



Full wwPDB EM Validation Report ⓘ

Mar 29, 2026 – 12:12 PM UTC

PDB ID : 8UGI / pdb_00008ugi
EMDB ID : EMD-42226
Title : High resolution in-situ structure of typeA supercomplex in respiratory chain (I1III2IV1,composite)
Authors : Zheng, W.; Zhang, K.; Zhu, J.
Deposited on : 2023-10-05
Resolution : 2.10 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:

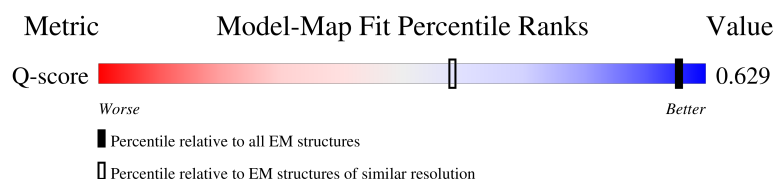
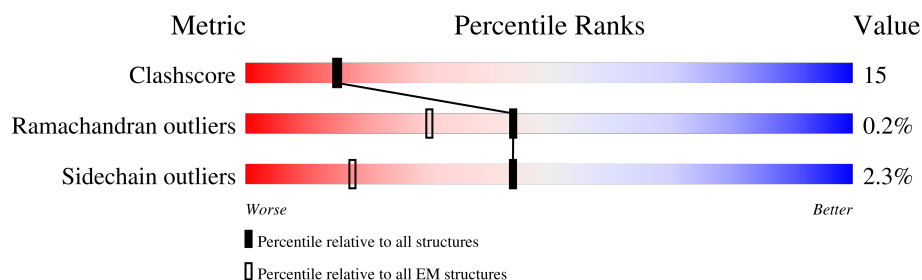
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance

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

The reported resolution of this entry is 2.10 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	2317 (1.60 - 2.60)

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 $\leq 5\%$. 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	1A	115	
2	1B	258	
3	1C	264	
4	1D	476	




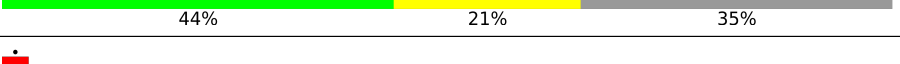


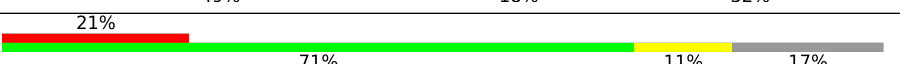
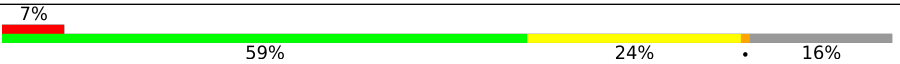


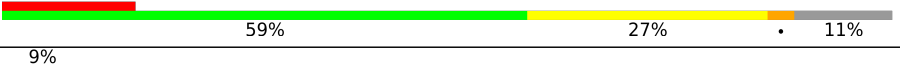
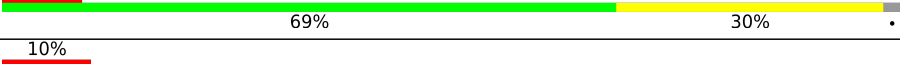


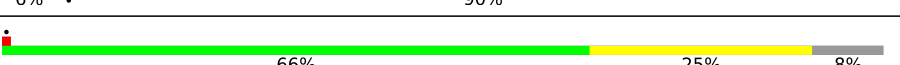






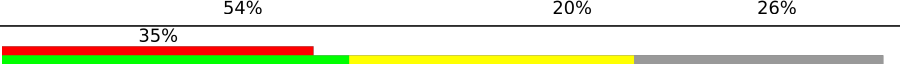
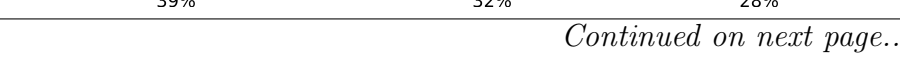


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Mol	Chain	Length	Quality of chain
5	1E	249	
6	1F	464	
7	1G	727	
8	1H	318	
9	1I	239	
10	1J	175	
11	1K	98	
12	1L	606	
13	1M	459	
14	1N	347	
15	1O	357	
16	1P	377	
17	1Q	175	
18	1R	123	
19	1S	99	
20	1T	156	
20	1U	156	
21	1V	116	
22	1W	128	
23	1X	172	
24	1Y	141	
25	1Z	144	
26	1a	70	
27	1b	84	
28	1c	76	


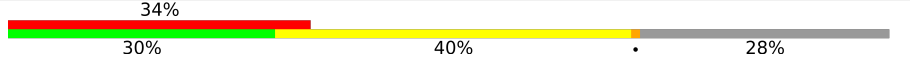

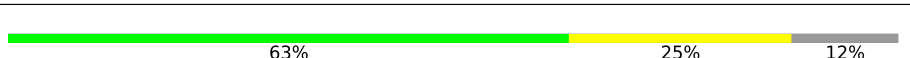
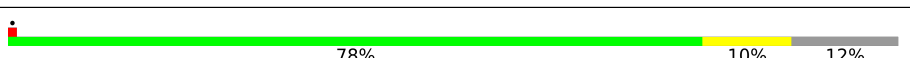
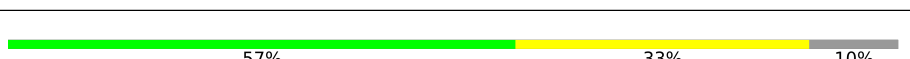
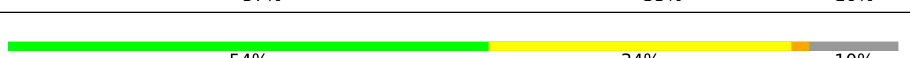

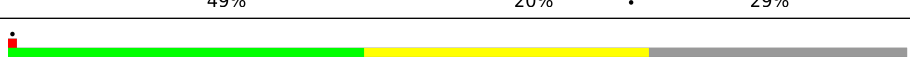

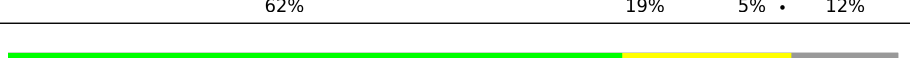








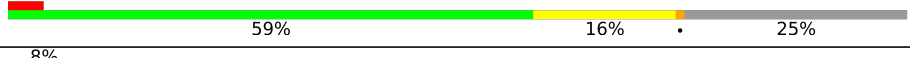

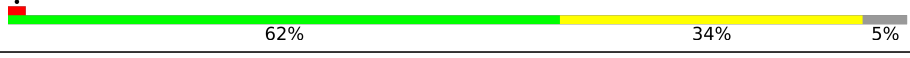



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Mol	Chain	Length	Quality of chain
29	1d	122	
30	1e	106	
31	1f	135	
32	1g	154	
33	1h	189	
34	1i	128	
35	1j	105	
36	1k	98	
37	1l	186	
38	1m	129	
39	1n	179	
40	1o	137	
41	1p	176	
42	1q	145	
43	1r	113	
44	1s	471	
45	3A	480	
45	3N	480	
46	3B	453	
46	3O	453	
47	3C	379	
47	3P	379	
48	3D	325	
48	3Q	325	
49	3E	274	



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Mol	Chain	Length	Quality of chain
49	3I	274	
49	3R	274	
49	3V	274	
50	3F	111	
50	3S	111	
51	3G	82	
51	3T	82	
52	3H	91	
52	3U	91	
53	3J	64	
53	3W	64	
54	3X	56	
54	3Y	56	
55	4A	514	
56	4B	227	
57	4C	261	
58	4D	169	
59	4E	152	
60	4F	129	
61	4G	97	
62	4H	86	
63	4I	75	
64	4J	80	
65	4K	80	
66	4L	63	

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Mol	Chain	Length	Quality of chain
67	4M	70	
68	4N	82	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
71	SF4	1B	201	-	-	X	-
72	FES	3E	301	-	-	X	-
72	FES	3R	301	-	-	X	-
89	CUA	4B	303	-	-	X	-

2 Entry composition

There are 93 unique types of molecules in this entry. The entry contains 124291 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-ubiquinone oxidoreductase chain 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1A	115	Total	C	N	O	S	0	0
			916	616	134	159	7		

- Molecule 2 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	1B	155	Total	C	N	O	S	0	0
			1242	791	226	211	14		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	1C	209	Total	C	N	O	S	0	0
			1740	1125	297	316	2		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
1C	104	GLN	ARG	conflict	UNP A0A286ZNN4
1C	154	GLY	ASP	conflict	UNP A0A286ZNN4

- Molecule 4 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	1D	429	Total	C	N	O	S	0	0
			3452	2207	593	628	24		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
1D	0	GLY	GLU	conflict	UNP A0A8D0QM68

- Molecule 5 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	1E	214	Total	C	N	O	S	0	0
			1658	1058	278	312	10		

- Molecule 6 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	1F	432	Total	C	N	O	S	0	0
			3325	2100	592	613	20		

- Molecule 7 is a protein called NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	1G	699	Total	C	N	O	S	0	0
			5362	3360	933	1029	40		

- Molecule 8 is a protein called NADH-ubiquinone oxidoreductase chain 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	1H	318	Total	C	N	O	S	0	0
			2504	1673	385	425	21		

- Molecule 9 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	1I	176	Total	C	N	O	S	0	0
			1412	887	243	269	13		

- Molecule 10 is a protein called NADH-ubiquinone oxidoreductase chain 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	1J	174	Total	C	N	O	S	0	0
			1329	892	189	236	12		

- Molecule 11 is a protein called NADH-ubiquinone oxidoreductase chain 4L.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	1K	98	Total	C	N	O	S	0	0
			750	494	113	129	14		

- Molecule 12 is a protein called NADH-ubiquinone oxidoreductase chain 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	1L	606	Total	C	N	O	S	0	0
			4818	3195	746	826	51		

- Molecule 13 is a protein called NADH-ubiquinone oxidoreductase chain 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	1M	459	Total	C	N	O	S	0	0
			3632	2411	572	610	39		

- Molecule 14 is a protein called NADH-ubiquinone oxidoreductase chain 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	1N	347	Total	C	N	O	S	0	0
			2712	1783	420	463	46		

- Molecule 15 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	1O	320	Total	C	N	O	S	0	0
			2590	1649	440	491	10		

- Molecule 16 is a protein called NADH:ubiquinone oxidoreductase subunit A9.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	1P	342	Total	C	N	O	S	0	0
			2751	1783	481	478	9		

- Molecule 17 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	1Q	129	Total	C	N	O	S	0	0
			1047	659	186	199	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
18	1R	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 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	1S	87	Total	C	N	O	S	0	0
			700	440	131	127	2		

- Molecule 20 is a protein called NADH:ubiquinone oxidoreductase subunit AB1.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	1T	85	Total	C	N	O	S	0	0
			689	445	101	138	5		
20	1U	86	Total	C	N	O	S	0	0
			694	448	102	139	5		

- Molecule 21 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 5 isoform X1.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	1V	115	Total	C	N	O	S	0	0
			927	599	157	168	3		

- Molecule 22 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	1W	115	Total	C	N	O	S	0	0
			971	619	179	168	5		

- Molecule 23 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	1X	171	Total	C	N	O	S	0	0
			1398	887	250	251	10		

- Molecule 24 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	1Y	139	Total	C	N	O	S	0	0
			1016	648	173	189	6		

- Molecule 25 is a protein called NADH:ubiquinone oxidoreductase subunit A13.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	1Z	141	Total	C	N	O	S	0	0
			1168	752	202	205	9		

- Molecule 26 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	1a	70	Total	C	N	O	S	0	0
			562	361	101	94	6		

- Molecule 27 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	1b	83	Total	C	N	O	S	0	0
			643	417	110	115	1		

- Molecule 28 is a protein called NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	1c	49	Total	C	N	O	0	0
			417	276	71	70		

- Molecule 29 is a protein called NADH dehydrogenase [ubiquinone] 1 subunit C2.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	1d	119	Total	C	N	O	S	0	0
			985	641	171	168	5		

- Molecule 30 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	1e	99	Total	C	N	O	S	0	0
			816	519	151	140	6		

- Molecule 31 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit

1 [Sus scrofa].

Mol	Chain	Residues	Atoms					AltConf	Trace
31	1f	57	Total	C	N	O	S	0	0
			487	316	89	80	2		

There are 29 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
1f	-77	MET	-	initiating methionine	UNP A0A8D1IZ33
1f	-76	ALA	-	expression tag	UNP A0A8D1IZ33
1f	-75	ALA	-	expression tag	UNP A0A8D1IZ33
1f	-74	ALA	-	expression tag	UNP A0A8D1IZ33
1f	-73	ILE	-	expression tag	UNP A0A8D1IZ33
1f	-72	LEU	-	expression tag	UNP A0A8D1IZ33
1f	-71	LYS	-	expression tag	UNP A0A8D1IZ33
1f	-70	LEU	-	expression tag	UNP A0A8D1IZ33
1f	-69	GLU	-	expression tag	UNP A0A8D1IZ33
1f	-68	GLU	-	expression tag	UNP A0A8D1IZ33
1f	-67	THR	-	expression tag	UNP A0A8D1IZ33
1f	-66	ARG	-	expression tag	UNP A0A8D1IZ33
1f	-65	GLY	-	expression tag	UNP A0A8D1IZ33
1f	-64	GLY	-	expression tag	UNP A0A8D1IZ33
1f	-63	GLY	-	expression tag	UNP A0A8D1IZ33
1f	-62	GLU	-	expression tag	UNP A0A8D1IZ33
1f	-61	LYS	-	expression tag	UNP A0A8D1IZ33
1f	-60	CYS	-	expression tag	UNP A0A8D1IZ33
1f	-59	ASP	-	expression tag	UNP A0A8D1IZ33
1f	-58	LYS	-	expression tag	UNP A0A8D1IZ33
1f	-57	ASN	-	expression tag	UNP A0A8D1IZ33
1f	-56	GLN	-	expression tag	UNP A0A8D1IZ33
1f	-55	GLY	-	expression tag	UNP A0A8D1IZ33
1f	-54	VAL	-	expression tag	UNP A0A8D1IZ33
1f	-53	LYS	-	expression tag	UNP A0A8D1IZ33
1f	-52	GLY	-	expression tag	UNP A0A8D1IZ33
1f	-51	ARG	-	expression tag	UNP A0A8D1IZ33
1f	-50	ARG	-	expression tag	UNP A0A8D1IZ33
1f	-49	PHE	-	expression tag	UNP A0A8D1IZ33

- Molecule 32 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 11, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	1g	100	Total	C	N	O	S	0	0
			835	535	138	158	4		

- Molecule 33 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 5, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	1h	138	Total	C	N	O	S	0	0
			1151	754	195	199	3		

- Molecule 34 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	1i	128	Total	C	N	O	S	0	0
			1100	723	194	181	2		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
1i	0	ACE	-	acetylation	UNP A0A4X1UIV8

- Molecule 35 is a protein called NADH:ubiquinone oxidoreductase subunit B2.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	1j	71	Total	C	N	O	S	0	0
			601	394	99	107	1		

- Molecule 36 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	1k	81	Total	C	N	O	S	0	0
			649	422	110	116	1		

- Molecule 37 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 8, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	1l	156	Total	C	N	O	S	0	0
			1310	847	213	242	8		

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

4.

Mol	Chain	Residues	Atoms				AltConf	Trace
38	1m	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	1n	172	Total	C	N	O	S	0	0
			1495	956	273	258	8		

- Molecule 40 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	1o	122	Total	C	N	O	S	0	0
			1045	650	198	187	10		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
1o	0	MYR	-	insertion	UNP F1SCH1

- Molecule 41 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	1p	173	Total	C	N	O	S	0	0
			1449	908	263	270	8		

- Molecule 42 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	1q	145	Total	C	N	O	S	0	0
			1212	775	219	213	5		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
43	1r	94	Total	C	N	O	S	0	0
			759	478	143	135	3		

- Molecule 44 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 3, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	1s	45	Total	C	N	O	S	0	0
			382	238	70	73	1		

- Molecule 45 is a protein called Cytochrome b-c1 complex subunit 1, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	3A	440	Total	C	N	O	S	0	0
			3411	2131	599	662	19		
45	3N	445	Total	C	N	O	S	1	0
			3424	2162	606	637	19		

- Molecule 46 is a protein called Cytochrome b-c1 complex subunit 2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	3B	418	Total	C	N	O	S	0	0
			3138	1965	555	610	8		
46	3O	417	Total	C	N	O	S	0	0
			3124	1960	554	602	8		

- Molecule 47 is a protein called Cytochrome b.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	3C	379	Total	C	N	O	S	0	0
			3025	2031	471	502	21		
47	3P	379	Total	C	N	O	S	0	0
			3024	2031	471	501	21		

- Molecule 48 is a protein called Cytochrome c1, heme protein, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	3D	237	Total	C	N	O	S	0	0
			1888	1205	325	342	16		
48	3Q	239	Total	C	N	O	S	0	0
			1904	1215	327	346	16		

- Molecule 49 is a protein called Cytochrome b-c1 complex subunit Rieske, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	3E	196	Total	C	N	O	S	0	0
			1518	955	265	291	7		

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Mol	Chain	Residues	Atoms					AltConf	Trace
49	3I	47	Total	C	N	O	S	0	0
			337	210	62	64	1		
49	3R	196	Total	C	N	O	S	0	0
			1518	955	265	291	7		
49	3V	31	Total	C	N	O	S	0	0
			223	137	45	40	1		

- Molecule 50 is a protein called Cytochrome b-c1 complex subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	3F	98	Total	C	N	O	S	0	0
			868	557	152	157	2		
50	3S	98	Total	C	N	O	S	0	0
			868	557	152	157	2		

- Molecule 51 is a protein called Cytochrome b-c1 complex subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	3G	74	Total	C	N	O	S	0	0
			628	411	116	99	2		
51	3T	74	Total	C	N	O	S	0	0
			628	411	116	99	2		

- Molecule 52 is a protein called Cytochrome b-c1 complex subunit 6, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	3H	65	Total	C	N	O	S	0	0
			533	325	97	106	5		
52	3U	65	Total	C	N	O	S	0	0
			533	325	97	106	5		

- Molecule 53 is a protein called Ubiquinol-cytochrome c reductase complex 7.2 kDa protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
53	3J	56	Total	C	N	O	0	0
			464	305	82	77		
53	3W	56	Total	C	N	O	0	0
			464	305	82	77		

- Molecule 54 is a protein called Cytochrome b-c1 complex subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	3X	52	Total	C	N	O	S	0	0
			429	286	75	66	2		
54	3Y	51	Total	C	N	O	S	0	0
			421	281	74	65	1		

- Molecule 55 is a protein called Cytochrome c oxidase subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	4A	513	Total	C	N	O	S	1	0
			4025	2692	625	677	31		

- Molecule 56 is a protein called Cytochrome c oxidase subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	4B	227	Total	C	N	O	S	0	0
			1829	1190	281	340	18		

- Molecule 57 is a protein called Cytochrome c oxidase subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	4C	259	Total	C	N	O	S	0	0
			2096	1399	336	351	10		

- Molecule 58 is a protein called Cytochrome c oxidase subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	4D	139	Total	C	N	O	S	0	0
			1163	757	190	212	4		

- Molecule 59 is a protein called Cytochrome c oxidase subunit 5A, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	4E	105	Total	C	N	O	S	0	0
			852	544	144	162	2		

- Molecule 60 is a protein called Cytochrome c oxidase subunit 5B, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	4F	97	Total	C	N	O	S	0	0
			734	455	130	143	6		

- Molecule 61 is a protein called Cytochrome c oxidase subunit 6A2.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	4G	75	Total	C	N	O	S	0	0
			617	398	118	100	1		

- Molecule 62 is a protein called Cytochrome c oxidase subunit 6B1.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	4H	82	Total	C	N	O	S	0	0
			687	434	125	123	5		

- Molecule 63 is a protein called Cytochrome c oxidase subunit 6C.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	4I	67	Total	C	N	O	S	0	0
			550	359	97	91	3		

- Molecule 64 is a protein called Cytochrome c oxidase subunit 7A1, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	4J	58	Total	C	N	O	S	0	0
			456	293	78	82	3		

- Molecule 65 is a protein called Cytochrome c oxidase subunit 7B.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	4K	49	Total	C	N	O	S	0	0
			383	249	65	68	1		

- Molecule 66 is a protein called Cytochrome c oxidase subunit 7C, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	4L	46	Total	C	N	O	S	0	0
			381	254	64	61	2		

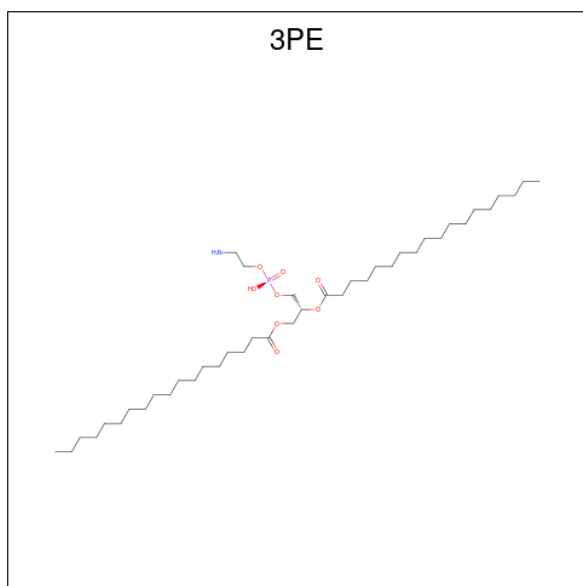
- Molecule 67 is a protein called Cytochrome c oxidase subunit 8.

Mol	Chain	Residues	Atoms				AltConf	Trace
67	4M	43	Total	C	N	O	0	0
			338	222	57	59		

- Molecule 68 is a protein called Cytochrome c oxidase subunit NDUFA4.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	4N	82	Total	C	N	O	S	0	0
			660	432	112	114	2		

- Molecule 69 is 1,2-Distearoyl-sn-glycerophosphoethanolamine (CCD ID: 3PE) (formula: $C_{41}H_{82}NO_8P$).



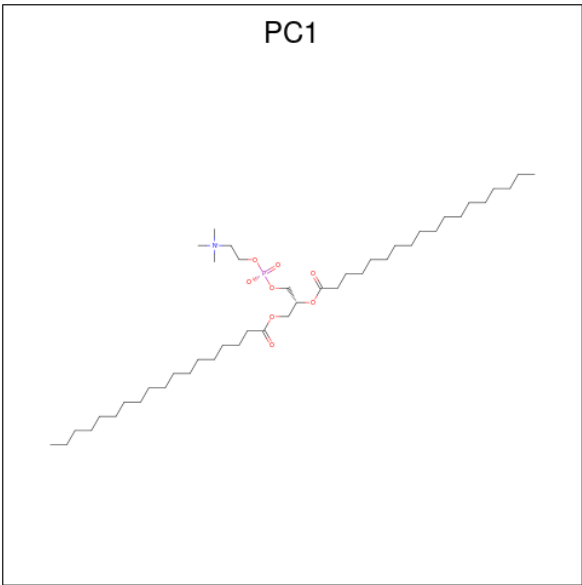
Mol	Chain	Residues	Atoms					AltConf
69	1A	1	Total	C	N	O	P	0
			47	37	1	8	1	
69	1J	1	Total	C	N	O	P	0
			44	34	1	8	1	
69	1L	1	Total	C	N	O	P	0
			46	36	1	8	1	
69	1L	1	Total	C	N	O	P	0
			45	35	1	8	1	
69	1L	1	Total	C	N	O	P	0
			31	21	1	8	1	
69	1M	1	Total	C	N	O	P	0
			45	35	1	8	1	
69	1M	1	Total	C	N	O	P	0
			51	41	1	8	1	
69	1M	1	Total	C	N	O	P	0
			50	40	1	8	1	
69	1N	1	Total	C	N	O	P	0
			49	39	1	8	1	
69	1N	1	Total	C	N	O	P	0
			33	23	1	8	1	

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Mol	Chain	Residues	Atoms					AltConf
69	1Y	1	Total	C	N	O	P	0
			40	30	1	8	1	
69	1Y	1	Total	C	N	O	P	0
			30	20	1	8	1	
69	1Y	1	Total	C	N	O	P	0
			27	17	1	8	1	
69	1Y	1	Total	C	N	O	P	0
			41	31	1	8	1	
69	1d	1	Total	C	N	O	P	0
			48	38	1	8	1	
69	1j	1	Total	C	N	O	P	0
			44	34	1	8	1	
69	3A	1	Total	C	N	O	P	0
			27	17	1	8	1	
69	3A	1	Total	C	N	O	P	0
			32	22	1	8	1	
69	3C	1	Total	C	N	O	P	0
			35	25	1	8	1	
69	3C	1	Total	C	N	O	P	0
			34	24	1	8	1	
69	3D	1	Total	C	N	O	P	0
			33	23	1	8	1	
69	3G	1	Total	C	N	O	P	0
			29	19	1	8	1	
69	3N	1	Total	C	N	O	P	0
			33	23	1	8	1	
69	3N	1	Total	C	N	O	P	0
			25	15	1	8	1	
69	3P	1	Total	C	N	O	P	0
			33	23	1	8	1	
69	3R	1	Total	C	N	O	P	0
			47	37	1	8	1	
69	3Y	1	Total	C	N	O	P	0
			30	20	1	8	1	

- Molecule 70 is 1,2-DIACYL-SN-GLYCERO-3-PHOSPHOCHOLINE (CCD ID: PC1) (formula: C₄₄H₈₈NO₈P).



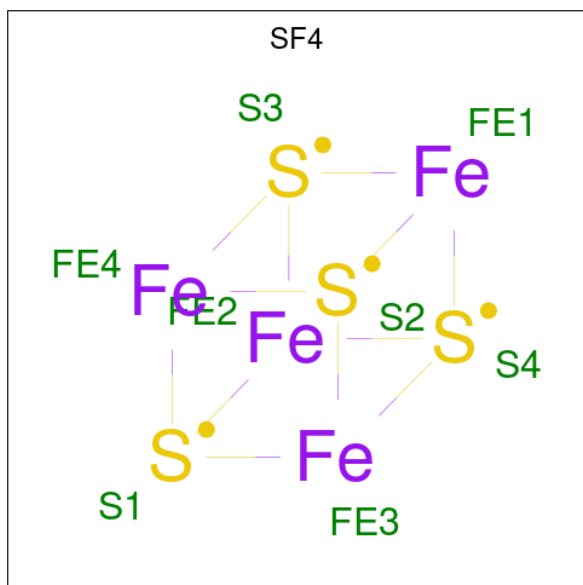
Mol	Chain	Residues	Atoms					AltConf
70	1A	1	Total	C	N	O	P	0
			35	25	1	8	1	
70	1B	1	Total	C	N	O	P	0
			46	36	1	8	1	
70	1B	1	Total	C	N	O	P	0
			48	38	1	8	1	
70	1H	1	Total	C	N	O	P	0
			48	38	1	8	1	
70	1I	1	Total	C	N	O	P	0
			54	44	1	8	1	
70	1M	1	Total	C	N	O	P	0
			44	34	1	8	1	
70	1P	1	Total	C	N	O	P	0
			33	23	1	8	1	
70	1Y	1	Total	C	N	O	P	0
			35	25	1	8	1	
70	1Z	1	Total	C	N	O	P	0
			44	34	1	8	1	
70	1h	1	Total	C	N	O	P	0
			47	37	1	8	1	
70	1m	1	Total	C	N	O	P	0
			46	36	1	8	1	
70	1q	1	Total	C	N	O	P	0
			49	39	1	8	1	
70	3E	1	Total	C	N	O	P	0
			47	37	1	8	1	
70	3R	1	Total	C	N	O	P	0
			45	35	1	8	1	

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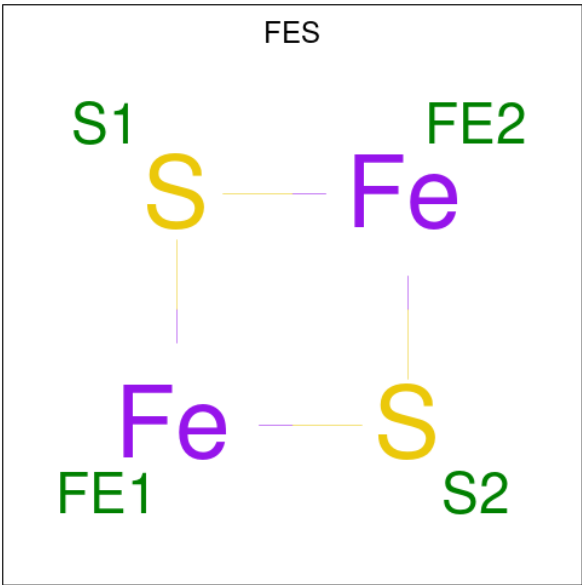
Mol	Chain	Residues	Atoms					AltConf
70	3X	1	Total	C	N	O	P	0
			29	19	1	8	1	

- Molecule 71 is IRON/SULFUR CLUSTER (CCD ID: SF4) (formula: Fe_4S_4) (labeled as "Ligand of Interest" by depositor).



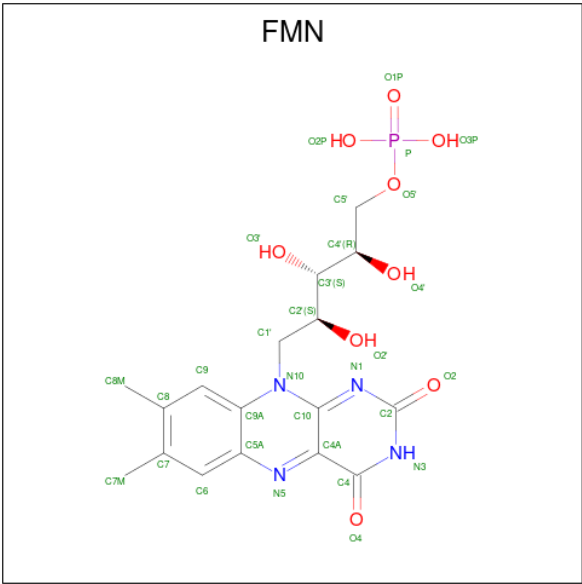
Mol	Chain	Residues	Atoms			AltConf
71	1B	1	Total	Fe	S	0
			8	4	4	
71	1F	1	Total	Fe	S	0
			8	4	4	
71	1G	1	Total	Fe	S	0
			8	4	4	
71	1G	1	Total	Fe	S	0
			8	4	4	
71	1I	1	Total	Fe	S	0
			8	4	4	
71	1I	1	Total	Fe	S	0
			8	4	4	

- Molecule 72 is FE2/S2 (INORGANIC) CLUSTER (CCD ID: FES) (formula: Fe_2S_2).



Mol	Chain	Residues	Atoms			AltConf
72	1E	1	Total	Fe	S	0
			4	2	2	
72	1G	1	Total	Fe	S	0
			4	2	2	
72	3E	1	Total	Fe	S	0
			4	2	2	
72	3R	1	Total	Fe	S	0
			4	2	2	

- Molecule 73 is FLAVIN MONONUCLEOTIDE (CCD ID: FMN) (formula: C₁₇H₂₁N₄O₉P).

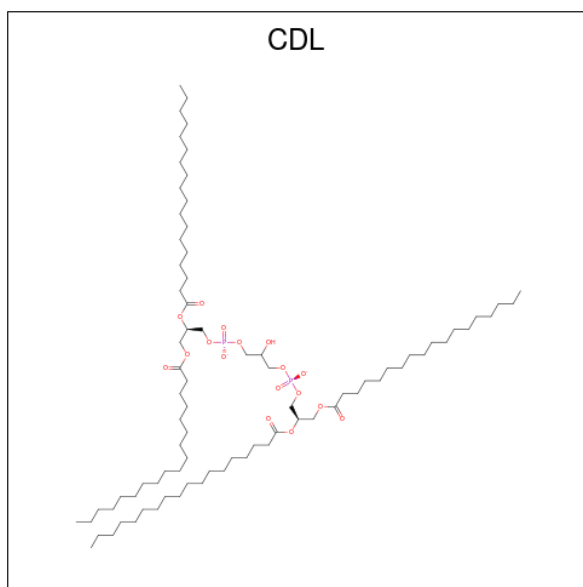


Mol	Chain	Residues	Atoms					AltConf
73	1F	1	Total	C	N	O	P	0
			31	17	4	9	1	

- Molecule 74 is POTASSIUM ION (CCD ID: K) (formula: K).

Mol	Chain	Residues	Atoms		AltConf
74	1G	1	Total	K	0
			1	1	

- Molecule 75 is CARDIOLIPIN (CCD ID: CDL) (formula: $C_{81}H_{156}O_{17}P_2$).



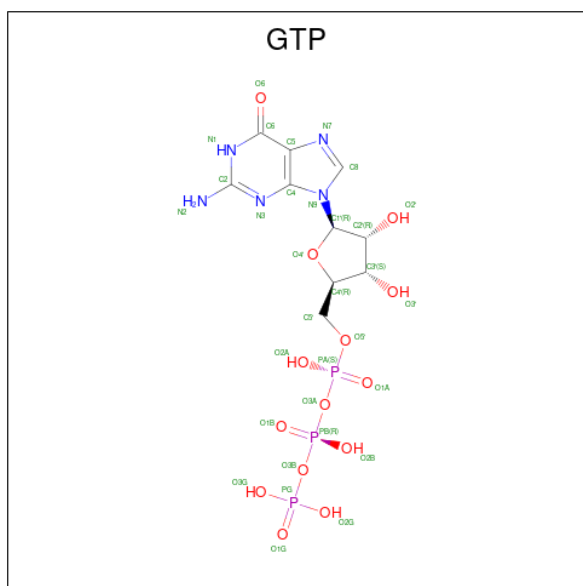
Mol	Chain	Residues	Atoms				AltConf
75	1L	1	Total	C	O	P	0
			76	57	17	2	
75	1N	1	Total	C	O	P	0
			62	43	17	2	
75	1X	1	Total	C	O	P	0
			86	67	17	2	
75	1d	1	Total	C	O	P	0
			65	46	17	2	
75	1h	1	Total	C	O	P	0
			80	61	17	2	
75	1q	1	Total	C	O	P	0
			61	42	17	2	
75	3A	1	Total	C	O	P	0
			58	39	17	2	
75	3G	1	Total	C	O	P	0
			52	33	17	2	

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Mol	Chain	Residues	Atoms				AltConf
75	3G	1	Total	C	O	P	0
			56	37	17	2	
75	3N	1	Total	C	O	P	0
			43	24	17	2	
75	3P	1	Total	C	O	P	0
			56	37	17	2	
75	3T	1	Total	C	O	P	0
			57	38	17	2	
75	4B	1	Total	C	O	P	0
			100	81	17	2	
75	4C	1	Total	C	O	P	0
			100	81	17	2	
75	4D	1	Total	C	O	P	0
			100	81	17	2	

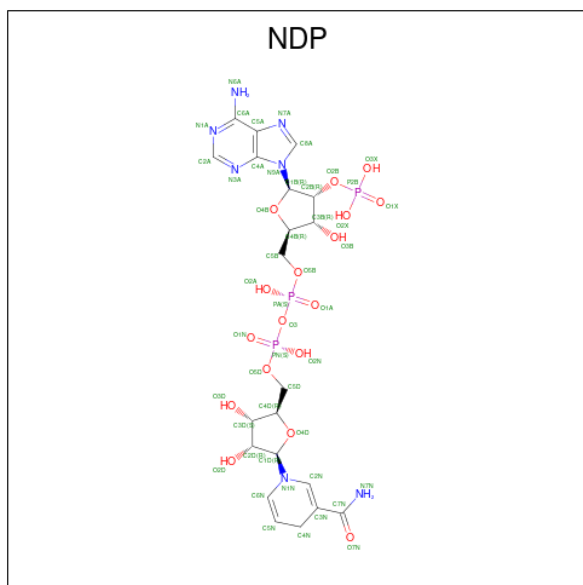
- Molecule 76 is GUANOSINE-5'-TRIPHOSPHATE (CCD ID: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).

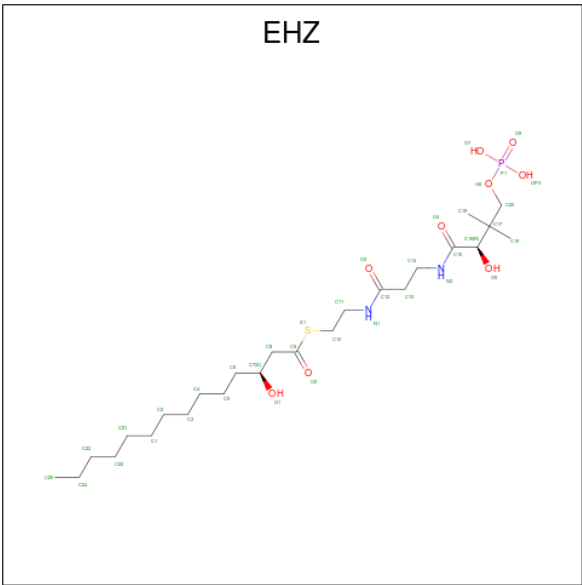


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Mol	Chain	Residues	Atoms		AltConf
77	4A	1	Total	Mg	0
			1	1	

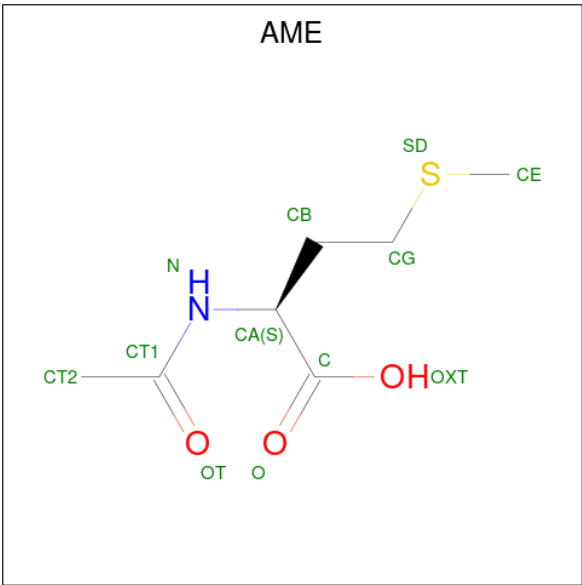
- Molecule 78 is NADPH DIHYDRO-NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (CCD ID: NDP) (formula: $C_{21}H_{30}N_7O_{17}P_3$).





Mol	Chain	Residues	Atoms						AltConf
80	1T	1	Total	C	N	O	P	S	0
			37	25	2	8	1	1	
80	1n	1	Total	C	N	O	P	S	0
			37	25	2	8	1	1	

- Molecule 81 is N-ACETYL METHIONINE (CCD ID: AME) (formula: C₇H₁₃NO₃S).



Mol	Chain	Residues	Atoms					AltConf
81	1h	1	Total	C	N	O	S	0
			11	7	1	2	1	

- Molecule 82 is MYRISTIC ACID (CCD ID: MYR) (formula: C₁₄H₂₈O₂).



Mol	Chain	Residues	Atoms			AltConf
82	11	1	Total	C	O	0
			15	14	1	

- Molecule 83 is PROTOPORPHYRIN IX CONTAINING FE (CCD ID: HEM) (formula: $C_{34}H_{32}FeN_4O_4$).



Mol	Chain	Residues	Atoms					AltConf
83	3C	1	Total 43	C 34	Fe 1	N 4	O 4	0
83	3C	1	Total 43	C 34	Fe 1	N 4	O 4	0

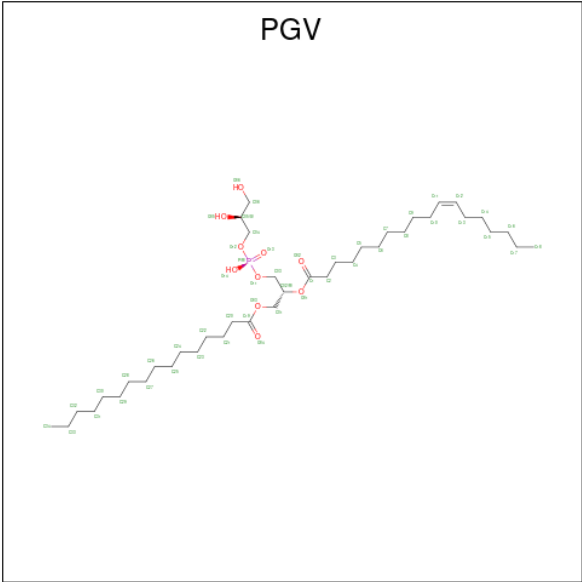
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Mol	Chain	Residues	Atoms				AltConf	
83	3P	1	Total 43	C 34	Fe 1	N 4	O 4	0
83	3P	1	Total 43	C 34	Fe 1	N 4	O 4	0

- [illegible]

Mol	Chain	Residues	Atoms					AltConf
84	3D	1	Total 42	C 34	Fe 1	N 4	O 3	0
84	3Q	1	Total 43	C 34	Fe 1	N 4	O 4	0

- Molecule 85 is (1R)-2-[[{[(2S)-2,3-DIHYDROXYPROPYL]OXY}(HYDROXY)PHOSPHORYL]OXY}-1-[(PALMITOYLOXY)METHYL]ETHYL (11E)-OCTADEC-11-ENOATE (CCD ID: PGV) (formula: $C_{40}H_{77}O_{10}P$).



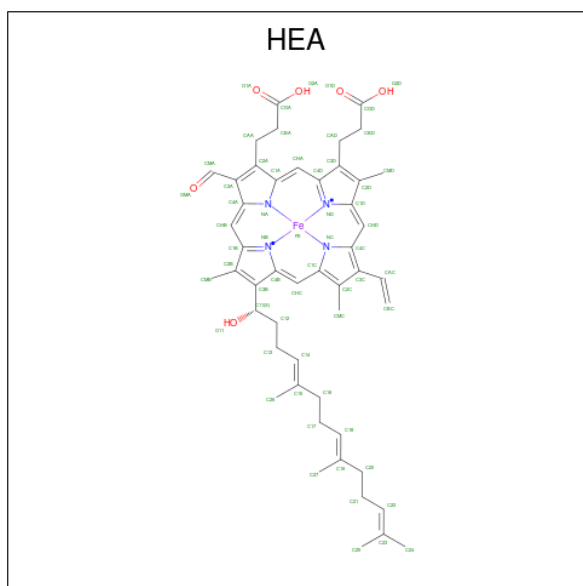
Mol	Chain	Residues	Atoms				AltConf
85	4A	1	Total	C	O	P	0
			51	40	10	1	
85	4A	1	Total	C	O	P	0
			51	40	10	1	
85	4A	1	Total	C	O	P	0
			51	40	10	1	
85	4B	1	Total	C	O	P	0
			51	40	10	1	
85	4C	1	Total	C	O	P	0
			51	40	10	1	
85	4C	1	Total	C	O	P	0
			51	40	10	1	
85	4C	1	Total	C	O	P	0
			51	40	10	1	
85	4C	1	Total	C	O	P	0
			51	40	10	1	
85	4C	1	Total	C	O	P	0
			51	40	10	1	
85	4G	1	Total	C	O	P	0
			51	40	10	1	
85	4J	1	Total	C	O	P	0
			51	40	10	1	
85	4K	1	Total	C	O	P	0
			51	40	10	1	
85	4L	1	Total	C	O	P	0
			51	40	10	1	

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Mol	Chain	Residues	Atoms				AltConf
85	4M	1	Total	C	O	P	0
			51	40	10	1	

- Molecule 86 is HEME-A (CCD ID: HEA) (formula: $C_{49}H_{56}FeN_4O_6$).



Mol	Chain	Residues	Atoms					AltConf
86	4A	1	Total	C	Fe	N	O	0
			60	49	1	4	6	
86	4A	1	Total	C	Fe	N	O	0
			60	49	1	4	6	

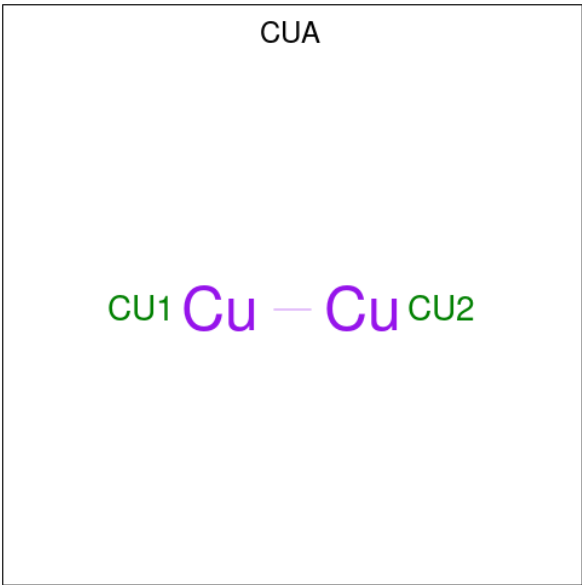
- Molecule 87 is COPPER (II) ION (CCD ID: CU) (formula: Cu).

Mol	Chain	Residues	Atoms		AltConf
87	4A	1	Total	Cu	0
			1	1	

- Molecule 88 is SODIUM ION (CCD ID: NA) (formula: Na).

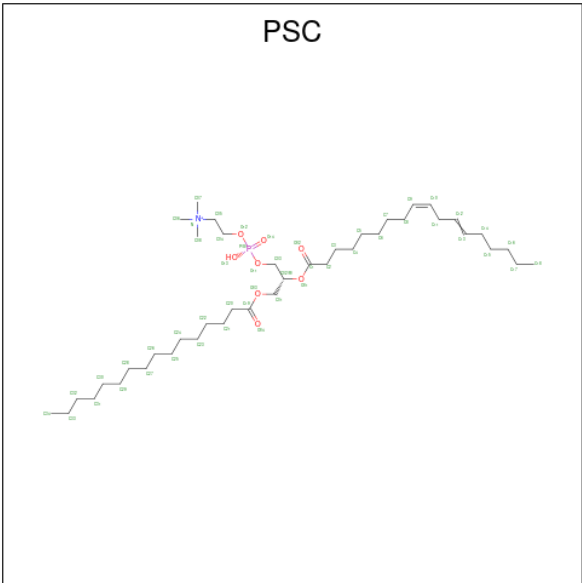
Mol	Chain	Residues	Atoms		AltConf
88	4A	1	Total	Na	0
			1	1	

- Molecule 89 is DINUCLEAR COPPER ION (CCD ID: CUA) (formula: Cu₂).



Mol	Chain	Residues	Atoms		AltConf
89	4B	1	Total	Cu	0
			2	2	

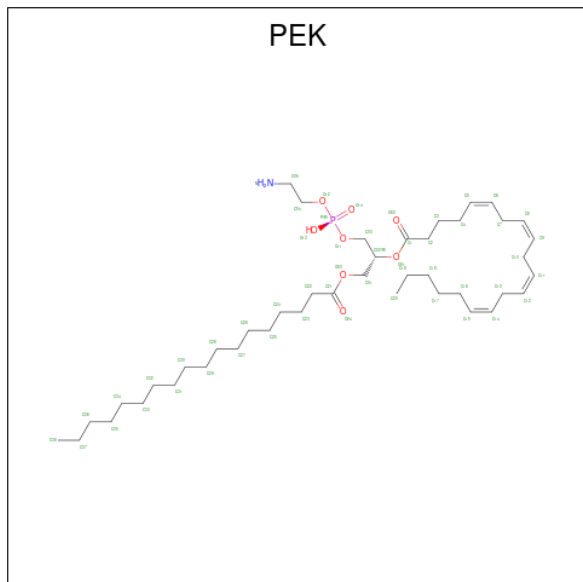
- Molecule 90 is (7R,17E,20E)-4-HYDROXY-N,N,N-TRIMETHYL-9-OXO-7-[(PALMITOYLOXY)METHYL]-3,5,8-TRIOXA-4-PHOSPHAHEXACOSA-17,20-DIEN-1-AMINIUM 4-OXIDE (CCD ID: PSC) (formula: C₄₂H₈₁NO₈P).



Mol	Chain	Residues	Atoms					AltConf
90	4B	1	Total	C	N	O	P	0
			52	42	1	8	1	

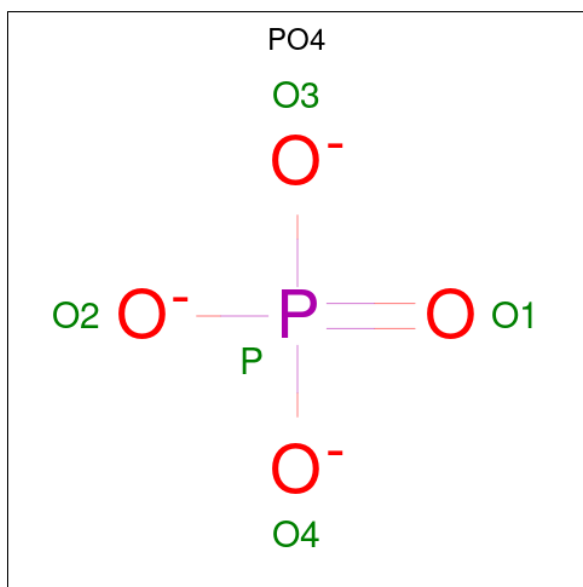
- Molecule 91 is (1S)-2-{[(2-AMINOETHOXY)(HYDROXY)PHOSPHORYL]OXY}-1-[(ST

EAROYLOXY)METHYL]ETHYL (5E,8E,11E,14E)-ICOSA-5,8,11,14-TETRAENOATE
(CCD ID: PEK) (formula: $C_{43}H_{78}NO_8P$).



Mol	Chain	Residues	Atoms					AltConf
91	4G	1	Total	C	N	O	P	0
			53	43	1	8	1	
91	4G	1	Total	C	N	O	P	0
			52	42	1	8	1	

- Molecule 92 is PHOSPHATE ION (CCD ID: PO4) (formula: O_4P).



Mol	Chain	Residues	Atoms			AltConf
92	4H	1	Total	O	P	0
			5	4	1	

- Molecule 93 is water.

