Full wwPDB EM Validation Report ⓘ

Jan 25, 2023 – 12:35 PM JST

PDB ID	:	7W35
EMDB ID	:	EMD-32271
Title	:	Deactive state CI from DQ-NADH dataset, Subclass 3
Authors	:	Gu, J.K.; Yang, M.J.
Deposited on	:	2021-11-25
Resolution	:	3.00 Å(reported)

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

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

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

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

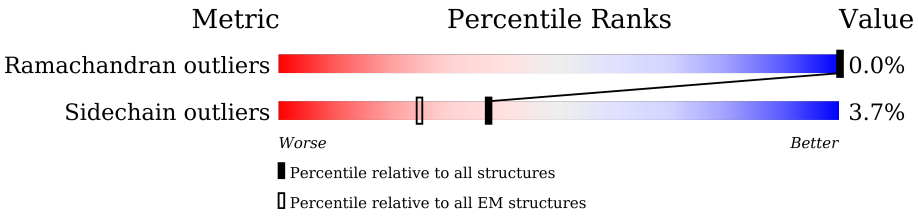
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry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

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.00 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	433	98%
2	B	176	99%
3	C	156	96%
4	E	115	8% 97%
5	F	86	17% 93% 7%
6	G	88	72% 93% 7%
6	X	88	17% 94% 6%
7	H	112	9% 97%
8	I	112	20% 83% 13%

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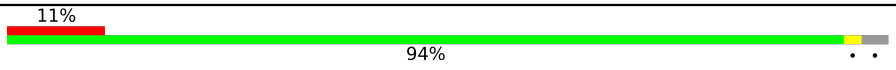
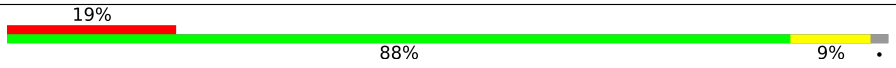
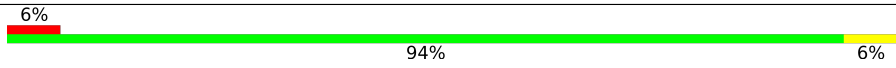
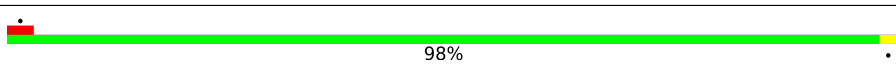
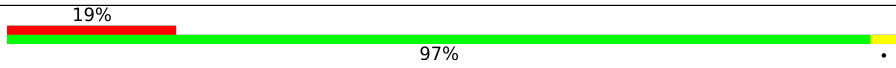
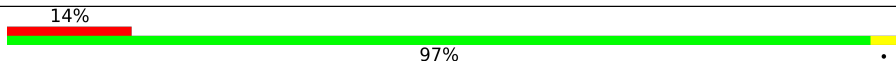
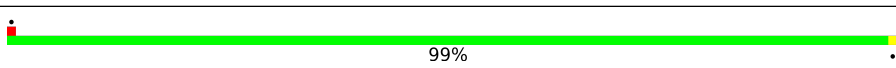
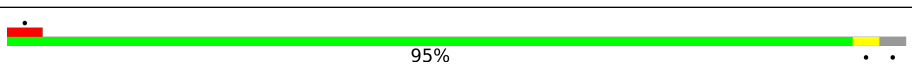
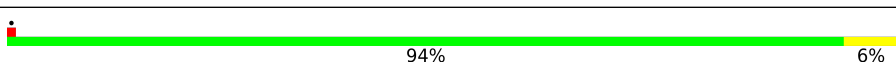
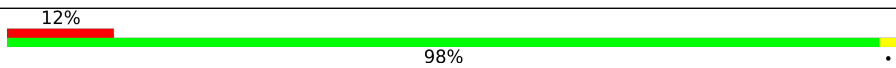
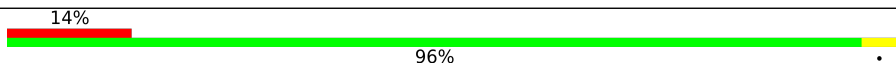
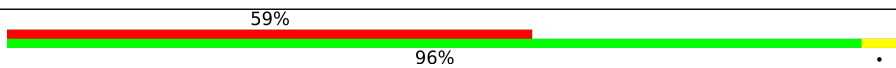
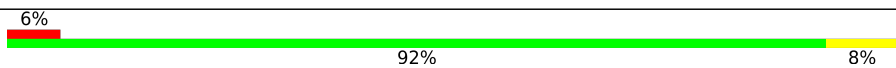
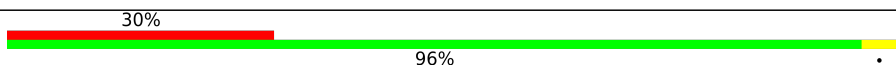
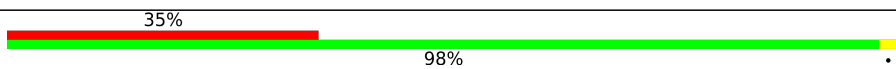
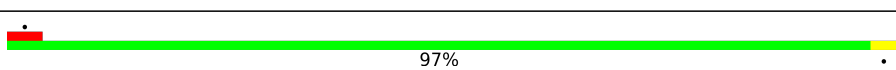
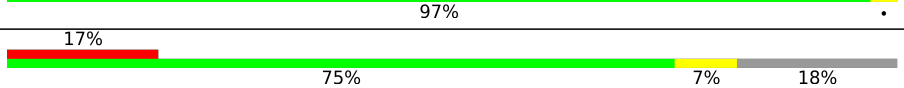
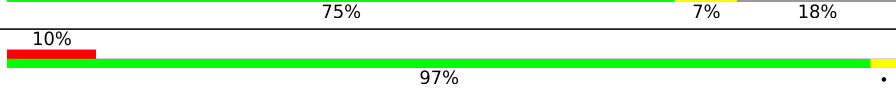
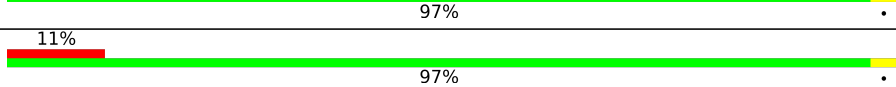
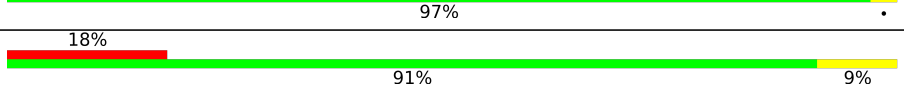
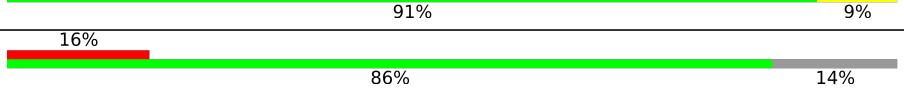
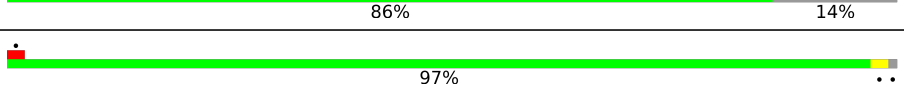
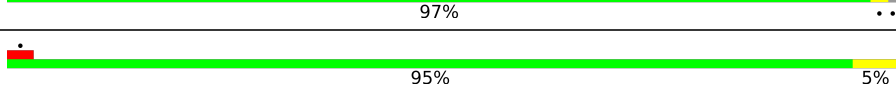
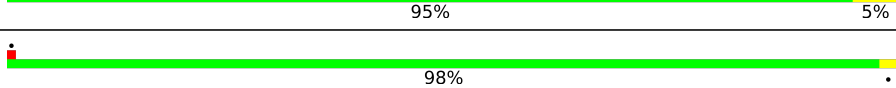
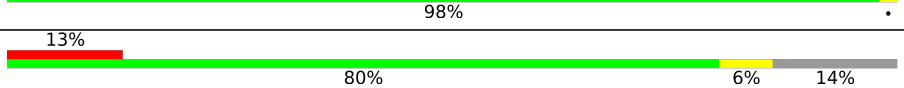
Mol	Chain	Length	Quality of chain
9	J	342	
10	K	43	
11	L	125	
12	M	690	
13	N	144	
14	O	217	
15	P	208	
16	Q	430	
17	S	70	
18	T	96	
19	U	83	
20	V	140	
21	W	142	
22	Y	70	
23	Z	84	
24	a	140	
25	b	126	
26	c	156	
27	d	175	
28	e	107	
29	f	49	
30	g	122	
31	h	105	
32	i	347	
33	j	115	

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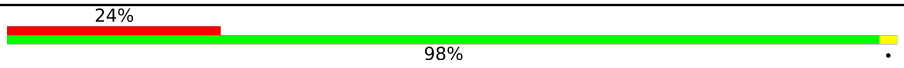
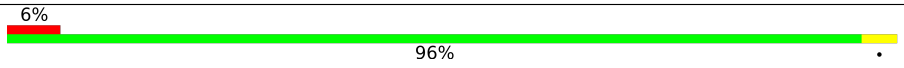
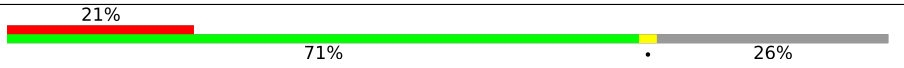
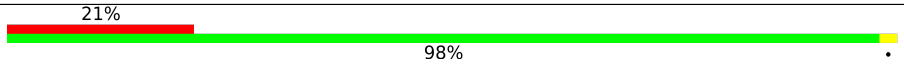
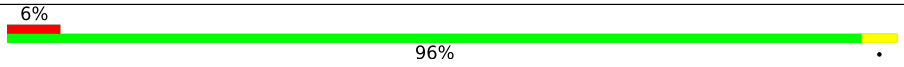
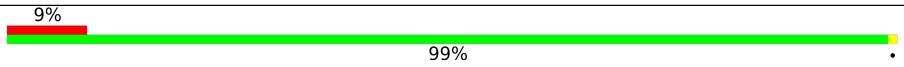
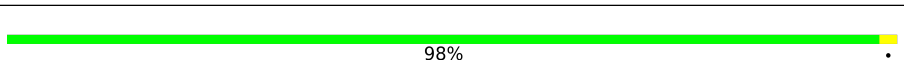
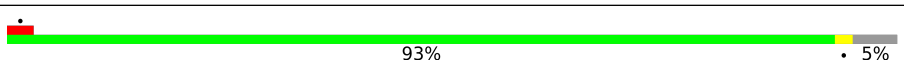
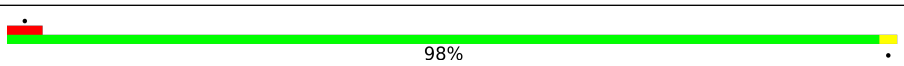
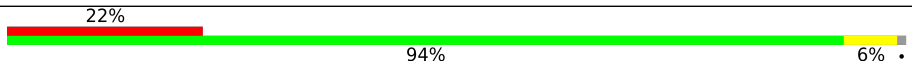
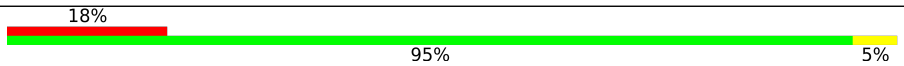
Mol	Chain	Length	Quality of chain
34	k	98	
35	l	606	
36	m	175	
37	n	56	
38	o	128	
39	p	178	
40	r	459	
41	s	318	
42	u	171	
43	v	125	
44	w	320	

2 Entry composition

There are 57 unique types of molecules in this entry. The entry contains 66632 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	1248	794	227	213	14	0	0

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	F	86	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
			695	448	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	331	Total	C	N	O	S	0	0
			2615	1694	459	454	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
			1668	1064	281	313	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
			558	356	104	94	4		

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
20	V	140	Total	C	N	O	S	0	0
			1018	648	174	190	6		

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
22	Y	70	Total	C	N	O	S	0	0
			600	393	98	108	1		

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
25	b	103	Total	C	N	O	S	0	0
			879	573	158	147	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
			999	650	173	170	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
			4720	3118	739	814	49		

- 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
			919	614	137	160	8		

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
39	p	178	Total	C	N	O	S	0	0
			1530	980	279	263	8		

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
43	v	124	Total	C	N	O	S	0	0
			998	625	183	181	9		

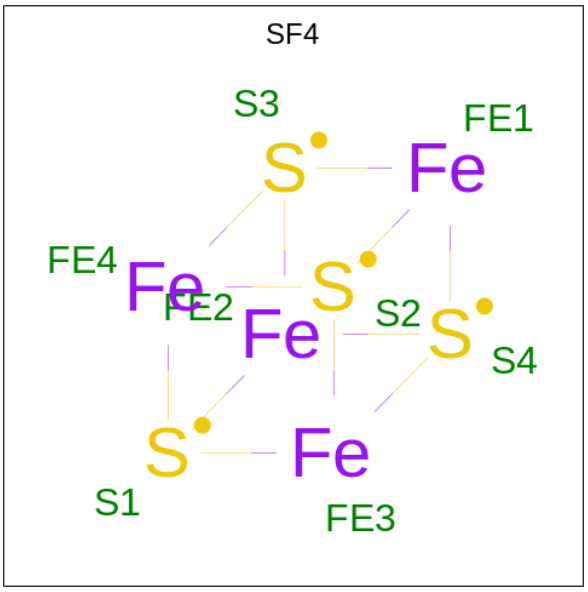
There is a discrepancy between the modelled and reference sequences:

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

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

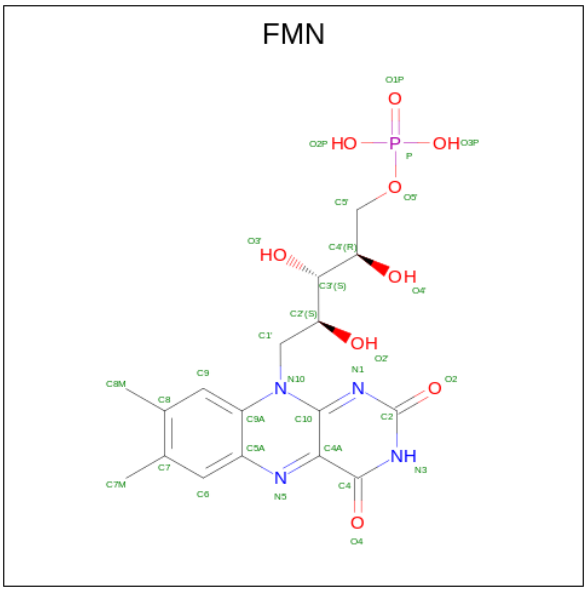
Mol	Chain	Residues	Atoms					AltConf	Trace
44	w	320	Total	C	N	O	S	0	0
			2582	1643	438	491	10		

- Molecule 45 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe_4S_4).



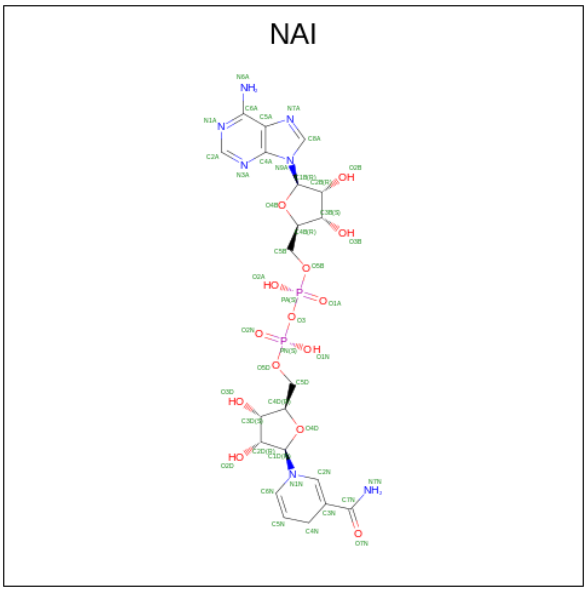
Mol	Chain	Residues	Atoms	AltConf
45	A	1	Total Fe S 8 4 4	0
45	B	1	Total Fe S 16 8 8	0
45	B	1	Total Fe S 16 8 8	0
45	C	1	Total Fe S 8 4 4	0
45	M	1	Total Fe S 16 8 8	0
45	M	1	Total Fe S 16 8 8	0

- Molecule 46 is FLAVIN MONONUCLEOTIDE (three-letter code: FMN) (formula: $C_{17}H_{21}N_4O_9P$).



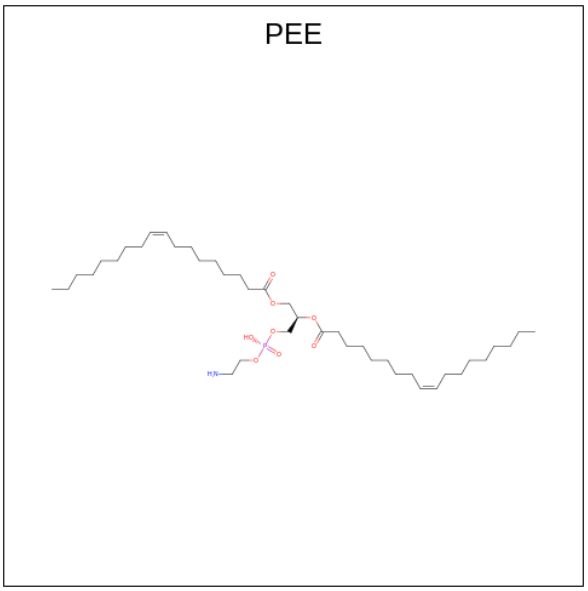
Mol	Chain	Residues	Atoms					AltConf
46	A	1	Total	C	N	O	P	0
			31	17	4	9	1	

- Molecule 47 is 1,4-DIHYDRONICOTINAMIDE ADENINE DINUCLEOTIDE (three-letter code: NAI) (formula: $C_{21}H_{29}N_7O_{14}P_2$).



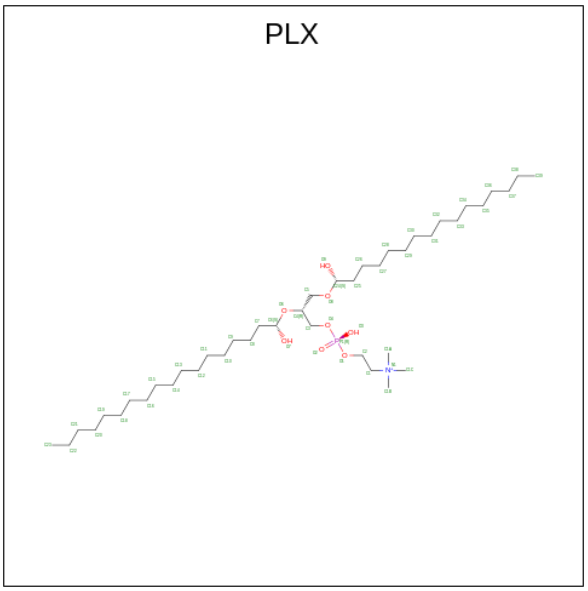
Mol	Chain	Residues	Atoms					AltConf
47	A	1	Total	C	N	O	P	0
			44	21	7	14	2	

- Molecule 48 is 1,2-dioleoyl-sn-glycero-3-phosphoethanolamine (three-letter code: PEE) (formula: $C_{41}H_{78}NO_8P$).



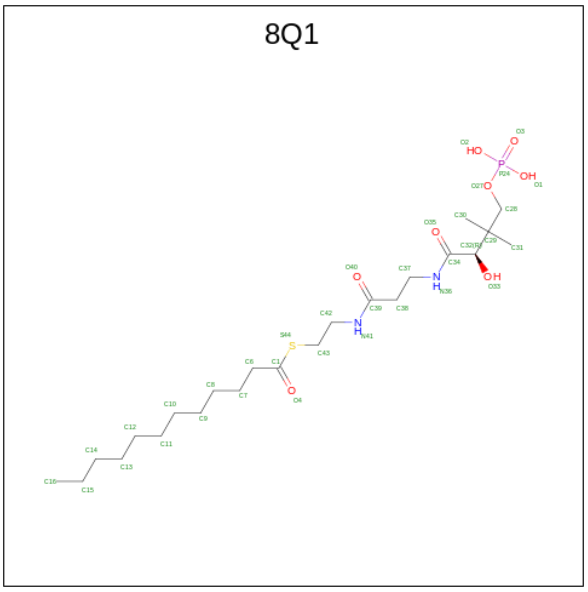
Mol	Chain	Residues	Atoms					AltConf
48	B	1	Total	C	N	O	P	0
			51	41	1	8	1	
48	b	1	Total	C	N	O	P	0
			46	36	1	8	1	
48	i	1	Total	C	N	O	P	0
			47	37	1	8	1	
48	j	1	Total	C	N	O	P	0
			51	41	1	8	1	
48	l	1	Total	C	N	O	P	0
			46	36	1	8	1	
48	m	1	Total	C	N	O	P	0
			41	31	1	8	1	
48	r	1	Total	C	N	O	P	0
			51	41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

- Molecule 49 is (9R,11S)-9-({[(1S)-1-HYDROXYHEXADECYL]OXY}METHYL)-2,2-DIMETHYL-5,7,10-TRIOXA-2LAMBDA 5 -AZA-6LAMBDA 5 -PHOSPHAOCTACOSANE-6,6,11-TRIOL (three-letter code: PLX) (formula: $C_{42}H_{89}NO_8P$).



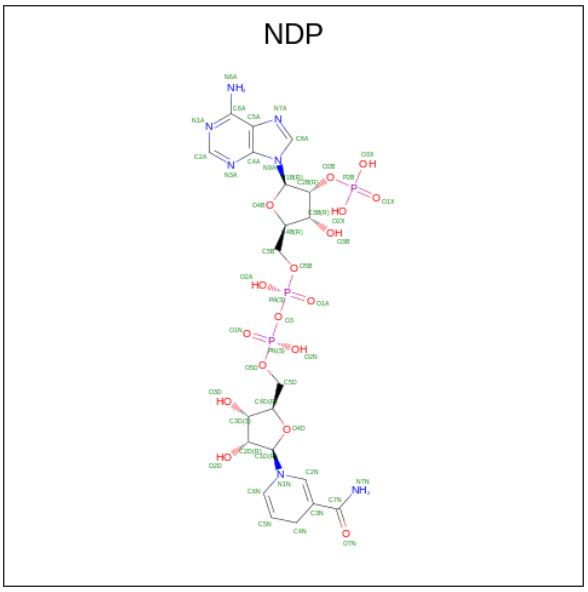
Mol	Chain	Residues	Atoms					AltConf
49	C	1	Total	C	N	O	P	0
			52	42	1	8	1	
49	g	1	Total	C	N	O	P	0
			52	42	1	8	1	
49	j	1	Total	C	N	O	P	0
			52	42	1	8	1	
49	r	1	Total	C	N	O	P	0
			104	84	2	16	2	
49	r	1	Total	C	N	O	P	0
			104	84	2	16	2	

- Molecule 50 is S-[2-({N-[(2R)-2-hydroxy-3,3-dimethyl-4-(phosphonooxy)butanoyl]-beta-alanyl}amino)ethyl] dodecanethioate (three-letter code: 8Q1) (formula: $C_{23}H_{45}N_2O_8PS$).



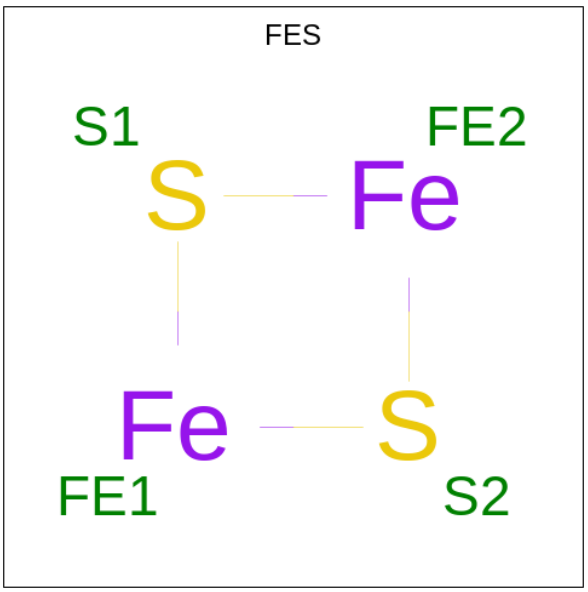
Mol	Chain	Residues	Atoms						AltConf
50	G	1	Total	C	N	O	P	S	0
			35	23	2	8	1	1	
50	X	1	Total	C	N	O	P	S	0
			35	23	2	8	1	1	

- Molecule 51 is NADPH DIHYDRO-NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (three-letter code: NDP) (formula: $C_{21}H_{30}N_7O_{17}P_3$).



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

- Molecule 52 is FE2/S2 (INORGANIC) CLUSTER (three-letter code: FES) (formula: Fe_2S_2).



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

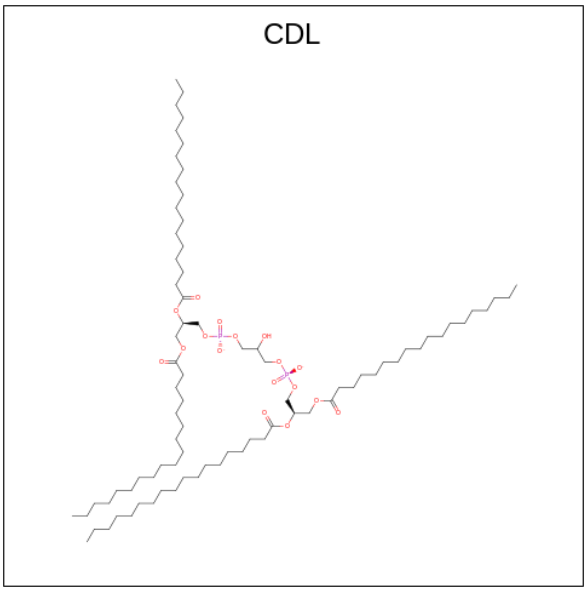
- Molecule 53 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

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

- Molecule 54 is ZINC ION (three-letter code: ZN) (formula: Zn).

