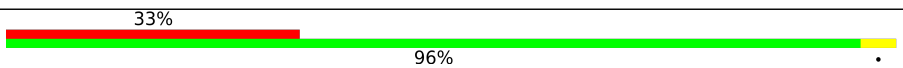
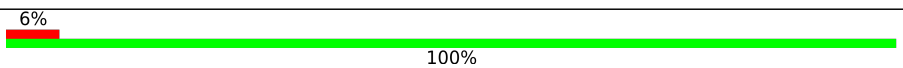
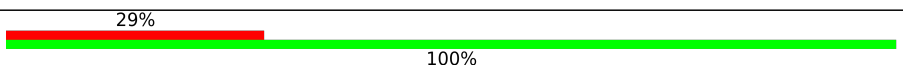
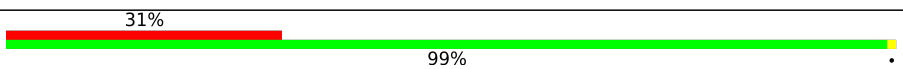
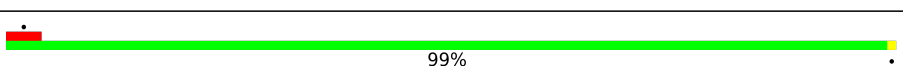
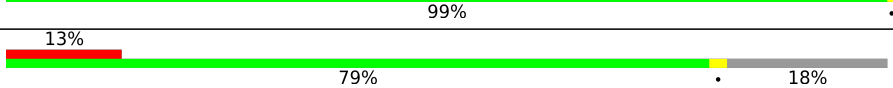
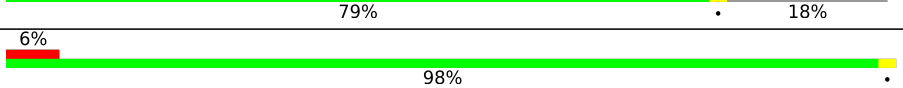
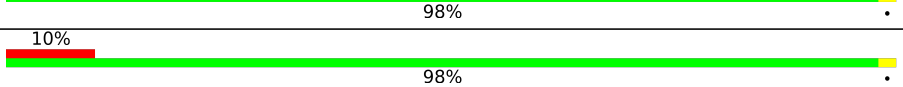
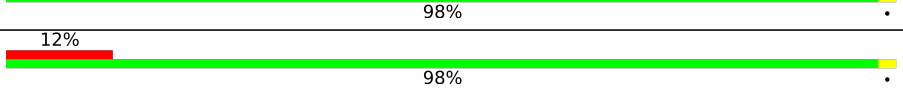
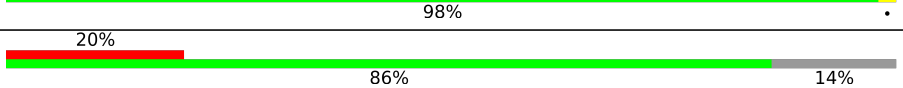
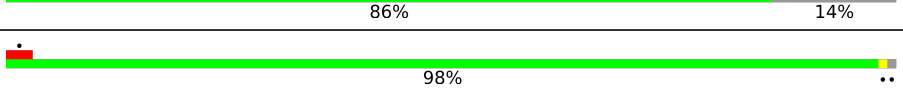
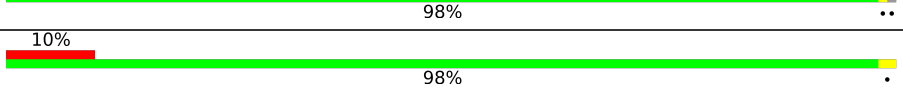
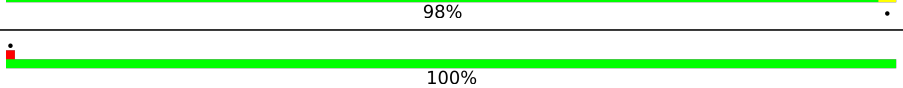
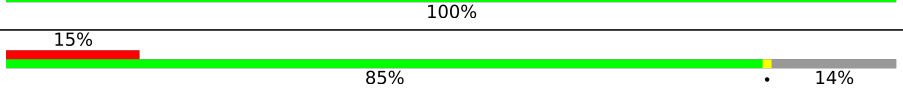
Mol	Chain	Length	Quality of chain
9	J	342	
10	K	43	
11	L	125	
12	M	690	
13	N	144	
14	O	217	
15	P	208	
16	Q	430	
17	S	70	
18	T	96	
19	U	83	
20	V	140	
21	W	142	
22	Y	70	
23	Z	84	
24	a	140	
25	b	126	
26	c	156	
27	d	175	
28	e	107	
29	f	49	
30	g	122	
31	h	105	
32	i	347	
33	j	115	

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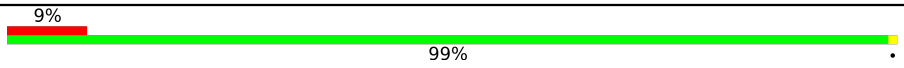
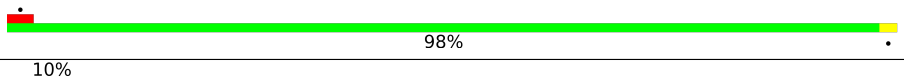
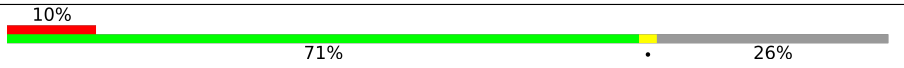
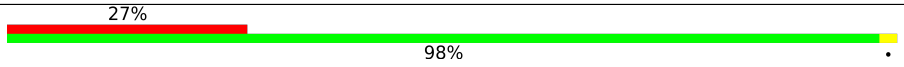
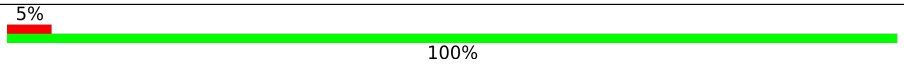
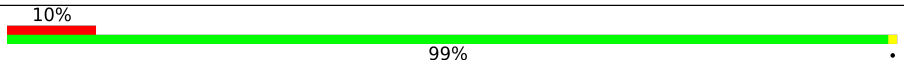
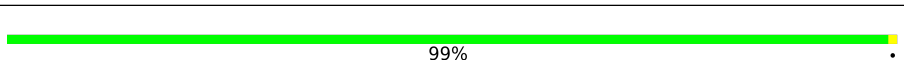
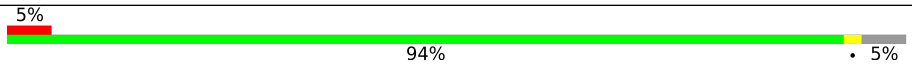
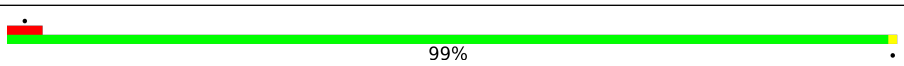
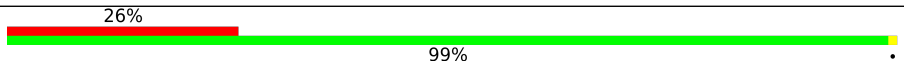
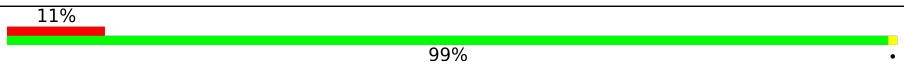
Mol	Chain	Length	Quality of chain
34	k	98	
35	l	603	
36	m	175	
37	n	56	
38	o	128	
39	p	178	
40	r	459	
41	s	318	
42	u	171	
43	v	124	
44	w	320	

2 Entry composition

There are 57 unique types of molecules in this entry. The entry contains 66607 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

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

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

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

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

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

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

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

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

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

- Molecule 6 is a protein called Acyl carrier protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	G	88	Total	C	N	O	S	0	0
			693	447	102	139	5		
6	X	88	Total	C	N	O	S	0	0
			696	449	103	139	5		

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
9	J	297	Total	C	N	O	S	0	0
			2359	1514	421	416	8		

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
12	M	690	Total	C	N	O	S	0	0
			5296	3320	923	1014	39		

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
20	V	140	Total	C	N	O	S	0	0
			1009	645	168	190	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
21	W	142	Total	C	N	O	S	0	0
			1173	755	203	206	9		

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
23	Z	84	Total	C	N	O	S	0	0
			671	436	116	118	1		

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
25	b	103	Total	C	N	O	S	0	0
			868	567	157	143	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	107	Total	C	N	O	S	0	0
			890	568	145	173	4		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
29	f	42	Total	C	N	O	0	0
			342	225	58	59		

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
33	j	99	Total	C	N	O	S	0	0
			800	545	118	132	5		

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
35	l	603	Total	C	N	O	S	0	0
			4780	3172	740	817	51		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
36	m	129	Total	C	N	O	S	0	0
			948	636	138	166	8		

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

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

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

Mol	Chain	Residues	Atoms				AltConf	Trace
38	o	128	Total	C	N	O	0	0
			1058	689	182	187		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
39	p	178	Total	C	N	O	S	0	0
			1534	982	279	265	8		

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

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

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

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

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

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

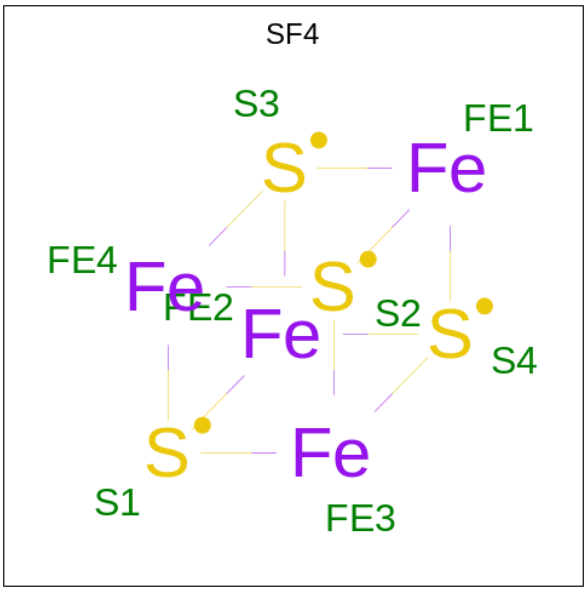
- Molecule 43 is a protein called Complex I-B18.

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

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

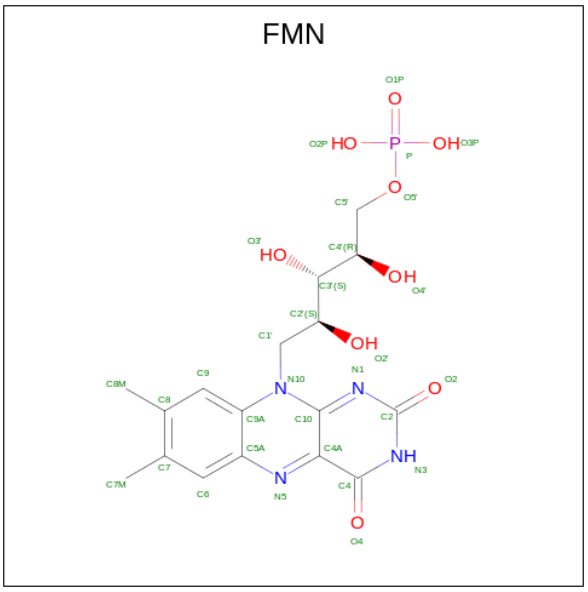
Mol	Chain	Residues	Atoms					AltConf	Trace
44	w	320	Total	C	N	O	S	0	0
			2582	1643	438	491	10		

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



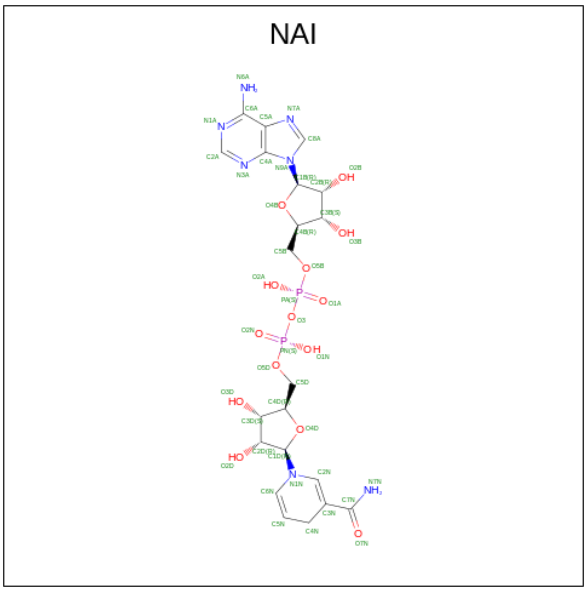
Mol	Chain	Residues	Atoms	AltConf
45	A	1	Total Fe S 8 4 4	0
45	B	1	Total Fe S 8 4 4	0
45	B	1	Total Fe S 8 4 4	0
45	C	1	Total Fe S 8 4 4	0
45	M	1	Total Fe S 8 4 4	0
45	M	1	Total Fe S 8 4 4	0

- 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	

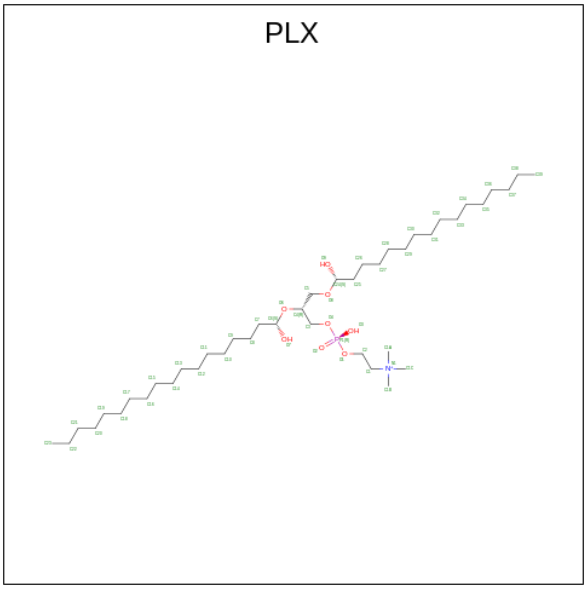
- Molecule 47 is 1,4-DIHYDRONICOTINAMIDE ADENINE DINUCLEOTIDE (three-letter code: NAI) (formula: $C_{21}H_{29}N_7O_{14}P_2$) (labeled as "Ligand of Interest" by depositor).



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

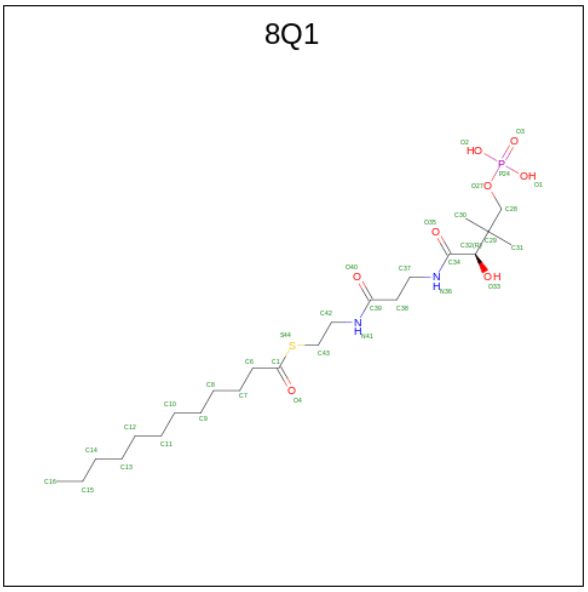
- Molecule 48 is (9R,11S)-9-({[(1S)-1-HYDROXYHEXADECYL]OXY}METHYL)-2,2-DI METHYL-5,7,10-TRIOXA-2LAMBDA 5 -AZA-6LAMBDA 5 -PHOSPHAOCTACOSA

NE-6,6,11-TRIOL (three-letter code: PLX) (formula: $C_{42}H_{89}NO_8P$) (labeled as "Ligand of Interest" by depositor).



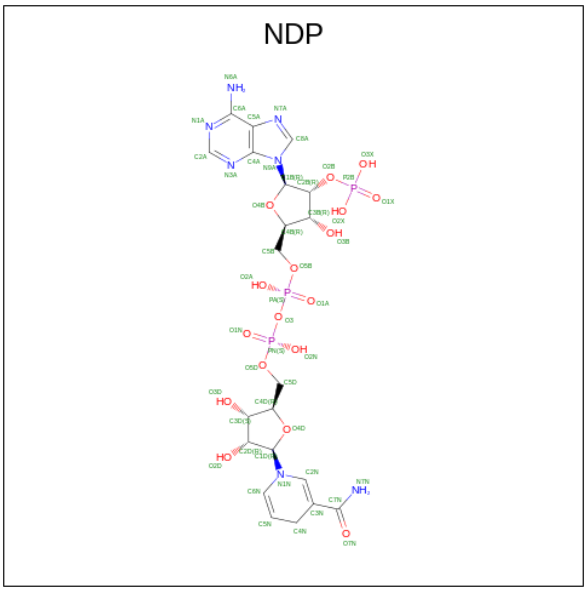
Mol	Chain	Residues	Atoms					AltConf
48	C	1	Total	C	N	O	P	0
			52	42	1	8	1	
48	a	1	Total	C	N	O	P	0
			52	42	1	8	1	
48	i	1	Total	C	N	O	P	0
			52	42	1	8	1	
48	j	1	Total	C	N	O	P	0
			52	42	1	8	1	
48	l	1	Total	C	N	O	P	0
			52	42	1	8	1	
48	r	1	Total	C	N	O	P	0
			52	42	1	8	1	

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



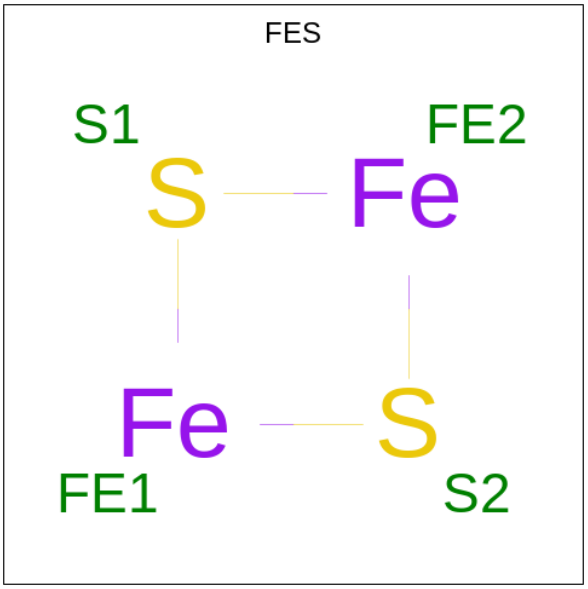
Mol	Chain	Residues	Atoms						AltConf
49	G	1	Total	C	N	O	P	S	0
			35	23	2	8	1	1	
49	X	1	Total	C	N	O	P	S	0
			35	23	2	8	1	1	

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



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

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

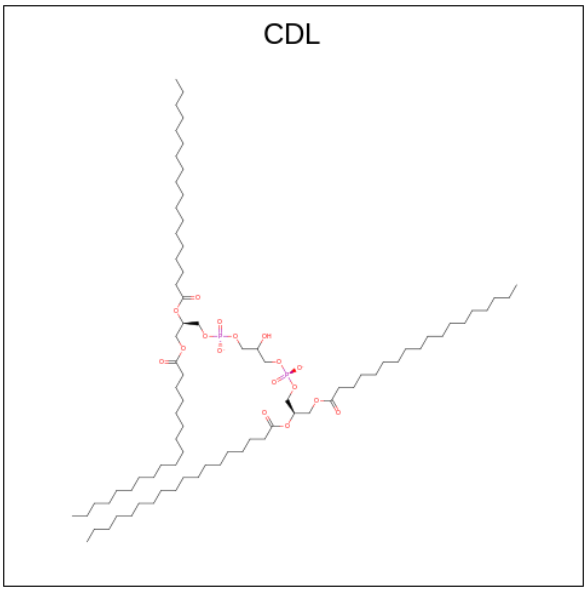


Mol	Chain	Residues	Atoms			AltConf
51	M	1	Total	Fe	S	0
			4	2	2	
51	O	1	Total	Fe	S	0
			4	2	2	

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

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

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

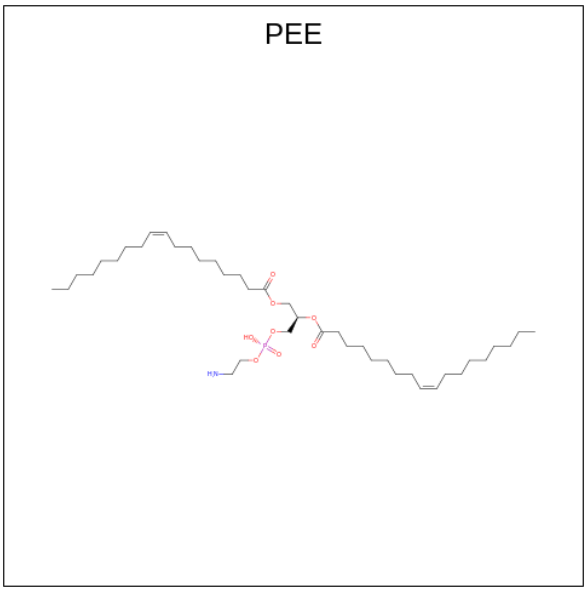


Mol	Chain	Residues	Atoms				AltConf
53	N	1	Total 51	C 32	O 17	P 2	0
53	V	1	Total 71	C 52	O 17	P 2	0
53	a	1	Total 91	C 72	O 17	P 2	0
53	i	1	Total 66	C 47	O 17	P 2	0
53	l	1	Total 100	C 81	O 17	P 2	0
53	r	1	Total 100	C 81	O 17	P 2	0

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

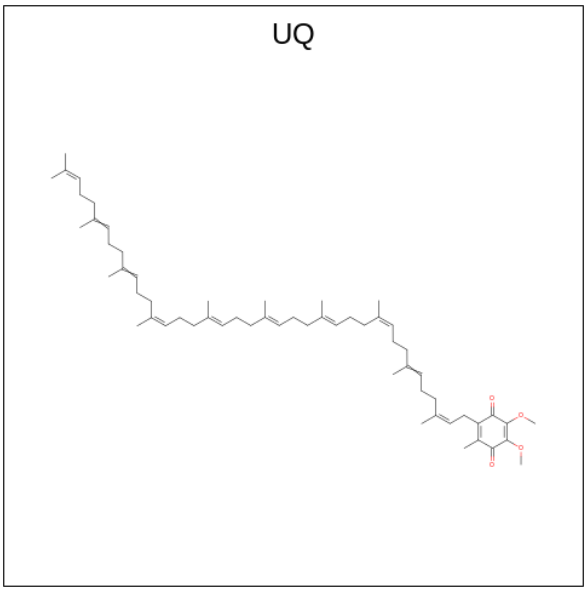
Mol	Chain	Residues	Atoms		AltConf
54	T	1	Total 1	Zn 1	0

- Molecule 55 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).



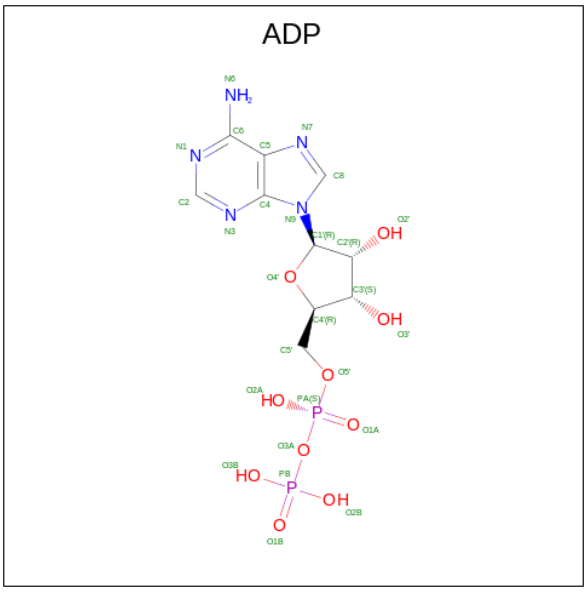
Mol	Chain	Residues	Atoms					AltConf
55	U	1	Total	C	N	O	P	0
			51	41	1	8	1	
55	i	1	Total	C	N	O	P	0
			47	37	1	8	1	
55	j	1	Total	C	N	O	P	0
			47	37	1	8	1	
55	l	1	Total	C	N	O	P	0
			46	36	1	8	1	
55	l	1	Total	C	N	O	P	0
			46	36	1	8	1	
55	m	1	Total	C	N	O	P	0
			41	31	1	8	1	
55	r	1	Total	C	N	O	P	0
			51	41	1	8	1	
55	s	1	Total	C	N	O	P	0
			51	41	1	8	1	

- Molecule 56 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
56	s	1	Total	C	O	0
			28	24	4	

- 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).



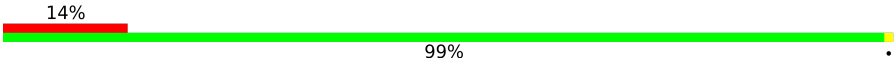
Mol	Chain	Residues	Atoms					AltConf
57	w	1	Total	C	N	O	P	0
			27	10	5	10	2	

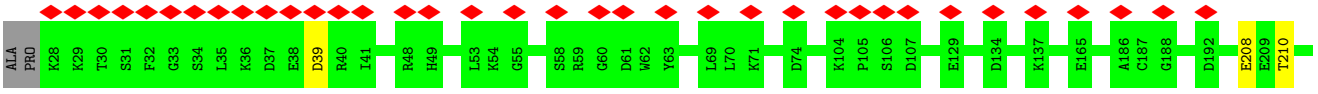
3 Residue-property plots (i)

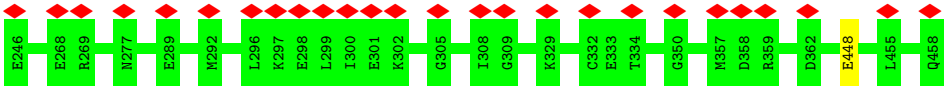
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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:

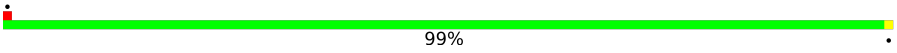


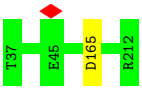




• Molecule 2: NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial

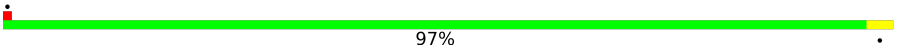
Chain B:

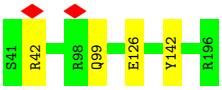




• Molecule 3: NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial

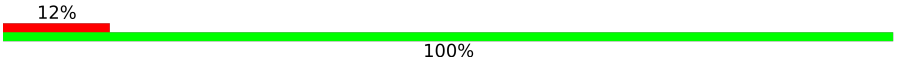
Chain C:

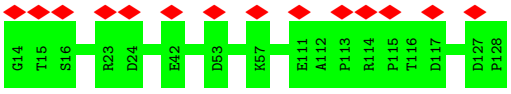




• Molecule 4: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6

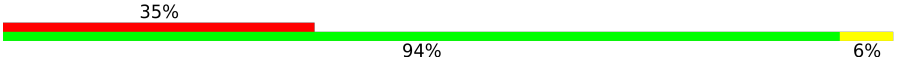
Chain E:

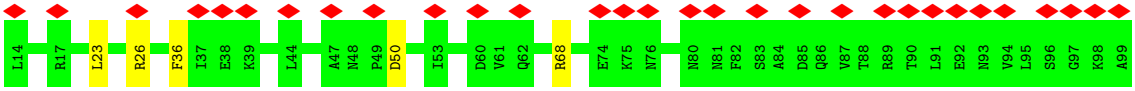




• Molecule 5: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2

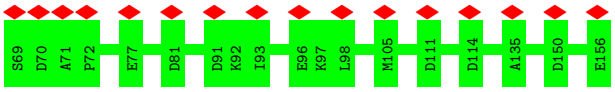
Chain F:



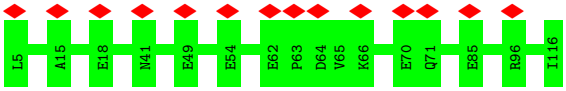


• Molecule 6: Acyl carrier protein

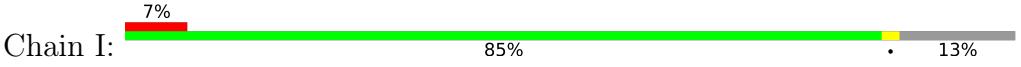
• Molecule 6: Acyl carrier protein

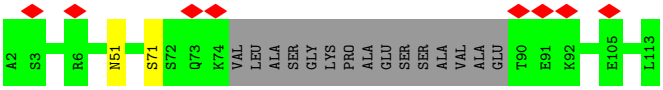


• Molecule 7: Complex I subunit B13

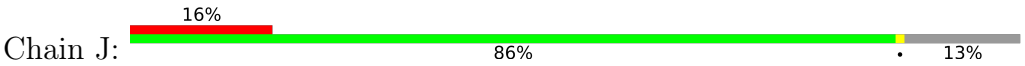


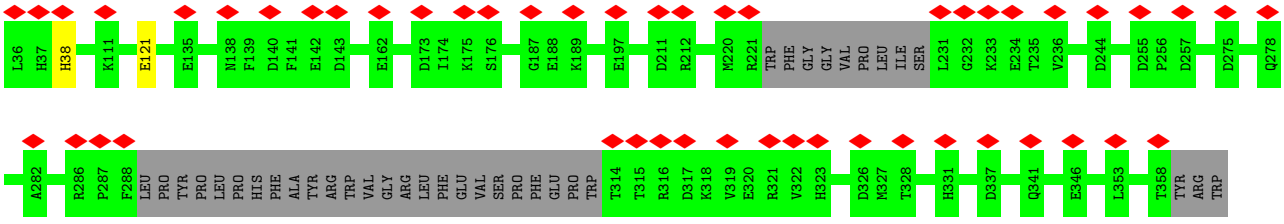
• Molecule 8: Complex I-B14.5a

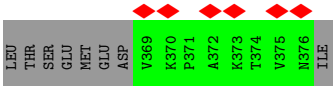




• Molecule 9: NADH dehydrogenase ubiquinone 1 alpha subcomplex subunit 9, mitochondrial