Mol	Chain	Residues	Atoms			AltConf
93	1A	21	Total	O		0
			21	21		
93	1B	53	Total	O		0
			53	53		
93	1C	96	Total	O		0
			96	96		
93	1D	138	Total	O		0
			138	138		
93	1E	55	Total	O		0
			55	55		
93	1F	113	Total	O		0
			113	113		
93	1G	255	Total	O		0
			255	255		
93	1H	80	Total	O		0
			80	80		
93	1I	75	Total	O		0
			75	75		
93	1J	56	Total	O		0
			56	56		
93	1K	38	Total	O		0
			38	38		
93	1L	228	Total	O		0
			228	228		
93	1M	201	Total	O		0
			201	201		
93	1N	154	Total	O		0
			154	154		
93	1O	150	Total	O		0
			150	150		
93	1P	118	Total	O		0
			118	118		
93	1Q	63	Total	O		0
			63	63		
93	1R	41	Total	O		0
			41	41		
93	1S	56	Total	O		0
			56	56		

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Mol	Chain	Residues	Atoms		AltConf
93	1T	12	Total 12	O 12	0
93	1U	26	Total 26	O 26	0
93	1V	20	Total 20	O 20	0
93	1W	37	Total 37	O 37	0
93	1X	106	Total 106	O 106	0
93	1Y	39	Total 39	O 39	0
93	1Z	83	Total 83	O 83	0
93	1a	30	Total 30	O 30	0
93	1b	35	Total 35	O 35	0
93	1c	23	Total 23	O 23	0
93	1d	95	Total 95	O 95	0
93	1e	91	Total 91	O 91	0
93	1f	43	Total 43	O 43	0
93	1g	76	Total 76	O 76	0
93	1h	116	Total 116	O 116	0
93	1i	48	Total 48	O 48	0
93	1j	37	Total 37	O 37	0
93	1k	35	Total 35	O 35	0
93	1l	97	Total 97	O 97	0
93	1m	78	Total 78	O 78	0
93	1n	122	Total 122	O 122	0

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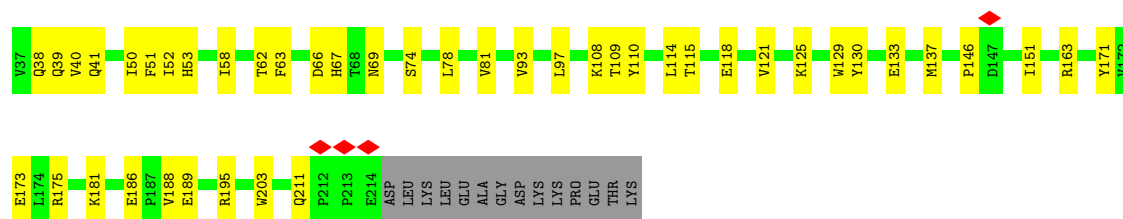
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Mol	Chain	Residues	Atoms		AltConf
93	1o	101	Total 101	O 101	0
93	1p	141	Total 141	O 141	0
93	1q	47	Total 47	O 47	0
93	1r	25	Total 25	O 25	0
93	1s	15	Total 15	O 15	0
93	3A	184	Total 184	O 184	0
93	3B	110	Total 110	O 110	0
93	3C	222	Total 222	O 222	0
93	3D	131	Total 131	O 131	0
93	3E	45	Total 45	O 45	0
93	3F	115	Total 115	O 115	0
93	3G	78	Total 78	O 78	0
93	3H	26	Total 26	O 26	0
93	3I	5	Total 5	O 5	0
93	3J	27	Total 27	O 27	0
93	3N	231	Total 231	O 231	0
93	3O	184	Total 184	O 184	0
93	3P	152	Total 152	O 152	0
93	3Q	98	Total 98	O 98	0
93	3R	47	Total 47	O 47	0
93	3S	71	Total 71	O 71	0

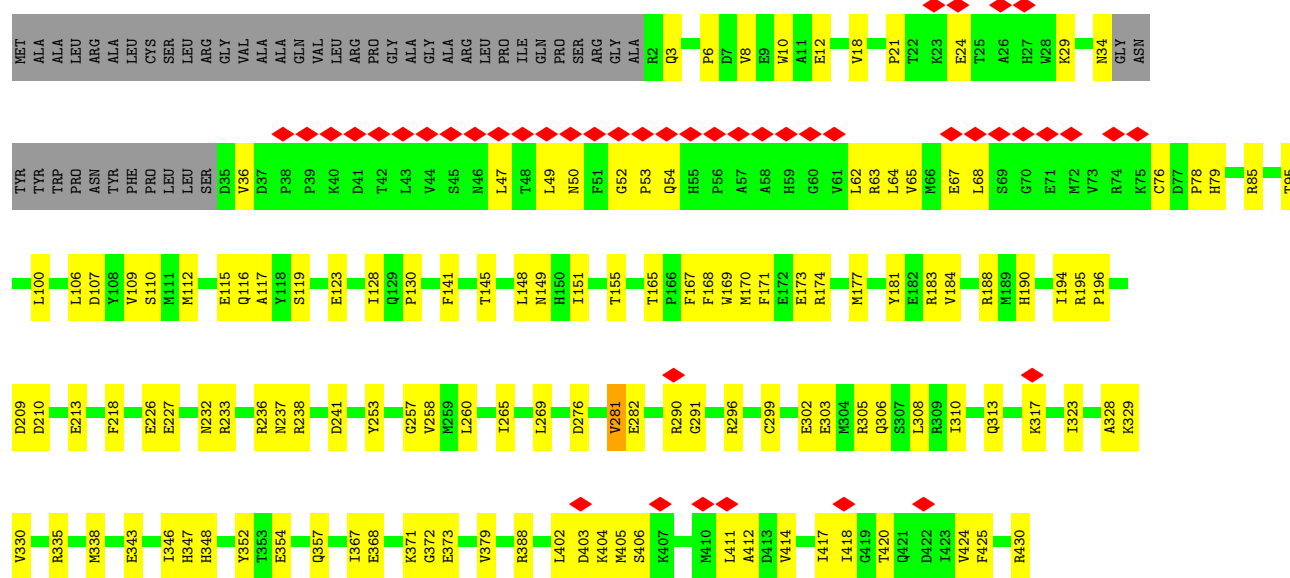
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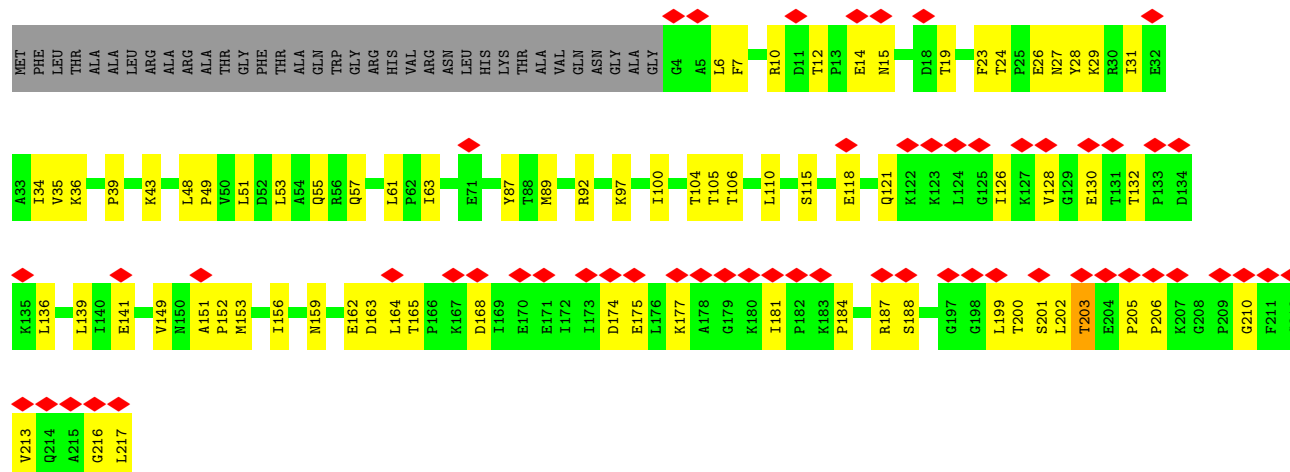
Mol	Chain	Residues	Atoms		AltConf
93	3T	40	Total 40	O 40	0
93	3U	110	Total 110	O 110	0
93	3V	7	Total 7	O 7	0
93	3W	31	Total 31	O 31	0
93	3X	25	Total 25	O 25	0
93	3Y	16	Total 16	O 16	0
93	4A	110	Total 110	O 110	0
93	4B	115	Total 115	O 115	0
93	4C	103	Total 103	O 103	0
93	4D	81	Total 81	O 81	0
93	4E	55	Total 55	O 55	0
93	4F	67	Total 67	O 67	0
93	4G	39	Total 39	O 39	0
93	4H	43	Total 43	O 43	0
93	4I	25	Total 25	O 25	0
93	4J	34	Total 34	O 34	0
93	4K	27	Total 27	O 27	0
93	4L	23	Total 23	O 23	0
93	4M	28	Total 28	O 28	0
93	4N	53	Total 53	O 53	0



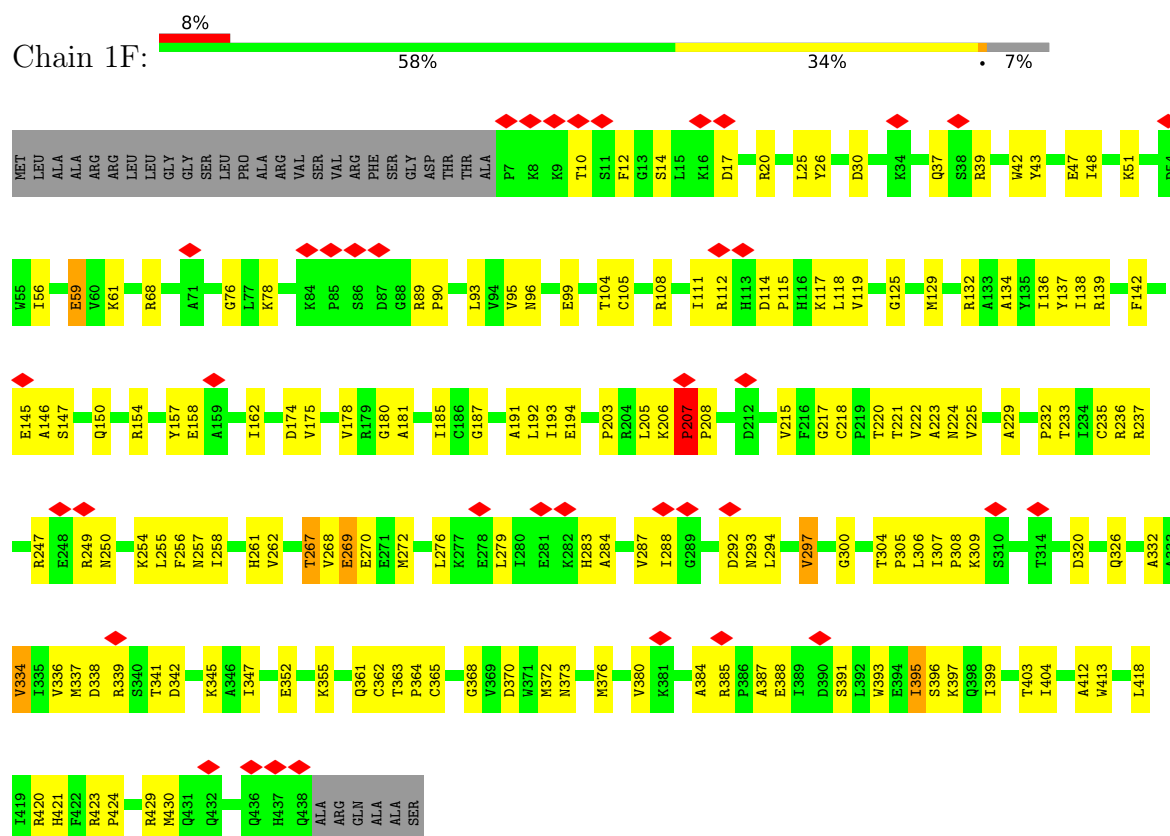
- Molecule 4: NADH dehydrogenase [ubiquinone] iron-sulfur protein 2, mitochondrial



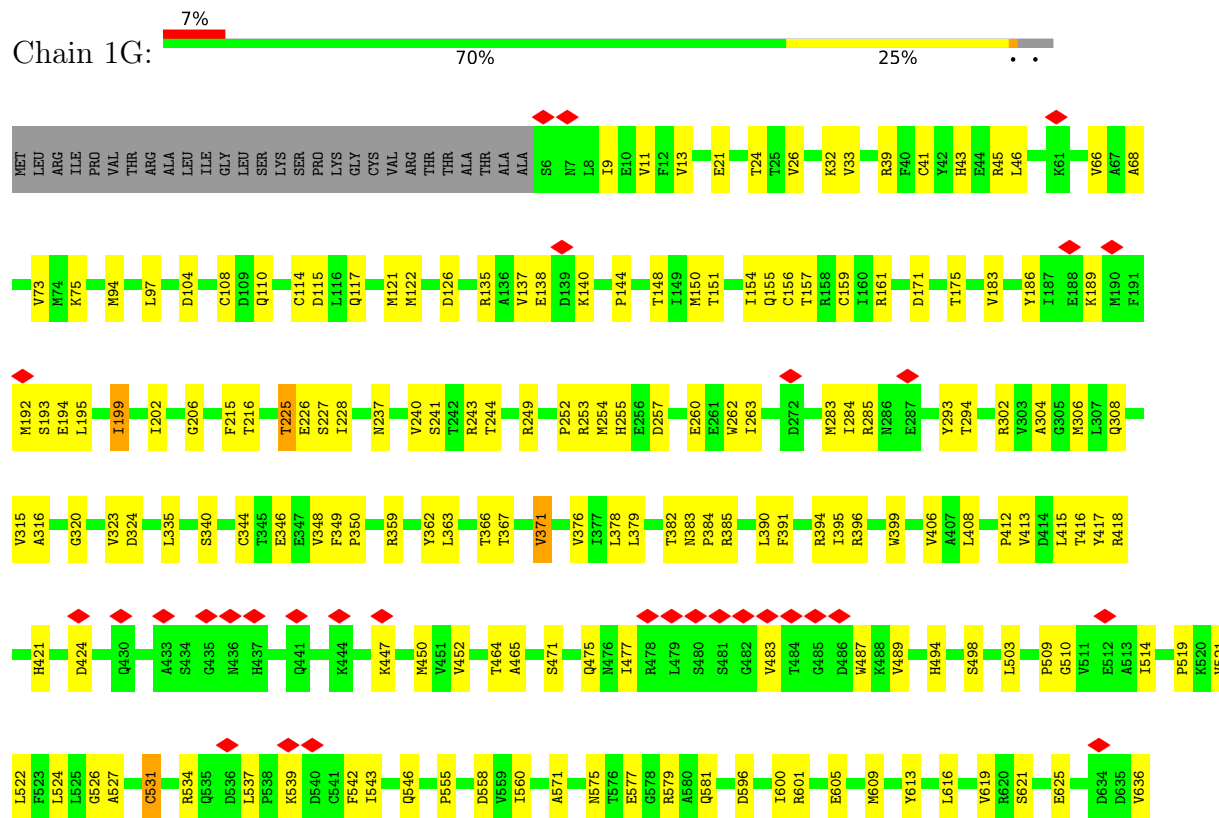
- Molecule 5: NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial



- Molecule 6: NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial

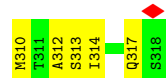
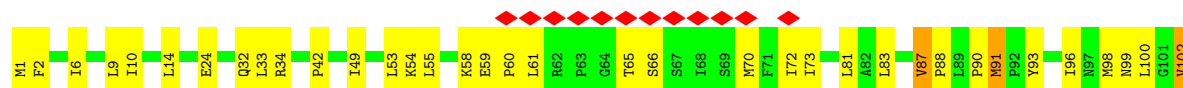


• Molecule 7: NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial





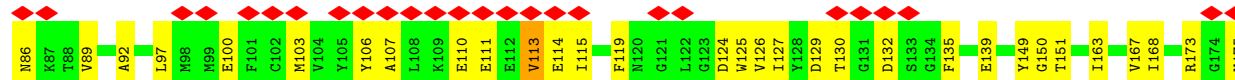
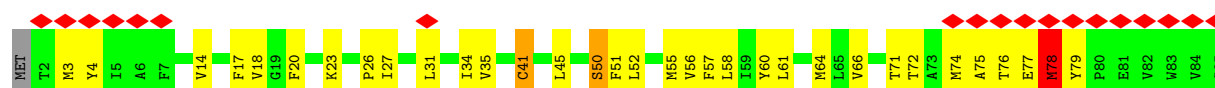
• Molecule 8: NADH-ubiquinone oxidoreductase chain 1



• Molecule 9: NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial



• Molecule 10: NADH-ubiquinone oxidoreductase chain 6

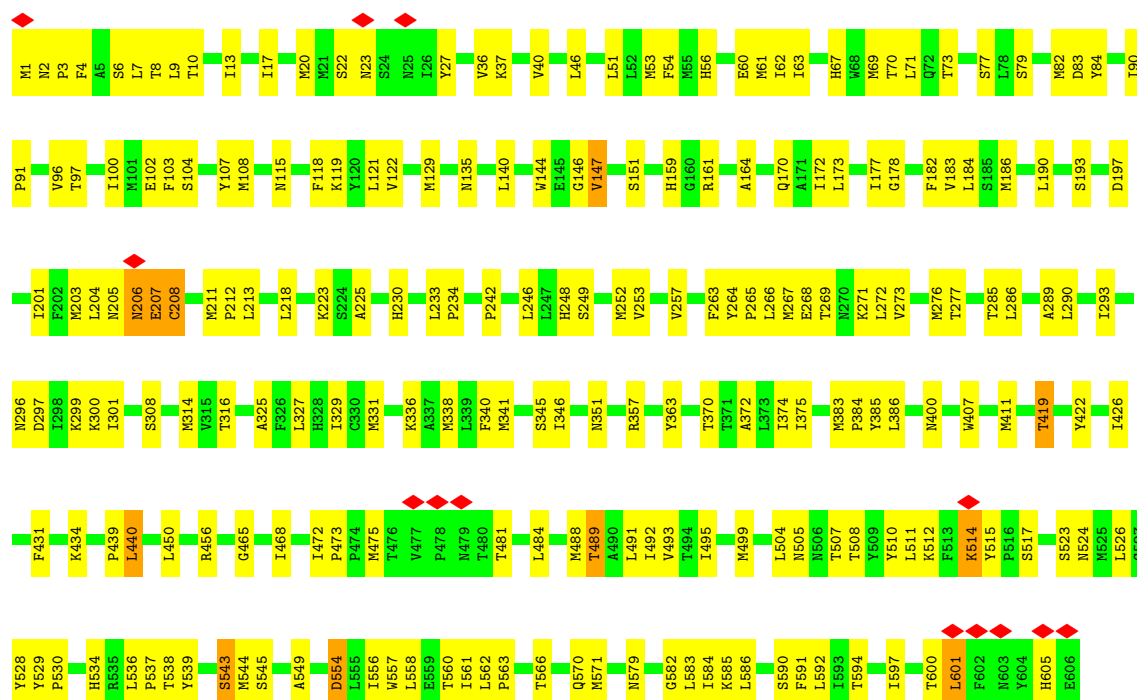


• Molecule 11: NADH-ubiquinone oxidoreductase chain 4L

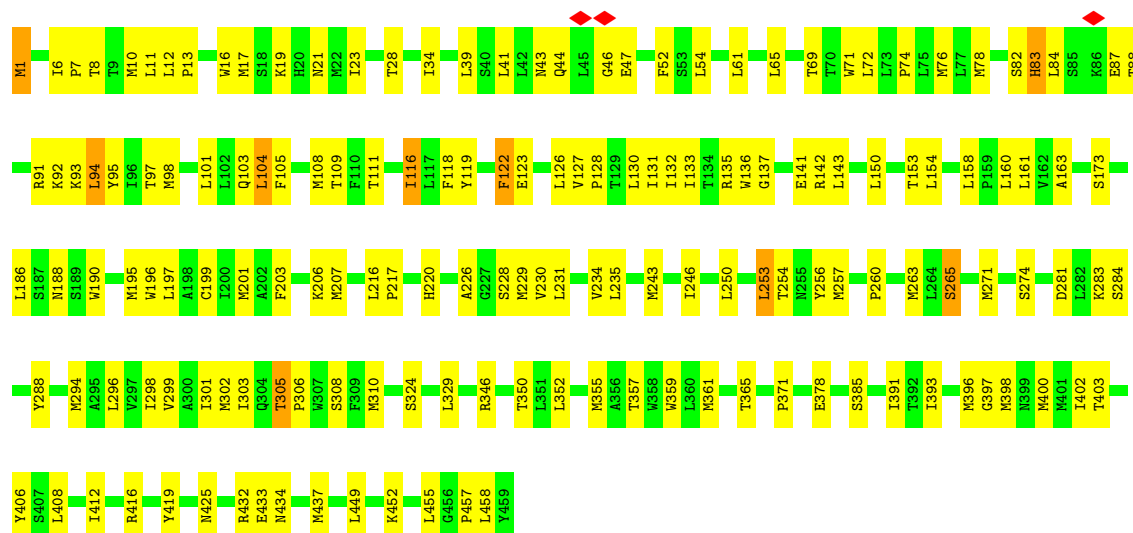




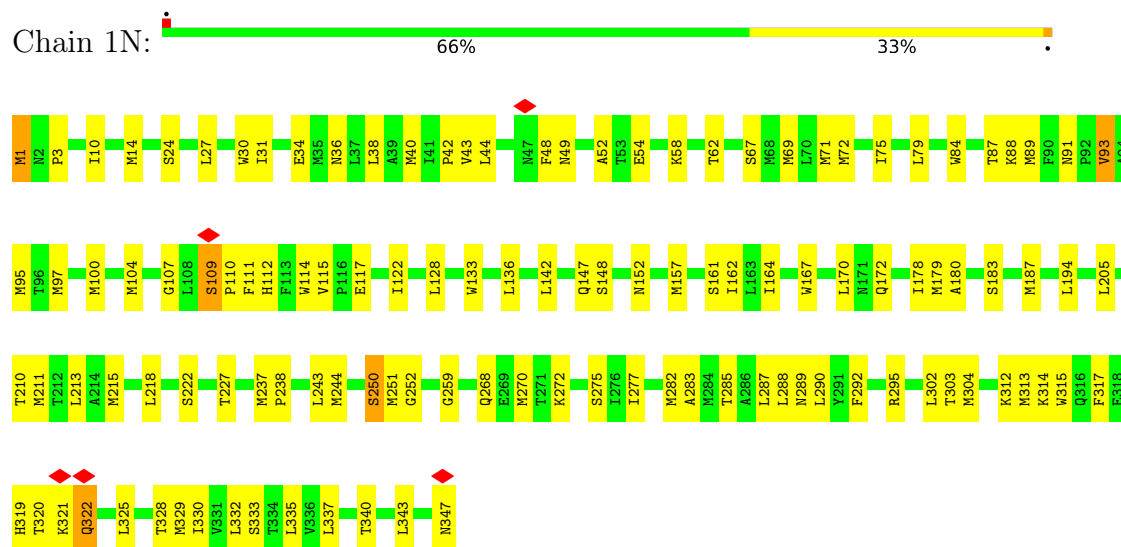
• Molecule 12: NADH-ubiquinone oxidoreductase chain 5



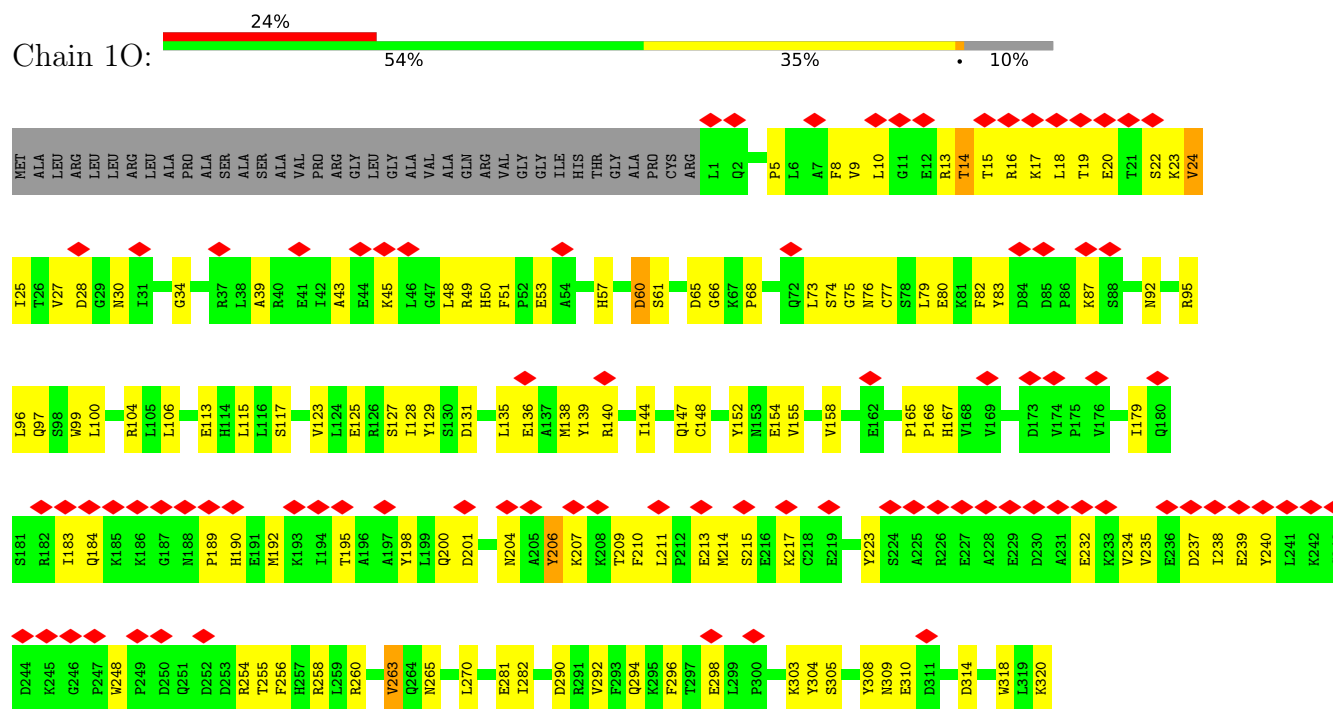
• Molecule 13: NADH-ubiquinone oxidoreductase chain 4



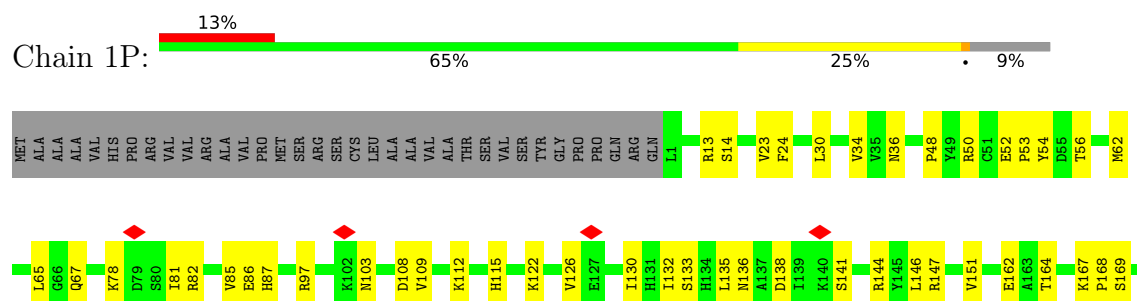
• Molecule 14: NADH-ubiquinone oxidoreductase chain 2

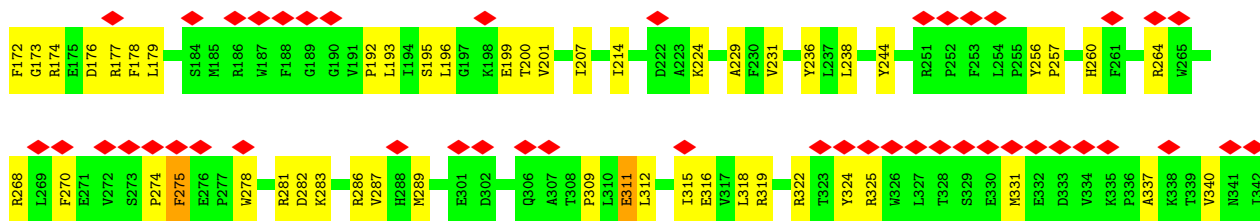


- Molecule 15: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial

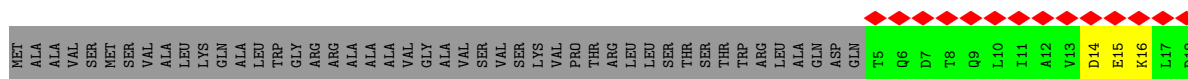


- Molecule 16: NADH:ubiquinone oxidoreductase subunit A9

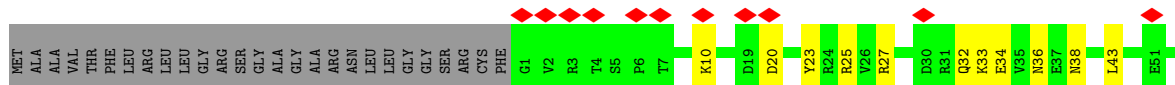




- Molecule 17: NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial



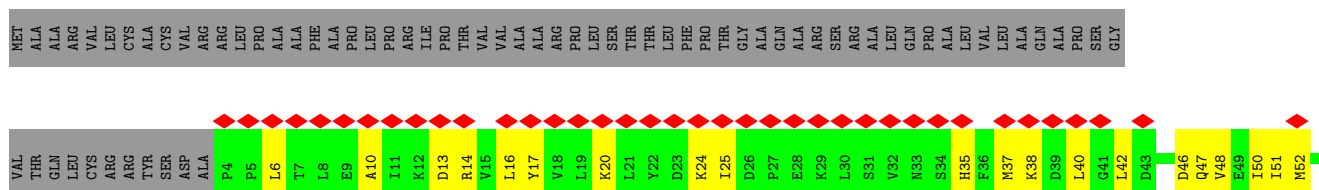
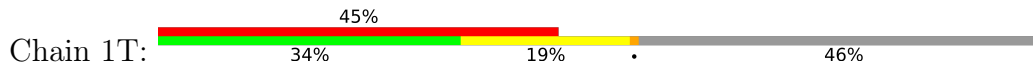
- Molecule 18: NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial



- Molecule 19: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2

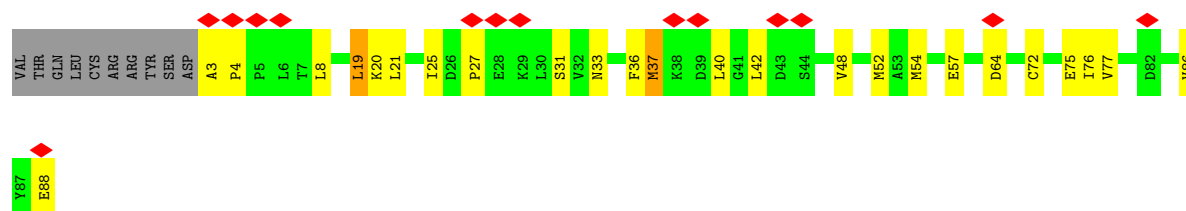
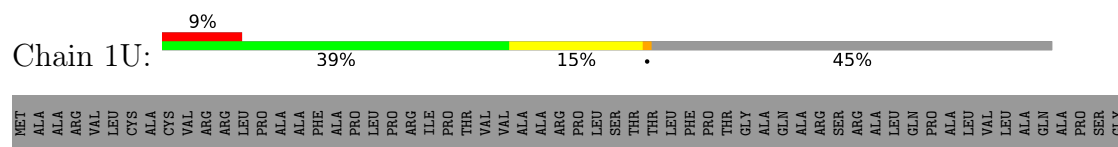


- Molecule 20: NADH:ubiquinone oxidoreductase subunit AB1

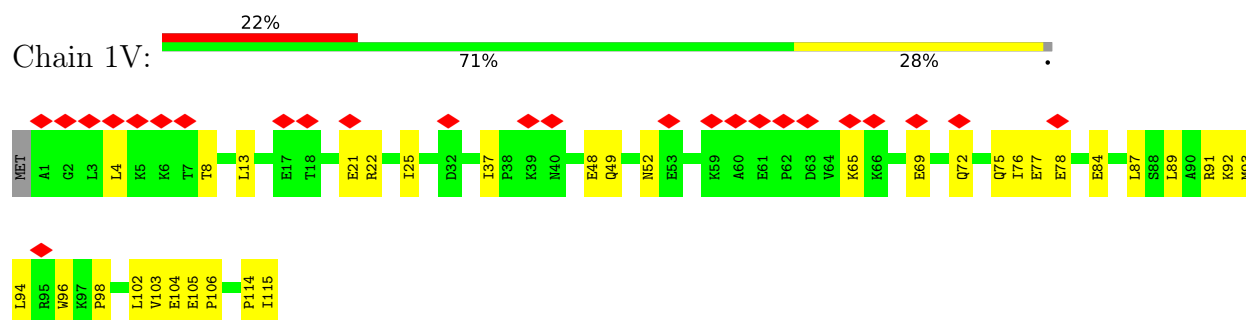




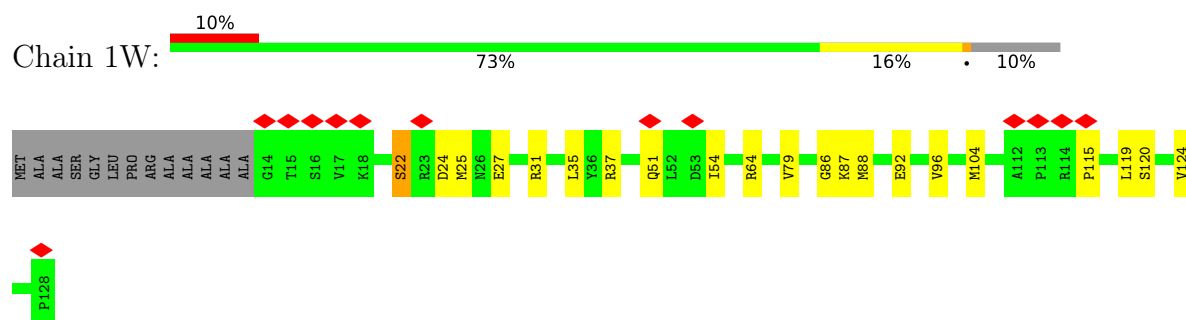
- Molecule 20: NADH:ubiquinone oxidoreductase subunit AB1



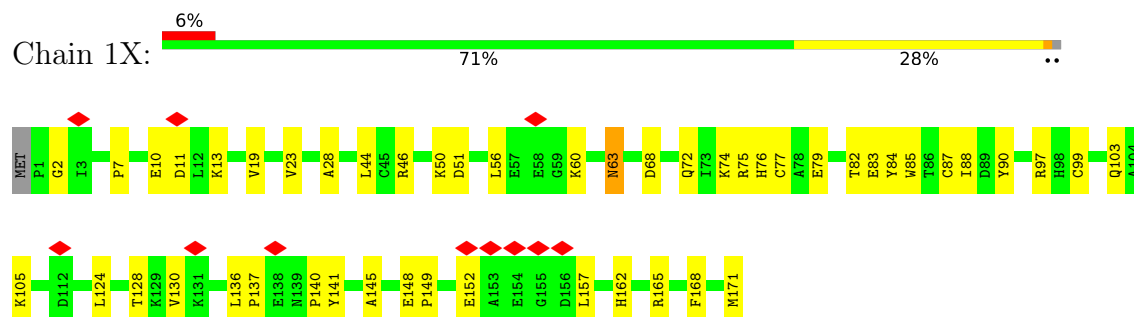
- Molecule 21: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 5 isoform X1



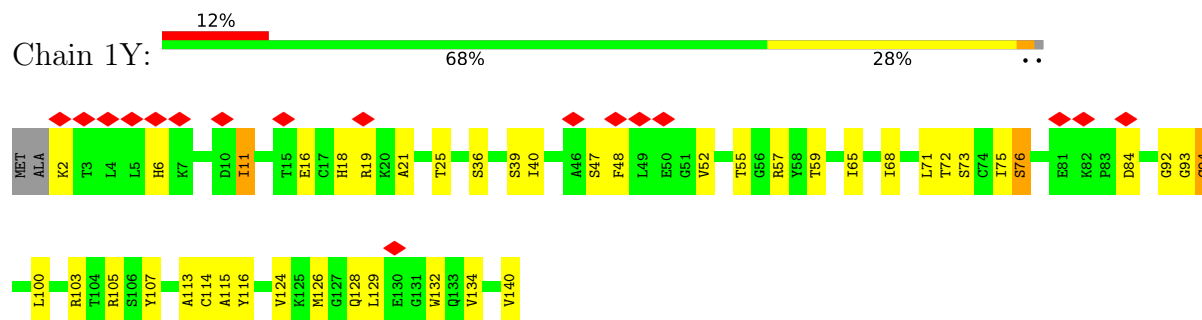
- Molecule 22: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6



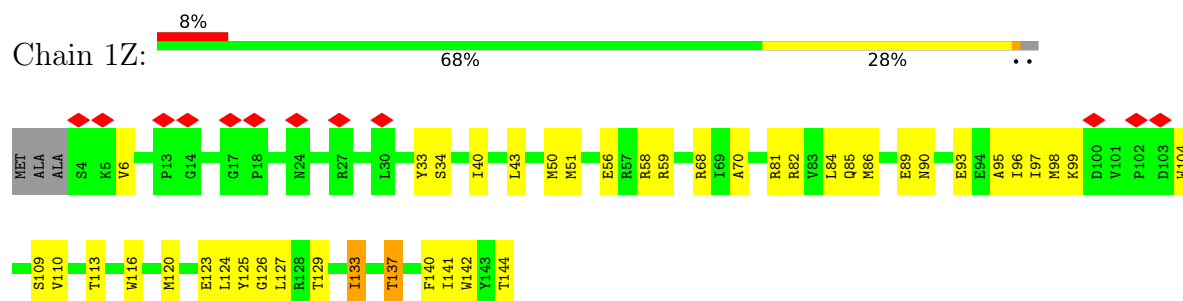
- Molecule 23: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8



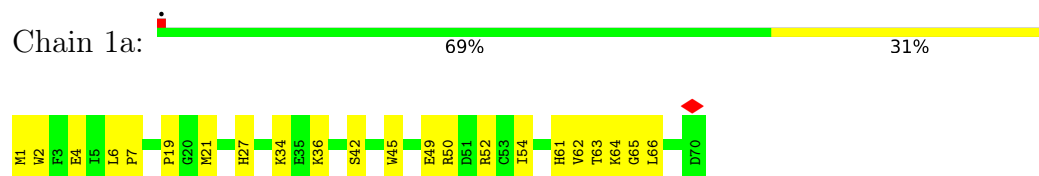
- Molecule 24: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11



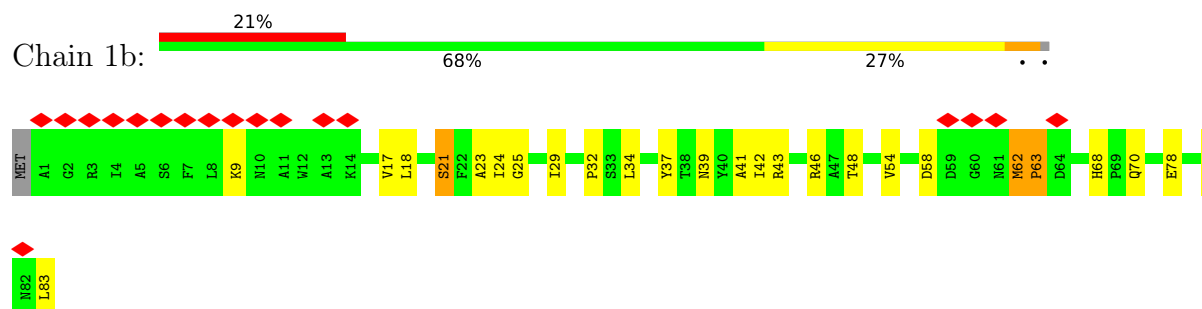
- Molecule 25: NADH:ubiquinone oxidoreductase subunit A13



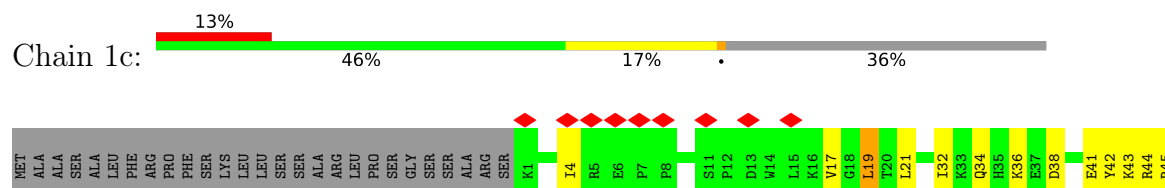
- Molecule 26: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1

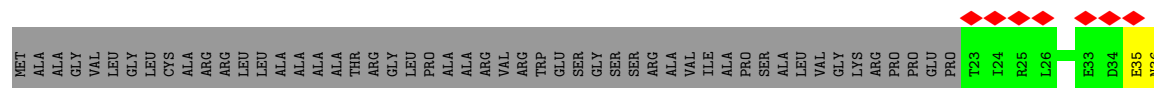


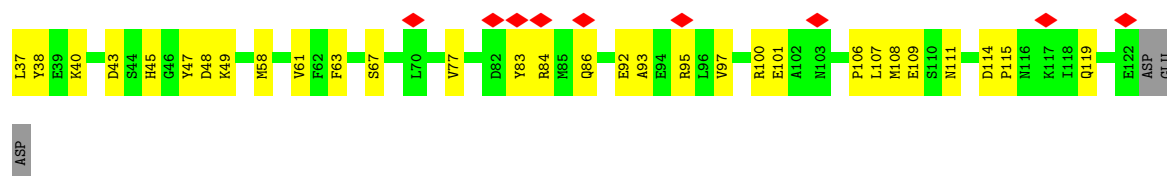
- Molecule 27: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3



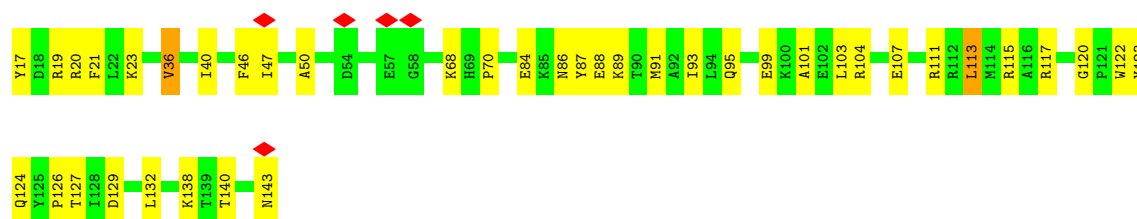
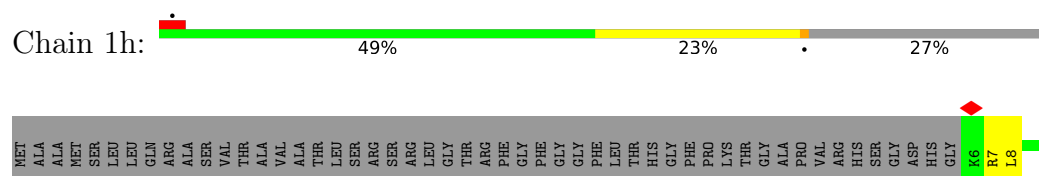
- Molecule 28: NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial



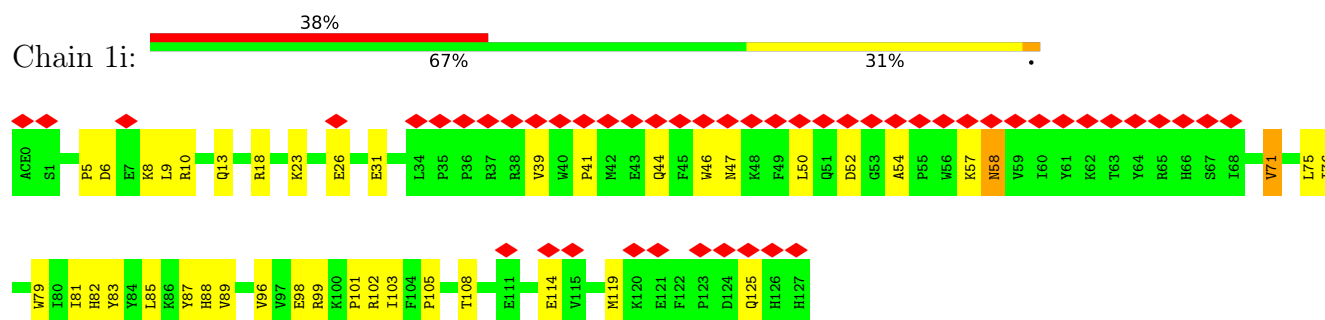




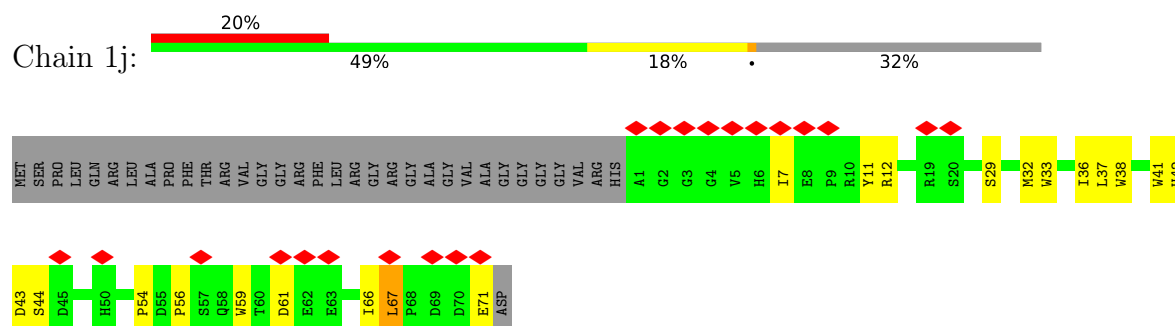
- Molecule 33: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 5, mitochondrial



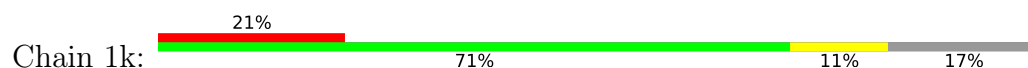
- Molecule 34: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 6

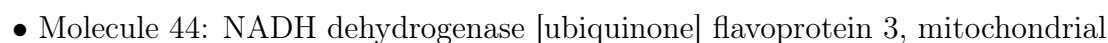
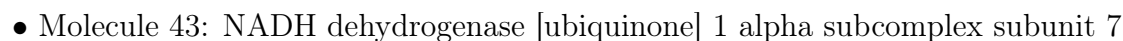
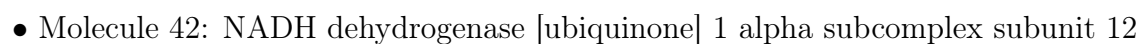


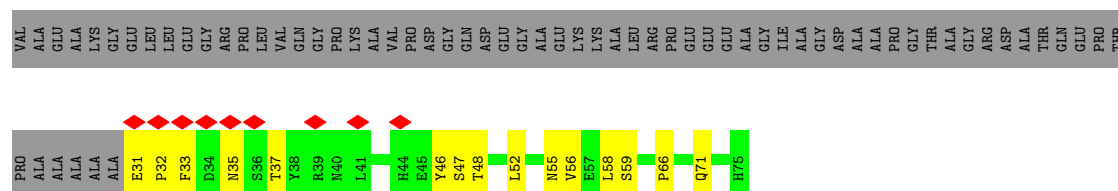
- Molecule 35: NADH:ubiquinone oxidoreductase subunit B2