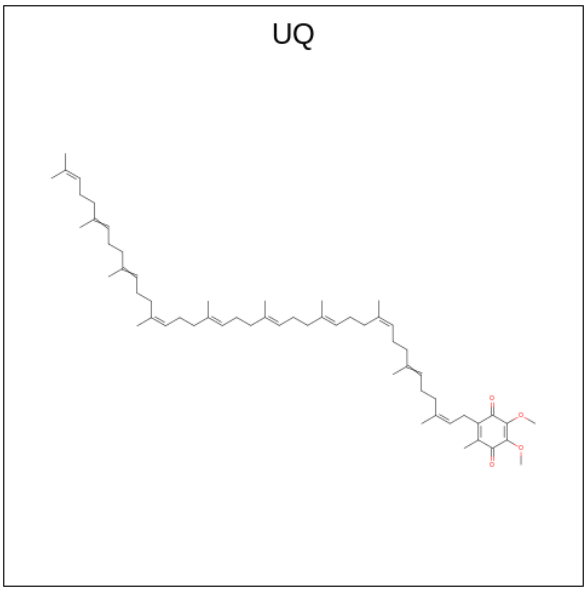
Mol	Chain	Residues	Atoms	AltConf
54	T	1	Total Zn 1 1	0

- Molecule 55 is CARDIOLIPIN (three-letter code: CDL) (formula: $C_{81}H_{156}O_{17}P_2$).



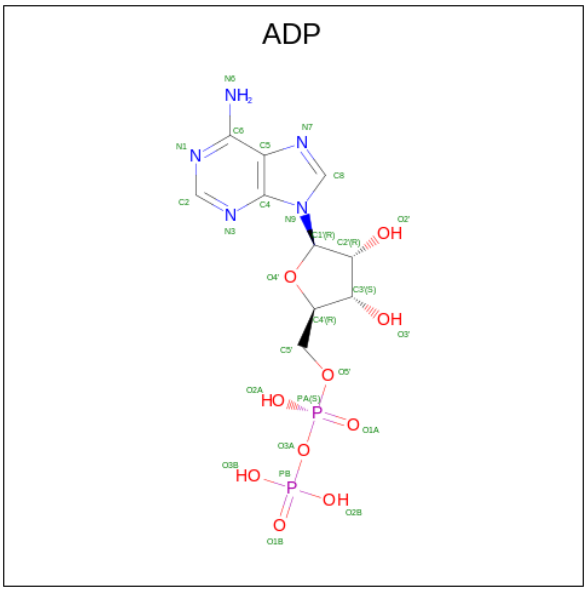
Mol	Chain	Residues	Atoms				AltConf
55	a	1	Total	C	O	P	0
			91	72	17	2	
55	i	1	Total	C	O	P	0
			66	47	17	2	
55	l	1	Total	C	O	P	0
			100	81	17	2	
55	r	1	Total	C	O	P	0
			199	161	34	4	
55	r	1	Total	C	O	P	0
			199	161	34	4	

- Molecule 56 is Coenzyme Q10, (2Z,6E,10Z,14E,18E,22E,26Z)-isomer (three-letter code: UQ) (formula: $C_{59}H_{90}O_4$).



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: $C_{10}H_{15}N_5O_{10}P_2$).



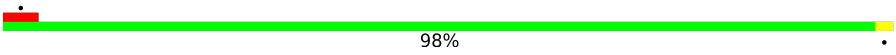
Mol	Chain	Residues	Atoms					AltConf
57	w	1	Total	C	N	O	P	0
			27	10	5	10	2	

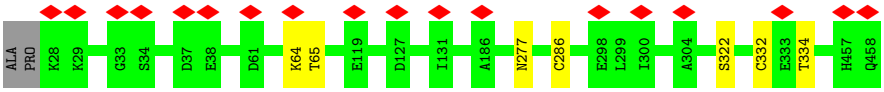
3 Residue-property plots (i)

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

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

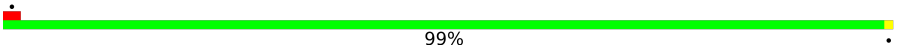
Chain A:

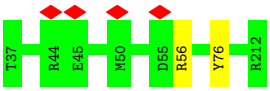




• Molecule 2: NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial

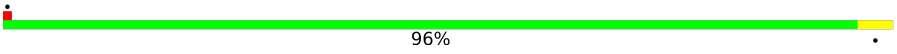
Chain B:





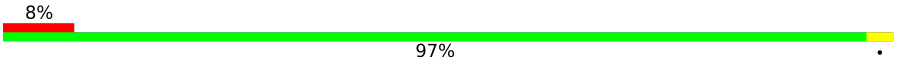
• Molecule 3: NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial

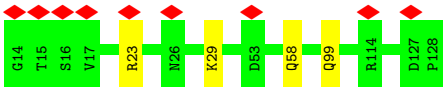
Chain C:



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

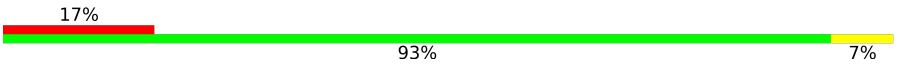
Chain E:

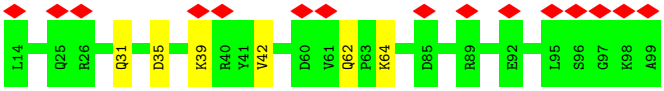




• Molecule 5: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2

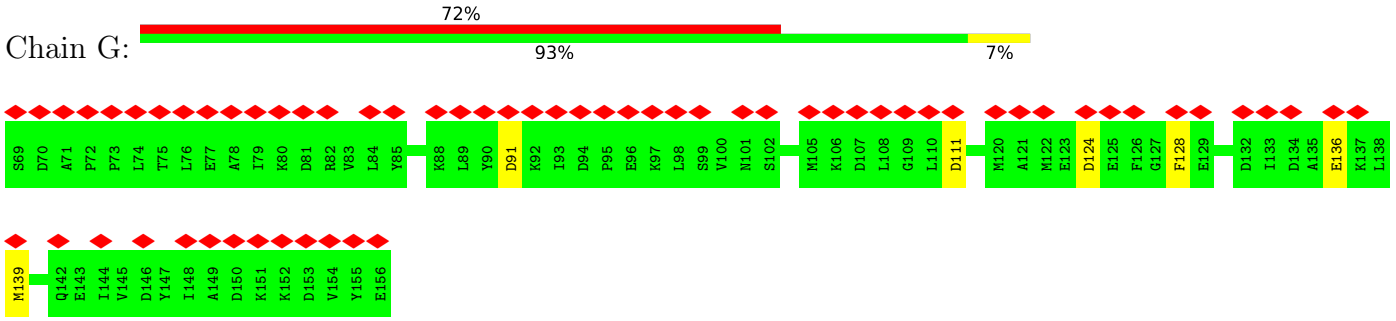
Chain F:





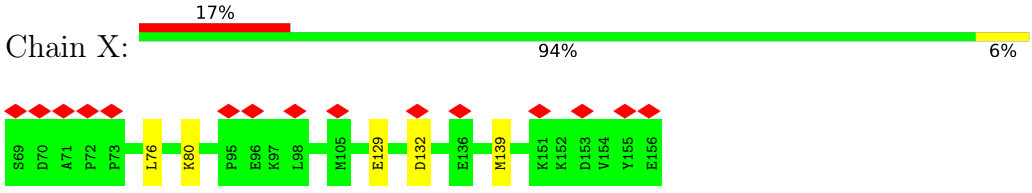
• Molecule 6: Acyl carrier protein

Chain G:



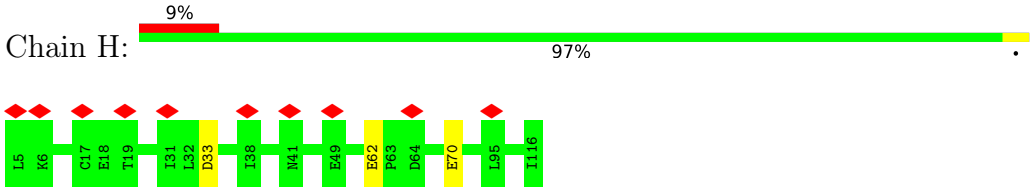
• Molecule 6: Acyl carrier protein

Chain X:



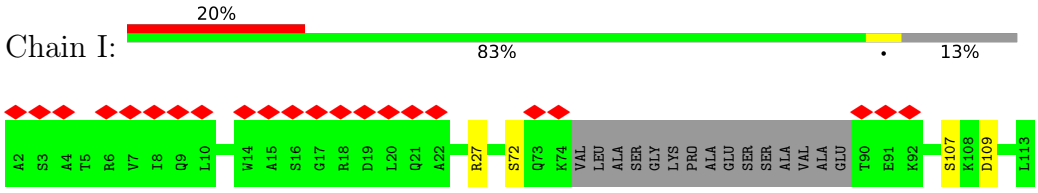
• Molecule 7: Complex I subunit B13

Chain H:



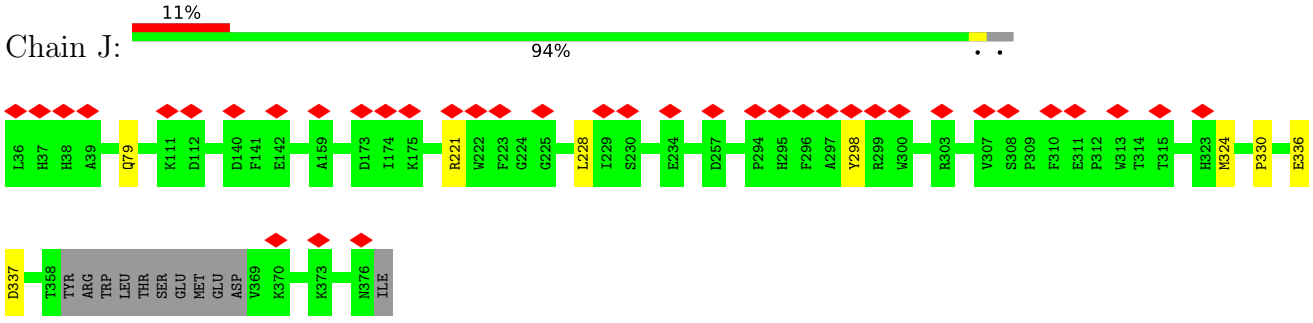
• Molecule 8: Complex I-B14.5a

Chain I:



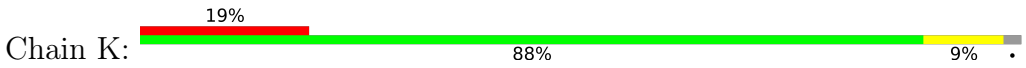
• Molecule 9: NADH dehydrogenase ubiquinone 1 alpha subcomplex subunit 9, mitochondrial

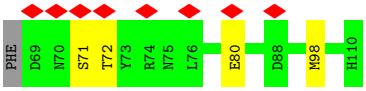
Chain J:



• Molecule 10: Complex I-9kD

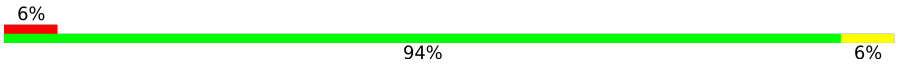
Chain K:





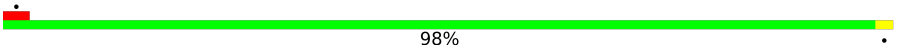
• Molecule 11: NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial

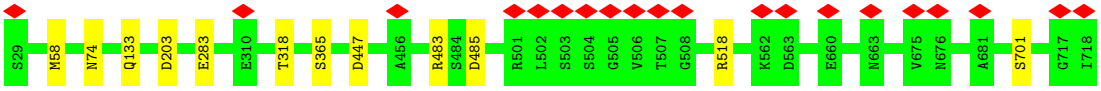
Chain L:



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

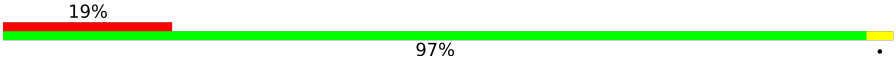
Chain M:

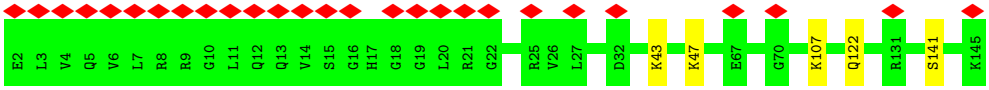




• Molecule 13: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12

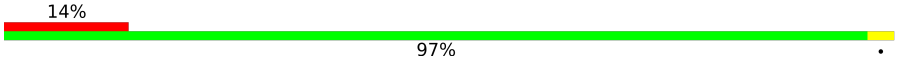
Chain N:

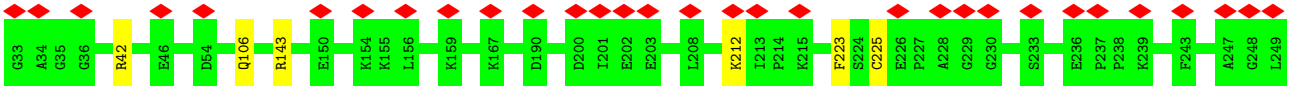




• Molecule 14: NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial

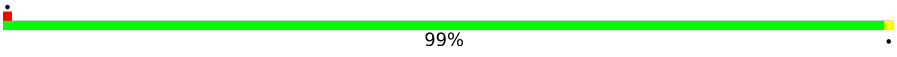
Chain O:

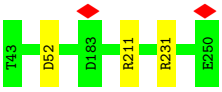




• Molecule 15: Complex I-30kD

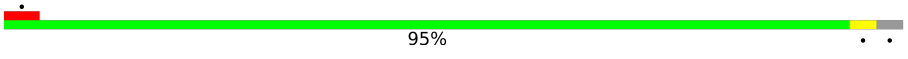
Chain P:

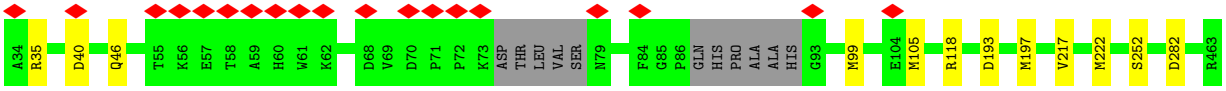




• Molecule 16: Complex I-49kD

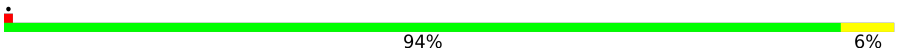
Chain Q:

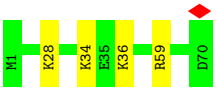




• Molecule 17: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1

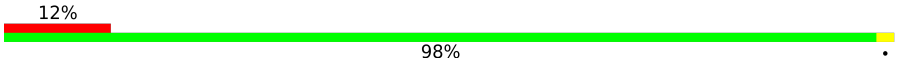
Chain S:

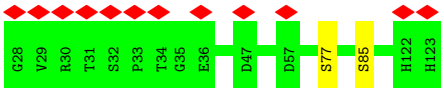




• Molecule 18: NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial

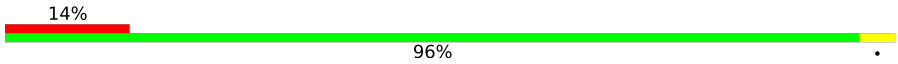
Chain T:

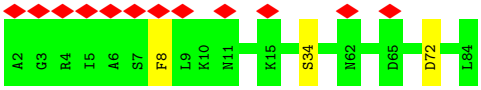




• Molecule 19: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3

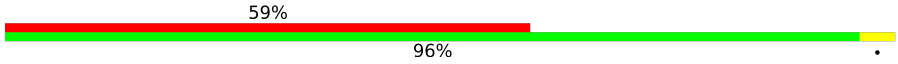
Chain U:

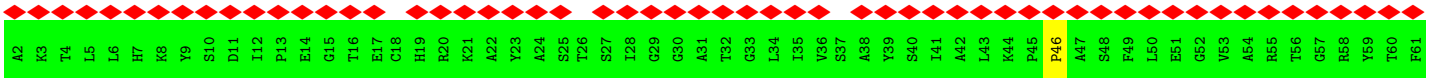


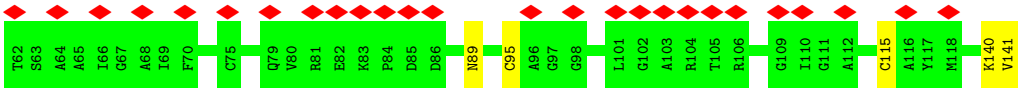


• Molecule 20: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11

Chain V:

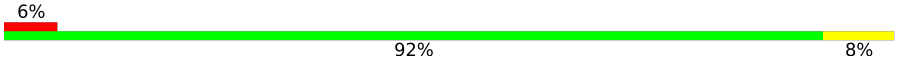


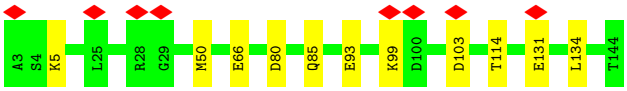




• Molecule 21: Complex I-B16.6

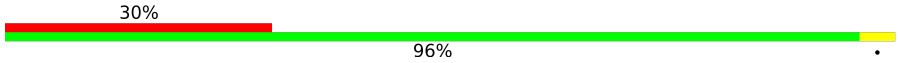
Chain W:

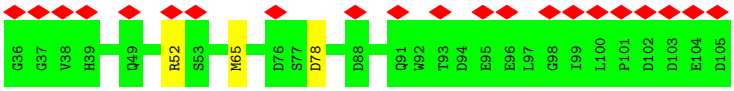




• Molecule 22: Complex I-AGGG

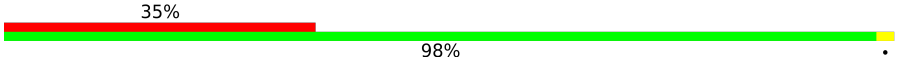
Chain Y:

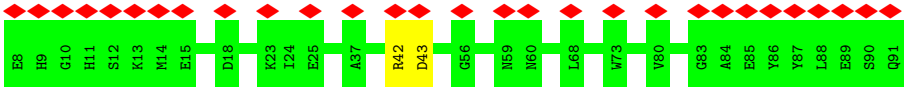




• Molecule 23: Complex I-B12

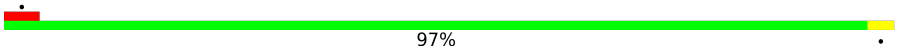
Chain Z:

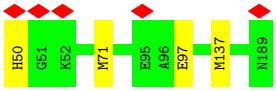




• Molecule 24: Complex I-SGDH

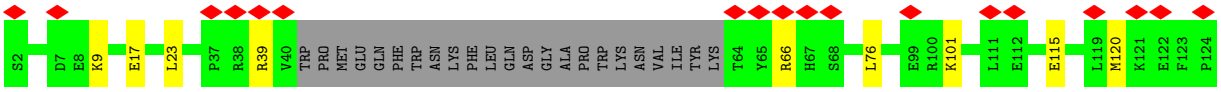
Chain a:





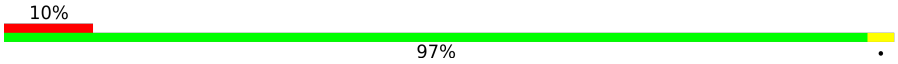
• Molecule 25: Complex I-B17

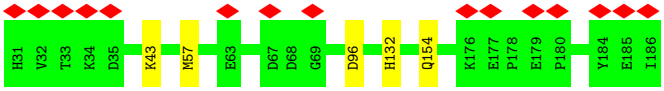
Chain b:



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

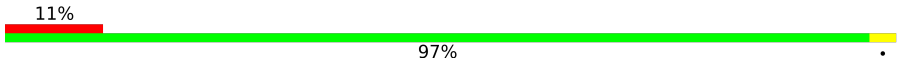
Chain c:

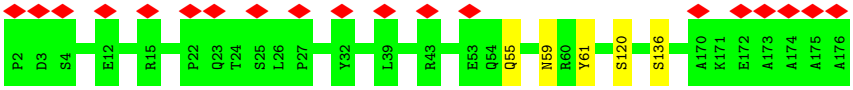




• Molecule 27: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10

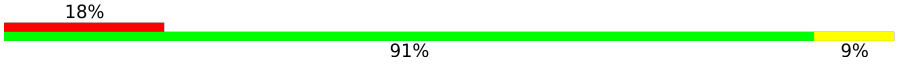
Chain d:

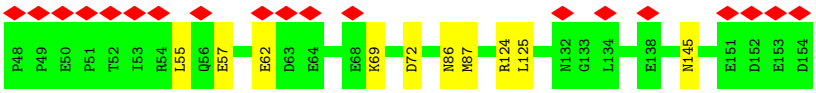




• Molecule 28: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 11, mitochondrial

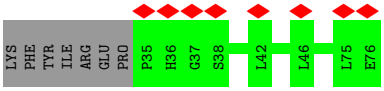
Chain e:





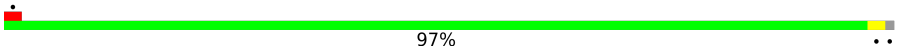
• Molecule 29: NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial

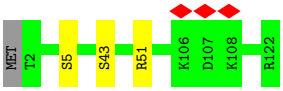
Chain f:



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

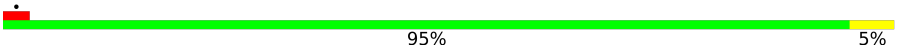
Chain g:

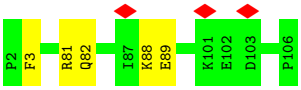




• Molecule 31: NADH dehydrogenase [ubiquinone] iron-sulfur protein 5

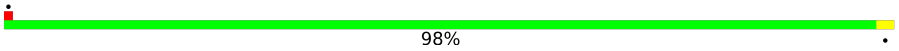
Chain h:

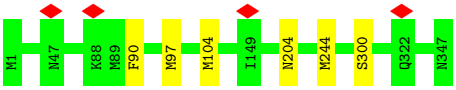




• Molecule 32: NADH-ubiquinone oxidoreductase chain 2

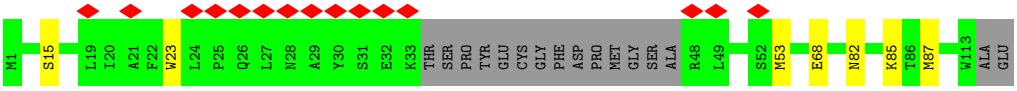
Chain i:





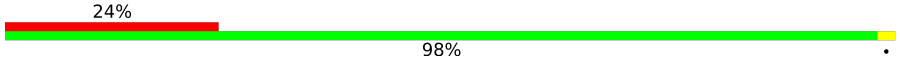
• Molecule 33: NADH-ubiquinone oxidoreductase chain 3

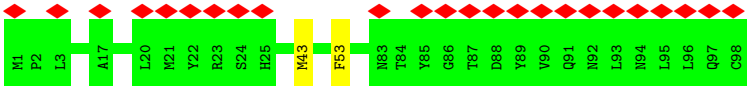
Chain j:



• Molecule 34: NADH-ubiquinone oxidoreductase chain 4L

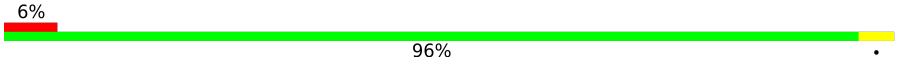
Chain k:

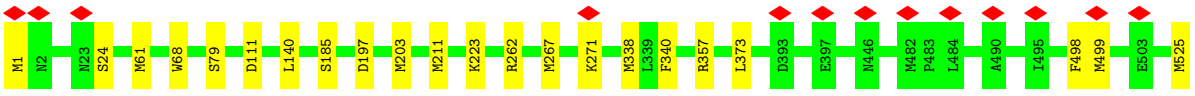


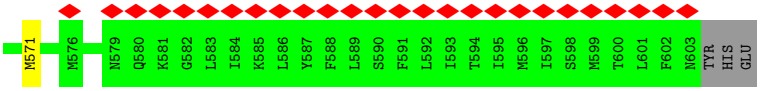


• Molecule 35: NADH-ubiquinone oxidoreductase chain 5

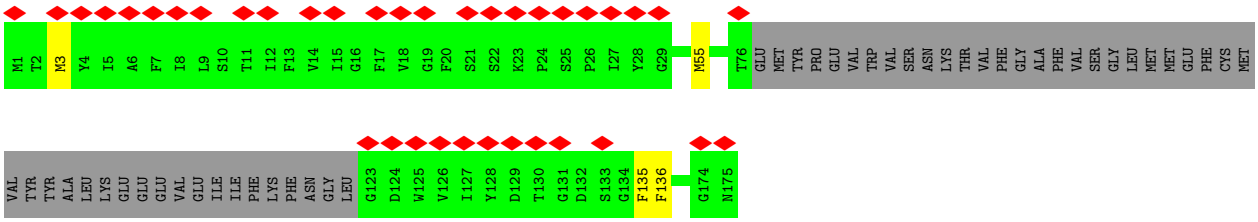
Chain l:



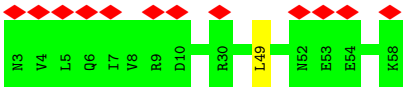




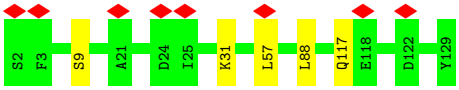
• Molecule 36: NADH-ubiquinone oxidoreductase chain 6



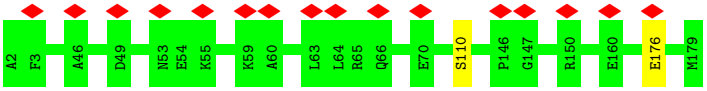
• Molecule 37: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 1



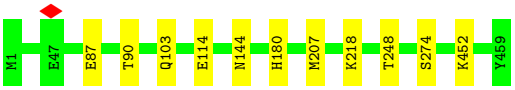
• Molecule 38: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4



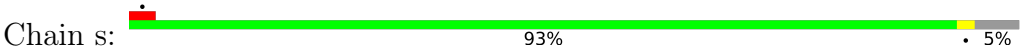
• Molecule 39: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 9

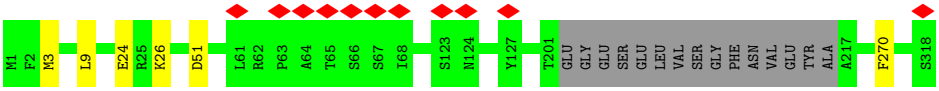


• Molecule 40: NADH-ubiquinone oxidoreductase chain 4



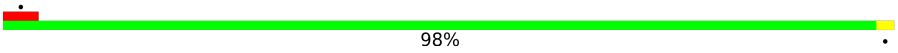
• Molecule 41: NADH-ubiquinone oxidoreductase chain 1