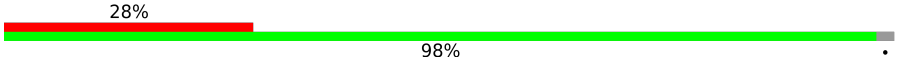


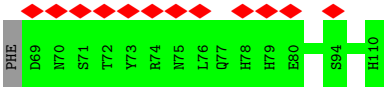




• Molecule 10: Complex I-9kD

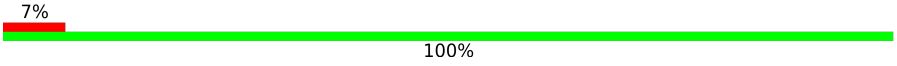
Chain K:

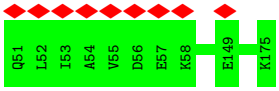




• Molecule 11: NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial

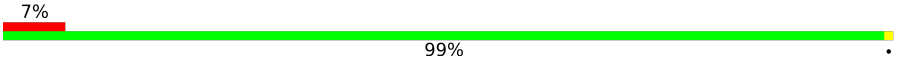
Chain L:

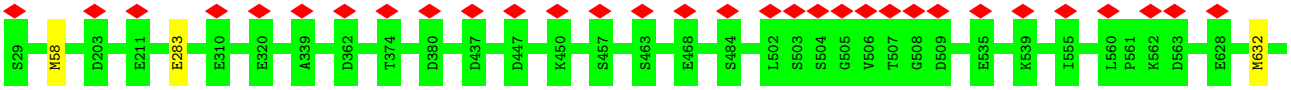


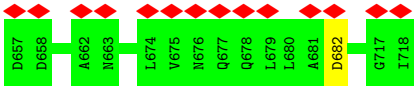


• Molecule 12: NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial

Chain M:

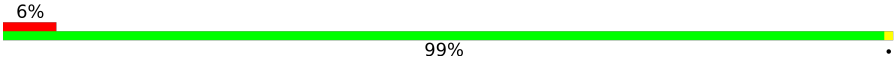


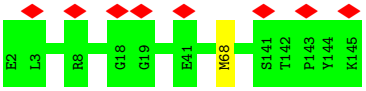




• Molecule 13: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12

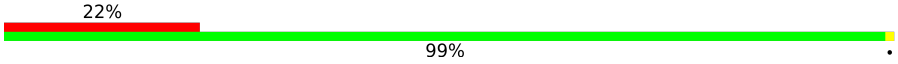
Chain N:

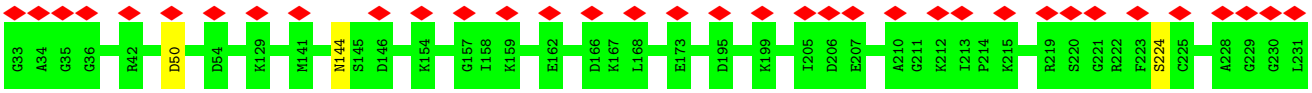


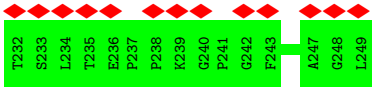


• Molecule 14: NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial

Chain O:

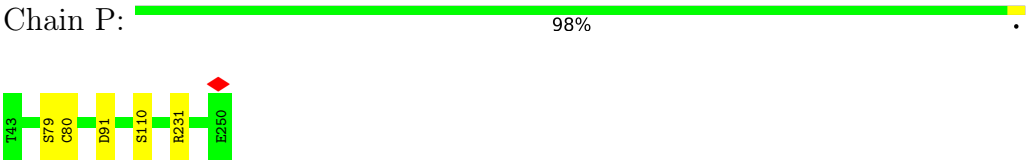






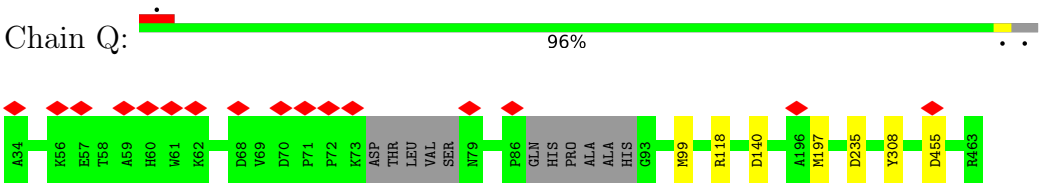
• Molecule 15: Complex I-30kD

Chain P:



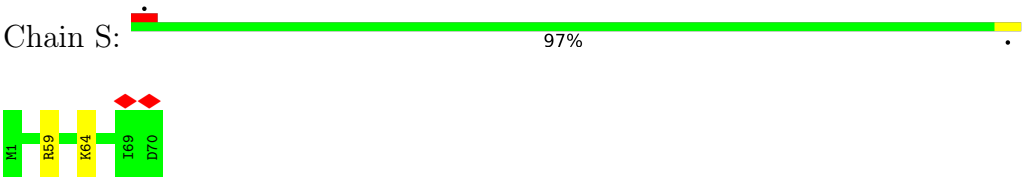
• Molecule 16: Complex I-49kD

Chain Q:



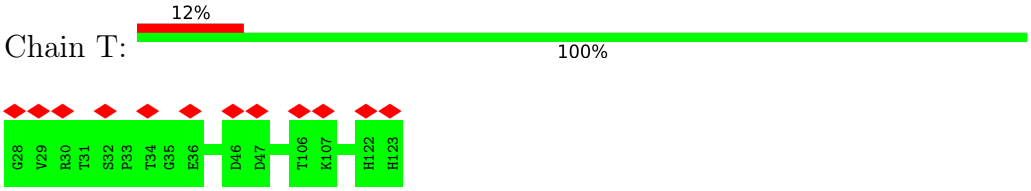
• Molecule 17: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1

Chain S:



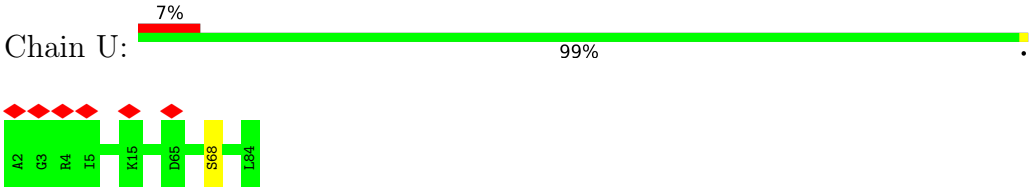
• Molecule 18: NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial

Chain T:



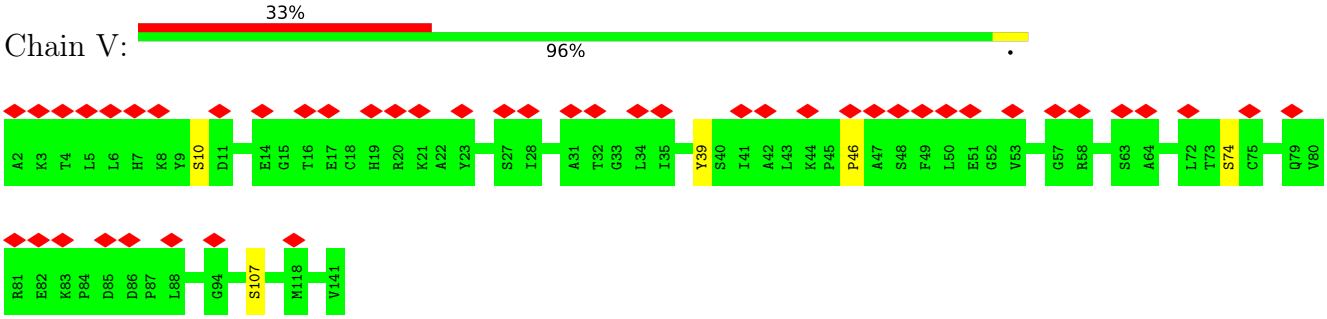
• Molecule 19: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3

Chain U:



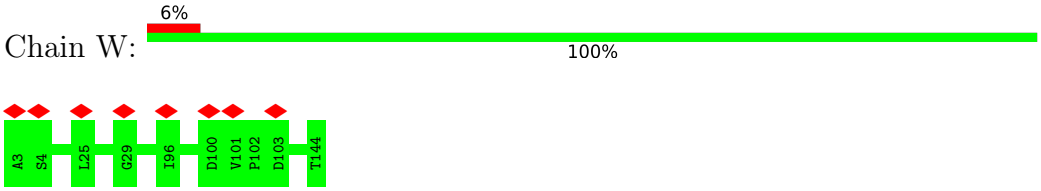
• Molecule 20: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11

Chain V:



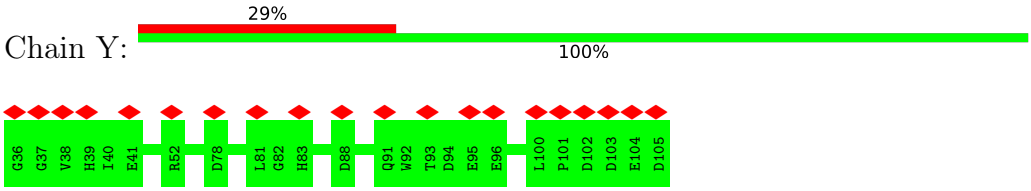
• Molecule 21: Complex I-B16.6

Chain W:



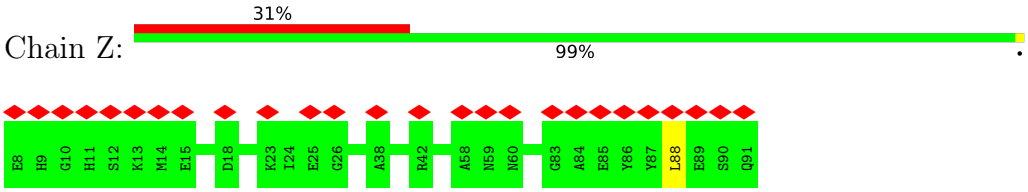
• Molecule 22: Complex I-AGGG

Chain Y:



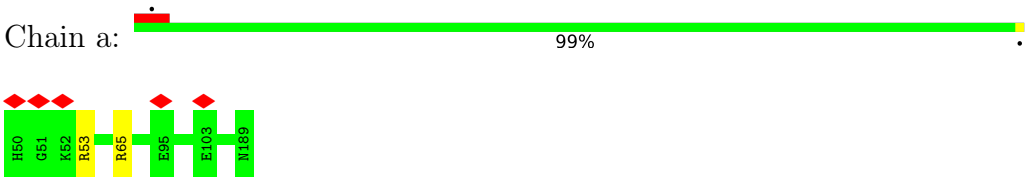
• Molecule 23: Complex I-B12

Chain Z:



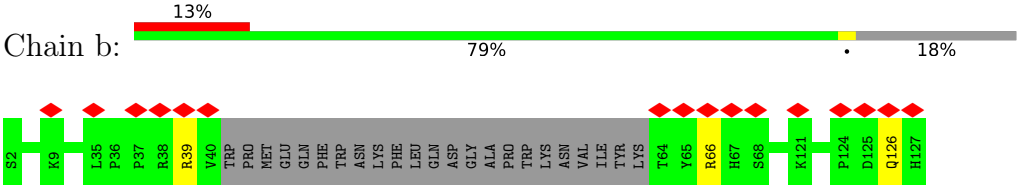
• Molecule 24: Complex I-SGDH

Chain a:



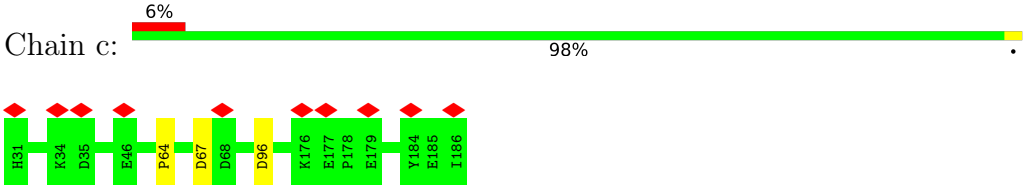
• Molecule 25: Complex I-B17

Chain b:



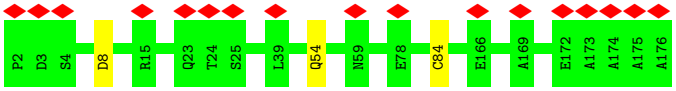
• Molecule 26: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 8, mitochondrial

Chain c:



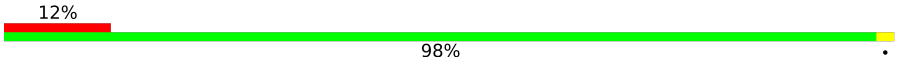
• Molecule 27: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10

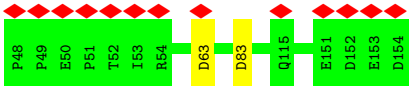
Chain d:



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

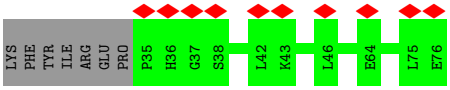
Chain e:





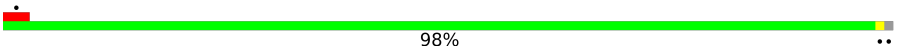
• Molecule 29: NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial

Chain f:



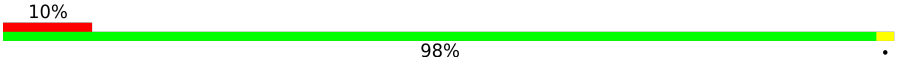
• Molecule 30: NADH dehydrogenase [ubiquinone] 1 subunit C2

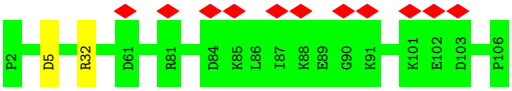
Chain g:



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

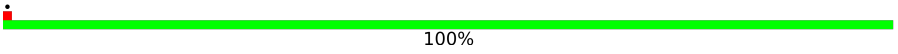
Chain h:

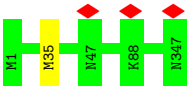




• Molecule 32: NADH-ubiquinone oxidoreductase chain 2

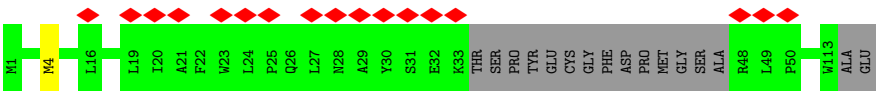
Chain i:





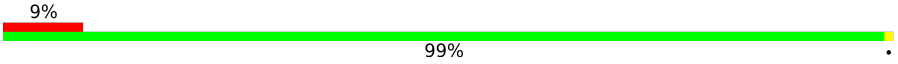
• Molecule 33: NADH-ubiquinone oxidoreductase chain 3

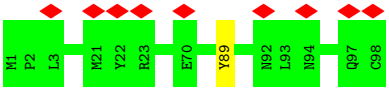
Chain j:



• Molecule 34: NADH-ubiquinone oxidoreductase chain 4L

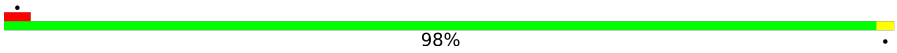
Chain k:

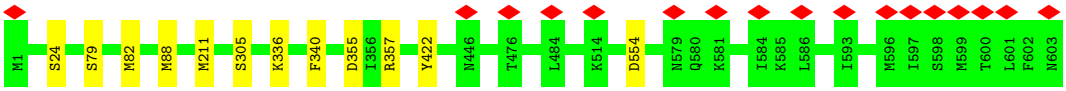




• Molecule 35: NADH-ubiquinone oxidoreductase chain 5

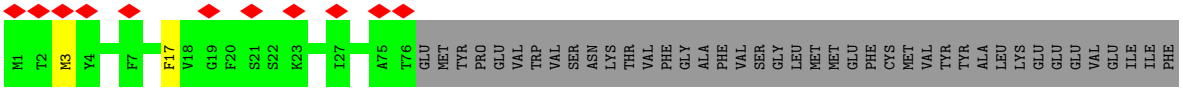
Chain l:

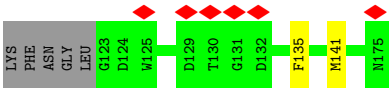




• Molecule 36: NADH-ubiquinone oxidoreductase chain 6

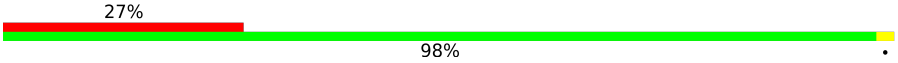
Chain m:

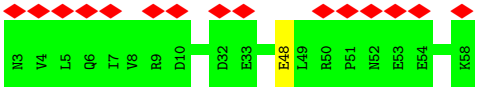




• Molecule 37: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 1

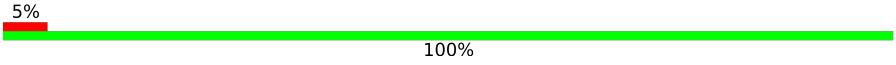
Chain n:

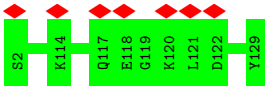




• Molecule 38: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4

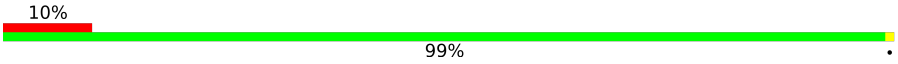
Chain o:

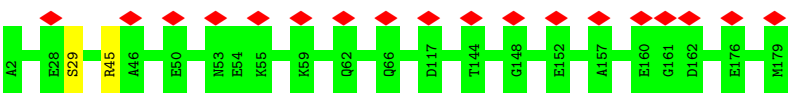




• Molecule 39: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 9

Chain p:



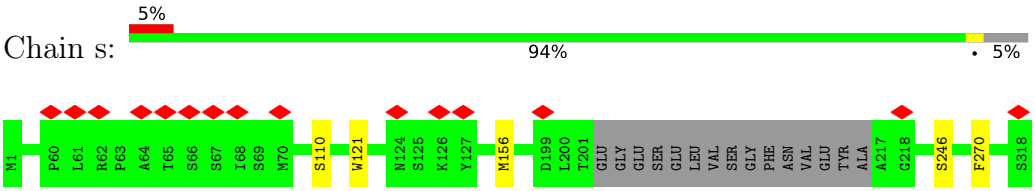


• Molecule 40: NADH-ubiquinone oxidoreductase chain 4

Chain r:

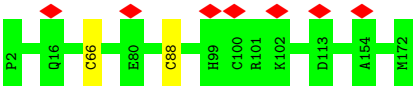
• Molecule 41: NADH-ubiquinone oxidoreductase chain 1

Chain s:



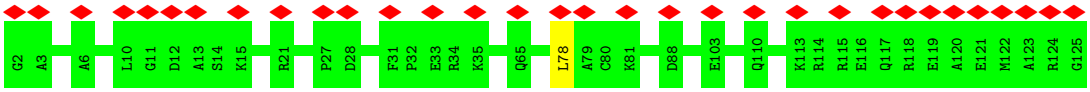
• Molecule 42: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8

Chain u:



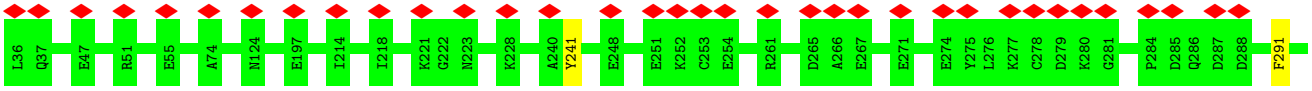
• Molecule 43: Complex I-B18

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	32329	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	0.228	Depositor
Minimum map value	-0.105	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.0298	Depositor
Map size (Å)	333.7616, 333.7616, 333.7616	wwPDB
Map dimensions	304, 304, 304	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0979, 1.0979, 1.0979	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|>5$	RMSZ	#$\|Z\|>5$
1	A	0.25	0/3393	0.51	0/4584
2	B	0.25	0/1443	0.50	0/1952
3	C	0.25	0/1275	0.51	0/1725
4	E	0.24	0/995	0.51	0/1340
5	F	0.24	0/702	0.53	0/945
6	G	0.28	0/705	0.54	0/956
6	X	0.24	0/708	0.40	0/959
7	H	0.23	0/929	0.47	0/1258
8	I	0.25	0/798	0.55	0/1079
9	J	0.25	0/2411	0.51	0/3254
10	K	0.23	0/365	0.47	0/493
11	L	0.24	0/1039	0.49	0/1403
12	M	0.24	0/5384	0.49	0/7295
13	N	0.24	0/1245	0.50	0/1694
14	O	0.25	0/1711	0.48	0/2328
15	P	0.25	0/1789	0.50	0/2436
16	Q	0.26	0/3451	0.50	1/4672 (0.0%)
17	S	0.25	0/582	0.49	0/783
18	T	0.24	0/755	0.49	0/1018
19	U	0.24	0/664	0.46	0/912
20	V	0.26	0/1030	0.45	0/1397
21	W	0.26	0/1204	0.49	0/1624
22	Y	0.25	0/623	0.46	0/853
23	Z	0.25	0/692	0.47	0/935
24	a	0.25	0/1199	0.48	0/1623
25	b	0.24	0/895	0.54	0/1219
26	c	0.25	0/1371	0.46	0/1875
27	d	0.26	0/1494	0.49	0/2015
28	e	0.26	0/916	0.54	1/1246 (0.1%)
29	f	0.25	0/350	0.50	0/473
30	g	0.26	0/1031	0.47	0/1394
31	h	0.25	0/889	0.50	0/1190

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
32	i	0.25	0/2773	0.44	0/3768
33	j	0.26	0/819	0.46	0/1117
34	k	0.26	0/759	0.45	0/1029
35	l	0.26	0/4909	0.45	0/6677
36	m	0.28	0/970	0.48	0/1316
37	n	0.26	0/491	0.48	0/663
38	o	0.25	0/1088	0.50	0/1476
39	p	0.24	0/1590	0.51	0/2155
40	r	0.25	0/3723	0.43	0/5078
41	s	0.26	0/2464	0.46	0/3369
42	u	0.25	0/1436	0.50	0/1938
43	v	0.26	0/1052	0.55	0/1411
44	w	0.25	0/2642	0.49	0/3580
All	All	0.25	0/66754	0.48	2/90507 (0.0%)

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

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

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
28	e	83	ASP	CB-CG-OD1	5.82	123.54	118.30
16	Q	140	ASP	N-CA-C	-5.67	95.70	111.00

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	C	126	GLU	Peptide

5.2 Too-close contacts (i)

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

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	429/433 (99%)	415 (97%)	14 (3%)	0	100	100
2	B	174/176 (99%)	172 (99%)	2 (1%)	0	100	100
3	C	154/156 (99%)	148 (96%)	6 (4%)	0	100	100
4	E	113/115 (98%)	110 (97%)	3 (3%)	0	100	100
5	F	84/86 (98%)	80 (95%)	4 (5%)	0	100	100
6	G	86/88 (98%)	83 (96%)	3 (4%)	0	100	100
6	X	86/88 (98%)	83 (96%)	3 (4%)	0	100	100
7	H	110/112 (98%)	101 (92%)	9 (8%)	0	100	100
8	I	93/112 (83%)	83 (89%)	10 (11%)	0	100	100
9	J	289/342 (84%)	277 (96%)	11 (4%)	1 (0%)	41	74
10	K	40/43 (93%)	40 (100%)	0	0	100	100
11	L	123/125 (98%)	119 (97%)	4 (3%)	0	100	100
12	M	688/690 (100%)	665 (97%)	22 (3%)	1 (0%)	51	83
13	N	142/144 (99%)	138 (97%)	4 (3%)	0	100	100
14	O	215/217 (99%)	208 (97%)	7 (3%)	0	100	100
15	P	206/208 (99%)	195 (95%)	11 (5%)	0	100	100
16	Q	412/430 (96%)	399 (97%)	12 (3%)	1 (0%)	47	79
17	S	68/70 (97%)	65 (96%)	3 (4%)	0	100	100
18	T	94/96 (98%)	91 (97%)	3 (3%)	0	100	100
19	U	81/83 (98%)	79 (98%)	2 (2%)	0	100	100
20	V	138/140 (99%)	131 (95%)	6 (4%)	1 (1%)	22	61
21	W	140/142 (99%)	136 (97%)	4 (3%)	0	100	100
22	Y	68/70 (97%)	64 (94%)	4 (6%)	0	100	100
23	Z	82/84 (98%)	79 (96%)	3 (4%)	0	100	100
24	a	138/140 (99%)	135 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
25	b	99/126 (79%)	94 (95%)	4 (4%)	1 (1%)	15 54
26	c	154/156 (99%)	144 (94%)	8 (5%)	2 (1%)	12 47
27	d	173/175 (99%)	172 (99%)	1 (1%)	0	100 100
28	e	105/107 (98%)	101 (96%)	4 (4%)	0	100 100
29	f	40/49 (82%)	39 (98%)	1 (2%)	0	100 100
30	g	119/122 (98%)	116 (98%)	3 (2%)	0	100 100
31	h	103/105 (98%)	100 (97%)	3 (3%)	0	100 100
32	i	345/347 (99%)	331 (96%)	14 (4%)	0	100 100
33	j	95/115 (83%)	89 (94%)	6 (6%)	0	100 100
34	k	96/98 (98%)	90 (94%)	6 (6%)	0	100 100
35	l	601/603 (100%)	573 (95%)	28 (5%)	0	100 100
36	m	125/175 (71%)	111 (89%)	14 (11%)	0	100 100
37	n	54/56 (96%)	54 (100%)	0	0	100 100
38	o	126/128 (98%)	121 (96%)	5 (4%)	0	100 100
39	p	176/178 (99%)	168 (96%)	8 (4%)	0	100 100
40	r	457/459 (100%)	440 (96%)	16 (4%)	1 (0%)	47 79
41	s	299/318 (94%)	291 (97%)	8 (3%)	0	100 100
42	u	169/171 (99%)	165 (98%)	4 (2%)	0	100 100
43	v	122/124 (98%)	116 (95%)	6 (5%)	0	100 100
44	w	318/320 (99%)	304 (96%)	14 (4%)	0	100 100
All	All	8029/8322 (96%)	7715 (96%)	306 (4%)	8 (0%)	54 83

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
16	Q	235	ASP
40	r	248	THR
12	M	283	GLU
26	c	64	PRO
25	b	126	GLN
9	J	38	HIS
26	c	67	ASP
20	V	46	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	345/346 (100%)	341 (99%)	4 (1%)	71 88
2	B	151/151 (100%)	150 (99%)	1 (1%)	84 94
3	C	131/132 (99%)	128 (98%)	3 (2%)	50 78
4	E	107/107 (100%)	107 (100%)	0	100 100
5	F	76/76 (100%)	71 (93%)	5 (7%)	16 51
6	G	76/81 (94%)	74 (97%)	2 (3%)	46 76
6	X	77/81 (95%)	77 (100%)	0	100 100
7	H	99/99 (100%)	99 (100%)	0	100 100
8	I	87/97 (90%)	85 (98%)	2 (2%)	50 78
9	J	255/296 (86%)	254 (100%)	1 (0%)	91 95
10	K	41/42 (98%)	41 (100%)	0	100 100
11	L	113/113 (100%)	113 (100%)	0	100 100
12	M	580/580 (100%)	577 (100%)	3 (0%)	88 95
13	N	130/130 (100%)	129 (99%)	1 (1%)	81 93
14	O	183/183 (100%)	180 (98%)	3 (2%)	62 84
15	P	190/190 (100%)	185 (97%)	5 (3%)	46 76
16	Q	361/370 (98%)	357 (99%)	4 (1%)	73 88
17	S	58/58 (100%)	56 (97%)	2 (3%)	37 70
18	T	79/79 (100%)	79 (100%)	0	100 100
19	U	69/69 (100%)	68 (99%)	1 (1%)	67 86
20	V	99/101 (98%)	95 (96%)	4 (4%)	31 66
21	W	123/123 (100%)	123 (100%)	0	100 100
22	Y	62/63 (98%)	62 (100%)	0	100 100
23	Z	64/65 (98%)	63 (98%)	1 (2%)	62 84
24	a	122/122 (100%)	120 (98%)	2 (2%)	62 84
25	b	95/119 (80%)	93 (98%)	2 (2%)	53 79

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
26	c	141/141 (100%)	140 (99%)	1 (1%)	84 94
27	d	155/155 (100%)	152 (98%)	3 (2%)	57 81
28	e	99/99 (100%)	98 (99%)	1 (1%)	76 90
29	f	35/45 (78%)	35 (100%)	0	100 100
30	g	108/109 (99%)	107 (99%)	1 (1%)	78 91
31	h	93/93 (100%)	91 (98%)	2 (2%)	52 79
32	i	311/311 (100%)	310 (100%)	1 (0%)	92 96
33	j	88/100 (88%)	87 (99%)	1 (1%)	73 88
34	k	85/85 (100%)	84 (99%)	1 (1%)	71 88
35	l	534/537 (99%)	522 (98%)	12 (2%)	52 79
36	m	98/141 (70%)	94 (96%)	4 (4%)	30 66
37	n	53/53 (100%)	52 (98%)	1 (2%)	57 81
38	o	112/113 (99%)	112 (100%)	0	100 100
39	p	159/159 (100%)	157 (99%)	2 (1%)	69 87
40	r	410/410 (100%)	406 (99%)	4 (1%)	76 90
41	s	263/275 (96%)	258 (98%)	5 (2%)	57 81
42	u	153/153 (100%)	151 (99%)	2 (1%)	69 87
43	v	104/111 (94%)	103 (99%)	1 (1%)	76 90
44	w	281/283 (99%)	279 (99%)	2 (1%)	84 94
All	All	7055/7246 (97%)	6965 (99%)	90 (1%)	70 87

All (90) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	39	ASP
1	A	208	GLU
1	A	210	THR
1	A	448	GLU
2	B	165	ASP
3	C	42	ARG
3	C	99	GLN
3	C	142	TYR
5	F	23	LEU
5	F	26	ARG
5	F	36	PHE

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Mol	Chain	Res	Type
5	F	50	ASP
5	F	68	ARG
6	G	111	ASP
6	G	139	MET
8	I	51	ASN
8	I	71	SER
9	J	121	GLU
12	M	58	MET
12	M	632	MET
12	M	682	ASP
13	N	68	MET
14	O	50	ASP
14	O	144	ASN
14	O	224	SER
15	P	79	SER
15	P	80	CYS
15	P	91	ASP
15	P	110	SER
15	P	231	ARG
16	Q	99	MET
16	Q	197	MET
16	Q	308	TYR
16	Q	455	ASP
17	S	59	ARG
17	S	64	LYS
19	U	68	SER
20	V	10	SER
20	V	39	TYR
20	V	74	SER
20	V	107	SER
23	Z	88	LEU
24	a	53	ARG
24	a	65	ARG
25	b	39	ARG
25	b	66	ARG
26	c	96	ASP
27	d	8	ASP
27	d	54	GLN
27	d	84	CYS
28	e	63	ASP
30	g	108	LYS
31	h	5	ASP

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Mol	Chain	Res	Type
31	h	32	ARG
32	i	35	MET
33	j	4	MET
34	k	89	TYR
35	l	24	SER
35	l	79	SER
35	l	82	MET
35	l	88	MET
35	l	211	MET
35	l	305	SER
35	l	336	LYS
35	l	340	PHE
35	l	355	ASP
35	l	357	ARG
35	l	422	TYR
35	l	554	ASP
36	m	3	MET
36	m	17	PHE
36	m	135	PHE
36	m	141	MET
37	n	48	GLU
39	p	29	SER
39	p	45	ARG
40	r	82	SER
40	r	144	ASN
40	r	375	LEU
40	r	416	ARG
41	s	110	SER
41	s	121	TRP
41	s	156	MET
41	s	246	SER
41	s	270	PHE
42	u	66	CYS
42	u	88	CYS
43	v	78	LEU
44	w	241	TYR
44	w	291	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (17) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	457	HIS

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Mol	Chain	Res	Type
3	C	123	GLN
4	E	58	GLN
4	E	70	ASN
6	G	115	GLN
9	J	166	HIS
9	J	238	GLN
12	M	260	ASN
12	M	604	GLN
16	Q	147	ASN
16	Q	234	GLN
23	Z	33	GLN
25	b	14	GLN
32	i	319	HIS
35	l	170	GLN
35	l	226	GLN
39	p	13	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	6.06	3 (60%)

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

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

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
16	Q	118	2MR	CZ-NE	5.69	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	12.38	130.82	119.48
16	Q	118	2MR	CD-NE-CZ	4.49	131.82	123.41
16	Q	118	2MR	CQ2-NH2-CZ	3.06	130.62	123.86

There are no chirality outliers.