- Molecule 36: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 3

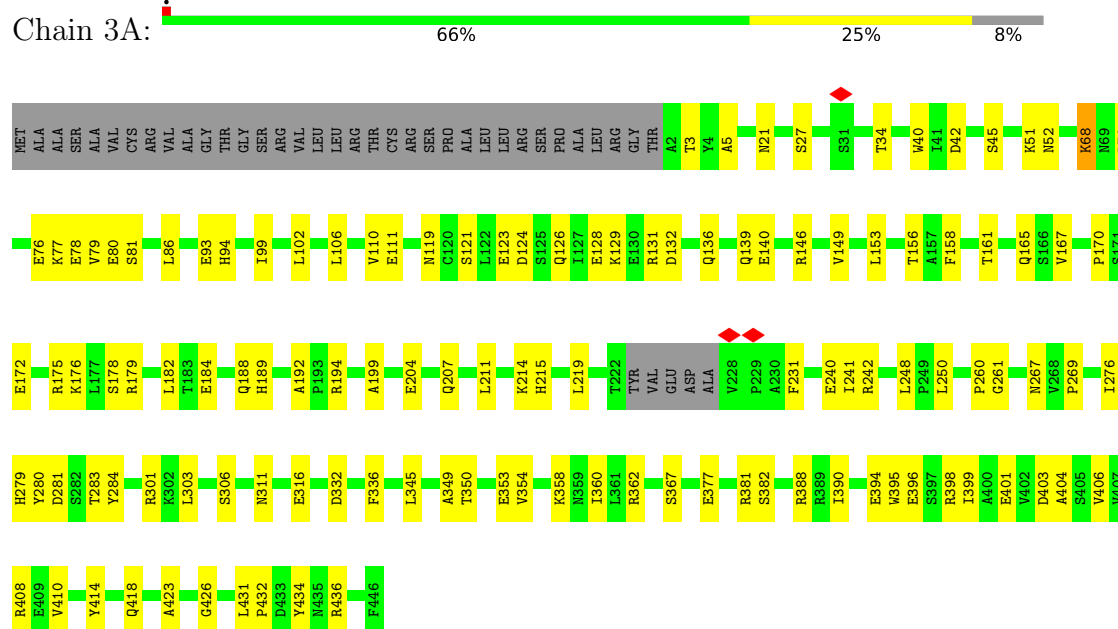






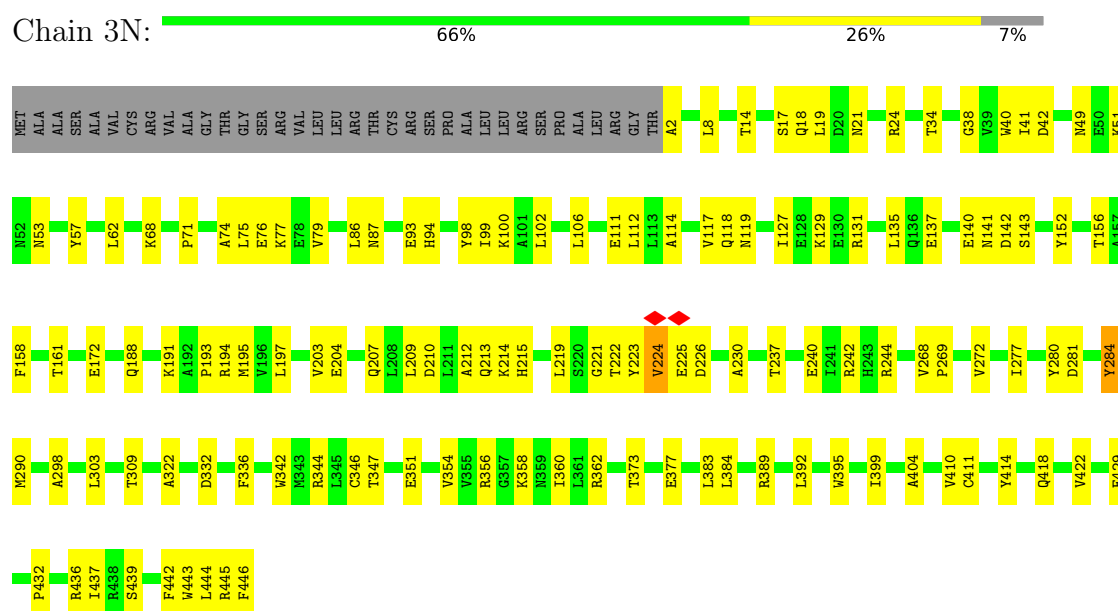
- Molecule 45: Cytochrome b-c1 complex subunit 1, mitochondrial

Chain 3A:



- Molecule 45: Cytochrome b-c1 complex subunit 1, mitochondrial

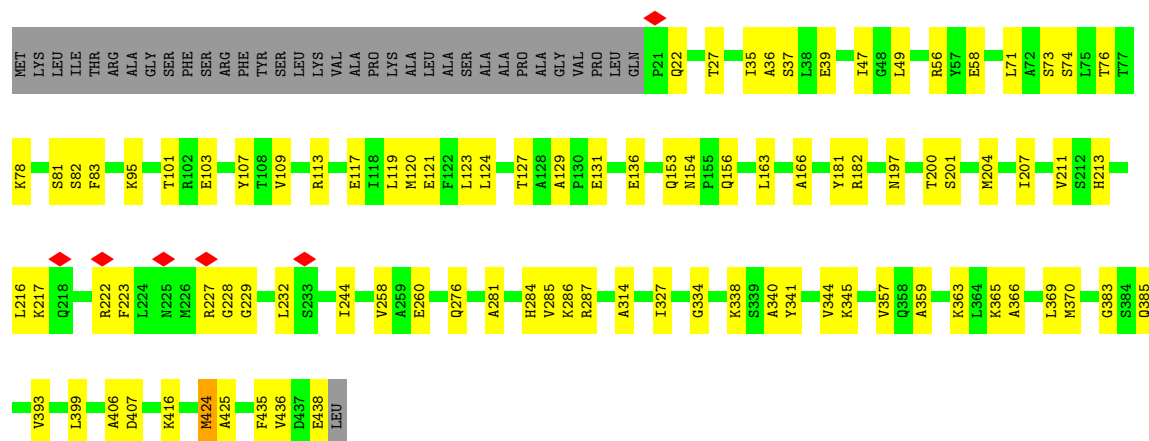
Chain 3N:



- Molecule 46: Cytochrome b-c1 complex subunit 2, mitochondrial

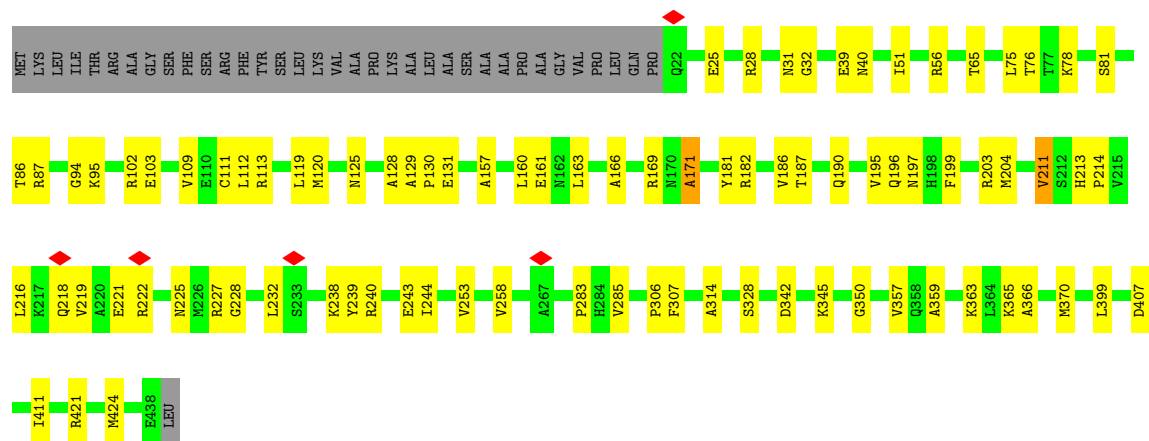
Chain 3B:





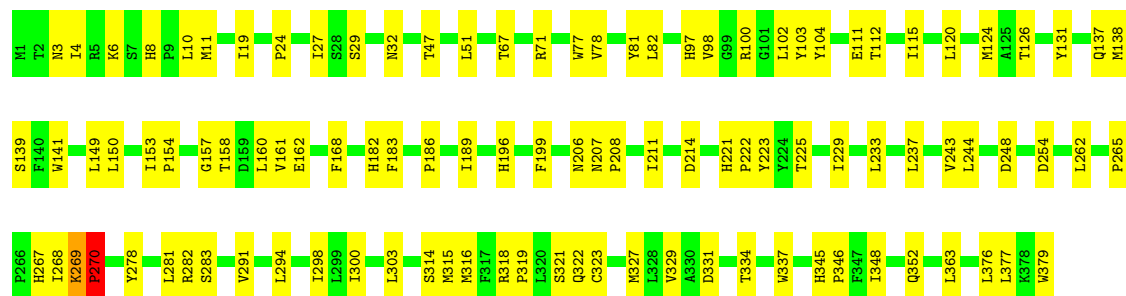
- Molecule 46: Cytochrome b-c1 complex subunit 2, mitochondrial

Chain 30: 73% 19% 8%



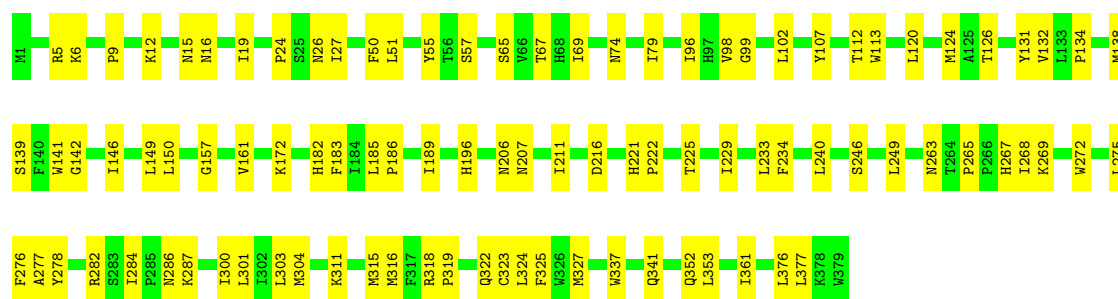
- Molecule 47: Cytochrome b

Chain 3C: 73% 27%

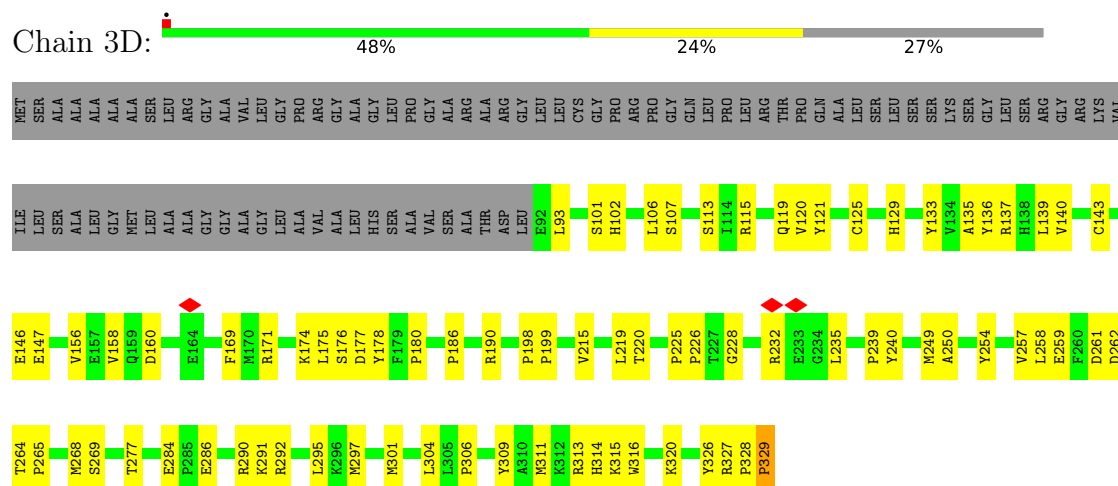


- Molecule 47: Cytochrome b

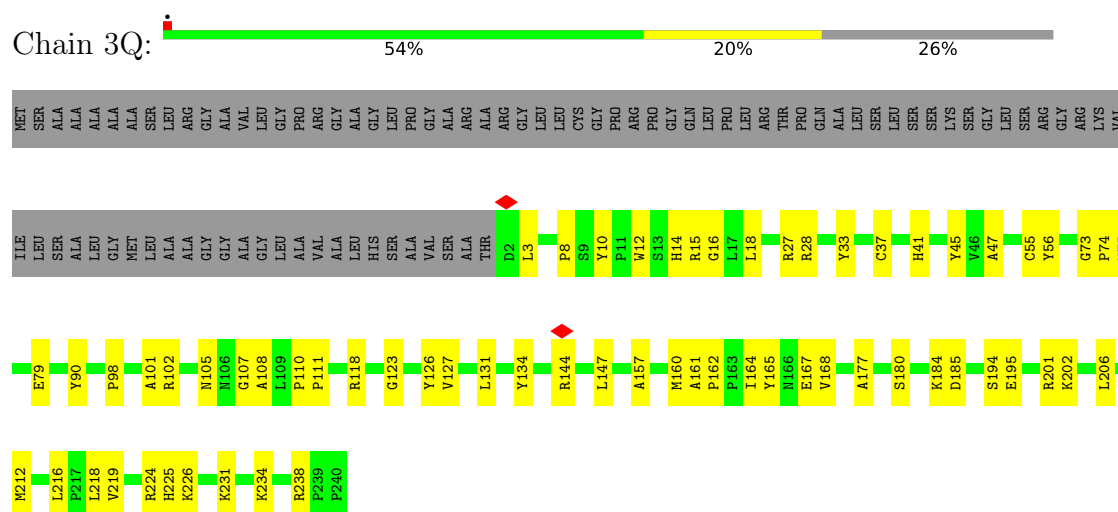
Chain 3P: 75% 25%



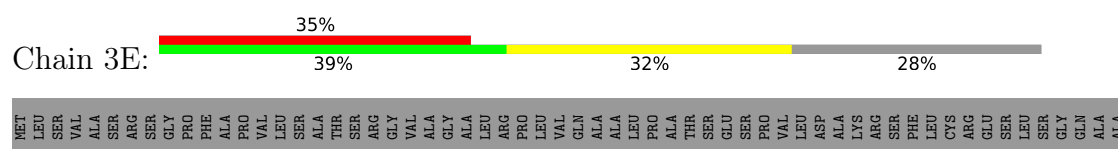
- Molecule 48: Cytochrome c1, heme protein, mitochondrial



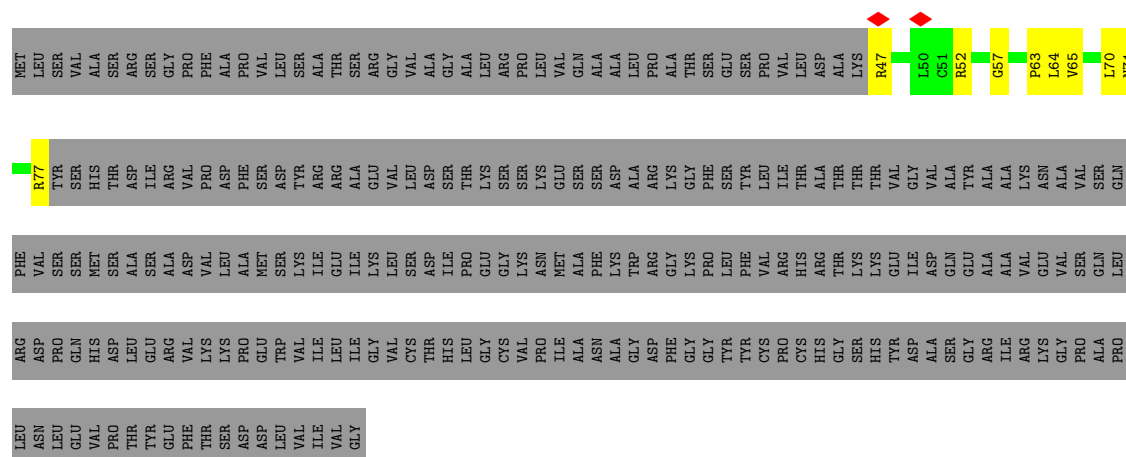
- Molecule 48: Cytochrome c1, heme protein, mitochondrial



- Molecule 49: Cytochrome b-c1 complex subunit Rieske, mitochondrial



Chain 3V:  8% 89%




- Molecule 50: Cytochrome b-c1 complex subunit 7

Chain 3F:  63% 25% 12%



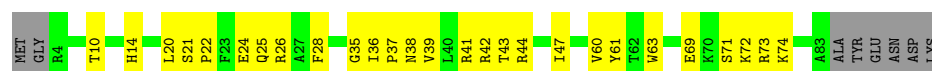
- Molecule 50: Cytochrome b-c1 complex subunit 7

Chain 3S:  78% 10% 12%



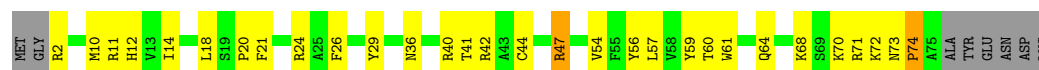
- Molecule 51: Cytochrome b-c1 complex subunit 8

Chain 3G:  57% 33% 10%



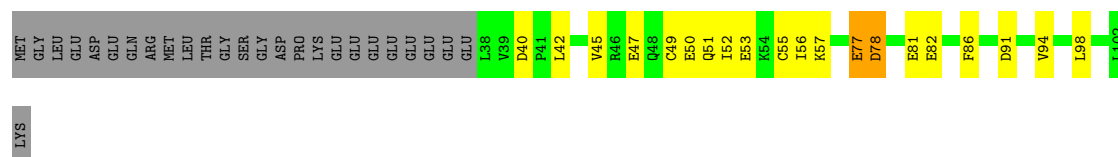
- Molecule 51: Cytochrome b-c1 complex subunit 8

Chain 3T:  54% 34% 10%

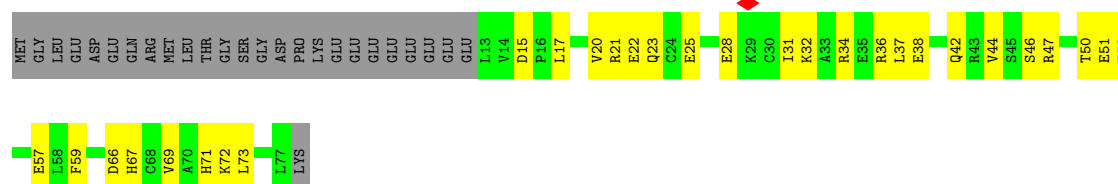


- Molecule 52: Cytochrome b-c1 complex subunit 6, mitochondrial

Chain 3H:  49% 20% 29%



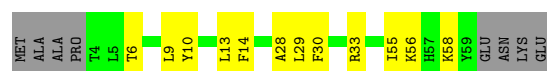
- Molecule 52: Cytochrome b-c1 complex subunit 6, mitochondrial



- Molecule 53: Ubiquinol-cytochrome c reductase complex 7.2 kDa protein



- Molecule 53: Ubiquinol-cytochrome c reductase complex 7.2 kDa protein



- Molecule 54: Cytochrome b-c1 complex subunit 10

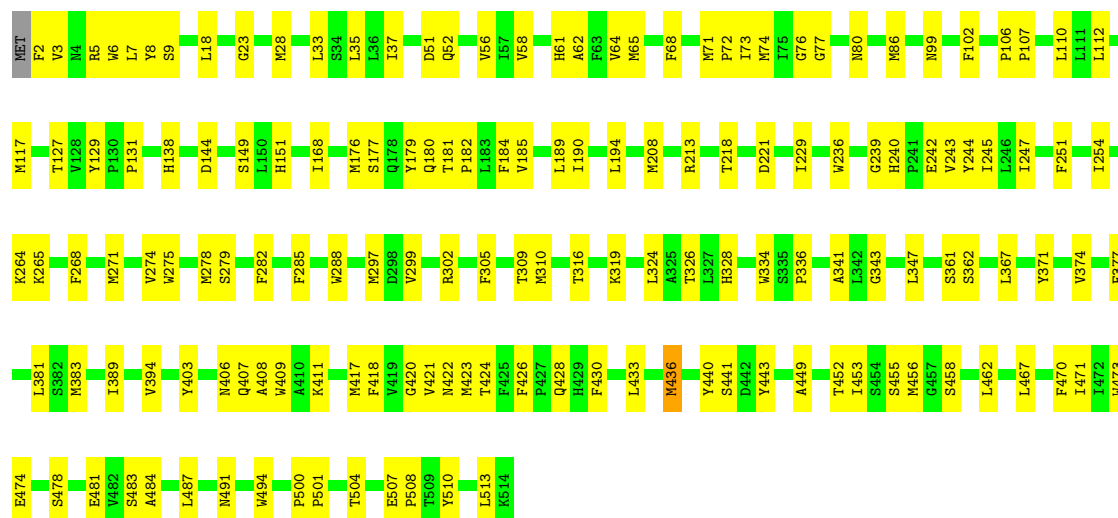


- Molecule 54: Cytochrome b-c1 complex subunit 10

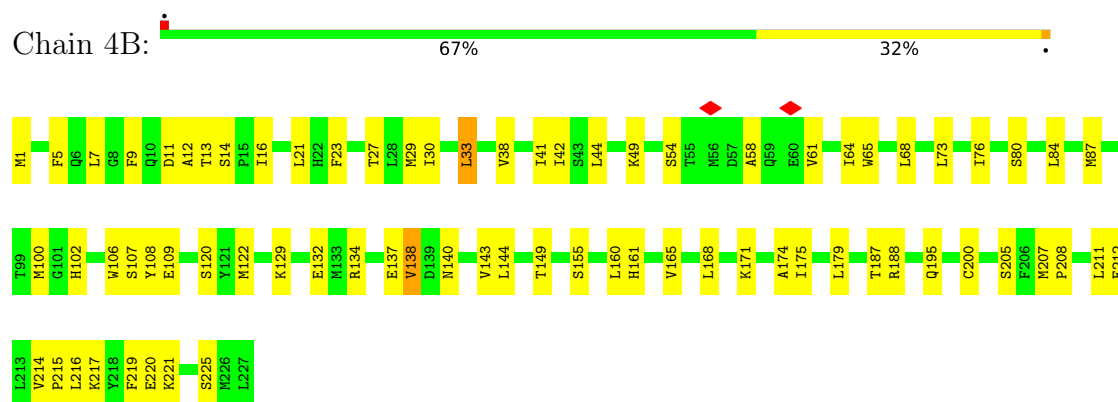


- Molecule 55: Cytochrome c oxidase subunit 1

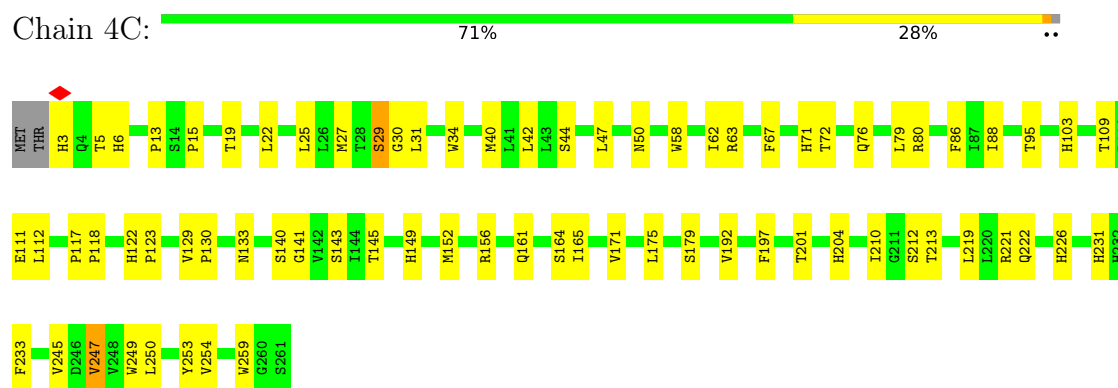




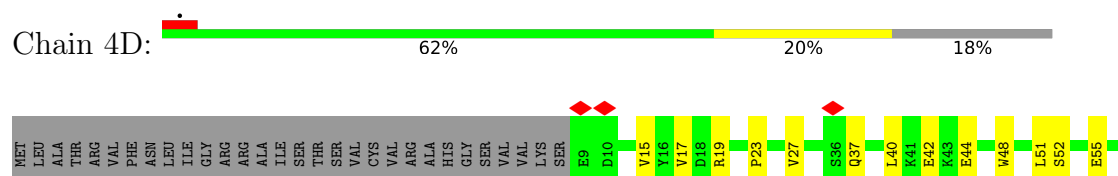
• Molecule 56: Cytochrome c oxidase subunit 2



• Molecule 57: Cytochrome c oxidase subunit 3

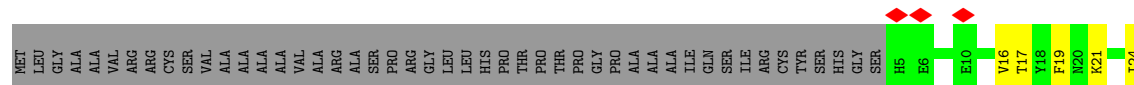


• Molecule 58: Cytochrome c oxidase subunit 4

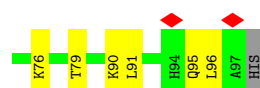
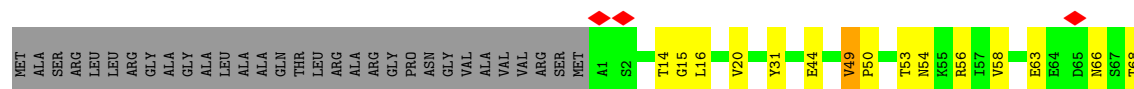




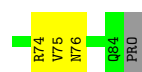
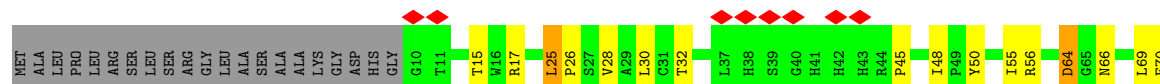
- Molecule 59: Cytochrome c oxidase subunit 5A, mitochondrial



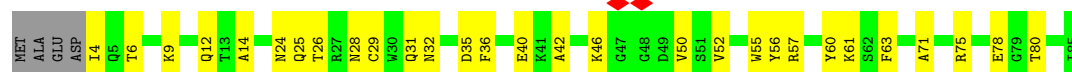
- Molecule 60: Cytochrome c oxidase subunit 5B, mitochondrial



- Molecule 61: Cytochrome c oxidase subunit 6A2



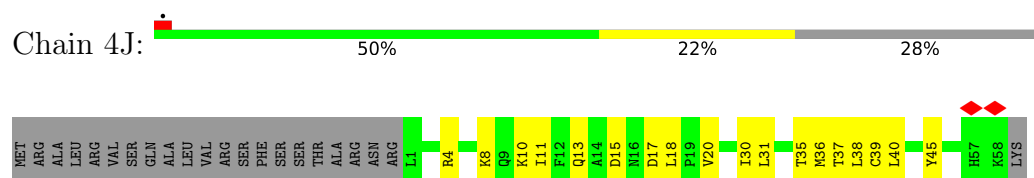
- Molecule 62: Cytochrome c oxidase subunit 6B1



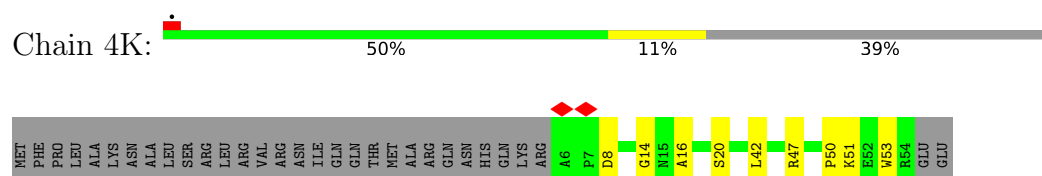
- Molecule 63: Cytochrome c oxidase subunit 6C



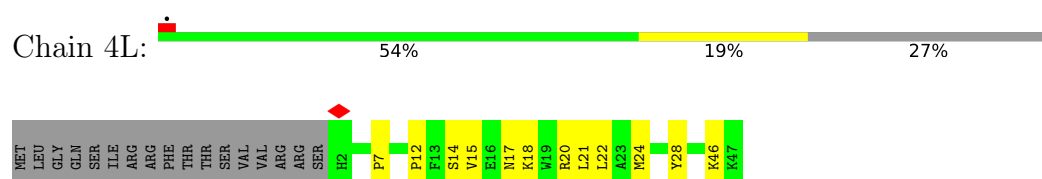
- Molecule 64: Cytochrome c oxidase subunit 7A1, mitochondrial



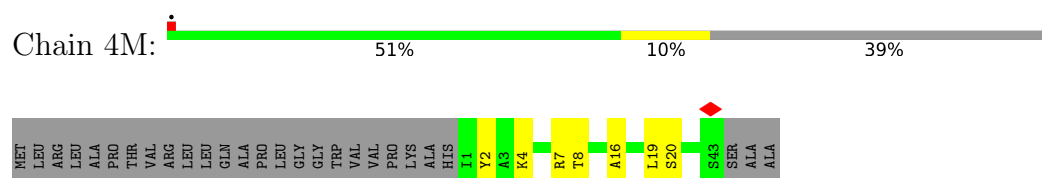
- Molecule 65: Cytochrome c oxidase subunit 7B



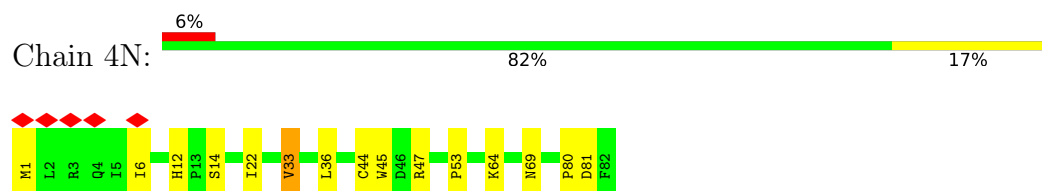
- Molecule 66: Cytochrome c oxidase subunit 7C, mitochondrial



- Molecule 67: Cytochrome c oxidase subunit 8



- Molecule 68: Cytochrome c oxidase subunit NDUFA4



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	400000	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 ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1300	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.632	Depositor
Minimum map value	-0.000	Depositor
Average map value	0.005	Depositor
Map value standard deviation	0.030	Depositor
Recommended contour level	0.12	Depositor
Map size (Å)	370.296, 370.296, 370.296	wwPDB
Map dimensions	888, 888, 888	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.417, 0.417, 0.417	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: K, MG, PSC, AME, CUA, CU, HEA, NDP, FES, PGV, PEK, 3PE, HEM, ACE, NA, SF4, PC1, ZN, MYR, GTP, PO4, EHZ, HEC, FME, CDL, FMN

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	1A	0.16	0/930	0.47	0/1271
2	1B	0.15	0/1273	0.39	0/1722
3	1C	0.14	0/1791	0.36	0/2439
4	1D	0.29	2/3545 (0.1%)	0.57	5/4806 (0.1%)
5	1E	0.17	0/1698	0.41	0/2311
6	1F	0.29	1/3401 (0.0%)	0.55	7/4595 (0.2%)
7	1G	0.14	0/5451	0.38	1/7387 (0.0%)
8	1H	0.18	0/2566	0.50	4/3509 (0.1%)
9	1I	0.14	0/1443	0.35	0/1952
10	1J	0.19	0/1364	0.56	1/1850 (0.1%)
11	1K	0.17	0/751	0.45	0/1018
12	1L	0.16	0/4939	0.40	0/6718
13	1M	0.16	0/3713	0.40	0/5063
14	1N	0.17	0/2765	0.40	0/3758
15	1O	0.16	0/2650	0.43	0/3588
16	1P	0.16	0/2828	0.37	0/3834
17	1Q	0.14	0/1070	0.35	0/1446
18	1R	0.12	0/755	0.32	0/1018
19	1S	0.18	0/711	0.40	0/956
20	1T	0.14	0/701	0.36	0/946
20	1U	0.13	0/706	0.33	0/954
21	1V	0.14	0/946	0.34	0/1281
22	1W	0.14	0/995	0.34	0/1340
23	1X	0.15	0/1436	0.39	0/1938
24	1Y	0.23	0/1037	0.47	3/1404 (0.2%)
25	1Z	0.17	0/1199	0.37	0/1617
26	1a	0.15	0/577	0.34	0/777
27	1b	1.10	3/664 (0.5%)	1.34	6/912 (0.7%)
28	1c	0.13	0/430	0.35	0/581
29	1d	0.15	0/1016	0.34	0/1374
30	1e	0.17	0/836	0.40	0/1118

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
31	1f	0.16	0/499	0.42	0/673
32	1g	0.16	0/858	0.45	0/1165
33	1h	0.16	0/1184	0.43	0/1603
34	1i	0.14	0/1138	0.36	0/1551
35	1j	0.14	0/627	0.46	2/858 (0.2%)
36	1k	0.13	0/668	0.32	0/903
37	1l	0.35	1/1365 (0.1%)	0.67	4/1867 (0.2%)
38	1m	0.15	0/1092	0.39	0/1481
39	1n	0.15	0/1549	0.36	0/2098
40	1o	0.15	0/1069	0.38	0/1430
41	1p	0.14	0/1481	0.36	0/1997
42	1q	0.13	0/1253	0.36	1/1704 (0.1%)
43	1r	0.14	0/777	0.37	0/1051
44	1s	0.15	0/394	0.37	0/533
45	3A	0.20	0/3481	0.45	0/4722
45	3N	0.21	0/3496	0.44	1/4723 (0.0%)
46	3B	0.20	0/3190	0.44	0/4317
46	3O	0.21	0/3175	0.46	0/4292
47	3C	0.57	4/3123 (0.1%)	0.77	7/4269 (0.2%)
47	3P	0.20	0/3122	0.42	0/4269
48	3D	0.83	8/1946 (0.4%)	1.03	13/2641 (0.5%)
48	3Q	0.57	4/1962 (0.2%)	0.78	8/2663 (0.3%)
49	3E	0.23	0/1551	0.52	0/2098
49	3I	1.13	2/342 (0.6%)	1.71	7/465 (1.5%)
49	3R	0.35	0/1551	0.55	0/2098
49	3V	0.18	0/225	0.37	0/303
50	3F	0.21	0/888	0.43	0/1193
50	3S	0.19	0/888	0.36	0/1193
51	3G	0.23	0/649	0.49	0/878
51	3T	1.14	5/649 (0.8%)	1.38	7/878 (0.8%)
52	3H	0.26	0/539	0.84	2/724 (0.3%)
52	3U	0.31	0/539	0.57	0/724
53	3J	0.65	0/476	0.69	1/641 (0.2%)
53	3W	0.21	0/476	0.42	0/641
54	3X	0.20	0/445	0.43	0/608
54	3Y	0.20	0/437	0.44	0/598
55	4A	0.25	2/4165 (0.0%)	0.53	4/5691 (0.1%)
56	4B	0.13	0/1866	0.33	0/2544
57	4C	0.11	0/2179	0.26	0/2981
58	4D	0.10	0/1197	0.27	0/1617
59	4E	0.12	0/871	0.33	0/1182
60	4F	0.12	0/749	0.32	0/1016
61	4G	0.10	0/644	0.28	0/881

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
62	4H	0.12	0/708	0.34	0/956
63	4I	0.10	0/563	0.24	0/748
64	4J	0.10	0/466	0.23	0/631
65	4K	0.11	0/396	0.30	0/543
66	4L	0.11	0/394	0.28	0/528
67	4M	0.10	0/349	0.24	0/477
68	4N	0.12	0/680	0.39	0/921
All	All	0.28	32/116518 (0.0%)	0.49	84/158051 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
6	1F	0	2
8	1H	0	1
49	3R	0	2
All	All	0	5

All (32) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	3D	265	PRO	CG-CD	-22.21	0.75	1.50
51	3T	74	PRO	CG-CD	-20.96	0.79	1.50
27	1b	63	PRO	CB-CG	20.95	2.54	1.49
47	3C	270	PRO	CB-CG	19.89	2.49	1.49
48	3Q	74	PRO	CG-CD	-18.99	0.86	1.50
47	3C	270	PRO	CG-CD	-17.21	0.92	1.50
49	3I	48	SER	C-N	-16.91	1.08	1.33
27	1b	63	PRO	CG-CD	-16.65	0.94	1.50
48	3D	265	PRO	N-CD	12.37	1.65	1.47
6	1F	207	PRO	CG-CD	-12.20	1.09	1.50
4	1D	21	PRO	CG-CD	-11.49	1.11	1.50
48	3D	329	PRO	CG-CD	-11.22	1.12	1.50
48	3D	265	PRO	CB-CG	11.20	2.05	1.49
51	3T	74	PRO	CB-CG	10.94	2.04	1.49
51	3T	73	ASN	C-N	10.72	1.58	1.33
37	1l	146	PRO	CG-CD	-10.23	1.16	1.50
48	3D	329	PRO	CB-CG	-10.21	0.98	1.49
55	4A	501	PRO	CG-CD	-9.49	1.18	1.50
55	4A	501	PRO	CB-CG	-9.12	1.04	1.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	3D	265	PRO	CA-CB	-8.94	1.41	1.53
49	3I	49	PHE	C-N	-8.63	1.21	1.33
47	3C	270	PRO	N-CD	7.70	1.58	1.47
48	3Q	74	PRO	CA-CB	-7.23	1.44	1.53
27	1b	63	PRO	N-CD	7.11	1.57	1.47
4	1D	21	PRO	CB-CG	-6.90	1.15	1.49
48	3D	264	THR	CA-C	6.77	1.60	1.53
51	3T	74	PRO	CA-CB	-6.57	1.44	1.53
48	3Q	74	PRO	CB-CG	6.45	1.81	1.49
47	3C	269	LYS	C-N	6.28	1.48	1.33
48	3D	265	PRO	N-CA	-5.82	1.40	1.47
51	3T	74	PRO	N-CD	5.57	1.55	1.47
48	3Q	74	PRO	N-CD	5.18	1.55	1.47

All (84) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	3C	270	PRO	CB-CG-CD	-31.05	6.74	106.10
27	1b	63	PRO	CB-CG-CD	-30.88	7.28	106.10
48	3Q	74	PRO	N-CD-CG	-23.27	68.30	103.20
48	3D	329	PRO	CB-CG-CD	23.08	179.96	106.10
51	3T	74	PRO	N-CD-CG	-22.38	69.62	103.20
48	3D	265	PRO	N-CD-CG	-20.79	72.01	103.20
55	4A	501	PRO	N-CD-CG	-19.90	73.36	103.20
55	4A	501	PRO	CA-CB-CG	-19.69	67.09	104.50
4	1D	21	PRO	N-CD-CG	-19.68	73.68	103.20
6	1F	207	PRO	N-CD-CG	-17.61	76.78	103.20
4	1D	21	PRO	CA-CB-CG	-17.50	71.24	104.50
51	3T	74	PRO	CB-CG-CD	-16.00	54.89	106.10
48	3D	329	PRO	N-CD-CG	-15.90	79.35	103.20
51	3T	74	PRO	CA-CB-CG	-15.48	75.09	104.50
6	1F	207	PRO	CA-CB-CG	-15.25	75.52	104.50
49	3I	49	PHE	O-C-N	-15.15	99.93	122.96
37	1l	146	PRO	N-CD-CG	-14.82	80.97	103.20
48	3Q	74	PRO	CA-CB-CG	-14.63	76.71	104.50
51	3T	74	PRO	N-CA-CB	-14.45	88.08	103.25
48	3D	329	PRO	CA-CB-CG	-14.05	77.81	104.50
4	1D	21	PRO	CB-CG-CD	13.65	149.78	106.10
49	3I	48	SER	O-C-N	-13.58	105.58	123.10
55	4A	501	PRO	CB-CG-CD	13.40	148.98	106.10
47	3C	270	PRO	CA-N-CD	-13.35	93.31	112.00
27	1b	63	PRO	N-CA-CB	-13.19	87.99	102.76

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	3D	265	PRO	CA-N-CD	-13.09	93.68	112.00
49	3I	48	SER	CA-C-N	13.08	142.88	123.13
49	3I	48	SER	C-N-CA	13.08	142.88	123.13
52	3H	77	GLU	CA-C-N	13.05	145.19	121.70
52	3H	77	GLU	C-N-CA	13.05	145.19	121.70
47	3C	270	PRO	N-CA-CB	-12.92	89.69	103.25
27	1b	63	PRO	CA-N-CD	-12.77	94.12	112.00
37	1l	146	PRO	CA-CB-CG	-12.20	81.31	104.50
49	3I	49	PHE	CA-C-N	11.79	141.45	122.11
49	3I	49	PHE	C-N-CA	11.79	141.45	122.11
48	3D	265	PRO	CB-CG-CD	-11.16	70.39	106.10
51	3T	74	PRO	CA-N-CD	-10.79	96.89	112.00
48	3D	265	PRO	CA-CB-CG	-10.11	85.28	104.50
6	1F	207	PRO	N-CA-CB	-9.97	93.41	103.08
48	3Q	74	PRO	N-CA-CB	-9.81	94.58	103.31
37	1l	146	PRO	N-CA-CB	-9.43	94.05	103.48
47	3C	270	PRO	N-CD-CG	-9.09	89.56	103.20
27	1b	63	PRO	CA-CB-CG	-8.96	87.48	104.50
47	3C	270	PRO	CA-CB-CG	-8.83	87.72	104.50
47	3C	269	LYS	O-C-N	-8.80	110.35	121.70
8	1H	197	PRO	N-CD-CG	-8.34	90.69	103.20
48	3D	264	THR	CA-C-N	-8.28	111.07	119.93
48	3D	264	THR	C-N-CA	-8.28	111.07	119.93
48	3D	264	THR	N-CA-CB	-8.14	95.56	109.57
55	4A	501	PRO	CA-N-CD	-7.94	100.89	112.00
27	1b	63	PRO	N-CD-CG	-7.82	91.47	103.20
51	3T	73	ASN	CA-C-O	-7.82	109.69	119.54
8	1H	197	PRO	CA-CB-CG	-7.33	90.57	104.50
51	3T	73	ASN	O-C-N	-7.23	112.32	121.29
8	1H	197	PRO	CA-N-CD	-7.23	101.88	112.00
48	3D	329	PRO	CA-N-CD	-7.20	101.92	112.00
24	1Y	94	CYS	CA-CB-SG	7.15	130.84	114.40
48	3D	265	PRO	N-CA-CB	-6.55	97.30	103.19
4	1D	21	PRO	CA-N-CD	-6.53	102.86	112.00
10	1J	78	MET	CA-CB-CG	6.37	126.85	114.10
48	3Q	73	GLY	CA-C-O	-6.33	112.47	121.52
45	3N	172	GLU	N-CA-C	-6.13	107.63	114.62
47	3C	269	LYS	C-N-CD	5.96	149.45	125.00
48	3Q	74	PRO	CA-N-CD	-5.95	103.67	112.00
7	1G	652	VAL	N-CA-C	-5.92	108.09	113.71
49	3I	63	PRO	CA-N-CD	-5.92	103.72	112.00
8	1H	197	PRO	CB-CG-CD	-5.91	87.17	106.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	3Q	74	PRO	CB-CA-C	5.83	118.97	111.46
48	3D	264	THR	CA-C-O	-5.75	114.88	119.71
35	1j	7	ILE	CA-C-N	5.65	129.47	121.61
35	1j	7	ILE	C-N-CA	5.65	129.47	121.61
6	1F	205	LEU	CA-C-N	-5.62	116.52	123.21
6	1F	205	LEU	C-N-CA	-5.62	116.52	123.21
27	1b	62	MET	C-N-CD	5.51	147.60	125.00
48	3Q	74	PRO	CB-CG-CD	-5.51	88.48	106.10
4	1D	21	PRO	N-CA-CB	-5.46	98.26	103.34
24	1Y	93	GLY	CA-C-N	-5.37	112.97	122.26
24	1Y	93	GLY	C-N-CA	-5.37	112.97	122.26
53	3J	53	TRP	N-CA-C	-5.30	101.14	109.25
42	1q	144	TYR	CB-CA-C	-5.30	110.02	117.23
37	1l	146	PRO	CA-N-CD	-5.16	104.78	112.00
6	1F	207	PRO	CB-CA-C	5.13	117.18	110.92
6	1F	207	PRO	CA-N-CD	-5.12	104.84	112.00
48	3Q	73	GLY	O-C-N	-5.04	116.73	121.77

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	1F	206	LYS	Peptide
6	1F	207	PRO	Peptide
8	1H	91	MET	Peptide
49	3R	263	TYR	Sidechain
49	3R	265	PHE	Sidechain

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1A	916	0	950	41	0
2	1B	1242	0	1249	53	0
3	1C	1740	0	1691	42	0
4	1D	3452	0	3389	89	0
5	1E	1658	0	1662	56	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	1F	3325	0	3288	125	0
7	1G	5362	0	5388	125	0
8	1H	2504	0	2602	96	0
9	1I	1412	0	1366	47	0
10	1J	1329	0	1326	54	0
11	1K	750	0	798	35	0
12	1L	4818	0	4956	189	0
13	1M	3632	0	3836	150	0
14	1N	2712	0	2871	95	0
15	1O	2590	0	2556	99	0
16	1P	2751	0	2776	77	0
17	1Q	1047	0	1042	26	0
18	1R	741	0	704	11	0
19	1S	700	0	719	26	0
20	1T	689	0	687	22	0
20	1U	694	0	691	15	0
21	1V	927	0	972	26	0
22	1W	971	0	975	15	0
23	1X	1398	0	1378	46	0
24	1Y	1016	0	1020	36	0
25	1Z	1168	0	1161	45	0
26	1a	562	0	557	19	0
27	1b	643	0	645	25	0
28	1c	417	0	425	14	0
29	1d	985	0	978	41	0
30	1e	816	0	823	39	0
31	1f	487	0	498	14	0
32	1g	835	0	795	33	0
33	1h	1151	0	1164	46	0
34	1i	1100	0	1107	41	0
35	1j	601	0	546	17	0
36	1k	649	0	626	14	0
37	1l	1310	0	1204	46	0
38	1m	1062	0	1075	44	0
39	1n	1495	0	1432	67	0
40	1o	1045	0	1016	39	0
41	1p	1449	0	1416	47	0
42	1q	1212	0	1174	28	0
43	1r	759	0	783	21	0
44	1s	382	0	351	13	0
45	3A	3411	0	3308	86	0
45	3N	3424	0	3350	131	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
46	3B	3138	0	3116	78	0
46	3O	3124	0	3108	74	0
47	3C	3025	0	3090	124	0
47	3P	3024	0	3090	85	0
48	3D	1888	0	1834	71	0
48	3Q	1904	0	1849	58	0
49	3E	1518	0	1498	87	0
49	3I	337	0	345	29	0
49	3R	1518	0	1498	160	0
49	3V	223	0	233	11	0
50	3F	868	0	857	28	0
50	3S	868	0	857	9	0
51	3G	628	0	634	26	0
51	3T	628	0	634	37	0
52	3H	533	0	513	17	0
52	3U	533	0	513	26	0
53	3J	464	0	467	14	0
53	3W	464	0	467	10	0
54	3X	429	0	430	25	0
54	3Y	421	0	418	13	0
55	4A	4025	0	3999	126	0
56	4B	1829	0	1837	65	0
57	4C	2096	0	2027	60	0
58	4D	1163	0	1143	27	0
59	4E	852	0	845	19	0
60	4F	734	0	718	14	0
61	4G	617	0	585	16	0
62	4H	687	0	645	20	0
63	4I	550	0	560	9	0
64	4J	456	0	455	34	0
65	4K	383	0	366	9	0
66	4L	381	0	380	10	0
67	4M	338	0	345	9	0
68	4N	660	0	664	13	0
69	1A	47	0	71	3	0
69	1J	44	0	62	6	0
69	1L	122	0	172	9	0
69	1M	146	0	223	27	0
69	1N	82	0	115	6	0
69	1Y	138	0	178	15	0
69	1d	48	0	73	12	0
69	1j	44	0	65	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
69	3A	59	0	66	13	0
69	3C	69	0	86	13	0
69	3D	33	0	40	5	0
69	3G	29	0	32	3	0
69	3N	58	0	62	12	0
69	3P	33	0	40	5	0
69	3R	47	0	71	8	0
69	3Y	30	0	34	1	0
70	1A	35	0	44	1	0
70	1B	94	0	136	11	0
70	1H	48	0	73	6	0
70	1I	54	0	88	4	0
70	1M	44	0	65	8	0
70	1P	33	0	40	0	0
70	1Y	35	0	44	4	0
70	1Z	44	0	62	5	0
70	1h	47	0	71	2	0
70	1m	46	0	66	9	0
70	1q	49	0	75	10	0
70	3E	47	0	68	7	0
70	3R	45	0	64	10	0
70	3X	29	0	32	4	0
71	1B	8	0	0	2	0
71	1F	8	0	0	1	0
71	1G	16	0	0	1	0
71	1I	16	0	0	0	0
72	1E	4	0	0	1	0
72	1G	4	0	0	1	0
72	3E	4	0	0	2	0
72	3R	4	0	0	5	0
73	1F	31	0	19	2	0
74	1G	1	0	0	0	0
75	1L	76	0	99	4	0
75	1N	62	0	68	4	0
75	1X	86	0	125	13	0
75	1d	65	0	77	9	0
75	1h	80	0	104	10	0
75	1q	61	0	66	6	0
75	3A	58	0	60	13	0
75	3G	108	0	104	8	0
75	3N	43	0	30	8	0
75	3P	56	0	56	6	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
75	3T	57	0	58	6	0
75	4B	100	0	156	9	0
75	4C	100	0	156	14	0
75	4D	100	0	156	20	0
76	1O	32	0	12	2	0
77	1O	1	0	0	0	0
77	4A	1	0	0	0	0
78	1P	48	0	26	1	0
79	1R	1	0	0	0	0
79	4F	1	0	0	0	0
80	1T	37	0	0	1	0
80	1n	37	0	0	1	0
81	1h	11	0	12	4	0
82	1l	15	0	27	0	0
83	3C	86	0	60	7	0
83	3P	86	0	60	4	0
84	3D	42	0	32	2	0
84	3Q	43	0	32	2	0
85	4A	153	0	228	22	0
85	4B	51	0	76	13	0
85	4C	306	0	456	39	0
85	4G	51	0	76	5	0
85	4J	51	0	76	7	0
85	4K	51	0	76	6	0
85	4L	51	0	76	10	0
85	4M	51	0	76	5	0
86	4A	120	0	108	7	0
87	4A	1	0	0	0	0
88	4A	1	0	0	0	0
89	4B	2	0	0	2	0
90	4B	52	0	80	7	0
91	4G	105	0	149	9	0
92	4H	5	0	0	0	0
93	1A	21	0	0	6	0
93	1B	53	0	0	4	0
93	1C	96	0	0	7	0
93	1D	138	0	0	3	0
93	1E	55	0	0	7	0
93	1F	113	0	0	17	0
93	1G	255	0	0	8	0
93	1H	80	0	0	8	0
93	1I	75	0	0	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
93	1J	56	0	0	2	0
93	1K	38	0	0	7	0
93	1L	228	0	0	23	0
93	1M	201	0	0	14	0
93	1N	154	0	0	10	0
93	1O	150	0	0	21	0
93	1P	118	0	0	14	0
93	1Q	63	0	0	2	0
93	1R	41	0	0	2	0
93	1S	56	0	0	6	0
93	1T	12	0	0	1	0
93	1U	26	0	0	2	0
93	1V	20	0	0	2	0
93	1W	37	0	0	1	0
93	1X	106	0	0	8	0
93	1Y	39	0	0	1	0
93	1Z	83	0	0	6	0
93	1a	30	0	0	3	0
93	1b	35	0	0	3	0
93	1c	23	0	0	4	0
93	1d	95	0	0	2	0
93	1e	91	0	0	17	0
93	1f	43	0	0	1	0
93	1g	76	0	0	8	0
93	1h	116	0	0	13	0
93	1i	48	0	0	6	0
93	1j	37	0	0	3	0
93	1k	35	0	0	4	0
93	1l	97	0	0	9	0
93	1m	78	0	0	3	0
93	1n	122	0	0	7	0
93	1o	101	0	0	13	0
93	1p	141	0	0	15	0
93	1q	47	0	0	1	0
93	1r	25	0	0	0	0
93	1s	15	0	0	0	0
93	3A	184	0	0	14	0
93	3B	110	0	0	5	0
93	3C	222	0	0	28	0
93	3D	131	0	0	7	0
93	3E	45	0	0	1	0
93	3F	115	0	0	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
93	3G	78	0	0	7	0
93	3H	26	0	0	0	0
93	3I	5	0	0	0	0
93	3J	27	0	0	4	0
93	3N	231	0	0	26	0
93	3O	184	0	0	16	0
93	3P	152	0	0	20	0
93	3Q	98	0	0	5	0
93	3R	47	0	0	6	0
93	3S	71	0	0	3	0
93	3T	40	0	0	9	0
93	3U	110	0	0	10	0
93	3V	7	0	0	2	0
93	3W	31	0	0	2	0
93	3X	25	0	0	3	0
93	3Y	16	0	0	0	0
93	4A	110	0	0	6	0
93	4B	115	0	0	8	0
93	4C	103	0	0	3	0
93	4D	81	0	0	4	0
93	4E	55	0	0	1	0
93	4F	67	0	0	1	0
93	4G	39	0	0	1	0
93	4H	43	0	0	4	0
93	4I	25	0	0	0	0
93	4J	34	0	0	1	0
93	4K	27	0	0	0	0
93	4L	23	0	0	2	0
93	4M	28	0	0	0	0
93	4N	53	0	0	0	0
All	All	124291	0	118736	3520	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 15.