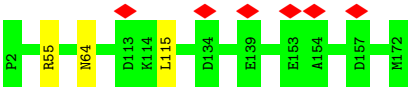




• Molecule 42: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8

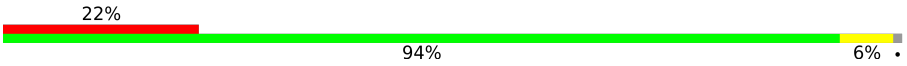
Chain u:

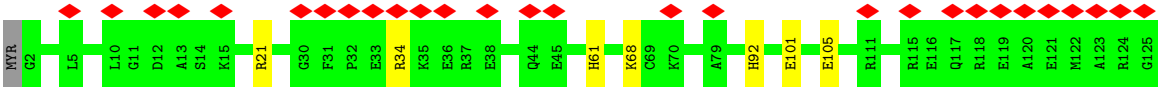




• Molecule 43: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 7

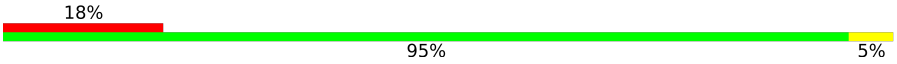
Chain v:

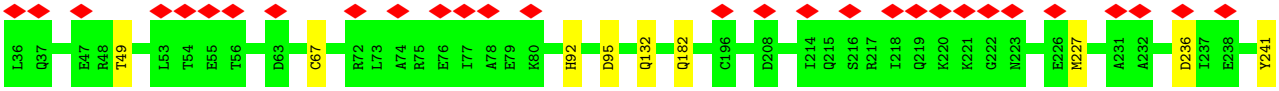


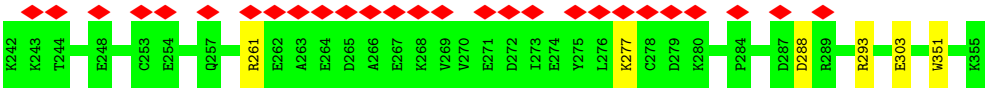


• Molecule 44: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial

Chain w:







4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	124144	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	0.191	Depositor
Minimum map value	-0.109	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.025	Depositor
Map size (Å)	333.002, 333.002, 333.002	wwPDB
Map dimensions	310, 310, 310	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0742, 1.0742, 1.0742	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|>5$	RMSZ	#$\|Z\|>5$
1	A	0.26	0/3393	0.50	0/4584
2	B	0.25	0/1443	0.49	0/1952
3	C	0.28	0/1279	0.51	0/1730
4	E	0.27	0/995	0.53	0/1340
5	F	0.26	0/702	0.53	0/945
6	G	0.27	0/705	0.52	0/956
6	X	0.24	0/707	0.45	0/958
7	H	0.25	0/929	0.48	0/1258
8	I	0.25	0/798	0.54	0/1079
9	J	0.24	0/2684	0.48	0/3638
10	K	0.24	0/365	0.55	0/493
11	L	0.23	0/1039	0.49	0/1403
12	M	0.24	0/5384	0.50	0/7295
13	N	0.25	0/1245	0.52	0/1694
14	O	0.26	0/1708	0.49	0/2324
15	P	0.25	0/1789	0.51	0/2436
16	Q	0.26	0/3451	0.50	0/4672
17	S	0.24	0/572	0.48	0/771
18	T	0.24	0/755	0.49	0/1018
19	U	0.25	0/664	0.47	0/912
20	V	0.25	0/1039	0.47	0/1407
21	W	0.26	0/1198	0.48	0/1617
22	Y	0.26	0/626	0.52	0/857
23	Z	0.26	0/695	0.52	1/939 (0.1%)
24	a	0.25	0/1199	0.49	0/1623
25	b	0.25	0/906	0.56	0/1232
26	c	0.26	0/1371	0.48	0/1875
27	d	0.25	0/1494	0.50	0/2015
28	e	0.25	0/916	0.47	0/1246
29	f	0.24	0/350	0.42	0/473
30	g	0.26	0/1030	0.47	0/1393
31	h	0.25	0/889	0.52	0/1190

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
32	i	0.24	0/2773	0.43	0/3768
33	j	0.26	0/819	0.46	0/1117
34	k	0.25	0/759	0.44	0/1029
35	l	0.25	0/4845	0.44	0/6595
36	m	0.26	0/938	0.45	0/1271
37	n	0.23	0/491	0.48	0/663
38	o	0.25	0/1092	0.52	1/1481 (0.1%)
39	p	0.25	0/1586	0.51	0/2150
40	r	0.25	0/3723	0.43	0/5078
41	s	0.26	0/2464	0.45	0/3369
42	u	0.25	0/1436	0.49	0/1938
43	v	0.27	0/1022	0.52	0/1377
44	w	0.25	0/2642	0.47	0/3580
All	All	0.25	0/66910	0.48	2/90741 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
38	o	57	LEU	CA-CB-CG	5.58	128.13	115.30
23	Z	43	ASP	CB-CG-OD1	5.54	123.29	118.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	429/433 (99%)	413 (96%)	16 (4%)	0	100	100
2	B	174/176 (99%)	173 (99%)	1 (1%)	0	100	100
3	C	154/156 (99%)	149 (97%)	5 (3%)	0	100	100
4	E	113/115 (98%)	111 (98%)	2 (2%)	0	100	100
5	F	84/86 (98%)	79 (94%)	5 (6%)	0	100	100
6	G	86/88 (98%)	85 (99%)	1 (1%)	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%)	84 (90%)	9 (10%)	0	100	100
9	J	327/342 (96%)	316 (97%)	11 (3%)	0	100	100
10	K	40/43 (93%)	40 (100%)	0	0	100	100
11	L	123/125 (98%)	121 (98%)	2 (2%)	0	100	100
12	M	688/690 (100%)	671 (98%)	16 (2%)	1 (0%)	51	85
13	N	142/144 (99%)	139 (98%)	3 (2%)	0	100	100
14	O	215/217 (99%)	207 (96%)	8 (4%)	0	100	100
15	P	206/208 (99%)	196 (95%)	10 (5%)	0	100	100
16	Q	412/430 (96%)	397 (96%)	15 (4%)	0	100	100
17	S	68/70 (97%)	67 (98%)	1 (2%)	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	60
21	W	140/142 (99%)	136 (97%)	4 (3%)	0	100	100
22	Y	68/70 (97%)	65 (96%)	3 (4%)	0	100	100
23	Z	82/84 (98%)	77 (94%)	5 (6%)	0	100	100
24	a	138/140 (99%)	135 (98%)	3 (2%)	0	100	100
25	b	99/126 (79%)	93 (94%)	6 (6%)	0	100	100
26	c	154/156 (99%)	146 (95%)	8 (5%)	0	100	100
27	d	173/175 (99%)	173 (100%)	0	0	100	100
28	e	105/107 (98%)	102 (97%)	3 (3%)	0	100	100
29	f	40/49 (82%)	40 (100%)	0	0	100	100
30	g	119/122 (98%)	116 (98%)	3 (2%)	0	100	100
31	h	103/105 (98%)	99 (96%)	4 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
32	i	345/347 (99%)	332 (96%)	12 (4%)	1 (0%)	41	76
33	j	95/115 (83%)	88 (93%)	7 (7%)	0	100	100
34	k	96/98 (98%)	93 (97%)	3 (3%)	0	100	100
35	l	601/606 (99%)	575 (96%)	26 (4%)	0	100	100
36	m	125/175 (71%)	114 (91%)	11 (9%)	0	100	100
37	n	54/56 (96%)	54 (100%)	0	0	100	100
38	o	126/128 (98%)	122 (97%)	4 (3%)	0	100	100
39	p	176/178 (99%)	167 (95%)	9 (5%)	0	100	100
40	r	457/459 (100%)	444 (97%)	13 (3%)	0	100	100
41	s	299/318 (94%)	287 (96%)	12 (4%)	0	100	100
42	u	169/171 (99%)	163 (96%)	6 (4%)	0	100	100
43	v	122/125 (98%)	114 (93%)	8 (7%)	0	100	100
44	w	318/320 (99%)	304 (96%)	14 (4%)	0	100	100
All	All	8067/8326 (97%)	7772 (96%)	292 (4%)	3 (0%)	100	100

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
12	M	283	GLU
32	i	90	PHE
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%)	338 (98%)	7 (2%)	55	83
2	B	151/151 (100%)	149 (99%)	2 (1%)	69	89
3	C	132/132 (100%)	126 (96%)	6 (4%)	27	64
4	E	107/107 (100%)	103 (96%)	4 (4%)	34	70

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
5	F	76/76 (100%)	70 (92%)	6 (8%)	12 41
6	G	76/81 (94%)	70 (92%)	6 (8%)	12 41
6	X	75/81 (93%)	70 (93%)	5 (7%)	16 49
7	H	99/99 (100%)	96 (97%)	3 (3%)	41 75
8	I	87/97 (90%)	83 (95%)	4 (5%)	27 64
9	J	278/296 (94%)	270 (97%)	8 (3%)	42 76
10	K	41/42 (98%)	37 (90%)	4 (10%)	8 30
11	L	113/113 (100%)	106 (94%)	7 (6%)	18 52
12	M	580/580 (100%)	569 (98%)	11 (2%)	57 84
13	N	130/130 (100%)	125 (96%)	5 (4%)	33 69
14	O	182/183 (100%)	176 (97%)	6 (3%)	38 73
15	P	190/190 (100%)	187 (98%)	3 (2%)	62 86
16	Q	361/370 (98%)	350 (97%)	11 (3%)	41 75
17	S	56/58 (97%)	52 (93%)	4 (7%)	14 46
18	T	79/79 (100%)	77 (98%)	2 (2%)	47 79
19	U	69/69 (100%)	66 (96%)	3 (4%)	29 66
20	V	100/101 (99%)	95 (95%)	5 (5%)	24 60
21	W	122/123 (99%)	111 (91%)	11 (9%)	9 35
22	Y	63/63 (100%)	60 (95%)	3 (5%)	25 62
23	Z	65/65 (100%)	64 (98%)	1 (2%)	65 87
24	a	122/122 (100%)	118 (97%)	4 (3%)	38 73
25	b	98/119 (82%)	89 (91%)	9 (9%)	9 34
26	c	141/141 (100%)	136 (96%)	5 (4%)	36 71
27	d	155/155 (100%)	150 (97%)	5 (3%)	39 74
28	e	99/99 (100%)	89 (90%)	10 (10%)	7 29
29	f	35/45 (78%)	35 (100%)	0	100 100
30	g	107/109 (98%)	104 (97%)	3 (3%)	43 77
31	h	93/93 (100%)	88 (95%)	5 (5%)	22 57
32	i	311/311 (100%)	306 (98%)	5 (2%)	62 86
33	j	88/100 (88%)	81 (92%)	7 (8%)	12 40
34	k	85/85 (100%)	83 (98%)	2 (2%)	49 79

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
35	l	518/540 (96%)	495 (96%)	23 (4%)	28 65
36	m	91/141 (64%)	87 (96%)	4 (4%)	28 65
37	n	53/53 (100%)	52 (98%)	1 (2%)	57 84
38	o	113/113 (100%)	109 (96%)	4 (4%)	36 71
39	p	158/159 (99%)	156 (99%)	2 (1%)	69 89
40	r	410/410 (100%)	399 (97%)	11 (3%)	44 77
41	s	263/275 (96%)	257 (98%)	6 (2%)	50 80
42	u	153/153 (100%)	150 (98%)	3 (2%)	55 83
43	v	98/111 (88%)	91 (93%)	7 (7%)	14 46
44	w	281/283 (99%)	266 (95%)	15 (5%)	22 58
All	All	7049/7249 (97%)	6791 (96%)	258 (4%)	37 70

All (258) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	64	LYS
1	A	65	THR
1	A	277	ASN
1	A	286	CYS
1	A	322	SER
1	A	332	CYS
1	A	334	THR
2	B	56	ARG
2	B	76	TYR
3	C	71	CYS
3	C	79	MET
3	C	103	MET
3	C	126	GLU
3	C	142	TYR
3	C	154	ASP
4	E	23	ARG
4	E	29	LYS
4	E	58	GLN
4	E	99	GLN
5	F	31	GLN
5	F	35	ASP
5	F	39	LYS
5	F	42	VAL

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Mol	Chain	Res	Type
5	F	62	GLN
5	F	64	LYS
6	G	91	ASP
6	G	111	ASP
6	G	124	ASP
6	G	128	PHE
6	G	136	GLU
6	G	139	MET
7	H	33	ASP
7	H	62	GLU
7	H	70	GLU
8	I	27	ARG
8	I	72	SER
8	I	107	SER
8	I	109	ASP
9	J	79	GLN
9	J	221	ARG
9	J	228	LEU
9	J	298	TYR
9	J	324	MET
9	J	330	PRO
9	J	336	GLU
9	J	337	ASP
10	K	71	SER
10	K	72	THR
10	K	80	GLU
10	K	98	MET
11	L	63	THR
11	L	70	GLU
11	L	73	LYS
11	L	86	ASN
11	L	133	ASP
11	L	146	ASP
11	L	157	SER
12	M	58	MET
12	M	74	ASN
12	M	133	GLN
12	M	203	ASP
12	M	318	THR
12	M	365	SER
12	M	447	ASP
12	M	483	ARG

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Mol	Chain	Res	Type
12	M	485	ASP
12	M	518	ARG
12	M	701	SER
13	N	43	LYS
13	N	47	LYS
13	N	107	LYS
13	N	122	GLN
13	N	141	SER
14	O	42	ARG
14	O	106	GLN
14	O	143	ARG
14	O	212	LYS
14	O	223	PHE
14	O	225	CYS
15	P	52	ASP
15	P	211	ARG
15	P	231	ARG
16	Q	35	ARG
16	Q	40	ASP
16	Q	46	GLN
16	Q	99	MET
16	Q	105	MET
16	Q	193	ASP
16	Q	197	MET
16	Q	217	VAL
16	Q	222	MET
16	Q	252	SER
16	Q	282	ASP
17	S	28	LYS
17	S	34	LYS
17	S	36	LYS
17	S	59	ARG
18	T	77	SER
18	T	85	SER
19	U	8	PHE
19	U	34	SER
19	U	72	ASP
20	V	89	ASN
20	V	95	CYS
20	V	115	CYS
20	V	140	LYS
20	V	141	VAL

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Mol	Chain	Res	Type
21	W	5	LYS
21	W	50	MET
21	W	66	GLU
21	W	80	ASP
21	W	85	GLN
21	W	93	GLU
21	W	99	LYS
21	W	103	ASP
21	W	114	THR
21	W	131	GLU
21	W	134	LEU
6	X	76	LEU
6	X	80	LYS
6	X	129	GLU
6	X	132	ASP
6	X	139	MET
22	Y	52	ARG
22	Y	65	MET
22	Y	78	ASP
23	Z	42	ARG
24	a	50	HIS
24	a	71	MET
24	a	97	GLU
24	a	137	MET
25	b	9	LYS
25	b	17	GLU
25	b	23	LEU
25	b	39	ARG
25	b	66	ARG
25	b	76	LEU
25	b	101	LYS
25	b	115	GLU
25	b	120	MET
26	c	43	LYS
26	c	57	MET
26	c	96	ASP
26	c	132	HIS
26	c	154	GLN
27	d	55	GLN
27	d	59	ASN
27	d	61	TYR
27	d	120	SER

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Mol	Chain	Res	Type
27	d	136	SER
28	e	55	LEU
28	e	57	GLU
28	e	62	GLU
28	e	69	LYS
28	e	72	ASP
28	e	86	ASN
28	e	87	MET
28	e	124	ARG
28	e	125	LEU
28	e	145	ASN
30	g	5	SER
30	g	43	SER
30	g	51	ARG
31	h	3	PHE
31	h	81	ARG
31	h	82	GLN
31	h	88	LYS
31	h	89	GLU
32	i	97	MET
32	i	104	MET
32	i	204	ASN
32	i	244	MET
32	i	300	SER
33	j	15	SER
33	j	23	TRP
33	j	53	MET
33	j	68	GLU
33	j	82	ASN
33	j	85	LYS
33	j	87	MET
34	k	43	MET
34	k	53	PHE
35	l	1	MET
35	l	24	SER
35	l	61	MET
35	l	68	TRP
35	l	79	SER
35	l	111	ASP
35	l	140	LEU
35	l	185	SER
35	l	197	ASP

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Mol	Chain	Res	Type
35	l	203	MET
35	l	211	MET
35	l	223	LYS
35	l	262	ARG
35	l	267	MET
35	l	271	LYS
35	l	338	MET
35	l	340	PHE
35	l	357	ARG
35	l	373	LEU
35	l	498	PHE
35	l	499	MET
35	l	525	MET
35	l	571	MET
36	m	3	MET
36	m	55	MET
36	m	135	PHE
36	m	136	PHE
37	n	49	LEU
38	o	9	SER
38	o	31	LYS
38	o	88	LEU
38	o	117	GLN
39	p	110	SER
39	p	176	GLU
40	r	87	GLU
40	r	90	THR
40	r	103	GLN
40	r	114	GLU
40	r	144	ASN
40	r	180	HIS
40	r	207	MET
40	r	218	LYS
40	r	248	THR
40	r	274	SER
40	r	452	LYS
41	s	3	MET
41	s	9	LEU
41	s	24	GLU
41	s	26	LYS
41	s	51	ASP
41	s	270	PHE

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Mol	Chain	Res	Type
42	u	55	ARG
42	u	64	ASN
42	u	115	LEU
43	v	21	ARG
43	v	34	ARG
43	v	61	HIS
43	v	68	LYS
43	v	92	HIS
43	v	101	GLU
43	v	105	GLU
44	w	49	THR
44	w	67	CYS
44	w	92	HIS
44	w	95	ASP
44	w	132	GLN
44	w	182	GLN
44	w	227	MET
44	w	236	ASP
44	w	241	TYR
44	w	261	ARG
44	w	277	LYS
44	w	288	ASP
44	w	293	ARG
44	w	303	GLU
44	w	351	TRP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	244	ASN
1	A	277	ASN
12	M	278	HIS
12	M	604	GLN
16	Q	233	HIS
32	i	91	ASN
42	u	77	HIS
43	v	4	HIS
43	v	92	HIS

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	2.00	1 (10%)	5,13,15	5.92	3 (60%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
16	2MR	Q	118	16	-	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	5.77	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	12.12	130.59	119.48
16	Q	118	2MR	CD-NE-CZ	4.23	131.33	123.41
16	Q	118	2MR	CQ2-NH2-CZ	3.10	130.71	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 34 ligands modelled in this entry, 2 are monoatomic - leaving 32 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	PEE	j	201	-	50,50,50	1.16	6 (12%)	53,55,55	0.95	2 (3%)
50	8Q1	G	201	-	31,34,34	1.70	6 (19%)	40,43,43	1.53	6 (15%)
49	PLX	g	201	-	51,51,51	1.15	4 (7%)	55,59,59	0.58	1 (1%)
46	FMN	A	502	-	33,33,33	1.07	2 (6%)	48,50,50	1.23	8 (16%)
45	SF4	C	301	16,3	0,12,12	-	-	-		
45	SF4	A	501	1	0,12,12	-	-	-		
55	CDL	r	505	-	99,99,99	1.09	8 (8%)	105,111,111	0.85	4 (3%)
52	FES	M	803	12	0,4,4	-	-	-		
45	SF4	B	302	2	0,12,12	-	-	-		
47	NAI	A	503	-	42,48,48	4.93	18 (42%)	47,73,73	1.33	7 (14%)
48	PEE	i	402	-	46,46,50	1.21	6 (13%)	49,51,55	0.98	2 (4%)
49	PLX	r	502	-	51,51,51	1.15	4 (7%)	55,59,59	0.63	1 (1%)
51	NDP	J	401	-	45,52,52	4.58	20 (44%)	53,80,80	1.93	7 (13%)
48	PEE	m	201	-	40,40,50	1.15	5 (12%)	43,45,55	0.99	2 (4%)
55	CDL	l	701	-	99,99,99	1.09	8 (8%)	105,111,111	0.83	4 (3%)
55	CDL	r	504	-	98,98,99	1.10	8 (8%)	104,110,111	0.89	4 (3%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
48	PEE	r	501	-	50,50,50	1.16	6 (12%)	53,55,55	0.97	2 (3%)
45	SF4	M	801	12	0,12,12	-	-	-		
48	PEE	B	303	-	50,50,50	1.16	6 (12%)	53,55,55	1.00	2 (3%)
56	UQ	s	401	-	28,28,63	3.31	9 (32%)	34,37,79	2.79	12 (35%)
49	PLX	j	202	-	51,51,51	1.16	4 (7%)	55,59,59	0.58	1 (1%)
45	SF4	B	301	2	0,12,12	-	-	-		
48	PEE	l	702	-	45,45,50	1.23	6 (13%)	48,50,55	1.00	2 (4%)
49	PLX	r	503	-	51,51,51	1.15	4 (7%)	55,59,59	0.58	1 (1%)
55	CDL	i	401	-	65,65,99	1.28	8 (12%)	71,77,111	1.01	4 (5%)
50	8Q1	X	201	-	31,34,34	1.71	6 (19%)	40,43,43	1.51	6 (15%)
57	ADP	w	401	-	24,29,29	3.13	6 (25%)	29,45,45	1.44	6 (20%)
49	PLX	C	302	-	51,51,51	1.15	4 (7%)	55,59,59	0.61	1 (1%)
52	FES	O	301	14	0,4,4	-	-	-		
55	CDL	a	201	-	90,90,99	1.14	9 (10%)	96,102,111	0.91	4 (4%)
48	PEE	b	201	-	45,45,50	1.23	5 (11%)	48,50,55	0.98	2 (4%)
45	SF4	M	802	12	0,12,12	-	-	-		

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
48	PEE	j	201	-	-	24/54/54/54	-
50	8Q1	G	201	-	-	19/41/41/41	-
49	PLX	g	201	-	-	22/55/55/55	-
46	FMN	A	502	-	-	6/18/18/18	0/3/3/3
45	SF4	C	301	16,3	-	-	0/6/5/5
45	SF4	A	501	1	-	-	0/6/5/5
55	CDL	r	505	-	-	60/110/110/110	-
52	FES	M	803	12	-	-	0/1/1/1
45	SF4	B	302	2	-	-	0/6/5/5
47	NAI	A	503	-	-	9/25/72/72	0/5/5/5
48	PEE	i	402	-	-	27/50/50/54	-
49	PLX	r	502	-	-	26/55/55/55	-
51	NDP	J	401	-	-	7/30/77/77	0/4/5/5
48	PEE	m	201	-	-	18/44/44/54	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
55	CDL	l	701	-	-	63/110/110/110	-
55	CDL	r	504	-	-	53/109/109/110	-
48	PEE	r	501	-	-	27/54/54/54	-
45	SF4	M	801	12	-	-	0/6/5/5
48	PEE	B	303	-	-	21/54/54/54	-
56	UQ	s	401	-	-	10/21/45/87	0/1/1/1
49	PLX	j	202	-	-	30/55/55/55	-
45	SF4	B	301	2	-	-	0/6/5/5
48	PEE	l	702	-	-	22/49/49/54	-
49	PLX	r	503	-	-	33/55/55/55	-
55	CDL	i	401	-	-	41/76/76/110	-
50	8Q1	X	201	-	-	13/41/41/41	-
57	ADP	w	401	-	-	4/12/32/32	0/3/3/3
49	PLX	C	302	-	-	24/55/55/55	-
52	FES	O	301	14	-	-	0/1/1/1
55	CDL	a	201	-	-	51/101/101/110	-
48	PEE	b	201	-	-	27/49/49/54	-
45	SF4	M	802	12	-	-	0/6/5/5