All (2) torsion outliers are listed below:

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

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 37 ligands modelled in this entry, 2 are monoatomic - leaving 35 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	$\#\|Z\|>2$
48	PLX	r	502	-	51,51,51	1.14	4 (7%)	55,59,59	0.61	1 (1%)
53	CDL	V	201	-	70,70,99	1.22	8 (11%)	76,82,111	0.96	4 (5%)
45	SF4	A	501	1	0,12,12	-	-	-		
55	PEE	l	703	-	45,45,50	1.23	6 (13%)	48,50,55	0.98	2 (4%)
50	NDP	J	401	-	45,52,52	4.57	20 (44%)	53,80,80	1.97	7 (13%)
45	SF4	B	302	2	0,12,12	-	-	-		
45	SF4	M	802	12	0,12,12	-	-	-		
55	PEE	m	201	-	40,40,50	1.15	5 (12%)	43,45,55	0.98	2 (4%)
57	ADP	w	401	-	24,29,29	3.11	6 (25%)	29,45,45	1.43	4 (13%)
47	NAI	A	503	-	42,48,48	4.94	19 (45%)	47,73,73	1.31	7 (14%)
48	PLX	i	402	-	51,51,51	1.14	3 (5%)	55,59,59	0.60	1 (1%)
49	8Q1	G	201	-	31,34,34	1.72	6 (19%)	40,43,43	1.56	6 (15%)
53	CDL	a	201	-	90,90,99	1.13	8 (8%)	96,102,111	0.92	4 (4%)
55	PEE	j	201	-	46,46,50	1.21	6 (13%)	49,51,55	0.96	2 (4%)
53	CDL	i	401	-	65,65,99	1.28	9 (13%)	71,77,111	1.01	4 (5%)
48	PLX	C	302	-	51,51,51	1.15	4 (7%)	55,59,59	0.61	1 (1%)
48	PLX	a	202	-	51,51,51	1.15	4 (7%)	55,59,59	0.60	1 (1%)
46	FMN	A	502	-	33,33,33	1.08	2 (6%)	48,50,50	1.21	8 (16%)
55	PEE	U	101	-	50,50,50	1.16	6 (12%)	53,55,55	0.95	2 (3%)
53	CDL	r	503	-	99,99,99	1.09	8 (8%)	105,111,111	0.85	4 (3%)
45	SF4	C	301	3,16	0,12,12	-	-	-		
48	PLX	l	701	-	51,51,51	1.15	4 (7%)	55,59,59	0.58	1 (1%)
49	8Q1	X	201	-	31,34,34	1.70	6 (19%)	40,43,43	1.53	6 (15%)
53	CDL	l	702	-	99,99,99	1.09	9 (9%)	105,111,111	0.84	4 (3%)
51	FES	O	301	14	0,4,4	-	-	-		
45	SF4	M	801	12	0,12,12	-	-	-		
55	PEE	i	403	-	46,46,50	1.21	6 (13%)	49,51,55	1.00	2 (4%)
53	CDL	N	201	-	50,50,99	1.41	8 (16%)	56,62,111	1.12	4 (7%)
55	PEE	l	704	-	45,45,50	1.22	6 (13%)	48,50,55	0.97	2 (4%)
56	UQ	s	402	-	28,28,63	3.28	7 (25%)	34,37,79	2.73	10 (29%)
55	PEE	s	401	-	50,50,50	1.15	6 (12%)	53,55,55	1.01	2 (3%)
45	SF4	B	301	2	0,12,12	-	-	-		
48	PLX	j	202	-	51,51,51	1.15	4 (7%)	55,59,59	0.60	1 (1%)
55	PEE	r	501	-	50,50,50	1.16	6 (12%)	53,55,55	0.95	2 (3%)
51	FES	M	803	12	0,4,4	-	-	-		

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
48	PLX	r	502	-	-	27/55/55/55	-
53	CDL	V	201	-	-	51/81/81/110	-
45	SF4	A	501	1	-	-	0/6/5/5
55	PEE	l	703	-	-	23/49/49/54	-
50	NDP	J	401	-	-	14/30/77/77	0/4/5/5
45	SF4	B	302	2	-	-	0/6/5/5
55	PEE	m	201	-	-	24/44/44/54	-
45	SF4	M	802	12	-	-	0/6/5/5
57	ADP	w	401	-	-	4/12/32/32	0/3/3/3
47	NAI	A	503	-	-	10/25/72/72	0/5/5/5
48	PLX	i	402	-	-	25/55/55/55	-
49	8Q1	G	201	-	-	19/41/41/41	-
53	CDL	a	201	-	-	45/101/101/110	-
55	PEE	j	201	-	-	25/50/50/54	-
53	CDL	i	401	-	-	43/76/76/110	-
48	PLX	C	302	-	-	26/55/55/55	-
48	PLX	a	202	-	-	23/55/55/55	-
46	FMN	A	502	-	-	2/18/18/18	0/3/3/3
51	FES	M	803	12	-	-	0/1/1/1
55	PEE	U	101	-	-	23/54/54/54	-
45	SF4	C	301	3,16	-	-	0/6/5/5
48	PLX	l	701	-	-	38/55/55/55	-
49	8Q1	X	201	-	-	19/41/41/41	-
53	CDL	l	702	-	-	60/110/110/110	-
51	FES	O	301	14	-	-	0/1/1/1
45	SF4	M	801	12	-	-	0/6/5/5
55	PEE	i	403	-	-	24/50/50/54	-
53	CDL	N	201	-	-	35/61/61/110	-
55	PEE	l	704	-	-	21/49/49/54	-
56	UQ	s	402	-	-	7/21/45/87	0/1/1/1
55	PEE	s	401	-	-	26/54/54/54	-
48	PLX	j	202	-	-	27/55/55/55	-
45	SF4	B	301	2	-	-	0/6/5/5
55	PEE	r	501	-	-	29/54/54/54	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
53	CDL	r	503	-	-	64/110/110/110	-

All (186) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	A	503	NAI	O4B-C1B	16.19	1.63	1.41
47	A	503	NAI	C2B-C1B	-15.44	1.30	1.53
50	J	401	NDP	C3B-C2B	-12.79	1.24	1.52
50	J	401	NDP	C6N-C5N	12.41	1.55	1.33
50	J	401	NDP	O4D-C4D	10.75	1.69	1.45
47	A	503	NAI	C3D-C4D	-10.20	1.26	1.53
50	J	401	NDP	C3D-C4D	-9.86	1.27	1.53
56	s	402	UQ	C13-C14	9.25	1.55	1.33
56	s	402	UQ	C8-C9	8.95	1.54	1.33
57	w	401	ADP	C3'-C4'	-8.79	1.30	1.53
50	J	401	NDP	O4B-C1B	8.43	1.52	1.41
56	s	402	UQ	C18-C19	8.25	1.56	1.32
47	A	503	NAI	O4B-C4B	-8.22	1.26	1.45
50	J	401	NDP	O4B-C4B	-7.89	1.27	1.45
57	w	401	ADP	O4'-C4'	7.73	1.62	1.45
47	A	503	NAI	C2D-C1D	-7.53	1.29	1.53
50	J	401	NDP	C2N-C3N	7.46	1.55	1.34
47	A	503	NAI	O4D-C4D	6.99	1.60	1.45
57	w	401	ADP	O4'-C1'	-6.84	1.31	1.41
47	A	503	NAI	C2D-C3D	5.96	1.69	1.53
50	J	401	NDP	P2B-O2B	5.82	1.70	1.59
47	A	503	NAI	C7N-N7N	5.75	1.48	1.33
47	A	503	NAI	O4D-C1D	5.55	1.55	1.42
49	G	201	8Q1	C34-N36	5.54	1.45	1.33
50	J	401	NDP	C3B-C4B	5.53	1.67	1.53
49	X	201	8Q1	C34-N36	5.48	1.45	1.33
49	X	201	8Q1	C39-N41	5.39	1.45	1.33
49	G	201	8Q1	C39-N41	5.34	1.45	1.33
47	A	503	NAI	C4N-C3N	-4.96	1.40	1.49
50	J	401	NDP	C6N-N1N	4.91	1.49	1.37
50	J	401	NDP	O4D-C1D	-4.89	1.30	1.42
47	A	503	NAI	O2B-C2B	4.59	1.53	1.43
50	J	401	NDP	C7N-N7N	4.19	1.44	1.33
50	J	401	NDP	C6A-N6A	4.12	1.49	1.34
50	J	401	NDP	O2D-C2D	-4.11	1.33	1.43
47	A	503	NAI	C6N-C5N	4.05	1.40	1.33
57	w	401	ADP	C6-N6	3.86	1.48	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	A	502	FMN	C4A-N5	3.86	1.38	1.30
55	l	703	PEE	C18-C19	3.74	1.53	1.31
55	j	201	PEE	C18-C19	3.74	1.53	1.31
55	r	501	PEE	C18-C19	3.73	1.53	1.31
55	l	704	PEE	C18-C19	3.72	1.53	1.31
55	s	401	PEE	C18-C19	3.72	1.53	1.31
55	i	403	PEE	C18-C19	3.72	1.53	1.31
55	U	101	PEE	C18-C19	3.71	1.53	1.31
55	m	201	PEE	C18-C19	3.71	1.53	1.31
55	l	703	PEE	C39-C38	3.66	1.53	1.31
55	r	501	PEE	C39-C38	3.65	1.52	1.31
55	U	101	PEE	C39-C38	3.65	1.52	1.31
55	j	201	PEE	C39-C38	3.65	1.52	1.31
55	i	403	PEE	C39-C38	3.65	1.52	1.31
55	l	704	PEE	C39-C38	3.64	1.52	1.31
55	s	401	PEE	C39-C38	3.63	1.52	1.31
47	A	503	NAI	C7N-C3N	3.61	1.56	1.48
47	A	503	NAI	C6A-N6A	3.60	1.47	1.34
53	V	201	CDL	OA8-CA7	3.50	1.43	1.33
53	l	702	CDL	OA8-CA7	3.50	1.43	1.33
53	r	503	CDL	OA8-CA7	3.46	1.43	1.33
53	i	401	CDL	OA8-CA7	3.46	1.43	1.33
53	N	201	CDL	OA8-CA7	3.45	1.43	1.33
53	a	201	CDL	OA8-CA7	3.41	1.43	1.33
57	w	401	ADP	O2'-C2'	-3.35	1.35	1.43
47	A	503	NAI	C4N-C5N	-3.29	1.40	1.48
57	w	401	ADP	O3'-C3'	3.10	1.50	1.43
53	l	702	CDL	OB6-CB5	3.09	1.43	1.34
50	J	401	NDP	O3D-C3D	3.09	1.50	1.43
53	i	401	CDL	OB6-CB5	3.09	1.43	1.34
53	i	401	CDL	OB8-CB7	3.05	1.42	1.33
53	a	201	CDL	OB8-CB7	3.04	1.42	1.33
53	a	201	CDL	OB6-CB5	3.02	1.42	1.34
53	r	503	CDL	OB6-CB5	3.02	1.42	1.34
53	N	201	CDL	OB6-CB5	3.01	1.42	1.34
53	V	201	CDL	OB8-CB7	3.00	1.42	1.33
53	V	201	CDL	OB6-CB5	3.00	1.42	1.34
53	r	503	CDL	OA6-CA5	2.99	1.42	1.34
50	J	401	NDP	C7N-C3N	2.99	1.55	1.48
53	l	702	CDL	OB8-CB7	2.98	1.42	1.33
53	N	201	CDL	OB8-CB7	2.98	1.42	1.33
53	r	503	CDL	OB8-CB7	2.97	1.42	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	V	201	CDL	OA6-CA5	2.96	1.42	1.34
53	i	401	CDL	OA6-CA5	2.95	1.42	1.34
53	l	702	CDL	OA6-CA5	2.95	1.42	1.34
53	a	201	CDL	OA6-CA5	2.95	1.42	1.34
53	N	201	CDL	OA6-CA5	2.92	1.42	1.34
48	a	202	PLX	O6-C4	-2.80	1.40	1.44
48	C	302	PLX	O6-C4	-2.79	1.40	1.44
48	i	402	PLX	O6-C4	-2.70	1.41	1.44
48	l	701	PLX	O6-C4	-2.69	1.41	1.44
56	s	402	UQ	C6-C1	2.61	1.54	1.46
48	j	202	PLX	O6-C4	-2.59	1.41	1.44
46	A	502	FMN	C10-N1	2.51	1.38	1.33
55	i	403	PEE	O3-C30	2.50	1.40	1.33
47	A	503	NAI	O3B-C3B	-2.49	1.37	1.43
55	U	101	PEE	O3-C30	2.48	1.40	1.33
55	l	704	PEE	O3-C30	2.47	1.40	1.33
55	r	501	PEE	O3-C30	2.47	1.40	1.33
55	j	201	PEE	O3-C30	2.46	1.40	1.33
50	J	401	NDP	O2B-C2B	2.46	1.53	1.44
55	m	201	PEE	O3-C30	2.46	1.40	1.33
47	A	503	NAI	PN-O5D	2.44	1.69	1.59
55	l	703	PEE	O3-C30	2.44	1.40	1.33
49	G	201	8Q1	C1-S44	2.43	1.82	1.76
55	i	403	PEE	O2-C2	-2.41	1.40	1.46
55	s	401	PEE	O2-C2	-2.41	1.40	1.46
55	j	201	PEE	O2-C2	-2.41	1.40	1.46
49	G	201	8Q1	C6-C1	2.41	1.53	1.50
53	V	201	CDL	OA6-CA4	-2.41	1.40	1.46
53	N	201	CDL	OA6-CA4	-2.41	1.40	1.46
53	a	201	CDL	OA6-CA4	-2.41	1.40	1.46
49	X	201	8Q1	C1-S44	2.40	1.81	1.76
48	r	502	PLX	C7-C6	2.40	1.55	1.50
55	r	501	PEE	O2-C2	-2.40	1.40	1.46
53	l	702	CDL	OA6-CA4	-2.40	1.40	1.46
55	U	101	PEE	O2-C2	-2.39	1.40	1.46
53	r	503	CDL	OA6-CA4	-2.38	1.40	1.46
55	m	201	PEE	O2-C2	-2.38	1.40	1.46
55	l	703	PEE	O2-C2	-2.37	1.40	1.46
50	J	401	NDP	C2D-C3D	2.36	1.59	1.53
55	l	703	PEE	O2-C10	2.36	1.41	1.34
55	l	704	PEE	O2-C2	-2.36	1.40	1.46
53	i	401	CDL	OA6-CA4	-2.34	1.40	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	X	201	8Q1	C6-C1	2.33	1.53	1.50
48	j	202	PLX	C7-C6	2.32	1.55	1.50
48	i	402	PLX	C7-C6	2.32	1.55	1.50
48	l	701	PLX	C7-C6	2.32	1.55	1.50
55	m	201	PEE	O2-C10	2.32	1.40	1.34
55	j	201	PEE	O2-C10	2.31	1.40	1.34
55	l	704	PEE	O2-C10	2.31	1.40	1.34
55	s	401	PEE	O3-C30	2.31	1.40	1.33
48	a	202	PLX	C7-C6	2.30	1.55	1.50
56	s	402	UQ	C7-C8	2.29	1.54	1.50
48	C	302	PLX	C7-C6	2.29	1.55	1.50
55	U	101	PEE	O2-C10	2.29	1.40	1.34
47	A	503	NAI	C5B-C4B	2.27	1.58	1.51
55	i	403	PEE	O2-C10	2.27	1.40	1.34
49	G	201	8Q1	O35-C34	-2.26	1.18	1.23
55	r	501	PEE	O2-C10	2.26	1.40	1.34
48	r	502	PLX	O6-C4	-2.25	1.41	1.44
53	V	201	CDL	PB2-OB2	2.23	1.68	1.59
53	i	401	CDL	PB2-OB2	2.22	1.68	1.59
49	G	201	8Q1	O40-C39	-2.22	1.18	1.23
53	l	702	CDL	PB2-OB2	2.21	1.68	1.59
49	X	201	8Q1	O35-C34	-2.21	1.19	1.23
56	s	402	UQ	O4-C4	-2.21	1.18	1.23
53	N	201	CDL	OB6-CB4	-2.20	1.41	1.46
55	s	401	PEE	O2-C10	2.20	1.40	1.34
55	s	401	PEE	O3-C3	-2.20	1.40	1.45
53	r	503	CDL	PB2-OB2	2.19	1.68	1.59
53	i	401	CDL	PB2-OB5	2.19	1.68	1.59
53	V	201	CDL	PB2-OB5	2.19	1.68	1.59
53	r	503	CDL	PB2-OB5	2.19	1.68	1.59
53	N	201	CDL	PB2-OB2	2.19	1.68	1.59
48	j	202	PLX	P1-O4	2.18	1.68	1.59
50	J	401	NDP	PA-O5B	2.17	1.68	1.59
49	X	201	8Q1	O40-C39	-2.17	1.18	1.23
48	r	502	PLX	P1-O4	2.17	1.68	1.59
48	a	202	PLX	P1-O4	2.16	1.68	1.59
53	a	201	CDL	PB2-OB2	2.16	1.68	1.59
53	l	702	CDL	PB2-OB5	2.16	1.68	1.59
53	a	201	CDL	PB2-OB5	2.16	1.68	1.59
48	l	701	PLX	P1-O4	2.16	1.68	1.59
53	N	201	CDL	PB2-OB5	2.16	1.68	1.59
53	V	201	CDL	OB6-CB4	-2.13	1.41	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	C	302	PLX	P1-O4	2.13	1.67	1.59
53	r	503	CDL	OB6-CB4	-2.12	1.41	1.46
55	l	703	PEE	O3-C3	-2.11	1.40	1.45
53	a	201	CDL	OB6-CB4	-2.10	1.41	1.46
53	i	401	CDL	OB6-CB4	-2.09	1.41	1.46
55	m	201	PEE	O3-C3	-2.09	1.40	1.45
53	l	702	CDL	OB6-CB4	-2.09	1.41	1.46
48	i	402	PLX	P1-O4	2.09	1.67	1.59
56	s	402	UQ	O1-C1	-2.07	1.18	1.23
55	j	201	PEE	O3-C3	-2.07	1.40	1.45
50	J	401	NDP	O7N-C7N	-2.07	1.19	1.24
55	U	101	PEE	O3-C3	-2.06	1.40	1.45
55	r	501	PEE	O3-C3	-2.06	1.40	1.45
48	l	701	PLX	P1-O1	2.04	1.67	1.59
48	j	202	PLX	P1-O1	2.04	1.67	1.59
48	r	502	PLX	P1-O1	2.04	1.67	1.59
48	a	202	PLX	P1-O1	2.03	1.67	1.59
55	l	704	PEE	O3-C3	-2.03	1.40	1.45
48	C	302	PLX	P1-O1	2.02	1.67	1.59
47	A	503	NAI	C2N-C3N	2.02	1.40	1.34
53	l	702	CDL	C11-CA5	2.01	1.56	1.50
53	i	401	CDL	C11-CA5	2.01	1.56	1.50
55	i	403	PEE	O3-C3	-2.01	1.40	1.45

All (94) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	s	402	UQ	C7-C8-C9	-9.37	111.19	126.79
50	J	401	NDP	C3N-C2N-N1N	-7.49	112.41	123.10
50	J	401	NDP	C1D-N1N-C2N	-7.30	108.96	121.11
49	G	201	8Q1	C6-C1-S44	5.96	120.39	113.46
56	s	402	UQ	C12-C13-C14	-5.92	113.39	127.66
49	X	201	8Q1	C6-C1-S44	5.86	120.28	113.46
50	J	401	NDP	C1D-N1N-C6N	-5.42	109.15	120.83
57	w	401	ADP	N3-C2-N1	-4.50	121.64	128.68
56	s	402	UQ	C11-C9-C8	-4.46	112.10	121.12
56	s	402	UQ	C10-C9-C8	-4.42	112.35	123.68
47	A	503	NAI	N3A-C2A-N1A	-4.34	121.89	128.68
55	s	401	PEE	O2-C10-C11	4.23	120.62	111.50
53	a	201	CDL	OA6-CA5-C11	4.19	120.53	111.50
56	s	402	UQ	C15-C14-C13	-4.14	113.05	123.68
50	J	401	NDP	N3A-C2A-N1A	-4.09	122.28	128.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
53	a	201	CDL	OB6-CB5-C51	4.08	120.29	111.50
53	i	401	CDL	OA6-CA5-C11	4.07	120.27	111.50
56	s	402	UQ	C17-C18-C19	-4.06	113.88	127.75
53	V	201	CDL	OB6-CB5-C51	4.05	120.24	111.50
53	l	702	CDL	OB6-CB5-C51	4.01	120.14	111.50
55	m	201	PEE	O2-C10-C11	4.00	120.12	111.50
53	i	401	CDL	OB6-CB5-C51	3.99	120.10	111.50
53	r	503	CDL	OB6-CB5-C51	3.97	120.06	111.50
55	i	403	PEE	O2-C10-C11	3.93	119.98	111.50
53	N	201	CDL	OA6-CA5-C11	3.93	119.97	111.50
55	U	101	PEE	O2-C10-C11	3.93	119.96	111.50
53	N	201	CDL	OB6-CB5-C51	3.91	119.93	111.50
55	r	501	PEE	O2-C10-C11	3.90	119.91	111.50
56	s	402	UQ	C16-C14-C13	-3.88	113.27	121.12
53	r	503	CDL	OA6-CA5-C11	3.87	119.84	111.50
55	l	704	PEE	O2-C10-C11	3.86	119.81	111.50
53	l	702	CDL	OA6-CA5-C11	3.85	119.79	111.50
55	l	703	PEE	O2-C10-C11	3.84	119.77	111.50
55	j	201	PEE	O2-C10-C11	3.82	119.74	111.50
49	G	201	8Q1	C37-C38-C39	3.44	118.09	112.36
49	G	201	8Q1	O4-C1-C6	-3.42	119.95	123.99
49	X	201	8Q1	O4-C1-C6	-3.37	120.01	123.99
47	A	503	NAI	C3D-C2D-C1D	3.35	107.79	101.43
56	s	402	UQ	C21-C19-C18	-3.32	113.06	122.65
53	V	201	CDL	OA6-CA5-C11	3.28	119.94	110.80
46	A	502	FMN	C4-N3-C2	-3.07	119.97	125.64
56	s	402	UQ	C20-C19-C18	-3.02	113.91	122.65
49	X	201	8Q1	C37-C38-C39	2.88	117.15	112.36
55	s	401	PEE	O3-C30-C31	2.84	120.82	111.91
56	s	402	UQ	CM5-C5-C6	-2.78	119.86	124.40
47	A	503	NAI	C2D-C3D-C4D	2.77	108.02	102.64
50	J	401	NDP	C2B-C3B-C4B	2.74	107.94	101.99
50	J	401	NDP	PN-O3-PA	-2.68	123.64	132.83
53	V	201	CDL	OA8-CA7-C31	2.66	120.24	111.91
55	l	703	PEE	O3-C30-C31	2.65	120.24	111.91
55	r	501	PEE	O3-C30-C31	2.65	120.24	111.91
46	A	502	FMN	C4A-C4-N3	2.65	119.92	113.19
57	w	401	ADP	O4'-C1'-C2'	-2.64	103.06	106.93
53	N	201	CDL	OB8-CB7-C71	2.64	120.20	111.91
55	i	403	PEE	O3-C30-C31	2.63	120.16	111.91
47	A	503	NAI	C4A-C5A-N7A	-2.62	106.67	109.40
53	r	503	CDL	OA8-CA7-C31	2.62	120.12	111.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
55	l	704	PEE	O3-C30-C31	2.60	120.07	111.91
55	U	101	PEE	O3-C30-C31	2.60	120.07	111.91
57	w	401	ADP	PA-O3A-PB	-2.60	123.91	132.83
53	l	702	CDL	OB8-CB7-C71	2.59	120.05	111.91
47	A	503	NAI	C4D-O4D-C1D	-2.59	103.76	109.47
53	a	201	CDL	OB8-CB7-C71	2.59	120.02	111.91
53	i	401	CDL	OB8-CB7-C71	2.58	119.99	111.91
53	N	201	CDL	OA8-CA7-C31	2.57	119.96	111.91
53	i	401	CDL	OA8-CA7-C31	2.56	119.96	111.91
53	a	201	CDL	OA8-CA7-C31	2.54	119.89	111.91
46	A	502	FMN	O4-C4-C4A	-2.53	119.89	126.60
53	V	201	CDL	OB8-CB7-C71	2.53	119.83	111.91
53	l	702	CDL	OA8-CA7-C31	2.52	119.82	111.91
55	j	201	PEE	O3-C30-C31	2.52	119.82	111.91
48	l	701	PLX	C1A-N1-C1	2.52	120.23	109.92
55	m	201	PEE	O3-C30-C31	2.51	119.77	111.91
53	r	503	CDL	OB8-CB7-C71	2.49	119.72	111.91
48	i	402	PLX	C1A-N1-C1	2.44	119.90	109.92
47	A	503	NAI	PN-O3-PA	-2.43	124.47	132.83
48	a	202	PLX	C1A-N1-C1	2.42	119.83	109.92
46	A	502	FMN	C4A-C10-N10	2.42	120.02	116.48
48	j	202	PLX	C1A-N1-C1	2.38	119.67	109.92
48	r	502	PLX	C1A-N1-C1	2.38	119.65	109.92
49	G	201	8Q1	C38-C39-N41	2.37	120.42	116.42
49	G	201	8Q1	C43-S44-C1	2.32	109.10	101.87
47	A	503	NAI	C3B-C2B-C1B	2.32	104.46	100.98
50	J	401	NDP	C4A-C5A-N7A	-2.29	107.01	109.40
49	X	201	8Q1	C38-C39-N41	2.29	120.27	116.42
49	G	201	8Q1	O4-C1-S44	-2.28	119.65	122.61
46	A	502	FMN	C4A-C10-N1	-2.24	119.53	124.73
49	X	201	8Q1	O4-C1-S44	-2.24	119.71	122.61
46	A	502	FMN	C10-C4A-N5	-2.21	120.16	124.86
49	X	201	8Q1	C43-S44-C1	2.19	108.69	101.87
48	C	302	PLX	C1A-N1-C1	2.18	118.84	109.92
46	A	502	FMN	C9A-C5A-N5	-2.15	120.09	122.43
57	w	401	ADP	C4-C5-N7	-2.05	107.27	109.40
46	A	502	FMN	C5A-C9A-N10	2.03	120.05	117.95

There are no chirality outliers.