All (3520) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:1L:504:LEU:CD1	64:4J:30:ILE:HD11	1.26	1.58
47:3C:270:PRO:CG	47:3C:270:PRO:N	1.82	1.40
27:1b:63:PRO:N	27:1b:63:PRO:CG	1.85	1.39

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
93:1n:353:HOH:O	64:4J:15:ASP:HB3	1.26	1.29
51:3T:59:TYR:HE2	93:3T:226:HOH:O	0.98	1.28
39:1n:10:THR:HA	45:3N:226:ASP:OD2	1.24	1.25
39:1n:55:ASP:OD2	93:1n:301:HOH:O	1.55	1.20
12:1L:504:LEU:CD1	64:4J:30:ILE:CD1	2.20	1.20
51:3T:64:GLN:OE1	93:3T:202:HOH:O	1.63	1.15
12:1L:504:LEU:HD11	64:4J:30:ILE:HD11	1.21	1.13
51:3T:59:TYR:CE2	93:3T:226:HOH:O	1.77	1.12
12:1L:504:LEU:HD13	64:4J:30:ILE:HD11	1.18	1.11
47:3C:270:PRO:CD	47:3C:270:PRO:HG3	1.69	1.10
47:3C:270:PRO:CD	47:3C:270:PRO:HG2	1.68	1.10
47:3C:270:PRO:CG	47:3C:270:PRO:HD3	1.59	1.09
27:1b:63:PRO:CD	27:1b:63:PRO:HG2	1.70	1.09
39:1n:55:ASP:HB2	45:3N:193:PRO:HB3	1.34	1.09
36:1k:34:LYS:CE	64:4J:17:ASP:OD2	2.01	1.08
27:1b:63:PRO:CD	27:1b:63:PRO:HG3	1.70	1.08
27:1b:63:PRO:CG	27:1b:63:PRO:HD2	1.60	1.07
39:1n:10:THR:CA	45:3N:226:ASP:OD2	2.03	1.06
39:1n:55:ASP:HB2	45:3N:193:PRO:CB	1.85	1.05
47:3C:270:PRO:CG	47:3C:270:PRO:HD2	1.59	1.05
27:1b:63:PRO:CG	27:1b:63:PRO:HD3	1.60	1.04
47:3C:150:LEU:HD21	47:3C:160:LEU:HD23	1.33	1.04
56:4B:200:CYS:SG	89:4B:303:CUA:CU1	1.48	1.03
49:3R:206:LYS:HG2	49:3R:263:TYR:OH	1.57	1.03
49:3E:237:PRO:HB2	48:3Q:144:ARG:HD3	1.37	1.01
12:1L:484:LEU:HD23	85:4J:101:PGV:H011	1.40	1.01
39:1n:55:ASP:CG	93:1n:301:HOH:O	1.95	1.00
36:1k:34:LYS:HE2	64:4J:17:ASP:OD2	1.63	0.98
51:3T:57:LEU:O	93:3T:203:HOH:O	1.80	0.96
51:3T:64:GLN:CD	93:3T:202:HOH:O	2.04	0.95
49:3R:219:HIS:CD2	49:3R:239:HIS:CE1	2.55	0.94
27:1b:63:PRO:CG	27:1b:63:PRO:CD	0.94	0.94
69:3C:504:3PE:H112	49:3R:138:SER:HB3	1.50	0.94
39:1n:8:TYR:OH	45:3N:225:GLU:HB3	1.69	0.92
47:3C:270:PRO:CG	47:3C:270:PRO:CD	0.92	0.92
12:1L:499:MET:HE1	64:4J:37:THR:OG1	1.70	0.92
48:3D:301:MET:HE2	69:3D:502:3PE:H362	1.51	0.91
12:1L:504:LEU:HD11	64:4J:30:ILE:CD1	1.96	0.91
47:3C:270:PRO:CG	47:3C:270:PRO:CB	2.49	0.90
49:3R:172:LYS:HD3	49:3R:214:ILE:HG21	1.51	0.90
49:3E:195:LEU:HD22	49:3E:250:ARG:HA	1.53	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
93:1L:802:HOH:O	37:1L:83:MET:SD	2.30	0.89
46:3O:112:LEU:O	93:3O:501:HOH:O	1.91	0.89
49:3R:219:HIS:CD2	49:3R:239:HIS:NE2	2.41	0.88
13:1M:305:THR:HG22	13:1M:308:SER:H	1.39	0.88
49:3R:226:ALA:HA	49:3R:234:TYR:HD2	1.34	0.88
49:3R:232:GLY:HA3	49:3R:244:ASP:HA	1.55	0.88
69:1M:502:3PE:H31	14:1N:238:PRO:HB2	1.56	0.87
45:3N:332:ASP:OD2	47:3P:6:LYS:NZ	2.06	0.87
12:1L:504:LEU:HD12	64:4J:30:ILE:HD11	1.54	0.86
10:1J:55:MET:SD	93:1J:336:HOH:O	2.34	0.86
24:1Y:94:CYS:HB2	24:1Y:114:CYS:CA	2.04	0.85
35:1j:42:HIS:ND1	93:1j:201:HOH:O	2.07	0.85
24:1Y:94:CYS:HB2	24:1Y:114:CYS:HA	1.56	0.85
25:1Z:120:MET:HE3	30:1e:68:ARG:HG3	1.57	0.85
49:3I:64:LEU:HA	49:3I:77:ARG:O	1.75	0.85
51:3T:64:GLN:NE2	93:3T:202:HOH:O	2.09	0.85
46:3O:31:ASN:ND2	93:3O:504:HOH:O	2.09	0.85
47:3C:157:GLY:O	93:3C:601:HOH:O	1.94	0.84
32:1g:37:LEU:HD22	32:1g:40:LYS:HZ1	1.41	0.84
66:4L:18:LYS:NZ	93:4L:201:HOH:O	2.09	0.84
40:1o:120:GLU:OE1	93:1o:201:HOH:O	1.95	0.84
1:1A:21:ALA:HB1	8:1H:218:GLY:HA3	1.59	0.84
47:3C:124:MET:HE1	47:3C:298:ILE:HD13	1.58	0.84
36:1k:34:LYS:HE3	64:4J:17:ASP:OD2	1.78	0.84
3:1C:93:VAL:HG22	3:1C:108:LYS:HG2	1.61	0.83
7:1G:110:GLN:HG3	7:1G:114:CYS:HA	1.61	0.83
29:1d:63:LEU:HD23	75:1d:202:CDL:HA62	1.59	0.83
50:3F:97:GLU:OE1	93:3F:201:HOH:O	1.97	0.83
45:3N:346:CYS:SG	93:3N:640:HOH:O	2.36	0.83
13:1M:101:LEU:HD22	75:1X:201:CDL:H471	1.61	0.82
75:4D:201:CDL:H551	75:4D:201:CDL:H351	1.61	0.82
12:1L:524:ASN:HD21	39:1n:77:GLN:HG2	1.43	0.82
30:1e:55:CYS:SG	93:1e:267:HOH:O	2.38	0.82
85:4M:101:PGV:H61	85:4M:101:PGV:H221	1.60	0.82
41:1p:130:GLN:NE2	93:1p:203:HOH:O	2.12	0.82
85:4C:303:PGV:H21	85:4C:303:PGV:H92	1.62	0.81
6:1F:207:PRO:HG2	6:1F:208:PRO:CD	2.09	0.81
54:3X:37:ASP:OD1	54:3X:51:LYS:NZ	2.12	0.81
48:3D:136:TYR:O	93:3D:601:HOH:O	1.96	0.81
75:1q:202:CDL:H172	75:1q:202:CDL:H331	1.62	0.81
14:1N:282:MET:SD	93:1N:1078:HOH:O	2.39	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:3C:120:LEU:HG	47:3C:124:MET:HE2	1.62	0.80
49:3E:261:PRO:HB2	49:3E:273:VAL:HG11	1.62	0.80
19:1S:20:ILE:O	93:1S:101:HOH:O	2.00	0.80
45:3N:444:LEU:HB2	75:3N:502:CDL:HB31	1.63	0.80
6:1F:17:ASP:OD1	6:1F:20:ARG:NH1	2.14	0.80
12:1L:173:LEU:O	93:1L:801:HOH:O	1.99	0.80
36:1k:34:LYS:HE3	64:4J:17:ASP:CG	2.07	0.80
49:3R:206:LYS:CG	49:3R:263:TYR:OH	2.29	0.80
46:3B:166:ALA:HB2	46:3B:244:ILE:HG13	1.63	0.80
46:3O:78:LYS:HG2	46:3O:129:ALA:HB1	1.62	0.80
10:1J:71:THR:HA	10:1J:74:MET:HE2	1.62	0.79
53:3J:54:LYS:HA	53:3J:57:LYS:HE2	1.65	0.79
6:1F:112:ARG:HB3	6:1F:145:GLU:HG3	1.63	0.79
7:1G:477:ILE:HD11	7:1G:489:VAL:HG11	1.64	0.79
93:1n:353:HOH:O	64:4J:15:ASP:CB	2.00	0.79
49:3R:179:ARG:HH21	49:3R:184:ILE:HA	1.47	0.79
7:1G:349:PHE:H	7:1G:509:PRO:HB2	1.48	0.79
46:3B:95:LYS:HE2	49:3I:72:VAL:HB	1.65	0.79
50:3S:67:ASP:OD2	93:3S:201:HOH:O	2.00	0.79
12:1L:539:TYR:O	93:1L:802:HOH:O	2.01	0.78
46:3B:47:ILE:HD11	46:3B:211:VAL:HG11	1.63	0.78
49:3R:195:LEU:HB3	49:3R:248:ARG:HH21	1.48	0.78
48:3Q:10:TYR:O	48:3Q:15:ARG:NH1	2.16	0.78
55:4A:347:LEU:HD13	55:4A:383:MET:HG2	1.65	0.78
47:3C:6:LYS:NZ	93:3C:605:HOH:O	2.15	0.78
62:4H:29:CYS:HB3	62:4H:63:PHE:HB3	1.66	0.78
8:1H:146:LEU:HD11	8:1H:192:GLU:HG3	1.63	0.78
12:1L:484:LEU:HD23	85:4J:101:PGV:C01	2.12	0.78
45:3N:14:THR:HG21	45:3N:389:ARG:HB3	1.66	0.78
13:1M:76:MET:HE3	13:1M:230:VAL:HB	1.66	0.78
7:1G:371:VAL:HG12	7:1G:450:MET:HE1	1.66	0.77
22:1W:25:MET:HE1	22:1W:79:VAL:HG21	1.66	0.77
33:1h:7:ARG:NH2	34:1i:31:GLU:O	2.17	0.77
85:4A:601:PGV:H62	64:4J:40:LEU:HD11	1.65	0.77
52:3U:42:GLN:NE2	93:3U:105:HOH:O	2.18	0.77
12:1L:60:GLU:HG2	12:1L:83:ASP:HA	1.65	0.77
69:3N:501:3PE:H31	75:3N:502:CDL:H512	1.64	0.77
3:1C:189:GLU:HG2	16:1P:14:SER:HB2	1.66	0.77
46:3B:95:LYS:HD2	49:3I:32:ALA:HB2	1.67	0.77
1:1A:36:PRO:HB2	1:1A:43:PRO:HG2	1.68	0.76
25:1Z:120:MET:SD	93:1e:282:HOH:O	2.44	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:1h:202:CDL:OB3	34:1i:88:HIS:NE2	2.17	0.76
13:1M:306:PRO:HA	13:1M:458:LEU:HD13	1.66	0.76
21:1V:93:MET:SD	93:1V:220:HOH:O	2.43	0.76
53:3J:53:TRP:O	53:3J:54:LYS:HB3	1.85	0.76
49:3R:177:ARG:HD2	49:3R:234:TYR:OH	1.84	0.76
52:3U:22:GLU:HA	52:3U:25:GLU:HG2	1.64	0.76
49:3R:155:LYS:HE2	49:3R:271:VAL:HG23	1.68	0.76
45:3N:68:LYS:HG2	45:3N:119:ASN:HB3	1.67	0.76
7:1G:324:ASP:HB3	7:1G:571:ALA:HB1	1.68	0.76
70:1H:401:PC1:H153	25:1Z:141:ILE:HA	1.68	0.76
46:3B:35:ILE:HD12	46:3B:217:LYS:HG2	1.68	0.76
50:3S:71:ARG:NH1	93:3S:203:HOH:O	2.16	0.76
32:1g:58:MET:SD	93:1h:385:HOH:O	2.44	0.75
9:1I:156:ASN:ND2	18:1R:34:GLU:OE1	2.19	0.75
53:3J:41:ASP:O	53:3J:45:GLU:HG3	1.85	0.75
48:3Q:144:ARG:HE	48:3Q:147:LEU:HG	1.50	0.75
56:4B:132:GLU:HB3	56:4B:137:GLU:HG3	1.67	0.75
7:1G:157:THR:HG22	7:1G:161:ARG:HG3	1.69	0.75
19:1S:42:GLU:OE2	19:1S:42:GLU:N	2.20	0.75
45:3N:86:LEU:HB3	46:3O:285:VAL:HG22	1.68	0.75
48:3Q:118:ARG:HG3	48:3Q:194:SER:HB3	1.67	0.75
5:1E:29:LYS:HE2	44:1s:56:VAL:HG11	1.69	0.75
48:3D:240:TYR:OH	52:3H:91:ASP:OD2	2.04	0.75
5:1E:105:THR:OG1	72:1E:301:FES:S2	2.44	0.74
8:1H:107:ALA:HB1	10:1J:57:PHE:HD1	1.51	0.74
48:3D:147:GLU:OE2	93:3D:602:HOH:O	2.05	0.74
49:3R:149:MET:O	49:3R:151:LYS:N	2.20	0.74
64:4J:15:ASP:OD2	93:4J:201:HOH:O	2.04	0.74
25:1Z:85:GLN:O	93:1Z:301:HOH:O	2.05	0.74
57:4C:67:PHE:O	64:4J:13:GLN:NE2	2.20	0.74
2:1B:25:ARG:HG2	2:1B:27:GLU:H	1.51	0.74
49:3I:36:ALA:HB3	49:3I:73:PRO:HG2	1.68	0.74
55:4A:381:LEU:HD13	86:4A:604:HEA:HAC	1.68	0.74
49:3R:95:GLU:OE1	93:3R:401:HOH:O	2.06	0.74
49:3R:219:HIS:HD2	49:3R:239:HIS:NE2	1.84	0.74
41:1p:95:TYR:O	93:1p:201:HOH:O	2.04	0.74
49:3R:224:PRO:HA	49:3R:237:PRO:HD3	1.69	0.74
49:3R:236:CYS:SG	49:3R:239:HIS:HB2	2.28	0.74
4:1D:328:ALA:HB3	7:1G:126:ASP:HB2	1.69	0.74
12:1L:434:LYS:HE2	36:1k:52:TYR:HA	1.70	0.74
45:3N:214:LYS:HZ2	45:3N:215:HIS:CE1	2.05	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:3O:187:THR:O	93:3O:502:HOH:O	2.06	0.74
75:1X:201:CDL:H231	75:1X:201:CDL:H171	1.71	0.73
69:3C:504:3PE:H251	49:3R:137:VAL:HG21	1.70	0.73
4:1D:50:ASN:HB2	4:1D:65:VAL:HG22	1.70	0.73
2:1B:77:ARG:NH2	2:1B:82:GLN:OE1	2.21	0.73
7:1G:382:THR:HG23	7:1G:384:PRO:HD3	1.70	0.73
45:3N:351:GLU:OE1	93:3N:604:HOH:O	2.07	0.73
51:3T:36:ASN:ND2	75:3T:101:CDL:OA4	2.22	0.73
42:1q:123:GLN:O	93:1q:301:HOH:O	2.05	0.73
46:3B:200:THR:HB	46:3B:227:ARG:HG2	1.69	0.73
48:3D:301:MET:CE	69:3D:502:3PE:H362	2.19	0.73
8:1H:32:GLN:OE1	8:1H:34:ARG:NH1	2.22	0.73
75:3A:501:CDL:H151	75:3A:501:CDL:H321	1.70	0.73
51:3G:60:VAL:O	93:3G:201:HOH:O	2.07	0.73
57:4C:133:ASN:ND2	93:4C:401:HOH:O	2.21	0.73
15:1O:25:ILE:HB	15:1O:123:VAL:HG12	1.69	0.73
49:3R:212:ILE:HB	49:3R:265:PHE:CZ	2.24	0.73
25:1Z:81:ARG:NH1	93:1Z:303:HOH:O	2.20	0.72
45:3N:214:LYS:NZ	45:3N:215:HIS:CE1	2.57	0.72
51:3T:64:GLN:O	51:3T:68:LYS:HG3	1.89	0.72
55:4A:176:MET:HE3	55:4A:181:THR:HG22	1.71	0.72
70:1M:503:PC1:H322	75:1h:202:CDL:H111	1.71	0.72
47:3C:321:SER:HB2	93:3C:668:HOH:O	1.88	0.72
18:1R:32:GLN:NE2	42:1q:123:GLN:O	2.23	0.72
49:3E:241:SER:HA	49:3E:252:GLY:HA3	1.72	0.72
50:3F:44:MET:HE2	50:3F:99:LYS:H	1.53	0.72
56:4B:102:HIS:HE2	56:4B:107:SER:HG	1.34	0.72
59:4E:43:PRO:HB3	59:4E:47:ILE:HD11	1.70	0.72
2:1B:109:GLU:OE1	16:1P:54:TYR:OH	2.06	0.72
24:1Y:75:ILE:HG12	51:3T:56:TYR:HE2	1.55	0.72
47:3C:281:LEU:HB2	47:3C:294:LEU:HB2	1.72	0.72
70:1B:203:PC1:H341	70:1q:201:PC1:H282	1.70	0.72
12:1L:62:ILE:HG12	41:1p:114:GLN:HG2	1.70	0.72
45:3N:210:ASP:O	45:3N:214:LYS:HG2	1.90	0.72
49:3R:217:CYS:HB2	49:3R:224:PRO:HD3	1.72	0.72
29:1d:90:MET:HE3	33:1h:107:GLU:HG3	1.71	0.72
37:1l:133:TYR:HB3	37:1l:138:LEU:HD13	1.71	0.72
45:3N:76:GLU:O	93:3N:605:HOH:O	2.08	0.72
3:1C:129:TRP:O	93:1C:301:HOH:O	2.08	0.71
75:3N:502:CDL:H322	47:3P:221:HIS:CD2	2.25	0.71
13:1M:158:LEU:HD22	14:1N:283:ALA:HB1	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:3D:232:ARG:NH1	49:3R:237:PRO:HB2	2.05	0.71
46:3O:25:GLU:OE2	93:3O:503:HOH:O	2.08	0.71
9:1I:113:MET:SD	93:1I:372:HOH:O	2.47	0.71
13:1M:207:MET:SD	93:1M:741:HOH:O	2.47	0.71
49:3R:204:ARG:NH1	49:3R:246:SER:O	2.24	0.71
2:1B:178:ARG:NH2	16:1P:50:ARG:O	2.23	0.71
8:1H:149:ILE:HG21	8:1H:185:TRP:HB2	1.72	0.71
56:4B:200:CYS:HG	89:4B:303:CUA:CU1	0.40	0.71
58:4D:72:ASN:HB3	75:4D:201:CDL:H852	1.73	0.71
46:3O:28:ARG:NH2	46:3O:32:GLY:O	2.23	0.71
46:3O:214:PRO:O	46:3O:218:GLN:HG2	1.90	0.71
49:3R:176:VAL:HG22	49:3R:212:ILE:HG13	1.73	0.71
2:1B:48:MET:HE2	2:1B:80:PRO:HB3	1.70	0.71
34:1i:10:ARG:NH2	93:1i:202:HOH:O	2.23	0.71
45:3A:250:LEU:HD12	49:3I:44:ASP:HB2	1.72	0.71
46:3B:121:GLU:OE2	46:3B:222:ARG:NH1	2.23	0.71
4:1D:54:GLN:NE2	93:1D:501:HOH:O	2.19	0.71
47:3C:318:ARG:HB2	93:3C:668:HOH:O	1.91	0.71
1:1A:92:LEU:O	1:1A:96:ILE:HG12	1.90	0.71
12:1L:297:ASP:HB3	12:1L:300:LYS:HB2	1.73	0.71
15:1O:5:PRO:O	93:1O:502:HOH:O	2.09	0.71
48:3D:101:SER:O	48:3D:107:SER:OG	2.08	0.71
23:1X:152:GLU:OE1	23:1X:152:GLU:N	2.22	0.70
7:1G:194:GLU:HG2	7:1G:195:LEU:HG	1.71	0.70
47:3P:149:LEU:HD23	47:3P:287:LYS:HZ2	1.55	0.70
12:1L:208:CYS:O	93:1L:803:HOH:O	2.10	0.70
34:1i:18:ARG:HA	39:1n:170:VAL:HG23	1.72	0.70
12:1L:504:LEU:HD13	64:4J:30:ILE:CD1	2.06	0.70
28:1c:38:ASP:OD2	29:1d:77:LYS:NZ	2.17	0.70
86:4A:604:HEA:HHC	86:4A:604:HEA:H131	1.72	0.70
6:1F:30:ASP:O	6:1F:39:ARG:NH2	2.25	0.70
24:1Y:124:VAL:HA	69:1Y:203:3PE:H251	1.73	0.70
41:1p:159:LYS:O	93:1p:202:HOH:O	2.10	0.70
49:3E:264:GLU:H	49:3E:272:ILE:HG12	1.57	0.70
5:1E:213:VAL:HA	5:1E:217:LEU:HD13	1.73	0.70
15:1O:135:LEU:O	93:1O:501:HOH:O	2.08	0.70
37:1l:90:ASP:OD1	93:1l:301:HOH:O	2.09	0.70
54:3X:12:GLU:OE1	93:3X:201:HOH:O	2.08	0.70
5:1E:51:LEU:O	93:1E:401:HOH:O	2.09	0.70
48:3D:235:LEU:HD11	49:3R:238:CYS:HA	1.73	0.70
45:3N:240:GLU:OE2	45:3N:242:ARG:NH2	2.25	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:3R:263:TYR:CE1	49:3R:265:PHE:HB2	2.25	0.70
54:3X:38:TRP:HA	70:3X:101:PC1:H32	1.74	0.70
55:4A:265:LYS:NZ	60:4F:68:THR:OG1	2.24	0.70
6:1F:362:CYS:HB3	6:1F:404:ILE:HD12	1.74	0.69
55:4A:138:HIS:O	55:4A:213:ARG:NH2	2.25	0.69
7:1G:465:ALA:HB2	7:1G:654:GLN:HG3	1.74	0.69
69:1M:504:3PE:H342	70:1Y:201:PC1:H231	1.75	0.69
57:4C:109:THR:HG22	57:4C:111:GLU:H	1.57	0.69
6:1F:297:VAL:O	93:1F:601:HOH:O	2.10	0.69
34:1i:114:GLU:OE2	93:1i:201:HOH:O	2.10	0.69
40:1o:103:ARG:NH2	93:1o:205:HOH:O	2.25	0.69
47:3C:229:ILE:HG23	70:3E:302:PC1:H3A1	1.74	0.69
45:3N:24:ARG:NH2	45:3N:383:LEU:O	2.25	0.69
52:3U:46:SER:OG	93:3U:101:HOH:O	2.03	0.69
10:1J:132:ASP:OD1	26:1a:42:SER:OG	2.11	0.69
3:1C:41:GLN:HG2	3:1C:51:PHE:HE1	1.58	0.69
4:1D:52:GLY:H	4:1D:53:PRO:HD3	1.56	0.69
7:1G:601:ARG:NH1	7:1G:605:GLU:OE1	2.22	0.69
13:1M:283:LYS:NZ	93:1M:606:HOH:O	2.24	0.69
34:1i:102:ARG:HG2	40:1o:49:GLN:HG3	1.73	0.69
49:3E:125:VAL:HG21	70:3E:302:PC1:H362	1.75	0.69
49:3E:231:PHE:HE1	49:3E:242:HIS:HB3	1.58	0.69
46:3O:95:LYS:HE3	49:3V:71:ASN:OD1	1.93	0.69
45:3A:360:ILE:HG23	49:3I:33:ALA:HA	1.74	0.69
46:3B:201:SER:HB2	46:3B:228:GLY:HA2	1.74	0.69
12:1L:301:ILE:HD11	12:1L:422:TYR:HB2	1.74	0.68
38:1m:29:ARG:HH21	45:3N:226:ASP:HB2	1.59	0.68
65:4K:47:ARG:HH12	85:4K:101:PGV:H211	1.56	0.68
12:1L:499:MET:CE	64:4J:37:THR:OG1	2.41	0.68
41:1p:23:THR:HG22	41:1p:25:LEU:H	1.57	0.68
93:3D:630:HOH:O	49:3R:222:CYS:SG	2.51	0.68
45:3N:242:ARG:NH2	45:3N:432:PRO:O	2.26	0.68
45:3A:381:ARG:NH2	45:3A:382:SER:OG	2.26	0.68
45:3N:42:ASP:HB2	45:3N:194:ARG:HB3	1.75	0.68
55:4A:336:PRO:HB2	55:4A:394:VAL:HG11	1.75	0.68
12:1L:556:ILE:HD11	38:1m:75:ILE:HG22	1.76	0.68
16:1P:138:ASP:HB3	16:1P:141:SER:HB2	1.74	0.68
19:1S:64:LEU:HB3	19:1S:76:VAL:HG22	1.75	0.68
39:1n:55:ASP:CB	45:3N:193:PRO:CB	2.69	0.68
19:1S:26:SER:O	19:1S:33:ARG:NH2	2.27	0.68
70:1Y:201:PC1:H221	70:1Y:201:PC1:H331	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:3D:232:ARG:HH11	49:3R:237:PRO:HB2	1.58	0.68
10:1J:173:ARG:NH1	14:1N:1:FME:O1	2.26	0.68
23:1X:137:PRO:HB2	23:1X:140:PRO:HG3	1.75	0.68
49:3E:150:SER:HB3	49:3E:170:ARG:HG3	1.75	0.68
85:4B:301:PGV:H212	75:4D:201:CDL:H331	1.74	0.68
49:3I:69:GLY:HA3	49:3I:72:VAL:HG12	1.76	0.68
12:1L:161:ARG:NH2	39:1n:87:GLY:O	2.26	0.68
52:3U:37:LEU:O	93:3U:102:HOH:O	2.11	0.68
1:1A:49:LEU:HD12	8:1H:126:LYS:HG3	1.76	0.67
55:4A:129:TYR:OH	55:4A:236:TRP:NE1	2.27	0.67
75:4C:306:CDL:H322	75:4C:306:CDL:H191	1.75	0.67
20:1U:72:CYS:HB3	20:1U:75:GLU:HG3	1.76	0.67
49:3E:219:HIS:HB3	72:3E:301:FES:S1	2.34	0.67
55:4A:33:LEU:HB3	55:4A:61:HIS:HB2	1.74	0.67
93:1H:568:HOH:O	25:1Z:51:MET:SD	2.51	0.67
12:1L:545:SER:OG	13:1M:274:SER:O	2.12	0.67
20:1U:25:ILE:HG12	20:1U:40:LEU:HD13	1.77	0.67
42:1q:75:TRP:H	70:1q:201:PC1:H132	1.60	0.67
3:1C:195:ARG:NH2	9:1I:92:ILE:O	2.28	0.67
4:1D:269:LEU:HB2	4:1D:368:GLU:HB2	1.76	0.67
49:3E:238:CYS:SG	93:3Q:619:HOH:O	2.51	0.67
33:1h:140:THR:O	93:1h:301:HOH:O	2.13	0.67
35:1j:67:LEU:HD22	40:1o:29:GLY:HA2	1.77	0.67
41:1p:154:CYS:SG	93:1p:207:HOH:O	2.36	0.67
48:3D:313:ARG:NH2	93:3D:604:HOH:O	2.25	0.67
50:3S:52:GLU:OE2	51:3T:11:ARG:NH1	2.28	0.67
34:1i:119:MET:SD	93:1o:227:HOH:O	2.51	0.67
39:1n:54:LYS:HD3	93:3N:742:HOH:O	1.93	0.67
39:1n:96:TYR:HB3	39:1n:178:MET:HB3	1.77	0.67
60:4F:53:THR:O	93:4F:201:HOH:O	2.12	0.67
8:1H:104:PHE:HE1	70:1H:401:PC1:H342	1.59	0.67
9:1I:53:GLU:OE2	42:1q:34:ARG:NH2	2.28	0.67
39:1n:55:ASP:HB2	45:3N:193:PRO:HB2	1.77	0.67
55:4A:179:TYR:OH	85:4A:602:PGV:O02	2.13	0.67
4:1D:335:ARG:NH2	9:1I:129:ASP:OD1	2.27	0.67
25:1Z:86:MET:HE3	25:1Z:124:LEU:HG	1.76	0.67
49:3R:248:ARG:HD2	49:3R:257:ASN:HD22	1.59	0.67
52:3U:67:HIS:CE1	52:3U:71:HIS:NE2	2.63	0.67
11:1K:2:PRO:O	93:1K:101:HOH:O	2.11	0.66
24:1Y:75:ILE:HG12	51:3T:56:TYR:CE2	2.29	0.66
75:1d:202:CDL:H321	75:1d:202:CDL:HB62	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:48:ARG:HD2	10:1J:78:MET:HA	1.77	0.66
6:1F:207:PRO:HG2	6:1F:208:PRO:N	2.02	0.66
13:1M:220:HIS:CE1	13:1M:231:LEU:HB3	2.29	0.66
3:1C:211:GLN:NE2	21:1V:114:PRO:O	2.27	0.66
7:1G:150:MET:HE2	7:1G:150:MET:HA	1.77	0.66
47:3P:216:ASP:OD1	93:3P:601:HOH:O	2.13	0.66
52:3U:57:GLU:OE1	52:3U:57:GLU:N	2.28	0.66
54:3X:15:ARG:NH1	93:3X:204:HOH:O	2.29	0.66
6:1F:361:GLN:NE2	93:1F:609:HOH:O	2.26	0.66
13:1M:260:PRO:HG3	69:1M:504:3PE:H371	1.78	0.66
16:1P:319:ARG:HA	16:1P:322:ARG:HD2	1.77	0.66
69:3N:503:3PE:O12	93:3N:606:HOH:O	2.11	0.66
57:4C:259:TRP:O	68:4N:47:ARG:NH2	2.28	0.66
2:1B:178:ARG:NH1	93:1B:304:HOH:O	2.29	0.66
32:1g:36:ASN:O	93:1g:201:HOH:O	2.14	0.66
45:3A:381:ARG:NH2	93:3A:605:HOH:O	2.29	0.66
1:1A:69:ILE:HD11	8:1H:144:VAL:HG13	1.77	0.66
8:1H:96:ILE:O	93:1H:501:HOH:O	2.13	0.66
16:1P:82:ARG:HE	16:1P:86:GLU:HG2	1.60	0.66
16:1P:268:ARG:HG2	16:1P:281:ARG:HD2	1.76	0.66
18:1R:20:ASP:O	18:1R:25:ARG:NH2	2.29	0.66
48:3D:306:PRO:HB3	69:3G:101:3PE:H362	1.78	0.66
48:3D:311:MET:HE3	93:3E:416:HOH:O	1.96	0.66
69:1L:703:3PE:H281	75:1h:202:CDL:HB62	1.78	0.66
25:1Z:90:ASN:O	93:1Z:302:HOH:O	2.13	0.66
35:1j:38:TRP:NE1	69:1j:101:3PE:O12	2.19	0.66
49:3R:162:GLY:H	49:3R:178:HIS:HB3	1.61	0.66
49:3R:199:GLN:HB2	49:3R:248:ARG:HD3	1.76	0.66
40:1o:112:LYS:O	40:1o:116:GLN:HG3	1.96	0.66
49:3R:219:HIS:HB2	72:3R:301:FES:S1	2.36	0.66
51:3T:42:ARG:NE	93:3T:206:HOH:O	2.28	0.66
12:1L:597:ILE:HA	12:1L:600:THR:HG22	1.76	0.66
42:1q:60:ARG:HH22	42:1q:95:ASP:HA	1.61	0.66
49:3E:195:LEU:HD12	49:3E:195:LEU:O	1.95	0.66
83:3P:501:HEM:O1D	93:3P:602:HOH:O	2.13	0.66
13:1M:10:MET:HE2	13:1M:10:MET:HA	1.78	0.66
37:1L:63:ASP:O	93:1L:302:HOH:O	2.12	0.66
2:1B:84:ASP:OD2	93:1B:301:HOH:O	2.14	0.65
12:1L:297:ASP:OD1	93:1L:804:HOH:O	2.12	0.65
45:3N:141:ASN:HA	49:3V:47:ARG:HH21	1.60	0.65
57:4C:62:ILE:HG13	85:4C:307:PGV:H21	1.76	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:1F:307:ILE:O	93:1F:601:HOH:O	2.14	0.65
15:1O:200:GLN:NE2	15:1O:204:ASN:OD1	2.29	0.65
39:1n:10:THR:CB	45:3N:226:ASP:OD2	2.44	0.65
42:1q:41:GLU:HG3	42:1q:47:LYS:HG3	1.79	0.65
50:3F:64:GLU:OE2	93:3F:202:HOH:O	2.13	0.65
83:3C:501:HEM:O2D	93:3C:604:HOH:O	2.14	0.65
49:3E:213:LEU:HD13	49:3E:258:LEU:HB2	1.78	0.65
51:3T:2:ARG:O	93:3T:204:HOH:O	2.14	0.65
55:4A:456:MET:O	93:4A:702:HOH:O	2.14	0.65
85:4C:304:PGV:H61	85:4C:304:PGV:H262	1.78	0.65
75:3G:102:CDL:OA7	75:3G:102:CDL:O1	2.14	0.65
56:4B:30:ILE:HG21	56:4B:76:ILE:HD11	1.77	0.65
61:4G:76:ASN:OD1	91:4G:103:PEK:N	2.29	0.65
8:1H:81:LEU:HD21	8:1H:111:LEU:HD12	1.78	0.65
12:1L:257:VAL:HG23	12:1L:329:ILE:HD11	1.78	0.65
12:1L:561:ILE:HG23	70:1m:201:PC1:H291	1.79	0.65
14:1N:218:LEU:HB3	14:1N:244:MET:HE2	1.78	0.65
33:1h:86:ASN:ND2	93:1h:307:HOH:O	2.29	0.65
41:1p:77:GLU:O	93:1p:204:HOH:O	2.13	0.65
42:1q:78:ASP:OD2	42:1q:80:SER:OG	2.13	0.65
7:1G:396:ARG:NH1	7:1G:416:THR:O	2.30	0.65
10:1J:64:MET:HE1	11:1K:68:ALA:HA	1.79	0.65
45:3N:240:GLU:HG3	45:3N:422:VAL:HB	1.78	0.65
6:1F:257:ASN:ND2	6:1F:267:THR:OG1	2.30	0.65
21:1V:105:GLU:HG3	21:1V:106:PRO:HD2	1.77	0.65
35:1j:38:TRP:O	93:1j:201:HOH:O	2.13	0.65
75:1q:202:CDL:H332	75:1q:202:CDL:H712	1.79	0.65
47:3C:161:VAL:HB	93:3C:601:HOH:O	1.95	0.65
58:4D:52:SER:HB2	58:4D:55:GLU:HG3	1.77	0.65
47:3C:221:HIS:O	47:3C:225:THR:OG1	2.04	0.65
47:3C:237:LEU:HD13	48:3D:301:MET:HG3	1.79	0.65
6:1F:261:HIS:HD2	6:1F:337:MET:HA	1.60	0.65
12:1L:61:MET:HE2	34:1i:98:GLU:HG2	1.76	0.65
12:1L:118:PHE:O	12:1L:122:VAL:HG23	1.97	0.65
16:1P:52:GLU:O	93:1P:501:HOH:O	2.14	0.65
23:1X:63:ASN:ND2	93:1X:304:HOH:O	2.29	0.65
49:3E:155:LYS:HE3	49:3E:176:VAL:HG21	1.78	0.65
49:3R:212:ILE:HB	49:3R:265:PHE:HZ	1.61	0.65
49:3R:263:TYR:CD1	49:3R:263:TYR:C	2.73	0.65
40:1o:103:ARG:NH1	93:1o:203:HOH:O	2.20	0.64
48:3D:115:ARG:HB2	48:3D:143:CYS:HB2	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:3R:160:PRO:HD2	49:3R:163:LYS:HB3	1.79	0.64
54:3X:8:PRO:HA	54:3X:11:ARG:HD2	1.77	0.64
66:4L:21:LEU:HA	66:4L:24:MET:HG2	1.80	0.64
7:1G:140:LYS:O	7:1G:148:THR:OG1	2.16	0.64
7:1G:226:GLU:HG2	7:1G:253:ARG:HD3	1.78	0.64
15:1O:263:VAL:O	93:1O:504:HOH:O	2.14	0.64
23:1X:128:THR:HG22	93:1b:102:HOH:O	1.97	0.64
62:4H:28:ASN:O	62:4H:32:ASN:ND2	2.29	0.64
8:1H:152:SER:HA	8:1H:155:LEU:HD12	1.80	0.64
12:1L:504:LEU:HD11	64:4J:30:ILE:CG1	2.27	0.64
13:1M:44:GLN:H	32:1g:83:TYR:HD1	1.45	0.64
16:1P:122:LYS:NZ	16:1P:162:GLU:OE1	2.31	0.64
49:3R:226:ALA:HA	49:3R:234:TYR:CD2	2.25	0.64
61:4G:74:ARG:NH2	93:4G:201:HOH:O	2.29	0.64
10:1J:167:VAL:HG22	14:1N:42:PRO:HG2	1.80	0.64
15:1O:79:LEU:O	93:1O:503:HOH:O	2.14	0.64
45:3A:70:ARG:HD3	45:3A:78:GLU:OE2	1.97	0.64
50:3S:44:LYS:NZ	93:3S:202:HOH:O	2.15	0.64
3:1C:125:LYS:NZ	93:1C:307:HOH:O	2.30	0.64
7:1G:46:LEU:O	17:1Q:116:LYS:NZ	2.30	0.64
8:1H:49:ILE:HD13	70:1q:201:PC1:H2F1	1.79	0.64
46:3B:120:MET:O	46:3B:124:LEU:HD23	1.97	0.64
53:3W:56:LYS:NZ	93:3W:102:HOH:O	2.29	0.64
12:1L:107:TYR:HB3	93:1L:949:HOH:O	1.98	0.64
48:3D:232:ARG:HD3	49:3R:237:PRO:HB3	1.79	0.64
45:3N:344:ARG:HG2	45:3N:344:ARG:HH11	1.63	0.64
22:1W:22:SER:HB3	22:1W:27:GLU:HB2	1.80	0.64
6:1F:326:GLN:O	6:1F:420:ARG:NH2	2.31	0.64
12:1L:439:PRO:HB3	35:1j:12:ARG:HG2	1.79	0.64
34:1i:103:ILE:HB	40:1o:47:ASP:HB2	1.80	0.64
41:1p:72:ASP:OD2	93:1p:205:HOH:O	2.13	0.64
85:4C:303:PGV:H11	85:4C:303:PGV:H272	1.79	0.64
4:1D:291:GLY:O	4:1D:296:ARG:NH2	2.31	0.64
10:1J:127:ILE:O	30:1e:31:ARG:NH2	2.31	0.64
16:1P:146:LEU:HD11	16:1P:289:MET:HE1	1.79	0.64
46:3O:120:MET:CE	46:3O:219:VAL:HG11	2.27	0.64
6:1F:93:LEU:HD13	6:1F:129:MET:HE1	1.80	0.63
12:1L:419:THR:HA	12:1L:422:TYR:CE2	2.33	0.63
13:1M:6:ILE:HG12	75:1X:201:CDL:H652	1.79	0.63
36:1k:38:ARG:NH2	93:1k:107:HOH:O	2.31	0.63
38:1m:6:LYS:HD2	38:1m:6:LYS:O	1.97	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:3C:377:LEU:HG	50:3F:32:TYR:HE2	1.63	0.63
49:3E:161:GLU:HA	49:3E:178:HIS:HB3	1.78	0.63
45:3N:19:LEU:HD21	93:3N:610:HOH:O	1.99	0.63
39:1n:13:GLN:O	39:1n:17:ARG:HG2	1.98	0.63
7:1G:115:ASP:OD1	17:1Q:46:GLN:NE2	2.30	0.63
8:1H:189:THR:HG22	8:1H:270:PHE:HZ	1.63	0.63
47:3C:315:MET:HG2	93:3C:668:HOH:O	1.97	0.63
2:1B:35:ASP:HB3	70:1q:201:PC1:H342	1.79	0.63
12:1L:161:ARG:HG2	12:1L:164:ALA:H	1.62	0.63
13:1M:78:MET:SD	93:1M:780:HOH:O	2.55	0.63
15:1O:303:LYS:O	29:1d:50:ARG:NH2	2.32	0.63
20:1U:20:LYS:HD2	20:1U:27:PRO:HB3	1.79	0.63
42:1q:75:TRP:HB2	70:1q:201:PC1:H143	1.81	0.63
58:4D:84:THR:HG21	85:4M:101:PGV:H71	1.81	0.63
1:1A:18:VAL:HG23	8:1H:222:MET:HE1	1.80	0.63
1:1A:54:LYS:HA	1:1A:57:LEU:HD12	1.79	0.63
28:1c:43:LYS:NZ	93:1c:102:HOH:O	2.31	0.63
93:1l:304:HOH:O	40:1o:96:LYS:NZ	2.30	0.63
49:3R:196:ARG:NH2	49:3R:254:ALA:O	2.30	0.63
15:1O:92:ASN:ND2	93:1O:515:HOH:O	2.30	0.63
46:3O:196:GLN:HA	46:3O:227:ARG:HD3	1.79	0.63
8:1H:9:LEU:HD12	26:1a:19:PRO:HB3	1.79	0.63
13:1M:43:ASN:OD1	93:1M:601:HOH:O	2.16	0.63
47:3C:379:TRP:OXT	93:3C:606:HOH:O	2.16	0.63
48:3Q:12:TRP:HD1	48:3Q:15:ARG:HH12	1.47	0.63
53:3W:10:TYR:HA	53:3W:14:PHE:HB2	1.79	0.63
57:4C:213:THR:HB	85:4C:307:PGV:H11	1.81	0.63
75:4C:306:CDL:H822	75:4C:306:CDL:H612	1.80	0.63
26:1a:49:GLU:OE1	26:1a:52:ARG:NH2	2.32	0.62
50:3F:37:GLY:O	93:3F:203:HOH:O	2.15	0.62
50:3F:118:GLU:OE1	93:3F:204:HOH:O	2.16	0.62
56:4B:49:LYS:HE3	85:4B:301:PGV:H282	1.80	0.62
15:1O:27:VAL:HG21	15:1O:39:ALA:HB2	1.81	0.62
30:1e:72:MET:O	30:1e:76:SER:OG	2.16	0.62
39:1n:55:ASP:CG	45:3N:193:PRO:HB2	2.23	0.62
42:1q:106:ARG:HB2	42:1q:109:ILE:HG13	1.80	0.62
45:3A:242:ARG:NH2	45:3A:431:LEU:O	2.32	0.62
48:3D:106:LEU:HD22	48:3D:295:LEU:HB2	1.81	0.62
47:3P:126:THR:HA	93:3P:646:HOH:O	1.98	0.62
6:1F:387:ALA:O	93:1F:603:HOH:O	2.15	0.62
7:1G:21:GLU:H	7:1G:21:GLU:CD	2.06	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:1O:34:GLY:N	76:1O:401:GTP:O3G	2.30	0.62
46:3B:78:LYS:HB2	46:3B:129:ALA:HB1	1.81	0.62
48:3D:220:THR:HG22	48:3D:268:MET:HE3	1.81	0.62
55:4A:310:MET:HB3	56:4B:73:LEU:HD22	1.81	0.62
55:4A:343:GLY:HA2	85:4B:301:PGV:H062	1.79	0.62
59:4E:76:GLY:O	59:4E:79:LYS:NZ	2.32	0.62
6:1F:203:PRO:O	17:1Q:133:LYS:NZ	2.32	0.62
45:3N:209:LEU:O	93:3N:610:HOH:O	2.16	0.62
55:4A:406:ASN:HB3	55:4A:409:TRP:HB2	1.82	0.62
75:1X:201:CDL:H272	75:1X:201:CDL:H452	1.80	0.62
34:1i:99:ARG:NH2	93:1i:205:HOH:O	2.33	0.62
46:3B:227:ARG:HG3	46:3B:229:GLY:H	1.63	0.62
22:1W:24:ASP:OD1	22:1W:25:MET:N	2.33	0.62
45:3N:332:ASP:OD1	45:3N:432:PRO:HG3	1.99	0.62
1:1A:50:PRO:HB2	10:1J:74:MET:HA	1.81	0.62
24:1Y:18:HIS:CE1	51:3T:61:TRP:HB2	2.35	0.62
13:1M:17:MET:HE1	29:1d:54:VAL:HG21	1.80	0.62
20:1U:8:LEU:N	20:1U:88:GLU:OE2	2.32	0.62
75:1X:201:CDL:H462	69:1d:201:3PE:H3D2	1.80	0.62
37:1l:10:PRO:HD3	38:1m:66:ARG:HG2	1.80	0.62
47:3C:150:LEU:CD2	47:3C:160:LEU:HD23	2.20	0.62
45:3N:34:THR:HG22	45:3N:102:LEU:HD23	1.82	0.62
62:4H:52:VAL:O	93:4H:201:HOH:O	2.16	0.62
1:1A:54:LYS:HD2	1:1A:114:ALA:N	2.15	0.62
46:3O:51:ILE:HG12	46:3O:204:MET:HG2	1.81	0.62
59:4E:21:LYS:HB2	59:4E:24:ILE:HB	1.81	0.62
2:1B:162:GLN:NE2	93:1B:302:HOH:O	2.19	0.62
6:1F:292:ASP:O	6:1F:339:ARG:NH1	2.33	0.62
7:1G:534:ARG:NH2	7:1G:558:ASP:OD1	2.32	0.62
20:1U:48:VAL:O	20:1U:52:MET:HG3	1.99	0.62
55:4A:383:MET:HE2	55:4A:421:VAL:HB	1.80	0.62
7:1G:94:MET:SD	93:1G:968:HOH:O	2.56	0.61
11:1K:23:ARG:NH1	93:1K:106:HOH:O	2.32	0.61
15:1O:213:GLU:HG3	15:1O:214:MET:HE3	1.81	0.61
16:1P:172:PHE:HB2	16:1P:179:LEU:HD21	1.82	0.61
32:1g:100:ARG:NH1	32:1g:107:LEU:O	2.33	0.61
45:3N:269:PRO:O	93:3N:609:HOH:O	2.16	0.61
47:3P:300:ILE:HG13	47:3P:303:LEU:HD12	1.82	0.61
54:3Y:11:ARG:HG3	54:3Y:15:ARG:NH1	2.15	0.61
75:4C:306:CDL:H581	75:4C:306:CDL:H761	1.81	0.61
85:4L:101:PGV:H301	85:4L:101:PGV:H81	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
93:4L:201:HOH:O	67:4M:8:THR:O	2.16	0.61
6:1F:308:PRO:HD3	6:1F:421:HIS:CD2	2.35	0.61
16:1P:322:ARG:NH1	93:1P:504:HOH:O	2.32	0.61
45:3A:106:LEU:HD23	45:3A:207:GLN:NE2	2.13	0.61
49:3E:174:LEU:HD13	49:3E:214:ILE:HD13	1.82	0.61
4:1D:188:ARG:NH1	93:1D:507:HOH:O	2.33	0.61
11:1K:37:MET:HE1	11:1K:64:LEU:HA	1.82	0.61
13:1M:142:ARG:NH2	93:1M:615:HOH:O	2.33	0.61
14:1N:71:MET:O	14:1N:75:ILE:HG12	2.00	0.61
45:3A:132:ASP:O	45:3A:136:GLN:HG2	2.00	0.61
46:3O:203:ARG:NH1	46:3O:232:LEU:O	2.32	0.61
85:4L:101:PGV:H211	85:4L:101:PGV:H251	1.81	0.61
6:1F:267:THR:OG1	93:1F:602:HOH:O	2.10	0.61
10:1J:129:ASP:HB3	30:1e:31:ARG:HE	1.65	0.61
11:1K:3:LEU:O	11:1K:7:ASN:ND2	2.34	0.61
49:3R:179:ARG:HE	49:3R:184:ILE:HG12	1.65	0.61
56:4B:33:LEU:HB2	63:4I:32:ALA:HB2	1.81	0.61
8:1H:187:ILE:HD11	70:1I:201:PC1:H271	1.81	0.61
13:1M:281:ASP:HB3	13:1M:284:SER:HB3	1.83	0.61
14:1N:289:ASN:HA	14:1N:292:PHE:CE2	2.34	0.61
55:4A:117:MET:O	66:4L:46:LYS:NZ	2.33	0.61
58:4D:23:PRO:O	59:4E:66:ARG:NH1	2.34	0.61
9:1I:156:ASN:OD1	18:1R:36:ASN:ND2	2.33	0.61
49:3E:179:ARG:HH12	49:3E:184:ILE:HG12	1.66	0.61
57:4C:88:ILE:HG12	75:4C:306:CDL:H621	1.82	0.61
12:1L:183:VAL:HG21	13:1M:400:MET:HE1	1.83	0.61
31:1f:53:GLU:HG2	31:1f:54:VAL:HG22	1.83	0.61
46:3O:120:MET:HE3	46:3O:219:VAL:HG11	1.81	0.61
47:3P:138:MET:HE1	47:3P:268:ILE:HA	1.82	0.61