All (168) 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	-15.32	1.30	1.53
51	J	401	NDP	C3B-C2B	-12.82	1.24	1.52
51	J	401	NDP	C6N-C5N	12.45	1.55	1.33
51	J	401	NDP	O4D-C4D	10.79	1.69	1.45
47	A	503	NAI	C3D-C4D	-10.17	1.27	1.53
51	J	401	NDP	C3D-C4D	-9.80	1.28	1.53
56	s	401	UQ	C13-C14	9.32	1.55	1.33
56	s	401	UQ	C8-C9	8.95	1.54	1.33
57	w	401	ADP	C3'-C4'	-8.90	1.30	1.53
51	J	401	NDP	O4B-C1B	8.51	1.53	1.41
56	s	401	UQ	C18-C19	8.32	1.56	1.32
47	A	503	NAI	O4B-C4B	-8.13	1.26	1.45
51	J	401	NDP	O4B-C4B	-7.84	1.27	1.45
57	w	401	ADP	O4'-C4'	7.74	1.62	1.45
47	A	503	NAI	C2D-C1D	-7.53	1.29	1.53
51	J	401	NDP	C2N-C3N	7.46	1.55	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	A	503	NAI	O4D-C4D	7.04	1.60	1.45
57	w	401	ADP	O4'-C1'	-6.88	1.31	1.41
47	A	503	NAI	C2D-C3D	5.95	1.69	1.53
51	J	401	NDP	P2B-O2B	5.80	1.70	1.59
47	A	503	NAI	C7N-N7N	5.77	1.48	1.33
47	A	503	NAI	O4D-C1D	5.54	1.55	1.42
51	J	401	NDP	C3B-C4B	5.52	1.67	1.53
50	X	201	8Q1	C34-N36	5.46	1.45	1.33
50	G	201	8Q1	C34-N36	5.44	1.45	1.33
50	X	201	8Q1	C39-N41	5.42	1.45	1.33
50	G	201	8Q1	C39-N41	5.33	1.45	1.33
47	A	503	NAI	C4N-C3N	-5.03	1.40	1.49
51	J	401	NDP	C6N-N1N	4.91	1.49	1.37
51	J	401	NDP	O4D-C1D	-4.86	1.30	1.42
47	A	503	NAI	O2B-C2B	4.58	1.53	1.43
51	J	401	NDP	C7N-N7N	4.22	1.44	1.33
51	J	401	NDP	O2D-C2D	-4.14	1.33	1.43
51	J	401	NDP	C6A-N6A	4.07	1.48	1.34
47	A	503	NAI	C6N-C5N	3.95	1.40	1.33
57	w	401	ADP	C6-N6	3.88	1.48	1.34
46	A	502	FMN	C4A-N5	3.85	1.38	1.30
48	j	201	PEE	C18-C19	3.75	1.53	1.31
48	B	303	PEE	C18-C19	3.74	1.53	1.31
48	l	702	PEE	C18-C19	3.74	1.53	1.31
48	m	201	PEE	C18-C19	3.74	1.53	1.31
48	r	501	PEE	C18-C19	3.74	1.53	1.31
48	b	201	PEE	C18-C19	3.74	1.53	1.31
48	i	402	PEE	C18-C19	3.73	1.53	1.31
48	j	201	PEE	C39-C38	3.66	1.53	1.31
48	i	402	PEE	C39-C38	3.66	1.53	1.31
48	B	303	PEE	C39-C38	3.66	1.53	1.31
48	r	501	PEE	C39-C38	3.65	1.52	1.31
48	l	702	PEE	C39-C38	3.65	1.52	1.31
48	b	201	PEE	C39-C38	3.65	1.52	1.31
47	A	503	NAI	C6A-N6A	3.63	1.47	1.34
47	A	503	NAI	C7N-C3N	3.60	1.56	1.48
55	i	401	CDL	OA8-CA7	3.51	1.43	1.33
55	l	701	CDL	OA8-CA7	3.50	1.43	1.33
55	r	505	CDL	OA8-CA7	3.50	1.43	1.33
55	r	504	CDL	OA8-CA7	3.45	1.43	1.33
55	a	201	CDL	OA8-CA7	3.41	1.43	1.33
47	A	503	NAI	C4N-C5N	-3.36	1.40	1.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
57	w	401	ADP	O2'-C2'	-3.29	1.35	1.43
57	w	401	ADP	O3'-C3'	3.13	1.50	1.43
51	J	401	NDP	O3D-C3D	3.11	1.50	1.43
55	r	504	CDL	OB6-CB5	3.06	1.42	1.34
56	s	401	UQ	C6-C1	3.05	1.55	1.46
55	a	201	CDL	OB6-CB5	3.05	1.42	1.34
55	r	505	CDL	OB6-CB5	3.05	1.42	1.34
55	l	701	CDL	OB8-CB7	3.04	1.42	1.33
55	r	504	CDL	OB8-CB7	3.03	1.42	1.33
55	i	401	CDL	OB6-CB5	3.03	1.42	1.34
51	J	401	NDP	C7N-C3N	3.03	1.55	1.48
55	l	701	CDL	OB6-CB5	3.02	1.42	1.34
55	r	505	CDL	OB8-CB7	3.02	1.42	1.33
55	a	201	CDL	OA6-CA5	3.02	1.42	1.34
55	i	401	CDL	OB8-CB7	3.02	1.42	1.33
55	a	201	CDL	OB8-CB7	3.01	1.42	1.33
55	r	505	CDL	OA6-CA5	3.01	1.42	1.34
55	l	701	CDL	OA6-CA5	2.99	1.42	1.34
55	i	401	CDL	OA6-CA5	2.98	1.42	1.34
55	r	504	CDL	OA6-CA5	2.94	1.42	1.34
49	C	302	PLX	O6-C4	-2.74	1.40	1.44
49	g	201	PLX	O6-C4	-2.65	1.41	1.44
49	r	503	PLX	O6-C4	-2.62	1.41	1.44
49	j	202	PLX	O6-C4	-2.60	1.41	1.44
48	b	201	PEE	O3-C30	2.54	1.40	1.33
51	J	401	NDP	O2B-C2B	2.50	1.53	1.44
48	i	402	PEE	O3-C30	2.47	1.40	1.33
48	r	501	PEE	O3-C30	2.47	1.40	1.33
48	j	201	PEE	O3-C30	2.47	1.40	1.33
47	A	503	NAI	PN-O5D	2.47	1.69	1.59
48	m	201	PEE	O3-C30	2.46	1.40	1.33
48	l	702	PEE	O3-C30	2.45	1.40	1.33
50	X	201	8Q1	C1-S44	2.45	1.82	1.76
47	A	503	NAI	O3B-C3B	-2.45	1.37	1.43
48	B	303	PEE	O3-C30	2.44	1.40	1.33
46	A	502	FMN	C10-N1	2.43	1.38	1.33
48	l	702	PEE	O2-C10	2.41	1.41	1.34
49	r	502	PLX	C7-C6	2.40	1.55	1.50
48	m	201	PEE	O2-C10	2.40	1.41	1.34
48	B	303	PEE	O2-C2	-2.40	1.40	1.46
48	r	501	PEE	O2-C2	-2.40	1.40	1.46
49	j	202	PLX	C7-C6	2.39	1.55	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	r	504	CDL	OA6-CA4	-2.39	1.40	1.46
48	b	201	PEE	O2-C2	-2.38	1.40	1.46
56	s	401	UQ	C7-C8	2.38	1.54	1.50
50	G	201	8Q1	C1-S44	2.38	1.81	1.76
50	X	201	8Q1	C6-C1	2.38	1.53	1.50
48	j	201	PEE	O2-C2	-2.38	1.40	1.46
55	a	201	CDL	OA6-CA4	-2.36	1.40	1.46
55	r	505	CDL	OA6-CA4	-2.36	1.40	1.46
49	r	503	PLX	C7-C6	2.36	1.55	1.50
51	J	401	NDP	C2D-C3D	2.36	1.59	1.53
49	g	201	PLX	C7-C6	2.36	1.55	1.50
48	i	402	PEE	O2-C2	-2.35	1.40	1.46
55	l	701	CDL	OA6-CA4	-2.35	1.40	1.46
55	i	401	CDL	OA6-CA4	-2.34	1.40	1.46
49	C	302	PLX	C7-C6	2.30	1.55	1.50
48	l	702	PEE	O2-C2	-2.29	1.40	1.46
48	i	402	PEE	O2-C10	2.29	1.40	1.34
47	A	503	NAI	C5B-C4B	2.28	1.58	1.51
48	B	303	PEE	O2-C10	2.28	1.40	1.34
50	G	201	8Q1	O35-C34	-2.27	1.18	1.23
48	b	201	PEE	O2-C10	2.27	1.40	1.34
50	G	201	8Q1	C6-C1	2.26	1.53	1.50
48	j	201	PEE	O2-C10	2.26	1.40	1.34
48	m	201	PEE	O2-C2	-2.25	1.41	1.46
48	r	501	PEE	O2-C10	2.25	1.40	1.34
55	i	401	CDL	PB2-OB2	2.24	1.68	1.59
55	r	505	CDL	PB2-OB2	2.23	1.68	1.59
51	J	401	NDP	PA-O5B	2.23	1.68	1.59
50	G	201	8Q1	O40-C39	-2.23	1.18	1.23
55	r	504	CDL	PB2-OB2	2.21	1.68	1.59
55	i	401	CDL	PB2-OB5	2.20	1.68	1.59
50	X	201	8Q1	O35-C34	-2.20	1.19	1.23
55	r	504	CDL	PB2-OB5	2.20	1.68	1.59
55	l	701	CDL	PB2-OB2	2.19	1.68	1.59
55	a	201	CDL	PB2-OB2	2.19	1.68	1.59
56	s	401	UQ	O4-C4	-2.19	1.18	1.23
55	r	505	CDL	PB2-OB5	2.19	1.68	1.59
50	X	201	8Q1	O40-C39	-2.19	1.18	1.23
55	l	701	CDL	OB6-CB4	-2.18	1.41	1.46
49	g	201	PLX	P1-O4	2.18	1.68	1.59
49	r	502	PLX	O6-C4	-2.18	1.41	1.44
55	a	201	CDL	PB2-OB5	2.18	1.68	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	l	701	CDL	PB2-OB5	2.17	1.68	1.59
49	j	202	PLX	P1-O4	2.16	1.68	1.59
55	i	401	CDL	OB6-CB4	-2.16	1.41	1.46
49	r	503	PLX	P1-O4	2.16	1.68	1.59
49	r	502	PLX	P1-O4	2.15	1.68	1.59
49	C	302	PLX	P1-O4	2.15	1.68	1.59
48	m	201	PEE	O3-C3	-2.12	1.40	1.45
55	a	201	CDL	OB6-CB4	-2.11	1.41	1.46
56	s	401	UQ	C7-C6	2.11	1.54	1.51
55	r	504	CDL	OB6-CB4	-2.11	1.41	1.46
48	l	702	PEE	O3-C3	-2.09	1.40	1.45
51	J	401	NDP	O7N-C7N	-2.08	1.19	1.24
48	j	201	PEE	O3-C3	-2.08	1.40	1.45
55	r	505	CDL	OB6-CB4	-2.07	1.41	1.46
49	j	202	PLX	P1-O1	2.07	1.67	1.59
48	B	303	PEE	O3-C3	-2.07	1.40	1.45
48	r	501	PEE	O3-C3	-2.07	1.40	1.45
56	s	401	UQ	O1-C1	-2.06	1.18	1.23
56	s	401	UQ	O3-CM3	-2.06	1.40	1.45
48	i	402	PEE	O3-C3	-2.05	1.40	1.45
55	a	201	CDL	C11-CA5	2.04	1.56	1.50
49	C	302	PLX	P1-O1	2.04	1.67	1.59
49	r	503	PLX	P1-O1	2.04	1.67	1.59
49	r	502	PLX	P1-O1	2.04	1.67	1.59
49	g	201	PLX	P1-O1	2.01	1.67	1.59

All (91) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	s	401	UQ	C7-C8-C9	-8.23	113.10	126.79
51	J	401	NDP	C3N-C2N-N1N	-7.60	112.25	123.10
51	J	401	NDP	C1D-N1N-C2N	-6.93	109.57	121.11
56	s	401	UQ	C12-C13-C14	-5.94	113.36	127.66
50	X	201	8Q1	C6-C1-S44	5.71	120.10	113.46
50	G	201	8Q1	C6-C1-S44	5.62	120.00	113.46
56	s	401	UQ	C7-C6-C1	5.23	124.77	118.48
51	J	401	NDP	C1D-N1N-C6N	-5.16	109.72	120.83
56	s	401	UQ	C10-C9-C8	-4.50	112.14	123.68
57	w	401	ADP	N3-C2-N1	-4.48	121.67	128.68
47	A	503	NAI	N3A-C2A-N1A	-4.33	121.91	128.68
56	s	401	UQ	C15-C14-C13	-4.29	112.67	123.68
55	a	201	CDL	OA6-CA5-C11	4.17	120.49	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
55	r	504	CDL	OA6-CA5-C11	4.13	120.40	111.50
48	B	303	PEE	O2-C10-C11	4.10	120.34	111.50
51	J	401	NDP	N3A-C2A-N1A	-4.07	122.31	128.68
55	i	401	CDL	OA6-CA5-C11	4.07	120.26	111.50
48	r	501	PEE	O2-C10-C11	4.05	120.22	111.50
56	s	401	UQ	C16-C14-C13	-4.03	112.96	121.12
56	s	401	UQ	C11-C9-C8	-4.02	112.98	121.12
55	r	504	CDL	OB6-CB5-C51	3.99	120.09	111.50
55	r	505	CDL	OB6-CB5-C51	3.98	120.09	111.50
48	i	402	PEE	O2-C10-C11	3.96	120.04	111.50
48	l	702	PEE	O2-C10-C11	3.96	120.03	111.50
48	m	201	PEE	O2-C10-C11	3.95	120.01	111.50
48	b	201	PEE	O2-C10-C11	3.94	120.00	111.50
55	a	201	CDL	OB6-CB5-C51	3.93	119.97	111.50
55	i	401	CDL	OB6-CB5-C51	3.92	119.95	111.50
55	r	505	CDL	OA6-CA5-C11	3.91	119.93	111.50
48	j	201	PEE	O2-C10-C11	3.91	119.93	111.50
55	l	701	CDL	OA6-CA5-C11	3.89	119.89	111.50
56	s	401	UQ	C17-C18-C19	-3.80	114.76	127.75
55	l	701	CDL	OB6-CB5-C51	3.70	119.48	111.50
47	A	503	NAI	C3D-C2D-C1D	3.35	107.80	101.43
56	s	401	UQ	C21-C19-C18	-3.32	113.05	122.65
50	G	201	8Q1	O4-C1-C6	-3.32	120.07	123.99
50	X	201	8Q1	O4-C1-C6	-3.29	120.10	123.99
46	A	502	FMN	C4-N3-C2	-3.25	119.63	125.64
50	G	201	8Q1	C37-C38-C39	3.08	117.49	112.36
47	A	503	NAI	C2D-C3D-C4D	2.96	108.39	102.64
56	s	401	UQ	CM5-C5-C6	-2.91	119.66	124.40
56	s	401	UQ	C20-C19-C18	-2.88	114.31	122.65
48	B	303	PEE	O3-C30-C31	2.80	120.70	111.91
48	r	501	PEE	O3-C30-C31	2.71	120.40	111.91
55	i	401	CDL	OA8-CA7-C31	2.70	120.39	111.91
46	A	502	FMN	C4A-C4-N3	2.70	120.05	113.19
47	A	503	NAI	C4A-C5A-N7A	-2.67	106.61	109.40
55	a	201	CDL	OB8-CB7-C71	2.66	120.25	111.91
55	r	504	CDL	OA8-CA7-C31	2.64	120.20	111.91
48	b	201	PEE	O3-C30-C31	2.63	120.16	111.91
48	j	201	PEE	O3-C30-C31	2.62	120.14	111.91
55	i	401	CDL	OB8-CB7-C71	2.59	120.03	111.91
55	r	505	CDL	OA8-CA7-C31	2.59	120.02	111.91
55	l	701	CDL	OB8-CB7-C71	2.58	120.01	111.91
50	X	201	8Q1	C37-C38-C39	2.58	116.66	112.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
55	r	504	CDL	OB8-CB7-C71	2.58	120.00	111.91
48	l	702	PEE	O3-C30-C31	2.57	119.99	111.91
48	i	402	PEE	O3-C30-C31	2.57	119.98	111.91
47	A	503	NAI	PN-O3-PA	-2.57	124.00	132.83
51	J	401	NDP	PN-O3-PA	-2.56	124.03	132.83
46	A	502	FMN	O4-C4-C4A	-2.56	119.80	126.60
55	l	701	CDL	OA8-CA7-C31	2.54	119.88	111.91
57	w	401	ADP	PA-O3A-PB	-2.54	124.12	132.83
55	r	505	CDL	OB8-CB7-C71	2.53	119.86	111.91
55	a	201	CDL	OA8-CA7-C31	2.52	119.82	111.91
48	m	201	PEE	O3-C30-C31	2.50	119.75	111.91
46	A	502	FMN	C4A-C10-N10	2.49	120.12	116.48
49	r	503	PLX	C1A-N1-C1	2.49	120.10	109.92
49	r	502	PLX	C1A-N1-C1	2.46	119.99	109.92
49	g	201	PLX	C1A-N1-C1	2.46	119.97	109.92
47	A	503	NAI	C3B-C2B-C1B	2.45	104.66	100.98
56	s	401	UQ	C6-C5-C4	2.44	121.11	119.18
51	J	401	NDP	C4A-C5A-N7A	-2.39	106.91	109.40
51	J	401	NDP	C2B-C3B-C4B	2.36	107.12	101.99
50	X	201	8Q1	C38-C39-N41	2.33	120.35	116.42
49	j	202	PLX	C1A-N1-C1	2.32	119.40	109.92
50	G	201	8Q1	C43-S44-C1	2.31	109.07	101.87
47	A	503	NAI	C4D-O4D-C1D	-2.28	104.43	109.47
50	X	201	8Q1	C43-S44-C1	2.27	108.93	101.87
46	A	502	FMN	C4A-C10-N1	-2.25	119.51	124.73
49	C	302	PLX	C1A-N1-C1	2.24	119.10	109.92
50	G	201	8Q1	C38-C39-N41	2.24	120.19	116.42
57	w	401	ADP	O4'-C1'-C2'	-2.22	103.68	106.93
46	A	502	FMN	C10-C4A-N5	-2.22	120.15	124.86
50	X	201	8Q1	O4-C1-S44	-2.17	119.80	122.61
57	w	401	ADP	C4-C5-N7	-2.14	107.17	109.40
57	w	401	ADP	C3'-C2'-C1'	2.13	104.19	100.98
46	A	502	FMN	C9A-C5A-N5	-2.12	120.13	122.43
50	G	201	8Q1	O4-C1-S44	-2.07	119.93	122.61
57	w	401	ADP	C2'-C3'-C4'	2.03	106.58	102.64
46	A	502	FMN	C5A-C9A-N10	2.02	120.04	117.95

There are no chirality outliers.

All (637) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
46	A	502	FMN	N10-C1'-C2'-O2'

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Mol	Chain	Res	Type	Atoms
46	A	502	FMN	N10-C1'-C2'-C3'
46	A	502	FMN	C1'-C2'-C3'-O3'
46	A	502	FMN	C1'-C2'-C3'-C4'
47	A	503	NAI	C5B-O5B-PA-O1A
48	b	201	PEE	C1-O3P-P-O1P
48	b	201	PEE	O4P-C4-C5-N
48	i	402	PEE	C11-C10-O2-C2
48	i	402	PEE	C4-O4P-P-O1P
48	j	201	PEE	C17-C18-C19-C20
48	j	201	PEE	C11-C10-O2-C2
48	j	201	PEE	O4-C10-O2-C2
48	j	201	PEE	C1-O3P-P-O2P
48	j	201	PEE	C1-O3P-P-O1P
48	l	702	PEE	C11-C10-O2-C2
48	l	702	PEE	C4-O4P-P-O3P
48	l	702	PEE	C4-O4P-P-O2P
48	l	702	PEE	C4-O4P-P-O1P
48	m	201	PEE	C17-C18-C19-C20
48	m	201	PEE	C11-C10-O2-C2
48	r	501	PEE	C1-O3P-P-O1P
49	C	302	PLX	C3-O4-P1-O1
49	C	302	PLX	C3-O4-P1-O2
49	C	302	PLX	C3-O4-P1-O3
49	C	302	PLX	N1-C1-C2-O1
49	g	201	PLX	O7-C6-O6-C4
49	j	202	PLX	O7-C6-C7-C8
49	j	202	PLX	O7-C6-O6-C4
49	j	202	PLX	O9-C24-C25-C26
49	r	502	PLX	O7-C6-O6-C4
49	r	502	PLX	C5-C4-O6-C6
49	r	502	PLX	C2-O1-P1-O2
49	r	502	PLX	O9-C24-C25-C26
49	r	503	PLX	O7-C6-O6-C4
49	r	503	PLX	C2-O1-P1-O4
49	r	503	PLX	C2-O1-P1-O2
49	r	503	PLX	C2-O1-P1-O3
49	r	503	PLX	O9-C24-O8-C5
49	r	503	PLX	O9-C24-C25-C26
50	G	201	8Q1	O4-C1-S44-C43
50	G	201	8Q1	C6-C1-S44-C43
50	G	201	8Q1	C28-C29-C32-C34
50	G	201	8Q1	C28-C29-C32-O33

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Mol	Chain	Res	Type	Atoms
50	G	201	8Q1	C30-C29-C32-C34
50	G	201	8Q1	C30-C29-C32-O33
50	G	201	8Q1	C31-C29-C32-C34
50	G	201	8Q1	C31-C29-C32-O33
50	G	201	8Q1	N36-C37-C38-C39
50	G	201	8Q1	N41-C42-C43-S44
50	G	201	8Q1	C42-C43-S44-C1
50	G	201	8Q1	C28-O27-P24-O2
50	G	201	8Q1	C28-O27-P24-O1
50	X	201	8Q1	C28-C29-C32-C34
50	X	201	8Q1	C28-C29-C32-O33
50	X	201	8Q1	C30-C29-C32-C34
50	X	201	8Q1	C30-C29-C32-O33
50	X	201	8Q1	C31-C29-C32-C34
50	X	201	8Q1	C31-C29-C32-O33
50	X	201	8Q1	N36-C37-C38-C39
50	X	201	8Q1	C28-O27-P24-O2
50	X	201	8Q1	C28-O27-P24-O1
51	J	401	NDP	C2B-O2B-P2B-O1X
55	a	201	CDL	CA2-C1-CB2-OB2
55	a	201	CDL	CA2-OA2-PA1-OA3
55	a	201	CDL	CA3-OA5-PA1-OA4
55	a	201	CDL	OA5-CA3-CA4-OA6
55	a	201	CDL	CB2-OB2-PB2-OB3
55	a	201	CDL	CB3-OB5-PB2-OB2
55	a	201	CDL	CB3-OB5-PB2-OB3
55	a	201	CDL	CB3-OB5-PB2-OB4
55	i	401	CDL	CA2-OA2-PA1-OA4
55	i	401	CDL	CA3-OA5-PA1-OA2
55	i	401	CDL	CA3-OA5-PA1-OA3
55	i	401	CDL	CA3-OA5-PA1-OA4
55	i	401	CDL	CB2-OB2-PB2-OB4
55	i	401	CDL	CB3-OB5-PB2-OB2
55	i	401	CDL	CB3-OB5-PB2-OB3
55	l	701	CDL	CA2-OA2-PA1-OA4
55	l	701	CDL	CA2-OA2-PA1-OA5
55	l	701	CDL	CA3-OA5-PA1-OA4
55	l	701	CDL	OA6-CA4-CA6-OA8
55	l	701	CDL	CB2-OB2-PB2-OB3
55	l	701	CDL	CB2-OB2-PB2-OB4
55	l	701	CDL	CB2-OB2-PB2-OB5
55	l	701	CDL	OB6-CB4-CB6-OB8

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Mol	Chain	Res	Type	Atoms
55	r	504	CDL	O1-C1-CA2-OA2
55	r	504	CDL	O1-C1-CB2-OB2
55	r	504	CDL	CA2-C1-CB2-OB2
55	r	504	CDL	CA2-OA2-PA1-OA3
55	r	504	CDL	CB3-OB5-PB2-OB2
55	r	504	CDL	CB3-OB5-PB2-OB3
55	r	504	CDL	CB3-OB5-PB2-OB4
55	r	505	CDL	CA2-OA2-PA1-OA3
55	r	505	CDL	CA2-OA2-PA1-OA4
55	r	505	CDL	CA3-OA5-PA1-OA4
55	r	505	CDL	OA6-CA4-CA6-OA8
55	r	505	CDL	CB2-OB2-PB2-OB3
55	r	505	CDL	CB2-OB2-PB2-OB4
55	r	505	CDL	CB2-OB2-PB2-OB5
55	r	505	CDL	CB3-OB5-PB2-OB3
55	r	505	CDL	OB7-CB5-OB6-CB4
55	r	505	CDL	C51-CB5-OB6-CB4
56	s	401	UQ	C1-C6-C7-C8
56	s	401	UQ	C5-C6-C7-C8
56	s	401	UQ	C7-C8-C9-C10
56	s	401	UQ	C12-C11-C9-C8
56	s	401	UQ	C12-C13-C14-C16
57	w	401	ADP	C5'-O5'-PA-O2A
57	w	401	ADP	C5'-O5'-PA-O3A
55	r	504	CDL	OA9-CA7-OA8-CA6
48	i	402	PEE	O4-C10-O2-C2
48	l	702	PEE	O4-C10-O2-C2
48	m	201	PEE	O4-C10-O2-C2
55	i	401	CDL	OA9-CA7-OA8-CA6
55	r	504	CDL	C31-CA7-OA8-CA6
55	r	505	CDL	C71-CB7-OB8-CB6
48	b	201	PEE	C31-C30-O3-C3
48	l	702	PEE	C31-C30-O3-C3
55	i	401	CDL	C31-CA7-OA8-CA6
48	b	201	PEE	C37-C38-C39-C40
48	r	501	PEE	C17-C18-C19-C20
56	s	401	UQ	C17-C18-C19-C21
55	r	505	CDL	OB9-CB7-OB8-CB6
55	a	201	CDL	O1-C1-CB2-OB2
55	l	701	CDL	O1-C1-CB2-OB2
55	l	701	CDL	C71-CB7-OB8-CB6
48	l	702	PEE	O5-C30-O3-C3

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Mol	Chain	Res	Type	Atoms
48	b	201	PEE	C11-C10-O2-C2
55	a	201	CDL	C51-CB5-OB6-CB4
49	r	503	PLX	C12-C13-C14-C15
55	l	701	CDL	C11-C12-C13-C14
49	g	201	PLX	C7-C8-C9-C10
49	r	502	PLX	C9-C10-C11-C12
49	r	502	PLX	C30-C31-C32-C33
55	l	701	CDL	C59-C60-C61-C62
55	r	504	CDL	C32-C33-C34-C35
49	C	302	PLX	C28-C29-C30-C31
55	r	504	CDL	C62-C63-C64-C65
49	j	202	PLX	C28-C29-C30-C31
48	b	201	PEE	O5-C30-O3-C3
55	l	701	CDL	C35-C36-C37-C38
55	l	701	CDL	OB9-CB7-OB8-CB6
55	a	201	CDL	CB2-C1-CA2-OA2
55	r	504	CDL	CB2-C1-CA2-OA2
55	r	505	CDL	CB2-C1-CA2-OA2
48	m	201	PEE	C31-C30-O3-C3
55	a	201	CDL	C71-CB7-OB8-CB6
55	r	504	CDL	C71-CB7-OB8-CB6
48	m	201	PEE	C13-C14-C15-C16
55	i	401	CDL	C31-C32-C33-C34
48	l	702	PEE	O3P-C1-C2-O2
48	B	303	PEE	C12-C13-C14-C15
55	r	505	CDL	O1-C1-CA2-OA2
48	m	201	PEE	O5-C30-O3-C3
55	a	201	CDL	C31-C32-C33-C34
55	l	701	CDL	C39-C40-C41-C42
55	a	201	CDL	CA7-C31-C32-C33
55	i	401	CDL	CA7-C31-C32-C33
55	r	505	CDL	CB7-C71-C72-C73
48	b	201	PEE	C10-C11-C12-C13
55	l	701	CDL	CB7-C71-C72-C73
55	r	504	CDL	CB5-C51-C52-C53
55	r	504	CDL	CB7-C71-C72-C73
55	r	504	CDL	OB9-CB7-OB8-CB6
48	r	501	PEE	C10-C11-C12-C13
55	a	201	CDL	CB5-C51-C52-C53
55	i	401	CDL	CB7-C71-C72-C73
55	r	504	CDL	CA7-C31-C32-C33
48	r	501	PEE	C41-C42-C43-C44