All (734) 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'
47	A	503	NAI	C5B-O5B-PA-O3
48	C	302	PLX	O7-C6-C7-C8
48	C	302	PLX	C3-O4-P1-O1
48	C	302	PLX	N1-C1-C2-O1
48	C	302	PLX	O9-C24-C25-C26
48	a	202	PLX	O7-C6-C7-C8
48	i	402	PLX	O7-C6-C7-C8
48	i	402	PLX	O7-C6-O6-C4
48	j	202	PLX	O7-C6-C7-C8
48	j	202	PLX	O7-C6-O6-C4
48	l	701	PLX	O7-C6-O6-C4
48	l	701	PLX	C3-O4-P1-O3
48	l	701	PLX	O9-C24-O8-C5
48	l	701	PLX	O9-C24-C25-C26
48	r	502	PLX	O7-C6-O6-C4
48	r	502	PLX	C5-C4-O6-C6
48	r	502	PLX	C3-O4-P1-O2
48	r	502	PLX	C2-O1-P1-O2
48	r	502	PLX	O9-C24-O8-C5
48	r	502	PLX	O9-C24-C25-C26
49	G	201	8Q1	O4-C1-S44-C43
49	G	201	8Q1	C6-C1-S44-C43
49	G	201	8Q1	O27-C28-C29-C31
49	G	201	8Q1	O27-C28-C29-C32
49	G	201	8Q1	N41-C42-C43-S44
49	X	201	8Q1	C6-C1-S44-C43
49	X	201	8Q1	C28-C29-C32-C34
49	X	201	8Q1	C28-C29-C32-O33
49	X	201	8Q1	C30-C29-C32-C34
49	X	201	8Q1	C30-C29-C32-O33
49	X	201	8Q1	C31-C29-C32-C34
49	X	201	8Q1	C31-C29-C32-O33
49	X	201	8Q1	N36-C37-C38-C39
49	X	201	8Q1	C42-C43-S44-C1
49	X	201	8Q1	C28-O27-P24-O3
49	X	201	8Q1	C28-O27-P24-O2
49	X	201	8Q1	C28-O27-P24-O1
50	J	401	NDP	C5B-O5B-PA-O3
50	J	401	NDP	C2B-O2B-P2B-O3X
50	J	401	NDP	C2N-C3N-C7N-N7N
53	N	201	CDL	O1-C1-CA2-OA2

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Mol	Chain	Res	Type	Atoms
53	N	201	CDL	CB2-C1-CA2-OA2
53	N	201	CDL	CA2-OA2-PA1-OA3
53	N	201	CDL	CA2-OA2-PA1-OA4
53	N	201	CDL	CA3-OA5-PA1-OA3
53	N	201	CDL	CB2-OB2-PB2-OB3
53	N	201	CDL	CB2-OB2-PB2-OB4
53	N	201	CDL	CB3-OB5-PB2-OB3
53	N	201	CDL	C51-CB5-OB6-CB4
53	V	201	CDL	CB2-C1-CA2-OA2
53	V	201	CDL	CA2-OA2-PA1-OA3
53	V	201	CDL	CA2-OA2-PA1-OA4
53	V	201	CDL	CA3-OA5-PA1-OA3
53	V	201	CDL	OA9-CA7-OA8-CA6
53	V	201	CDL	C31-CA7-OA8-CA6
53	V	201	CDL	CB2-OB2-PB2-OB3
53	V	201	CDL	CB3-OB5-PB2-OB3
53	V	201	CDL	CB3-OB5-PB2-OB4
53	a	201	CDL	CB2-OB2-PB2-OB3
53	a	201	CDL	CB2-OB2-PB2-OB4
53	a	201	CDL	CB2-OB2-PB2-OB5
53	i	401	CDL	CA2-OA2-PA1-OA5
53	i	401	CDL	CA3-OA5-PA1-OA3
53	i	401	CDL	CA3-OA5-PA1-OA4
53	i	401	CDL	CB2-OB2-PB2-OB3
53	i	401	CDL	CB2-OB2-PB2-OB4
53	l	702	CDL	CA2-OA2-PA1-OA4
53	l	702	CDL	CA3-OA5-PA1-OA2
53	l	702	CDL	CA3-OA5-PA1-OA3
53	l	702	CDL	CA3-OA5-PA1-OA4
53	l	702	CDL	OA6-CA4-CA6-OA8
53	l	702	CDL	CB2-OB2-PB2-OB4
53	l	702	CDL	CB2-OB2-PB2-OB5
53	l	702	CDL	OB6-CB4-CB6-OB8
53	r	503	CDL	CA2-OA2-PA1-OA3
53	r	503	CDL	CA2-OA2-PA1-OA4
53	r	503	CDL	CA3-OA5-PA1-OA3
53	r	503	CDL	CA3-OA5-PA1-OA4
53	r	503	CDL	OA6-CA4-CA6-OA8
53	r	503	CDL	CB3-OB5-PB2-OB3
55	U	101	PEE	C1-O3P-P-O1P
55	i	403	PEE	C11-C10-O2-C2
55	j	201	PEE	C1-O3P-P-O1P

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Mol	Chain	Res	Type	Atoms
55	l	703	PEE	C4-O4P-P-O1P
55	l	704	PEE	O4P-C4-C5-N
55	l	704	PEE	C37-C38-C39-C40
55	m	201	PEE	C11-C10-O2-C2
55	m	201	PEE	O4-C10-O2-C2
55	m	201	PEE	C1-O3P-P-O2P
55	m	201	PEE	C1-O3P-P-O1P
55	m	201	PEE	C4-O4P-P-O3P
55	m	201	PEE	C4-O4P-P-O1P
55	r	501	PEE	C1-O3P-P-O2P
55	r	501	PEE	C1-O3P-P-O1P
55	r	501	PEE	C1-O3P-P-O4P
55	r	501	PEE	C4-O4P-P-O2P
55	r	501	PEE	C4-O4P-P-O1P
55	s	401	PEE	C1-O3P-P-O2P
55	s	401	PEE	C1-O3P-P-O1P
55	s	401	PEE	C4-O4P-P-O3P
55	s	401	PEE	C4-O4P-P-O2P
55	s	401	PEE	C4-O4P-P-O1P
56	s	402	UQ	C7-C8-C9-C11
56	s	402	UQ	C9-C11-C12-C13
56	s	402	UQ	C14-C16-C17-C18
56	s	402	UQ	C17-C18-C19-C21
57	w	401	ADP	C5'-O5'-PA-O2A
57	w	401	ADP	C5'-O5'-PA-O3A
53	i	401	CDL	C31-CA7-OA8-CA6
53	i	401	CDL	OA9-CA7-OA8-CA6
53	N	201	CDL	OB7-CB5-OB6-CB4
55	i	403	PEE	O4-C10-O2-C2
55	j	201	PEE	O4-C10-O2-C2
55	j	201	PEE	C11-C10-O2-C2
48	C	302	PLX	C28-C29-C30-C31
55	U	101	PEE	C17-C18-C19-C20
55	r	501	PEE	C17-C18-C19-C20
55	s	401	PEE	C17-C18-C19-C20
55	s	401	PEE	C37-C38-C39-C40
56	s	402	UQ	C7-C8-C9-C10
53	r	503	CDL	OB9-CB7-OB8-CB6
55	l	704	PEE	O5-C30-O3-C3
48	r	502	PLX	C9-C10-C11-C12
53	V	201	CDL	O1-C1-CA2-OA2
53	a	201	CDL	O1-C1-CB2-OB2

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Mol	Chain	Res	Type	Atoms
53	l	702	CDL	O1-C1-CB2-OB2
53	r	503	CDL	C71-CB7-OB8-CB6
55	l	704	PEE	C31-C30-O3-C3
53	r	503	CDL	C51-CB5-OB6-CB4
55	U	101	PEE	C11-C10-O2-C2
55	l	703	PEE	C11-C10-O2-C2
48	i	402	PLX	C7-C8-C9-C10
53	a	201	CDL	C34-C35-C36-C37
53	l	702	CDL	C11-C12-C13-C14
50	J	401	NDP	O4B-C4B-C5B-O5B
53	l	702	CDL	C71-CB7-OB8-CB6
55	m	201	PEE	C31-C30-O3-C3
53	r	503	CDL	OB7-CB5-OB6-CB4
48	j	202	PLX	C28-C29-C30-C31
53	l	702	CDL	C59-C60-C61-C62
56	s	402	UQ	C12-C11-C9-C10
48	r	502	PLX	C30-C31-C32-C33
53	l	702	CDL	OB9-CB7-OB8-CB6
48	l	701	PLX	C12-C13-C14-C15
55	i	403	PEE	C31-C30-O3-C3
55	s	401	PEE	C12-C13-C14-C15
53	r	503	CDL	C74-C75-C76-C77
48	j	202	PLX	C15-C16-C17-C18
53	V	201	CDL	CA2-C1-CB2-OB2
53	a	201	CDL	CA2-C1-CB2-OB2
53	r	503	CDL	CB2-C1-CA2-OA2
55	l	703	PEE	O4-C10-O2-C2
55	m	201	PEE	O5-C30-O3-C3
53	l	702	CDL	C71-C72-C73-C74
53	a	201	CDL	C71-CB7-OB8-CB6
55	l	703	PEE	C31-C30-O3-C3
53	a	201	CDL	C31-C32-C33-C34
53	N	201	CDL	OA5-CA3-CA4-OA6
53	a	201	CDL	OA5-CA3-CA4-OA6
55	l	703	PEE	O3P-C1-C2-O2
53	l	702	CDL	C35-C36-C37-C38
53	i	401	CDL	O1-C1-CA2-OA2
55	U	101	PEE	O4-C10-O2-C2
55	i	403	PEE	C10-C11-C12-C13
50	J	401	NDP	C2D-C1D-N1N-C6N
55	l	703	PEE	O5-C30-O3-C3
53	i	401	CDL	C71-CB7-OB8-CB6

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Mol	Chain	Res	Type	Atoms
48	a	202	PLX	C29-C30-C31-C32
53	i	401	CDL	CB5-C51-C52-C53
53	a	201	CDL	CA7-C31-C32-C33
53	i	401	CDL	CB7-C71-C72-C73
53	l	702	CDL	CB5-C51-C52-C53
53	l	702	CDL	CB7-C71-C72-C73
53	r	503	CDL	CB5-C51-C52-C53
53	r	503	CDL	CB7-C71-C72-C73
53	V	201	CDL	C74-C75-C76-C77
53	i	401	CDL	C14-C15-C16-C17
48	l	701	PLX	C2-C1-N1-C1A
55	i	403	PEE	O5-C30-O3-C3
53	a	201	CDL	OB9-CB7-OB8-CB6
53	N	201	CDL	CB5-C51-C52-C53
53	V	201	CDL	O1-C1-CB2-OB2
53	a	201	CDL	O1-C1-CA2-OA2
53	r	503	CDL	O1-C1-CA2-OA2
53	V	201	CDL	C60-C61-C62-C63
53	i	401	CDL	OB9-CB7-OB8-CB6
55	r	501	PEE	C10-C11-C12-C13
48	j	202	PLX	C3-O4-P1-O1
48	l	701	PLX	C3-O4-P1-O1
48	l	701	PLX	C2-O1-P1-O4
53	N	201	CDL	CA2-OA2-PA1-OA5
53	N	201	CDL	CB2-OB2-PB2-OB5
53	N	201	CDL	CB3-OB5-PB2-OB2
53	V	201	CDL	CA2-OA2-PA1-OA5
53	V	201	CDL	CB2-OB2-PB2-OB5
53	V	201	CDL	CB3-OB5-PB2-OB2
53	a	201	CDL	CA3-OA5-PA1-OA2
53	i	401	CDL	CA3-OA5-PA1-OA2
53	i	401	CDL	CB2-OB2-PB2-OB5
53	l	702	CDL	CA2-OA2-PA1-OA5
53	l	702	CDL	CB3-OB5-PB2-OB2
53	r	503	CDL	CA2-OA2-PA1-OA5
53	r	503	CDL	CA3-OA5-PA1-OA2
53	r	503	CDL	CB2-OB2-PB2-OB5
53	r	503	CDL	CB3-OB5-PB2-OB2
55	j	201	PEE	C1-O3P-P-O4P
55	m	201	PEE	C1-O3P-P-O4P
55	s	401	PEE	C1-O3P-P-O4P
53	a	201	CDL	CB2-C1-CA2-OA2

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Mol	Chain	Res	Type	Atoms
53	i	401	CDL	CB2-C1-CA2-OA2
53	l	702	CDL	CA2-C1-CB2-OB2
56	s	402	UQ	C13-C14-C16-C17
48	l	701	PLX	C2-C1-N1-C1C
55	m	201	PEE	C13-C14-C15-C16
48	i	402	PLX	O8-C24-C25-C26
48	l	701	PLX	O8-C24-C25-C26
53	V	201	CDL	C56-C57-C58-C59
55	s	401	PEE	C11-C10-O2-C2
48	i	402	PLX	C11-C10-C9-C8
48	i	402	PLX	C32-C33-C34-C35
48	j	202	PLX	C10-C11-C12-C13
48	l	701	PLX	C25-C26-C27-C28
48	r	502	PLX	C16-C17-C18-C19
53	a	201	CDL	C35-C36-C37-C38
53	l	702	CDL	C54-C55-C56-C57
53	r	503	CDL	C56-C57-C58-C59
53	r	503	CDL	C71-C72-C73-C74
49	G	201	8Q1	O27-C28-C29-C30
48	i	402	PLX	C33-C34-C35-C36
48	j	202	PLX	C7-C8-C9-C10
53	a	201	CDL	C32-C33-C34-C35
53	a	201	CDL	C73-C74-C75-C76
53	i	401	CDL	C37-C38-C39-C40
53	l	702	CDL	C40-C41-C42-C43
55	s	401	PEE	O4-C10-O2-C2
53	N	201	CDL	CA7-C31-C32-C33
48	a	202	PLX	C28-C29-C30-C31
48	i	402	PLX	C27-C28-C29-C30
53	i	401	CDL	C33-C34-C35-C36
55	r	501	PEE	C31-C32-C33-C34
48	l	701	PLX	C14-C15-C16-C17
53	i	401	CDL	C71-C72-C73-C74
53	l	702	CDL	C73-C74-C75-C76
48	j	202	PLX	C27-C28-C29-C30
53	V	201	CDL	C52-C53-C54-C55
53	V	201	CDL	C54-C55-C56-C57
53	l	702	CDL	C55-C56-C57-C58
53	l	702	CDL	C75-C76-C77-C78
53	r	503	CDL	C73-C74-C75-C76
53	r	503	CDL	OB6-CB4-CB6-OB8
48	a	202	PLX	C14-C15-C16-C17

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Mol	Chain	Res	Type	Atoms
48	i	402	PLX	C9-C10-C11-C12
48	r	502	PLX	C12-C13-C14-C15
48	r	502	PLX	C7-C8-C9-C10
48	r	502	PLX	C28-C29-C30-C31
55	r	501	PEE	C12-C13-C14-C15
48	a	202	PLX	C10-C11-C12-C13
48	l	701	PLX	C28-C29-C30-C31
48	l	701	PLX	C33-C34-C35-C36
53	a	201	CDL	C11-C12-C13-C14
53	l	702	CDL	C60-C61-C62-C63
53	r	503	CDL	C75-C76-C77-C78
48	C	302	PLX	C7-C8-C9-C10
48	i	402	PLX	C10-C11-C12-C13
48	r	502	PLX	C15-C16-C17-C18
53	V	201	CDL	C62-C63-C64-C65
53	a	201	CDL	C16-C17-C18-C19
53	a	201	CDL	C17-C18-C19-C20
53	a	201	CDL	C52-C53-C54-C55
53	a	201	CDL	C75-C76-C77-C78
53	i	401	CDL	C34-C35-C36-C37
53	l	702	CDL	C39-C40-C41-C42
48	i	402	PLX	C30-C31-C32-C33
48	l	701	PLX	C29-C30-C31-C32
55	s	401	PEE	C15-C16-C17-C18
53	i	401	CDL	CA7-C31-C32-C33
53	r	503	CDL	CA7-C31-C32-C33
48	a	202	PLX	C33-C34-C35-C36
48	i	402	PLX	C25-C26-C27-C28
48	l	701	PLX	C27-C28-C29-C30
53	V	201	CDL	C75-C76-C77-C78
53	l	702	CDL	C37-C38-C39-C40
53	l	702	CDL	C52-C53-C54-C55
55	j	201	PEE	C32-C33-C34-C35
55	l	704	PEE	C33-C34-C35-C36
55	m	201	PEE	C11-C12-C13-C14
55	r	501	PEE	C20-C21-C22-C23
48	C	302	PLX	C9-C10-C11-C12
48	l	701	PLX	C13-C14-C15-C16
53	N	201	CDL	C11-C12-C13-C14
53	a	201	CDL	C37-C38-C39-C40
55	s	401	PEE	C14-C15-C16-C17
53	r	503	CDL	CA5-C11-C12-C13

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Mol	Chain	Res	Type	Atoms
53	r	503	CDL	C59-C60-C61-C62
53	r	503	CDL	C78-C79-C80-C81
53	l	702	CDL	C63-C64-C65-C66
53	r	503	CDL	C52-C53-C54-C55
55	s	401	PEE	C21-C22-C23-C24
48	C	302	PLX	C16-C17-C18-C19
48	C	302	PLX	C25-C26-C27-C28
48	i	402	PLX	C28-C29-C30-C31
48	l	701	PLX	C10-C11-C12-C13
48	r	502	PLX	C10-C11-C12-C13
48	r	502	PLX	C27-C28-C29-C30
55	i	403	PEE	C12-C13-C14-C15
55	l	704	PEE	C1-C2-C3-O3
48	j	202	PLX	C13-C14-C15-C16
53	V	201	CDL	C55-C56-C57-C58
53	r	503	CDL	C41-C42-C43-C44
55	l	703	PEE	C13-C14-C15-C16
48	i	402	PLX	O9-C24-C25-C26
55	r	501	PEE	C40-C41-C42-C43
53	l	702	CDL	O1-C1-CA2-OA2
47	A	503	NAI	C3D-C4D-C5D-O5D
53	r	503	CDL	C82-C83-C84-C85
53	N	201	CDL	CB7-C71-C72-C73
48	a	202	PLX	C31-C32-C33-C34
49	G	201	8Q1	C11-C12-C13-C14
53	i	401	CDL	C35-C36-C37-C38
53	r	503	CDL	C43-C44-C45-C46
55	r	501	PEE	C13-C14-C15-C16
53	V	201	CDL	C71-CB7-OB8-CB6
53	V	201	CDL	C11-CA5-OA6-CA4
53	i	401	CDL	C11-C12-C13-C14
53	i	401	CDL	C52-C53-C54-C55
53	i	401	CDL	C32-C33-C34-C35
55	l	704	PEE	C14-C15-C16-C17
48	r	502	PLX	C13-C14-C15-C16
53	V	201	CDL	OB9-CB7-OB8-CB6
48	i	402	PLX	C14-C15-C16-C17
55	j	201	PEE	C42-C43-C44-C45
55	l	704	PEE	C31-C32-C33-C34
55	i	403	PEE	C19-C20-C21-C22
55	i	403	PEE	C35-C36-C37-C38
53	a	201	CDL	C22-C23-C24-C25

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Mol	Chain	Res	Type	Atoms
48	C	302	PLX	C33-C34-C35-C36
53	r	503	CDL	C51-C52-C53-C54
55	U	101	PEE	C34-C35-C36-C37
53	r	503	CDL	C62-C63-C64-C65
55	l	703	PEE	C31-C32-C33-C34
48	C	302	PLX	C14-C15-C16-C17
48	j	202	PLX	C14-C15-C16-C17
53	l	702	CDL	C56-C57-C58-C59
53	V	201	CDL	C51-CB5-OB6-CB4
55	r	501	PEE	C11-C10-O2-C2
55	l	704	PEE	C21-C22-C23-C24
55	s	401	PEE	C42-C43-C44-C45
55	r	501	PEE	O4-C10-O2-C2
53	V	201	CDL	OB6-CB4-CB6-OB8
48	l	701	PLX	C2-C1-N1-C1B
55	l	703	PEE	C19-C20-C21-C22
55	r	501	PEE	C39-C40-C41-C42
48	a	202	PLX	C11-C12-C13-C14
55	l	703	PEE	C37-C38-C39-C40
53	r	503	CDL	C60-C61-C62-C63
53	V	201	CDL	OA7-CA5-OA6-CA4
53	V	201	CDL	OB7-CB5-OB6-CB4
53	r	503	CDL	C42-C43-C44-C45
55	U	101	PEE	C36-C37-C38-C39
48	r	502	PLX	C3-O4-P1-O1
48	r	502	PLX	C2-O1-P1-O4
55	U	101	PEE	C1-O3P-P-O4P
55	l	703	PEE	C4-O4P-P-O3P
55	r	501	PEE	C4-O4P-P-O3P
55	i	403	PEE	C21-C22-C23-C24
53	r	503	CDL	C35-C36-C37-C38
53	V	201	CDL	OB5-CB3-CB4-CB6
55	l	703	PEE	O3P-C1-C2-C3
53	r	503	CDL	C17-C18-C19-C20
53	a	201	CDL	C71-C72-C73-C74
55	U	101	PEE	C23-C24-C25-C26
55	s	401	PEE	C39-C40-C41-C42
53	a	201	CDL	CB5-C51-C52-C53
48	i	402	PLX	C12-C13-C14-C15
53	l	702	CDL	C58-C59-C60-C61
55	s	401	PEE	C31-C30-O3-C3
48	a	202	PLX	C26-C27-C28-C29

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Mol	Chain	Res	Type	Atoms
48	j	202	PLX	C12-C13-C14-C15
49	X	201	8Q1	C9-C10-C11-C12
55	r	501	PEE	C36-C37-C38-C39
48	C	302	PLX	C27-C28-C29-C30
48	a	202	PLX	C3-C4-C5-O8
48	j	202	PLX	C9-C10-C11-C12
48	l	701	PLX	C3-C4-C5-O8
48	r	502	PLX	C3-C4-C5-O8
53	N	201	CDL	CA3-CA4-CA6-OA8
53	V	201	CDL	C84-C85-C86-C87
53	l	702	CDL	CB3-CB4-CB6-OB8
53	r	503	CDL	CB3-CB4-CB6-OB8
55	j	201	PEE	C1-C2-C3-O3
55	j	201	PEE	C37-C38-C39-C40
53	i	401	CDL	C13-C14-C15-C16
48	a	202	PLX	C11-C10-C9-C8
53	i	401	CDL	C74-C75-C76-C77
53	l	702	CDL	C64-C65-C66-C67
55	U	101	PEE	C31-C30-O3-C3
55	j	201	PEE	C31-C30-O3-C3
48	a	202	PLX	C7-C8-C9-C10
49	G	201	8Q1	C7-C8-C9-C10
53	l	702	CDL	C72-C73-C74-C75
53	V	201	CDL	C59-C60-C61-C62
49	G	201	8Q1	C28-O27-P24-O3
53	r	503	CDL	OB5-CB3-CB4-OB6
48	a	202	PLX	C19-C20-C21-C22
53	r	503	CDL	C64-C65-C66-C67
55	l	703	PEE	C14-C15-C16-C17
55	j	201	PEE	C15-C16-C17-C18
53	V	201	CDL	OA6-CA4-CA6-OA8
53	i	401	CDL	OB6-CB4-CB6-OB8
48	C	302	PLX	C11-C12-C13-C14
55	r	501	PEE	C41-C42-C43-C44
55	s	401	PEE	O5-C30-O3-C3
53	r	503	CDL	C55-C56-C57-C58
55	s	401	PEE	C34-C35-C36-C37
48	C	302	PLX	C30-C31-C32-C33
55	i	403	PEE	C34-C35-C36-C37
55	j	201	PEE	O5-C30-O3-C3
48	r	502	PLX	C14-C15-C16-C17
55	s	401	PEE	C22-C23-C24-C25

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Mol	Chain	Res	Type	Atoms
48	C	302	PLX	C26-C27-C28-C29
48	l	701	PLX	C7-C8-C9-C10
53	V	201	CDL	C64-C65-C66-C67
55	l	704	PEE	C24-C25-C26-C27
55	U	101	PEE	C19-C20-C21-C22
55	U	101	PEE	O5-C30-O3-C3
53	N	201	CDL	OA5-CA3-CA4-CA6
53	N	201	CDL	OB5-CB3-CB4-CB6
53	a	201	CDL	OA5-CA3-CA4-CA6
48	r	502	PLX	C31-C32-C33-C34
49	G	201	8Q1	C12-C13-C14-C15
48	C	302	PLX	C31-C32-C33-C34
48	l	701	PLX	C9-C10-C11-C12
53	r	503	CDL	C15-C16-C17-C18
53	N	201	CDL	C71-CB7-OB8-CB6
55	r	501	PEE	C30-C31-C32-C33
48	l	701	PLX	C16-C17-C18-C19
55	i	403	PEE	C24-C25-C26-C27
48	j	202	PLX	C31-C32-C33-C34
55	r	501	PEE	C31-C30-O3-C3
48	l	701	PLX	C31-C32-C33-C34
48	i	402	PLX	C3-C4-C5-O8
48	j	202	PLX	C3-C4-C5-O8
53	V	201	CDL	CB3-CB4-CB6-OB8
55	i	403	PEE	C1-C2-C3-O3
48	j	202	PLX	C30-C31-C32-C33
55	U	101	PEE	C44-C45-C46-C47
53	V	201	CDL	CA3-OA5-PA1-OA2
55	r	501	PEE	C24-C25-C26-C27
48	l	701	PLX	C15-C16-C17-C18
48	i	402	PLX	O4-C3-C4-O6
53	N	201	CDL	OB5-CB3-CB4-OB6
53	V	201	CDL	OB5-CB3-CB4-OB6
55	m	201	PEE	C19-C20-C21-C22
53	N	201	CDL	O1-C1-CB2-OB2
53	r	503	CDL	C81-C82-C83-C84
48	i	402	PLX	O6-C4-C5-O8
48	j	202	PLX	O6-C4-C5-O8
48	r	502	PLX	O6-C4-C5-O8
53	N	201	CDL	OA6-CA4-CA6-OA8
55	i	403	PEE	O2-C2-C3-O3
55	j	201	PEE	O2-C2-C3-O3

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Mol	Chain	Res	Type	Atoms
55	r	501	PEE	O2-C2-C3-O3
49	X	201	8Q1	C11-C12-C13-C14
48	a	202	PLX	C30-C31-C32-C33
53	i	401	CDL	C15-C16-C17-C18
48	r	502	PLX	C33-C34-C35-C36
53	a	201	CDL	C15-C16-C17-C18
53	r	503	CDL	CB4-CB3-OB5-PB2
55	i	403	PEE	C2-C1-O3P-P
55	s	401	PEE	C19-C20-C21-C22
48	l	701	PLX	C11-C12-C13-C14
53	i	401	CDL	C75-C76-C77-C78
55	m	201	PEE	O3-C30-C31-C32
55	i	403	PEE	C22-C23-C24-C25
49	X	201	8Q1	O4-C1-S44-C43
55	j	201	PEE	C30-C31-C32-C33
48	a	202	PLX	C9-C10-C11-C12
53	l	702	CDL	C32-C33-C34-C35
48	C	302	PLX	O8-C24-C25-C26
48	a	202	PLX	O6-C6-C7-C8
48	i	402	PLX	O4-C3-C4-C5
53	r	503	CDL	OB5-CB3-CB4-CB6
48	j	202	PLX	C33-C34-C35-C36
55	l	704	PEE	C18-C19-C20-C21
48	C	302	PLX	C18-C19-C20-C21
50	J	401	NDP	C3B-C4B-C5B-O5B
50	J	401	NDP	C2B-O2B-P2B-O1X
53	V	201	CDL	C71-C72-C73-C74
53	V	201	CDL	C82-C83-C84-C85
53	r	503	CDL	CA3-CA4-CA6-OA8
55	r	501	PEE	C1-C2-C3-O3
53	l	702	CDL	C17-C18-C19-C20
53	r	503	CDL	C76-C77-C78-C79
48	C	302	PLX	O4-C3-C4-O6
48	j	202	PLX	O4-C3-C4-O6
53	l	702	CDL	OA5-CA3-CA4-OA6
53	V	201	CDL	C53-C54-C55-C56
47	A	503	NAI	C2D-C1D-N1N-C2N
55	i	403	PEE	C16-C17-C18-C19
53	N	201	CDL	OB9-CB7-OB8-CB6
55	r	501	PEE	O5-C30-O3-C3
48	a	202	PLX	O6-C4-C5-O8
53	l	702	CDL	C12-C13-C14-C15

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Mol	Chain	Res	Type	Atoms
48	C	302	PLX	C11-C10-C9-C8
55	l	704	PEE	C15-C16-C17-C18
55	l	703	PEE	C32-C33-C34-C35
47	A	503	NAI	O4D-C4D-C5D-O5D
53	a	201	CDL	C11-CA5-OA6-CA4
55	r	501	PEE	C11-C12-C13-C14
53	r	503	CDL	C31-CA7-OA8-CA6
48	a	202	PLX	C2-O1-P1-O4
55	j	201	PEE	C13-C14-C15-C16
55	m	201	PEE	C23-C24-C25-C26
47	A	503	NAI	C5B-O5B-PA-O1A
47	A	503	NAI	C5B-O5B-PA-O2A
48	C	302	PLX	C3-O4-P1-O3
48	j	202	PLX	C3-O4-P1-O3
48	l	701	PLX	C3-O4-P1-O2
48	l	701	PLX	C2-O1-P1-O2
48	l	701	PLX	C2-O1-P1-O3
48	r	502	PLX	C2-O1-P1-O3
50	J	401	NDP	C5B-O5B-PA-O1A
50	J	401	NDP	C5B-O5B-PA-O2A
53	N	201	CDL	CB3-OB5-PB2-OB4
53	a	201	CDL	CA2-OA2-PA1-OA4
53	a	201	CDL	CA3-OA5-PA1-OA4
53	l	702	CDL	CA2-OA2-PA1-OA3
53	l	702	CDL	CB2-OB2-PB2-OB3
53	l	702	CDL	CB3-OB5-PB2-OB3
53	l	702	CDL	CB3-OB5-PB2-OB4
53	r	503	CDL	CB2-OB2-PB2-OB3
53	r	503	CDL	CB2-OB2-PB2-OB4
55	U	101	PEE	C1-O3P-P-O2P
55	i	403	PEE	C1-O3P-P-O1P
55	j	201	PEE	C1-O3P-P-O2P
55	l	703	PEE	C4-O4P-P-O2P
55	m	201	PEE	C4-O4P-P-O2P
57	w	401	ADP	C5'-O5'-PA-O1A
48	C	302	PLX	O4-C3-C4-C5
48	j	202	PLX	O4-C3-C4-C5
53	l	702	CDL	OA5-CA3-CA4-CA6
55	U	101	PEE	C32-C33-C34-C35
48	j	202	PLX	C25-C24-O8-C5
48	l	701	PLX	C24-C25-C26-C27
53	a	201	CDL	C60-C61-C62-C63