55:4A:107:PRO:HB3	57:4C:25:LEU:HB2	1.83	0.61
5:1E:203:THR:O	44:1s:35:ASN:ND2	2.33	0.61
45:3A:86:LEU:HD13	45:3A:99:ILE:HG12	1.81	0.61
57:4C:95:THR:HG23	85:4C:304:PGV:H101	1.82	0.61
6:1F:194:GLU:OE1	17:1Q:133:LYS:HE2	2.00	0.61
14:1N:97:MET:HE3	14:1N:100:MET:HE3	1.82	0.61
38:1m:54:ASN:ND2	93:1m:305:HOH:O	2.32	0.61
53:3J:44:TYR:OH	93:3J:101:HOH:O	2.13	0.61
7:1G:379:LEU:HB2	7:1G:408:LEU:HD23	1.83	0.61
14:1N:170:LEU:HD11	14:1N:288:LEU:HD22	1.83	0.61
33:1h:20:ARG:NE	93:1h:309:HOH:O	2.34	0.61
46:3B:37:SER:HB3	46:3B:216:LEU:HD12	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:3C:150:LEU:O	47:3C:150:LEU:HD23	2.00	0.61
55:4A:297:MET:O	55:4A:302:ARG:NH1	2.34	0.61
8:1H:108:MET:HG3	93:1H:518:HOH:O	2.01	0.60
12:1L:481:THR:OG1	40:1o:91:HIS:ND1	2.27	0.60
14:1N:337:LEU:HD23	75:1X:201:CDL:H191	1.83	0.60
15:1O:136:GLU:O	15:1O:139:TYR:HB3	2.00	0.60
48:3D:292:ARG:HG3	93:3J:112:HOH:O	2.00	0.60
49:3R:211:VAL:HG11	49:3R:245:ALA:O	2.01	0.60
55:4A:428:GLN:NE2	93:4A:704:HOH:O	2.26	0.60
69:1A:201:3PE:H2F2	8:1H:302:MET:HE1	1.82	0.60
56:4B:16:ILE:HG12	56:4B:87:MET:HG3	1.83	0.60
58:4D:19:ARG:O	93:4D:301:HOH:O	2.16	0.60
6:1F:95:VAL:HB	6:1F:136:ILE:HG13	1.82	0.60
69:1J:201:3PE:H3F2	11:1K:10:MET:HE1	1.82	0.60
14:1N:54:GLU:OE2	14:1N:58:LYS:NZ	2.35	0.60
21:1V:8:THR:HG21	21:1V:13:LEU:HD23	1.84	0.60
24:1Y:57:ARG:HH21	69:1Y:202:3PE:H112	1.67	0.60
45:3A:121:SER:HB3	45:3A:123:GLU:HG3	1.82	0.60
45:3N:356:ARG:O	45:3N:360:ILE:HG13	2.01	0.60
2:1B:71:ARG:NH2	9:1I:49:ASN:OD1	2.34	0.60
13:1M:130:LEU:HD22	13:1M:150:LEU:HD13	1.82	0.60
55:4A:279:SER:HB3	68:4N:22:ILE:HG12	1.83	0.60
57:4C:47:LEU:HD22	85:4C:303:PGV:H142	1.83	0.60
5:1E:151:ALA:HB1	5:1E:152:PRO:HD2	1.83	0.60
13:1M:403:THR:HA	13:1M:406:TYR:CE2	2.37	0.60
29:1d:2:MET:N	81:1h:201:AME:O	2.34	0.60
37:1l:157:GLU:N	40:1o:34:LYS:O	2.34	0.60
39:1n:97:LYS:HG2	39:1n:177:PRO:HG3	1.83	0.60
49:3E:169:TRP:CE2	49:3E:273:VAL:HG12	2.36	0.60
4:1D:115:GLU:HG3	4:1D:194:ILE:HB	1.83	0.60
69:1M:504:3PE:H2F1	70:1Y:201:PC1:H281	1.82	0.60
19:1S:55:ARG:N	93:1S:101:HOH:O	2.35	0.60
47:3C:182:HIS:HA	93:3C:740:HOH:O	2.01	0.60
48:3D:314:HIS:CE1	51:3G:22:PRO:HB2	2.37	0.60
48:3Q:144:ARG:HG2	48:3Q:147:LEU:HD12	1.82	0.60
57:4C:210:ILE:HG12	85:4C:307:PGV:H141	1.84	0.60
5:1E:27:ASN:ND2	93:1E:407:HOH:O	2.34	0.60
11:1K:37:MET:HE2	11:1K:67:ALA:HB3	1.83	0.60
75:3A:501:CDL:H332	75:3A:501:CDL:H171	1.84	0.60
51:3G:69:GLU:HA	51:3G:72:LYS:HE2	1.81	0.60
55:4A:86:MET:HE1	55:4A:184:PHE:HB3	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:1F:223:ALA:N	93:1F:607:HOH:O	2.33	0.60
7:1G:283:MET:HB2	7:1G:560:ILE:HB	1.84	0.60
15:1O:75:GLY:HA2	15:1O:99:TRP:CD2	2.37	0.60
24:1Y:124:VAL:O	24:1Y:128:GLN:HG3	2.02	0.60
31:1f:31:ASP:OD1	31:1f:31:ASP:N	2.31	0.60
45:3N:429:GLU:O	93:3N:608:HOH:O	2.16	0.60
65:4K:16:ALA:O	65:4K:20:SER:OG	2.16	0.60
41:1p:166:ARG:NH1	93:1p:214:HOH:O	2.34	0.60
47:3C:81:TYR:HB2	93:3C:635:HOH:O	2.01	0.60
49:3R:207:LYS:HG2	49:3R:265:PHE:HB3	1.82	0.60
1:1A:33:LYS:HG2	8:1H:61:LEU:HD11	1.84	0.60
2:1B:42:ARG:NH1	70:1B:203:PC1:O12	2.32	0.60
12:1L:562:LEU:HB3	69:1N:901:3PE:H3B2	1.83	0.60
14:1N:142:LEU:HB3	14:1N:194:LEU:HD21	1.82	0.60
48:3D:129:HIS:HE1	48:3D:199:PRO:HD2	1.67	0.60
47:3P:316:MET:HA	69:3P:503:3PE:H111	1.84	0.60
85:4A:601:PGV:H302	85:4L:101:PGV:H42	1.84	0.60
7:1G:579:ARG:HB2	7:1G:636:VAL:HG22	1.82	0.59
13:1M:19:LYS:HD3	31:1f:9:ASP:OD2	2.02	0.59
13:1M:425:ASN:ND2	93:1M:618:HOH:O	2.35	0.59
49:3R:199:GLN:HG3	49:3R:257:ASN:ND2	2.17	0.59
49:3R:207:LYS:H	49:3R:265:PHE:HD2	1.50	0.59
2:1B:176:TRP:HA	2:1B:179:ARG:HD2	1.85	0.59
4:1D:116:GLN:NE2	4:1D:276:ASP:OD2	2.34	0.59
32:1g:95:ARG:NH2	93:1g:209:HOH:O	2.34	0.59
46:3B:153:GLN:HE22	49:3I:42:VAL:HA	1.67	0.59
47:3C:168:PHE:CZ	49:3R:151:LYS:HB2	2.37	0.59
47:3C:196:HIS:HE1	83:3C:502:HEM:ND	1.99	0.59
49:3R:267:SER:O	49:3R:271:VAL:HG13	2.02	0.59
6:1F:276:LEU:HD21	6:1F:297:VAL:HG11	1.84	0.59
70:1H:401:PC1:H2I3	10:1J:35:VAL:HG13	1.84	0.59
10:1J:167:VAL:HG13	14:1N:42:PRO:HG3	1.83	0.59
12:1L:102:GLU:OE1	12:1L:456:ARG:NH2	2.34	0.59
49:3E:238:CYS:HA	48:3Q:147:LEU:HD11	1.84	0.59
14:1N:24:SER:HB3	30:1e:1:PRO:HD3	1.84	0.59
16:1P:169:SER:HB3	16:1P:231:VAL:HG12	1.84	0.59
37:1l:55:GLN:NE2	37:1l:69:LEU:O	2.31	0.59
46:3O:25:GLU:HG2	46:3O:213:HIS:CD2	2.38	0.59
48:3Q:177:ALA:O	93:3Q:602:HOH:O	2.16	0.59
8:1H:152:SER:O	93:1H:502:HOH:O	2.17	0.59
12:1L:543:SER:N	93:1L:802:HOH:O	2.34	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:1S:19:ARG:HB2	19:1S:65:TRP:HB2	1.83	0.59
48:3D:139:LEU:HD13	93:3D:725:HOH:O	2.02	0.59
48:3D:160:ASP:HB2	48:3D:171:ARG:HG2	1.84	0.59
57:4C:27:MET:SD	57:4C:50:ASN:ND2	2.74	0.59
6:1F:207:PRO:HG2	6:1F:208:PRO:HD2	1.82	0.59
9:1I:27:TRP:HB3	9:1I:30:LEU:HD12	1.85	0.59
30:1e:57:ILE:HG13	30:1e:58:GLU:N	2.17	0.59
48:3Q:12:TRP:HD1	48:3Q:15:ARG:NH1	2.01	0.59
49:3R:197:ASP:HB3	49:3R:248:ARG:NH1	2.17	0.59
49:3R:263:TYR:C	49:3R:263:TYR:HD1	2.10	0.59
51:3T:54:VAL:HG22	93:3T:234:HOH:O	2.03	0.59
55:4A:426:PHE:HZ	75:4B:302:CDL:H142	1.67	0.59
13:1M:44:GLN:HB2	32:1g:83:TYR:HE1	1.67	0.59
15:1O:165:PRO:O	15:1O:248:TRP:NE1	2.32	0.59
17:1Q:126:LYS:NZ	93:1Q:204:HOH:O	2.33	0.59
23:1X:87:CYS:SG	93:1X:363:HOH:O	2.56	0.59
46:3B:124:LEU:HD12	46:3B:223:PHE:HB2	1.85	0.59
56:4B:212:GLU:O	93:4B:401:HOH:O	2.17	0.59
75:4C:306:CDL:H473	68:4N:1:MET:HA	1.83	0.59
12:1L:512:LYS:CD	64:4J:18:LEU:CD1	2.81	0.59
37:1l:20:ARG:NH1	93:1l:305:HOH:O	2.21	0.59
47:3C:345:HIS:ND1	93:3C:607:HOH:O	2.17	0.59
49:3E:169:TRP:HD1	49:3E:214:ILE:HD11	1.68	0.59
69:3R:302:3PE:H261	69:3R:302:3PE:H391	1.85	0.59
85:4A:603:PGV:H211	85:4C:304:PGV:H62	1.84	0.59
75:4C:306:CDL:H311	75:4C:306:CDL:H212	1.84	0.59
12:1L:104:SER:HA	93:1L:949:HOH:O	2.03	0.59
14:1N:172:GLN:HB2	14:1N:178:ILE:HG13	1.84	0.59
46:3O:366:ALA:HB1	46:3O:370:MET:HE3	1.84	0.59
60:4F:49:VAL:HG22	60:4F:91:LEU:HD12	1.83	0.59
10:1J:34:ILE:HA	10:1J:61:LEU:HD11	1.85	0.59
12:1L:357:ARG:HG2	39:1n:31:VAL:HG22	1.84	0.59
14:1N:36:ASN:O	14:1N:40:MET:HB2	2.02	0.59
48:3Q:105:ASN:ND2	48:3Q:108:ALA:O	2.31	0.59
6:1F:89:ARG:NH1	6:1F:217:GLY:O	2.36	0.58
6:1F:297:VAL:HG22	6:1F:336:VAL:HG22	1.84	0.58
12:1L:207:GLU:OE1	12:1L:208:CYS:N	2.35	0.58
75:1L:702:CDL:H651	69:1L:703:3PE:H3A1	1.83	0.58
37:1l:126:GLN:HG3	37:1l:127:PRO:HD2	1.83	0.58
45:3A:390:ILE:HG21	93:3A:708:HOH:O	2.02	0.58
45:3N:114:ALA:O	45:3N:118:GLN:HB2	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:4E:19:PHE:O	59:4E:57:ARG:NH2	2.31	0.58
62:4H:25:GLN:O	93:4H:202:HOH:O	2.17	0.58
4:1D:68:LEU:HD21	4:1D:411:LEU:HD13	1.86	0.58
14:1N:84:TRP:HB2	30:1e:18:THR:HA	1.85	0.58
43:1r:72:GLN:N	43:1r:72:GLN:OE1	2.36	0.58
45:3A:240:GLU:OE1	45:3A:242:ARG:NH1	2.36	0.58
47:3C:281:LEU:HD13	47:3C:294:LEU:HD13	1.84	0.58
45:3N:344:ARG:NH2	93:3N:621:HOH:O	2.35	0.58
46:3O:109:VAL:HB	46:3O:119:LEU:HD23	1.85	0.58
48:3Q:3:LEU:HD22	51:3T:71:ARG:HH11	1.68	0.58
56:4B:102:HIS:CD2	56:4B:107:SER:HG	2.21	0.58
1:1A:54:LYS:HE3	1:1A:113:TRP:HE3	1.68	0.58
3:1C:181:LYS:HD3	16:1P:174:ARG:HD2	1.86	0.58
93:1M:623:HOH:O	14:1N:304:MET:SD	2.56	0.58
16:1P:200:THR:HB	16:1P:238:LEU:HB2	1.85	0.58
23:1X:51:ASP:OD1	25:1Z:116:TRP:HB2	2.03	0.58
23:1X:136:LEU:HD23	23:1X:137:PRO:HD2	1.84	0.58
46:3O:166:ALA:HB2	46:3O:244:ILE:HG13	1.86	0.58
49:3R:174:LEU:HD11	49:3R:212:ILE:HG23	1.85	0.58
49:3R:179:ARG:HH11	49:3R:211:VAL:HB	1.67	0.58
6:1F:262:VAL:HG11	6:1F:284:ALA:HB1	1.84	0.58
8:1H:111:LEU:HD11	10:1J:57:PHE:CZ	2.38	0.58
10:1J:114:GLU:O	10:1J:114:GLU:HG3	2.02	0.58
24:1Y:84:ASP:HB3	24:1Y:129:LEU:HD11	1.85	0.58
32:1g:92:GLU:OE1	32:1g:95:ARG:NH1	2.36	0.58
33:1h:70:PRO:HG3	41:1p:60:TYR:OH	2.03	0.58
45:3A:269:PRO:HB2	45:3A:410:VAL:HG11	1.84	0.58
49:3E:80:HIS:HA	49:3E:83:ILE:HD12	1.85	0.58
49:3E:235:TYR:HA	49:3E:243:TYR:H	1.68	0.58
47:3P:315:MET:HE1	47:3P:325:PHE:HB2	1.84	0.58
49:3R:165:MET:HG3	49:3R:167:PHE:CZ	2.38	0.58
12:1L:9:LEU:HB3	34:1i:81:ILE:HD13	1.84	0.58
24:1Y:72:THR:OG1	24:1Y:92:GLY:HA2	2.03	0.58
40:1o:52:LEU:HA	40:1o:55:ARG:HD2	1.83	0.58
45:3N:446:PHE:HB2	93:3N:800:HOH:O	2.03	0.58
47:3P:157:GLY:O	47:3P:161:VAL:HG23	2.04	0.58
47:3P:278:TYR:CE2	47:3P:282:ARG:HD3	2.39	0.58
55:4A:371:TYR:CD1	55:4A:436:MET:HG2	2.38	0.58
13:1M:133:ILE:HD11	13:1M:231:LEU:HD11	1.85	0.58
18:1R:20:ASP:N	18:1R:20:ASP:OD1	2.36	0.58
91:4G:103:PEK:H9	91:4G:103:PEK:H311	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:1H:65:THR:O	8:1H:124:ASN:ND2	2.33	0.58
14:1N:210:THR:HG23	14:1N:329:MET:HE3	1.85	0.58
34:1i:103:ILE:HD13	41:1p:17:PRO:HG3	1.86	0.58
55:4A:297:MET:HA	85:4A:603:PGV:H042	1.86	0.58
55:4A:483:SER:HB3	67:4M:4:LYS:HG3	1.86	0.58
56:4B:161:HIS:HB2	56:4B:174:ALA:HB3	1.84	0.58
3:1C:163:ARG:NH1	93:1C:313:HOH:O	2.36	0.58
5:1E:165:THR:OG1	5:1E:168:ASP:OD2	2.20	0.58
14:1N:10:ILE:O	14:1N:14:MET:HG2	2.03	0.58
16:1P:236:TYR:OH	16:1P:311:GLU:OE2	2.22	0.58
24:1Y:16:GLU:OE1	24:1Y:19:ARG:NH1	2.36	0.58
47:3P:376:LEU:O	93:3P:603:HOH:O	2.16	0.58
85:4C:303:PGV:H241	85:4C:303:PGV:H91	1.85	0.58
93:4D:301:HOH:O	59:4E:66:ARG:NH2	2.36	0.58
4:1D:24:GLU:OE2	12:1L:579:ASN:ND2	2.35	0.58
4:1D:226:GLU:OE2	4:1D:305:ARG:NH2	2.30	0.58
7:1G:241:SER:HB2	7:1G:249:ARG:HG3	1.86	0.58
14:1N:62:THR:HG21	14:1N:114:TRP:CD1	2.38	0.58
17:1Q:23:THR:HG23	17:1Q:25:VAL:H	1.69	0.58
46:3O:342:ASP:HA	46:3O:345:LYS:HD3	1.86	0.58
85:4C:303:PGV:H183	85:4C:307:PGV:H172	1.86	0.58
12:1L:51:LEU:HD22	12:1L:91:PRO:HG2	1.84	0.58
45:3A:170:PRO:HB2	45:3A:172:GLU:CD	2.28	0.58
46:3B:136:GLU:OE2	93:3B:501:HOH:O	2.17	0.58
46:3B:314:ALA:CB	49:3I:63:PRO:HG3	2.33	0.58
49:3R:153:GLU:O	49:3R:155:LYS:NZ	2.37	0.58
58:4D:68:PHE:HA	58:4D:71:MET:HE2	1.86	0.58
4:1D:52:GLY:N	4:1D:53:PRO:HD3	2.19	0.57
33:1h:95:GLN:O	33:1h:99:GLU:HG3	2.04	0.57
48:3D:313:ARG:HD3	51:3G:28:PHE:CE2	2.39	0.57
49:3E:263:TYR:HB2	49:3E:272:ILE:H	1.68	0.57
7:1G:350:PRO:HB3	7:1G:464:THR:HG22	1.86	0.57
25:1Z:120:MET:HG3	25:1Z:123:GLU:HG2	1.85	0.57
37:1l:53:ARG:NH2	93:1l:311:HOH:O	2.36	0.57
2:1B:82:GLN:NE2	8:1H:215:TYR:O	2.37	0.57
5:1E:164:LEU:HD12	5:1E:168:ASP:HB2	1.87	0.57
10:1J:78:MET:HE1	11:1K:88:ASP:OD1	2.03	0.57
20:1T:48:VAL:O	20:1T:52:MET:HG3	2.04	0.57
37:1l:54:SER:HA	37:1l:84:TYR:HB3	1.84	0.57
38:1m:107:ASP:HA	38:1m:110:LYS:HE2	1.87	0.57
46:3B:71:LEU:HD23	49:3I:68:VAL:HG11	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:3P:361:ILE:HD12	93:3P:702:HOH:O	2.04	0.57
3:1C:173:GLU:HG3	3:1C:188:VAL:HG23	1.85	0.57
9:1I:14:MET:SD	27:1b:9:LYS:NZ	2.63	0.57
13:1M:17:MET:SD	93:1f:135:HOH:O	2.57	0.57
14:1N:210:THR:HG22	14:1N:333:SER:HB3	1.85	0.57
15:1O:30:ASN:OD1	93:1O:505:HOH:O	2.17	0.57
19:1S:22:LEU:HD23	19:1S:22:LEU:H	1.70	0.57
49:3R:235:TYR:HA	49:3R:242:HIS:HA	1.86	0.57
12:1L:528:TYR:CG	37:1l:101:MET:HB3	2.40	0.57
13:1M:433:GLU:O	13:1M:437:MET:HG2	2.04	0.57
19:1S:36:ILE:HD13	19:1S:54:ILE:HD13	1.86	0.57
27:1b:68:HIS:N	93:1b:102:HOH:O	2.37	0.57
47:3C:104:TYR:HA	47:3C:314:SER:HB2	1.85	0.57
46:3O:163:LEU:HD11	46:3O:258:VAL:HG22	1.87	0.57
49:3R:161:GLU:HA	49:3R:178:HIS:HB3	1.87	0.57
2:1B:179:ARG:O	16:1P:103:ASN:ND2	2.38	0.57
4:1D:3:GLN:NE2	13:1M:137:GLY:O	2.37	0.57
7:1G:104:ASP:OD2	93:1G:902:HOH:O	2.18	0.57
13:1M:243:MET:HE3	93:1M:741:HOH:O	2.04	0.57
69:1M:502:3PE:H2H2	14:1N:335:LEU:HD23	1.85	0.57
28:1c:19:LEU:HB3	75:1d:202:CDL:H132	1.85	0.57
45:3N:354:VAL:HG21	45:3N:404:ALA:HA	1.87	0.57
55:4A:242[B]:GLU:HA	55:4A:245:ILE:HD12	1.86	0.57
1:1A:35:SER:O	2:1B:81:ARG:NH2	2.36	0.57
6:1F:125:GLY:C	6:1F:129:MET:HE3	2.30	0.57
11:1K:92:ASN:ND2	93:1K:107:HOH:O	2.37	0.57
12:1L:161:ARG:HA	39:1n:91:GLU:HG3	1.87	0.57
14:1N:1:FME:HCN	15:1O:258:ARG:HH11	1.70	0.57
31:1f:25:TYR:OH	31:1f:29:ARG:NH1	2.36	0.57
47:3C:278:TYR:CZ	47:3C:282:ARG:HD3	2.39	0.57
45:3N:62:LEU:HD11	45:3N:127:ILE:HG12	1.87	0.57
7:1G:524:LEU:HG	7:1G:527:ALA:HB3	1.87	0.57
12:1L:290:LEU:O	12:1L:523:SER:OG	2.21	0.57
30:1e:94:PRO:HD2	30:1e:97:HIS:HB2	1.87	0.57
37:1l:134:PRO:HG3	40:1o:38:MET:HE2	1.86	0.57
49:3E:156:LEU:HG	49:3E:157:SER:H	1.70	0.57
4:1D:8:VAL:O	4:1D:12:GLU:HG2	2.04	0.57
6:1F:224:ASN:ND2	73:1F:501:FMN:O2	2.34	0.57
8:1H:104:PHE:O	8:1H:108:MET:HG2	2.05	0.57
9:1I:35:GLY:HA3	70:1Z:201:PC1:H331	1.86	0.57
69:1J:201:3PE:H221	69:1Y:204:3PE:H321	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:1M:501:3PE:H352	69:1M:501:3PE:H282	1.86	0.57
75:3A:501:CDL:H132	69:3A:503:3PE:H372	1.86	0.57
52:3H:82:GLU:OE1	52:3H:82:GLU:N	2.37	0.57
45:3N:240:GLU:CD	45:3N:242:ARG:HE	2.13	0.57
54:3X:45:VAL:HG23	93:3X:202:HOH:O	2.03	0.57
55:4A:37:ILE:HD11	55:4A:58:VAL:HA	1.86	0.57
13:1M:97:THR:O	13:1M:101:LEU:HG	2.05	0.57
24:1Y:140:VAL:O	33:1h:115:ARG:NH1	2.37	0.57
30:1e:36:GLU:HG3	30:1e:62:PHE:CZ	2.40	0.57
46:3B:197:ASN:HB3	46:3B:232:LEU:HB2	1.87	0.57
48:3Q:216:LEU:HB3	75:3T:101:CDL:H562	1.86	0.57
12:1L:3:PRO:HG2	12:1L:53:MET:HE1	1.87	0.56
12:1L:434:LYS:HE3	36:1k:57:ALA:HA	1.86	0.56
17:1Q:69:LEU:HD11	42:1q:126:PRO:HG2	1.87	0.56
32:1g:35:GLU:OE1	93:1g:201:HOH:O	2.17	0.56
33:1h:143:ASN:OD1	93:1h:302:HOH:O	2.17	0.56
47:3C:223:TYR:HA	93:3C:721:HOH:O	2.04	0.56
45:3N:443:TRP:HE3	93:3N:800:HOH:O	1.88	0.56
4:1D:352:TYR:HD1	9:1I:86:VAL:HG21	1.69	0.56
8:1H:88:PRO:HB3	8:1H:98:MET:HE3	1.87	0.56
8:1H:313:SER:HB3	25:1Z:51:MET:HA	1.88	0.56
13:1M:47:GLU:OE2	93:1M:602:HOH:O	2.17	0.56
93:1N:1143:HOH:O	81:1h:201:AME:SD	2.58	0.56
23:1X:7:PRO:HG2	25:1Z:84:LEU:HD13	1.87	0.56
24:1Y:113:ALA:HA	70:1m:201:PC1:H381	1.87	0.56
37:1l:124:SER:O	93:1l:303:HOH:O	2.18	0.56
47:3C:331:ASP:HA	47:3C:334:THR:HG22	1.87	0.56
55:4A:244:TYR:HA	55:4A:247:ILE:HG22	1.86	0.56
3:1C:28:TYR:OH	3:1C:67:HIS:NE2	2.31	0.56
9:1I:160:LYS:HG2	9:1I:161:TRP:CD1	2.40	0.56
15:1O:189:PRO:HA	15:1O:192:MET:HG3	1.88	0.56
29:1d:43:LEU:HD23	69:1d:201:3PE:H371	1.87	0.56
33:1h:46:PHE:O	41:1p:58:ASN:ND2	2.33	0.56
46:3B:117:GLU:O	46:3B:121:GLU:HG2	2.06	0.56
48:3Q:18:LEU:HD22	48:3Q:206:LEU:HB2	1.86	0.56
49:3R:125:VAL:HG21	70:3R:303:PC1:H361	1.87	0.56
57:4C:164:SER:HB2	85:4C:302:PGV:H91	1.86	0.56
57:4C:212:SER:HB2	85:4C:305:PGV:H151	1.88	0.56
61:4G:26:PRO:HG3	91:4G:102:PEK:H302	1.88	0.56
4:1D:354:GLU:OE2	4:1D:357:GLN:NE2	2.38	0.56
7:1G:522:LEU:HD22	7:1G:537:LEU:HD11	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:1L:544:MET:HE2	12:1L:549:ALA:HB2	1.88	0.56
45:3A:126:GLN:HA	45:3A:129:LYS:HD3	1.87	0.56
46:3B:35:ILE:CD1	46:3B:217:LYS:HG2	2.35	0.56
45:3N:152:TYR:CE1	49:3R:83:ILE:HD11	2.41	0.56
45:3N:161:THR:HG22	49:3R:99:SER:HB2	1.88	0.56
56:4B:98:LYS:HE3	56:4B:109:GLU:HB2	1.88	0.56
85:4B:301:PGV:H331	75:4D:201:CDL:H462	1.87	0.56
57:4C:25:LEU:O	57:4C:29:SER:OG	2.20	0.56
58:4D:121:LYS:HE2	65:4K:50:PRO:HB2	1.87	0.56
70:1B:202:PC1:H242	16:1P:275:PHE:CE1	2.40	0.56
4:1D:148:LEU:HD23	4:1D:174:ARG:HG2	1.87	0.56
4:1D:149:ASN:OD1	4:1D:371:LYS:NZ	2.32	0.56
7:1G:215:PHE:HB3	9:1I:104:ARG:HG3	1.88	0.56
16:1P:244:TYR:HB2	16:1P:337:ALA:HB2	1.88	0.56
29:1d:15:PRO:HG2	29:1d:81:TYR:CZ	2.39	0.56
32:1g:43:ASP:HA	93:1g:224:HOH:O	2.05	0.56
55:4A:240:HIS:O	55:4A:243:VAL:HG22	2.04	0.56
62:4H:31:GLN:NE2	62:4H:35:ASP:OD1	2.36	0.56
6:1F:215:VAL:HG12	6:1F:220:THR:HG21	1.86	0.56
6:1F:237:ARG:NH1	93:1F:615:HOH:O	2.32	0.56
15:1O:290:ASP:O	15:1O:294:GLN:HG2	2.06	0.56
39:1n:170:VAL:HG13	39:1n:171:THR:HG23	1.86	0.56
48:3Q:180:SER:OG	52:3U:15:ASP:OD1	2.23	0.56
8:1H:173:TRP:HB3	8:1H:175:ILE:HG22	1.88	0.56
12:1L:264:TYR:O	12:1L:268:GLU:HG3	2.06	0.56
16:1P:283:LYS:O	16:1P:287:VAL:HG13	2.06	0.56
40:1o:11:ASP:OD2	40:1o:112:LYS:NZ	2.39	0.56
46:3B:22:GLN:OE1	46:3B:39:GLU:HB3	2.06	0.56
51:3G:42:ARG:NH2	93:3G:206:HOH:O	2.37	0.56
46:3O:211:VAL:HG11	46:3O:216:LEU:HD13	1.87	0.56
53:3W:29:LEU:HA	54:3X:34:TRP:CD1	2.41	0.56
1:1A:67:LEU:HD22	11:1K:65:VAL:HA	1.88	0.56
7:1G:243:ARG:HG2	7:1G:244:THR:HG23	1.87	0.56
13:1M:91:ARG:HE	69:1M:502:3PE:H321	1.70	0.56
46:3B:109:VAL:HG13	46:3B:123:LEU:HD13	1.87	0.56
47:3C:67:THR:HG23	47:3C:71:ARG:HD2	1.87	0.56
69:3D:502:3PE:H351	49:3E:128:ALA:HB1	1.87	0.56
46:3O:87:ARG:NH2	93:3O:516:HOH:O	2.38	0.56
4:1D:227:GLU:OE2	43:1r:17:ARG:NH2	2.39	0.56
6:1F:39:ARG:NH1	6:1F:114:ASP:OD1	2.38	0.56
15:1O:9:VAL:HG12	15:1O:10:LEU:HD23	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:1O:255:THR:HA	15:1O:258:ARG:HD3	1.87	0.56
23:1X:148:GLU:CD	23:1X:148:GLU:H	2.12	0.56
38:1m:29:ARG:HH21	45:3N:226:ASP:CB	2.18	0.56
45:3A:204:GLU:HG3	93:3A:744:HOH:O	2.05	0.56
45:3N:272:VAL:HG12	93:3N:809:HOH:O	2.05	0.56
75:4C:306:CDL:H141	75:4C:306:CDL:H541	1.88	0.56
5:1E:159:ASN:HB3	5:1E:184:PRO:HB3	1.87	0.56
32:1g:48:ASP:HB2	93:1g:229:HOH:O	2.06	0.56
4:1D:233:ARG:NH2	9:1I:23:GLN:O	2.39	0.55
8:1H:156:MET:SD	25:1Z:50:MET:HG2	2.46	0.55
13:1M:220:HIS:O	13:1M:228:SER:OG	2.21	0.55
15:1O:45:LYS:HB2	15:1O:235:VAL:HG11	1.88	0.55
31:1f:41:SER:HB3	33:1h:88:GLU:OE1	2.06	0.55
31:1f:56:TRP:HE1	33:1h:88:GLU:HG3	1.71	0.55
45:3A:204:GLU:HG2	45:3A:207:GLN:H	1.70	0.55
46:3O:102:ARG:NH2	93:3O:517:HOH:O	2.39	0.55
49:3R:201:ASP:O	49:3R:205:VAL:HG12	2.06	0.55
54:3X:8:PRO:O	54:3X:12:GLU:HG3	2.06	0.55
93:1A:319:HOH:O	27:1b:29:ILE:HG12	2.05	0.55
8:1H:292:SER:OG	70:1I:201:PC1:O32	2.24	0.55
45:3A:110:VAL:HG11	45:3A:211:LEU:HB3	1.89	0.55
45:3A:140:GLU:OE2	49:3I:50:LEU:N	2.40	0.55
45:3A:214:LYS:HE3	45:3A:215:HIS:CE1	2.41	0.55
69:3A:503:3PE:N	47:3C:3:ASN:OD1	2.28	0.55
46:3O:56:ARG:HD2	46:3O:103:GLU:HG2	1.88	0.55
46:3O:186:VAL:HG12	93:3O:502:HOH:O	2.06	0.55
55:4A:218:THR:HG21	61:4G:55:ILE:HD12	1.88	0.55
7:1G:648:LEU:HD21	19:1S:44:LYS:HG2	1.86	0.55
10:1J:75:ALA:C	10:1J:77:GLU:H	2.13	0.55
35:1j:41:TRP:HB3	93:1j:201:HOH:O	2.06	0.55
40:1o:74:PRO:HG3	41:1p:28:PRO:HD3	1.88	0.55
46:3O:40:ASN:OD1	46:3O:40:ASN:N	2.38	0.55
60:4F:53:THR:HG22	60:4F:54:ASN:H	1.72	0.55
12:1L:327:LEU:O	12:1L:331:MET:HG2	2.06	0.55
29:1d:64:TYR:CD1	75:1d:202:CDL:H331	2.42	0.55
33:1h:15:GLY:O	33:1h:19:ARG:HG3	2.06	0.55
47:3C:8:HIS:ND1	47:3C:11:MET:HG2	2.22	0.55
53:3W:9:LEU:HD23	53:3W:13:LEU:HD12	1.87	0.55
55:4A:510:TYR:HB3	60:4F:58:VAL:HG22	1.87	0.55
8:1H:24:GLU:HA	8:1H:271:LEU:HD13	1.89	0.55
10:1J:175:ASN:O	15:1O:254:ARG:NH2	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:1n:107:HIS:ND1	39:1n:109:SER:OG	2.36	0.55
53:3J:11:TYR:HA	53:3J:15:PHE:HB2	1.89	0.55
46:3O:365:LYS:HG2	46:3O:399:LEU:HD22	1.89	0.55
75:4B:302:CDL:H412	75:4B:302:CDL:H661	1.89	0.55
69:1A:201:3PE:H352	27:1b:18:LEU:HB3	1.88	0.55
8:1H:196:ALA:HB3	8:1H:197:PRO:HD3	1.88	0.55
37:1l:98:TRP:HB3	38:1m:6:LYS:NZ	2.22	0.55
39:1n:55:ASP:OD1	93:1n:301:HOH:O	2.15	0.55
93:3C:623:HOH:O	49:3R:140:MET:HE2	2.06	0.55
48:3D:309:TYR:OH	75:3G:103:CDL:OB3	2.22	0.55
49:3E:187:GLU:O	49:3E:190:VAL:HB	2.07	0.55
75:3N:502:CDL:OA9	47:3P:221:HIS:CE1	2.60	0.55
46:3O:120:MET:HE3	46:3O:219:VAL:HG21	1.89	0.55
54:3Y:12:GLU:HG2	54:3Y:15:ARG:NH2	2.21	0.55
55:4A:52:GLN:O	55:4A:56:VAL:HG23	2.07	0.55
57:4C:165:ILE:HG12	85:4C:302:PGV:H11	1.88	0.55
8:1H:91:MET:O	8:1H:93:TYR:N	2.39	0.55
10:1J:86:ASN:HB2	10:1J:89:VAL:HG23	1.88	0.55
11:1K:73:LEU:HD22	14:1N:38:LEU:HD12	1.87	0.55
12:1L:591:PHE:CE1	14:1N:111:PHE:HA	2.41	0.55
14:1N:69:MET:HE1	14:1N:104:MET:HE3	1.89	0.55
80:1n:201:EHZ:O1	80:1n:201:EHZ:S1	2.65	0.55
43:1r:7:ILE:O	43:1r:11:ARG:HG2	2.05	0.55
47:3P:316:MET:HG3	69:3P:503:3PE:H112	1.89	0.55
55:4A:240:HIS:NE2	55:4A:244:TYR:HE2	2.04	0.55
55:4A:251:PHE:HB3	55:4A:319:LYS:HE2	1.89	0.55
56:4B:64:ILE:HG21	90:4B:304:PSC:H281	1.87	0.55
13:1M:229:MET:HA	93:1M:769:HOH:O	2.07	0.55
70:1M:503:PC1:H341	75:1h:202:CDL:H311	1.88	0.55
20:1T:6:LEU:HD23	20:1T:6:LEU:H	1.72	0.55
21:1V:37:ILE:HG12	21:1V:94:LEU:HD13	1.89	0.55
35:1j:33:TRP:O	35:1j:37:LEU:HD12	2.07	0.55
45:3A:248:LEU:HD12	45:3A:426:GLY:HA2	1.88	0.55
49:3R:179:ARG:NE	49:3R:184:ILE:HG12	2.22	0.55
13:1M:44:GLN:HB2	32:1g:83:TYR:CE1	2.42	0.55
19:1S:22:LEU:HD13	93:1S:123:HOH:O	2.05	0.55
93:1i:221:HOH:O	40:1o:48:ALA:HA	2.06	0.55
48:3D:140:VAL:HG23	93:3D:601:HOH:O	2.06	0.55
48:3Q:147:LEU:HD13	48:3Q:157:ALA:HB1	1.89	0.55
12:1L:193:SER:HB2	12:1L:206:ASN:OD1	2.07	0.55
47:3C:112:THR:O	47:3C:196:HIS:NE2	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:3C:503:3PE:H281	69:3C:503:3PE:H242	1.89	0.55
46:3O:25:GLU:HG2	46:3O:213:HIS:CG	2.41	0.55
46:3O:76:THR:HG23	46:3O:81:SER:HA	1.89	0.55
57:4C:63:ARG:NH1	64:4J:20:VAL:O	2.39	0.55
59:4E:16:VAL:HG23	59:4E:47:ILE:HG22	1.87	0.55
67:4M:19:LEU:HD23	85:4M:101:PGV:H271	1.89	0.55
6:1F:342:ASP:HB3	6:1F:345:LYS:HB3	1.89	0.54
6:1F:372:MET:HG3	6:1F:395:ILE:HD11	1.88	0.54
7:1G:228:ILE:HG13	7:1G:581:GLN:HB3	1.89	0.54
12:1L:4:PHE:O	12:1L:8:THR:HG23	2.07	0.54
69:1M:502:3PE:H262	14:1N:243:LEU:HD23	1.89	0.54
39:1n:55:ASP:CB	45:3N:193:PRO:HB2	2.35	0.54
45:3A:358:LYS:O	45:3A:362:ARG:HG3	2.07	0.54
46:3O:253:VAL:HB	93:3O:505:HOH:O	2.07	0.54
47:3P:99:GLY:HA3	69:3P:503:3PE:H281	1.88	0.54
49:3R:173:PRO:O	49:3R:215:GLY:N	2.35	0.54
55:4A:423:MET:HE2	55:4A:456:MET:HB2	1.89	0.54
85:4C:303:PGV:H51	61:4G:69:LEU:HD21	1.89	0.54
2:1B:90:GLY:HA2	71:1B:201:SF4:S2	2.48	0.54
5:1E:104:THR:HG21	5:1E:141:GLU:HG2	1.89	0.54
6:1F:61:LYS:HG2	6:1F:76:GLY:HA3	1.88	0.54
11:1K:55:LEU:HD13	30:1e:16:TRP:HE3	1.71	0.54
15:1O:50:HIS:NE2	15:1O:125:GLU:OE1	2.39	0.54
75:1h:202:CDL:OB3	75:1h:202:CDL:O1	2.24	0.54
35:1j:71:GLU:C	40:1o:114:ARG:HH12	2.15	0.54
36:1k:34:LYS:CE	64:4J:17:ASP:CG	2.70	0.54
39:1n:133:GLU:CD	39:1n:133:GLU:H	2.14	0.54
51:3G:41:ARG:HA	51:3G:44:ARG:HH21	1.72	0.54
49:3R:199:GLN:HG3	49:3R:257:ASN:HD21	1.71	0.54
55:4A:51:ASP:OD2	56:4B:205:SER:OG	2.23	0.54
55:4A:129:TYR:HH	55:4A:236:TRP:NE1	2.05	0.54
57:4C:149:HIS:HA	57:4C:152:MET:HE2	1.90	0.54
58:4D:19:ARG:NH2	93:4D:305:HOH:O	2.39	0.54
4:1D:63:ARG:HB3	4:1D:79:HIS:HB2	1.90	0.54
6:1F:305:PRO:HD3	6:1F:413:TRP:HB3	1.88	0.54
13:1M:71:TRP:CD2	70:1M:503:PC1:H2C2	2.42	0.54
20:1T:76:ILE:O	20:1T:80:ILE:HG12	2.08	0.54
24:1Y:21:ALA:O	24:1Y:25:THR:OG1	2.23	0.54
34:1i:101:PRO:HD3	41:1p:14:ARG:HH22	1.72	0.54
45:3A:93:GLU:HG3	45:3A:94:HIS:CD2	2.42	0.54
56:4B:13:THR:O	56:4B:187:THR:OG1	2.24	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1A:38:GLU:HB2	1:1A:43:PRO:HG3	1.89	0.54
2:1B:47:PRO:HD2	2:1B:75:VAL:O	2.07	0.54
11:1K:15:ALA:HB3	11:1K:36:MET:HG3	1.89	0.54
13:1M:76:MET:CE	13:1M:230:VAL:HB	2.37	0.54
69:1M:502:3PE:H2A1	14:1N:335:LEU:HD11	1.89	0.54
14:1N:136:LEU:HD23	14:1N:205:LEU:HD21	1.89	0.54
75:3G:102:CDL:H512	93:3G:206:HOH:O	2.05	0.54
45:3N:204:GLU:HB3	45:3N:207[B]:GLN:HG2	1.89	0.54
69:3N:503:3PE:H322	70:3R:303:PC1:H31	1.90	0.54
46:3O:350:GLY:HA2	46:3O:411:ILE:HD13	1.90	0.54
57:4C:15:PRO:HB2	64:4J:36:MET:HE1	1.89	0.54
2:1B:44:SER:HB2	8:1H:54:LYS:HD3	1.90	0.54
70:1I:201:PC1:H3C1	27:1b:24:ILE:HD11	1.89	0.54
12:1L:203:MET:C	12:1L:205:ASN:H	2.15	0.54
12:1L:524:ASN:HD22	39:1n:76:PRO:HB2	1.73	0.54
16:1P:315:ILE:HG12	16:1P:331:MET:HG2	1.89	0.54
17:1Q:118:TYR:OH	93:1Q:201:HOH:O	2.14	0.54
30:1e:83:ASP:HA	30:1e:86:ILE:HG22	1.88	0.54
38:1m:112:GLU:O	38:1m:116:GLN:HG2	2.07	0.54
45:3A:280:TYR:HA	45:3A:284:TYR:CE2	2.43	0.54
69:3A:502:3PE:H32	70:3E:302:PC1:H31	1.89	0.54
45:3N:212:ALA:HB3	93:3N:610:HOH:O	2.08	0.54
45:3N:439:SER:HB3	69:3N:503:3PE:H111	1.88	0.54
49:3R:128:ALA:HB1	69:3R:302:3PE:H361	1.89	0.54
49:3R:172:LYS:HB3	49:3R:214:ILE:HG23	1.89	0.54
62:4H:55:TRP:N	93:4H:201:HOH:O	2.38	0.54
12:1L:144:TRP:CD1	12:1L:223:LYS:HE2	2.43	0.54
26:1a:1:MET:O	26:1a:4:GLU:HG3	2.08	0.54
93:1i:201:HOH:O	41:1p:15:ARG:NH1	2.14	0.54
39:1n:8:TYR:OH	45:3N:225:GLU:CB	2.52	0.54
45:3N:358:LYS:O	45:3N:362:ARG:HG3	2.08	0.54
52:3U:47:ARG:HD3	52:3U:50:THR:HB	1.90	0.54
56:4B:44:LEU:HD21	63:4I:20:HIS:HB3	1.89	0.54
61:4G:28:VAL:O	61:4G:32:THR:OG1	2.22	0.54
93:1L:1008:HOH:O	85:4J:101:PGV:C18	2.55	0.54
13:1M:94:LEU:HD13	69:1M:502:3PE:H331	1.90	0.54
13:1M:196:TRP:CD1	13:1M:250:LEU:HB3	2.43	0.54
13:1M:324:SER:HA	93:1M:769:HOH:O	2.08	0.54
15:1O:60:ASP:OD1	15:1O:60:ASP:N	2.40	0.54
20:1T:25:ILE:HG23	20:1T:40:LEU:HD22	1.89	0.54
51:3G:26:ARG:O	93:3G:202:HOH:O	2.19	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:3P:318:ARG:NH2	93:3P:618:HOH:O	2.40	0.54
85:4C:302:PGV:H012	85:4C:302:PGV:H42	1.89	0.54
23:1X:75:ARG:HG2	23:1X:76:HIS:CE1	2.42	0.54
49:3E:98:ASP:HB3	49:3E:101:LYS:HG2	1.89	0.54
1:1A:54:LYS:HD2	1:1A:114:ALA:H	1.72	0.54
1:1A:92:LEU:HB3	93:1A:319:HOH:O	2.07	0.54
12:1L:296:ASN:ND2	93:1L:823:HOH:O	2.40	0.54
19:1S:21:HIS:O	19:1S:62:PRO:HA	2.08	0.54
33:1h:120:GLY:O	33:1h:124:GLN:NE2	2.41	0.54
47:3P:57:SER:O	93:3P:604:HOH:O	2.18	0.54
48:3Q:218:LEU:HB2	93:3R:426:HOH:O	2.08	0.54
2:1B:69:MET:HE3	2:1B:74:VAL:HG12	1.90	0.54
8:1H:111:LEU:HD11	10:1J:57:PHE:HZ	1.73	0.54
12:1L:566:THR:O	12:1L:570:GLN:HG2	2.08	0.54
69:1L:704:3PE:H31	69:1L:704:3PE:H231	1.89	0.54
13:1M:118:PHE:O	13:1M:122:PHE:HB3	2.07	0.54
45:3A:21:ASN:OD1	93:3A:601:HOH:O	2.18	0.54
46:3B:49:LEU:HD21	46:3B:204:MET:HE2	1.90	0.54
47:3P:207:ASN:ND2	47:3P:211:ILE:O	2.41	0.54
55:4A:144:ASP:OD2	55:4A:213:ARG:NH1	2.41	0.54
61:4G:25:LEU:HD11	91:4G:102:PEK:H101	1.90	0.54
64:4J:38:LEU:HA	85:4J:101:PGV:H281	1.90	0.54
7:1G:362:TYR:O	7:1G:494:HIS:NE2	2.30	0.53
11:1K:68:ALA:O	93:1K:102:HOH:O	2.18	0.53
13:1M:104:LEU:HD11	75:1X:201:CDL:H273	1.90	0.53
30:1e:88:GLU:OE1	93:1e:201:HOH:O	2.19	0.53
36:1k:29:GLU:O	36:1k:33:GLU:HG3	2.07	0.53
51:3G:20:LEU:HD23	51:3G:25:GLN:HB3	1.90	0.53
53:3W:56:LYS:NZ	93:3W:105:HOH:O	2.41	0.53
85:4A:603:PGV:H211	85:4C:304:PGV:H32	1.90	0.53
60:4F:63:GLU:O	60:4F:66:ASN:HB2	2.08	0.53
12:1L:257:VAL:HG12	12:1L:314:MET:HE2	1.89	0.53
47:3C:150:LEU:HD21	47:3C:160:LEU:CD2	2.22	0.53
49:3E:242:HIS:O	49:3E:250:ARG:N	2.41	0.53
50:3F:84:GLN:HB2	75:3G:103:CDL:HA22	1.90	0.53
51:3G:42:ARG:HD2	75:3G:102:CDL:OB3	2.08	0.53
75:3G:103:CDL:H522	75:3G:103:CDL:H562	1.89	0.53
57:4C:42:LEU:HD13	64:4J:45:TYR:HD2	1.73	0.53
30:1e:85:LEU:HB2	93:1e:244:HOH:O	2.07	0.53
47:3C:319:PRO:O	93:3C:608:HOH:O	2.19	0.53
49:3E:183:GLU:O	49:3E:187:GLU:HG2	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1B:104:TYR:O	2:1B:111:ARG:NH1	2.42	0.53
9:1I:109:TYR:HB3	9:1I:151:LYS:HG3	1.89	0.53
12:1L:36:VAL:HG21	12:1L:118:PHE:HB3	1.90	0.53
33:1h:36:VAL:HA	70:1h:203:PC1:H2G2	1.89	0.53
47:3C:126:THR:HA	93:3C:740:HOH:O	2.07	0.53
47:3C:222:PRO:HB2	93:3C:762:HOH:O	2.07	0.53
45:3N:100:LYS:HD3	45:3N:373:THR:OG1	2.08	0.53
56:4B:120:SER:OG	56:4B:140:ASN:O	2.24	0.53
5:1E:163:ASP:OD2	5:1E:188:SER:OG	2.24	0.53
15:1O:308:TYR:CE1	15:1O:320:LYS:HG3	2.44	0.53
93:1e:254:HOH:O	33:1h:138:LYS:HG3	2.08	0.53
39:1n:97:LYS:HD3	39:1n:173:PRO:HB2	1.89	0.53
42:1q:6:VAL:HG12	75:1q:202:CDL:HA61	1.89	0.53
45:3A:192:ALA:HB2	45:3A:219:LEU:HB3	1.91	0.53
49:3E:173:PRO:O	49:3E:215:GLY:N	2.37	0.53
45:3N:79:VAL:HB	93:3N:605:HOH:O	2.07	0.53
46:3O:78:LYS:CG	46:3O:129:ALA:HB1	2.37	0.53
47:3P:377:LEU:HG	50:3S:20:TYR:HE2	1.72	0.53
49:3R:92:ARG:O	51:3T:24:ARG:NH1	2.42	0.53