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Mol	Chain	Res	Type	Atoms
48	b	201	PEE	O4-C10-O2-C2
49	r	503	PLX	C2-C1-N1-C1A
55	r	505	CDL	CA7-C31-C32-C33
55	r	504	CDL	C20-C21-C22-C23
55	r	505	CDL	C74-C75-C76-C77
55	a	201	CDL	O1-C1-CA2-OA2
55	i	401	CDL	O1-C1-CA2-OA2
55	a	201	CDL	OB7-CB5-OB6-CB4
55	a	201	CDL	OB9-CB7-OB8-CB6
48	B	303	PEE	C37-C38-C39-C40
48	i	402	PEE	C17-C18-C19-C20
48	j	201	PEE	C37-C38-C39-C40
49	j	202	PLX	C15-C16-C17-C18
55	l	701	CDL	C71-C72-C73-C74
48	j	201	PEE	C1-O3P-P-O4P
48	m	201	PEE	C4-O4P-P-O3P
55	a	201	CDL	CA3-OA5-PA1-OA2
55	i	401	CDL	CA2-OA2-PA1-OA5
55	i	401	CDL	CB2-OB2-PB2-OB5
55	l	701	CDL	CA3-OA5-PA1-OA2
55	l	701	CDL	CB3-OB5-PB2-OB2
55	r	504	CDL	CA2-OA2-PA1-OA5
55	r	505	CDL	CA3-OA5-PA1-OA2
51	J	401	NDP	C2D-C1D-N1N-C6N
55	i	401	CDL	CB2-C1-CA2-OA2
55	r	505	CDL	C73-C74-C75-C76
48	b	201	PEE	C22-C23-C24-C25
48	j	201	PEE	C43-C44-C45-C46
48	l	702	PEE	C21-C22-C23-C24
48	r	501	PEE	C20-C21-C22-C23
49	g	201	PLX	C30-C31-C32-C33
49	g	201	PLX	C32-C33-C34-C35
49	g	201	PLX	C33-C34-C35-C36
49	r	502	PLX	C15-C16-C17-C18
55	a	201	CDL	C37-C38-C39-C40
55	i	401	CDL	C11-C12-C13-C14
55	r	504	CDL	C71-C72-C73-C74
55	r	504	CDL	C75-C76-C77-C78
55	r	505	CDL	C55-C56-C57-C58
49	j	202	PLX	C10-C11-C12-C13
49	j	202	PLX	C25-C26-C27-C28
55	r	504	CDL	C73-C74-C75-C76

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Mol	Chain	Res	Type	Atoms
49	j	202	PLX	C27-C28-C29-C30
55	l	701	CDL	C37-C38-C39-C40
55	l	701	CDL	C60-C61-C62-C63
48	B	303	PEE	C17-C18-C19-C20
49	r	502	PLX	C27-C28-C29-C30
55	r	505	CDL	C75-C76-C77-C78
49	g	201	PLX	C10-C11-C12-C13
49	g	201	PLX	C28-C29-C30-C31
55	l	701	CDL	C75-C76-C77-C78
55	r	504	CDL	C56-C57-C58-C59
55	r	505	CDL	C56-C57-C58-C59
55	r	505	CDL	CB5-C51-C52-C53
49	r	503	PLX	C14-C15-C16-C17
49	r	503	PLX	C27-C28-C29-C30
55	l	701	CDL	C55-C56-C57-C58
55	l	701	CDL	C73-C74-C75-C76
49	g	201	PLX	C11-C10-C9-C8
49	r	503	PLX	C33-C34-C35-C36
55	a	201	CDL	C71-C72-C73-C74
55	a	201	CDL	C75-C76-C77-C78
48	b	201	PEE	C33-C34-C35-C36
49	j	202	PLX	C12-C13-C14-C15
49	r	503	PLX	C25-C26-C27-C28
55	i	401	CDL	C35-C36-C37-C38
55	r	505	CDL	C52-C53-C54-C55
49	g	201	PLX	C9-C10-C11-C12
49	g	201	PLX	C27-C28-C29-C30
49	r	502	PLX	C28-C29-C30-C31
55	i	401	CDL	C52-C53-C54-C55
48	r	501	PEE	C11-C10-O2-C2
49	C	302	PLX	C7-C8-C9-C10
49	r	503	PLX	C16-C17-C18-C19
55	l	701	CDL	C40-C41-C42-C43
55	r	504	CDL	C81-C82-C83-C84
48	i	402	PEE	C19-C20-C21-C22
48	r	501	PEE	C31-C32-C33-C34
49	C	302	PLX	C17-C18-C19-C20
49	j	202	PLX	C7-C8-C9-C10
49	r	503	PLX	C11-C12-C13-C14
55	l	701	CDL	C52-C53-C54-C55
55	l	701	CDL	C54-C55-C56-C57
55	r	504	CDL	C35-C36-C37-C38

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Mol	Chain	Res	Type	Atoms
55	r	505	CDL	C71-C72-C73-C74
49	r	503	PLX	C2-C1-N1-C1C
49	r	502	PLX	C10-C11-C12-C13
48	l	702	PEE	O4P-C4-C5-N
55	a	201	CDL	C13-C14-C15-C16
55	l	701	CDL	C56-C57-C58-C59
49	r	502	PLX	C33-C34-C35-C36
55	r	504	CDL	C14-C15-C16-C17
49	g	201	PLX	C25-C26-C27-C28
55	a	201	CDL	C21-C22-C23-C24
49	r	502	PLX	C31-C32-C33-C34
55	i	401	CDL	CB5-C51-C52-C53
48	B	303	PEE	C32-C33-C34-C35
48	b	201	PEE	C14-C15-C16-C17
48	b	201	PEE	C31-C32-C33-C34
48	l	702	PEE	C37-C38-C39-C40
48	B	303	PEE	C33-C34-C35-C36
49	r	503	PLX	C13-C14-C15-C16
55	l	701	CDL	C63-C64-C65-C66
48	l	702	PEE	C31-C32-C33-C34
55	i	401	CDL	C71-CB7-OB8-CB6
49	C	302	PLX	C15-C16-C17-C18
49	C	302	PLX	O7-C6-C7-C8
48	m	201	PEE	C11-C12-C13-C14
55	r	504	CDL	C54-C55-C56-C57
48	B	303	PEE	C15-C16-C17-C18
49	C	302	PLX	C11-C12-C13-C14
55	r	505	CDL	C43-C44-C45-C46
48	r	501	PEE	O4-C10-O2-C2
48	b	201	PEE	C13-C14-C15-C16
49	r	503	PLX	C28-C29-C30-C31
55	i	401	CDL	C71-C72-C73-C74
48	i	402	PEE	C11-C12-C13-C14
55	i	401	CDL	C32-C33-C34-C35
55	r	504	CDL	C39-C40-C41-C42
49	r	502	PLX	C14-C15-C16-C17
56	s	401	UQ	C12-C11-C9-C10
56	s	401	UQ	C13-C14-C16-C17
55	i	401	CDL	OB9-CB7-OB8-CB6
49	j	202	PLX	C13-C14-C15-C16
48	i	402	PEE	C35-C36-C37-C38
48	m	201	PEE	C15-C16-C17-C18

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Mol	Chain	Res	Type	Atoms
48	r	501	PEE	C19-C20-C21-C22
48	B	303	PEE	O4-C10-O2-C2
49	r	503	PLX	C10-C11-C12-C13
49	C	302	PLX	C33-C34-C35-C36
49	j	202	PLX	C9-C10-C11-C12
48	i	402	PEE	C13-C14-C15-C16
48	B	303	PEE	C11-C10-O2-C2
49	C	302	PLX	O4-C3-C4-O6
48	i	402	PEE	C14-C15-C16-C17
49	r	502	PLX	C12-C13-C14-C15
55	r	505	CDL	C32-C33-C34-C35
55	r	505	CDL	C42-C43-C44-C45
48	r	501	PEE	C36-C37-C38-C39
48	B	303	PEE	C21-C22-C23-C24
49	C	302	PLX	C9-C10-C11-C12
55	r	504	CDL	OB6-CB4-CB6-OB8
55	l	701	CDL	C17-C18-C19-C20
49	r	503	PLX	C2-C1-N1-C1B
48	j	201	PEE	C23-C24-C25-C26
55	r	505	CDL	C41-C42-C43-C44
55	r	505	CDL	C62-C63-C64-C65
48	j	201	PEE	C19-C20-C21-C22
49	r	503	PLX	C30-C31-C32-C33
48	m	201	PEE	C33-C34-C35-C36
49	C	302	PLX	C30-C31-C32-C33
49	j	202	PLX	C26-C27-C28-C29
55	l	701	CDL	C57-C58-C59-C60
48	B	303	PEE	C42-C43-C44-C45
49	r	502	PLX	C16-C17-C18-C19
49	C	302	PLX	C31-C32-C33-C34
55	a	201	CDL	C54-C55-C56-C57
48	j	201	PEE	C36-C37-C38-C39
46	A	502	FMN	O2'-C2'-C3'-C4'
49	r	502	PLX	C2-O1-P1-O4
55	a	201	CDL	CA2-OA2-PA1-OA5
55	r	505	CDL	CA2-OA2-PA1-OA5
55	r	505	CDL	CB3-OB5-PB2-OB2
55	a	201	CDL	OB5-CB3-CB4-CB6
55	a	201	CDL	C14-C15-C16-C17
55	l	701	CDL	C58-C59-C60-C61
48	B	303	PEE	C14-C15-C16-C17
48	B	303	PEE	C39-C40-C41-C42

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Mol	Chain	Res	Type	Atoms
48	b	201	PEE	C15-C16-C17-C18
49	j	202	PLX	C34-C35-C36-C37
48	B	303	PEE	C31-C30-O3-C3
49	r	503	PLX	C9-C10-C11-C12
55	i	401	CDL	C36-C37-C38-C39
48	b	201	PEE	C32-C33-C34-C35
49	r	503	PLX	C31-C32-C33-C34
55	r	504	CDL	C74-C75-C76-C77
55	l	701	CDL	C51-CB5-OB6-CB4
48	b	201	PEE	C1-C2-C3-O3
48	i	402	PEE	C1-C2-C3-O3
49	r	503	PLX	C3-C4-C5-O8
55	a	201	CDL	C34-C35-C36-C37
55	l	701	CDL	CB3-CB4-CB6-OB8
55	r	504	CDL	CB3-CB4-CB6-OB8
49	C	302	PLX	C27-C28-C29-C30
55	i	401	CDL	C14-C15-C16-C17
49	g	201	PLX	C12-C13-C14-C15
55	l	701	CDL	C77-C78-C79-C80
55	r	504	CDL	C55-C56-C57-C58
55	r	505	CDL	C59-C60-C61-C62
48	b	201	PEE	C34-C35-C36-C37
48	r	501	PEE	C44-C45-C46-C47
49	j	202	PLX	C11-C12-C13-C14
48	l	702	PEE	C22-C23-C24-C25
55	l	701	CDL	C64-C65-C66-C67
55	a	201	CDL	CA5-C11-C12-C13
49	j	202	PLX	C30-C31-C32-C33
55	r	505	CDL	C84-C85-C86-C87
55	a	201	CDL	C11-C12-C13-C14
50	G	201	8Q1	C28-O27-P24-O3
50	X	201	8Q1	C28-O27-P24-O3
49	C	302	PLX	C16-C17-C18-C19
55	i	401	CDL	C33-C34-C35-C36
48	j	201	PEE	C31-C30-O3-C3
49	r	503	PLX	C29-C30-C31-C32
48	l	702	PEE	C32-C33-C34-C35
55	r	504	CDL	C51-C52-C53-C54
49	r	503	PLX	C26-C27-C28-C29
55	a	201	CDL	C55-C56-C57-C58
55	r	504	CDL	C11-C12-C13-C14
48	r	501	PEE	C21-C22-C23-C24

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Mol	Chain	Res	Type	Atoms
48	i	402	PEE	C23-C24-C25-C26
48	B	303	PEE	O5-C30-O3-C3
49	r	502	PLX	C13-C14-C15-C16
50	G	201	8Q1	C12-C13-C14-C15
47	A	503	NAI	C3D-C4D-C5D-O5D
48	l	702	PEE	O3P-C1-C2-C3
49	C	302	PLX	O4-C3-C4-C5
55	a	201	CDL	OA5-CA3-CA4-CA6
56	s	401	UQ	C14-C16-C17-C18
48	B	303	PEE	C20-C21-C22-C23
48	r	501	PEE	C31-C30-O3-C3
55	a	201	CDL	C73-C74-C75-C76
49	g	201	PLX	C13-C14-C15-C16
49	r	503	PLX	C36-C37-C38-C39
55	i	401	CDL	C73-C74-C75-C76
49	j	202	PLX	C31-C32-C33-C34
55	r	505	CDL	C17-C18-C19-C20
55	a	201	CDL	C74-C75-C76-C77
55	r	504	CDL	C36-C37-C38-C39
48	r	501	PEE	C1-C2-C3-O3
49	j	202	PLX	C3-C4-C5-O8
55	l	701	CDL	CA3-CA4-CA6-OA8
55	r	505	CDL	CA3-CA4-CA6-OA8
55	r	505	CDL	CB3-CB4-CB6-OB8
49	j	202	PLX	C14-C15-C16-C17
49	r	502	PLX	C7-C8-C9-C10
48	i	402	PEE	C4-O4P-P-O3P
49	r	503	PLX	C5-C4-O6-C6
48	l	702	PEE	C30-C31-C32-C33
48	j	201	PEE	O5-C30-O3-C3
49	g	201	PLX	O9-C24-C25-C26
49	j	202	PLX	O4-C3-C4-O6
55	a	201	CDL	OB5-CB3-CB4-OB6
49	g	201	PLX	C14-C15-C16-C17
49	r	502	PLX	C29-C30-C31-C32
55	l	701	CDL	O1-C1-CA2-OA2
48	j	201	PEE	C44-C45-C46-C47
50	G	201	8Q1	C10-C11-C12-C13
48	b	201	PEE	O2-C2-C3-O3
48	l	702	PEE	O2-C2-C3-O3
48	r	501	PEE	O2-C2-C3-O3
49	j	202	PLX	O6-C4-C5-O8

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Mol	Chain	Res	Type	Atoms
55	i	401	CDL	OB6-CB4-CB6-OB8
55	r	505	CDL	OB6-CB4-CB6-OB8
49	C	302	PLX	C13-C14-C15-C16
55	l	701	CDL	CA2-C1-CB2-OB2
55	a	201	CDL	C72-C73-C74-C75
55	l	701	CDL	OB7-CB5-OB6-CB4
55	r	505	CDL	C80-C81-C82-C83
55	l	701	CDL	C72-C73-C74-C75
48	i	402	PEE	C2-C1-O3P-P
55	r	505	CDL	CB4-CB3-OB5-PB2
48	B	303	PEE	C36-C37-C38-C39
47	A	503	NAI	C2D-C1D-N1N-C2N
48	i	402	PEE	C24-C25-C26-C27
48	B	303	PEE	O3P-C1-C2-C3
48	b	201	PEE	O3P-C1-C2-C3
49	j	202	PLX	O4-C3-C4-C5
55	r	505	CDL	C51-C52-C53-C54
49	r	503	PLX	C7-C8-C9-C10
50	X	201	8Q1	O33-C32-C34-N36
49	r	502	PLX	C26-C27-C28-C29
48	r	501	PEE	C22-C23-C24-C25
55	r	505	CDL	C79-C80-C81-C82
48	j	201	PEE	C38-C39-C40-C41
55	a	201	CDL	C60-C61-C62-C63
55	r	504	CDL	C42-C43-C44-C45
55	r	505	CDL	C82-C83-C84-C85
48	j	201	PEE	C21-C22-C23-C24
49	j	202	PLX	C7-C6-O6-C4
49	r	502	PLX	C3-C4-C5-O8
48	r	501	PEE	C12-C13-C14-C15
55	l	701	CDL	C14-C15-C16-C17
55	r	505	CDL	C60-C61-C62-C63
48	b	201	PEE	O3P-C1-C2-O2
49	j	202	PLX	C32-C33-C34-C35
48	r	501	PEE	O5-C30-O3-C3
55	l	701	CDL	C31-C32-C33-C34
55	r	505	CDL	C44-C45-C46-C47
49	r	502	PLX	O6-C4-C5-O8
48	i	402	PEE	C31-C32-C33-C34
55	i	401	CDL	C37-C38-C39-C40
48	i	402	PEE	C21-C22-C23-C24
47	A	503	NAI	C5B-O5B-PA-O3

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Mol	Chain	Res	Type	Atoms
55	r	504	CDL	C11-CA5-OA6-CA4
48	l	702	PEE	C15-C16-C17-C18
48	b	201	PEE	C11-C12-C13-C14
55	r	505	CDL	C64-C65-C66-C67
48	i	402	PEE	C18-C19-C20-C21
55	l	701	CDL	C62-C63-C64-C65
55	r	504	CDL	C78-C79-C80-C81
48	i	402	PEE	C10-C11-C12-C13
55	i	401	CDL	C15-C16-C17-C18
55	r	504	CDL	C33-C34-C35-C36
55	r	505	CDL	C16-C17-C18-C19
55	a	201	CDL	C76-C77-C78-C79
48	r	501	PEE	C4-O4P-P-O3P
49	g	201	PLX	C3-O4-P1-O1
55	a	201	CDL	CB2-OB2-PB2-OB5
55	r	504	CDL	CB2-OB2-PB2-OB5
55	a	201	CDL	C52-C53-C54-C55
48	m	201	PEE	C4-O4P-P-O2P
48	m	201	PEE	C4-O4P-P-O1P
49	r	502	PLX	C2-O1-P1-O3
55	a	201	CDL	CA2-OA2-PA1-OA4
55	a	201	CDL	CB2-OB2-PB2-OB4
55	i	401	CDL	CA2-OA2-PA1-OA3
55	i	401	CDL	CB2-OB2-PB2-OB3
55	l	701	CDL	CA2-OA2-PA1-OA3
55	l	701	CDL	CB3-OB5-PB2-OB3
55	l	701	CDL	CB3-OB5-PB2-OB4
55	r	504	CDL	CB2-OB2-PB2-OB3
55	r	505	CDL	CA3-OA5-PA1-OA3
57	w	401	ADP	C5'-O5'-PA-O1A
48	r	501	PEE	O3P-C1-C2-C3
49	j	202	PLX	C33-C34-C35-C36
56	s	401	UQ	C17-C18-C19-C20
48	m	201	PEE	C24-C25-C26-C27
55	r	505	CDL	C54-C55-C56-C57
49	g	201	PLX	C25-C24-O8-C5
49	j	202	PLX	C25-C24-O8-C5
55	r	504	CDL	C37-C38-C39-C40
55	l	701	CDL	C33-C34-C35-C36
49	C	302	PLX	C25-C26-C27-C28
48	B	303	PEE	O3P-C1-C2-O2
48	r	501	PEE	O3P-C1-C2-O2

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Mol	Chain	Res	Type	Atoms
55	i	401	CDL	OA5-CA3-CA4-OA6
51	J	401	NDP	O4D-C1D-N1N-C6N
55	r	505	CDL	C15-C16-C17-C18
48	l	702	PEE	C1-C2-C3-O3
55	r	504	CDL	OA7-CA5-OA6-CA4
49	r	503	PLX	O6-C4-C5-O8
55	r	505	CDL	C14-C15-C16-C17
55	r	505	CDL	C12-C13-C14-C15
48	r	501	PEE	C16-C17-C18-C19
55	a	201	CDL	C31-CA7-OA8-CA6
48	r	501	PEE	C13-C14-C15-C16
49	j	202	PLX	O6-C6-C7-C8
49	r	502	PLX	O8-C24-C25-C26
49	r	503	PLX	O8-C24-C25-C26
55	a	201	CDL	OA9-CA7-OA8-CA6
48	b	201	PEE	C16-C17-C18-C19
46	A	502	FMN	O2'-C2'-C3'-O3'
47	A	503	NAI	O4D-C1D-N1N-C2N
51	J	401	NDP	O4D-C4D-C5D-O5D
48	b	201	PEE	C18-C19-C20-C21
55	i	401	CDL	C34-C35-C36-C37
55	l	701	CDL	C12-C13-C14-C15
55	i	401	CDL	OA5-CA3-CA4-CA6
55	l	701	CDL	OA5-CA3-CA4-CA6
48	m	201	PEE	C31-C32-C33-C34
49	g	201	PLX	O4-C3-C4-O6
55	l	701	CDL	OA5-CA3-CA4-OA6
48	B	303	PEE	C23-C24-C25-C26
55	a	201	CDL	C11-CA5-OA6-CA4
48	b	201	PEE	C38-C39-C40-C41
48	i	402	PEE	O2-C2-C3-O3
55	l	701	CDL	C21-C22-C23-C24
55	l	701	CDL	C44-C45-C46-C47
48	b	201	PEE	C1-O3P-P-O4P
48	j	201	PEE	C4-O4P-P-O3P
49	r	503	PLX	C3-O4-P1-O1
48	r	501	PEE	C30-C31-C32-C33
55	i	401	CDL	C75-C76-C77-C78
48	B	303	PEE	C24-C25-C26-C27
48	j	201	PEE	C12-C13-C14-C15
48	j	201	PEE	C40-C41-C42-C43
55	r	505	CDL	C1-CB2-OB2-PB2

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Mol	Chain	Res	Type	Atoms
55	l	701	CDL	C18-C19-C20-C21
48	i	402	PEE	C30-C31-C32-C33
55	a	201	CDL	OA7-CA5-OA6-CA4
55	r	504	CDL	C52-C53-C54-C55
48	i	402	PEE	C16-C17-C18-C19
51	J	401	NDP	O4B-C4B-C5B-O5B
48	i	402	PEE	O3P-C1-C2-C3
48	m	201	PEE	O4P-C4-C5-N
48	i	402	PEE	C22-C23-C24-C25
48	l	702	PEE	C39-C40-C41-C42
49	g	201	PLX	O8-C24-C25-C26
47	A	503	NAI	C2D-C1D-N1N-C6N
48	B	303	PEE	C13-C14-C15-C16
49	C	302	PLX	C36-C37-C38-C39
55	i	401	CDL	CB3-CB4-CB6-OB8
48	m	201	PEE	C3-C2-O2-C10
55	r	505	CDL	C20-C21-C22-C23
50	G	201	8Q1	C9-C10-C11-C12
49	g	201	PLX	O4-C3-C4-C5
55	r	504	CDL	C44-C45-C46-C47
49	C	302	PLX	C18-C19-C20-C21
50	X	201	8Q1	C42-C43-S44-C1
50	G	201	8Q1	C11-C10-C9-C8
48	m	201	PEE	C18-C19-C20-C21
48	j	201	PEE	C42-C43-C44-C45
55	r	504	CDL	C82-C83-C84-C85
55	r	504	CDL	C23-C24-C25-C26
55	r	505	CDL	OA9-CA7-OA8-CA6
48	j	201	PEE	C30-C31-C32-C33
55	r	505	CDL	C31-CA7-OA8-CA6
48	r	501	PEE	C11-C12-C13-C14
47	A	503	NAI	O4D-C1D-N1N-C6N
55	r	505	CDL	C31-C32-C33-C34
55	r	505	CDL	C76-C77-C78-C79
49	j	202	PLX	O8-C24-C25-C26
50	G	201	8Q1	C1-C6-C7-C8
55	i	401	CDL	OA6-CA4-CA6-OA8
55	a	201	CDL	C43-C44-C45-C46
47	A	503	NAI	O4D-C4D-C5D-O5D
51	J	401	NDP	C3D-C4D-C5D-O5D
55	l	701	CDL	C41-C42-C43-C44
55	a	201	CDL	C20-C21-C22-C23

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Mol	Chain	Res	Type	Atoms
48	i	402	PEE	C36-C37-C38-C39
48	l	702	PEE	C36-C37-C38-C39
48	i	402	PEE	C32-C33-C34-C35
55	a	201	CDL	C35-C36-C37-C38
55	i	401	CDL	CA3-CA4-CA6-OA8
55	l	701	CDL	C12-C11-CA5-OA6
55	r	504	CDL	C72-C71-CB7-OB8
48	j	201	PEE	C16-C17-C18-C19
48	l	702	PEE	C16-C17-C18-C19
55	l	701	CDL	C76-C77-C78-C79
55	r	504	CDL	C12-C11-CA5-OA6
49	r	503	PLX	C24-C25-C26-C27
48	j	201	PEE	O2-C10-C11-C12
49	j	202	PLX	C18-C19-C20-C21
48	i	402	PEE	C38-C39-C40-C41
57	w	401	ADP	PB-O3A-PA-O2A
55	r	504	CDL	C61-C62-C63-C64
55	l	701	CDL	C43-C44-C45-C46
55	r	504	CDL	C72-C71-CB7-OB9
55	l	701	CDL	C32-C31-CA7-OA8
48	i	402	PEE	C34-C35-C36-C37
48	j	201	PEE	O4-C10-C11-C12
47	A	503	NAI	C2N-C3N-C7N-N7N
48	m	201	PEE	C1-O3P-P-O1P
48	r	501	PEE	C4-O4P-P-O1P
49	C	302	PLX	C2-O1-P1-O3
49	g	201	PLX	C3-O4-P1-O2
49	g	201	PLX	C2-O1-P1-O2
49	r	502	PLX	C3-O4-P1-O2
49	r	503	PLX	C3-O4-P1-O2
51	J	401	NDP	C5B-O5B-PA-O1A
49	C	302	PLX	C11-C10-C9-C8
55	l	701	CDL	C12-C11-CA5-OA7
55	l	701	CDL	C82-C83-C84-C85
55	r	504	CDL	C12-C11-CA5-OA7
49	j	202	PLX	C11-C10-C9-C8
48	b	201	PEE	C5-C4-O4P-P
49	r	502	PLX	C25-C24-O8-C5
50	X	201	8Q1	C29-C32-C34-O35
55	i	401	CDL	C72-C73-C74-C75
55	r	504	CDL	C83-C84-C85-C86
55	l	701	CDL	C32-C33-C34-C35