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Mol	Chain	Res	Type	Atoms
49	G	201	8Q1	C28-C29-C32-C34
55	l	703	PEE	C30-C31-C32-C33
55	U	101	PEE	C21-C22-C23-C24
50	J	401	NDP	C2N-C3N-C7N-O7N
53	V	201	CDL	CA3-CA4-CA6-OA8
53	i	401	CDL	CB3-CB4-CB6-OB8
53	l	702	CDL	CA3-CA4-CA6-OA8
48	l	701	PLX	O6-C4-C5-O8
55	l	704	PEE	O2-C2-C3-O3
55	i	403	PEE	C31-C32-C33-C34
55	U	101	PEE	C37-C38-C39-C40
53	a	201	CDL	C76-C77-C78-C79
53	r	503	CDL	OA9-CA7-OA8-CA6
48	l	701	PLX	C30-C31-C32-C33
53	r	503	CDL	C20-C21-C22-C23
53	i	401	CDL	C12-C13-C14-C15
55	m	201	PEE	C31-C32-C33-C34
48	C	302	PLX	O6-C6-C7-C8
53	l	702	CDL	C62-C63-C64-C65
53	r	503	CDL	C11-C12-C13-C14
55	U	101	PEE	C38-C39-C40-C41
53	a	201	CDL	C44-C45-C46-C47
47	A	503	NAI	O4D-C1D-N1N-C2N
53	i	401	CDL	C36-C37-C38-C39
55	l	704	PEE	C12-C13-C14-C15
55	s	401	PEE	C23-C24-C25-C26
55	l	703	PEE	C11-C12-C13-C14
49	X	201	8Q1	O27-C28-C29-C30
53	V	201	CDL	CB7-C71-C72-C73
48	i	402	PLX	C13-C14-C15-C16
55	j	201	PEE	C33-C34-C35-C36
55	m	201	PEE	C3-C2-O2-C10
53	a	201	CDL	OA7-CA5-OA6-CA4
55	l	704	PEE	O4-C10-O2-C2
55	i	403	PEE	C14-C15-C16-C17
55	m	201	PEE	C24-C25-C26-C27
53	l	702	CDL	C33-C34-C35-C36
55	l	704	PEE	C11-C10-O2-C2
55	j	201	PEE	C18-C19-C20-C21
55	l	703	PEE	C36-C37-C38-C39
53	r	503	CDL	C31-C32-C33-C34
48	i	402	PLX	C3-O4-P1-O1

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Mol	Chain	Res	Type	Atoms
53	a	201	CDL	CB3-OB5-PB2-OB2
53	i	401	CDL	CB3-OB5-PB2-OB2
49	G	201	8Q1	C30-C29-C32-O33
53	l	702	CDL	C15-C16-C17-C18
55	l	704	PEE	C16-C17-C18-C19
48	r	502	PLX	C29-C30-C31-C32
53	N	201	CDL	C52-C53-C54-C55
55	j	201	PEE	C20-C21-C22-C23
55	r	501	PEE	C38-C39-C40-C41
53	V	201	CDL	C79-C80-C81-C82
53	N	201	CDL	C31-CA7-OA8-CA6
55	j	201	PEE	C39-C40-C41-C42
48	l	701	PLX	C36-C37-C38-C39
55	s	401	PEE	C18-C19-C20-C21
48	j	202	PLX	C16-C17-C18-C19
53	N	201	CDL	OA9-CA7-OA8-CA6
48	C	302	PLX	C15-C16-C17-C18
53	l	702	CDL	C82-C83-C84-C85
55	l	703	PEE	C39-C40-C41-C42
55	l	704	PEE	C39-C40-C41-C42
48	j	202	PLX	C34-C35-C36-C37
48	l	701	PLX	C26-C27-C28-C29
55	s	401	PEE	C2-C1-O3P-P
48	C	302	PLX	C17-C18-C19-C20
55	i	403	PEE	C38-C39-C40-C41
55	l	704	PEE	C38-C39-C40-C41
55	s	401	PEE	C36-C37-C38-C39
53	a	201	CDL	C21-C22-C23-C24
53	a	201	CDL	C53-C54-C55-C56
53	l	702	CDL	C34-C35-C36-C37
49	X	201	8Q1	O27-C28-C29-C31
53	r	503	CDL	C14-C15-C16-C17
55	l	703	PEE	C3-C2-O2-C10
53	r	503	CDL	C83-C84-C85-C86
49	G	201	8Q1	C6-C7-C8-C9
55	m	201	PEE	C18-C19-C20-C21
53	V	201	CDL	C12-C11-CA5-OA6
48	i	402	PLX	C16-C17-C18-C19
48	C	302	PLX	C3-C4-O6-C6
48	l	701	PLX	C5-C4-O6-C6
53	i	401	CDL	C72-C73-C74-C75
47	A	503	NAI	C2D-C1D-N1N-C6N

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Mol	Chain	Res	Type	Atoms
53	a	201	CDL	C74-C75-C76-C77
53	V	201	CDL	CA7-C31-C32-C33
53	V	201	CDL	C12-C11-CA5-OA7
55	i	403	PEE	C32-C33-C34-C35
53	a	201	CDL	C38-C39-C40-C41
53	l	702	CDL	C44-C45-C46-C47
55	l	703	PEE	O2-C2-C3-O3
55	U	101	PEE	C22-C23-C24-C25
55	i	403	PEE	C17-C18-C19-C20
48	l	701	PLX	C32-C33-C34-C35
55	m	201	PEE	C22-C23-C24-C25
50	J	401	NDP	PN-O3-PA-O1A
50	J	401	NDP	PN-O3-PA-O2A
55	U	101	PEE	C24-C25-C26-C27
53	a	201	CDL	C33-C34-C35-C36
50	J	401	NDP	O4D-C4D-C5D-O5D
53	l	702	CDL	C43-C44-C45-C46
48	r	502	PLX	O8-C24-C25-C26
53	r	503	CDL	C33-C34-C35-C36
55	r	501	PEE	C18-C19-C20-C21
49	G	201	8Q1	C1-C6-C7-C8
53	i	401	CDL	CA4-CA3-OA5-PA1
55	s	401	PEE	C43-C44-C45-C46
53	N	201	CDL	C71-C72-C73-C74
53	V	201	CDL	C78-C79-C80-C81
48	l	701	PLX	C19-C20-C21-C22
55	j	201	PEE	C36-C37-C38-C39
49	G	201	8Q1	C28-O27-P24-O1
49	X	201	8Q1	O33-C32-C34-N36
55	l	704	PEE	C11-C12-C13-C14
55	j	201	PEE	O3-C30-C31-C32
53	V	201	CDL	C83-C84-C85-C86
53	i	401	CDL	C52-C51-CB5-OB6
55	j	201	PEE	C11-C12-C13-C14
53	a	201	CDL	C41-C42-C43-C44
55	U	101	PEE	O2-C10-C11-C12
55	i	403	PEE	C36-C37-C38-C39
55	j	201	PEE	C38-C39-C40-C41
55	l	703	PEE	C16-C17-C18-C19
55	j	201	PEE	C44-C45-C46-C47
53	l	702	CDL	C76-C77-C78-C79
47	A	503	NAI	O4D-C1D-N1N-C6N

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Mol	Chain	Res	Type	Atoms
50	J	401	NDP	O4D-C1D-N1N-C6N
48	j	202	PLX	C19-C20-C21-C22
53	l	702	CDL	C12-C11-CA5-OA6
55	r	501	PEE	C33-C34-C35-C36
53	V	201	CDL	C32-C31-CA7-OA8
55	i	403	PEE	C18-C19-C20-C21
55	m	201	PEE	C16-C17-C18-C19
55	m	201	PEE	C15-C16-C17-C18
48	i	402	PLX	C7-C6-O6-C4
48	j	202	PLX	C7-C6-O6-C4
53	i	401	CDL	CA3-CA4-CA6-OA8
55	l	703	PEE	C1-C2-C3-O3
48	a	202	PLX	C27-C28-C29-C30
53	l	702	CDL	C14-C15-C16-C17
49	G	201	8Q1	C31-C29-C32-C34
53	i	401	CDL	OA5-CA3-CA4-CA6
53	r	503	CDL	C54-C55-C56-C57
55	r	501	PEE	C22-C23-C24-C25
53	r	503	CDL	C52-C51-CB5-OB6
53	i	401	CDL	OA6-CA4-CA6-OA8
53	i	401	CDL	C31-C32-C33-C34
55	m	201	PEE	C33-C34-C35-C36
48	a	202	PLX	C18-C19-C20-C21
49	G	201	8Q1	C31-C29-C32-O33
53	N	201	CDL	C12-C11-CA5-OA6
49	X	201	8Q1	C7-C8-C9-C10
48	a	202	PLX	C6-C7-C8-C9
55	j	201	PEE	O5-C30-C31-C32
53	l	702	CDL	C12-C11-CA5-OA7
48	a	202	PLX	C13-C14-C15-C16
49	G	201	8Q1	C29-C28-O27-P24
55	U	101	PEE	O4-C10-C11-C12
55	m	201	PEE	O5-C30-C31-C32
49	G	201	8Q1	C11-C10-C9-C8
53	N	201	CDL	CA3-OA5-PA1-OA2
53	i	401	CDL	C52-C51-CB5-OB7
53	l	702	CDL	C31-C32-C33-C34
57	w	401	ADP	C4'-C5'-O5'-PA
53	r	503	CDL	C72-C73-C74-C75
47	A	503	NAI	C2N-C3N-C7N-N7N
48	i	402	PLX	C3-O4-P1-O2
48	j	202	PLX	C3-O4-P1-O2

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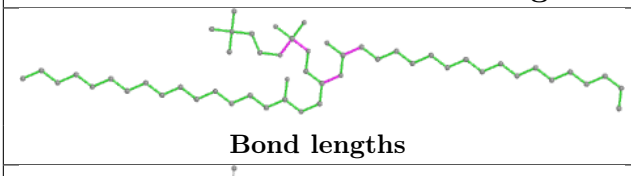
Mol	Chain	Res	Type	Atoms
53	a	201	CDL	CB3-OB5-PB2-OB3
55	l	704	PEE	C1-O3P-P-O1P
53	V	201	CDL	C32-C31-CA7-OA9
48	a	202	PLX	C25-C24-O8-C5
48	l	701	PLX	C1-C2-O1-P1
48	j	202	PLX	C29-C30-C31-C32
55	U	101	PEE	C16-C17-C18-C19
53	N	201	CDL	C72-C71-CB7-OB8
53	r	503	CDL	C44-C45-C46-C47
53	N	201	CDL	C12-C11-CA5-OA7
48	r	502	PLX	C11-C12-C13-C14
53	i	401	CDL	OA5-CA3-CA4-OA6
53	a	201	CDL	C72-C71-CB7-OB9
53	a	201	CDL	C72-C71-CB7-OB8
53	l	702	CDL	C32-C31-CA7-OA8
55	U	101	PEE	C40-C41-C42-C43
53	r	503	CDL	C80-C81-C82-C83
53	r	503	CDL	C52-C51-CB5-OB7
53	l	702	CDL	C52-C51-CB5-OB6

There are no ring outliers.

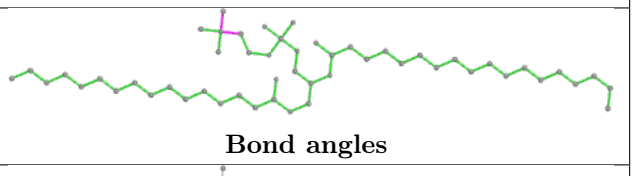
No monomer is involved in short contacts.

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

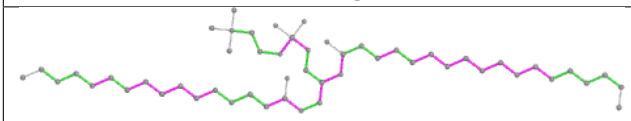
Ligand PLX r 502



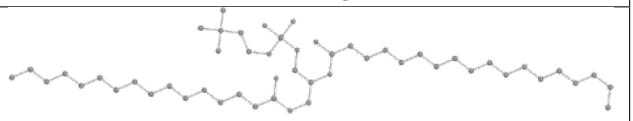
Bond lengths



Bond angles

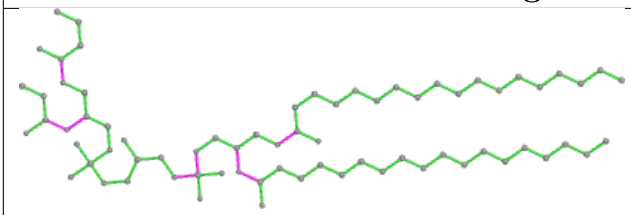


Torsions

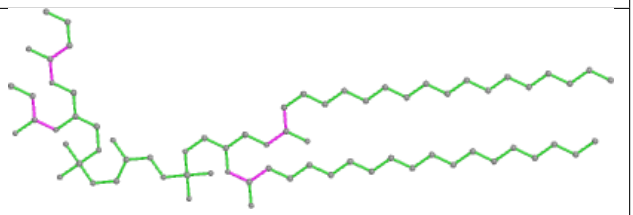


Rings

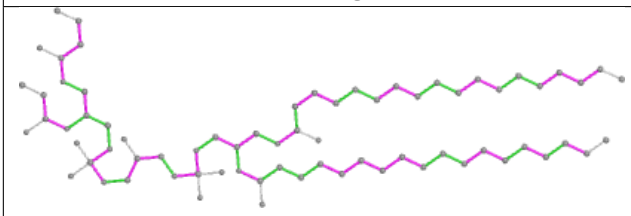
Ligand CDL V 201



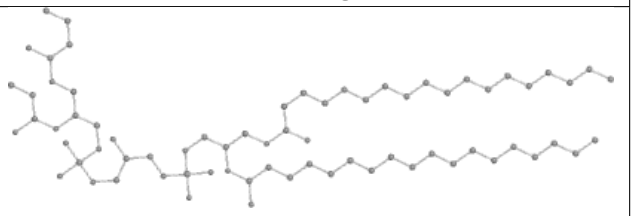
Bond lengths



Bond angles

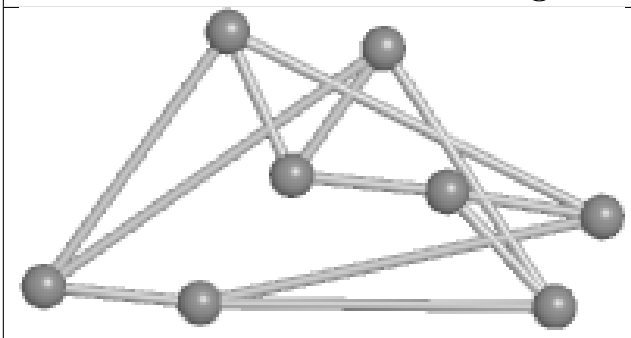


Torsions



Rings

Ligand SF4 A 501



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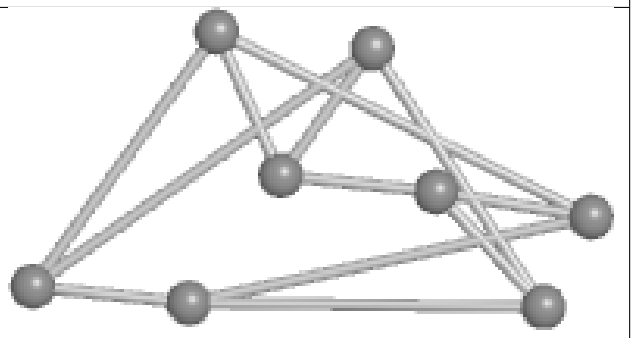
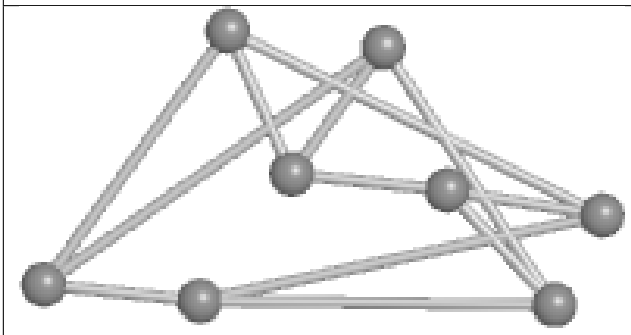
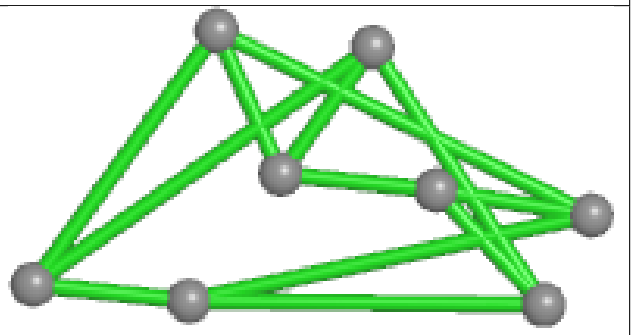


Bond angles

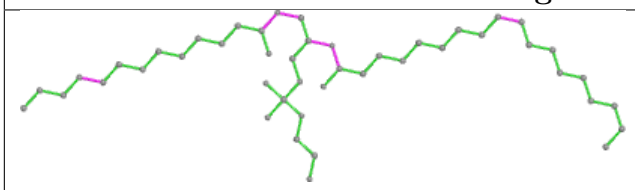


Torsions



Rings

Ligand PEE l 703



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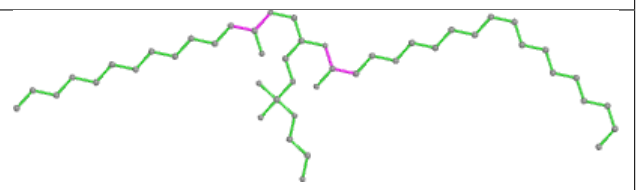
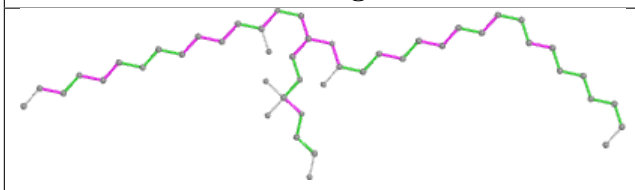
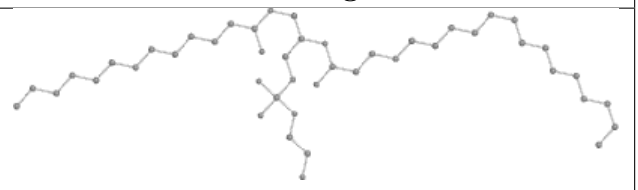


Bond angles

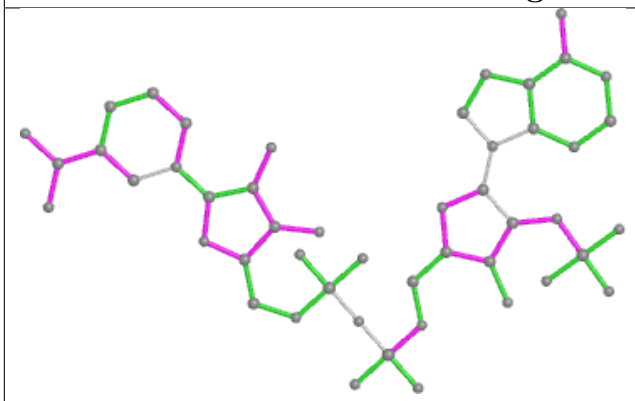


Torsions

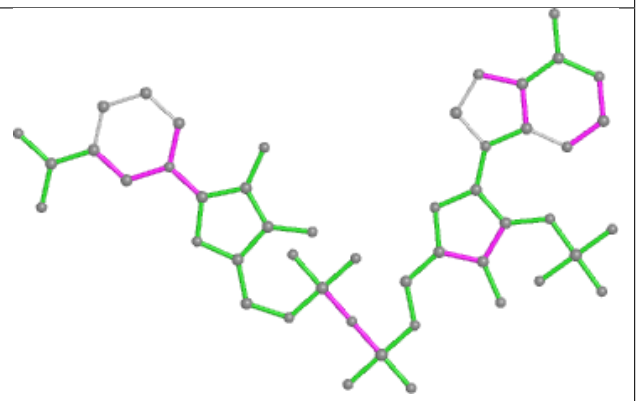


Rings

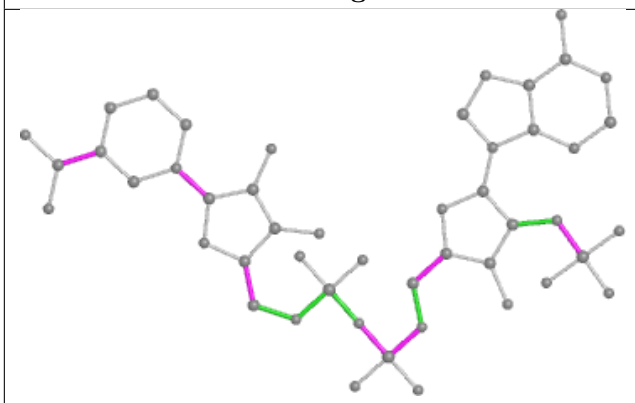
Ligand NDP J 401



Bond lengths



Bond angles



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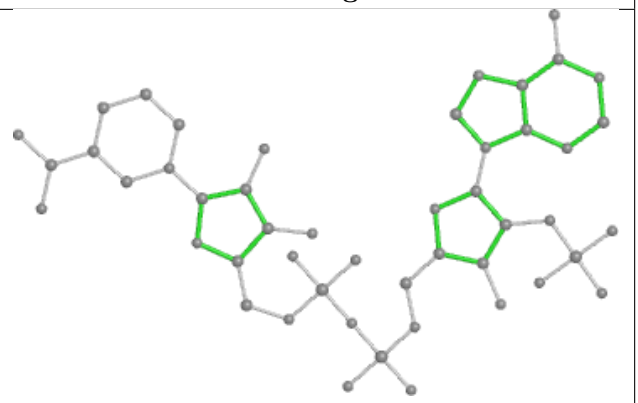
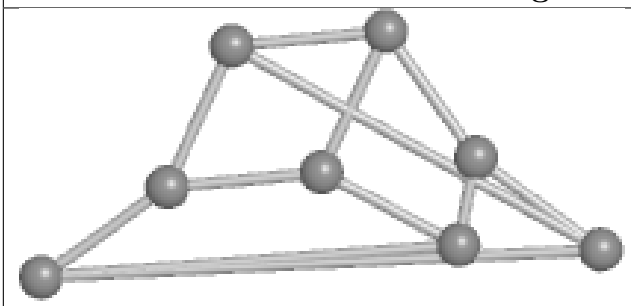


Rings

Ligand SF4 B 302



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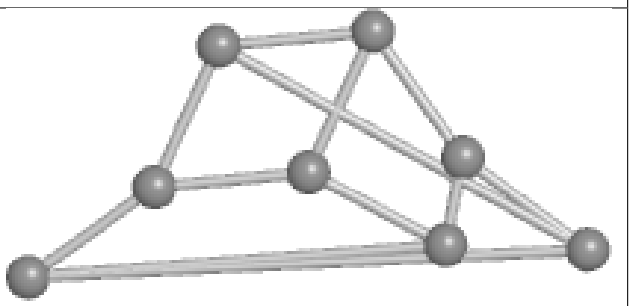

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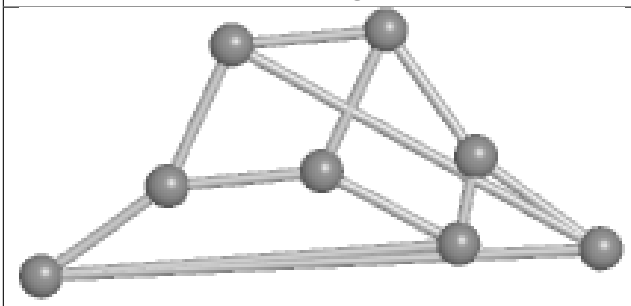

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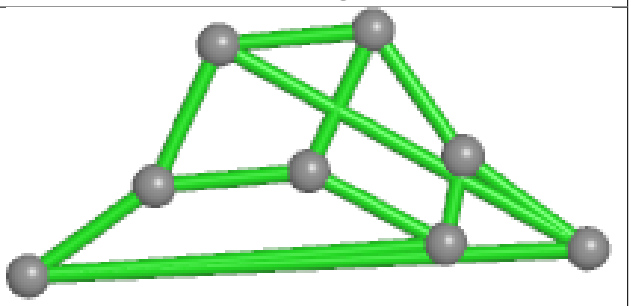
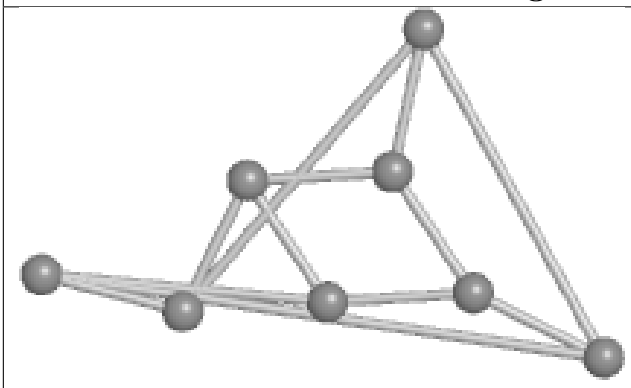


Rings

Ligand SF4 M 802



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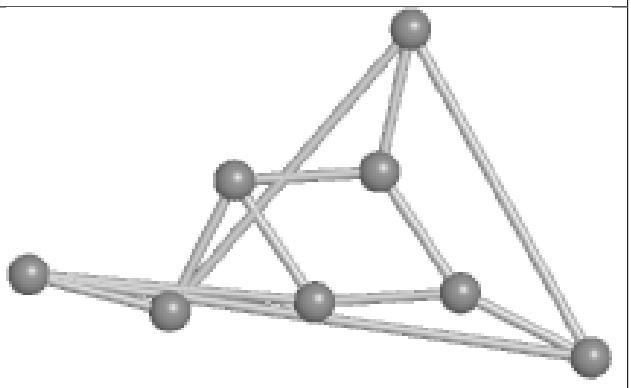
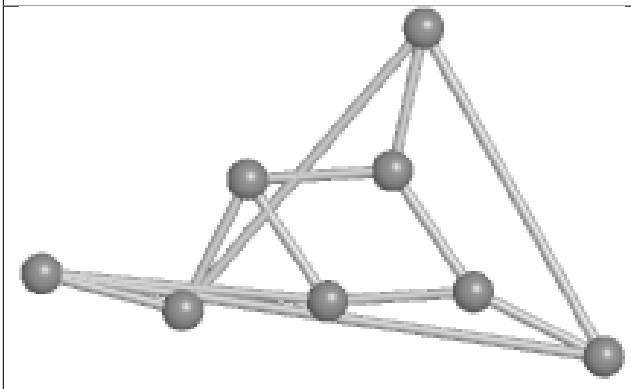


Bond angles



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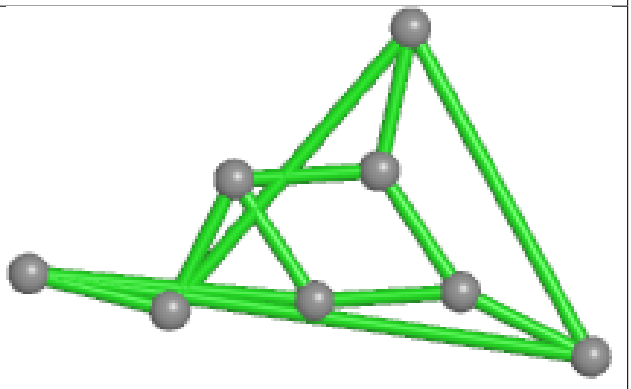
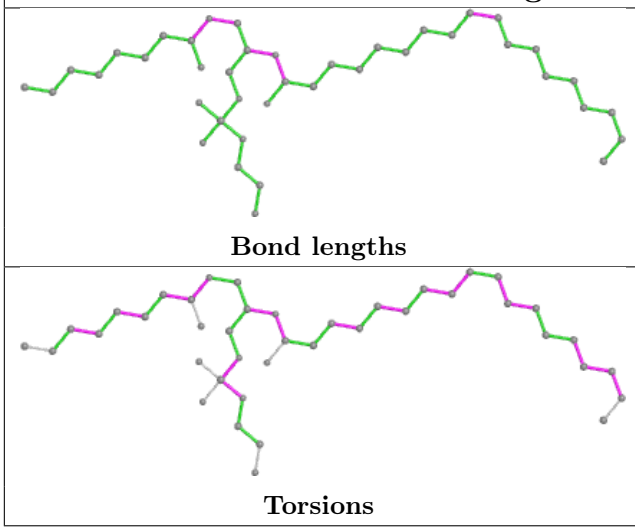