55:4A:268:PHE:HZ	56:4B:58:ALA:HB3	1.74	0.53
3:1C:58:ILE:HD13	3:1C:118:GLU:HB3	1.91	0.53
5:1E:26:GLU:H	5:1E:26:GLU:CD	2.16	0.53
8:1H:179:TRP:O	8:1H:183:MET:HG3	2.07	0.53
12:1L:8:THR:HB	12:1L:82:MET:HE3	1.91	0.53
47:3C:141:TRP:HB3	47:3C:268:ILE:HD13	1.91	0.53
52:3H:45:VAL:HG12	52:3H:94:VAL:HG22	1.89	0.53
45:3N:444:LEU:HD22	70:3R:303:PC1:H221	1.91	0.53
46:3O:283:PRO:HG3	49:3V:57:GLY:HA3	1.90	0.53
85:4K:101:PGV:H21	85:4K:101:PGV:H62	1.89	0.53
7:1G:315:VAL:HG22	7:1G:521:VAL:HB	1.91	0.53
8:1H:308:PRO:HB2	8:1H:314:ILE:HD13	1.89	0.53
8:1H:317:GLN:NE2	93:1H:509:HOH:O	2.39	0.53
12:1L:40:VAL:HG11	12:1L:97:THR:HG23	1.91	0.53
12:1L:534:HIS:CD2	69:1L:701:3PE:H341	2.43	0.53
15:1O:97:GLN:HG2	15:1O:135:LEU:HD12	1.91	0.53
17:1Q:14:ASP:OD1	17:1Q:15:GLU:N	2.41	0.53
20:1U:36:PHE:HB3	20:1U:42:LEU:HD12	1.91	0.53
29:1d:36:PHE:HZ	69:1d:201:3PE:H3C1	1.74	0.53
37:1l:115:MET:HA	37:1l:118:VAL:HG22	1.90	0.53
47:3C:51:LEU:HD13	83:3C:501:HEM:HBD1	1.90	0.53
45:3N:269:PRO:HB2	45:3N:410:VAL:HG21	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:3R:225:ILE:HG12	49:3R:237:PRO:HG3	1.89	0.53
55:4A:218:THR:HG22	55:4A:221:ASP:HB3	1.90	0.53
6:1F:365:CYS:HB2	71:1F:502:SF4:S4	2.47	0.53
12:1L:512:LYS:HD2	64:4J:18:LEU:CD1	2.38	0.53
13:1M:61:LEU:HB2	13:1M:457:PRO:HD3	1.91	0.53
39:1n:141:GLU:OE2	93:1n:302:HOH:O	2.18	0.53
49:3R:153:GLU:HG3	49:3R:169:TRP:CD2	2.44	0.53
69:3R:302:3PE:H242	93:3R:443:HOH:O	2.09	0.53
55:4A:487:LEU:O	55:4A:491:ASN:ND2	2.36	0.53
4:1D:282:GLU:O	4:1D:313:GLN:NE2	2.27	0.53
16:1P:214:ILE:HD13	93:1P:617:HOH:O	2.09	0.53
47:3C:214:ASP:HB3	51:3G:10:THR:HG23	1.90	0.53
49:3E:266:THR:HB	49:3E:270:LEU:HG	1.91	0.53
53:3J:38:GLN:OE1	54:3Y:47:TYR:OH	2.20	0.53
46:3O:78:LYS:HD2	93:3O:546:HOH:O	2.08	0.53
55:4A:3:VAL:HG11	85:4A:601:PGV:H32	1.91	0.53
85:4A:602:PGV:H131	68:4N:22:ILE:HG21	1.90	0.53
4:1D:100:LEU:HD22	4:1D:195:ARG:HD3	1.90	0.53
23:1X:85:TRP:HB3	93:1X:387:HOH:O	2.08	0.53
47:3C:207:ASN:ND2	47:3C:211:ILE:O	2.38	0.53
45:3N:322:ALA:HB1	93:3N:810:HOH:O	2.08	0.53
49:3R:213:LEU:HD22	49:3R:258:LEU:HB2	1.91	0.53
8:1H:42:PRO:HG3	42:1q:28:PHE:HE1	1.74	0.52
12:1L:561:ILE:HD12	70:1m:201:PC1:H291	1.91	0.52
13:1M:105:PHE:O	13:1M:109:THR:OG1	2.26	0.52
13:1M:243:MET:HA	13:1M:246:ILE:HG22	1.92	0.52
21:1V:77:GLU:CD	21:1V:77:GLU:H	2.17	0.52
27:1b:62:MET:C	27:1b:63:PRO:CG	2.77	0.52
32:1g:45:HIS:NE2	32:1g:58:MET:HE2	2.25	0.52
44:1s:31:GLU:HG3	44:1s:32:PRO:HD3	1.91	0.52
46:3B:49:LEU:HD23	46:3B:127:THR:HG21	1.89	0.52
46:3B:207:ILE:HD13	46:3B:383:GLY:HA2	1.92	0.52
47:3P:132:VAL:HA	47:3P:139:SER:HB3	1.91	0.52
48:3Q:27:ARG:HB2	48:3Q:55:CYS:HB2	1.91	0.52
56:4B:14:SER:HB3	56:4B:168:LEU:HD23	1.90	0.52
70:1B:202:PC1:H261	70:1B:202:PC1:H351	1.91	0.52
70:1B:203:PC1:H11	70:1q:201:PC1:H32	1.92	0.52
7:1G:304:ALA:O	7:1G:308:GLN:HG2	2.10	0.52
23:1X:84:TYR:CZ	23:1X:88:ILE:HD11	2.44	0.52
37:1l:124:SER:O	37:1l:124:SER:OG	2.27	0.52
46:3B:95:LYS:HB2	49:3l:32:ALA:HB2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:3N:191:LYS:HE3	45:3N:222:THR:C	2.34	0.52
46:3O:359:ALA:O	46:3O:363:LYS:HG3	2.08	0.52
49:3R:182:LYS:HD3	49:3R:182:LYS:H	1.74	0.52
1:1A:60:ILE:HG21	10:1J:168:ILE:HG21	1.91	0.52
4:1D:151:ILE:HD11	4:1D:218:PHE:CZ	2.45	0.52
4:1D:165:THR:OG1	8:1H:275:ALA:O	2.27	0.52
5:1E:55:GLN:HB2	93:1E:401:HOH:O	2.09	0.52
7:1G:315:VAL:O	7:1G:340:SER:OG	2.25	0.52
14:1N:49:ASN:OD1	14:1N:52:ALA:N	2.39	0.52
39:1n:55:ASP:HB3	39:1n:58:LYS:HZ3	1.74	0.52
47:3C:281:LEU:HD12	47:3C:291:VAL:HA	1.91	0.52
46:3O:157:ALA:O	46:3O:161:GLU:HG2	2.10	0.52
54:3X:9:ARG:NH1	54:3X:13:LEU:HD11	2.24	0.52
57:4C:31:LEU:HD12	85:4C:301:PGV:H181	1.91	0.52
12:1L:242:PRO:HG3	93:1L:949:HOH:O	2.07	0.52
12:1L:272:LEU:O	12:1L:276:MET:HG3	2.10	0.52
16:1P:173:GLY:H	16:1P:176:ASP:HB3	1.74	0.52
16:1P:315:ILE:HD12	16:1P:316:GLU:N	2.25	0.52
20:1T:51:ILE:HG21	20:1T:67:ALA:HB1	1.90	0.52
26:1a:7:PRO:HD3	75:1q:202:CDL:H191	1.90	0.52
46:3B:334:GLY:O	46:3B:338:LYS:HD3	2.09	0.52
45:3N:191:LYS:HD3	45:3N:221:GLY:HA2	1.91	0.52
55:4A:420:GLY:O	55:4A:424:THR:OG1	2.23	0.52
56:4B:9:PHE:HB2	56:4B:21:LEU:HD21	1.91	0.52
63:4I:61:GLU:OE1	63:4I:64:ARG:NH1	2.42	0.52
4:1D:47:LEU:O	4:1D:67:GLU:HA	2.09	0.52
4:1D:232:ASN:O	4:1D:236:ARG:HG3	2.10	0.52
5:1E:39:PRO:O	93:1E:402:HOH:O	2.19	0.52
6:1F:96:ASN:ND2	6:1F:187:GLY:O	2.29	0.52
45:3N:14:THR:HG21	45:3N:389:ARG:CB	2.38	0.52
48:3Q:3:LEU:HD12	52:3U:59:PHE:HD2	1.75	0.52
12:1L:90:ILE:HG12	12:1L:129:MET:SD	2.50	0.52
12:1L:146:GLY:HA2	93:1L:969:HOH:O	2.08	0.52
15:1O:113:GLU:O	15:1O:117:SER:HB3	2.10	0.52
45:3N:436:ARG:HD3	47:3P:222:PRO:HD3	1.92	0.52
46:3O:161:GLU:OE2	93:3O:506:HOH:O	2.19	0.52
49:3R:219:HIS:NE2	49:3R:239:HIS:CE1	2.77	0.52
6:1F:59:GLU:OE2	93:1F:604:HOH:O	2.19	0.52
7:1G:66:VAL:HG23	93:1G:1106:HOH:O	2.09	0.52
9:1I:31:VAL:HG12	70:1Z:201:PC1:H321	1.90	0.52
45:3A:349:ALA:O	45:3A:353:GLU:OE1	2.28	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:3R:236:CYS:H	49:3R:242:HIS:HA	1.74	0.52
55:4A:86:MET:HB3	55:4A:182:PRO:HG2	1.91	0.52
55:4A:275:TRP:CE3	85:4A:602:PGV:H12	2.44	0.52
1:1A:51:PHE:O	1:1A:52:SER:HB3	2.09	0.52
4:1D:209:ASP:O	4:1D:213:GLU:HG2	2.10	0.52
4:1D:257:GLY:HA3	4:1D:372:GLY:HA2	1.91	0.52
5:1E:201:SER:HB2	6:1F:26:TYR:HE2	1.74	0.52
5:1E:205:PRO:HG3	44:1s:33:PHE:HB3	1.92	0.52
6:1F:25:LEU:HD21	6:1F:267:THR:HG22	1.91	0.52
10:1J:175:ASN:H	14:1N:48:PHE:HD2	1.57	0.52
12:1L:407:TRP:CD2	37:1l:115:MET:HB3	2.44	0.52
12:1L:600:THR:HG23	12:1L:601:LEU:N	2.24	0.52
40:1o:102:GLU:OE1	40:1o:105:ARG:HD3	2.10	0.52
46:3B:163:LEU:HD12	93:3B:553:HOH:O	2.10	0.52
46:3B:435:PHE:H	46:3B:438:GLU:HG3	1.75	0.52
45:3N:86:LEU:HD13	45:3N:99:ILE:HG12	1.91	0.52
47:3P:98:VAL:O	47:3P:102:LEU:HG	2.09	0.52
47:3P:319:PRO:HB3	51:3T:47:ARG:CZ	2.40	0.52
85:4J:101:PGV:H51	85:4J:101:PGV:H231	1.92	0.52
1:1A:1:FME:O1	1:1A:2:ASN:N	2.41	0.52
5:1E:100:ILE:HG13	5:1E:156:ILE:HD12	1.91	0.52
7:1G:316:ALA:HB3	7:1G:519:PRO:HG3	1.92	0.52
35:1j:54:PRO:HG3	40:1o:95:VAL:HG22	1.92	0.52
37:1l:74:GLY:HA2	93:1m:306:HOH:O	2.10	0.52
45:3A:27:SER:HA	45:3A:199:ALA:O	2.10	0.52
45:3A:423:ALA:HB2	93:3A:655:HOH:O	2.09	0.52
45:3N:41:ILE:HG23	45:3N:195:MET:HG3	1.92	0.52
46:3O:169:ARG:HG3	46:3O:240:ARG:HB3	1.92	0.52
48:3Q:224:ARG:NH2	93:3Q:608:HOH:O	2.43	0.52
52:3U:28:GLU:HA	52:3U:31:ILE:HB	1.91	0.52
70:1A:202:PC1:H151	10:1J:149:TYR:CE2	2.45	0.52
4:1D:50:ASN:HA	4:1D:65:VAL:HA	1.90	0.52
5:1E:39:PRO:HB3	44:1s:66:PRO:HG2	1.92	0.52
5:1E:200:THR:HG21	6:1F:283:HIS:HA	1.92	0.52
6:1F:294:LEU:O	6:1F:339:ARG:NH1	2.43	0.52
6:1F:294:LEU:HD11	6:1F:297:VAL:HG23	1.92	0.52
6:1F:393:TRP:O	6:1F:396:SER:OG	2.24	0.52
13:1M:74:PRO:O	13:1M:78:MET:HG3	2.10	0.52
13:1M:91:ARG:NH2	93:1M:623:HOH:O	2.43	0.52
22:1W:88:MET:O	22:1W:92:GLU:HG3	2.10	0.52
25:1Z:56:GLU:HG2	25:1Z:59:ARG:HH21	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:1b:42:ILE:HG22	27:1b:46:ARG:HD3	1.92	0.52
41:1p:64:HIS:O	93:1p:206:HOH:O	2.19	0.52
49:3E:220:LEU:HD12	47:3P:263:ASN:HD21	1.75	0.52
57:4C:156:ARG:NH2	57:4C:222:GLN:O	2.43	0.52
85:4G:101:PGV:H241	85:4G:101:PGV:H012	1.91	0.52
9:1I:162:GLU:HA	9:1I:165:ILE:HG12	1.92	0.51
69:1L:703:3PE:H262	75:1h:202:CDL:HB32	1.92	0.51
13:1M:39:LEU:HD21	70:1M:503:PC1:H291	1.92	0.51
70:1M:503:PC1:H292	70:1M:503:PC1:H2D2	1.92	0.51
14:1N:312:LYS:HE3	15:1O:76:ASN:HB2	1.91	0.51
28:1c:42:TYR:CZ	29:1d:22:PRO:HG3	2.45	0.51
47:3C:283:SER:HA	93:3C:748:HOH:O	2.09	0.51
51:3G:74:LYS:NZ	52:3H:82:GLU:OE2	2.42	0.51
48:3Q:238:ARG:CZ	49:3R:83:ILE:HG22	2.40	0.51
57:4C:72:THR:O	57:4C:76:GLN:HG3	2.10	0.51
4:1D:253:TYR:CE1	4:1D:404:LYS:HD3	2.45	0.51
13:1M:6:ILE:HD12	31:1f:23:GLY:HA2	1.92	0.51
25:1Z:98:MET:HE2	30:1e:78:ILE:HA	1.91	0.51
30:1e:46:ILE:HD11	93:1e:267:HOH:O	2.09	0.51
38:1m:102:TYR:O	38:1m:106:THR:OG1	2.27	0.51
47:3C:104:TYR:CE2	69:3C:503:3PE:H251	2.46	0.51
69:3C:504:3PE:H2A1	49:3R:130:LYS:HA	1.91	0.51
49:3E:178:HIS:HA	49:3E:210:TRP:CD1	2.45	0.51
49:3I:42:VAL:HG22	49:3I:43:LEU:HD12	1.92	0.51
45:3N:244:ARG:HG2	51:3T:10:MET:HB3	1.92	0.51
53:3W:55:ILE:O	53:3W:58:LYS:HG2	2.10	0.51
1:1A:58:VAL:HA	1:1A:61:THR:HG22	1.91	0.51
6:1F:56:ILE:HA	93:1F:705:HOH:O	2.10	0.51
22:1W:35:LEU:HD13	22:1W:87:LYS:HG2	1.91	0.51
30:1e:82:ARG:HA	93:1e:244:HOH:O	2.11	0.51
38:1m:13:LEU:HD21	38:1m:18:ASP:HA	1.93	0.51
40:1o:38:MET:HE1	40:1o:56:ASP:O	2.10	0.51
44:1s:55:ASN:C	44:1s:55:ASN:HD22	2.17	0.51
45:3A:76:GLU:HG3	46:3B:285:VAL:HG21	1.92	0.51
46:3B:39:GLU:OE1	46:3B:113:ARG:NH2	2.39	0.51
49:3E:180:THR:O	49:3E:184:ILE:HG13	2.10	0.51
45:3N:18:GLN:HG3	45:3N:24:ARG:HG3	1.92	0.51
75:4D:201:CDL:H742	75:4D:201:CDL:H181	1.91	0.51
65:4K:8:ASP:OD1	65:4K:8:ASP:N	2.41	0.51
4:1D:343:GLU:O	4:1D:347:HIS:ND1	2.39	0.51
12:1L:331:MET:SD	12:1L:465:GLY:HA2	2.50	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:1M:52:PHE:O	33:1h:89:LYS:NZ	2.43	0.51
16:1P:36:ASN:HA	16:1P:62:MET:HG2	1.92	0.51
20:1U:54:MET:SD	93:1U:117:HOH:O	2.57	0.51
33:1h:17:TYR:HA	93:1h:309:HOH:O	2.09	0.51
34:1i:52:ASP:HB3	34:1i:57:LYS:HE3	1.92	0.51
45:3A:79:VAL:HG21	45:3A:86:LEU:HD22	1.91	0.51
47:3P:221:HIS:O	47:3P:225:THR:OG1	2.09	0.51
49:3R:234:TYR:HB2	49:3R:243:TYR:HB2	1.93	0.51
54:3Y:15:ARG:HA	54:3Y:18:ILE:HD12	1.91	0.51
55:4A:229:ILE:HG21	85:4A:603:PGV:H062	1.93	0.51
55:4A:430:PHE:HB3	56:4B:7:LEU:HA	1.93	0.51
75:4C:306:CDL:H541	75:4C:306:CDL:H162	1.91	0.51
63:4I:63:MET:HB3	63:4I:68:ILE:HD11	1.91	0.51
8:1H:267:THR:O	8:1H:271:LEU:HG	2.10	0.51
9:1I:95:GLU:OE1	42:1q:133:LYS:NZ	2.42	0.51
16:1P:282:ASP:OD1	16:1P:286:ARG:NE	2.34	0.51
25:1Z:93:GLU:O	25:1Z:97:ILE:HG13	2.09	0.51
29:1d:120:ARG:HD2	38:1m:115:ILE:HD13	1.93	0.51
33:1h:68:LYS:NZ	93:1h:320:HOH:O	2.43	0.51
45:3A:395:TRP:O	45:3A:399:ILE:HG13	2.10	0.51
49:3R:85:VAL:O	93:3R:402:HOH:O	2.18	0.51
12:1L:223:LYS:HE3	93:1L:921:HOH:O	2.10	0.51
12:1L:351:ASN:O	12:1L:351:ASN:ND2	2.41	0.51
12:1L:584:ILE:HG13	14:1N:58:LYS:HE3	1.92	0.51
13:1M:265:SER:OG	13:1M:299:VAL:HG23	2.11	0.51
21:1V:87:LEU:O	21:1V:91:ARG:HG3	2.11	0.51
33:1h:68:LYS:O	93:1h:303:HOH:O	2.19	0.51
37:1l:136:ASN:HA	37:1l:153:VAL:HB	1.92	0.51
43:1r:11:ARG:HD3	43:1r:19:LEU:HD11	1.93	0.51
49:3E:199:GLN:O	49:3E:248:ARG:HD3	2.11	0.51
49:3R:222:CYS:HB2	72:3R:301:FES:S2	2.50	0.51
51:3T:29:TYR:CZ	75:3T:101:CDL:HA61	2.46	0.51
52:3U:20:VAL:HG13	93:3U:128:HOH:O	2.10	0.51
49:3V:65:VAL:HB	49:3V:77:ARG:HG3	1.92	0.51
66:4L:28:TYR:HD2	85:4L:101:PGV:H302	1.75	0.51
5:1E:87:TYR:HB3	6:1F:181:ALA:O	2.10	0.51
6:1F:254:LYS:NZ	6:1F:255:LEU:O	2.43	0.51
7:1G:648:LEU:HD13	19:1S:41:VAL:HG13	1.93	0.51
8:1H:55:LEU:HD13	8:1H:221:ALA:HB2	1.92	0.51
11:1K:43:MET:HE3	11:1K:47:ILE:HD11	1.93	0.51
12:1L:489:THR:O	12:1L:493:VAL:HG23	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:1M:502:3PE:H3I2	69:1M:502:3PE:H2E2	1.93	0.51
15:1O:294:GLN:O	15:1O:298:GLU:HG3	2.10	0.51
19:1S:30:GLN:HG2	19:1S:33:ARG:NH1	2.26	0.51
34:1i:41:PRO:HA	34:1i:44:GLN:HB2	1.91	0.51
48:3Q:16:GLY:O	48:3Q:202:LYS:NZ	2.43	0.51
49:3R:116:LEU:HD12	93:3R:439:HOH:O	2.11	0.51
57:4C:175:LEU:HD12	85:4G:101:PGV:H182	1.92	0.51
58:4D:78:TRP:CZ2	75:4D:201:CDL:H592	2.46	0.51
1:1A:106:TRP:CE2	8:1H:291:LYS:HD3	2.46	0.51
2:1B:38:ASN:O	2:1B:42:ARG:HG2	2.11	0.51
4:1D:112:MET:HG3	4:1D:181:TYR:CZ	2.45	0.51
7:1G:378:LEU:O	93:1G:903:HOH:O	2.19	0.51
24:1Y:48:PHE:HA	69:1Y:204:3PE:H222	1.92	0.51
24:1Y:72:THR:O	24:1Y:76:SER:OG	2.22	0.51
37:1l:74:GLY:HA3	38:1m:42:LEU:HD22	1.92	0.51
46:3B:227:ARG:HG3	46:3B:229:GLY:N	2.25	0.51
47:3C:103:TYR:HA	47:3C:315:MET:SD	2.51	0.51
58:4D:37:GLN:NE2	93:4D:307:HOH:O	2.42	0.51
6:1F:95:VAL:HG11	6:1F:118:LEU:HD11	1.93	0.51
6:1F:261:HIS:CD2	6:1F:338:ASP:H	2.29	0.51
13:1M:12:LEU:HB2	13:1M:13:PRO:HD3	1.91	0.51
38:1m:6:LYS:HZ3	38:1m:8:SER:HB2	1.76	0.51
40:1o:48:ALA:HB2	93:1o:239:HOH:O	2.10	0.51
40:1o:93:ASP:OD2	93:1o:202:HOH:O	2.18	0.51
46:3B:166:ALA:HB3	93:3B:553:HOH:O	2.11	0.51
47:3C:376:LEU:O	50:3F:29:ARG:HD3	2.10	0.51
46:3O:197:ASN:HB3	46:3O:232:LEU:HB2	1.93	0.51
47:3P:323:CYS:C	47:3P:327:MET:HE3	2.35	0.51
57:4C:204:HIS:NE2	57:4C:249:TRP:HB2	2.26	0.51
17:1Q:36:ARG:NH2	17:1Q:106:GLU:OE1	2.36	0.51
26:1a:34:LYS:NZ	26:1a:61:HIS:O	2.44	0.51
29:1d:50:ARG:NH2	93:1d:306:HOH:O	2.42	0.51
45:3A:207:GLN:HE21	45:3A:211:LEU:HD11	1.76	0.51
46:3B:56:ARG:HD2	46:3B:103:GLU:HG2	1.92	0.51
51:3G:63:TRP:NE1	93:3G:209:HOH:O	2.44	0.51
48:3Q:105:ASN:ND2	48:3Q:110:PRO:HD3	2.26	0.51
48:3Q:224:ARG:HD3	51:3T:26:PHE:CE2	2.45	0.51
54:3Y:14:ALA:O	54:3Y:18:ILE:HG13	2.10	0.51
62:4H:71:ALA:O	62:4H:75:ARG:HG3	2.10	0.51
7:1G:114:CYS:HB3	7:1G:117:GLN:HB2	1.93	0.50
7:1G:255:HIS:CE1	7:1G:257:ASP:HB2	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:1J:72:THR:O	10:1J:76:THR:HA	2.11	0.50
25:1Z:140:PHE:HB2	26:1a:45:TRP:CD1	2.46	0.50
42:1q:2:GLU:O	42:1q:6:VAL:HG23	2.11	0.50
45:3A:124:ASP:OD1	45:3A:179:ARG:HD2	2.11	0.50
45:3A:336:PHE:HZ	69:3A:503:3PE:H112	1.76	0.50
45:3A:354:VAL:HG21	45:3A:404:ALA:HA	1.92	0.50
46:3B:95:LYS:HE2	49:3I:72:VAL:CB	2.39	0.50
47:3C:19:ILE:HA	47:3C:221:HIS:HB2	1.93	0.50
49:3E:186:GLN:O	49:3E:190:VAL:HG23	2.11	0.50
52:3H:50:GLU:HG2	52:3H:86:PHE:HZ	1.77	0.50
49:3R:241:SER:HB3	49:3R:249:ILE:HG23	1.92	0.50
55:4A:190:ILE:HG23	85:4A:602:PGV:H252	1.91	0.50
55:4A:441:SER:OG	93:4A:703:HOH:O	2.14	0.50
55:4A:443:TYR:O	56:4B:134:ARG:NH2	2.44	0.50
56:4B:134:ARG:HB2	58:4D:110:THR:HG21	1.92	0.50
3:1C:81:VAL:HG23	93:1C:365:HOH:O	2.11	0.50
5:1E:26:GLU:OE2	5:1E:26:GLU:N	2.30	0.50
5:1E:97:LYS:HG2	5:1E:136:LEU:HD23	1.92	0.50
6:1F:363:THR:HG21	7:1G:97:LEU:HG	1.93	0.50
7:1G:514:ILE:HG23	7:1G:519:PRO:HD3	1.94	0.50
12:1L:505:ASN:O	12:1L:508:THR:OG1	2.22	0.50
37:1I:68:ASP:OD1	37:1I:68:ASP:N	2.44	0.50
45:3A:111:GLU:HG3	45:3A:215:HIS:CE1	2.46	0.50
47:3P:50:PHE:HZ	69:3R:302:3PE:H2I3	1.75	0.50
55:4A:508:PRO:HG3	57:4C:6:HIS:HB3	1.93	0.50
8:1H:111:LEU:HD11	70:1H:401:PC1:H392	1.93	0.50
12:1L:536:LEU:HB3	12:1L:537:PRO:HD3	1.94	0.50
13:1M:119:TYR:CZ	13:1M:161:LEU:HB2	2.46	0.50
29:1d:4:GLY:HA3	33:1h:124:GLN:O	2.11	0.50
45:3A:241:ILE:HG12	93:3A:661:HOH:O	2.11	0.50
45:3A:414:TYR:O	45:3A:418:GLN:HG3	2.11	0.50
47:3C:379:TRP:CZ3	50:3F:49:ILE:HD12	2.45	0.50
75:3P:504:CDL:OB9	51:3T:41:THR:HG23	2.11	0.50
49:3R:219:HIS:HE1	49:3R:253:PRO:HG2	1.76	0.50
57:4C:71:HIS:NE2	85:4C:301:PGV:O06	2.39	0.50
4:1D:155:THR:HB	4:1D:167:PHE:HA	1.94	0.50
6:1F:117:LYS:HE2	93:1F:634:HOH:O	2.11	0.50
6:1F:261:HIS:CD2	6:1F:337:MET:HA	2.44	0.50
12:1L:115:ASN:HA	93:1L:915:HOH:O	2.10	0.50
12:1L:159:HIS:HB2	13:1M:416:ARG:HB3	1.94	0.50
16:1P:176:ASP:OD1	16:1P:178:PHE:N	2.37	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:1V:69:GLU:O	21:1V:72:GLN:NE2	2.45	0.50
23:1X:2:GLY:O	25:1Z:109:SER:N	2.38	0.50
34:1i:105:PRO:HD3	93:1o:239:HOH:O	2.12	0.50
48:3D:316:TRP:O	48:3D:320:LYS:HG2	2.11	0.50
45:3N:57:TYR:OH	45:3N:137:GLU:OE1	2.27	0.50
48:3Q:195:GLU:OE1	48:3Q:201:ARG:NE	2.41	0.50
54:3X:4:ARG:NH1	54:3X:10:TYR:OH	2.44	0.50
57:4C:86:PHE:HZ	85:4C:307:PGV:H301	1.77	0.50
4:1D:141:PHE:O	4:1D:145:THR:OG1	2.27	0.50
4:1D:405:MET:HE2	4:1D:417:ILE:HG23	1.92	0.50
12:1L:177:ILE:HG13	93:1L:801:HOH:O	2.11	0.50
14:1N:88:LYS:CG	14:1N:148:SER:HB3	2.42	0.50
15:1O:234:VAL:O	15:1O:238:ILE:HG12	2.12	0.50
21:1V:4:LEU:HD23	21:1V:4:LEU:H	1.77	0.50
24:1Y:124:VAL:HG22	69:1Y:203:3PE:H232	1.93	0.50
29:1d:46:ASN:ND2	29:1d:51:ARG:HH11	2.10	0.50
29:1d:53:VAL:H	69:1d:201:3PE:H111	1.75	0.50
38:1m:6:LYS:HD2	38:1m:6:LYS:C	2.36	0.50
39:1n:134:ARG:NH2	39:1n:138:GLN:HB2	2.25	0.50
49:3E:195:LEU:HD13	49:3E:249:ILE:O	2.12	0.50
49:3I:36:ALA:CB	49:3I:73:PRO:HG2	2.39	0.50
75:3P:504:CDL:HB32	51:3T:44:CYS:SG	2.51	0.50
2:1B:77:ARG:CG	2:1B:78:ALA:H	2.25	0.50
7:1G:114:CYS:O	7:1G:115:ASP:HB2	2.10	0.50
7:1G:156:CYS:O	93:1G:904:HOH:O	2.19	0.50
12:1L:331:MET:HE1	12:1L:468:ILE:HD12	1.94	0.50
13:1M:150:LEU:HG	13:1M:154:LEU:HD12	1.94	0.50
13:1M:195:MET:HG3	69:1M:501:3PE:H221	1.92	0.50
14:1N:243:LEU:HD22	14:1N:330:ILE:HG21	1.94	0.50
15:1O:43:ALA:HB2	15:1O:123:VAL:HG21	1.94	0.50
23:1X:124:LEU:HD21	25:1Z:70:ALA:HB2	1.93	0.50
24:1Y:2:LYS:O	24:1Y:6:HIS:N	2.42	0.50
33:1h:50:ALA:HB2	41:1p:60:TYR:CE2	2.46	0.50
48:3Q:131:LEU:HB3	48:3Q:164:ILE:HD11	1.94	0.50
4:1D:6:PRO:HB3	4:1D:10:TRP:CD1	2.47	0.50
5:1E:210:GLY:HA2	6:1F:43:TYR:CE2	2.47	0.50
8:1H:107:ALA:HA	10:1J:58:LEU:HD13	1.93	0.50
12:1L:554:ASP:OD2	13:1M:288:TYR:OH	2.18	0.50
75:1L:702:CDL:H561	93:1L:969:HOH:O	2.12	0.50
34:1i:44:GLN:HA	34:1i:47:ASN:OD1	2.12	0.50
49:3E:186:GLN:O	49:3E:190:VAL:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:3P:26:ASN:O	93:3P:605:HOH:O	2.20	0.50
75:3P:504:CDL:HA61	75:3P:504:CDL:H532	1.93	0.50
48:3Q:105:ASN:HD21	48:3Q:110:PRO:HD3	1.76	0.50
62:4H:36:PHE:O	62:4H:40:GLU:HG3	2.12	0.50
1:1A:33:LYS:HD3	8:1H:61:LEU:HD21	1.93	0.50
4:1D:34:ASN:HB3	15:1O:158:VAL:HG13	1.92	0.50
5:1E:48:LEU:HA	93:1E:413:HOH:O	2.10	0.50
10:1J:103:MET:HE3	10:1J:115:ILE:HD13	1.93	0.50
23:1X:19:VAL:O	26:1a:50:ARG:NH2	2.45	0.50
34:1i:6:ASP:OD2	39:1n:157:ARG:NH2	2.41	0.50
45:3N:195:MET:SD	45:3N:219:LEU:HD21	2.52	0.50
56:4B:7:LEU:HD21	75:4B:302:CDL:H782	1.93	0.50
4:1D:269:LEU:HD11	4:1D:373:GLU:HG3	1.94	0.50
8:1H:65:THR:HA	16:1P:324:TYR:HB2	1.93	0.50
8:1H:170:GLU:OE1	23:1X:97:ARG:NH2	2.45	0.50
13:1M:449:LEU:HB3	70:1M:503:PC1:H32	1.93	0.50
70:1M:503:PC1:H251	32:1g:77:VAL:HG11	1.93	0.50
15:1O:136:GLU:O	15:1O:140:ARG:HG2	2.11	0.50
37:1l:158:ILE:HA	40:1o:33:ARG:HH21	1.76	0.50
75:3A:501:CDL:H352	47:3C:225:THR:HG21	1.93	0.50
46:3B:74:SER:O	46:3B:82:SER:OG	2.21	0.50
47:3C:67:THR:CG2	47:3C:71:ARG:HD2	2.42	0.50
93:3C:762:HOH:O	48:3D:315:LYS:HB3	2.12	0.50
48:3D:249:MET:HG2	48:3D:250:ALA:O	2.12	0.50
47:3P:79:ILE:HG12	93:3P:739:HOH:O	2.12	0.50
47:3P:324:LEU:HD23	47:3P:327:MET:SD	2.52	0.50
49:3V:63:PRO:HG2	93:3V:305:HOH:O	2.12	0.50
57:4C:122:HIS:CE1	61:4G:45:PRO:HB3	2.47	0.50
58:4D:89:ILE:HG21	85:4K:101:PGV:H151	1.92	0.50
2:1B:77:ARG:HG3	2:1B:78:ALA:H	1.77	0.49
4:1D:117:ALA:HB2	4:1D:367:ILE:HG12	1.93	0.49
4:1D:241:ASP:OD1	4:1D:290:ARG:NH2	2.44	0.49
12:1L:263:PHE:HD1	12:1L:266:LEU:HD22	1.77	0.49
13:1M:452:LYS:HG3	32:1g:83:TYR:HE2	1.76	0.49
16:1P:162:GLU:HB3	16:1P:224:LYS:HG3	1.94	0.49
37:1l:53:ARG:HD2	37:1l:57:GLU:OE1	2.11	0.49
45:3A:45:SER:O	45:3A:165:GLN:NE2	2.45	0.49
50:3F:120:ALA:HB3	54:3X:4:ARG:HH12	1.76	0.49
47:3P:267:HIS:HD2	47:3P:269:LYS:HG2	1.76	0.49
47:3P:319:PRO:HB3	51:3T:47:ARG:NH2	2.27	0.49
49:3R:187:GLU:CD	49:3R:244:ASP:HB2	2.37	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:4A:72:PRO:O	55:4A:77:GLY:N	2.45	0.49
85:4C:304:PGV:H183	75:4C:306:CDL:H861	1.94	0.49
58:4D:141:ASP:O	58:4D:143:ASN:N	2.45	0.49
3:1C:121:VAL:HG21	3:1C:146:PRO:HD3	1.94	0.49
6:1F:150:GLN:HG2	44:1s:58:LEU:HD11	1.95	0.49
6:1F:342:ASP:CG	6:1F:429:ARG:HH12	2.20	0.49
7:1G:366:THR:HB	7:1G:450:MET:HE3	1.94	0.49
8:1H:54:LYS:HZ1	8:1H:55:LEU:HA	1.77	0.49
10:1J:18:VAL:HG22	11:1K:14:ILE:HD13	1.94	0.49
10:1J:78:MET:HE2	11:1K:87:THR:OG1	2.13	0.49
23:1X:50:LYS:HE3	23:1X:141:TYR:CZ	2.46	0.49
34:1i:23:LYS:O	34:1i:26:GLU:HG2	2.12	0.49
40:1o:68:CYS:O	40:1o:72:SER:OG	2.16	0.49
47:3C:8:HIS:CE1	47:3C:10:LEU:HB2	2.47	0.49
47:3C:103:TYR:CG	69:3C:503:3PE:H241	2.47	0.49
49:3E:185:ASP:OD1	49:3E:186:GLN:N	2.44	0.49
49:3E:236:CYS:HB2	49:3E:241:SER:O	2.12	0.49
54:3X:38:TRP:HD1	70:3X:101:PC1:O12	1.96	0.49
1:1A:71:LEU:O	93:1A:301:HOH:O	2.20	0.49
6:1F:258:ILE:HA	6:1F:334:VAL:HG22	1.95	0.49
7:1G:648:LEU:HD12	93:1G:1073:HOH:O	2.11	0.49
13:1M:87:GLU:O	13:1M:92:LYS:NZ	2.45	0.49
32:1g:49:LYS:O	93:1g:203:HOH:O	2.20	0.49
38:1m:29:ARG:NH2	45:3N:226:ASP:HB2	2.26	0.49
40:1o:21:MET:HE1	40:1o:101:PHE:CD2	2.47	0.49
47:3C:4:ILE:HG13	47:3C:8:HIS:HB2	1.93	0.49
48:3Q:101:ALA:O	48:3Q:105:ASN:ND2	2.44	0.49
49:3R:119:ALA:HB3	93:3R:439:HOH:O	2.12	0.49
2:1B:57:VAL:HA	2:1B:60:MET:SD	2.51	0.49
2:1B:77:ARG:HH11	2:1B:78:ALA:H	1.60	0.49
7:1G:144:PRO:HD2	7:1G:192:MET:HE1	1.94	0.49
7:1G:385:ARG:HB2	7:1G:415:LEU:HD23	1.93	0.49
10:1J:130:THR:HG21	25:1Z:124:LEU:HD22	1.93	0.49
12:1L:383:MET:HE3	12:1L:384:PRO:HD2	1.94	0.49
14:1N:312:LYS:HG2	14:1N:315:TRP:CZ3	2.48	0.49
16:1P:172:PHE:HB2	16:1P:179:LEU:CD2	2.42	0.49
20:1T:10:ALA:O	20:1T:14:ARG:HG2	2.13	0.49
35:1j:61:ASP:HB3	35:1j:66:ILE:HB	1.94	0.49
39:1n:117:TYR:HA	39:1n:120:LYS:HZ2	1.77	0.49
40:1o:30:PHE:CG	40:1o:33:ARG:HD3	2.48	0.49
46:3B:424:MET:HB2	46:3B:436:VAL:CG2	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:3D:180:PRO:HD2	93:3D:711:HOH:O	2.13	0.49
48:3D:186:PRO:O	48:3D:190:ARG:HG3	2.12	0.49
49:3E:155:LYS:HD2	49:3E:167:PHE:CZ	2.48	0.49
45:3N:280:TYR:HA	45:3N:284:TYR:CE2	2.47	0.49
48:3Q:98:PRO:O	48:3Q:102:ARG:HG3	2.12	0.49
52:3U:72:LYS:HE2	93:3U:128:HOH:O	2.12	0.49
85:4A:603:PGV:H012	85:4C:304:PGV:H202	1.93	0.49
85:4C:304:PGV:H201	68:4N:36:LEU:HB3	1.95	0.49
1:1A:30:TYR:OH	2:1B:111:ARG:NH2	2.43	0.49
12:1L:582:GLY:HA2	14:1N:117:GLU:OE1	2.11	0.49
12:1L:590:SER:O	12:1L:594:THR:HG22	2.13	0.49
21:1V:89:LEU:O	21:1V:93:MET:HG2	2.12	0.49
26:1a:63:THR:HG22	93:1a:113:HOH:O	2.12	0.49
33:1h:84:GLU:O	33:1h:88:GLU:HG2	2.12	0.49
40:1o:52:LEU:HD22	93:1o:291:HOH:O	2.12	0.49
47:3C:150:LEU:HD22	93:3C:601:HOH:O	2.13	0.49
51:3G:71:SER:HB3	93:3G:208:HOH:O	2.11	0.49
48:3Q:234:LYS:HD3	49:3R:86:PRO:HG2	1.93	0.49
49:3R:154:ILE:HD11	49:3R:270:LEU:HA	1.95	0.49
3:1C:32:ILE:HG22	3:1C:33:LEU:HG	1.95	0.49
3:1C:51:PHE:CE2	3:1C:108:LYS:HE2	2.47	0.49
5:1E:10:ARG:NH2	7:1G:138:GLU:OE2	2.45	0.49
5:1E:126:ILE:HG13	5:1E:130:GLU:HG3	1.95	0.49
6:1F:256:PHE:CG	6:1F:279:LEU:HD21	2.46	0.49
15:1O:256:PHE:O	15:1O:260:ARG:HG2	2.13	0.49
32:1g:109:GLU:OE1	93:1g:202:HOH:O	2.19	0.49
47:3C:248:ASP:OD2	93:3C:609:HOH:O	2.20	0.49
45:3N:40:TRP:HB3	45:3N:384:LEU:HD11	1.95	0.49
47:3P:301:LEU:HD23	47:3P:304:MET:HE3	1.95	0.49
49:3R:150:SER:HB3	49:3R:170:ARG:H	1.76	0.49
55:4A:474:GLU:OE1	55:4A:478:SER:OG	2.30	0.49
59:4E:71:VAL:HG11	59:4E:85:VAL:HG11	1.94	0.49
85:4L:101:PGV:H52	85:4L:101:PGV:H92	1.94	0.49
69:1A:201:3PE:H3D1	27:1b:23:ALA:HB2	1.93	0.49
4:1D:64:LEU:HD11	4:1D:418:ILE:HD11	1.95	0.49
8:1H:88:PRO:HG2	8:1H:105:MET:HE2	1.95	0.49
69:1L:701:3PE:H221	37:1l:87:ASN:O	2.12	0.49
13:1M:65:LEU:O	13:1M:69:THR:HG23	2.13	0.49
34:1i:125:GLN:HG3	34:1i:125:GLN:O	2.13	0.49
46:3B:424:MET:HB2	46:3B:436:VAL:HG23	1.93	0.49
45:3N:444:LEU:HD12	75:3N:502:CDL:HB31	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:1B:203:PC1:H332	70:1q:201:PC1:H262	1.93	0.49
70:1B:203:PC1:H3C1	8:1H:53:LEU:HD11	1.95	0.49
5:1E:106:THR:O	5:1E:110:LEU:HG	2.12	0.49
6:1F:111:ILE:HD13	6:1F:138:ILE:HD12	1.93	0.49
7:1G:283:MET:HE3	7:1G:293:TYR:CE1	2.47	0.49
10:1J:106:TYR:O	10:1J:110:GLU:HB2	2.13	0.49
12:1L:135:ASN:ND2	93:1L:826:HOH:O	2.43	0.49
12:1L:273:VAL:O	12:1L:277:THR:HG22	2.13	0.49
12:1L:605:HIS:ND1	93:1L:817:HOH:O	2.34	0.49
21:1V:22:ARG:HH11	21:1V:25:ILE:HD11	1.78	0.49
29:1d:59:HIS:H	29:1d:59:HIS:CD2	2.31	0.49
30:1e:78:ILE:HG22	93:1e:210:HOH:O	2.13	0.49
34:1i:108:THR:O	41:1p:18:ALA:N	2.40	0.49
46:3B:357:VAL:HG21	46:3B:407:ASP:OD1	2.13	0.49
51:3G:38:ASN:ND2	75:3G:103:CDL:OA3	2.30	0.49
49:3I:64:LEU:CA	49:3I:77:ARG:O	2.57	0.49
49:3R:162:GLY:N	49:3R:178:HIS:HB3	2.28	0.49
49:3R:241:SER:OG	49:3R:252:GLY:HA3	2.13	0.49
49:3R:243:TYR:HB3	49:3R:247:GLY:HA2	1.95	0.49
55:4A:271:MET:HG3	68:4N:12:HIS:CE1	2.48	0.49
75:4B:302:CDL:HB21	75:4B:302:CDL:HB61	1.94	0.49
8:1H:99:ASN:OD1	93:1H:503:HOH:O	2.20	0.49
14:1N:109:SER:HB3	14:1N:157:MET:HG2	1.94	0.49
20:1T:14:ARG:NH2	20:1T:57:GLU:OE1	2.43	0.49
20:1T:35:HIS:CE1	20:1T:37:MET:HB2	2.47	0.49
80:1T:101:EHZ:N2	80:1T:101:EHZ:O3	2.45	0.49
69:1Y:205:3PE:H321	69:1Y:205:3PE:H31	1.38	0.49
29:1d:61:GLN:O	29:1d:65:VAL:HG13	2.12	0.49
29:1d:64:TYR:CE2	75:1d:202:CDL:H312	2.48	0.49
37:1l:127:PRO:HD3	40:1o:3:HIS:CE1	2.48	0.49
38:1m:53:PRO:HB3	39:1n:128:ARG:HD3	1.95	0.49
47:3C:379:TRP:CE3	50:3F:45:ARG:HD3	2.48	0.49
90:4B:304:PSC:H261	90:4B:304:PSC:H10	1.94	0.49
57:4C:58:TRP:HB3	85:4C:307:PGV:H32	1.95	0.49
68:4N:44:CYS:HB2	68:4N:53:PRO:HG3	1.95	0.49
8:1H:24:GLU:HB2	8:1H:271:LEU:HD22	1.94	0.49
70:1H:401:PC1:H151	25:1Z:140:PHE:CZ	2.47	0.49
69:1L:703:3PE:H2A2	75:1h:202:CDL:H512	1.95	0.49
32:1g:36:ASN:HD21	32:1g:38:TYR:HB2	1.77	0.49
42:1q:84:PRO:HA	42:1q:87:HIS:HB3	1.95	0.49
45:3A:42:ASP:O	45:3A:194:ARG:NH2	2.30	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:3A:149:VAL:HG13	93:3A:698:HOH:O	2.12	0.49
47:3C:322:GLN:NE2	69:3C:503:3PE:H111	2.27	0.49
48:3D:135:ALA:HA	48:3D:178:TYR:HA	1.93	0.49
49:3E:234:TYR:HD2	49:3E:247:GLY:HA2	1.78	0.49
51:3G:21:SER:O	51:3G:25:GLN:HG2	2.13	0.49
49:3R:179:ARG:NH1	49:3R:246:SER:OG	2.41	0.49
49:3R:212:ILE:HB	49:3R:265:PHE:CE1	2.47	0.49
52:3U:21:ARG:O	52:3U:25:GLU:HG2	2.13	0.49
1:1A:44:MET:HE1	22:1W:96:VAL:HG21	1.93	0.48
4:1D:371:LYS:HE2	4:1D:424:VAL:HG23	1.94	0.48
5:1E:174:ASP:OD1	5:1E:175:GLU:N	2.46	0.48
6:1F:233:THR:O	6:1F:237:ARG:HB2	2.13	0.48
6:1F:268:VAL:HG21	6:1F:283:HIS:CG	2.48	0.48
9:1I:144:HIS:CE1	16:1P:65:LEU:HD21	2.48	0.48
11:1K:22:TYR:O	12:1L:585:LYS:HD2	2.13	0.48
13:1M:76:MET:HG2	13:1M:226:ALA:HB1	1.95	0.48
16:1P:56:THR:HG23	93:1P:501:HOH:O	2.13	0.48
16:1P:130:ILE:HG13	16:1P:164:THR:HB	1.95	0.48
20:1T:47:GLN:O	20:1T:50:ILE:HG13	2.12	0.48
69:1Y:205:3PE:H342	69:1Y:205:3PE:H241	1.95	0.48
25:1Z:89:GLU:N	93:1Z:301:HOH:O	2.45	0.48
33:1h:123:TYR:H	81:1h:201:AME:C	2.26	0.48
39:1n:166:TRP:O	39:1n:170:VAL:HG12	2.13	0.48
46:3B:366:ALA:HB1	46:3B:370:MET:HE3	1.93	0.48
85:4A:601:PGV:H282	85:4L:101:PGV:H42	1.94	0.48
7:1G:226:GLU:OE1	17:1Q:36:ARG:NH2	2.36	0.48
8:1H:98:MET:HG3	93:1H:501:HOH:O	2.13	0.48
12:1L:56:HIS:CE1	41:1p:27:ASN:HD21	2.31	0.48
16:1P:192:PRO:HB3	16:1P:256:TYR:CZ	2.48	0.48
22:1W:27:GLU:O	22:1W:31:ARG:HG3	2.13	0.48
29:1d:53:VAL:HG13	69:1d:201:3PE:H111	1.94	0.48
45:3A:388:ARG:HH22	45:3A:394:GLU:CD	2.19	0.48
46:3B:369:LEU:HD11	46:3B:399:LEU:HD11	1.95	0.48
48:3D:137:ARG:HD3	48:3D:176:SER:HA	1.94	0.48
49:3E:207:LYS:O	49:3E:209:GLU:N	2.45	0.48
48:3Q:167:GLU:N	93:3Q:602:HOH:O	2.45	0.48
49:3R:191:GLU:HG3	49:3R:194:GLN:H	1.78	0.48
3:1C:53:HIS:NE2	21:1V:104:GLU:HB3	2.28	0.48
6:1F:12:PHE:CE1	6:1F:247:ARG:HG3	2.48	0.48
7:1G:262:TRP:HB2	7:1G:390:LEU:HD11	1.94	0.48
8:1H:70:MET:HA	8:1H:73:ILE:HB	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:1L:67:HIS:NE2	12:1L:70:THR:OG1	2.39	0.48
12:1L:249:SER:OG	12:1L:336:LYS:HG3	2.13	0.48
13:1M:98:MET:HE1	69:1M:502:3PE:H3D2	1.95	0.48
13:1M:425:ASN:CG	38:1m:57:GLY:HA2	2.38	0.48
14:1N:211:MET:HG3	14:1N:333:SER:HB2	1.94	0.48
30:1e:74:ARG:NH2	93:1e:206:HOH:O	2.45	0.48
37:1l:98:TRP:HE3	93:1l:389:HOH:O	1.96	0.48
39:1n:75:HIS:NE2	93:1n:308:HOH:O	2.35	0.48
46:3B:58:GLU:HG2	93:3B:541:HOH:O	2.12	0.48
46:3B:385:GLN:OE1	46:3B:393:VAL:HG22	2.13	0.48
59:4E:44:GLU:HG2	59:4E:45:PRO:HD2	1.94	0.48