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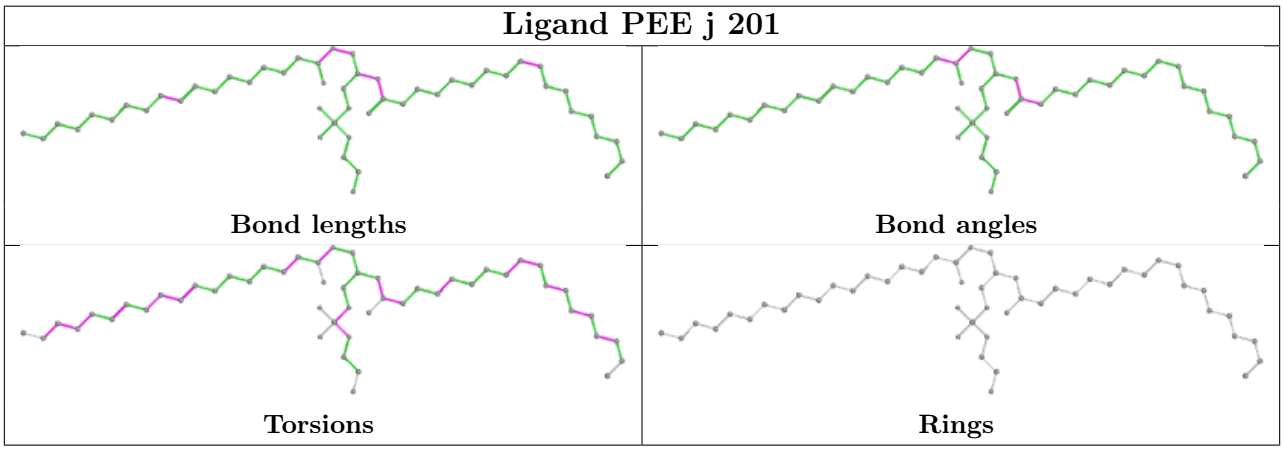
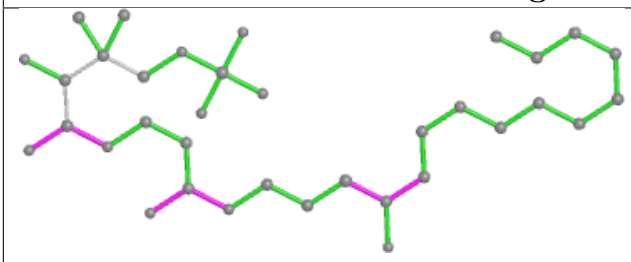
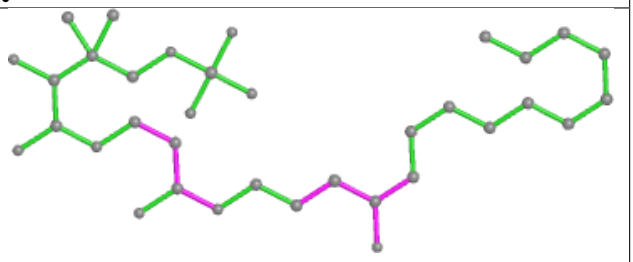
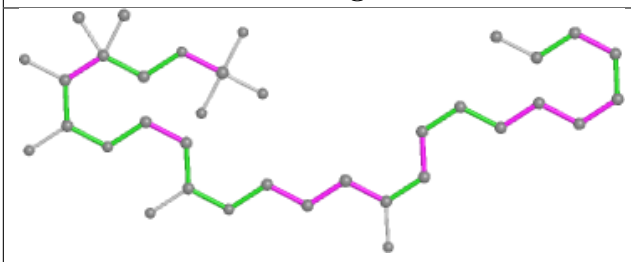
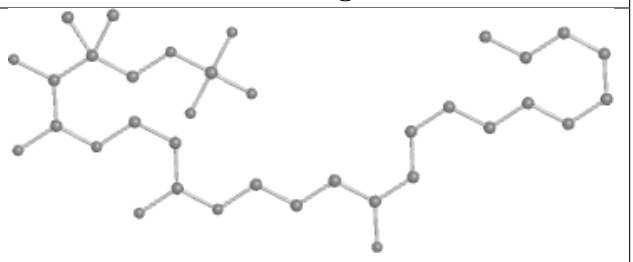
Mol	Chain	Res	Type	Atoms
55	r	505	CDL	C39-C40-C41-C42
55	r	505	CDL	OB5-CB3-CB4-OB6
48	r	501	PEE	C38-C39-C40-C41
55	a	201	CDL	C58-C59-C60-C61
48	b	201	PEE	O3-C30-C31-C32
55	l	701	CDL	C32-C31-CA7-OA9

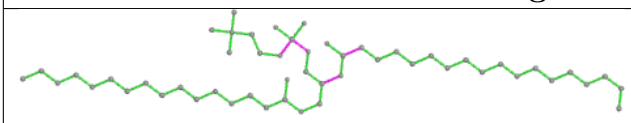
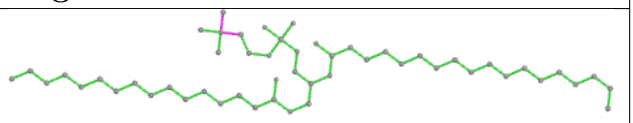
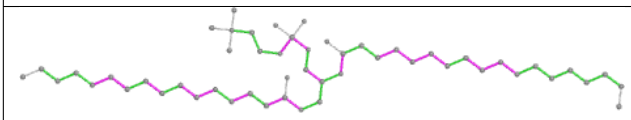
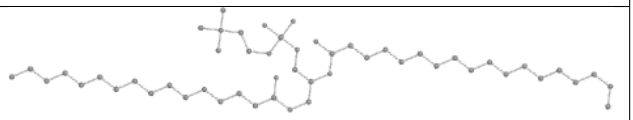
There are no ring outliers.

No monomer is involved in short contacts.

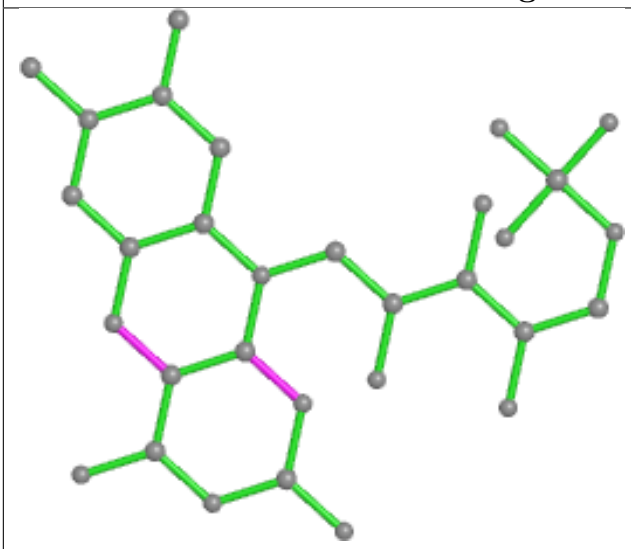
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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



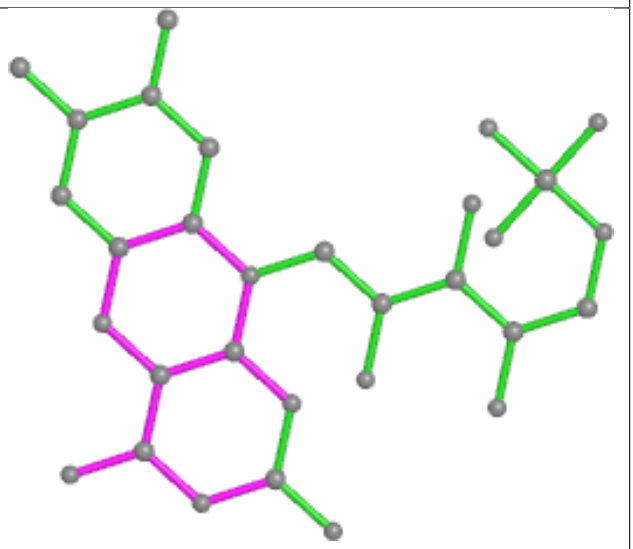
Ligand 8Q1 G 201	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand PLX g 201	
	
Bond lengths	Bond angles
	
Torsions	Rings

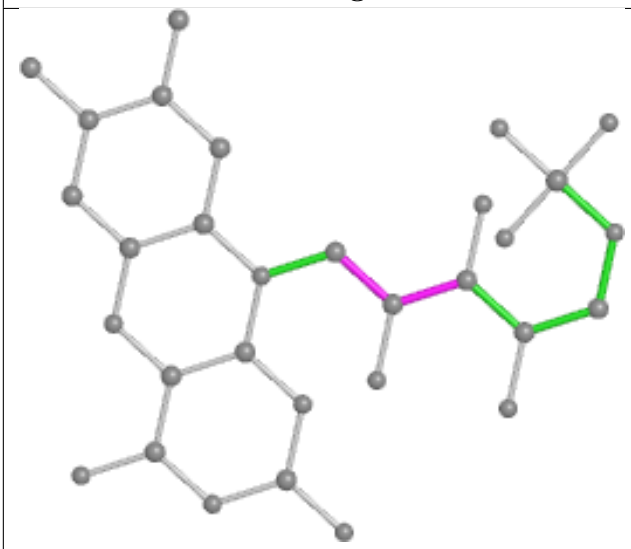
Ligand FMN A 502



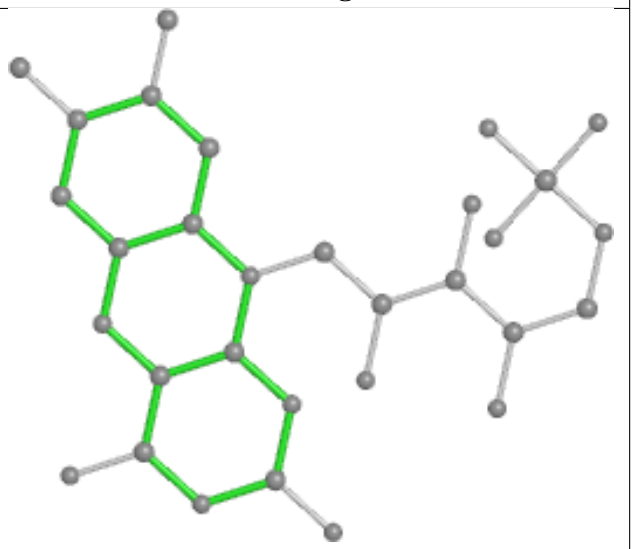
Bond lengths



Bond angles

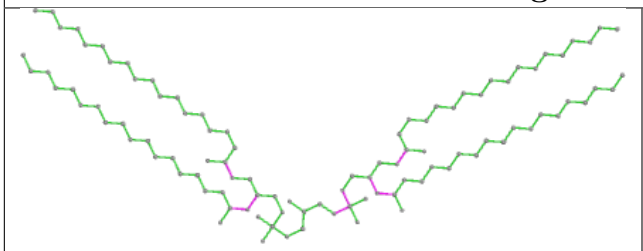


Torsions



Rings

Ligand CDL r 505



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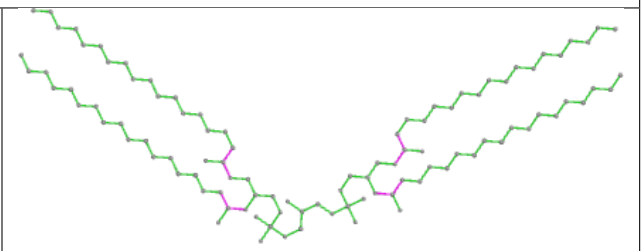
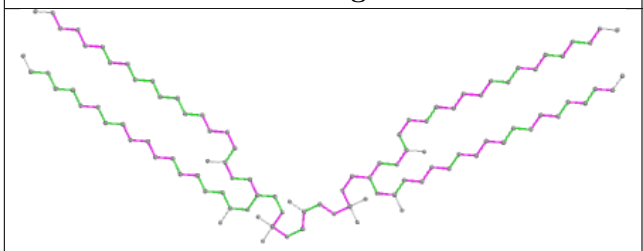


Bond angles



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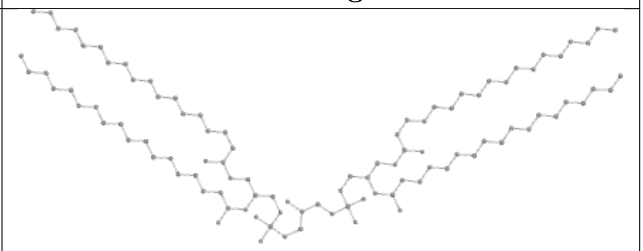
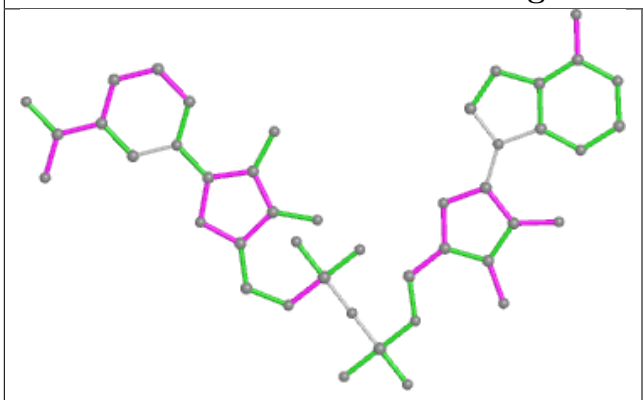


Rings

Ligand NAI A 503



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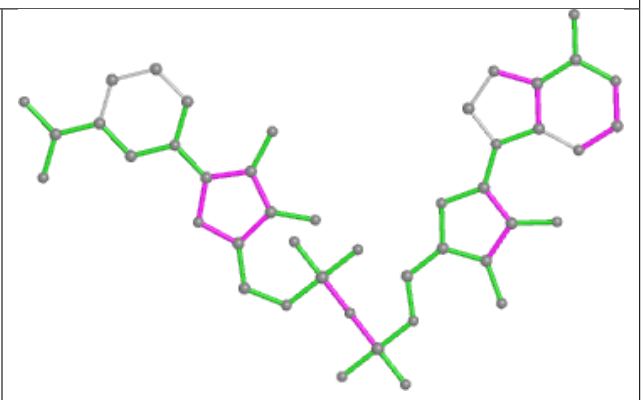

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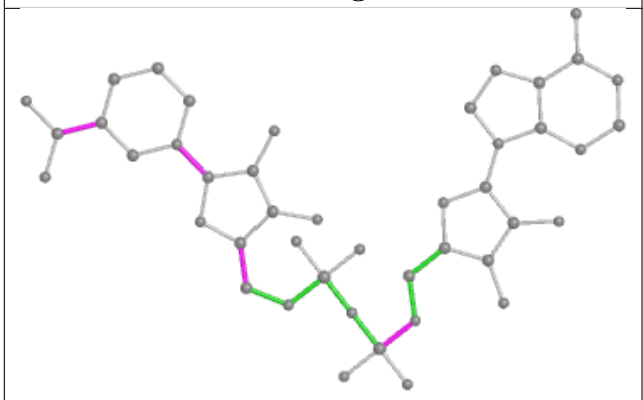

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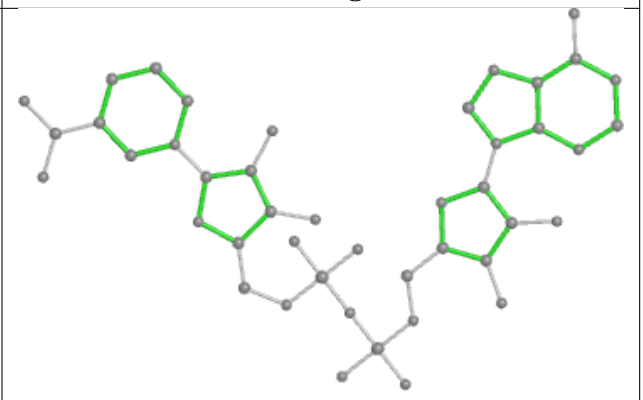
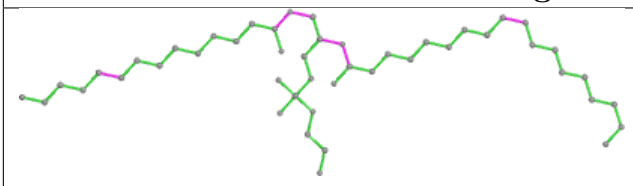


Rings

Ligand PEE i 402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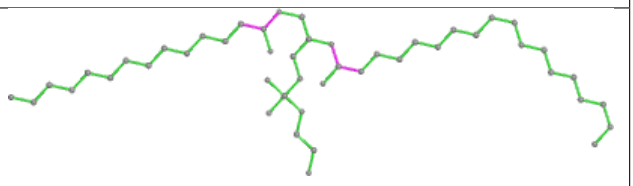
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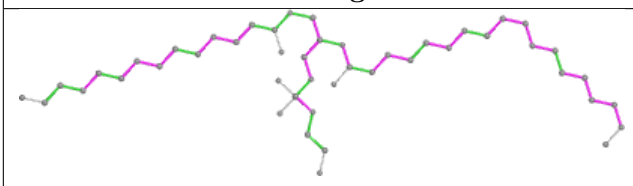
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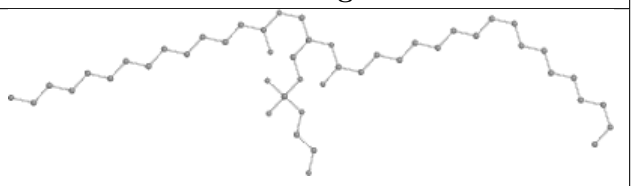
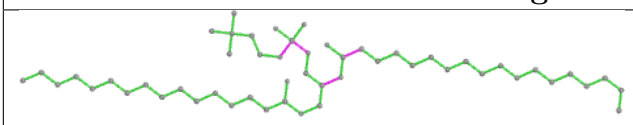

Rings

Ligand PLX r 502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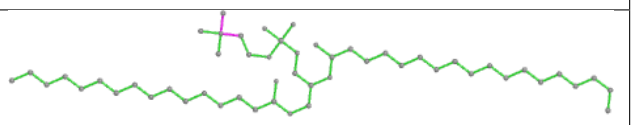
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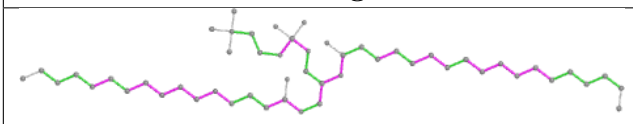
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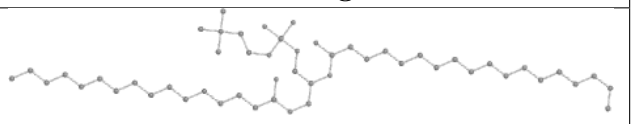
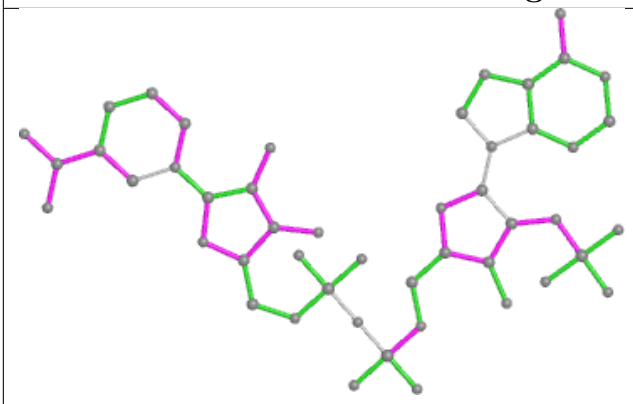

Rings

Ligand NDP J 401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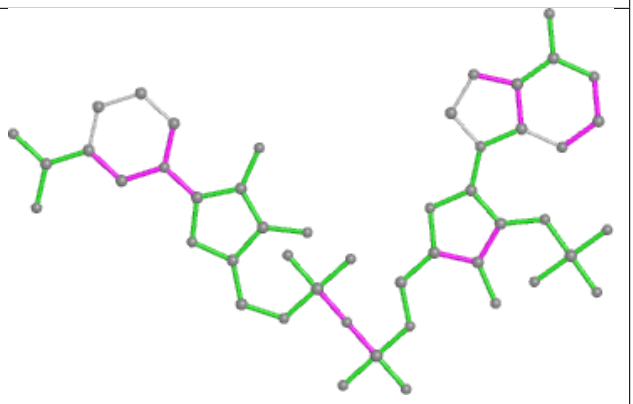
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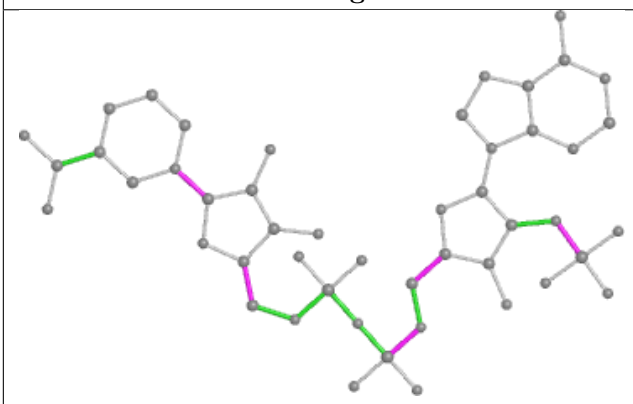
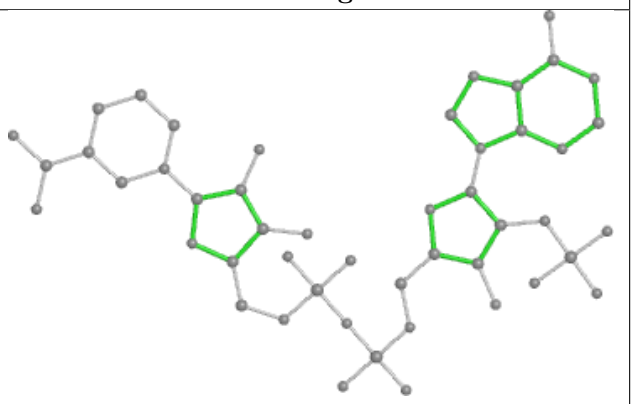
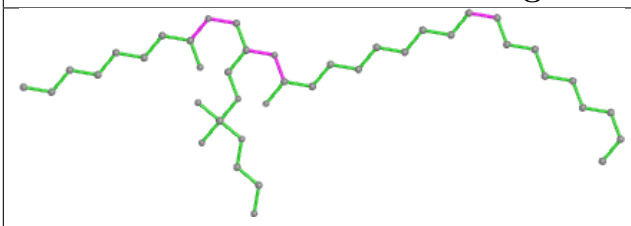

Torsions


Rings

Ligand PEE m 201



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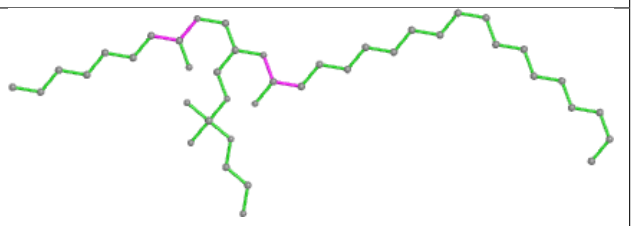
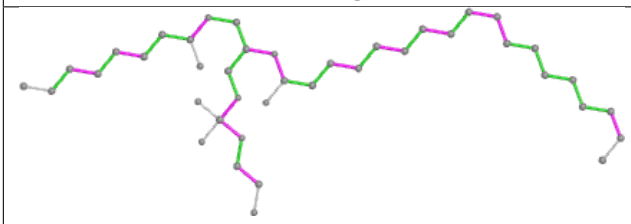
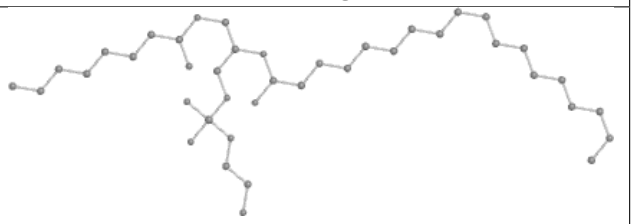


Bond angles

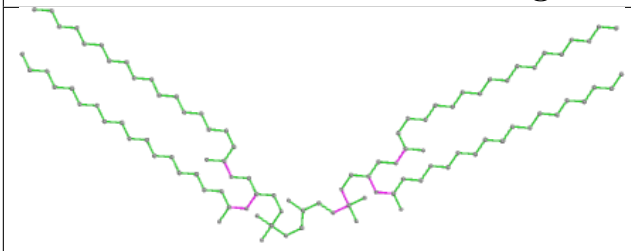


Torsions



Rings

Ligand CDL l 701



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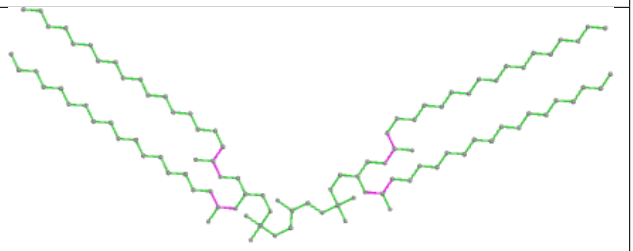

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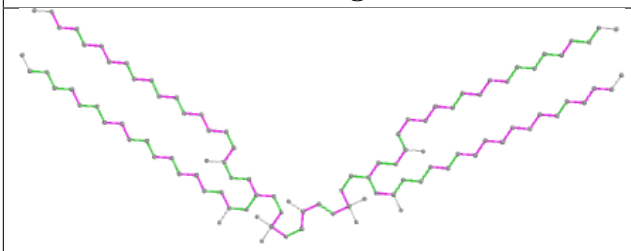
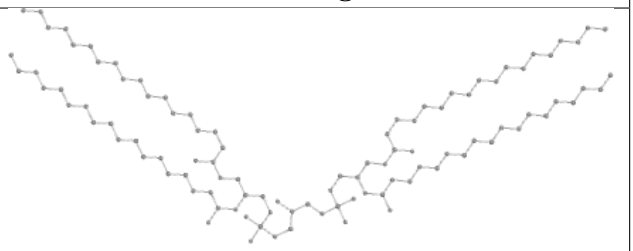
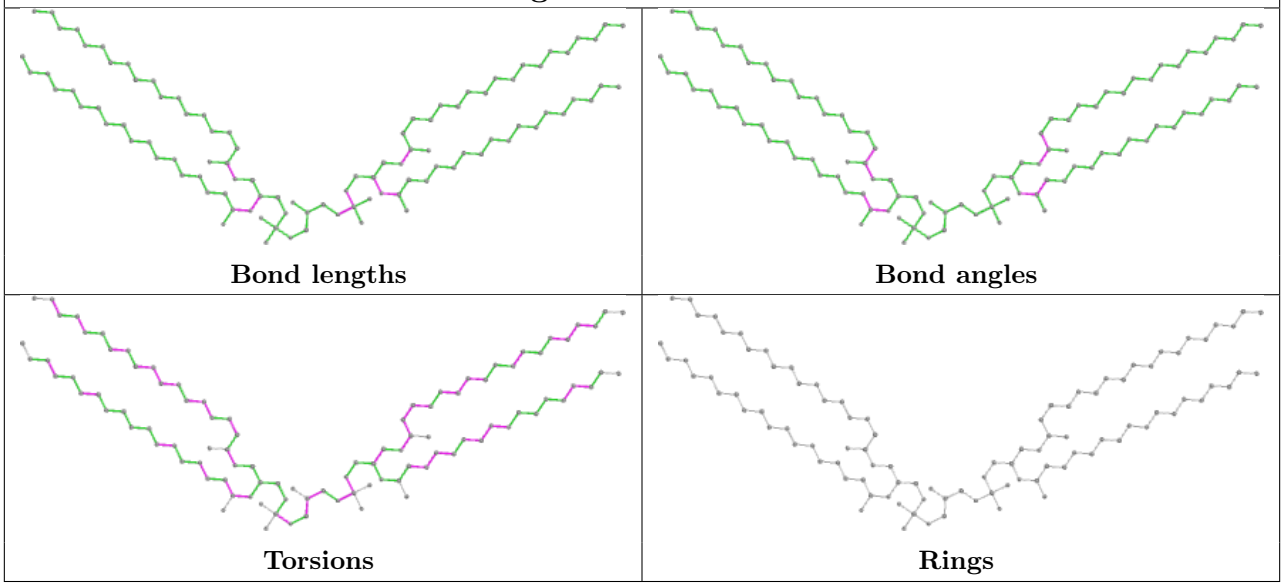