Rings

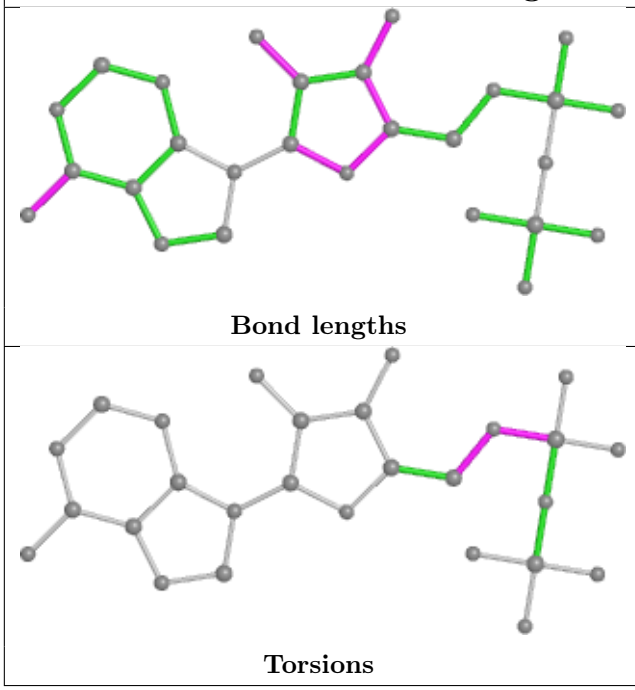
Ligand PEE m 201



Bond lengths | Bond angles

Torsions | Rings

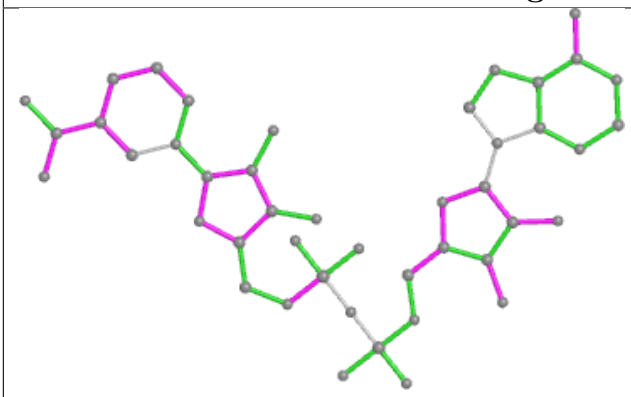
Ligand ADP w 401



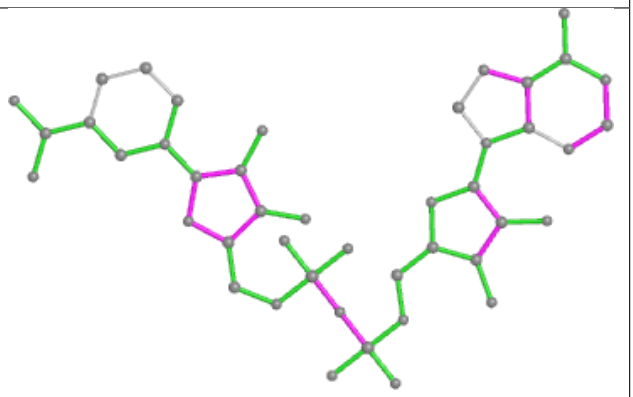
Bond lengths | Bond angles

Torsions | Rings

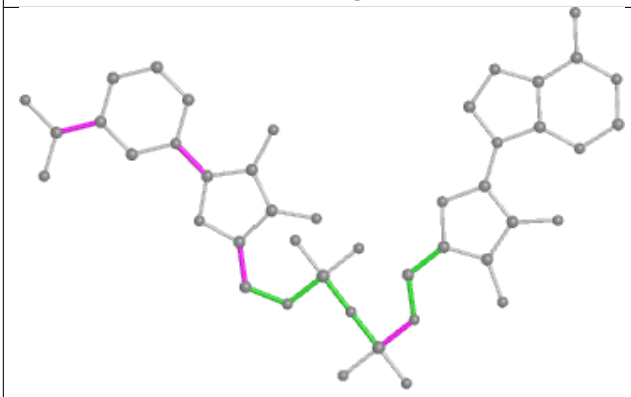
Ligand NAI A 503



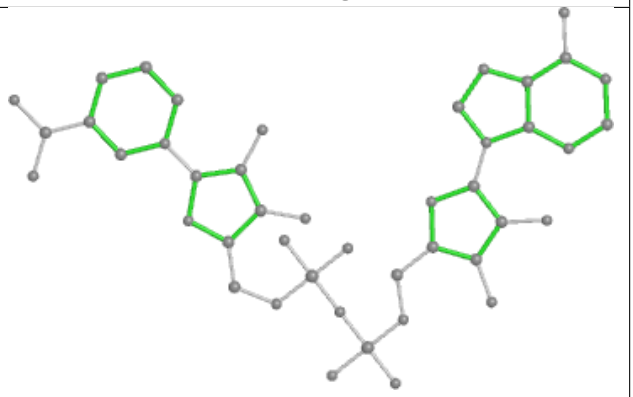
Bond lengths



Bond angles

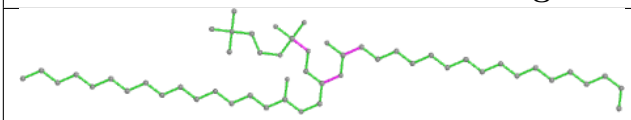


Torsions

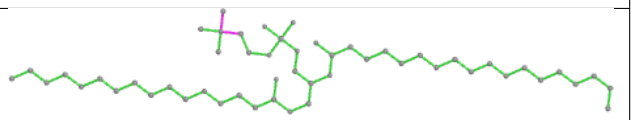


Rings

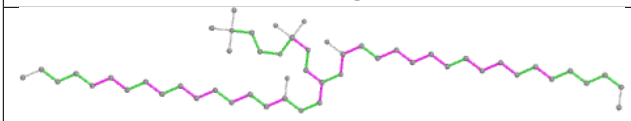
Ligand PLX i 402



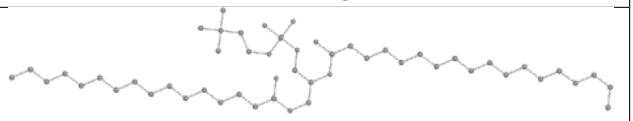
Bond lengths



Bond angles

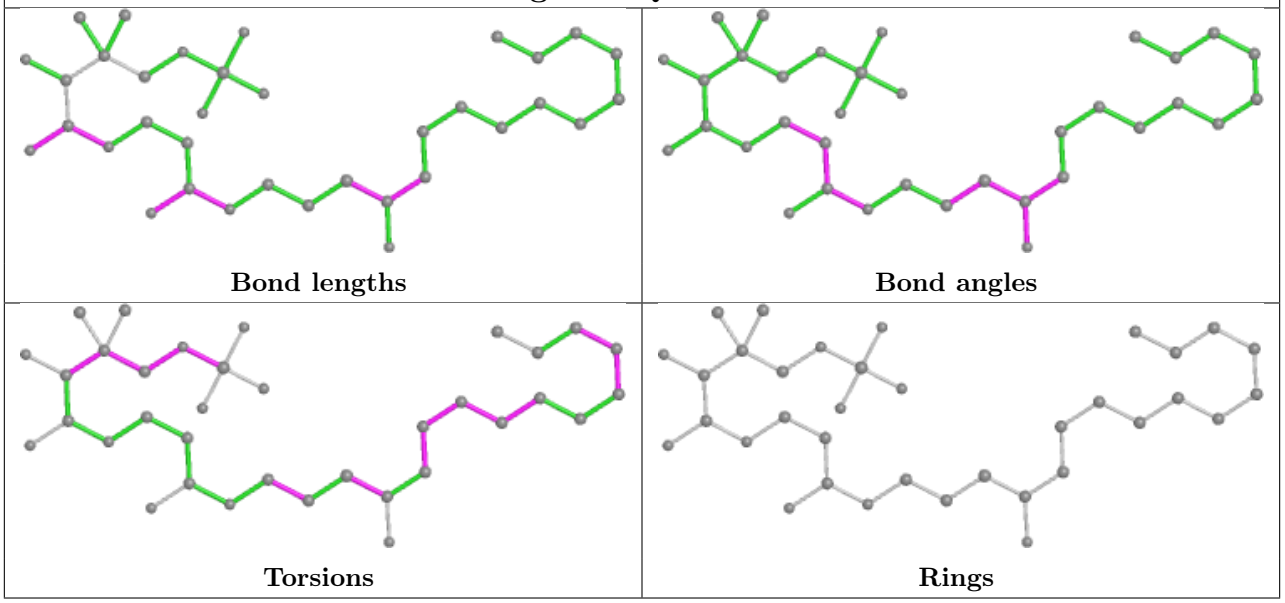


Torsions

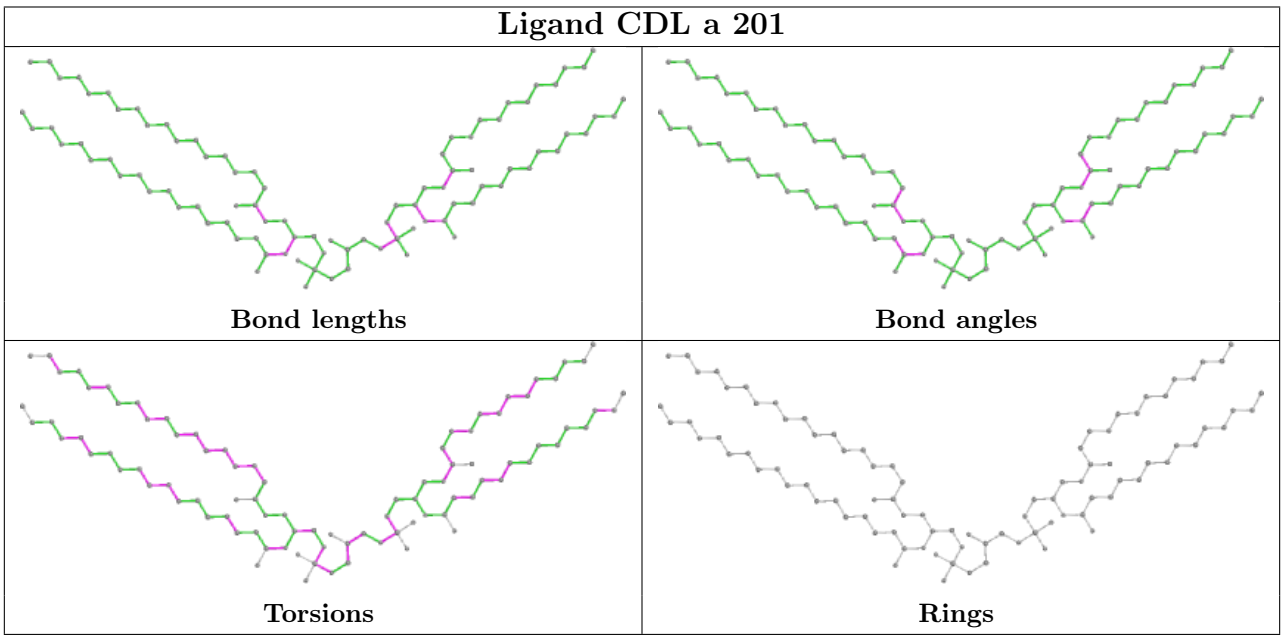


Rings

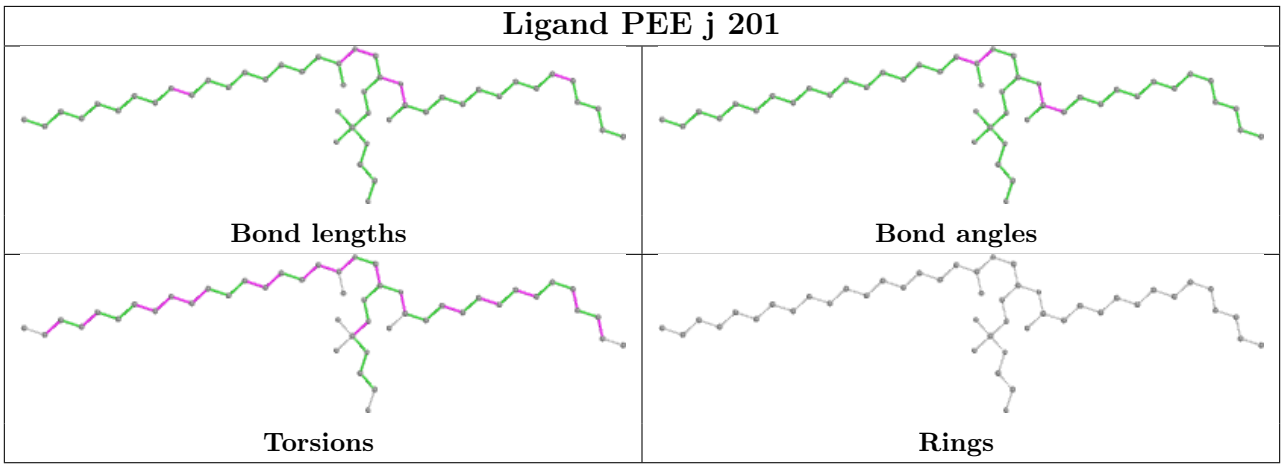
Ligand 8Q1 G 201



Ligand CDL a 201



Ligand PEE j 201



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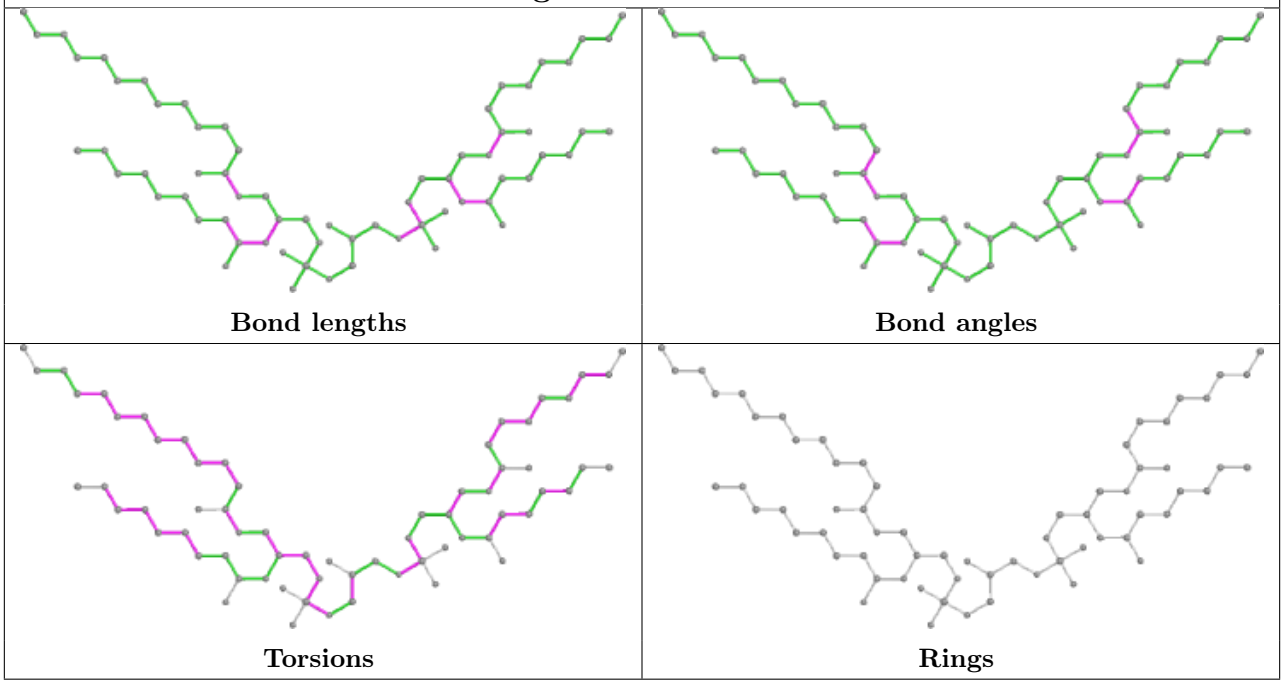
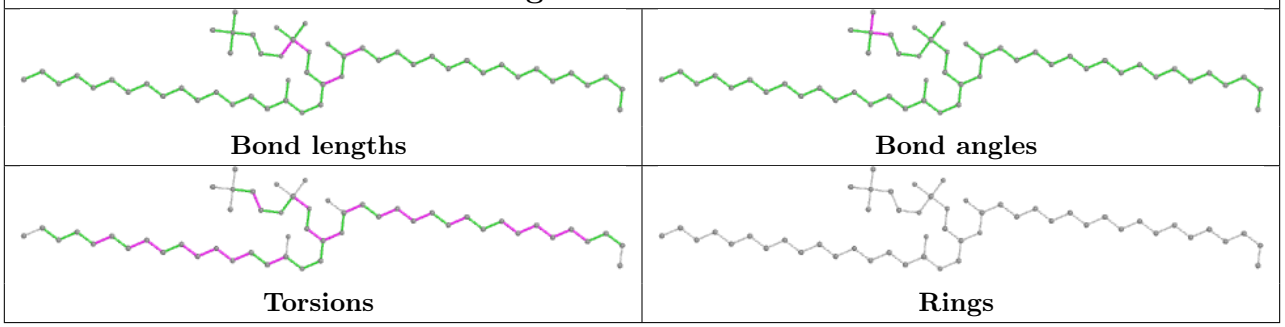


Ligand PLX C 302



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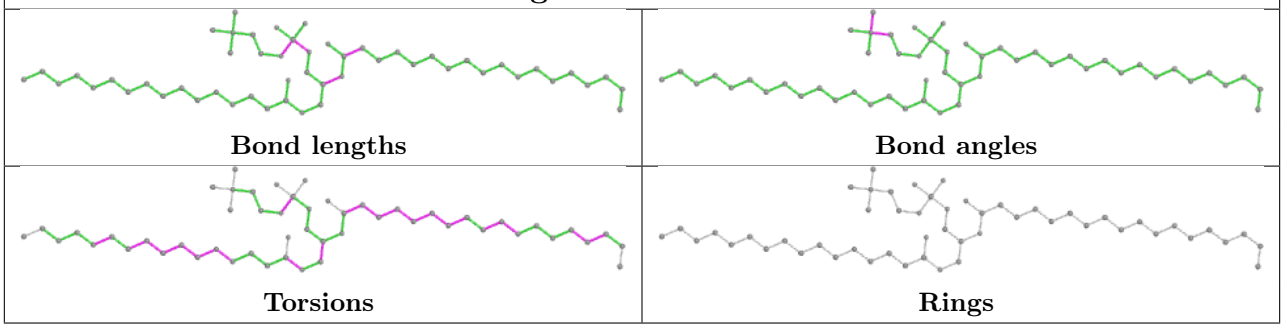
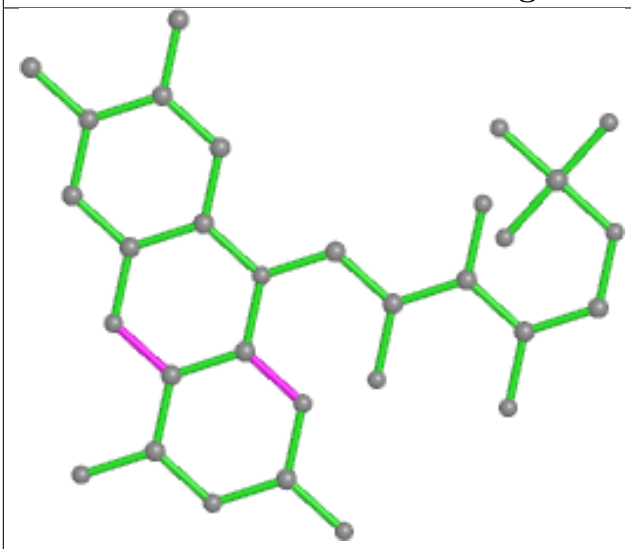
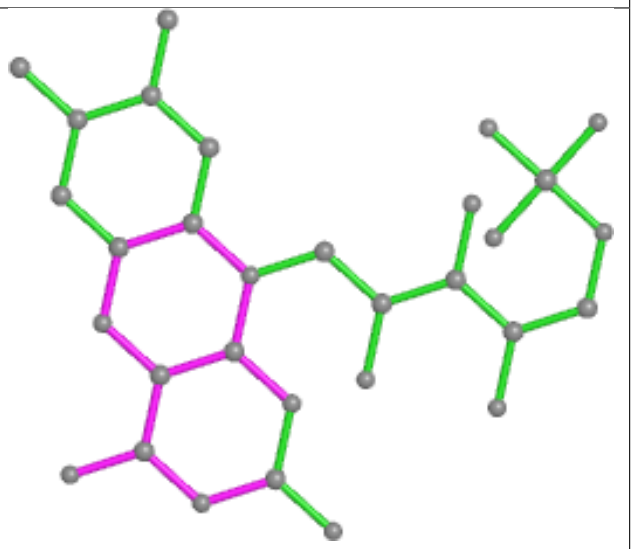


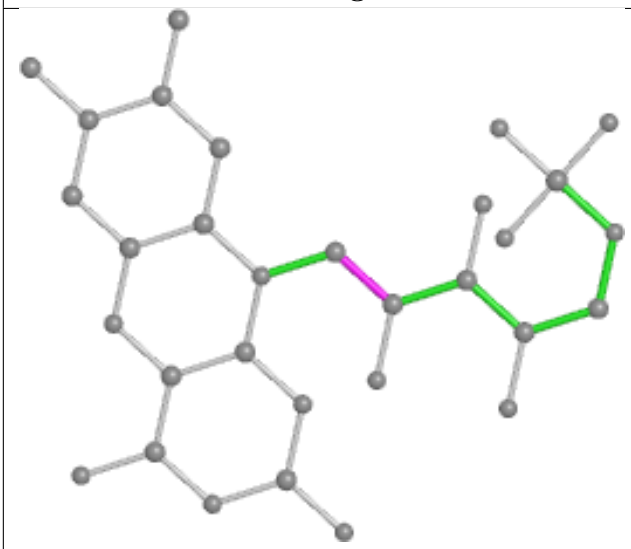
Ligand FMN A 502



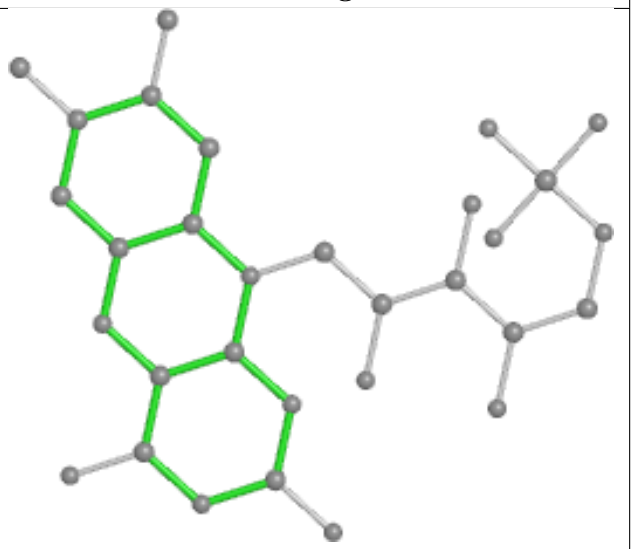
Bond lengths



Bond angles

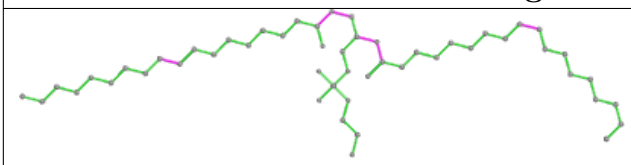


Torsions

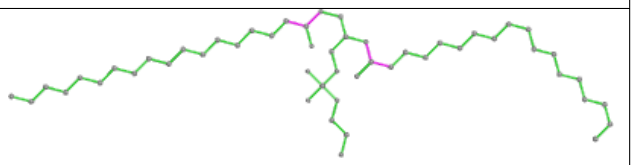


Rings

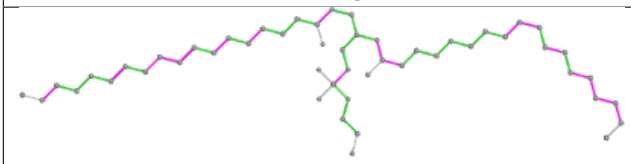
Ligand PEE U 101



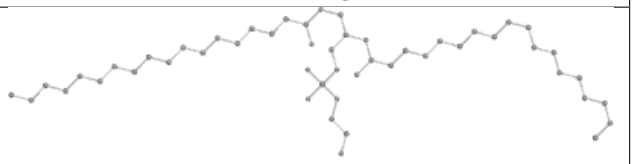
Bond lengths



Bond angles

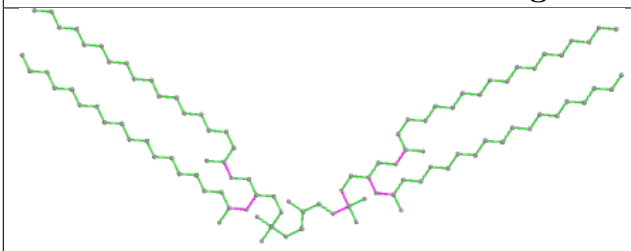


Torsions



Rings

Ligand CDL r 503



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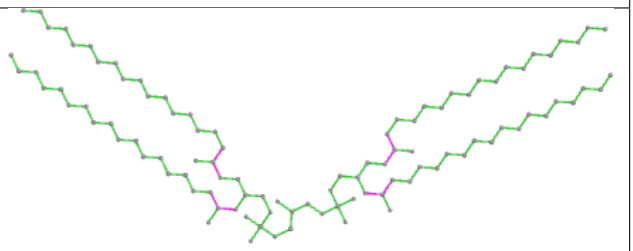

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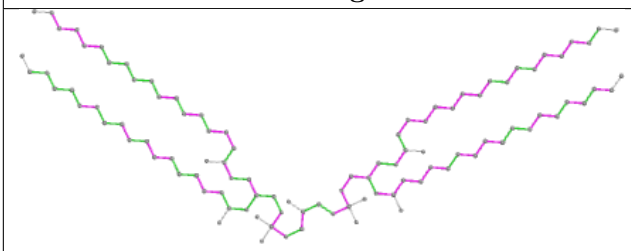

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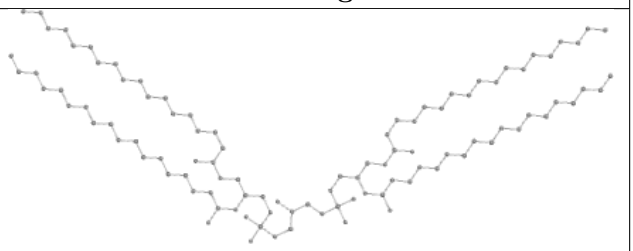
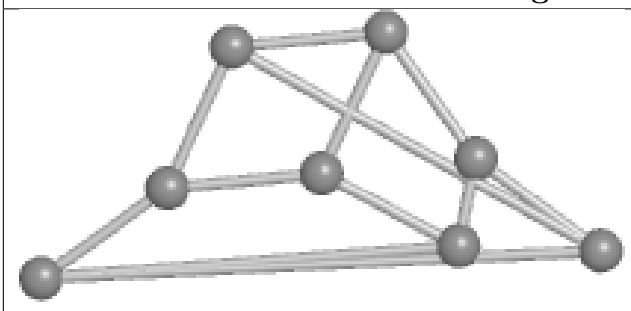


Rings

Ligand SF4 C 301



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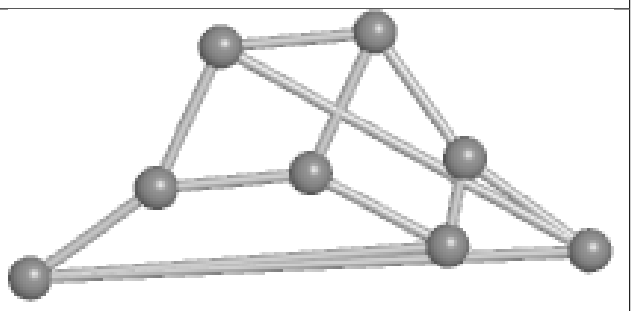

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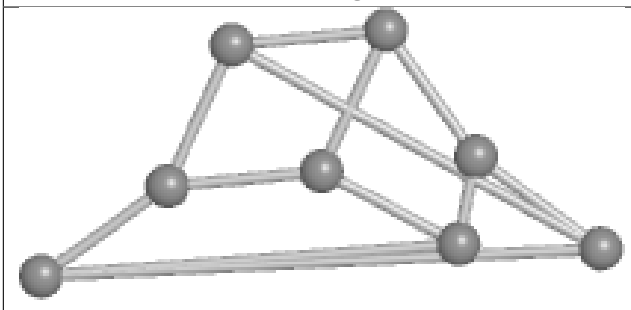

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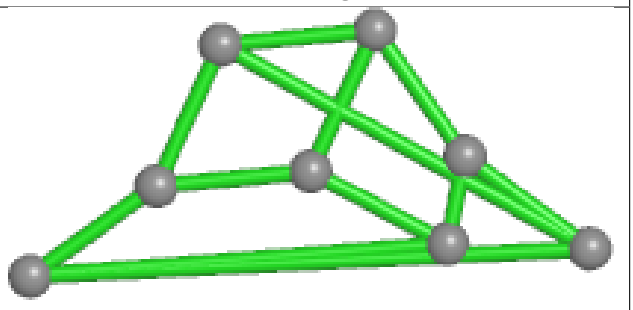
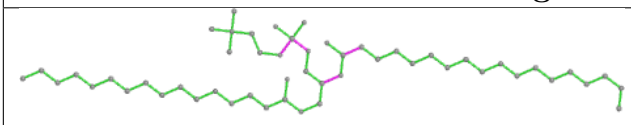