2:1B:102:LYS:O	2:1B:106:GLN:HG3	2.14	0.48
7:1G:252:PRO:HG3	7:1G:263:ILE:HG12	1.95	0.48
7:1G:452:VAL:HG23	93:1G:903:HOH:O	2.12	0.48
14:1N:347:ASN:ND2	93:1N:1017:HOH:O	2.46	0.48
15:1O:305:SER:O	15:1O:309:ASN:ND2	2.47	0.48
28:1c:38:ASP:CG	29:1d:19:ARG:HH12	2.21	0.48
33:1h:111:ARG:HD3	81:1h:201:AME:HT23	1.95	0.48
75:3A:501:CDL:H1	69:3A:503:3PE:H32	1.94	0.48
47:3C:97:HIS:HE1	83:3C:502:HEM:O1A	1.95	0.48
49:3E:151:LYS:HG2	49:3E:152:ILE:HG23	1.95	0.48
7:1G:575:ASN:ND2	7:1G:577:GLU:OE2	2.37	0.48
9:1I:135:PRO:HD3	9:1I:165:ILE:HG22	1.94	0.48
13:1M:46:GLY:HA2	32:1g:84:ARG:HG2	1.95	0.48
31:1f:24:CYS:O	31:1f:28:ARG:HG2	2.13	0.48
34:1i:82:HIS:HD2	41:1p:44:VAL:HG21	1.79	0.48
38:1m:48:LEU:HD23	39:1n:165:LEU:HD21	1.95	0.48
48:3D:136:TYR:HA	48:3D:139:LEU:HD12	1.96	0.48
48:3D:232:ARG:HD3	49:3R:237:PRO:CB	2.44	0.48
45:3N:19:LEU:HD22	45:3N:213:GLN:OE1	2.14	0.48
47:3P:206:ASN:HB3	83:3P:502:HEM:O1D	2.13	0.48
52:3U:50:THR:OG1	52:3U:51:GLU:N	2.47	0.48
55:4A:243:VAL:HB	86:4A:605:HEA:C3C	2.44	0.48
55:4A:264:LYS:NZ	55:4A:326:THR:O	2.34	0.48
56:4B:129:LYS:HB2	56:4B:132:GLU:HG3	1.96	0.48
3:1C:151:ILE:HG21	93:1C:301:HOH:O	2.12	0.48
13:1M:190:TRP:CG	24:1Y:126:MET:HG2	2.49	0.48
13:1M:243:MET:SD	13:1M:302:MET:HE3	2.53	0.48
14:1N:157:MET:O	14:1N:161:SER:OG	2.30	0.48
16:1P:135:LEU:HA	16:1P:167:LYS:HB3	1.96	0.48
20:1T:46:ASP:OD1	22:1W:64:ARG:NH2	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:1Y:105:ARG:HD2	24:1Y:105:ARG:HA	1.74	0.48
30:1e:74:ARG:HD2	93:1e:275:HOH:O	2.14	0.48
47:3C:316:MET:HA	69:3C:503:3PE:C11	2.44	0.48
49:3E:109:ALA:HA	53:3J:7:THR:HG23	1.95	0.48
54:3X:23:MET:O	54:3X:27:VAL:HG23	2.13	0.48
55:4A:68:PHE:HE2	55:4A:112:LEU:HD22	1.78	0.48
55:4A:239:GLY:O	55:4A:242[B]:GLU:HG2	2.14	0.48
55:4A:484:ALA:HB3	67:4M:2:TYR:HB2	1.96	0.48
2:1B:30:VAL:HG13	2:1B:173:LEU:HB3	1.96	0.48
7:1G:148:THR:HB	7:1G:150:MET:HE3	1.96	0.48
12:1L:495:ILE:O	12:1L:499:MET:HG3	2.14	0.48
13:1M:173:SER:HB2	33:1h:101:ALA:HB2	1.95	0.48
15:1O:8:PHE:O	15:1O:13:ARG:NH2	2.45	0.48
17:1Q:37:ILE:HG12	17:1Q:92:ALA:HB1	1.96	0.48
28:1c:41:GLU:OE1	28:1c:45:ARG:NE	2.47	0.48
29:1d:108:THR:O	29:1d:112:ILE:HG13	2.14	0.48
38:1m:117:GLU:O	38:1m:119:LYS:HG2	2.14	0.48
39:1n:166:TRP:CE3	39:1n:170:VAL:HG11	2.49	0.48
40:1o:23:THR:OG1	40:1o:104:GLU:OE2	2.31	0.48
45:3A:332:ASP:OD1	45:3A:432:PRO:HG3	2.13	0.48
45:3N:49:ASN:OD1	45:3N:51:LYS:HB2	2.13	0.48
45:3N:351:GLU:HB3	93:3N:791:HOH:O	2.13	0.48
46:3O:56:ARG:NH1	46:3O:103:GLU:OE2	2.44	0.48
46:3O:128:ALA:HA	46:3O:227:ARG:HH22	1.78	0.48
52:3U:44:VAL:HG13	93:3U:109:HOH:O	2.13	0.48
2:1B:58:GLU:HG2	2:1B:151:PRO:O	2.13	0.48
4:1D:238:ARG:NH2	4:1D:412:ALA:HB1	2.29	0.48
11:1K:34:GLU:OE1	11:1K:71:ALA:HB2	2.13	0.48
12:1L:170:GLN:NE2	69:1L:701:3PE:O32	2.47	0.48
13:1M:153:THR:HG23	13:1M:206:LYS:HD2	1.95	0.48
75:1N:902:CDL:H192	75:1N:902:CDL:H371	1.96	0.48
16:1P:108:ASP:HA	16:1P:112:LYS:HB2	1.96	0.48
16:1P:270:PHE:CD2	16:1P:278:TRP:HB2	2.49	0.48
27:1b:25:GLY:O	27:1b:29:ILE:HG13	2.14	0.48
27:1b:62:MET:CA	27:1b:63:PRO:HG2	2.42	0.48
30:1e:68:ARG:HB3	30:1e:71:THR:HB	1.95	0.48
40:1o:53:GLN:NE2	93:1o:219:HOH:O	2.47	0.48
45:3A:153:LEU:HA	93:3A:655:HOH:O	2.13	0.48
47:3C:168:PHE:HZ	49:3R:151:LYS:HB2	1.79	0.48
48:3D:158:VAL:HG11	48:3D:177:ASP:OD2	2.14	0.48
52:3H:53:GLU:O	52:3H:57:LYS:HG2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:3O:94:GLY:O	93:3O:507:HOH:O	2.20	0.48
75:3P:504:CDL:OB4	51:3T:40:ARG:NE	2.41	0.48
48:3Q:27:ARG:NE	48:3Q:55:CYS:O	2.45	0.48
49:3R:123:VAL:HG13	53:3W:28:ALA:HA	1.95	0.48
49:3R:178:HIS:CE1	49:3R:209:GLU:HB3	2.49	0.48
55:4A:64:VAL:HA	55:4A:68:PHE:HD2	1.79	0.48
55:4A:65:MET:HB3	86:4A:604:HEA:HBC1	1.95	0.48
5:1E:14:GLU:O	5:1E:19:THR:OG1	2.28	0.48
6:1F:157:TYR:OH	6:1F:174:ASP:OD1	2.20	0.48
8:1H:2:PHE:O	8:1H:6:ILE:HG13	2.14	0.48
8:1H:289:LEU:HA	8:1H:293:PHE:HB2	1.96	0.48
11:1K:12:PHE:CE1	14:1N:72:MET:HG2	2.49	0.48
12:1L:73:THR:HG21	93:1L:1012:HOH:O	2.14	0.48
12:1L:100:ILE:HG21	12:1L:246:LEU:HB2	1.95	0.48
14:1N:40:MET:HE3	14:1N:44:LEU:HD21	1.94	0.48
14:1N:272:LYS:HB3	24:1Y:140:VAL:HG21	1.96	0.48
21:1V:65:LYS:HD2	21:1V:69:GLU:OE1	2.14	0.48
32:1g:109:GLU:O	41:1p:141:ARG:NH1	2.35	0.48
34:1i:46:TRP:O	34:1i:50:LEU:N	2.47	0.48
40:1o:120:GLU:CD	93:1o:201:HOH:O	2.50	0.48
45:3A:398:ARG:O	45:3A:401:GLU:HG2	2.14	0.48
47:3P:172:LYS:HD2	93:3P:604:HOH:O	2.14	0.48
48:3Q:12:TRP:CD1	48:3Q:15:ARG:HH12	2.31	0.48
55:4A:74:MET:HE3	55:4A:389:ILE:HG13	1.96	0.48
2:1B:178:ARG:NH1	2:1B:178:ARG:HG3	2.28	0.48
4:1D:357:GLN:O	43:1r:59:ARG:NH1	2.47	0.48
6:1F:300:GLY:O	6:1F:304:THR:OG1	2.28	0.48
7:1G:43:HIS:HD2	7:1G:45:ARG:H	1.61	0.48
12:1L:529:TYR:HB3	12:1L:530:PRO:HD3	1.94	0.48
15:1O:50:HIS:HA	15:1O:123:VAL:HG23	1.96	0.48
15:1O:127:SER:HB3	93:1O:624:HOH:O	2.13	0.48
25:1Z:110:VAL:HB	93:1e:275:HOH:O	2.13	0.48
42:1q:92:CYS:HB3	43:1r:33:ARG:HG3	1.95	0.48
47:3P:141:TRP:CD1	47:3P:265:PRO:HD3	2.49	0.48
49:3R:230:ASP:OD1	49:3R:231:PHE:N	2.45	0.48
55:4A:242[A]:GLU:HA	55:4A:245:ILE:HD12	1.96	0.48
57:4C:34:TRP:CD1	57:4C:40:MET:HG2	2.49	0.48
85:4M:101:PGV:H81	85:4M:101:PGV:H242	1.96	0.48
6:1F:429:ARG:HE	6:1F:429:ARG:HB2	1.54	0.47
7:1G:418:ARG:HD2	7:1G:418:ARG:C	2.39	0.47
8:1H:169:GLN:NE2	8:1H:240:ILE:O	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:1J:14:VAL:O	10:1J:18:VAL:HG23	2.14	0.47
12:1L:121:LEU:HD22	12:1L:246:LEU:HD23	1.96	0.47
12:1L:172:ILE:HG21	13:1M:408:LEU:HD12	1.95	0.47
13:1M:16:TRP:NE1	13:1M:97:THR:OG1	2.46	0.47
13:1M:412:ILE:HG22	13:1M:416:ARG:HD2	1.95	0.47
69:1Y:205:3PE:H2C2	38:1m:94:ILE:HD11	1.95	0.47
29:1d:47:ALA:HB2	69:1d:201:3PE:H331	1.96	0.47
45:3A:276:ILE:HG21	45:3A:345:LEU:HD21	1.96	0.47
45:3A:280:TYR:O	45:3A:306:SER:HA	2.14	0.47
75:3A:501:CDL:H172	69:3A:503:3PE:H3A2	1.96	0.47
48:3D:329:PRO:HD3	51:3G:14:HIS:CE1	2.49	0.47
49:3E:190:VAL:HG22	49:3E:250:ARG:CZ	2.44	0.47
45:3N:19:LEU:HD22	45:3N:213:GLN:CD	2.39	0.47
45:3N:142:ASP:OD1	49:3R:80:HIS:ND1	2.39	0.47
47:3P:234:PHE:CZ	75:3T:101:CDL:H532	2.49	0.47
55:4A:8:TYR:CZ	57:4C:15:PRO:HB3	2.49	0.47
55:4A:347:LEU:HD11	55:4A:418:PHE:CE1	2.49	0.47
69:1J:201:3PE:H2C2	12:1L:592:LEU:HD21	1.96	0.47
14:1N:88:LYS:HG2	14:1N:148:SER:HB3	1.96	0.47
16:1P:53:PRO:O	16:1P:56:THR:OG1	2.29	0.47
23:1X:44:LEU:HA	93:1X:381:HOH:O	2.14	0.47
75:1h:202:CDL:OA7	75:1h:202:CDL:H742	2.15	0.47
48:3D:102:HIS:O	48:3D:291:LYS:NZ	2.47	0.47
49:3E:244:ASP:HB2	49:3E:250:ARG:HG2	1.96	0.47
49:3R:167:PHE:O	49:3R:173:PRO:HA	2.14	0.47
49:3R:248:ARG:NH2	49:3R:249:ILE:O	2.48	0.47
55:4A:151:HIS:CD2	91:4G:103:PEK:H361	2.49	0.47
56:4B:61:VAL:HG21	93:4B:406:HOH:O	2.14	0.47
58:4D:78:TRP:O	58:4D:82:VAL:HG23	2.14	0.47
62:4H:57:ARG:HA	62:4H:60:TYR:CE2	2.49	0.47
12:1L:299:LYS:N	93:1L:804:HOH:O	2.36	0.47
13:1M:216:LEU:HD22	13:1M:220:HIS:CE1	2.49	0.47
15:1O:308:TYR:CE1	29:1d:51:ARG:HD3	2.49	0.47
16:1P:274:PRO:HG2	16:1P:275:PHE:CZ	2.49	0.47
16:1P:309:PRO:HD2	16:1P:312:LEU:HD12	1.95	0.47
23:1X:11:ASP:OD2	93:1X:301:HOH:O	2.19	0.47
30:1e:35:PHE:HE2	93:1e:216:HOH:O	1.95	0.47
45:3A:3:THR:C	45:3A:5:ALA:H	2.23	0.47
45:3A:68:LYS:CG	45:3A:119:ASN:HB3	2.44	0.47
48:3D:171:ARG:NH1	48:3D:177:ASP:OD2	2.45	0.47
45:3N:298:ALA:HA	45:3N:303:LEU:HB2	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:3O:129:ALA:N	46:3O:130:PRO:HD3	2.29	0.47
47:3P:229:ILE:CG2	70:3R:303:PC1:H371	2.44	0.47
48:3Q:33:TYR:HA	48:3Q:37:CYS:SG	2.54	0.47
48:3Q:165:TYR:CZ	48:3Q:168:VAL:HG23	2.50	0.47
49:3R:98:ASP:HB3	49:3R:101:LYS:HG2	1.95	0.47
54:3Y:23:MET:O	54:3Y:27:VAL:HG23	2.14	0.47
85:4C:301:PGV:H281	85:4C:307:PGV:H312	1.95	0.47
5:1E:6:LEU:O	5:1E:92:ARG:NH2	2.42	0.47
8:1H:310:MET:O	27:1b:37:TYR:HB2	2.15	0.47
14:1N:95:MET:SD	14:1N:148:SER:OG	2.69	0.47
14:1N:320:THR:HG21	15:1O:265:ASN:HA	1.96	0.47
15:1O:82:PHE:CE1	15:1O:138:MET:HE3	2.49	0.47
15:1O:96:LEU:O	15:1O:100:LEU:HG	2.13	0.47
23:1X:148:GLU:O	30:1e:50:ARG:NH2	2.27	0.47
41:1p:29:VAL:HA	41:1p:32:LEU:HD12	1.97	0.47
45:3A:21:ASN:HD22	45:3A:192:ALA:HB1	1.80	0.47
45:3A:367:SER:OG	49:3I:34:LEU:HD12	2.15	0.47
46:3B:213:HIS:O	46:3B:217:LYS:HG3	2.15	0.47
47:3C:337:TRP:CH2	51:3G:61:TYR:HA	2.50	0.47
48:3D:301:MET:HE2	69:3D:502:3PE:C36	2.35	0.47
49:3E:181:LYS:HA	49:3E:184:ILE:HB	1.95	0.47
52:3H:42:LEU:HD13	52:3H:98:LEU:HD22	1.94	0.47
52:3H:49:CYS:O	52:3H:52:ILE:HB	2.15	0.47
46:3O:78:LYS:HD3	46:3O:131:GLU:HG2	1.97	0.47
58:4D:44:GLU:O	59:4E:56:ARG:NH2	2.47	0.47
10:1J:113:VAL:HG22	10:1J:119:PHE:HB2	1.95	0.47
13:1M:69:THR:HG22	13:1M:234:VAL:HG11	1.95	0.47
13:1M:105:PHE:CE2	69:1M:502:3PE:H3I1	2.50	0.47
17:1Q:47:SER:O	17:1Q:47:SER:OG	2.32	0.47
69:1Y:204:3PE:H322	69:1Y:204:3PE:H32	1.65	0.47
29:1d:89:ASP:HB2	33:1h:122:TRP:CH2	2.49	0.47
33:1h:127:THR:OG1	93:1h:304:HOH:O	2.20	0.47
47:3C:300:ILE:HA	47:3C:303:LEU:HD12	1.97	0.47
49:3E:213:LEU:CD1	49:3E:247:GLY:HA3	2.44	0.47
52:3H:47:GLU:O	52:3H:51:GLN:HG2	2.15	0.47
46:3O:357:VAL:HG21	46:3O:407:ASP:OD1	2.14	0.47
75:4D:201:CDL:H262	75:4D:201:CDL:H821	1.97	0.47
12:1L:147:VAL:HG13	12:1L:252:MET:HG3	1.96	0.47
12:1L:296:ASN:H	39:1n:77:GLN:NE2	2.12	0.47
13:1M:105:PHE:HE2	69:1M:502:3PE:H3I1	1.80	0.47
16:1P:133:SER:O	16:1P:168:PRO:HD2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:1P:268:ARG:HG2	16:1P:281:ARG:CD	2.41	0.47
26:1a:2:TRP:HZ2	75:1q:202:CDL:H522	1.80	0.47
28:1c:17:VAL:HG13	93:1d:359:HOH:O	2.14	0.47
93:1i:203:HOH:O	39:1n:120:LYS:NZ	2.43	0.47
46:3B:181:TYR:CZ	46:3B:182:ARG:HG2	2.49	0.47
69:3N:501:3PE:H262	75:3N:502:CDL:HB62	1.97	0.47
49:3R:183:GLU:O	49:3R:187:GLU:HG2	2.15	0.47
49:3R:263:TYR:CD1	49:3R:265:PHE:CD1	3.01	0.47
55:4A:328:HIS:NE2	63:4I:17:LEU:HD22	2.30	0.47
58:4D:40:LEU:HD21	58:4D:55:GLU:HB3	1.96	0.47
70:1B:203:PC1:O14	42:1q:75:TRP:HB3	2.15	0.47
6:1F:47:GLU:O	6:1F:51:LYS:HG2	2.14	0.47
6:1F:78:LYS:NZ	6:1F:222:VAL:O	2.47	0.47
6:1F:162:ILE:HG21	6:1F:175:VAL:HG23	1.97	0.47
6:1F:391:SER:O	6:1F:395:ILE:HG23	2.14	0.47
7:1G:11:VAL:HG11	7:1G:73:VAL:HB	1.97	0.47
7:1G:244:THR:HB	17:1Q:73:SER:HB2	1.97	0.47
7:1G:320:GLY:O	7:1G:498:SER:OG	2.33	0.47
8:1H:124:ASN:C	8:1H:126:LYS:H	2.23	0.47
9:1I:52:PHE:CZ	42:1q:30:ALA:HA	2.50	0.47
15:1O:65:ASP:OD1	15:1O:65:ASP:N	2.36	0.47
16:1P:30:LEU:HA	16:1P:207:ILE:HD11	1.96	0.47
19:1S:31:GLY:HA3	19:1S:81:PHE:O	2.15	0.47
21:1V:49:GLN:HA	21:1V:52:ASN:HD21	1.80	0.47
22:1W:54:ILE:HG23	22:1W:104:MET:HE1	1.95	0.47
23:1X:82:THR:HA	23:1X:85:TRP:CD1	2.49	0.47
34:1i:101:PRO:CD	41:1p:14:ARG:HH22	2.27	0.47
37:1l:98:TRP:HB3	38:1m:6:LYS:HZ2	1.80	0.47
41:1p:81:ILE:HA	41:1p:84:MET:HG3	1.96	0.47
45:3A:301:ARG:HB2	45:3A:303:LEU:HG	1.96	0.47
47:3C:8:HIS:HE1	47:3C:10:LEU:HB2	1.80	0.47
47:3C:131:TYR:O	47:3C:139:SER:OG	2.31	0.47
47:3C:323:CYS:O	47:3C:327:MET:HG3	2.14	0.47
48:3D:115:ARG:O	48:3D:119:GLN:HG3	2.15	0.47
48:3D:120:VAL:HG22	48:3D:258:LEU:HD21	1.95	0.47
48:3D:284:GLU:OE2	48:3D:290:ARG:NE	2.47	0.47
49:3E:220:LEU:HA	47:3P:263:ASN:OD1	2.15	0.47
45:3N:93:GLU:HG3	45:3N:94:HIS:CE1	2.50	0.47
49:3R:109:ALA:HA	53:3W:6:THR:HG23	1.97	0.47
55:4A:168:ILE:HD13	55:4A:189:LEU:HB2	1.96	0.47
55:4A:275:TRP:HE3	85:4A:602:PGV:H12	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:4A:500:PRO:HB2	55:4A:504:THR:HG21	1.96	0.47
5:1E:35:VAL:HG13	5:1E:43:LYS:HG3	1.95	0.47
5:1E:55:GLN:NE2	5:1E:89:MET:O	2.46	0.47
8:1H:149:ILE:HG12	8:1H:181:LEU:HD22	1.95	0.47
8:1H:179:TRP:CD2	8:1H:180:PRO:HD3	2.50	0.47
8:1H:215:TYR:HD1	8:1H:219:PRO:HB2	1.79	0.47
12:1L:296:ASN:H	39:1n:77:GLN:HE22	1.63	0.47
15:1O:179:ILE:O	15:1O:183:ILE:HD12	2.15	0.47
15:1O:214:MET:HE2	15:1O:214:MET:HA	1.95	0.47
15:1O:240:TYR:OH	21:1V:22:ARG:NH2	2.37	0.47
16:1P:52:GLU:HG3	16:1P:54:TYR:H	1.80	0.47
17:1Q:93:VAL:HG12	17:1Q:97:GLU:OE1	2.15	0.47
69:1Y:203:3PE:H221	69:1Y:203:3PE:H2	1.66	0.47
26:1a:6:LEU:HB2	75:1q:202:CDL:H191	1.96	0.47
37:1l:62:TYR:OH	39:1n:151:GLU:OE2	2.29	0.47
45:3N:156:THR:HA	49:3R:85:VAL:HG21	1.97	0.47
46:3O:86:THR:HG23	49:3V:70:LEU:HD11	1.96	0.47
53:3W:30:PHE:HA	54:3X:48:ILE:HD11	1.97	0.47
56:4B:138:VAL:HG23	93:4B:403:HOH:O	2.15	0.47
57:4C:58:TRP:CZ3	85:4C:307:PGV:H71	2.50	0.47
58:4D:40:LEU:HD11	58:4D:55:GLU:HB3	1.96	0.47
60:4F:79:THR:HG23	60:4F:90:LYS:HB2	1.96	0.47
85:4K:101:PGV:H61	85:4K:101:PGV:H292	1.96	0.47
5:1E:128:VAL:HG22	5:1E:139:LEU:HG	1.96	0.47
6:1F:361:GLN:CD	17:1Q:133:LYS:HZ2	2.23	0.47
8:1H:312:ALA:HA	27:1b:41:ALA:HB2	1.96	0.47
69:1L:703:3PE:H332	75:1h:202:CDL:H341	1.97	0.47
13:1M:19:LYS:O	13:1M:23:ILE:HG23	2.15	0.47
15:1O:45:LYS:HE2	15:1O:232:GLU:HG2	1.96	0.47
31:1f:14:ILE:O	31:1f:18:VAL:HG22	2.15	0.47
47:3C:29:SER:O	47:3C:32:ASN:HB2	2.14	0.47
47:3C:100:ARG:HA	69:3C:503:3PE:H252	1.95	0.47
69:3C:504:3PE:H111	47:3P:74:ASN:ND2	2.29	0.47
45:3N:411:CYS:HB3	93:3N:612:HOH:O	2.15	0.47
46:3O:56:ARG:HA	46:3O:171:ALA:O	2.14	0.47
57:4C:76:GLN:O	57:4C:80:ARG:HG3	2.15	0.47
2:1B:134:ARG:NH1	3:1C:173:GLU:HG2	2.30	0.47
2:1B:150:PRO:HD3	4:1D:190:HIS:CD2	2.50	0.47
3:1C:78:LEU:HB3	3:1C:130:TYR:HB3	1.97	0.47
5:1E:177:LYS:NZ	93:1E:411:HOH:O	2.41	0.47
11:1K:26:LEU:HB3	11:1K:78:LEU:HD12	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:1L:23:ASN:HD22	75:1L:702:CDL:H321	1.80	0.47
13:1M:432:ARG:HG3	32:1g:47:TYR:CE1	2.50	0.47
15:1O:53:GLU:OE1	93:1O:508:HOH:O	2.20	0.47
15:1O:211:LEU:O	15:1O:215:SER:OG	2.25	0.47
15:1O:296:PHE:HB3	93:1O:531:HOH:O	2.14	0.47
16:1P:87:HIS:HB3	18:1R:23:TYR:HA	1.96	0.47
19:1S:63:LYS:HD3	19:1S:75:ASN:HD22	1.80	0.47
23:1X:90:TYR:HA	26:1a:34:LYS:HG2	1.97	0.47
38:1m:80:ARG:HH11	70:1m:201:PC1:H131	1.80	0.47
70:1q:201:PC1:H322	70:1q:201:PC1:H31	1.49	0.47
46:3O:232:LEU:HD23	46:3O:232:LEU:HA	1.83	0.47
47:3P:286:ASN:HB3	93:3P:685:HOH:O	2.15	0.47
48:3Q:160:MET:HG2	48:3Q:161:ALA:O	2.15	0.47
49:3R:159:ILE:HG21	49:3R:176:VAL:HG12	1.97	0.47
49:3R:184:ILE:HD11	49:3R:209:GLU:HA	1.97	0.47
55:4A:35:LEU:HD11	55:4A:462:LEU:HB2	1.97	0.47
55:4A:131:PRO:HD3	56:4B:160:LEU:HD13	1.97	0.47
55:4A:374:VAL:HA	55:4A:377:PHE:CE2	2.50	0.47
55:4A:417:MET:O	55:4A:421:VAL:HG22	2.14	0.47
57:4C:141:GLY:O	57:4C:145:THR:OG1	2.30	0.47
85:4C:305:PGV:H02	85:4C:305:PGV:H22	1.69	0.47
66:4L:17:ASN:HB3	66:4L:20:ARG:HB3	1.97	0.47
6:1F:270:GLU:OE1	6:1F:283:HIS:NE2	2.30	0.46
7:1G:537:LEU:HD12	7:1G:543:ILE:HD11	1.98	0.46
8:1H:87:VAL:HG22	8:1H:88:PRO:HD3	1.97	0.46
70:1H:401:PC1:O14	10:1J:50:SER:OG	2.32	0.46
10:1J:124:ASP:OD1	11:1K:4:VAL:HG12	2.15	0.46
13:1M:188:ASN:HD21	70:1Y:201:PC1:H132	1.80	0.46
15:1O:201:ASP:HA	15:1O:204:ASN:ND2	2.30	0.46
16:1P:130:ILE:HD12	16:1P:130:ILE:H	1.80	0.46
25:1Z:127:LEU:HD21	93:1e:210:HOH:O	2.14	0.46
34:1i:39:VAL:HG12	34:1i:44:GLN:HG3	1.97	0.46
37:1l:97:SER:O	37:1l:101:MET:HG3	2.15	0.46
38:1m:88:LEU:HD22	38:1m:92:PHE:HE1	1.80	0.46
45:3A:188:GLN:HG3	45:3A:189:HIS:CD2	2.50	0.46
45:3A:260:PRO:HG2	45:3A:267:ASN:OD1	2.15	0.46
47:3C:78:VAL:O	47:3C:82:LEU:HB2	2.15	0.46
47:3C:262:LEU:HD11	49:3R:172:LYS:HA	1.98	0.46
47:3C:346:PRO:HA	93:3C:607:HOH:O	2.16	0.46
48:3D:311:MET:HE1	70:3E:302:PC1:O32	2.15	0.46
45:3N:445:ARG:NH2	69:3N:501:3PE:O12	2.39	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:3R:242:HIS:C	49:3R:250:ARG:HG2	2.40	0.46
55:4A:507:GLU:HA	57:4C:5:THR:HB	1.97	0.46
85:4A:601:PGV:H201	85:4A:601:PGV:H011	1.46	0.46
60:4F:20:VAL:HG12	60:4F:31:TYR:CD2	2.51	0.46
63:4I:55:ASP:HB3	63:4I:58:LYS:HB3	1.95	0.46
9:1I:68:ARG:NH2	93:1I:309:HOH:O	2.47	0.46
14:1N:313:MET:HG2	15:1O:270:LEU:HD13	1.97	0.46
15:1O:48:LEU:HD12	15:1O:123:VAL:HG13	1.97	0.46
15:1O:304:TYR:HE1	69:1d:201:3PE:H112	1.81	0.46
20:1U:57:GLU:OE1	35:1j:11:TYR:OH	2.22	0.46
69:1d:201:3PE:H32	69:1d:201:3PE:H322	1.36	0.46
30:1e:84:LYS:O	93:1e:201:HOH:O	2.20	0.46
39:1n:132:TRP:O	39:1n:136:VAL:HG13	2.15	0.46
39:1n:174:ARG:NH2	39:1n:177:PRO:O	2.47	0.46
45:3A:349:ALA:CB	45:3A:408:ARG:HG3	2.45	0.46
45:3N:111:GLU:HG3	45:3N:215:HIS:CD2	2.50	0.46
49:3R:167:PHE:HB3	49:3R:169:TRP:CE2	2.50	0.46
85:4A:601:PGV:H142	57:4C:22:LEU:HD21	1.97	0.46
56:4B:144:LEU:N	93:4B:401:HOH:O	2.45	0.46
57:4C:171:VAL:HG22	85:4C:305:PGV:H162	1.97	0.46
85:4C:304:PGV:H282	68:4N:45:TRP:HH2	1.80	0.46
64:4J:40:LEU:HD12	85:4J:101:PGV:H152	1.96	0.46
4:1D:119:SER:HA	4:1D:196:PRO:HG3	1.97	0.46
7:1G:526:GLY:N	7:1G:546:GLN:O	2.44	0.46
12:1L:63:ILE:HG23	34:1i:96:VAL:HG22	1.97	0.46
13:1M:19:LYS:HD3	31:1f:9:ASP:CG	2.40	0.46
13:1M:203:PHE:O	13:1M:207:MET:HG2	2.16	0.46
47:3C:158:THR:O	47:3C:162:GLU:HG3	2.15	0.46
48:3Q:184:LYS:NZ	93:3Q:607:HOH:O	2.40	0.46
51:3T:42:ARG:HA	51:3T:42:ARG:HD2	1.64	0.46
4:1D:128:ILE:HD13	4:1D:330:VAL:HG11	1.97	0.46
9:1I:114:THR:HG21	9:1I:144:HIS:CE1	2.50	0.46
70:1I:201:PC1:H3G1	25:1Z:40:ILE:HD12	1.98	0.46
12:1L:184:LEU:HD13	13:1M:393:ILE:HG21	1.97	0.46
12:1L:301:ILE:HD13	12:1L:426:ILE:HG13	1.98	0.46
12:1L:346:ILE:HD11	12:1L:431:PHE:CZ	2.49	0.46
12:1L:385:TYR:OH	35:1j:43:ASP:O	2.14	0.46
13:1M:231:LEU:HA	13:1M:235:LEU:HD12	1.98	0.46
14:1N:325:LEU:O	14:1N:329:MET:HG2	2.14	0.46
23:1X:82:THR:HA	23:1X:85:TRP:NE1	2.30	0.46
23:1X:84:TYR:CE1	23:1X:88:ILE:HD11	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:1m:2:PHE:HB3	39:1n:72:TYR:CG	2.50	0.46
49:3E:177:ARG:HD2	49:3E:179:ARG:HG2	1.98	0.46
49:3E:242:HIS:HB2	49:3E:251:LYS:HB3	1.98	0.46
53:3J:54:LYS:HG2	53:3J:55:HIS:N	2.28	0.46
45:3N:74:ALA:HA	45:3N:77:LYS:HG2	1.96	0.46
46:3O:306:PRO:HA	49:3V:52:ARG:HD3	1.97	0.46
47:3P:51:LEU:HB3	93:3P:701:HOH:O	2.16	0.46
47:3P:337:TRP:O	47:3P:341:GLN:HG2	2.15	0.46
49:3R:149:MET:HB3	49:3R:150:SER:H	1.64	0.46
52:3U:38:GLU:HG2	93:3U:198:HOH:O	2.15	0.46
56:4B:23:PHE:CZ	56:4B:80:SER:HB2	2.50	0.46
57:4C:130:PRO:HB2	57:4C:253:TYR:HE1	1.81	0.46
57:4C:250:LEU:O	57:4C:254:VAL:HG23	2.15	0.46
60:4F:16:LEU:HD11	60:4F:31:TYR:CE1	2.50	0.46
1:1A:53:MET:SD	93:1A:318:HOH:O	2.61	0.46
6:1F:372:MET:HE1	6:1F:412:ALA:HA	1.97	0.46
8:1H:96:ILE:HG23	25:1Z:144:THR:HB	1.98	0.46
12:1L:562:LEU:HD11	69:1M:504:3PE:H3I3	1.96	0.46
12:1L:571:MET:HE2	12:1L:571:MET:HB3	1.77	0.46
69:1M:504:3PE:H2A1	38:1m:97:LEU:HB3	1.97	0.46
16:1P:23:VAL:O	16:1P:48:PRO:HD2	2.16	0.46
33:1h:40:ILE:HG13	70:1h:203:PC1:H2D2	1.98	0.46
69:3A:502:3PE:H32	69:3A:502:3PE:H322	1.58	0.46
46:3B:365:LYS:HG2	46:3B:399:LEU:HD22	1.97	0.46
47:3P:315:MET:HG3	47:3P:318:ARG:NH2	2.30	0.46
47:3P:353:LEU:HB2	93:3P:651:HOH:O	2.16	0.46
48:3Q:28:ARG:HE	48:3Q:185:ASP:CG	2.24	0.46
48:3Q:37:CYS:SG	84:3Q:501:HEC:HBB3	2.55	0.46
85:4A:601:PGV:H332	85:4A:601:PGV:H161	1.98	0.46
56:4B:165:VAL:HG21	56:4B:211:LEU:HD11	1.97	0.46
58:4D:80:THR:HG22	65:4K:14:GLY:HA2	1.97	0.46
85:4L:101:PGV:O02	85:4L:101:PGV:H62	2.16	0.46
1:1A:37:TYR:OH	4:1D:54:GLN:OE1	2.23	0.46
6:1F:307:ILE:N	93:1F:601:HOH:O	2.32	0.46
14:1N:152:ASN:HB3	69:1N:903:3PE:H322	1.97	0.46
15:1O:73:LEU:HD23	15:1O:292:VAL:HG13	1.96	0.46
20:1T:35:HIS:NE2	20:1T:71:MET:HG2	2.30	0.46
33:1h:87:TYR:O	33:1h:91:MET:HG3	2.16	0.46
33:1h:129:ASP:O	93:1h:305:HOH:O	2.21	0.46
37:1l:94:THR:OG1	37:1l:96:VAL:O	2.23	0.46
39:1n:53:GLU:HG3	39:1n:58:LYS:HE2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:3C:4:ILE:CD1	47:3C:8:HIS:HB2	2.46	0.46
47:3C:81:TYR:HD1	93:3C:723:HOH:O	1.98	0.46
47:3C:111:GLU:OE2	93:3C:612:HOH:O	2.21	0.46
48:3D:171:ARG:NH1	48:3D:174:LYS:HD2	2.31	0.46
49:3E:231:PHE:CE1	49:3E:242:HIS:HB3	2.45	0.46
52:3H:77:GLU:HA	52:3H:78:ASP:HB2	1.97	0.46
45:3N:342:TRP:O	93:3N:612:HOH:O	2.20	0.46
46:3O:243:GLU:HG3	46:3O:424:MET:HB3	1.98	0.46
47:3P:12:LYS:HE3	47:3P:16:ASN:OD1	2.16	0.46
75:3P:504:CDL:H542	75:3P:504:CDL:OA7	2.16	0.46
52:3U:20:VAL:HG12	52:3U:69:VAL:HG22	1.96	0.46
60:4F:14:THR:OG1	60:4F:15:GLY:N	2.48	0.46
3:1C:16:ASP:O	3:1C:20:LYS:HG2	2.16	0.46
3:1C:203:TRP:HE1	7:1G:115:ASP:CG	2.22	0.46
4:1D:109:VAL:HG12	4:1D:149:ASN:HA	1.97	0.46
4:1D:258:VAL:HG12	4:1D:296:ARG:HG2	1.96	0.46
5:1E:201:SER:OG	6:1F:268:VAL:HG23	2.16	0.46
7:1G:13:VAL:HB	7:1G:33:VAL:HG21	1.97	0.46
12:1L:22:SER:HA	12:1L:27:TYR:HB2	1.97	0.46
13:1M:425:ASN:ND2	38:1m:57:GLY:HA2	2.31	0.46
14:1N:319:HIS:HD2	14:1N:321:LYS:HD2	1.81	0.46
23:1X:56:LEU:O	23:1X:60:LYS:HG2	2.16	0.46
36:1k:60:VAL:O	93:1k:102:HOH:O	2.20	0.46
46:3B:359:ALA:O	46:3B:363:LYS:HG3	2.16	0.46
49:3E:151:LYS:HB3	49:3E:151:LYS:HE2	1.78	0.46
49:3R:263:TYR:CE1	49:3R:265:PHE:CB	2.98	0.46
49:3R:263:TYR:HA	49:3R:273:VAL:HA	1.97	0.46
57:4C:247:VAL:HG21	75:4C:306:CDL:H842	1.98	0.46
68:4N:81:ASP:OD1	68:4N:81:ASP:N	2.49	0.46
3:1C:74:SER:HB3	3:1C:97:LEU:HB3	1.96	0.46
4:1D:171:PHE:HA	4:1D:174:ARG:HB2	1.98	0.46
6:1F:37:GLN:HG3	93:1F:668:HOH:O	2.16	0.46
7:1G:117:GLN:O	7:1G:121:MET:HG2	2.15	0.46
8:1H:100:LEU:HD22	8:1H:103:LEU:HD12	1.97	0.46
11:1K:34:GLU:O	11:1K:37:MET:HG3	2.16	0.46
13:1M:72:LEU:HD21	13:1M:230:VAL:HA	1.98	0.46
16:1P:115:HIS:HA	93:1P:513:HOH:O	2.15	0.46
19:1S:30:GLN:OE1	93:1S:102:HOH:O	2.21	0.46
34:1i:85:LEU:HA	34:1i:89:VAL:HB	1.98	0.46
45:3A:40:TRP:CZ2	45:3A:377:GLU:HA	2.51	0.46
47:3C:141:TRP:CD1	47:3C:265:PRO:HD3	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:3E:223:VAL:HG22	48:3Q:107:GLY:O	2.15	0.46
45:3N:79:VAL:HG21	45:3N:86:LEU:HD22	1.97	0.46
46:3O:65:THR:HA	46:3O:186:VAL:HG11	1.97	0.46
46:3O:78:LYS:NZ	46:3O:131:GLU:HG2	2.30	0.46
47:3P:96:ILE:HA	69:3P:503:3PE:H291	1.98	0.46
47:3P:149:LEU:HD23	47:3P:287:LYS:NZ	2.26	0.46
52:3U:34:ARG:O	52:3U:38:GLU:HG3	2.16	0.46
1:1A:113:TRP:HZ2	8:1H:286:MET:HG3	1.80	0.46
2:1B:54:CYS:HB2	71:1B:201:SF4:S4	2.56	0.46
3:1C:175:ARG:NH1	3:1C:186:GLU:OE1	2.49	0.46
7:1G:323:VAL:H	7:1G:498:SER:HB3	1.81	0.46
13:1M:260:PRO:HA	69:1M:504:3PE:H282	1.97	0.46
15:1O:24:VAL:HB	15:1O:166:PRO:HA	1.98	0.46
15:1O:28:ASP:OD1	15:1O:206:TYR:OH	2.34	0.46
23:1X:145:ALA:O	93:1X:303:HOH:O	2.21	0.46
24:1Y:71:LEU:HD21	51:3T:57:LEU:HD11	1.97	0.46
37:1I:27:TYR:O	37:1I:76:PRO:HG3	2.15	0.46
46:3B:107:TYR:HB3	46:3B:123:LEU:HD11	1.98	0.46
69:3C:504:3PE:H262	49:3R:133:VAL:HG12	1.98	0.46
49:3I:32:ALA:N	49:3I:71:ASN:HB3	2.31	0.46
45:3N:41:ILE:HG12	45:3N:195:MET:HG2	1.98	0.46
45:3N:242:ARG:NH1	93:3N:613:HOH:O	2.25	0.46
47:3P:272:TRP:HA	47:3P:275:LEU:HG	1.97	0.46
49:3R:167:PHE:HB3	49:3R:169:TRP:CZ2	2.51	0.46
49:3R:207:LYS:O	49:3R:208:PRO:C	2.58	0.46
57:4C:79:LEU:HB3	57:4C:233:PHE:CE2	2.51	0.46
1:1A:53:MET:HE2	1:1A:53:MET:HB2	1.90	0.46
1:1A:61:THR:HG23	8:1H:290:TRP:CH2	2.51	0.46
6:1F:125:GLY:O	6:1F:129:MET:HE3	2.16	0.46
6:1F:191:ALA:HB2	6:1F:203:PRO:HG3	1.98	0.46
7:1G:9:ILE:HB	7:1G:75:LYS:HG2	1.97	0.46
7:1G:199:ILE:HA	7:1G:202:ILE:HG12	1.98	0.46
7:1G:346:GLU:HG2	7:1G:531:CYS:SG	2.56	0.46
10:1J:3:MET:HB3	10:1J:4:TYR:CD1	2.51	0.46
10:1J:41:CYS:O	10:1J:45:LEU:HG	2.14	0.46
10:1J:150:GLY:HA2	30:1e:16:TRP:CZ2	2.51	0.46
12:1L:69:MET:HE3	13:1M:455:LEU:HD11	1.98	0.46
12:1L:144:TRP:CZ2	12:1L:223:LYS:HG3	2.51	0.46
13:1M:95:TYR:HD1	13:1M:136:TRP:CD2	2.34	0.46
13:1M:163:ALA:HA	69:1M:501:3PE:H241	1.98	0.46
18:1R:32:GLN:NE2	93:1R:301:HOH:O	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:1g:63:PHE:O	32:1g:67:SER:HB2	2.15	0.46
34:1i:85:LEU:HD23	34:1i:89:VAL:HG21	1.98	0.46
34:1i:87:TYR:CE1	41:1p:48:ARG:HG2	2.50	0.46
47:3C:137:GLN:OE1	93:3C:611:HOH:O	2.20	0.46
47:3C:379:TRP:CZ3	50:3F:45:ARG:HD3	2.50	0.46
45:3N:347:THR:HG21	93:3N:800:HOH:O	2.17	0.46
46:3O:111:CYS:SG	46:3O:119:LEU:HD22	2.56	0.46
55:4A:299:VAL:HG11	68:4N:64:LYS:HD3	1.98	0.46
55:4A:305:PHE:CZ	85:4A:603:PGV:H21	2.51	0.46
56:4B:11:ASP:HB2	58:4D:129:ALA:HA	1.98	0.46
56:4B:221:LYS:O	56:4B:225:SER:OG	2.26	0.46
59:4E:65:VAL:HG11	59:4E:104:LEU:HD12	1.98	0.46
3:1C:10:THR:OG1	93:1C:302:HOH:O	2.19	0.45
4:1D:417:ILE:O	4:1D:420:THR:HG22	2.16	0.45
9:1I:132:VAL:HG21	9:1I:165:ILE:HD12	1.99	0.45
9:1I:143:THR:OG1	9:1I:146:GLU:HG3	2.16	0.45
12:1L:119:LYS:HE3	93:1L:811:HOH:O	2.15	0.45
13:1M:196:TRP:HZ2	13:1M:254:THR:HG23	1.82	0.45
13:1M:253:LEU:HA	13:1M:253:LEU:HD23	1.81	0.45
16:1P:315:ILE:HD12	16:1P:316:GLU:H	1.81	0.45
26:1a:21:MET:HE3	26:1a:21:MET:HB3	1.82	0.45
34:1i:9:LEU:O	34:1i:13:GLN:HG3	2.16	0.45
41:1p:15:ARG:NH2	93:1p:212:HOH:O	2.33	0.45
69:3C:504:3PE:H11	49:3R:137:VAL:HG12	1.98	0.45
49:3E:234:TYR:HB2	49:3E:243:TYR:HB3	1.98	0.45
50:3F:50:TYR:O	93:3F:206:HOH:O	2.21	0.45
51:3G:21:SER:HB3	51:3G:24:GLU:HG2	1.98	0.45
51:3G:73:ARG:NE	52:3H:81:GLU:OE2	2.40	0.45
49:3I:42:VAL:HG22	49:3I:43:LEU:CD1	2.46	0.45
54:3Y:39:ARG:HA	54:3Y:42:LEU:HB2	1.99	0.45
55:4A:18:LEU:HB3	55:4A:102:PHE:CZ	2.52	0.45
4:1D:338:MET:HG3	4:1D:348:HIS:CG	2.51	0.45
8:1H:10:ILE:HG23	8:1H:83:LEU:HD22	1.99	0.45
8:1H:91:MET:HB2	8:1H:91:MET:HE3	1.82	0.45
14:1N:285:THR:OG1	93:1N:1001:HOH:O	2.13	0.45
17:1Q:59:PHE:HE1	17:1Q:82:LEU:HD12	1.82	0.45
24:1Y:52:VAL:HG22	69:1Y:204:3PE:H262	1.98	0.45
28:1c:41:GLU:O	28:1c:45:ARG:HG2	2.16	0.45
44:1s:31:GLU:N	44:1s:32:PRO:HD2	2.31	0.45
45:3A:362:ARG:HE	45:3A:396:GLU:CD	2.24	0.45
47:3C:300:ILE:HG13	47:3C:303:LEU:HD12	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:3E:169:TRP:HB2	49:3E:174:LEU:HD22	1.97	0.45
49:3I:35:PRO:O	49:3I:36:ALA:HB3	2.17	0.45
46:3O:181:TYR:CZ	46:3O:182:ARG:HG2	2.52	0.45
46:3O:219:VAL:HG12	46:3O:222:ARG:NH2	2.31	0.45
49:3R:236:CYS:HB2	49:3R:241:SER:O	2.15	0.45
55:4A:408:ALA:HB3	85:4M:101:PGV:H21	1.98	0.45
1:1A:96:ILE:HD11	93:1A:319:HOH:O	2.17	0.45
2:1B:144:ILE:HG13	2:1B:163:LEU:HB2	1.97	0.45
69:1J:201:3PE:H3B2	11:1K:14:ILE:HA	1.98	0.45
11:1K:34:GLU:OE2	11:1K:37:MET:HG2	2.15	0.45
12:1L:6:SER:O	12:1L:10:THR:OG1	2.24	0.45
13:1M:104:LEU:HD21	75:1X:201:CDL:H271	1.99	0.45
15:1O:135:LEU:HD11	93:1O:551:HOH:O	2.16	0.45
16:1P:260:HIS:O	16:1P:264:ARG:HG3	2.16	0.45
25:1Z:6:VAL:HG11	43:1r:41:PRO:HB3	1.98	0.45
25:1Z:125:TYR:HB3	25:1Z:133:ILE:HG22	1.99	0.45
33:1h:132:LEU:HB2	93:1h:305:HOH:O	2.14	0.45
39:1n:54:LYS:CD	93:3N:742:HOH:O	2.57	0.45
39:1n:117:TYR:HA	39:1n:120:LYS:NZ	2.32	0.45
40:1o:35:GLU:OE1	40:1o:35:GLU:N	2.25	0.45
45:3A:156:THR:HA	49:3E:85:VAL:HG21	1.98	0.45
45:3A:281:ASP:OD2	49:3I:73:PRO:HG3	2.17	0.45
75:3A:501:CDL:H142	69:3A:502:3PE:O22	2.16	0.45
52:3H:52:ILE:HG22	52:3H:55:CYS:H	1.80	0.45
47:3P:319:PRO:HG3	51:3T:47:ARG:HH22	1.81	0.45
49:3R:150:SER:HB2	49:3R:170:ARG:HD3	1.98	0.45
49:3R:222:CYS:HB3	49:3R:238:CYS:HB3	1.48	0.45
55:4A:62:ALA:HB2	86:4A:604:HEA:HBD1	1.98	0.45
56:4B:122:MET:HG3	56:4B:208:PRO:HG2	1.98	0.45
56:4B:214:VAL:HG22	93:4B:401:HOH:O	2.16	0.45
85:4C:301:PGV:H242	85:4C:301:PGV:H22	1.98	0.45
75:4C:306:CDL:H251	75:4C:306:CDL:H371	1.98	0.45
75:4D:201:CDL:H412	75:4D:201:CDL:H272	1.98	0.45
5:1E:151:ALA:HB3	5:1E:163:ASP:HA	1.98	0.45
6:1F:288:ILE:H	6:1F:288:ILE:HG13	1.63	0.45
8:1H:190:LEU:HD21	8:1H:196:ALA:HB3	1.99	0.45
9:1I:11:SER:OG	9:1I:13:ASP:OD2	2.34	0.45
9:1I:175:TYR:CZ	43:1r:38:PRO:HG3	2.50	0.45
13:1M:104:LEU:HG	13:1M:108:MET:HE2	1.98	0.45
13:1M:207:MET:O	13:1M:294:MET:HG3	2.16	0.45
14:1N:107:GLY:HA2	14:1N:111:PHE:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:1O:79:LEU:HD11	76:1O:401:GTP:H1'	1.97	0.45