Torsions



Rings

Ligand CDL r 504



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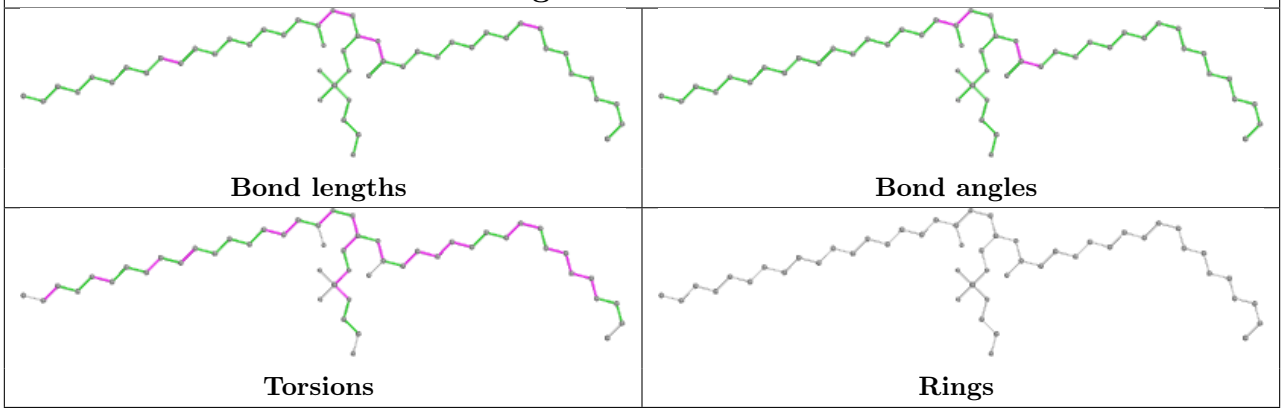

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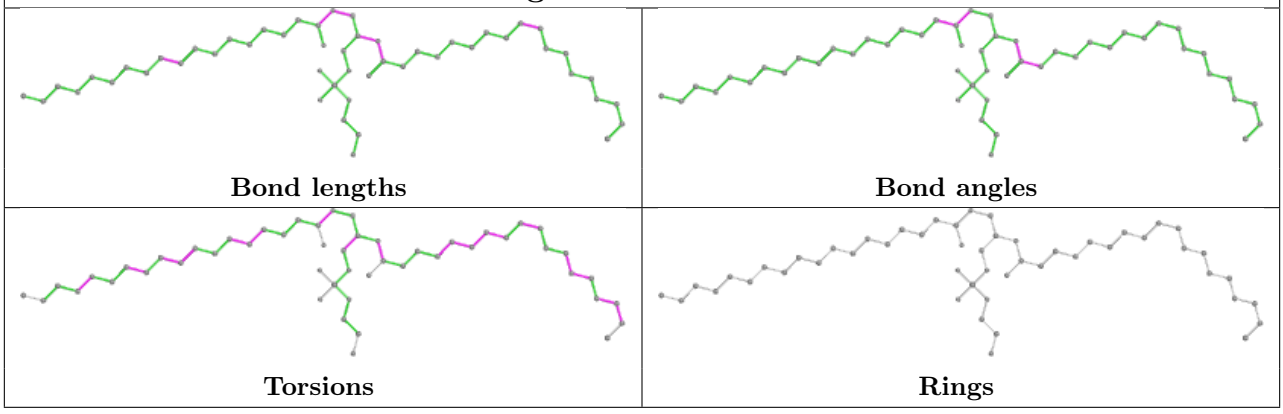
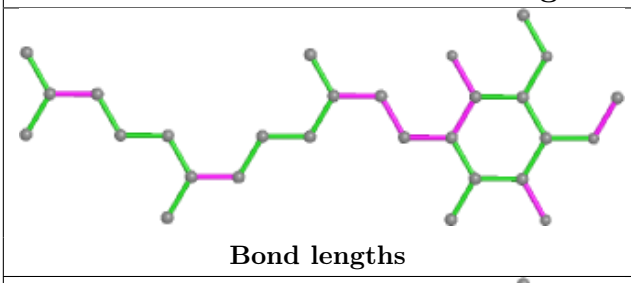
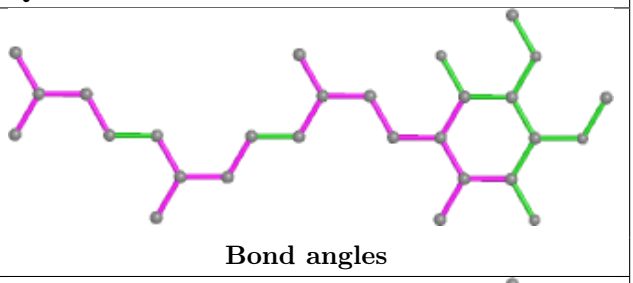
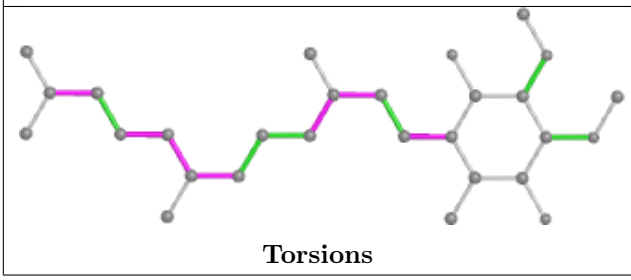
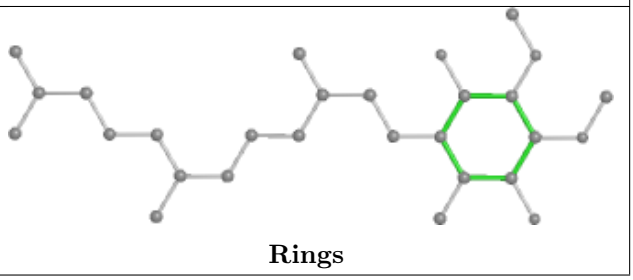


Ligand UQ s 401

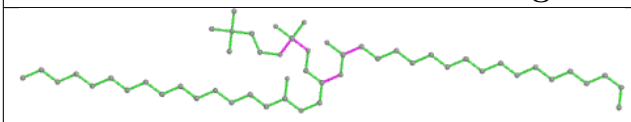

Bond lengths


Bond angles


Torsions


Rings

Ligand PLX j 202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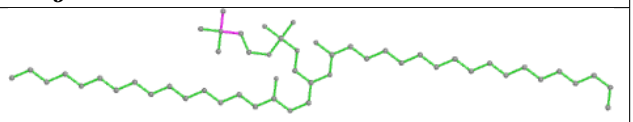
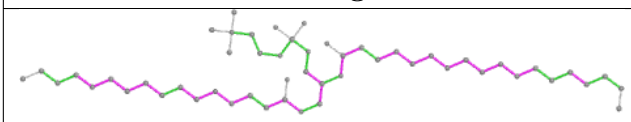

Bond angles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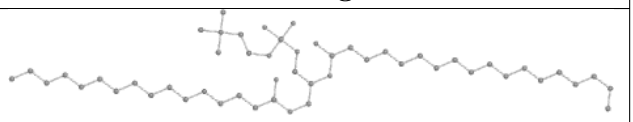
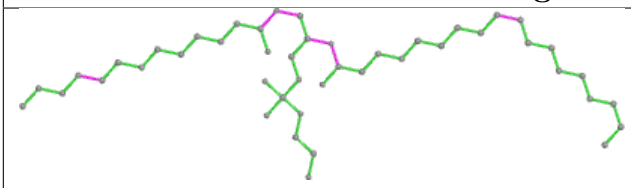
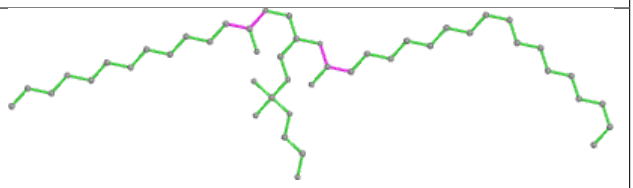
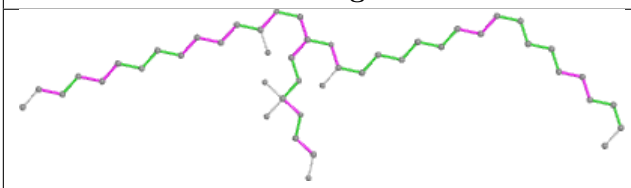
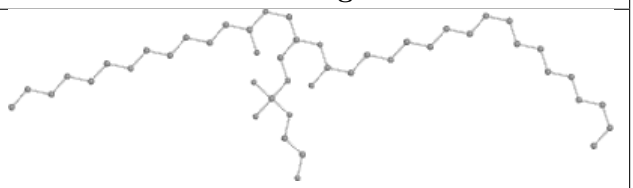

Rings

Ligand PEE l 702

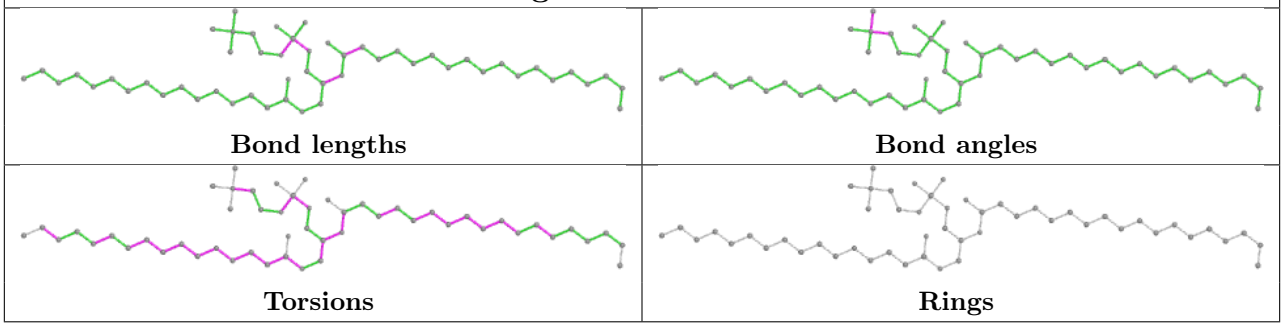

Bond lengths


Bond angles

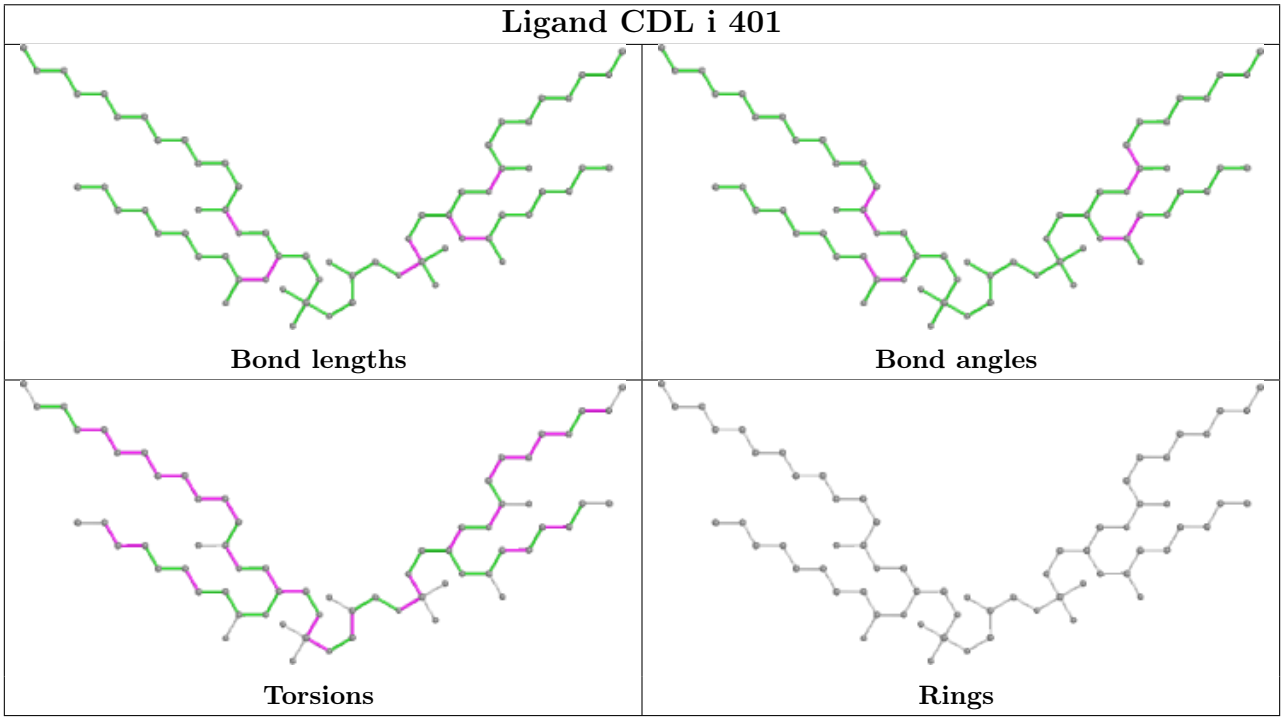

Torsions


Rings

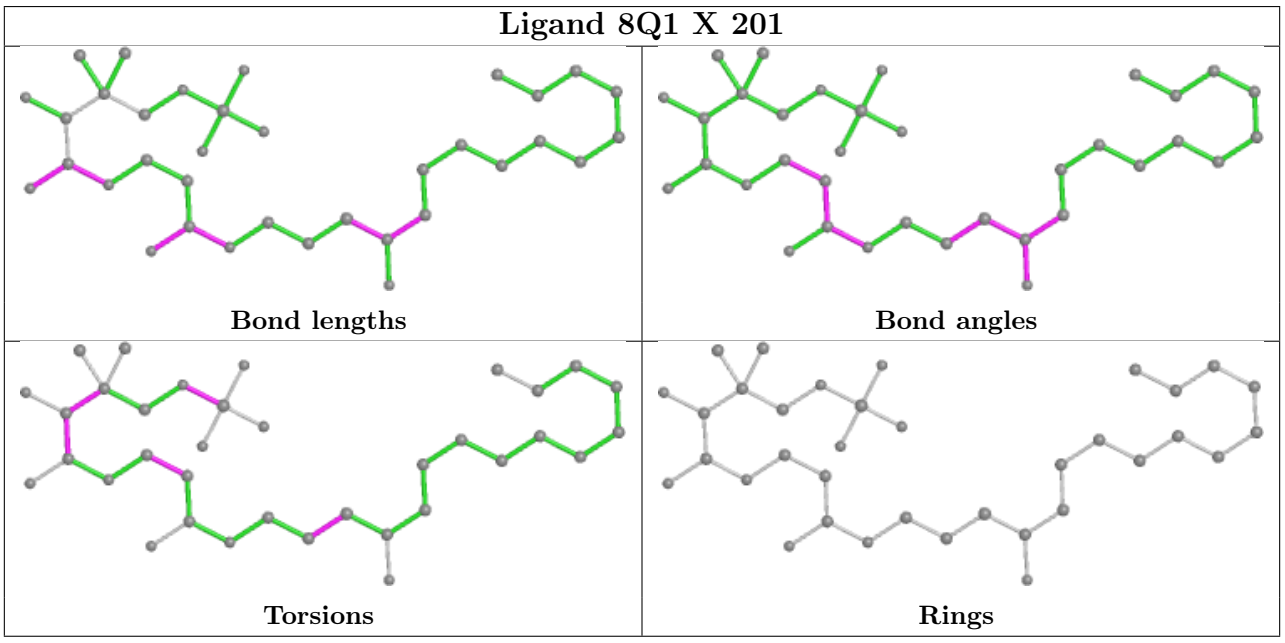
Ligand PLX r 503



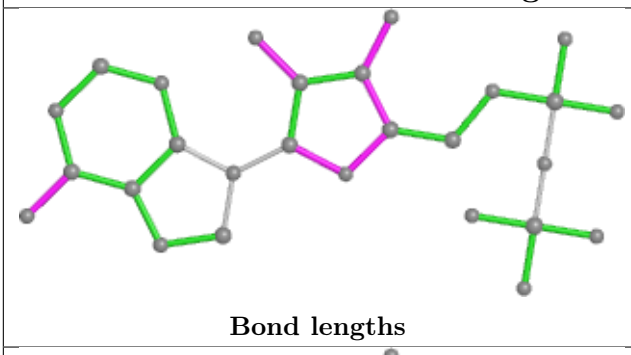
Ligand CDL i 401



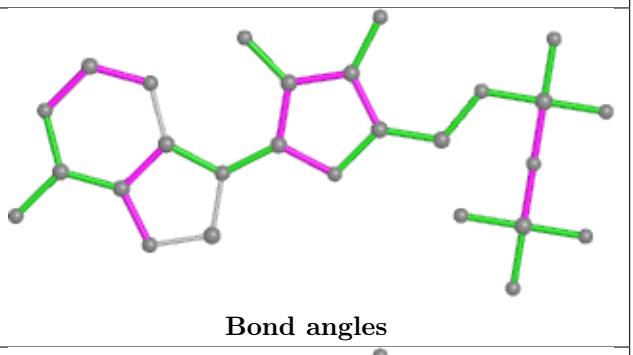
Ligand 8Q1 X 201



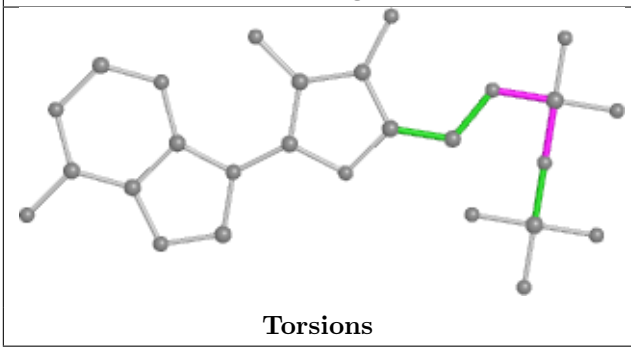
Ligand ADP w 401



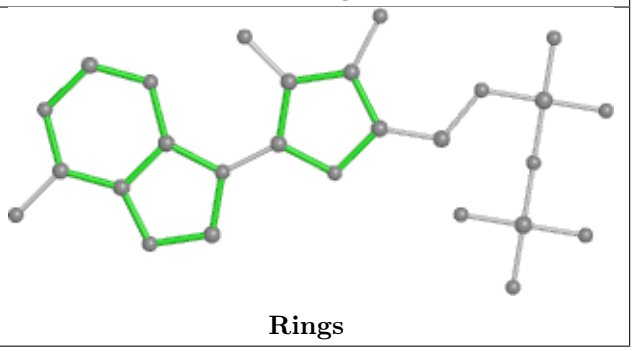
Bond lengths



Bond angles

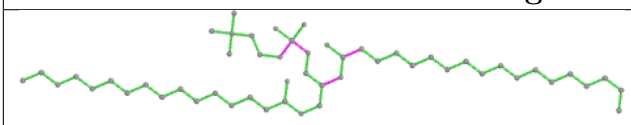


Torsions

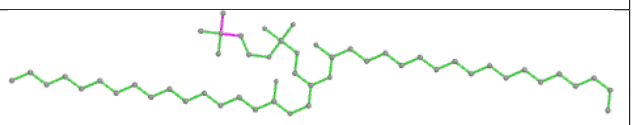


Rings

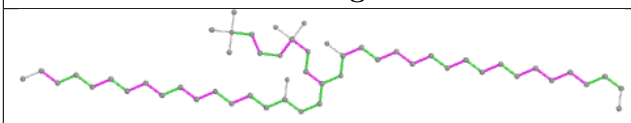
Ligand PLX C 302



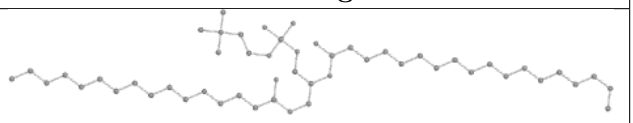
Bond lengths



Bond angles

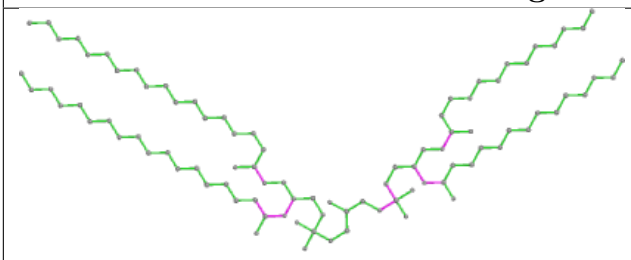


Torsions

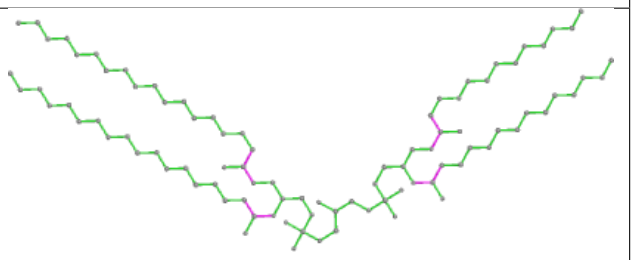


Rings

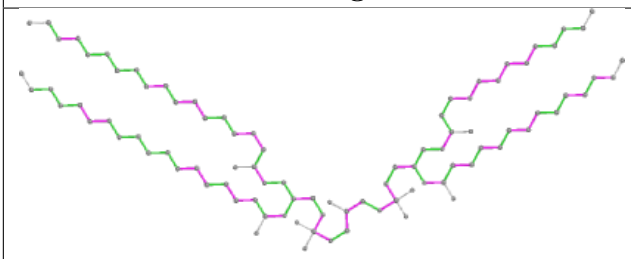
Ligand CDL a 201



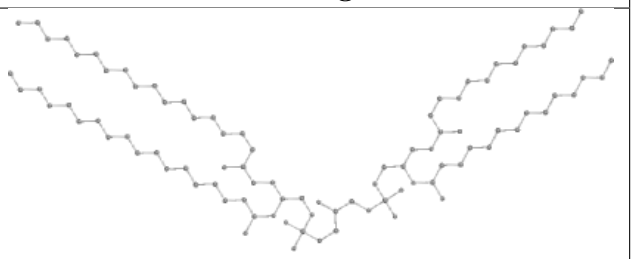
Bond lengths



Bond angles

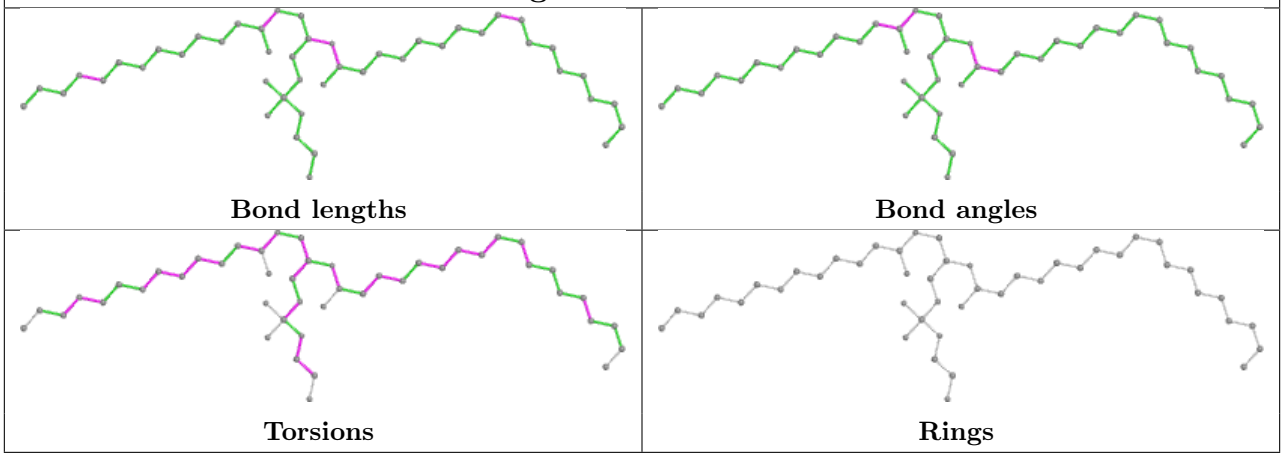


Torsions



Rings

Ligand PEE b 201



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.

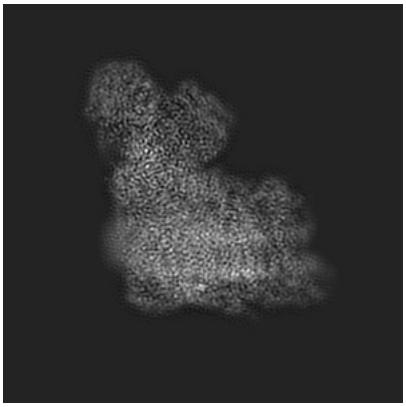
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-32271. These allow visual inspection of the internal detail of the map and identification of artifacts.