Rings

Ligand PLX l 701



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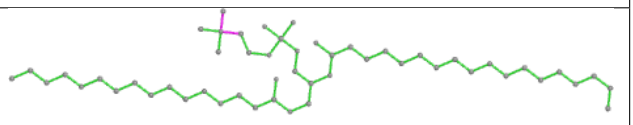

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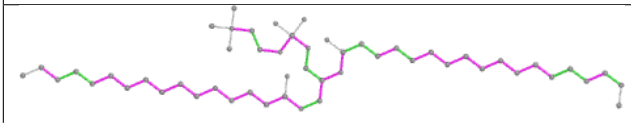

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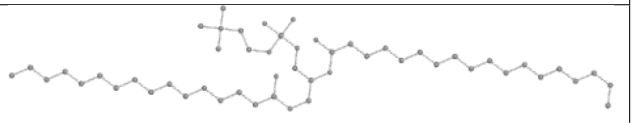
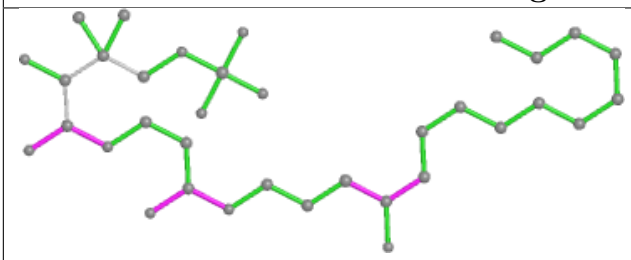


Rings

Ligand 8Q1 X 201



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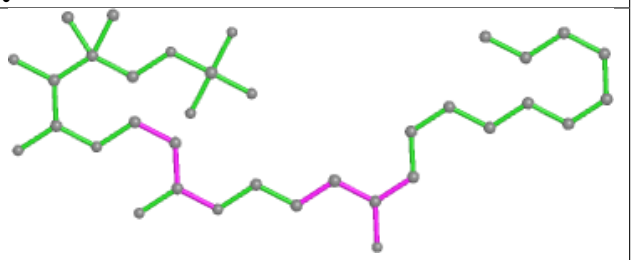

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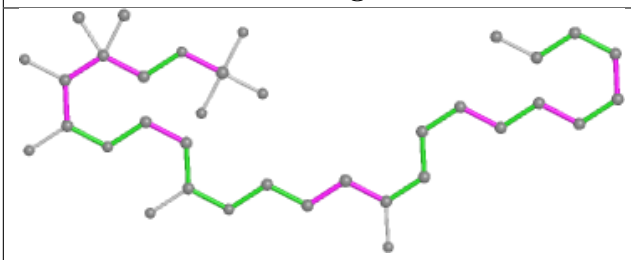

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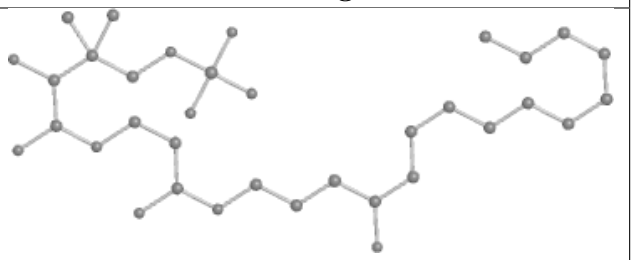
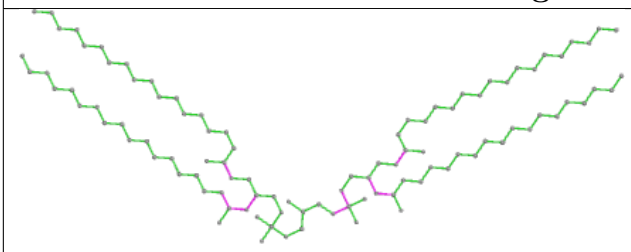


Rings

Ligand CDL l 702



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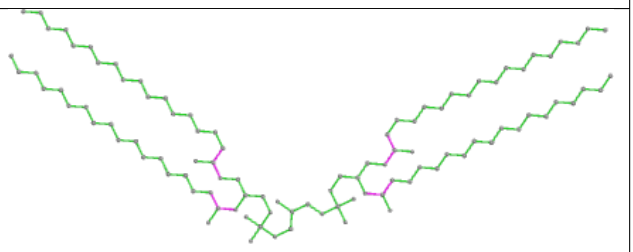

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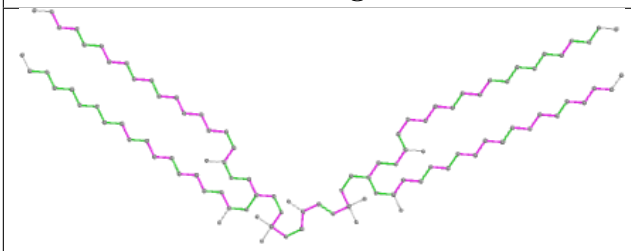

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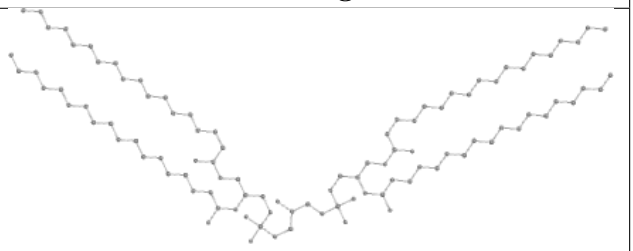
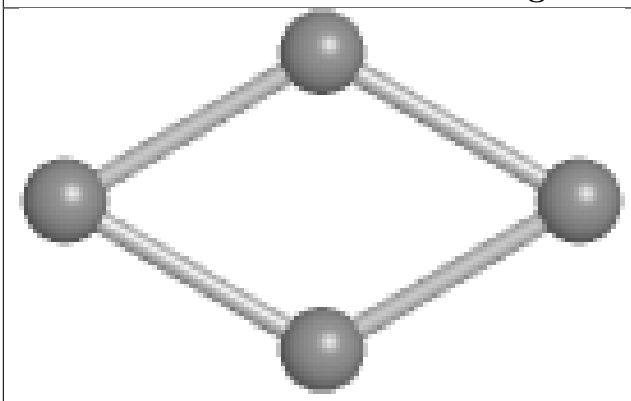


Rings

Ligand FES O 301



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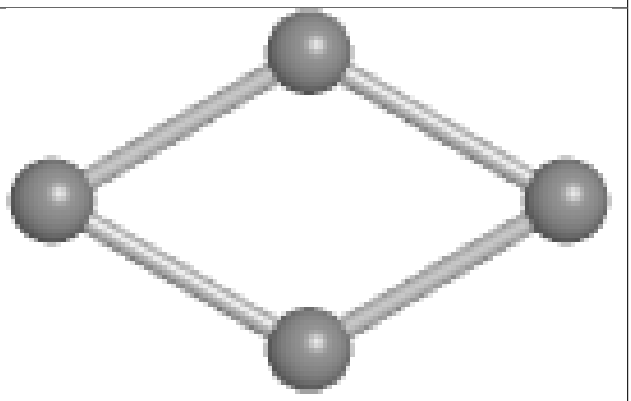

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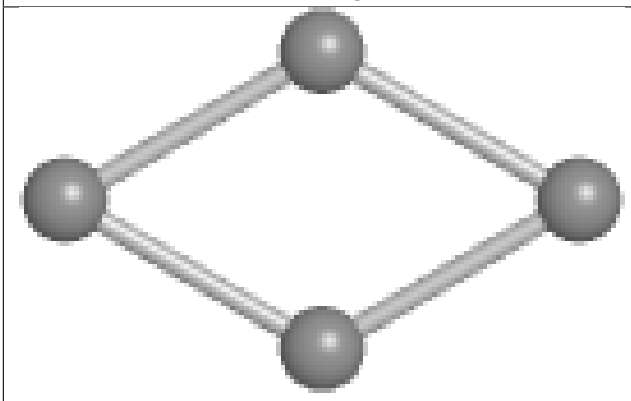

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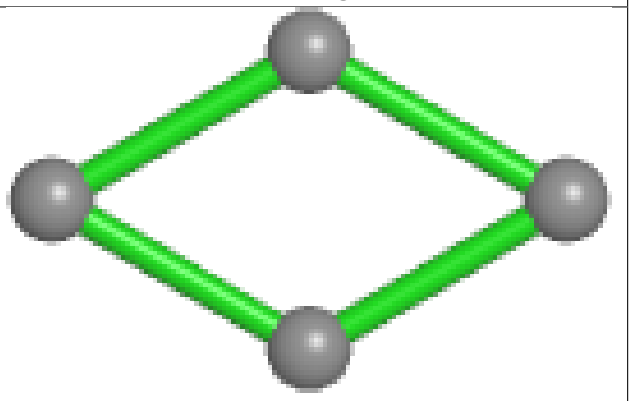
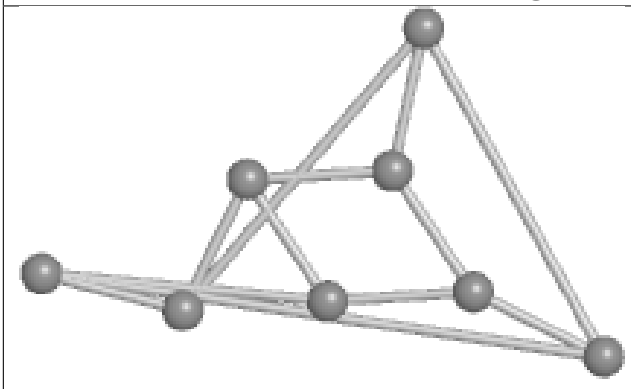


Rings

Ligand SF4 M 801



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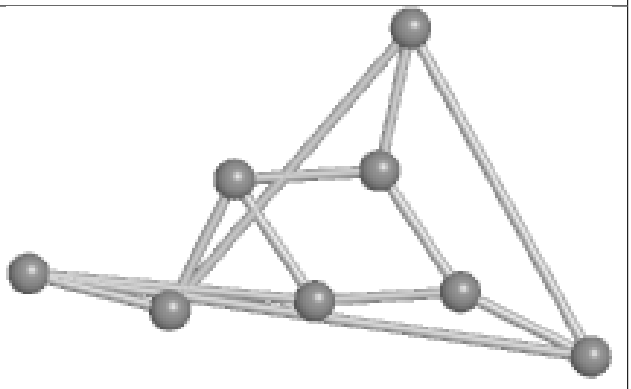
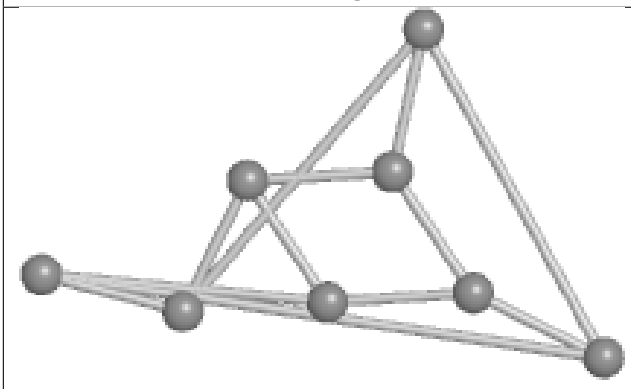


Bond angles



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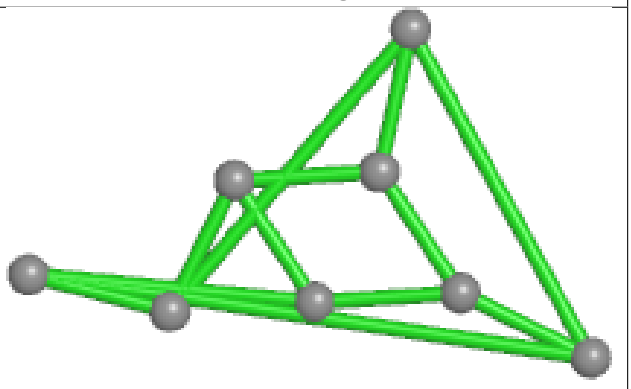
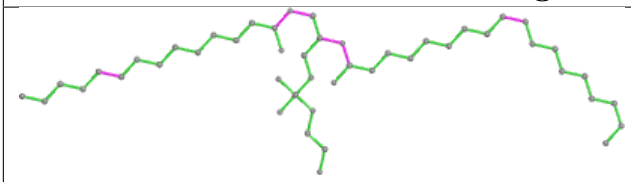


Rings

Ligand PEE i 403



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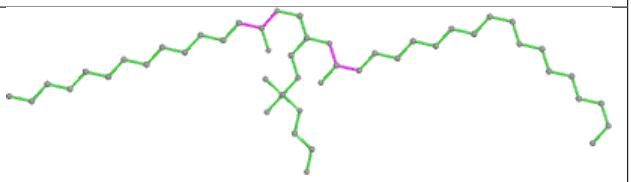
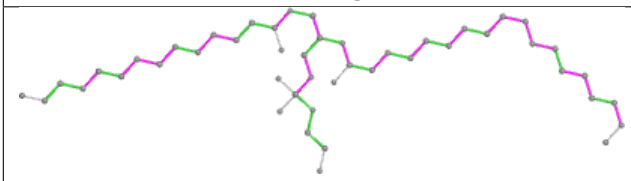


Bond angles



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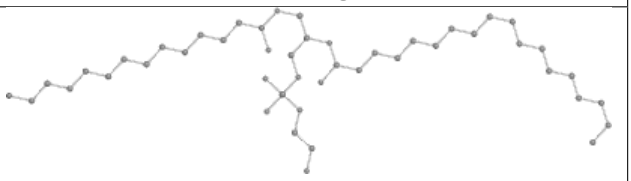
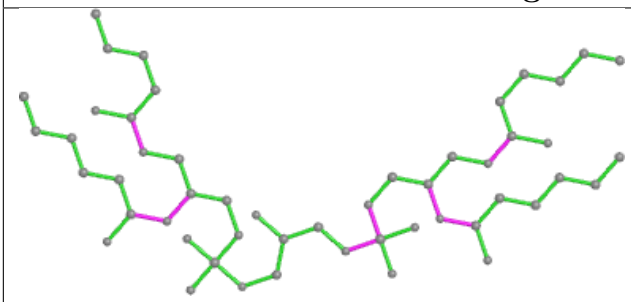


Rings

Ligand CDL N 201



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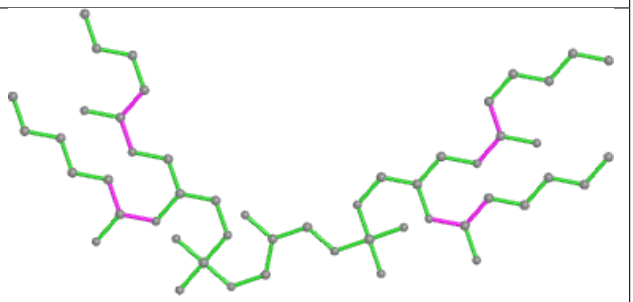

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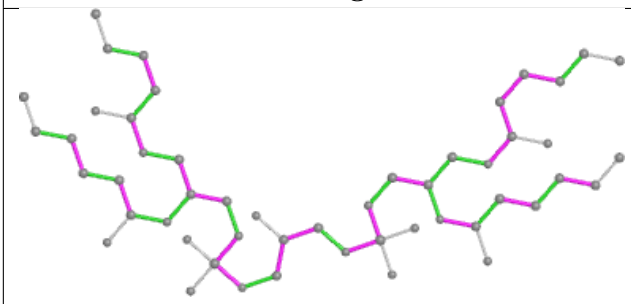

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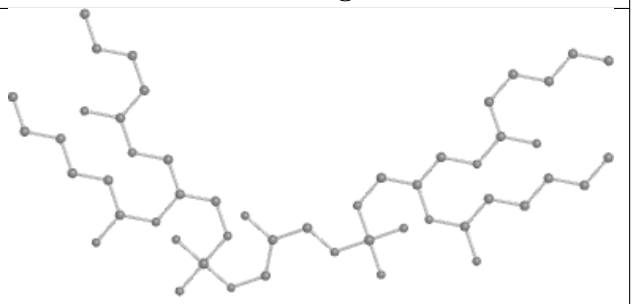
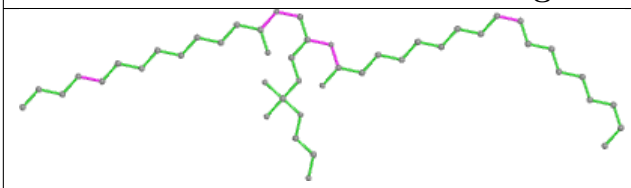


Rings

Ligand PEE l 704



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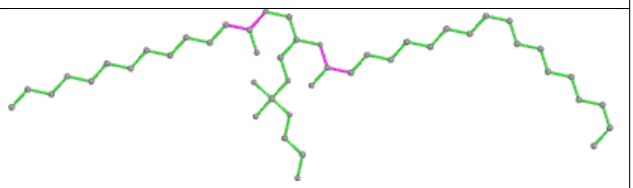
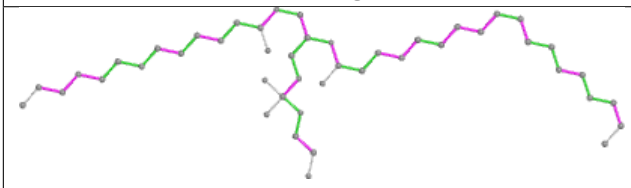


Bond angles



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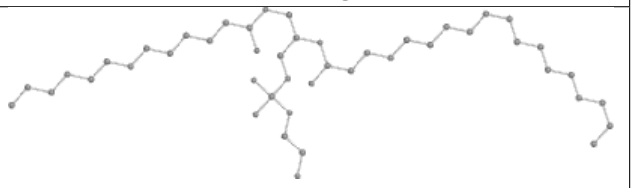
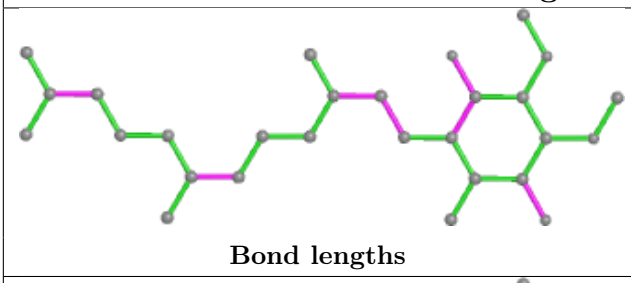


Rings

Ligand UQ s 402



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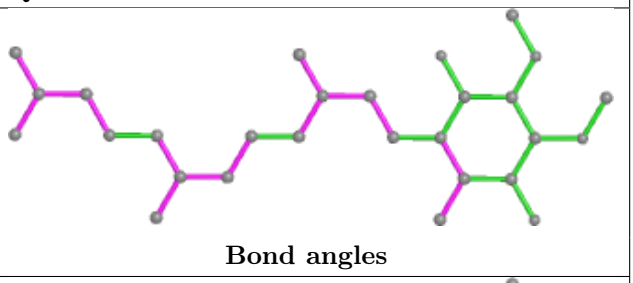

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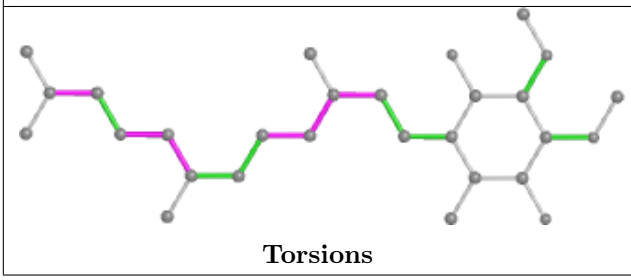

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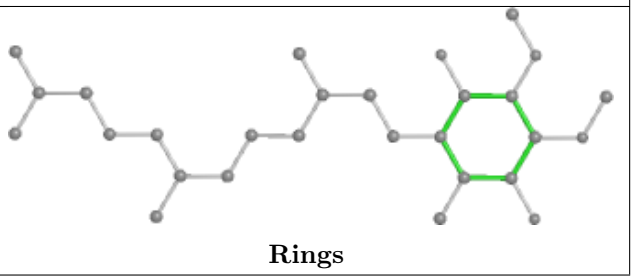
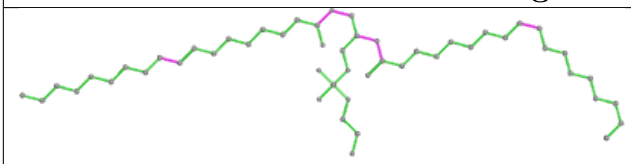


Rings

Ligand PEE s 401



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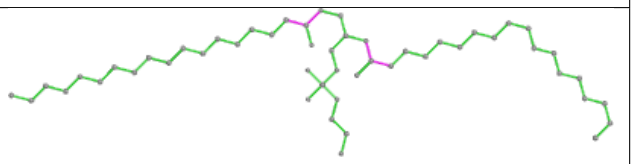
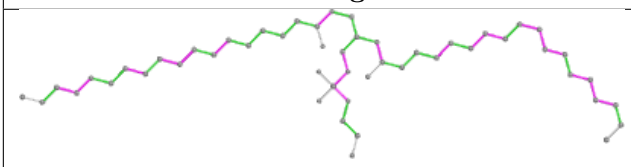


Bond angles



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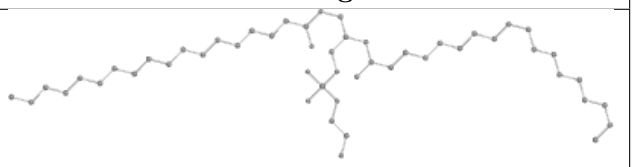
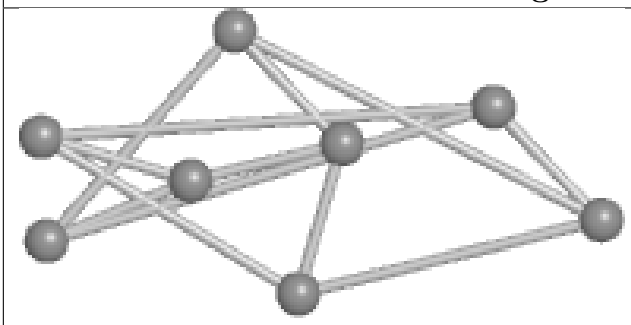


Rings

Ligand SF4 B 301



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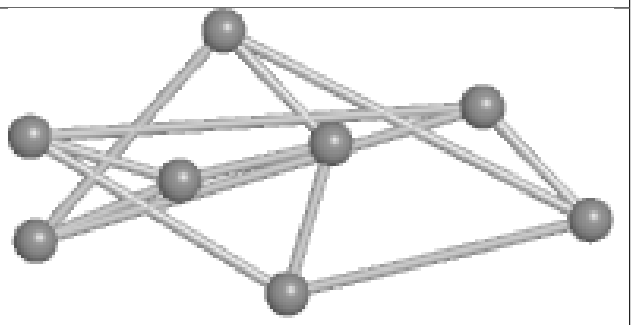
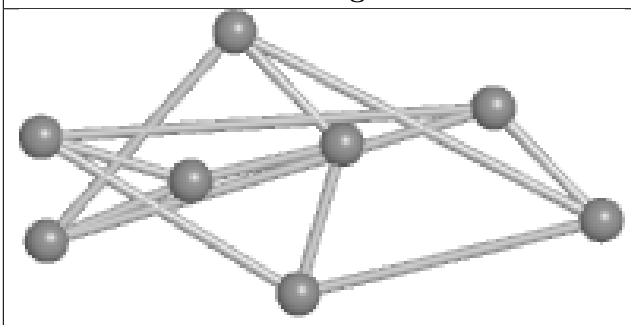


Bond angles



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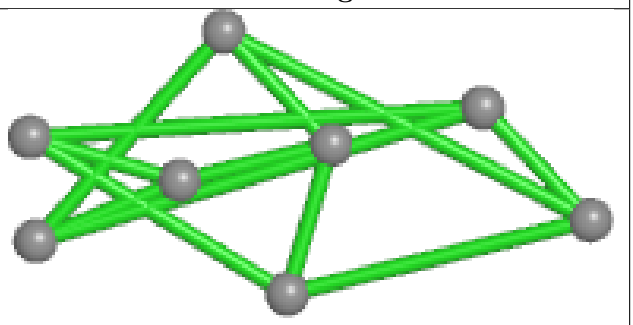
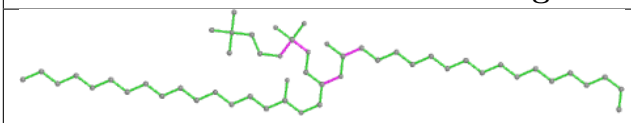


Rings

Ligand PLX j 202



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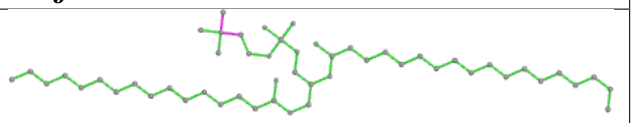
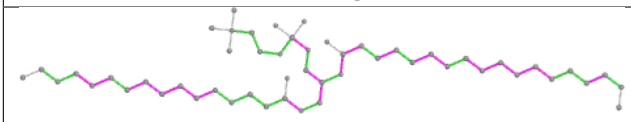
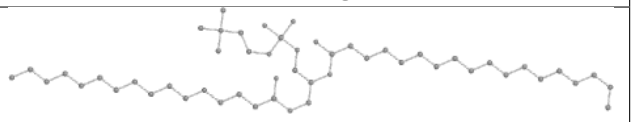


Bond angles

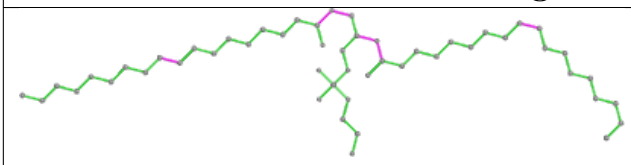


Torsions

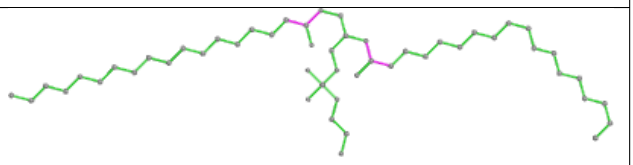


Rings

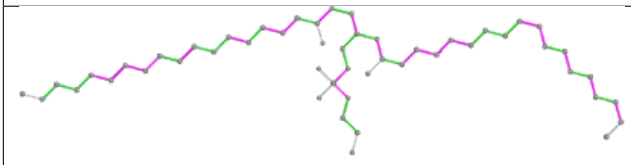
Ligand PEE r 501



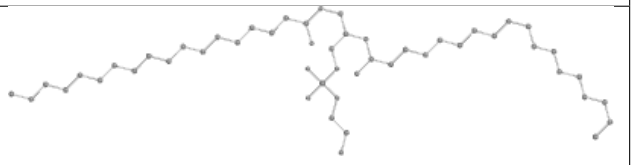
Bond lengths



Bond angles

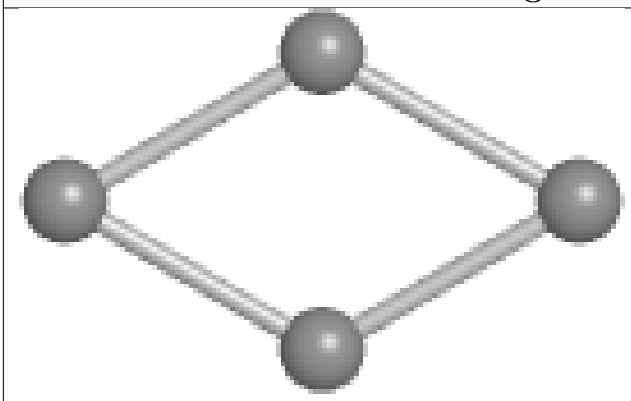


Torsions

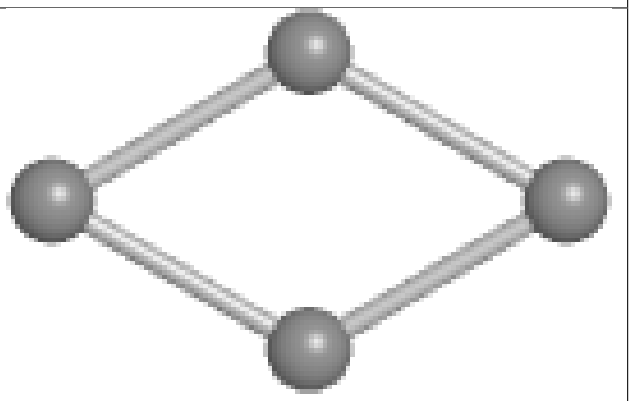


Rings

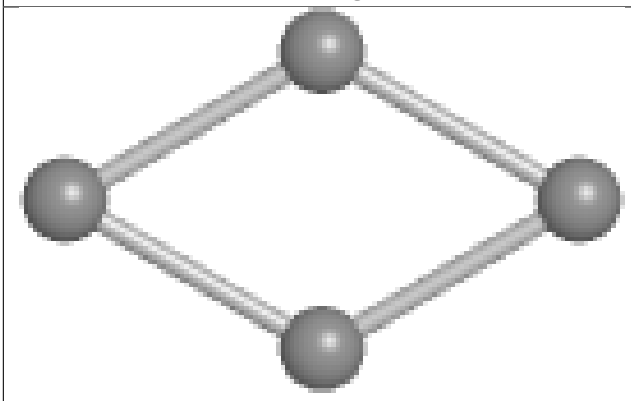
Ligand FES M 803



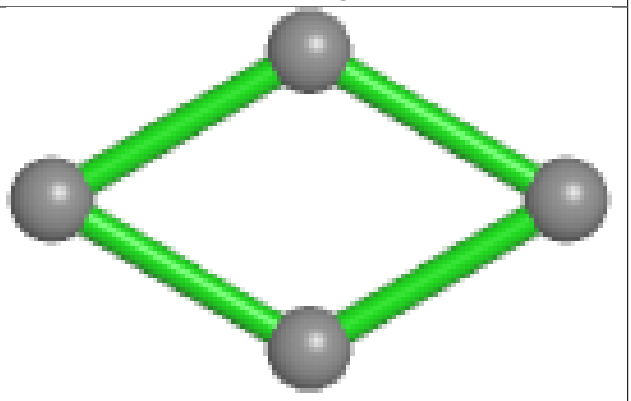
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

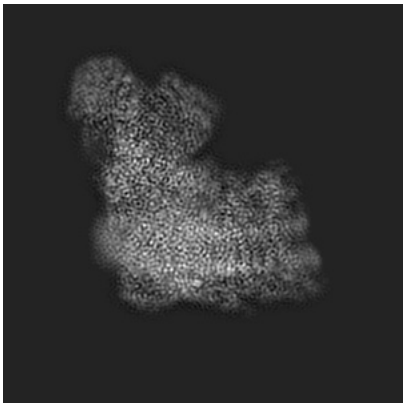
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-32305. These allow visual inspection of the internal detail of the map and identification of artifacts.