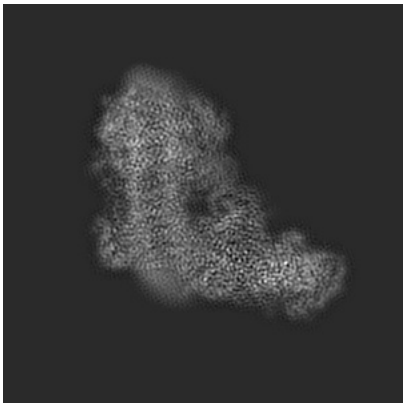
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

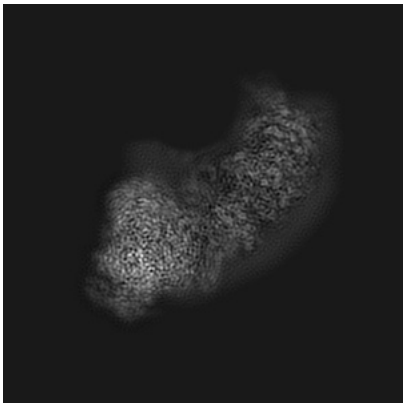
6.1.1 Primary map



X



Y

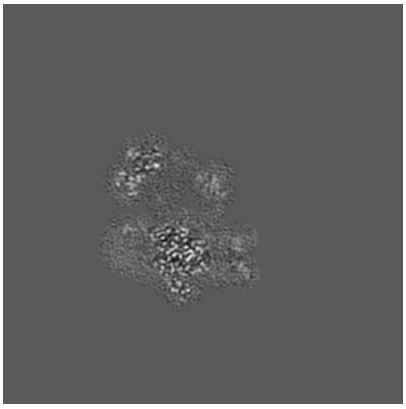


Z

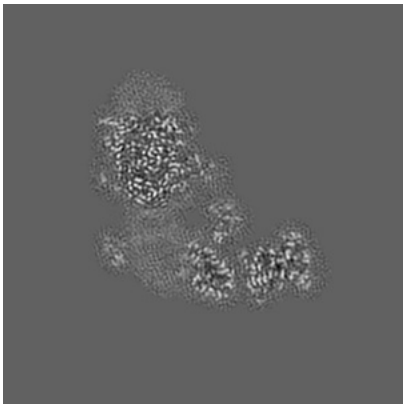
The images above show the map projected in three orthogonal directions.

6.2 Central slices

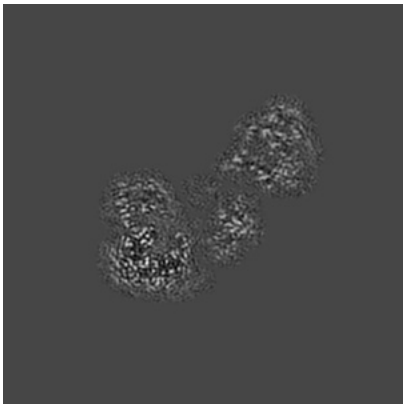
6.2.1 Primary map



X Index: 155



Y Index: 155



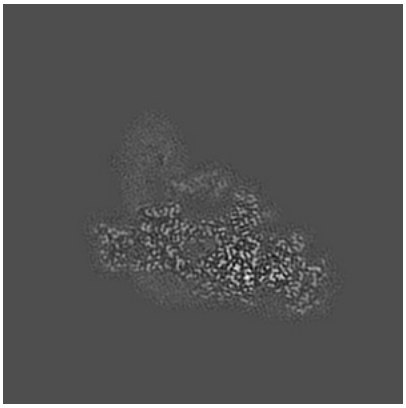
Z Index: 155

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

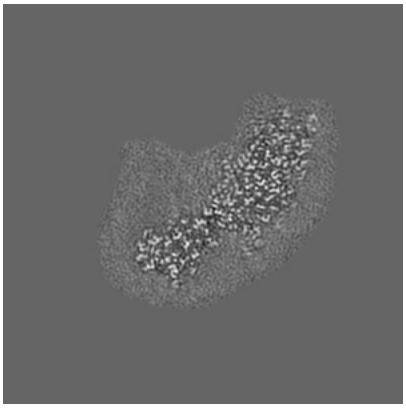
6.3 Largest variance slices (i)

6.3.1 Primary map

X Index: 107



Y Index: 115

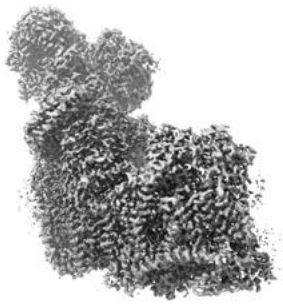


Z Index: 126

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

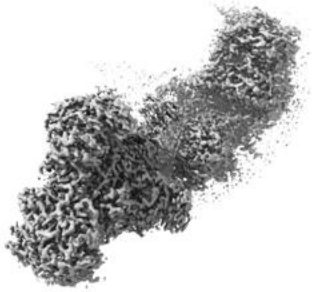
6.4 Orthogonal surface views (i)

6.4.1 Primary map



X

Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.025. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

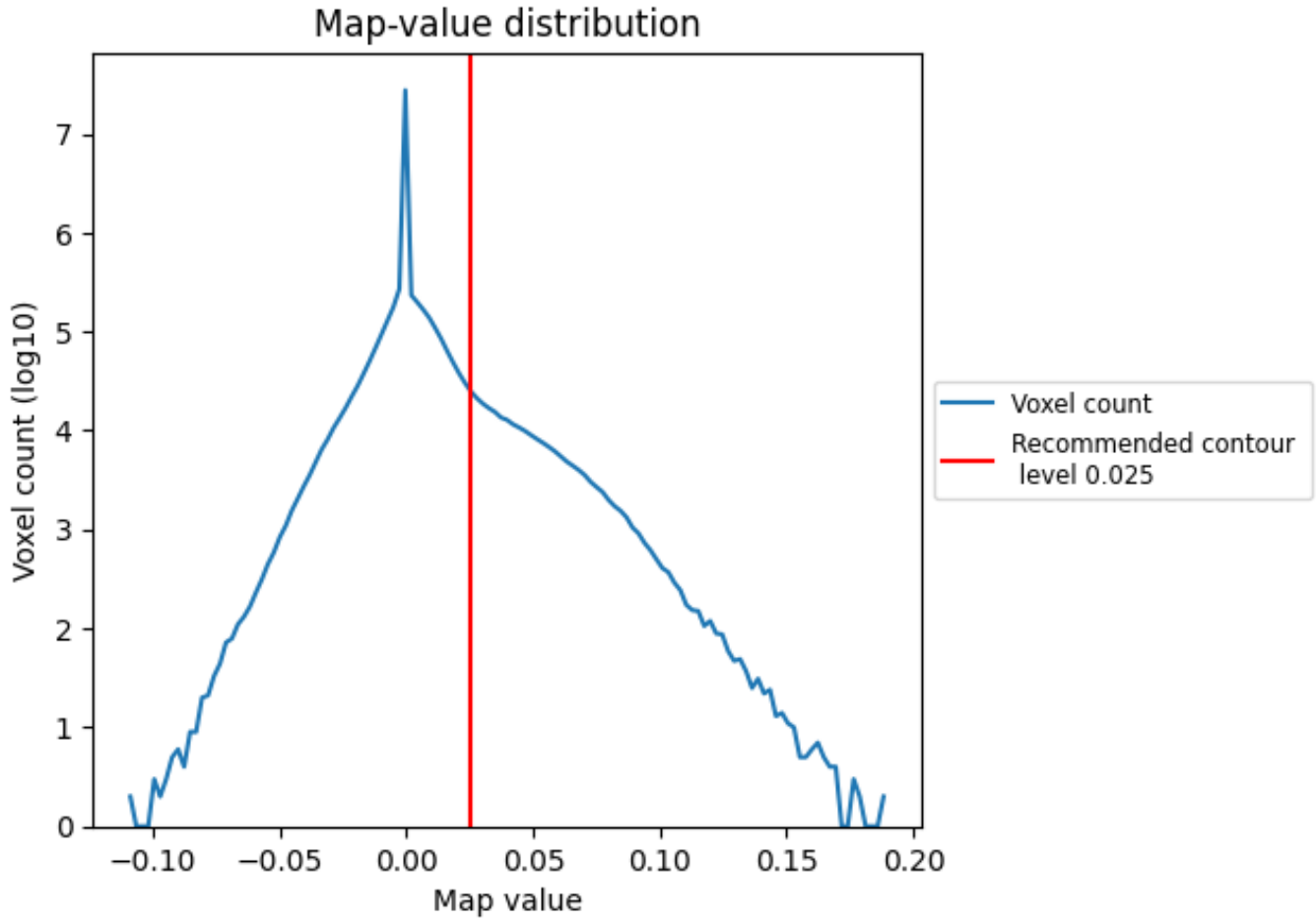
6.5 Mask visualisation (i)

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

7 Map analysis

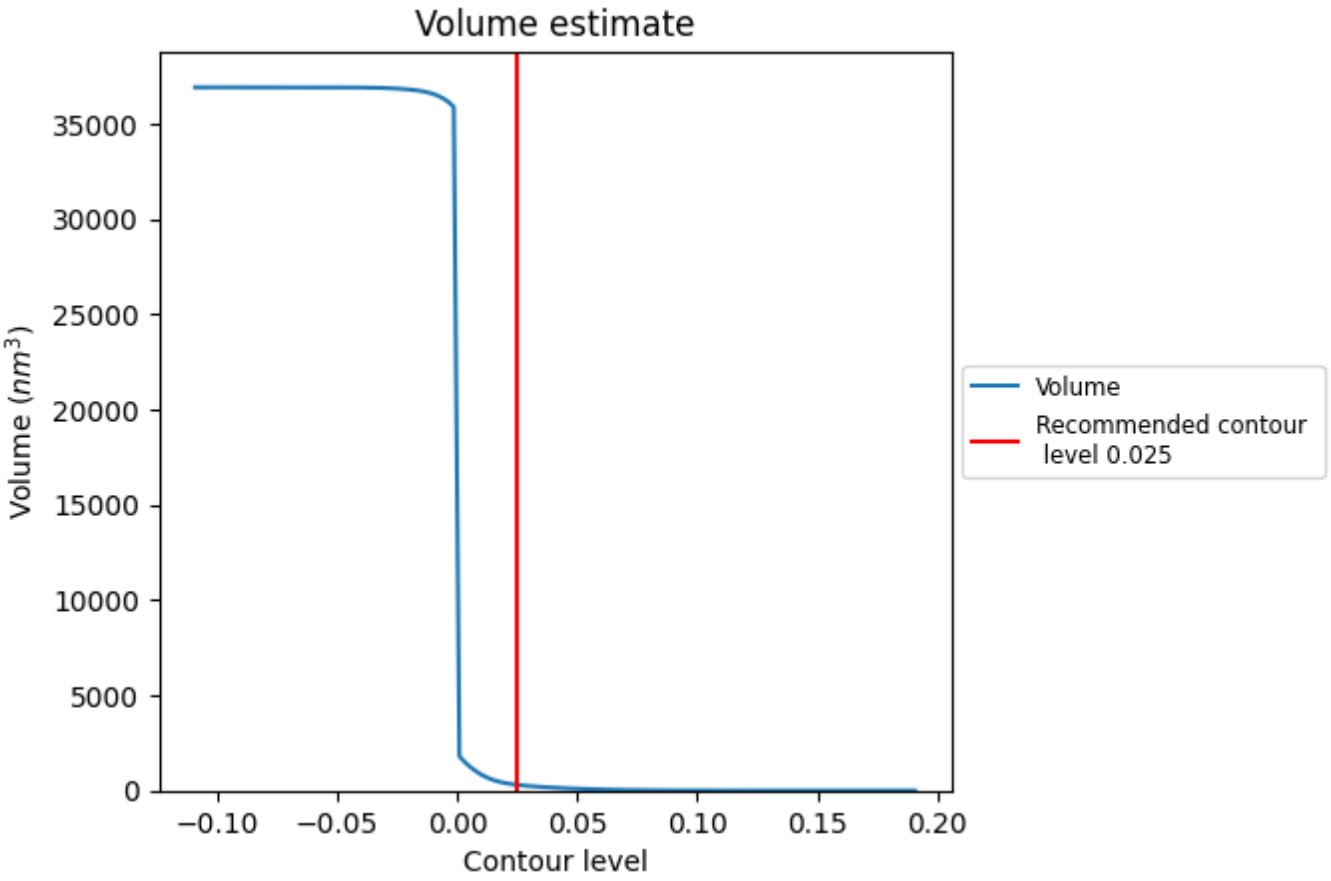
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

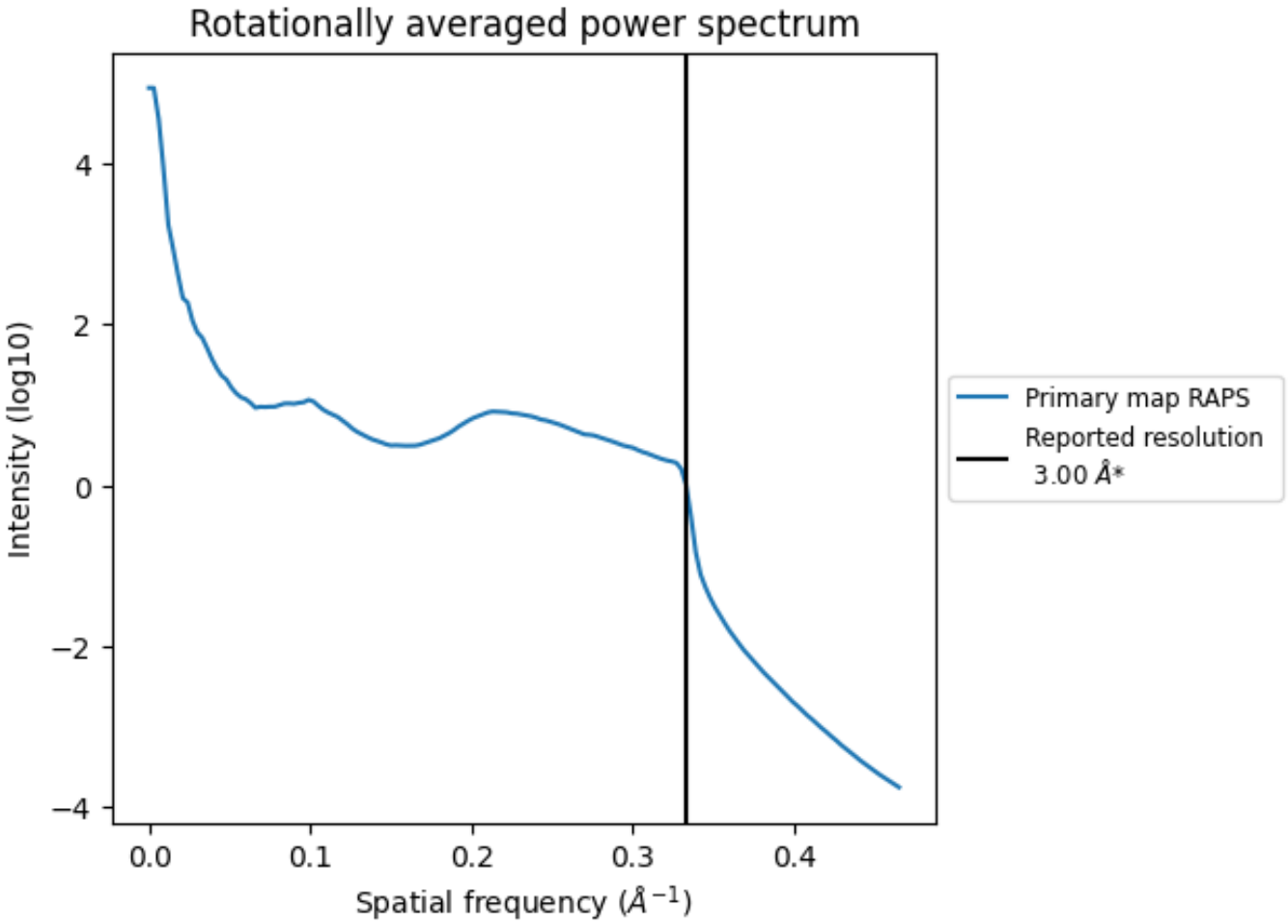
7.2 Volume estimate



The volume at the recommended contour level is 301 nm^3; this corresponds to an approximate mass of 272 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 0.333 Å^{-1}

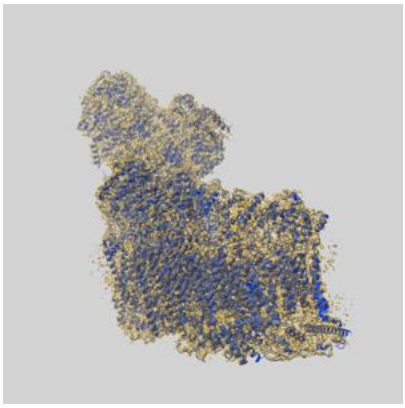
8 Fourier-Shell correlation (i)

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

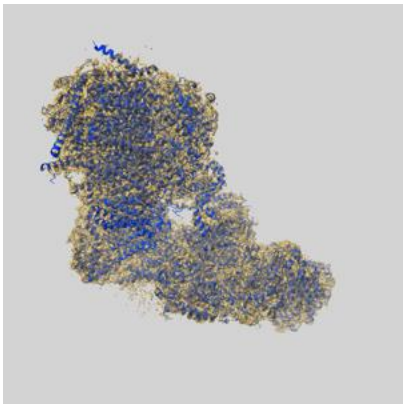
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-32271 and PDB model 7W35. Per-residue inclusion information can be found in section 3 on page 20.

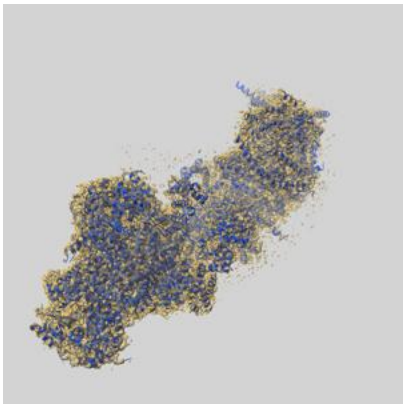
9.1 Map-model overlay



X



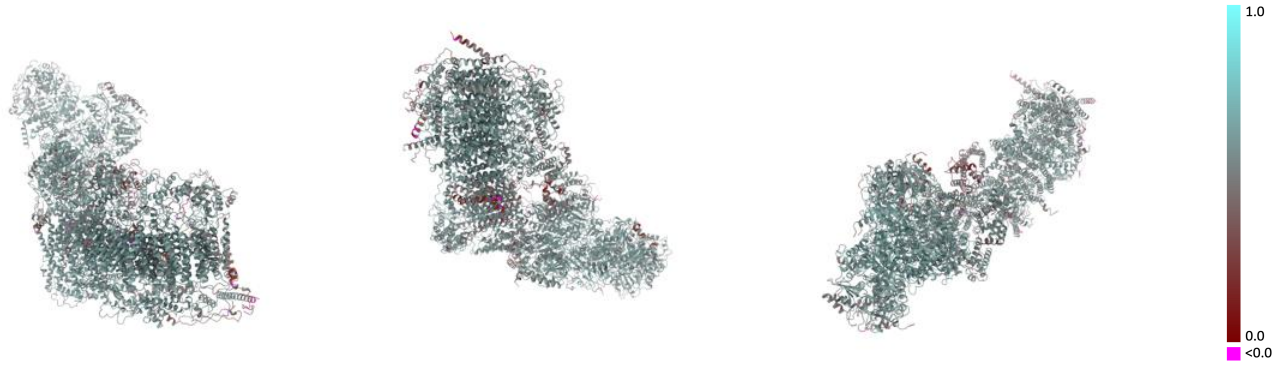
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.025 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.

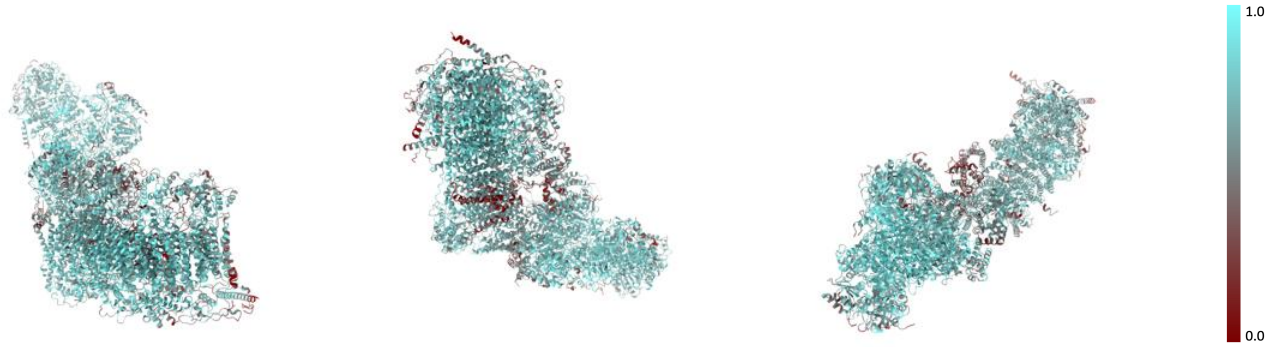
9.2 Q-score mapped to coordinate model (i)



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.

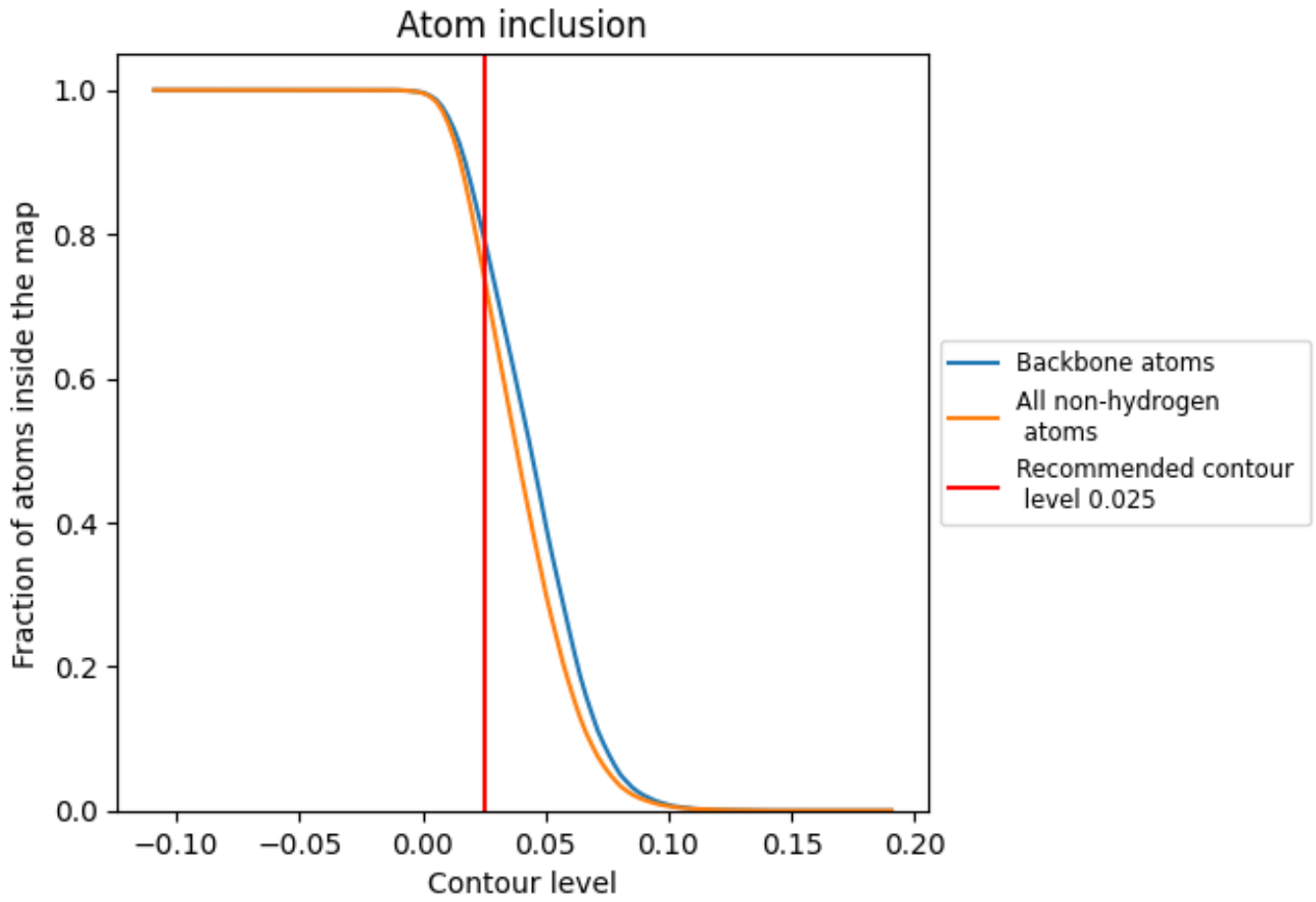
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.025).

9.4 Atom inclusion (i)



At the recommended contour level, 80% of all backbone atoms, 74% 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 (0.025) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7431	0.5590
A	0.7608	0.5630
B	0.8917	0.6160
C	0.8611	0.6070
E	0.7410	0.5610
F	0.6562	0.5040
G	0.3421	0.3570
H	0.6860	0.5320
I	0.6548	0.5400
J	0.7279	0.5500
K	0.6541	0.5420
L	0.8380	0.5940
M	0.8365	0.5910
N	0.6747	0.5580
O	0.7013	0.5470
P	0.8847	0.6100
Q	0.8489	0.6040
S	0.8511	0.5950
T	0.7313	0.5760
U	0.7281	0.5440
V	0.3537	0.3940
W	0.7869	0.5730
X	0.6133	0.5080
Y	0.5573	0.4510
Z	0.4985	0.4390
a	0.7719	0.5730
b	0.5888	0.4880
c	0.7396	0.5570
d	0.7230	0.5490
e	0.6789	0.5370
f	0.6497	0.5160
g	0.7990	0.5800
h	0.7766	0.5740
i	0.8231	0.5970
j	0.6425	0.5190

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
k	0.5970	0.5060
l	0.7553	0.5660
m	0.6162	0.5270
n	0.6466	0.5170
o	0.7104	0.5550
p	0.7196	0.5520
r	0.8140	0.5920
s	0.8143	0.5810
u	0.7753	0.5730
v	0.6099	0.4830
w	0.6168	0.5310