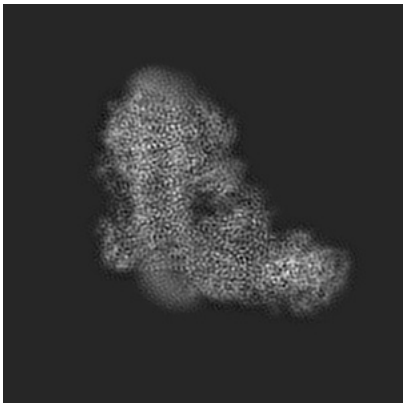
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

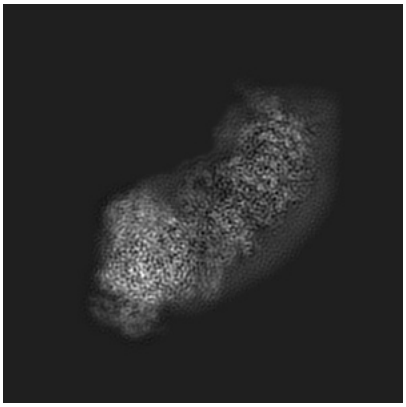
6.1.1 Primary map



X



Y

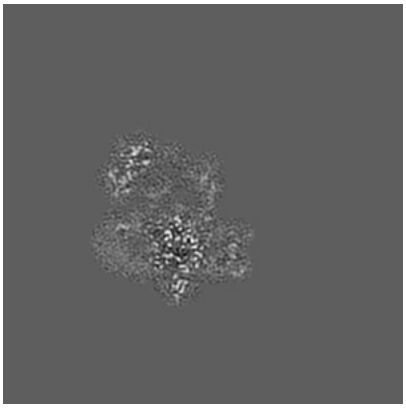


Z

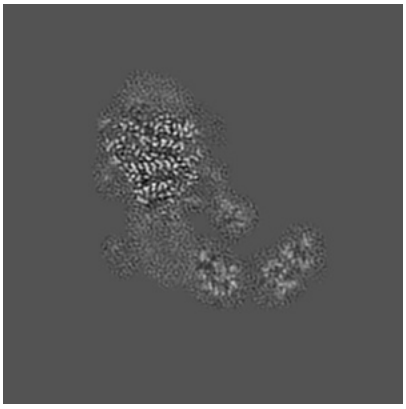
The images above show the map projected in three orthogonal directions.

6.2 Central slices

6.2.1 Primary map



X Index: 152



Y Index: 152

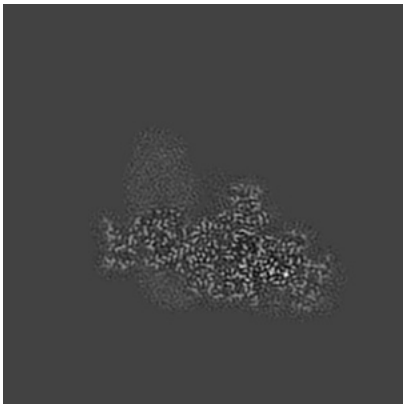
Z Index: 152

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

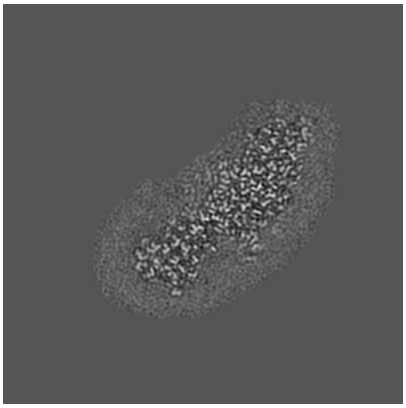
6.3 Largest variance slices (i)

6.3.1 Primary map

X Index: 105



Y Index: 99

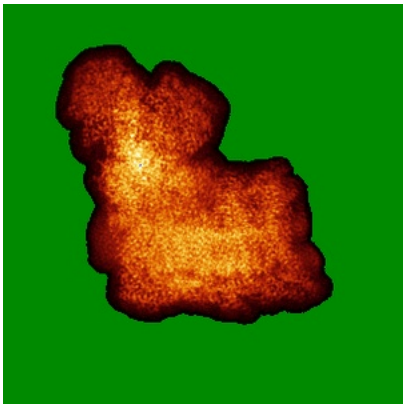


Z Index: 127

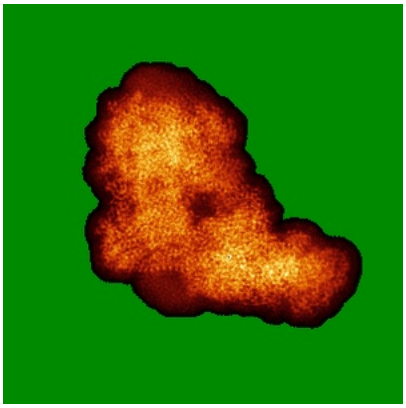
The images above show the largest variance slices of the map in three orthogonal directions.

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

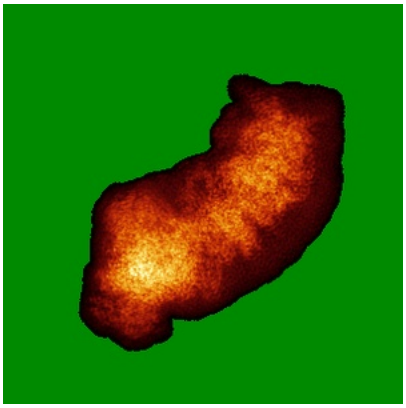
6.4.1 Primary map



X



Y

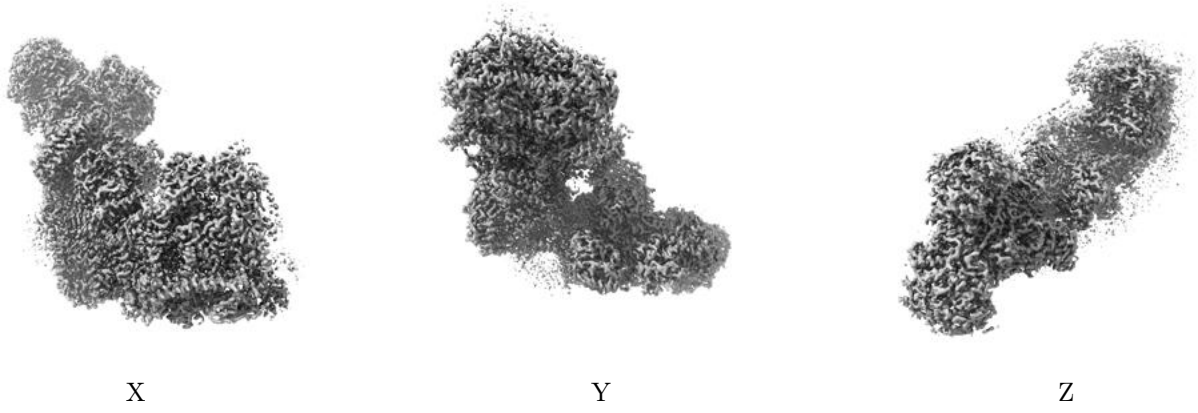


Z

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 0.0298. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

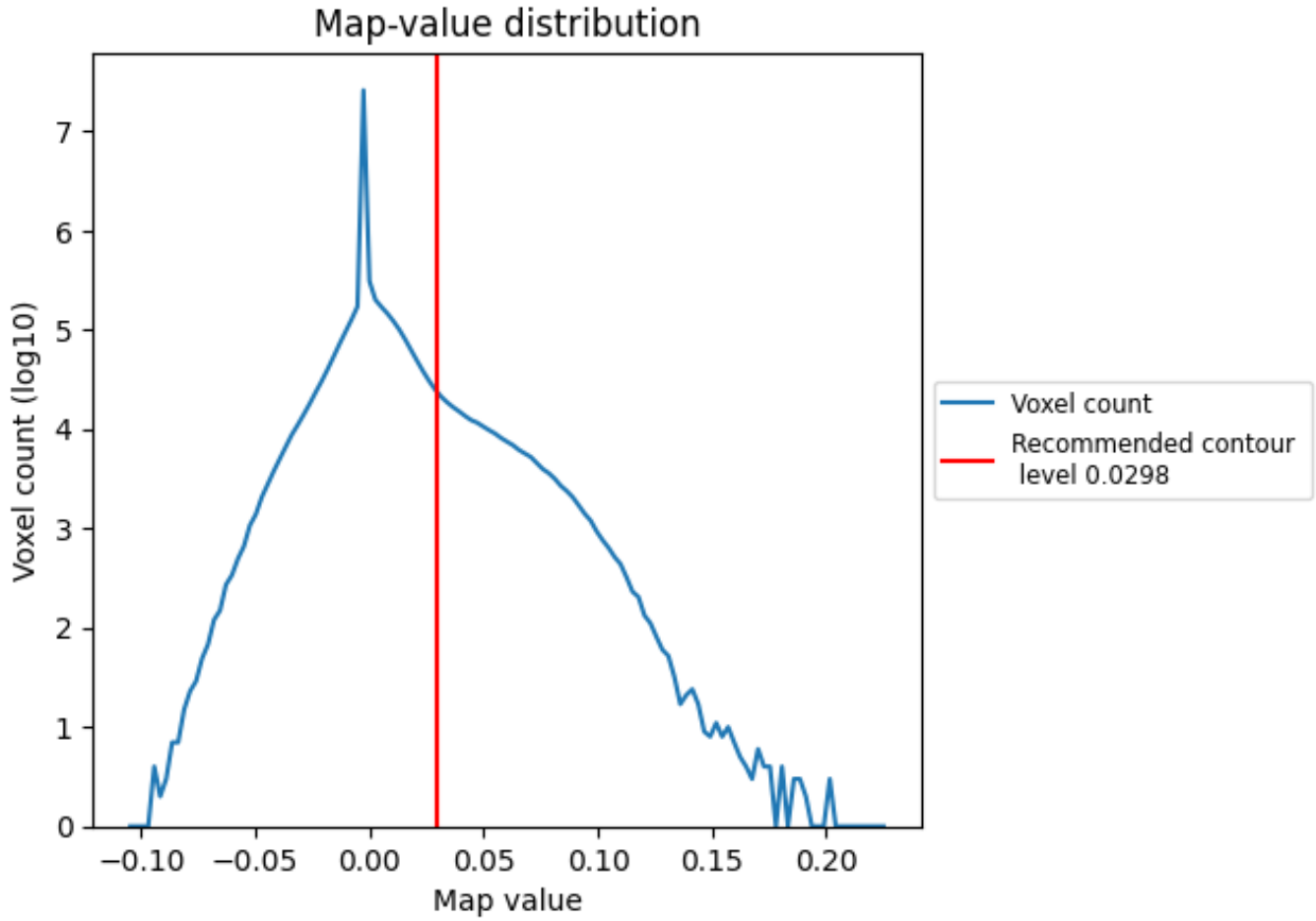
6.6 Mask visualisation (i)

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

7 Map analysis

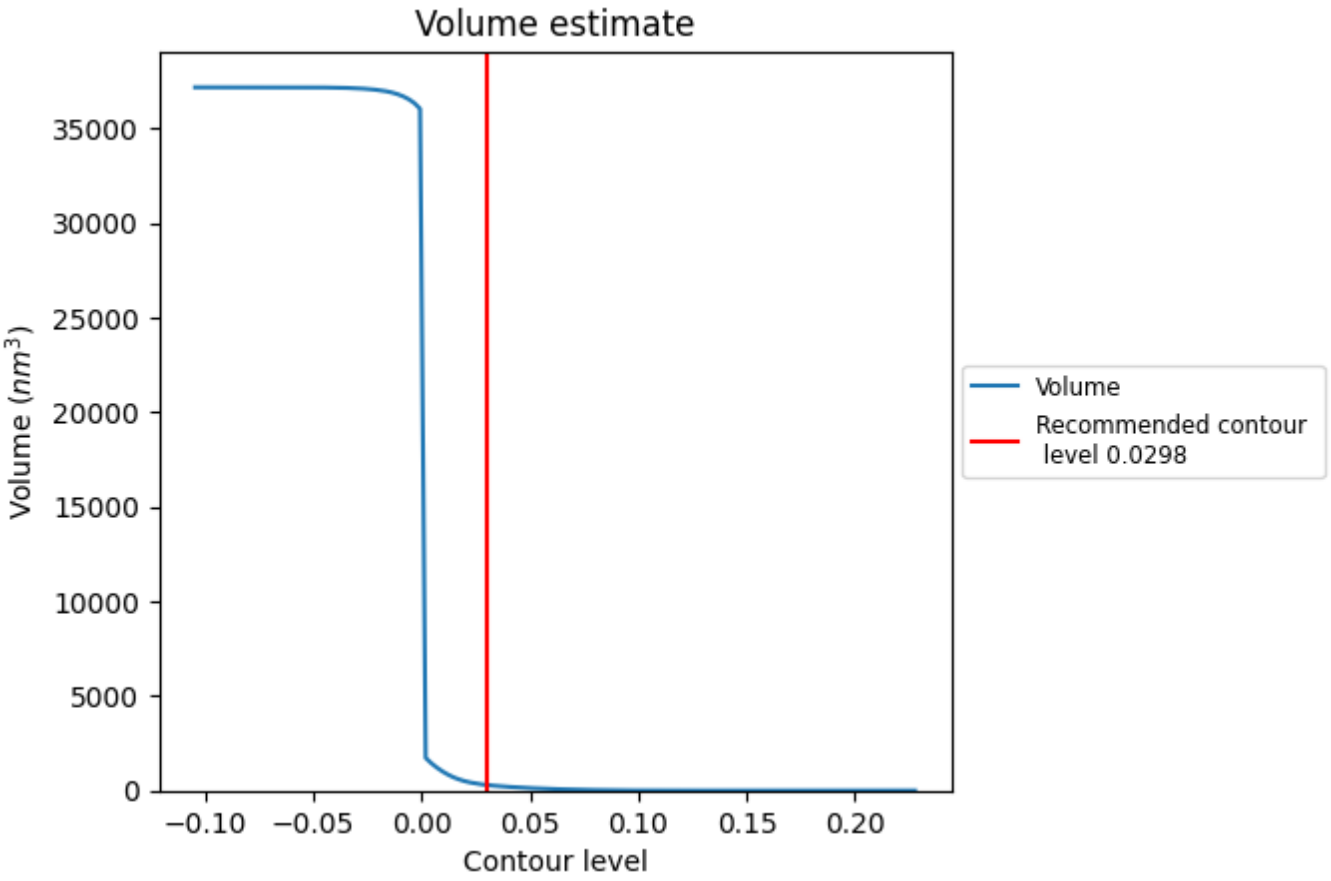
This section contains the results of statistical analysis of the map.

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.

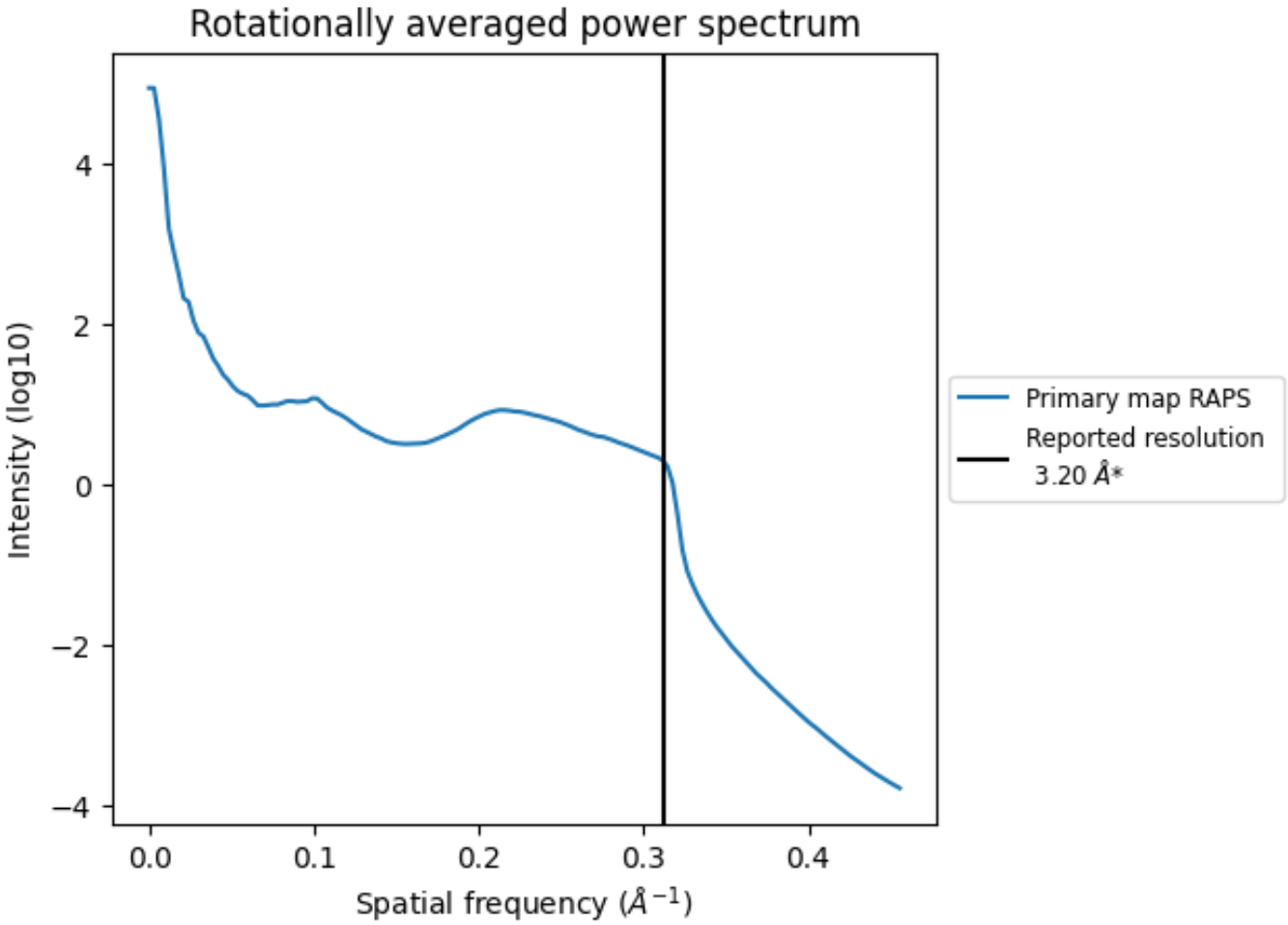
7.2 Volume estimate



The volume at the recommended contour level is 297 nm^3; this corresponds to an approximate mass of 269 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 0.312 Å^{-1}

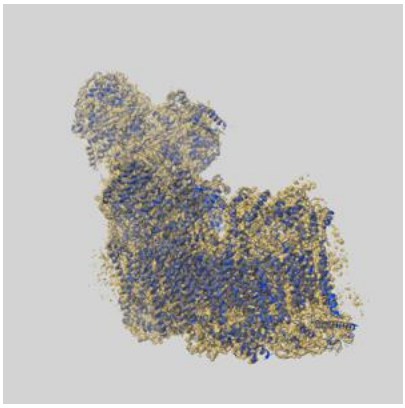
8 Fourier-Shell correlation

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

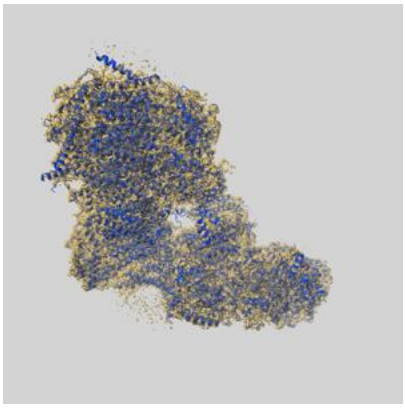
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-32305 and PDB model 7W4J. Per-residue inclusion information can be found in section 3 on page 20.

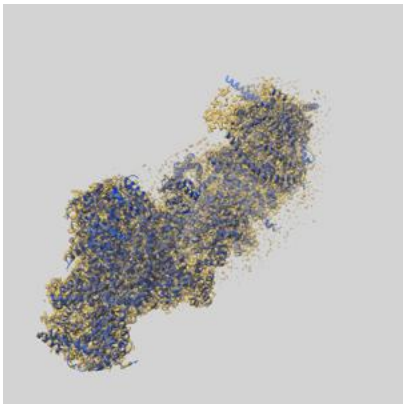
9.1 Map-model overlay



X



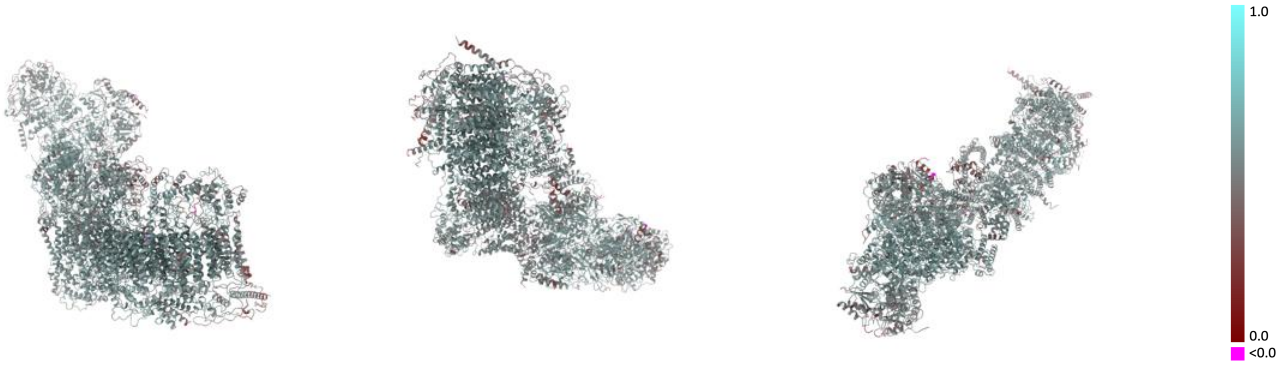
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0298 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.

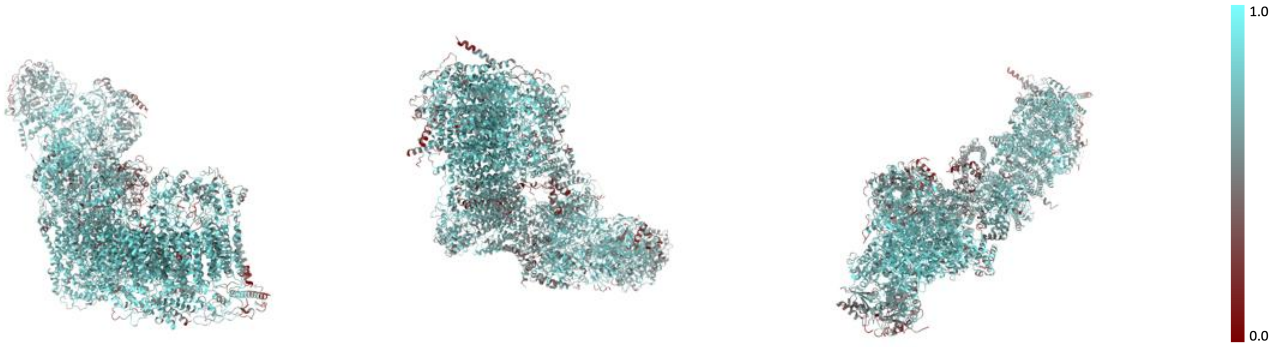
9.2 Q-score mapped to coordinate model (i)



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.

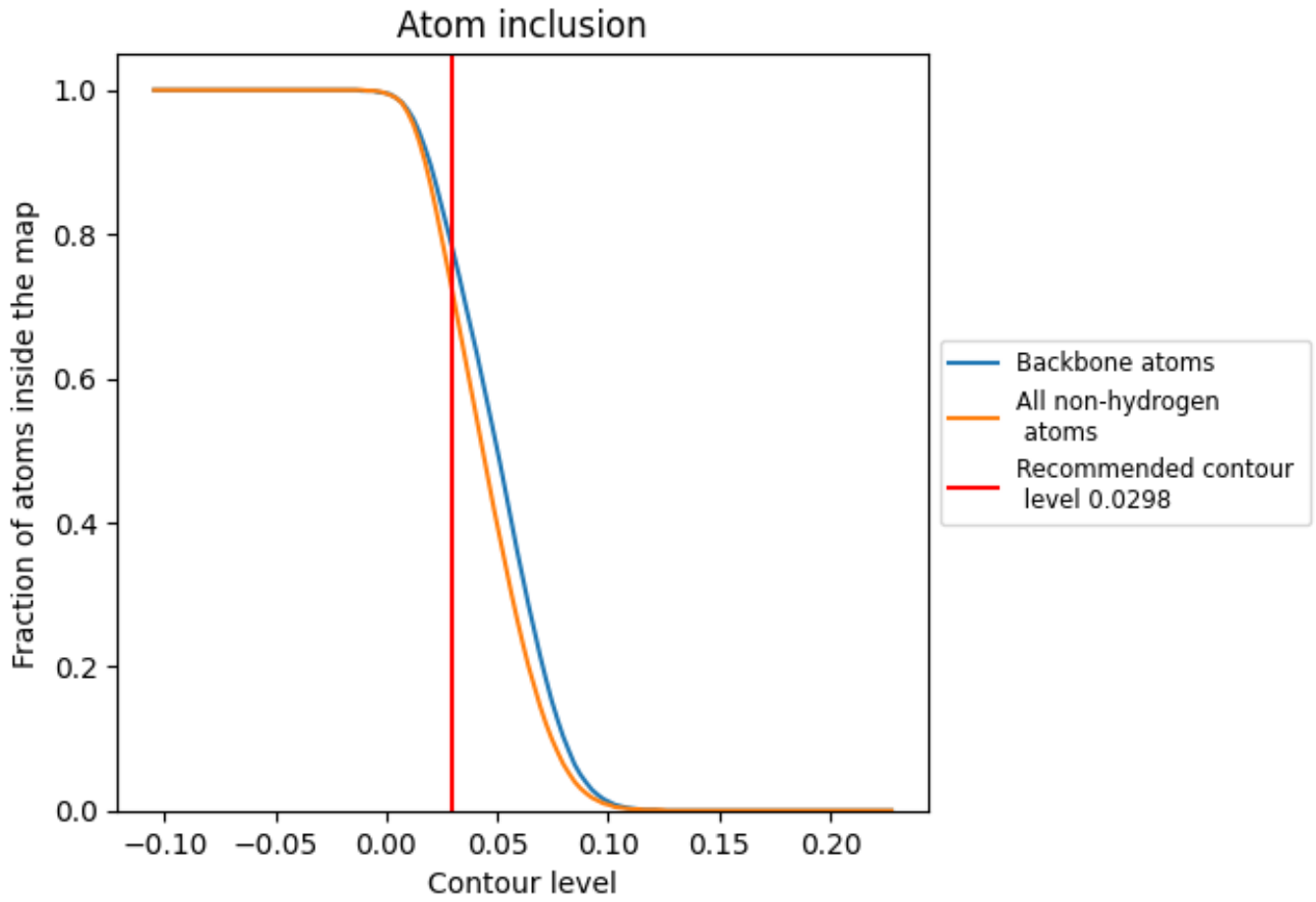
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.0298).

9.4 Atom inclusion (i)



At the recommended contour level, 78% of all backbone atoms, 72% 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 (0.0298) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7190	0.5480
A	0.6350	0.5250
B	0.8670	0.5980
C	0.8340	0.5910
E	0.6780	0.5380
F	0.5270	0.4500
G	0.3770	0.3990
H	0.6770	0.5350
I	0.7350	0.5610
J	0.6240	0.5190
K	0.5440	0.4960
L	0.7720	0.5750
M	0.7420	0.5570
N	0.7430	0.5720
O	0.5930	0.5050
P	0.8450	0.5980
Q	0.8270	0.5910
S	0.7900	0.5640
T	0.7230	0.5590
U	0.7150	0.5310
V	0.4780	0.4920
W	0.7610	0.5580
X	0.6450	0.5100
Y	0.5910	0.4690
Z	0.5270	0.4350
a	0.7440	0.5700
b	0.6430	0.4970
c	0.7370	0.5540
d	0.7140	0.5400
e	0.6690	0.5320
f	0.6410	0.5130
g	0.8000	0.5760
h	0.7280	0.5560
i	0.8060	0.5820
j	0.6030	0.5210

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Chain	Atom inclusion	Q-score
k	0.6940	0.5560
l	0.7560	0.5620
m	0.6580	0.5320
n	0.6100	0.5260
o	0.7250	0.5580
p	0.7290	0.5370
r	0.8130	0.5820
s	0.7710	0.5590
u	0.7460	0.5510
v	0.5940	0.4880
w	0.6840	0.5340