20:1U:21:LEU:HD22	36:1k:46:ARG:HB3	1.98	0.45
22:1W:115:PRO:HB3	22:1W:120:SER:HB3	1.99	0.45
24:1Y:103:ARG:HA	24:1Y:103:ARG:HD2	1.81	0.45
25:1Z:82:ARG:NH2	93:1Z:316:HOH:O	2.50	0.45
28:1c:32:ILE:HA	93:1c:110:HOH:O	2.16	0.45
29:1d:100:ASP:OD2	33:1h:117:ARG:NH2	2.31	0.45
42:1q:22:GLY:O	42:1q:26:VAL:HG22	2.17	0.45
47:3C:126:THR:HG21	47:3C:186:PRO:HG3	1.98	0.45
51:3G:38:ASN:O	51:3G:42:ARG:HG3	2.16	0.45
45:3N:17:SER:HB2	45:3N:209:LEU:CD1	2.46	0.45
47:3P:246:SER:HB2	47:3P:249:LEU:HB2	1.98	0.45
48:3Q:225:HIS:CE1	51:3T:20:PRO:HB2	2.52	0.45
49:3R:244:ASP:OD1	49:3R:248:ARG:N	2.38	0.45
70:3R:303:PC1:H32	70:3R:303:PC1:H321	1.32	0.45
54:3X:39:ARG:HG2	54:3X:52:PHE:CZ	2.52	0.45
75:4D:201:CDL:HB61	75:4D:201:CDL:H711	1.49	0.45
61:4G:56:ARG:NH2	61:4G:66:ASN:O	2.32	0.45
61:4G:70:PHE:HB2	91:4G:103:PEK:H041	1.99	0.45
4:1D:346:ILE:HG23	7:1G:117:GLN:HG2	1.98	0.45
7:1G:225:THR:HG23	7:1G:240:VAL:HB	1.99	0.45
8:1H:124:ASN:HB3	8:1H:125:SER:H	1.59	0.45
14:1N:250:SER:O	14:1N:259:GLY:HA3	2.17	0.45
20:1T:68:GLU:OE1	93:1T:201:HOH:O	2.21	0.45
20:1U:37:MET:HG3	20:1U:42:LEU:O	2.17	0.45
24:1Y:107:TYR:HB2	69:1Y:205:3PE:O13	2.16	0.45
34:1i:71:VAL:O	34:1i:76:ILE:HG12	2.17	0.45
37:1l:3:HIS:ND1	38:1m:60:GLU:OE1	2.49	0.45
37:1l:138:LEU:HD22	37:1l:142:ARG:NH2	2.31	0.45
40:1o:55:ARG:NH1	93:1o:218:HOH:O	2.50	0.45
75:3A:501:CDL:H132	69:3A:503:3PE:H342	1.99	0.45
46:3B:276:GLN:HG2	46:3B:281:ALA:HB2	1.99	0.45
47:3C:229:ILE:HG21	70:3E:302:PC1:H351	1.98	0.45
45:3N:49:ASN:O	45:3N:53:ASN:HB2	2.16	0.45
47:3P:150:LEU:HD23	47:3P:150:LEU:HA	1.80	0.45
47:3P:186:PRO:HA	47:3P:189:ILE:HD12	1.99	0.45
49:3R:263:TYR:CD1	49:3R:263:TYR:O	2.69	0.45
54:3X:39:ARG:HG2	54:3X:52:PHE:CE2	2.51	0.45
93:4A:807:HOH:O	75:4B:302:CDL:H851	2.17	0.45
56:4B:102:HIS:O	56:4B:161:HIS:NE2	2.50	0.45
56:4B:106:TRP:CE2	56:4B:207:MET:HE2	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:4C:140:SER:HA	57:4C:143:SER:HB2	1.98	0.45
4:1D:123:GLU:OE2	4:1D:130:PRO:HG3	2.17	0.45
14:1N:322:GLN:HE21	14:1N:322:GLN:HB2	1.62	0.45
15:1O:129:TYR:CE2	15:1O:166:PRO:HD3	2.52	0.45
16:1P:177:ARG:NH2	93:1P:518:HOH:O	2.50	0.45
23:1X:149:PRO:HA	30:1e:46:ILE:HG22	1.98	0.45
30:1e:36:GLU:HG3	30:1e:62:PHE:CE2	2.52	0.45
45:3A:279:HIS:ND1	45:3A:284:TYR:OH	2.43	0.45
46:3B:109:VAL:HG22	46:3B:123:LEU:HD22	1.98	0.45
46:3B:327:ILE:HG21	49:3I:55:LEU:HD11	1.98	0.45
48:3D:304:LEU:HD21	49:3E:124:GLY:HA3	1.98	0.45
46:3O:328:SER:OG	93:3O:505:HOH:O	2.12	0.45
47:3P:182:HIS:HA	93:3P:646:HOH:O	2.17	0.45
54:3X:39:ARG:N	70:3X:101:PC1:O12	2.49	0.45
75:4C:306:CDL:H542	75:4C:306:CDL:HB61	1.99	0.45
61:4G:69:LEU:HD22	91:4G:103:PEK:H231	1.98	0.45
4:1D:302:GLU:HG2	9:1I:3:LYS:HD3	1.98	0.45
7:1G:154:ILE:O	7:1G:156:CYS:N	2.50	0.45
7:1G:284:ILE:HG23	7:1G:294:THR:HG21	1.99	0.45
12:1L:213:LEU:HB3	12:1L:273:VAL:HG11	1.99	0.45
14:1N:128:LEU:HD13	75:1N:902:CDL:HA61	1.99	0.45
15:1O:50:HIS:HE2	15:1O:125:GLU:CD	2.24	0.45
19:1S:81:PHE:CD2	19:1S:85:GLN:HG2	2.52	0.45
19:1S:82:SER:O	19:1S:86:VAL:HG23	2.16	0.45
24:1Y:73:SER:OG	24:1Y:92:GLY:HA3	2.17	0.45
30:1e:62:PHE:CZ	30:1e:66:LEU:HD11	2.51	0.45
37:1I:96:VAL:O	37:1I:101:MET:HE2	2.16	0.45
53:3J:34:ARG:HD3	54:3Y:48:ILE:HA	1.98	0.45
53:3J:46:HIS:HB2	93:3J:105:HOH:O	2.17	0.45
47:3P:311:LYS:HB3	47:3P:311:LYS:HE2	1.82	0.45
49:3R:93:ARG:NH2	51:3T:21:PHE:HA	2.32	0.45
75:4C:306:CDL:H512	75:4C:306:CDL:HB4	1.44	0.45
62:4H:75:ARG:HA	62:4H:78:GLU:HG2	1.98	0.45
67:4M:16:ALA:O	67:4M:20:SER:OG	2.30	0.45
6:1F:42:TRP:HD1	93:1F:668:HOH:O	1.99	0.45
6:1F:235:CYS:SG	93:1F:705:HOH:O	2.57	0.45
6:1F:368:GLY:HA3	6:1F:399:ILE:HD11	1.99	0.45
8:1H:102:VAL:HG21	8:1H:154:LEU:HD11	1.98	0.45
9:1I:49:ASN:O	9:1I:53:GLU:N	2.42	0.45
12:1L:345:SER:HB2	12:1L:450:LEU:HD11	1.97	0.45
12:1L:557:TRP:O	12:1L:561:ILE:HG12	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:1M:452:LYS:HG3	32:1g:83:TYR:CE2	2.51	0.45
15:1O:318:TRP:CD1	15:1O:318:TRP:H	2.35	0.45
16:1P:34:VAL:HG21	93:1P:617:HOH:O	2.16	0.45
29:1d:17:GLU:HG3	29:1d:81:TYR:HE1	1.81	0.45
29:1d:108:THR:HB	41:1p:74:THR:O	2.17	0.45
38:1m:24:ILE:HG21	38:1m:29:ARG:NH1	2.31	0.45
43:1r:42:VAL:HB	43:1r:46:HIS:CG	2.51	0.45
46:3B:260:GLU:O	46:3B:416:LYS:NZ	2.47	0.45
51:3G:43:THR:O	51:3G:47:ILE:HB	2.17	0.45
52:3H:53:GLU:HA	52:3H:56:ILE:HB	1.97	0.45
45:3N:414:TYR:O	45:3N:418:GLN:HG3	2.17	0.45
49:3R:244:ASP:CG	49:3R:248:ARG:HB2	2.42	0.45
54:3X:39:ARG:HE	54:3X:39:ARG:HB3	1.57	0.45
90:4B:304:PSC:H212	63:4I:18:ARG:HG2	1.99	0.45
4:1D:168:PHE:CD2	8:1H:34:ARG:HD3	2.52	0.45
6:1F:154:ARG:NE	6:1F:158:GLU:OE1	2.49	0.45
13:1M:71:TRP:CG	70:1M:503:PC1:H2C2	2.51	0.45
13:1M:127:VAL:O	13:1M:131:ILE:HG12	2.17	0.45
13:1M:141:GLU:H	13:1M:141:GLU:CD	2.25	0.45
14:1N:44:LEU:HB2	93:1N:1006:HOH:O	2.17	0.45
37:1l:156:TYR:O	93:1l:304:HOH:O	2.21	0.45
46:3B:286:LYS:HG2	46:3B:287:ARG:HG3	1.99	0.45
47:3P:376:LEU:O	50:3S:17:ARG:HD3	2.16	0.45
85:4B:301:PGV:H12	75:4D:201:CDL:C39	2.47	0.45
66:4L:15:VAL:HG12	66:4L:21:LEU:HD13	1.98	0.45
1:1A:48:ARG:H	8:1H:126:LYS:HZ1	1.64	0.45
2:1B:137:ASP:OD2	9:1I:144:HIS:HD2	1.99	0.45
4:1D:218:PHE:HB3	4:1D:308:LEU:HD21	1.99	0.45
6:1F:132:ARG:CZ	44:1s:66:PRO:HD3	2.47	0.45
6:1F:352:GLU:HB2	6:1F:373:ASN:HD21	1.82	0.45
6:1F:388:GLU:HA	93:1F:603:HOH:O	2.17	0.45
12:1L:10:THR:HA	12:1L:13:ILE:HG22	1.99	0.45
12:1L:558:LEU:HD21	69:1Y:205:3PE:H2H2	1.98	0.45
13:1M:95:TYR:CE1	13:1M:132:ILE:HD12	2.52	0.45
16:1P:325:ARG:HA	16:1P:325:ARG:HD2	1.80	0.45
17:1Q:34:LYS:HB2	17:1Q:34:LYS:HE2	1.85	0.45
39:1n:8:TYR:HH	45:3N:225:GLU:HB3	1.79	0.45
41:1p:73:ILE:HG23	41:1p:155:LEU:HD22	1.99	0.45
45:3A:176:LYS:HD3	45:3A:176:LYS:HA	1.55	0.45
45:3A:240:GLU:CD	45:3A:434:TYR:HB2	2.42	0.45
46:3B:73:SER:O	46:3B:74:SER:HB3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:3E:217:CYS:HB3	49:3E:221:GLY:HA2	1.99	0.45
49:3E:263:TYR:HB3	49:3E:273:VAL:HG22	1.99	0.45
48:3Q:12:TRP:HB3	48:3Q:14:HIS:CE1	2.51	0.45
49:3R:121:THR:O	49:3R:125:VAL:HG23	2.17	0.45
55:4A:2:PHE:HZ	85:4L:101:PGV:H21	1.81	0.45
55:4A:149:SER:HA	93:4A:763:HOH:O	2.16	0.45
56:4B:1:FME:HE3	58:4D:128:VAL:HG22	1.99	0.45
56:4B:65:TRP:CD1	56:4B:65:TRP:C	2.95	0.45
60:4F:95:GLN:HG3	60:4F:96:LEU:H	1.81	0.45
3:1C:69:ASN:O	43:1r:96:PRO:HD3	2.17	0.44
6:1F:99:GLU:O	6:1F:139:ARG:NH1	2.49	0.44
6:1F:207:PRO:CG	6:1F:208:PRO:CD	2.90	0.44
69:1M:502:3PE:H2C1	69:1d:201:3PE:H3D1	1.98	0.44
15:1O:139:TYR:N	93:1O:501:HOH:O	2.50	0.44
15:1O:147:GLN:HG3	15:1O:148:CYS:N	2.32	0.44
16:1P:82:ARG:O	16:1P:86:GLU:HG3	2.17	0.44
93:1Y:324:HOH:O	51:3T:60:THR:CG2	2.64	0.44
28:1c:48:LEU:HD22	93:1c:116:HOH:O	2.16	0.44
35:1j:42:HIS:HE2	36:1k:84:GLU:CD	2.23	0.44
40:1o:46:ASN:HA	40:1o:55:ARG:HH22	1.82	0.44
44:1s:71:GLN:OE1	44:1s:71:GLN:HA	2.16	0.44
46:3B:121:GLU:CD	46:3B:222:ARG:HH12	2.21	0.44
46:3B:154:ASN:ND2	49:3I:78:TYR:CE1	2.84	0.44
48:3D:228:GLY:HA3	52:3H:78:ASP:H	1.82	0.44
50:3F:99:LYS:HD3	50:3F:99:LYS:HA	1.70	0.44
46:3O:75:LEU:HB2	93:3O:634:HOH:O	2.17	0.44
55:4A:7:LEU:HD23	85:4A:601:PGV:H71	1.98	0.44
55:4A:33:LEU:CB	55:4A:61:HIS:HB2	2.44	0.44
55:4A:189:LEU:HD11	93:4C:490:HOH:O	2.17	0.44
55:4A:367:LEU:HD21	55:4A:433:LEU:HD23	2.00	0.44
3:1C:62:THR:HG21	21:1V:92:LYS:HE2	1.99	0.44
7:1G:306:MET:HG2	7:1G:542:PHE:CG	2.51	0.44
10:1J:125:TRP:CZ2	25:1Z:133:ILE:HD12	2.52	0.44
13:1M:116:ILE:HD13	13:1M:116:ILE:HA	1.86	0.44
13:1M:207:MET:HE2	13:1M:298:ILE:HG13	1.99	0.44
14:1N:30:TRP:O	14:1N:34:GLU:HG2	2.16	0.44
15:1O:23:LYS:HB3	15:1O:167:HIS:CB	2.46	0.44
16:1P:78:LYS:HD2	93:1P:567:HOH:O	2.17	0.44
16:1P:136:ASN:ND2	16:1P:289:MET:HE3	2.32	0.44
19:1S:35:PHE:CZ	19:1S:90:LEU:HD12	2.52	0.44
20:1T:24:LYS:HD3	20:1T:24:LYS:HA	1.62	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:1Y:65:ILE:HD11	24:1Y:100:LEU:HB2	1.98	0.44
24:1Y:134:VAL:HG23	69:1Y:203:3PE:H31	1.99	0.44
39:1n:138:GLN:O	39:1n:142:GLU:HG3	2.17	0.44
45:3A:158:PHE:HB3	45:3A:161:THR:OG1	2.17	0.44
48:3D:121:TYR:HA	48:3D:125:CYS:SG	2.58	0.44
52:3H:50:GLU:HG2	52:3H:86:PHE:CZ	2.53	0.44
46:3O:307:PHE:CD2	49:3V:52:ARG:HD2	2.53	0.44
47:3P:161:VAL:HB	93:3P:692:HOH:O	2.17	0.44
49:3R:243:TYR:HA	49:3R:248:ARG:O	2.17	0.44
64:4J:31:LEU:O	64:4J:35:THR:HG22	2.18	0.44
5:1E:34:ILE:HD12	5:1E:49:PRO:HB2	1.99	0.44
7:1G:135:ARG:HD3	7:1G:137:VAL:HG13	2.00	0.44
8:1H:204:GLU:HG2	8:1H:279:ARG:HH22	1.82	0.44
9:1I:70:TYR:CE2	9:1I:76:ARG:HA	2.53	0.44
9:1I:160:LYS:HB2	42:1q:110:TRP:CE3	2.53	0.44
10:1J:79:TYR:OH	16:1P:325:ARG:HA	2.17	0.44
75:1L:702:CDL:H641	13:1M:371:PRO:HG3	1.99	0.44
14:1N:71:MET:SD	93:1N:1152:HOH:O	2.61	0.44
14:1N:115:VAL:HG12	14:1N:180:ALA:HB1	1.99	0.44
16:1P:319:ARG:NH1	22:1W:51:GLN:HG2	2.32	0.44
19:1S:18:ILE:HD11	19:1S:52:ILE:HG23	1.99	0.44
20:1T:63:PRO:HD2	20:1T:66:ASP:OD1	2.17	0.44
24:1Y:55:THR:O	24:1Y:59:THR:OG1	2.26	0.44
33:1h:14:SER:OG	39:1n:110:GLU:OE2	2.26	0.44
37:1l:131:LYS:HD2	93:1o:202:HOH:O	2.17	0.44
38:1m:7:PRO:HB3	38:1m:13:LEU:HB2	1.99	0.44
38:1m:19:PRO:HA	38:1m:22:TYR:CE2	2.52	0.44
45:3A:261:GLY:O	45:3A:267:ASN:ND2	2.46	0.44
46:3B:207:ILE:CD1	46:3B:383:GLY:HA2	2.47	0.44
47:3C:24:PRO:HB2	47:3C:27:ILE:HG23	1.99	0.44
47:3C:67:THR:HG23	47:3C:71:ARG:CD	2.46	0.44
47:3C:300:ILE:HD11	47:3C:363:LEU:HG	1.99	0.44
49:3E:84:ARG:HA	49:3E:84:ARG:HD2	1.88	0.44
50:3F:86:ILE:HD12	50:3F:92:TRP:HZ2	1.82	0.44
45:3N:336:PHE:HZ	69:3N:501:3PE:H112	1.81	0.44
47:3P:65:SER:O	47:3P:69:ILE:HG13	2.17	0.44
49:3R:195:LEU:HD13	49:3R:248:ARG:HE	1.82	0.44
52:3U:23:GLN:NE2	93:3U:103:HOH:O	2.14	0.44
56:4B:216:LEU:O	56:4B:220:GLU:HG2	2.18	0.44
2:1B:178:ARG:HG3	2:1B:178:ARG:HH11	1.82	0.44
4:1D:151:ILE:HG23	4:1D:170:MET:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:1D:379:VAL:HB	4:1D:388:ARG:HB3	1.99	0.44
5:1E:61:LEU:HD23	5:1E:61:LEU:HA	1.78	0.44
6:1F:395:ILE:HG13	6:1F:396:SER:N	2.33	0.44
7:1G:383:ASN:ND2	7:1G:413:VAL:HG21	2.32	0.44
12:1L:103:PHE:HB2	12:1L:341:MET:HE3	1.99	0.44
12:1L:108:MET:HE3	12:1L:108:MET:HB3	1.92	0.44
12:1L:468:ILE:O	12:1L:472:ILE:HG13	2.18	0.44
13:1M:188:ASN:HB2	13:1M:256:TYR:OH	2.17	0.44
15:1O:131:ASP:OD1	15:1O:152:TYR:OH	2.33	0.44
16:1P:229:ALA:N	93:1P:519:HOH:O	2.51	0.44
25:1Z:110:VAL:CG2	30:1e:70:LYS:HB2	2.48	0.44
30:1e:52:GLU:HG3	30:1e:53:LYS:HD3	1.98	0.44
45:3A:281:ASP:OD1	45:3A:283:THR:OG1	2.28	0.44
48:3D:93:LEU:HD23	48:3D:239:PRO:HB2	1.99	0.44
48:3D:249:MET:HB2	84:3D:501:HEC:C1D	2.48	0.44
45:3N:111:GLU:HG3	45:3N:215:HIS:NE2	2.33	0.44
45:3N:129:LYS:HB3	45:3N:129:LYS:HE3	1.83	0.44
57:4C:156:ARG:NH1	85:4C:302:PGV:O13	2.51	0.44
70:1B:203:PC1:H331	70:1q:201:PC1:H331	2.00	0.44
7:1G:344:CYS:HB3	7:1G:510:GLY:O	2.17	0.44
11:1K:5:TYR:HB2	93:1K:101:HOH:O	2.18	0.44
12:1L:197:ASP:OD1	41:1p:110:LYS:NZ	2.50	0.44
69:1M:501:3PE:H341	14:1N:277:ILE:HG12	1.98	0.44
21:1V:96:TRP:HE3	93:1V:220:HOH:O	1.99	0.44
35:1j:56:PRO:HA	35:1j:59:TRP:CE3	2.52	0.44
47:3C:348:ILE:HB	93:3C:676:HOH:O	2.17	0.44
48:3D:113:SER:HB3	48:3D:277:THR:HG21	1.99	0.44
47:3P:98:VAL:HG22	83:3P:502:HEM:HAC	1.99	0.44
49:3R:175:PHE:CE2	49:3R:234:TYR:CE2	3.05	0.44
54:3Y:42:LEU:HD23	54:3Y:42:LEU:HA	1.81	0.44
62:4H:56:TYR:CZ	68:4N:80:PRO:HD2	2.52	0.44
4:1D:317:LYS:HA	4:1D:317:LYS:HD3	1.76	0.44
7:1G:26:VAL:HB	7:1G:68:ALA:HA	2.00	0.44
7:1G:255:HIS:HE1	7:1G:257:ASP:HB2	1.81	0.44
10:1J:107:ALA:O	10:1J:111:GLU:HG3	2.17	0.44
12:1L:562:LEU:HB2	12:1L:563:PRO:HD3	2.00	0.44
13:1M:83:HIS:CE1	13:1M:84:LEU:HG	2.52	0.44
13:1M:271:MET:HE2	13:1M:271:MET:HA	1.99	0.44
29:1d:39:TYR:CZ	69:1d:201:3PE:H2G1	2.52	0.44
29:1d:46:ASN:CB	29:1d:53:VAL:HA	2.48	0.44
33:1h:47:ILE:O	93:1h:306:HOH:O	2.21	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:1l:63:ASP:O	37:1l:63:ASP:OD1	2.35	0.44
39:1n:21:ARG:HG2	39:1n:70:PHE:CZ	2.52	0.44
39:1n:100:GLU:H	39:1n:100:GLU:HG3	1.67	0.44
41:1p:99:GLN:HG3	93:1p:201:HOH:O	2.18	0.44
50:3F:119:TRP:CH2	46:3O:87:ARG:HB3	2.53	0.44
49:3R:170:ARG:C	49:3R:172:LYS:H	2.25	0.44
85:4C:307:PGV:H291	85:4C:307:PGV:H152	1.99	0.44
7:1G:283:MET:HE3	7:1G:293:TYR:CD1	2.53	0.44
9:1I:35:GLY:HA2	70:1Z:201:PC1:H361	2.00	0.44
12:1L:338:MET:HE2	12:1L:338:MET:HB3	1.72	0.44
13:1M:28:THR:HG21	32:1g:61:VAL:HG22	2.00	0.44
13:1M:352:LEU:HB3	13:1M:355:MET:HB2	1.98	0.44
15:1O:155:VAL:HA	93:1O:603:HOH:O	2.18	0.44
16:1P:132:ILE:HG12	93:1P:509:HOH:O	2.16	0.44
23:1X:165:ARG:NH2	33:1h:107:GLU:OE2	2.40	0.44
25:1Z:98:MET:HB3	25:1Z:104:TRP:CD1	2.52	0.44
26:1a:27:HIS:CE1	26:1a:36:LYS:HD3	2.52	0.44
29:1d:11:LEU:HD21	30:1e:3:PHE:HB3	2.00	0.44
39:1n:12:GLN:O	39:1n:16:LEU:HG	2.18	0.44
43:1r:105:LEU:HD23	43:1r:105:LEU:HA	1.83	0.44
48:3D:269:SER:OG	52:3H:40:ASP:OD1	2.29	0.44
50:3F:107:LYS:HD3	50:3F:107:LYS:C	2.41	0.44
47:3P:16:ASN:ND2	93:3P:617:HOH:O	2.50	0.44
55:4A:324:LEU:HD22	56:4B:42:ILE:HG12	2.00	0.44
56:4B:29:MET:HE2	56:4B:29:MET:HB3	1.86	0.44
56:4B:61:VAL:HG11	90:4B:304:PSC:H41	2.00	0.44
58:4D:116:VAL:O	58:4D:120:THR:OG1	2.33	0.44
59:4E:61:PHE:HE1	59:4E:98:ILE:HA	1.82	0.44
64:4J:4:ARG:O	64:4J:8:LYS:HE2	2.18	0.44
85:4L:101:PGV:C12	85:4L:101:PGV:H292	2.47	0.44
3:1C:40:VAL:HG22	3:1C:50:ILE:CD1	2.48	0.44
6:1F:68:ARG:HD2	6:1F:254:LYS:HE2	2.00	0.44
12:1L:7:LEU:HD22	12:1L:46:LEU:HD11	1.99	0.44
12:1L:204:LEU:O	12:1L:206:ASN:N	2.51	0.44
12:1L:538:THR:OG1	37:1l:89:VAL:HG22	2.18	0.44
14:1N:109:SER:C	14:1N:111:PHE:N	2.76	0.44
14:1N:252:GLY:HA3	14:1N:290:LEU:HD13	1.99	0.44
16:1P:199:GLU:OE2	16:1P:200:THR:OG1	2.35	0.44
18:1R:34:GLU:O	42:1q:127:TYR:OH	2.23	0.44
20:1T:66:ASP:HA	20:1T:69:LYS:HE3	1.99	0.44
23:1X:74:LYS:NZ	26:1a:66:LEU:O	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:1X:162:HIS:HD2	93:1h:359:HOH:O	2.00	0.44
29:1d:110:GLY:O	32:1g:119:GLN:N	2.41	0.44
69:1d:201:3PE:H2C2	69:1d:201:3PE:H2G2	1.99	0.44
47:3C:237:LEU:HB2	48:3D:301:MET:SD	2.57	0.44
49:3E:155:LYS:CE	49:3E:176:VAL:HG21	2.45	0.44
49:3E:197:ASP:N	49:3E:197:ASP:OD1	2.49	0.44
45:3N:444:LEU:CD2	70:3R:303:PC1:H221	2.48	0.44
49:3R:195:LEU:HB3	49:3R:248:ARG:NH2	2.24	0.44
85:4A:602:PGV:H41	68:4N:1:MET:HE3	2.00	0.44
56:4B:217:LYS:HB2	56:4B:217:LYS:HE3	1.81	0.44
85:4B:301:PGV:H05	75:4D:201:CDL:HA32	2.00	0.44
57:4C:231:HIS:CD2	85:4C:307:PGV:H042	2.52	0.44
93:4C:402:HOH:O	61:4G:74:ARG:NH1	2.51	0.44
2:1B:171:LYS:O	2:1B:175:ILE:HG12	2.18	0.44
4:1D:165:THR:HG22	4:1D:169:TRP:CE2	2.53	0.44
5:1E:53:LEU:HD13	44:1s:52:LEU:HD12	2.00	0.44
7:1G:609:MET:H	7:1G:609:MET:HG2	1.61	0.44
8:1H:14:LEU:HD21	8:1H:83:LEU:HD21	1.98	0.44
10:1J:56:VAL:O	10:1J:60:TYR:HB3	2.18	0.44
12:1L:207:GLU:H	12:1L:207:GLU:HG3	1.42	0.44
12:1L:264:TYR:CD2	12:1L:265:PRO:HD3	2.53	0.44
12:1L:504:LEU:HD12	64:4J:30:ILE:CD1	2.24	0.44
13:1M:23:ILE:HD11	13:1M:92:LYS:HD2	1.99	0.44
13:1M:128:PRO:O	13:1M:132:ILE:HG12	2.18	0.44
13:1M:263:MET:HG3	38:1m:101:TYR:HB2	2.00	0.44
14:1N:314:LYS:NZ	93:1O:525:HOH:O	2.51	0.44
20:1U:52:MET:HE1	39:1n:23:LEU:HB3	2.00	0.44
23:1X:46:ARG:HD2	23:1X:46:ARG:HA	1.72	0.44
24:1Y:116:TYR:HB3	70:1m:201:PC1:H3E1	2.00	0.44
32:1g:93:ALA:O	32:1g:97:VAL:HG12	2.18	0.44
41:1p:50:PHE:HA	41:1p:53:GLN:HG3	2.00	0.44
46:3B:27:THR:OG1	46:3B:213:HIS:NE2	2.40	0.44
46:3B:153:GLN:OE1	49:3I:46:LYS:HE3	2.18	0.44
83:3C:502:HEM:O2A	93:3C:610:HOH:O	2.20	0.44
47:3P:276:PHE:CG	47:3P:277:ALA:N	2.86	0.44
49:3R:239:HIS:CD2	72:3R:301:FES:S2	3.11	0.44
55:4A:76:GLY:O	55:4A:80:ASN:ND2	2.40	0.44
56:4B:38:VAL:O	56:4B:42:ILE:HG13	2.18	0.44
1:1A:63:LEU:HD12	93:1A:316:HOH:O	2.18	0.43
1:1A:95:LEU:HD13	8:1H:302:MET:HG3	2.00	0.43
3:1C:66:ASP:HB3	21:1V:89:LEU:HB2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:1D:49:LEU:HD12	4:1D:49:LEU:HA	1.85	0.43
4:1D:411:LEU:HD12	4:1D:411:LEU:HA	1.83	0.43
5:1E:205:PRO:HA	5:1E:206:PRO:HD3	1.93	0.43
7:1G:391:PHE:O	7:1G:395:ILE:HG13	2.18	0.43
10:1J:77:GLU:C	10:1J:78:MET:SD	3.00	0.43
11:1K:1:FME:SD	14:1N:79:LEU:HD21	2.58	0.43
12:1L:297:ASP:O	12:1L:301:ILE:HG22	2.18	0.43
14:1N:27:LEU:O	14:1N:31:ILE:HG12	2.18	0.43
14:1N:222:SER:HA	14:1N:237:MET:HE3	2.00	0.43
93:1N:1097:HOH:O	30:1e:63:VAL:HG13	2.19	0.43
15:1O:77:CYS:HB2	15:1O:96:LEU:HB2	1.98	0.43
20:1T:42:LEU:HD13	20:1T:46:ASP:HB3	2.00	0.43
24:1Y:11:ILE:HD11	24:1Y:16:GLU:HB2	2.00	0.43
37:1l:57:GLU:OE2	37:1l:93:PRO:HD3	2.18	0.43
45:3N:188:GLN:O	45:3N:223:TYR:HE1	2.02	0.43
49:3R:152:ILE:O	49:3R:153:GLU:HG2	2.18	0.43
55:4A:481:GLU:OE1	66:4L:7:PRO:HG2	2.18	0.43
56:4B:5:PHE:HE2	65:4K:42:LEU:HD23	1.84	0.43
85:4B:301:PGV:H011	75:4D:201:CDL:H111	2.00	0.43
4:1D:110:SER:HA	4:1D:145:THR:HG22	1.99	0.43
4:1D:406:SER:HB2	4:1D:414:VAL:HG22	2.00	0.43
6:1F:20:ARG:NH2	6:1F:269:GLU:O	2.49	0.43
7:1G:283:MET:HE1	42:1q:139:PRO:HG3	2.00	0.43
7:1G:412:PRO:HG3	7:1G:421:HIS:CE1	2.53	0.43
7:1G:663:PRO:HD2	7:1G:666:LEU:HD21	2.00	0.43
8:1H:42:PRO:HG3	42:1q:28:PHE:CE1	2.52	0.43
10:1J:51:PHE:CE2	10:1J:55:MET:HE3	2.53	0.43
12:1L:104:SER:HB2	12:1L:118:PHE:CZ	2.53	0.43
12:1L:248:HIS:HA	12:1L:253:VAL:HG13	1.99	0.43
12:1L:400:ASN:HD21	12:1L:489:THR:HG21	1.83	0.43
16:1P:201:VAL:HG22	93:1P:614:HOH:O	2.18	0.43
21:1V:48:GLU:O	21:1V:52:ASN:ND2	2.51	0.43
34:1i:71:VAL:HA	34:1i:75:LEU:HB2	1.99	0.43
41:1p:163:LEU:N	93:1p:202:HOH:O	2.51	0.43
45:3A:77:LYS:HE3	45:3A:77:LYS:HB2	1.74	0.43
45:3A:139:GLN:HB2	49:3I:50:LEU:HD12	2.00	0.43
47:3C:186:PRO:HA	47:3C:189:ILE:HD12	2.00	0.43
48:3Q:8:PRO:HG3	52:3U:66:ASP:HB3	2.00	0.43
49:3R:200:HIS:O	49:3R:204:ARG:HG3	2.18	0.43
51:3T:70:LYS:HE2	51:3T:70:LYS:HB3	1.85	0.43
75:3T:101:CDL:HB61	75:3T:101:CDL:H711	1.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:3Y:11:ARG:O	54:3Y:15:ARG:HG3	2.18	0.43
55:4A:8:TYR:O	57:4C:13:PRO:HB3	2.19	0.43
55:4A:194:LEU:HD23	55:4A:285:PHE:CE2	2.53	0.43
55:4A:362:SER:HA	56:4B:87:MET:HE1	2.00	0.43
58:4D:88:PHE:HZ	67:4M:19:LEU:HD21	1.84	0.43
3:1C:38:GLN:HG2	21:1V:102:LEU:HD21	1.99	0.43
3:1C:125:LYS:HA	3:1C:125:LYS:HD3	1.75	0.43
4:1D:112:MET:HA	4:1D:115:GLU:HG2	2.01	0.43
8:1H:59:GLU:HA	8:1H:60:PRO:HD3	1.92	0.43
8:1H:90:PRO:HG2	8:1H:240:ILE:HD13	1.99	0.43
10:1J:125:TRP:HB2	25:1Z:137:THR:HG21	2.00	0.43
12:1L:286:LEU:HG	12:1L:411:MET:SD	2.58	0.43
12:1L:338:MET:HE1	12:1L:372:ALA:O	2.18	0.43
14:1N:167:TRP:CZ2	69:1N:901:3PE:H2I1	2.53	0.43
15:1O:128:ILE:HG12	93:1O:624:HOH:O	2.17	0.43
16:1P:67:GLN:OE1	16:1P:67:GLN:HA	2.19	0.43
19:1S:19:ARG:HB3	19:1S:21:HIS:CE1	2.54	0.43
23:1X:23:VAL:HA	93:1X:387:HOH:O	2.17	0.43
75:1X:201:CDL:H422	29:1d:36:PHE:CE2	2.54	0.43
46:3O:125:ASN:HB2	93:3O:622:HOH:O	2.18	0.43
48:3Q:33:TYR:CD1	48:3Q:37:CYS:HB2	2.53	0.43
48:3Q:238:ARG:HD2	51:3T:14:ILE:HD12	1.99	0.43
49:3R:197:ASP:H	49:3R:248:ARG:NH2	2.16	0.43
49:3R:224:PRO:HB3	49:3R:243:TYR:CE2	2.53	0.43
62:4H:4:ILE:HD11	62:4H:55:TRP:HB2	1.99	0.43
6:1F:364:PRO:HB2	6:1F:403:THR:HG22	2.00	0.43
13:1M:329:LEU:HB3	13:1M:359:TRP:CE2	2.53	0.43
14:1N:332:LEU:HD21	75:1d:202:CDL:H431	2.00	0.43
15:1O:115:LEU:HG	93:1O:637:HOH:O	2.18	0.43
16:1P:289:MET:SD	93:1P:609:HOH:O	2.62	0.43
20:1T:35:HIS:HE1	20:1T:37:MET:HB2	1.83	0.43
23:1X:171:MET:HG3	75:1X:201:CDL:HA4	1.99	0.43
75:1X:201:CDL:H273	75:1X:201:CDL:H612	1.99	0.43
31:1f:31:ASP:HB3	33:1h:89:LYS:HD3	1.99	0.43
38:1m:17:LEU:HD11	39:1n:71:TRP:HB2	2.00	0.43
41:1p:168:ALA:O	41:1p:171:GLU:HG3	2.18	0.43
43:1r:105:LEU:HD13	43:1r:110:PRO:HB3	2.00	0.43
45:3A:131:ARG:HD3	45:3A:175:ARG:HA	2.00	0.43
45:3A:349:ALA:O	45:3A:350:THR:HB	2.19	0.43
46:3B:163:LEU:HD11	46:3B:258:VAL:HG22	2.00	0.43
45:3N:40:TRP:CZ2	45:3N:377:GLU:HA	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:3N:127:ILE:O	45:3N:131:ARG:HG3	2.18	0.43
46:3O:39:GLU:OE2	46:3O:113:ARG:NH2	2.51	0.43
75:3P:504:CDL:HB62	75:3P:504:CDL:H712	1.55	0.43
48:3Q:126:TYR:OH	84:3Q:501:HEC:O2A	2.21	0.43
49:3R:134:SER:O	49:3R:138:SER:OG	2.28	0.43
49:3R:248:ARG:HH22	49:3R:249:ILE:HB	1.83	0.43
52:3U:17:LEU:HD13	52:3U:73:LEU:HD22	2.00	0.43
54:3X:32:LEU:HD21	70:3X:101:PC1:H341	2.00	0.43
55:4A:334:TRP:HB2	75:4D:201:CDL:H752	2.00	0.43
58:4D:48:TRP:HA	58:4D:51:LEU:HD13	2.00	0.43
6:1F:14:SER:O	6:1F:14:SER:OG	2.31	0.43
6:1F:96:ASN:O	6:1F:225:VAL:HG23	2.18	0.43
6:1F:114:ASP:HB3	6:1F:117:LYS:HG3	1.99	0.43
6:1F:256:PHE:CD1	6:1F:332:ALA:HB1	2.53	0.43
9:1I:95:GLU:HB2	9:1I:108:ARG:HB3	2.01	0.43
10:1J:17:PHE:HA	10:1J:20:PHE:CE2	2.54	0.43
10:1J:92:ALA:HB2	69:1J:201:3PE:H252	2.00	0.43
12:1L:600:THR:HG23	12:1L:601:LEU:H	1.84	0.43
13:1M:88:THR:O	13:1M:92:LYS:HG3	2.17	0.43
16:1P:195:SER:HB2	16:1P:199:GLU:OE1	2.17	0.43
17:1Q:59:PHE:CE1	17:1Q:82:LEU:HD12	2.54	0.43
29:1d:14:LEU:HD13	29:1d:14:LEU:HA	1.91	0.43
36:1k:13:MET:O	36:1k:13:MET:HG3	2.17	0.43
36:1k:38:ARG:HG3	93:1k:121:HOH:O	2.18	0.43
37:1l:134:PRO:HG2	93:1o:281:HOH:O	2.17	0.43
47:3C:377:LEU:HG	50:3F:32:TYR:CE2	2.48	0.43
48:3D:121:TYR:CD1	48:3D:125:CYS:HB2	2.53	0.43
48:3D:215:VAL:O	48:3D:219:LEU:HG	2.18	0.43
46:3O:78:LYS:HZ3	46:3O:131:GLU:HA	1.82	0.43
47:3P:233:LEU:HD13	70:3R:303:PC1:H3B2	2.01	0.43
56:4B:100:MET:HE1	56:4B:155:SER:HB3	2.00	0.43
56:4B:122:MET:HE2	56:4B:122:MET:HB3	1.89	0.43
2:1B:47:PRO:HA	2:1B:85:VAL:O	2.18	0.43
3:1C:171:TYR:HD1	17:1Q:78:PRO:HG2	1.83	0.43
6:1F:137:TYR:HA	6:1F:178:VAL:HG23	2.00	0.43
6:1F:355:LYS:HG3	6:1F:370:ASP:HA	2.00	0.43
9:1I:154:LEU:HD21	93:1I:372:HOH:O	2.18	0.43
12:1L:17:ILE:HA	12:1L:20:MET:HE3	1.99	0.43
12:1L:488:MET:HE2	12:1L:488:MET:HB3	1.84	0.43
12:1L:511:LEU:HD23	12:1L:511:LEU:HA	1.80	0.43
13:1M:19:LYS:HE3	13:1M:21:ASN:OD1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:1M:143:LEU:HD11	14:1N:303:THR:HG21	2.00	0.43
14:1N:44:LEU:HD22	14:1N:122:ILE:HD12	2.01	0.43
14:1N:179:MET:HE1	14:1N:251:MET:HE1	2.00	0.43
15:1O:9:VAL:HG23	93:1O:502:HOH:O	2.19	0.43
20:1T:51:ILE:HD12	20:1T:70:LEU:HD12	2.01	0.43
22:1W:35:LEU:HD21	22:1W:86:GLY:HA3	2.01	0.43
23:1X:68:ASP:O	23:1X:72:GLN:HG3	2.19	0.43
29:1d:112:ILE:O	41:1p:159:LYS:HE2	2.18	0.43
32:1g:109:GLU:HA	32:1g:109:GLU:OE2	2.18	0.43
34:1i:102:ARG:NE	40:1o:48:ALA:O	2.48	0.43
40:1o:16:PRO:HB3	40:1o:104:GLU:HG2	1.99	0.43
40:1o:50:LEU:HD11	40:1o:63:ILE:HG13	2.00	0.43
48:3D:327:ARG:O	51:3G:14:HIS:HB3	2.19	0.43
69:3D:502:3PE:H351	49:3E:128:ALA:CB	2.49	0.43
47:3P:15:ASN:HA	47:3P:19:ILE:HD12	2.01	0.43
47:3P:234:PHE:HZ	75:3T:101:CDL:H532	1.84	0.43
83:3P:501:HEM:HBD1	93:3P:701:HOH:O	2.17	0.43
48:3Q:27:ARG:HH21	48:3Q:56:TYR:HA	1.83	0.43
49:3R:150:SER:HB3	49:3R:170:ARG:N	2.33	0.43
49:3R:210:TRP:CD1	49:3R:268:ASP:HB3	2.54	0.43
55:4A:168:ILE:HG12	55:4A:185:VAL:HG13	1.99	0.43
55:4A:481:GLU:HB2	67:4M:4:LYS:HB2	2.00	0.43
61:4G:64:ASP:OD1	61:4G:64:ASP:N	2.51	0.43
3:1C:11:ILE:HD11	43:1r:56:ARG:HA	1.99	0.43
5:1E:7:PHE:HB3	7:1G:175:THR:HB	2.01	0.43
5:1E:187:ARG:HD3	5:1E:187:ARG:HA	1.63	0.43
8:1H:58:LYS:HB3	93:1H:546:HOH:O	2.18	0.43
8:1H:100:LEU:HD23	8:1H:160:TYR:HB2	2.01	0.43
11:1K:1:FME:HG2	30:1e:67:LEU:HD22	2.00	0.43
12:1L:54:PHE:CZ	12:1L:84:TYR:HB2	2.53	0.43
20:1T:38:LYS:HE2	20:1T:38:LYS:HB2	1.78	0.43
27:1b:39:ASN:O	27:1b:43:ARG:HG3	2.18	0.43
46:3B:36:ALA:O	46:3B:207:ILE:HA	2.18	0.43
47:3C:124:MET:HE1	47:3C:298:ILE:HG21	2.00	0.43
48:3D:125:CYS:SG	84:3D:501:HEC:HBB3	2.59	0.43
49:3I:36:ALA:HB2	49:3I:73:PRO:HD2	2.00	0.43
45:3N:268:VAL:HB	45:3N:269:PRO:HD3	2.01	0.43
93:3N:709:HOH:O	48:3Q:226:LYS:HE3	2.18	0.43
47:3P:316:MET:HA	69:3P:503:3PE:C11	2.47	0.43
55:4A:282:PHE:HA	85:4A:602:PGV:H292	2.00	0.43
3:1C:50:ILE:HG22	3:1C:52:ILE:HG23	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:1D:173:GLU:O	4:1D:177:MET:HG3	2.19	0.43
7:1G:183:VAL:HG21	71:1G:802:SF4:S3	2.58	0.43
7:1G:359:ARG:HG3	7:1G:362:TYR:OH	2.19	0.43
93:1K:119:HOH:O	30:1e:72:MET:SD	2.62	0.43
12:1L:63:ILE:O	12:1L:79:SER:HA	2.19	0.43
12:1L:144:TRP:CE2	12:1L:223:LYS:HG3	2.54	0.43
12:1L:178:GLY:HA2	12:1L:218:LEU:HG	2.00	0.43
12:1L:375:ILE:HG12	35:1j:32:MET:SD	2.59	0.43
13:1M:296:LEU:HD11	13:1M:378:GLU:HG3	2.01	0.43
14:1N:328:THR:HG21	75:1d:202:CDL:H371	2.00	0.43
20:1T:16:LEU:O	20:1T:20:LYS:HG3	2.18	0.43
23:1X:141:TYR:HD1	93:1Z:327:HOH:O	2.01	0.43
34:1i:75:LEU:HD22	34:1i:79:TRP:CE2	2.54	0.43
46:3B:232:LEU:HD12	46:3B:232:LEU:HA	1.70	0.43
47:3C:111:GLU:H	47:3C:111:GLU:CD	2.27	0.43
83:3C:501:HEM:HBC2	83:3C:501:HEM:HMC1	2.00	0.43
45:3N:344:ARG:HG2	45:3N:344:ARG:NH1	2.29	0.43
47:3P:96:ILE:HG22	93:3P:654:HOH:O	2.18	0.43
49:3R:248:ARG:NH2	49:3R:249:ILE:HB	2.34	0.43
55:4A:106:PRO:HB2	55:4A:107:PRO:HD3	2.00	0.43
55:4A:418:PHE:O	55:4A:422:ASN:ND2	2.38	0.43
75:4B:302:CDL:H442	75:4B:302:CDL:H182	2.01	0.43
59:4E:93:LEU:HD23	59:4E:98:ILE:HB	2.01	0.43
9:1I:43:ARG:CZ	43:1r:19:LEU:HD22	2.48	0.43
13:1M:1:FME:SD	13:1M:41:LEU:HD11	2.59	0.43
15:1O:184:GLN:HA	15:1O:192:MET:HE2	2.01	0.43
16:1P:109:VAL:HB	93:1P:508:HOH:O	2.18	0.43
17:1Q:59:PHE:CE2	17:1Q:79:LEU:HD13	2.54	0.43
23:1X:77:CYS:HB3	93:1X:362:HOH:O	2.18	0.43
25:1Z:127:LEU:HD13	93:1e:230:HOH:O	2.18	0.43
32:1g:111:ASN:OD1	41:1p:161:ARG:NH1	2.52	0.43
45:3A:51:LYS:HG3	45:3A:52:ASN:N	2.33	0.43
45:3A:167:VAL:HG13	93:3A:613:HOH:O	2.19	0.43
49:3E:154:ILE:HA	49:3E:274:GLY:O	2.18	0.43
49:3E:169:TRP:CE3	49:3E:273:VAL:HA	2.54	0.43
50:3F:97:GLU:HG3	93:3F:239:HOH:O	2.19	0.43
53:3J:54:LYS:HD3	53:3J:55:HIS:CG	2.53	0.43
56:4B:216:LEU:HD12	93:4B:494:HOH:O	2.18	0.43
57:4C:197:PHE:O	57:4C:201:THR:OG1	2.24	0.43
57:4C:219:LEU:HD21	85:4C:302:PGV:H231	2.00	0.43
57:4C:221:ARG:HB3	57:4C:226:HIS:HB2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:4D:44:GLU:OE2	59:4E:61:PHE:N	2.42	0.43
62:4H:42:ALA:O	62:4H:46:LYS:HG2	2.18	0.43
63:4I:22:VAL:O	63:4I:26:ILE:HG12	2.19	0.43
6:1F:105:CYS:SG	93:1F:602:HOH:O	2.53	0.43
11:1K:46:LEU:O	93:1K:103:HOH:O	2.21	0.43
12:1L:201:ILE:O	12:1L:206:ASN:HB2	2.18	0.43
12:1L:233:LEU:HB3	12:1L:234:PRO:HD3	2.00	0.43
12:1L:510:TYR:CG	64:4J:18:LEU:HD21	2.54	0.43
14:1N:317:PHE:HB3	93:1N:1010:HOH:O	2.19	0.43
15:1O:74:SER:O	93:1O:509:HOH:O	2.21	0.43
23:1X:171:MET:HE2	23:1X:171:MET:HB3	1.82	0.43
24:1Y:115:ALA:CB	70:1m:201:PC1:H2A2	2.49	0.43
39:1n:137:LYS:HE3	39:1n:137:LYS:HB3	1.75	0.43
46:3B:47:ILE:HD12	46:3B:216:LEU:HD21	2.00	0.43
47:3C:158:THR:O	47:3C:161:VAL:HG12	2.19	0.43
48:3D:160:ASP:HB3	48:3D:169:PHE:CZ	2.54	0.43
45:3N:8:LEU:HD22	45:3N:392:LEU:HB3	2.00	0.43
46:3O:238:LYS:HE3	46:3O:239:TYR:O	2.19	0.43
47:3P:142:GLY:O	47:3P:146:ILE:HG13	2.19	0.43
55:4A:5:ARG:NH1	93:4A:716:HOH:O	2.47	0.43
86:4A:604:HEA:HBD2	86:4A:604:HEA:HHA	1.99	0.43
66:4L:28:TYR:CD2	85:4L:101:PGV:H302	2.54	0.43
7:1G:194:GLU:OE1	7:1G:194:GLU:N	2.28	0.42
7:1G:621:SER:O	7:1G:625:GLU:HG3	2.18	0.42
9:1I:31:VAL:HG13	70:1Z:201:PC1:H392	2.01	0.42
11:1K:4:VAL:O	11:1K:8:ILE:HG12	2.19	0.42
12:1L:203:MET:O	41:1p:121:ARG:NH2	2.52	0.42
14:1N:213:LEU:HD21	75:1N:902:CDL:H191	2.00	0.42
15:1O:82:PHE:HB2	93:1O:515:HOH:O	2.19	0.42
16:1P:193:LEU:O	16:1P:257:PRO:HA	2.19	0.42
25:1Z:126:GLY:O	25:1Z:127:LEU:HD23	2.19	0.42
41:1p:141:ARG:HB2	93:1p:207:HOH:O	2.19	0.42
43:1r:8:GLN:O	43:1r:11:ARG:HG3	2.18	0.42
44:1s:55:ASN:C	44:1s:55:ASN:ND2	2.77	0.42
46:3B:406:ALA:HB1	93:3B:558:HOH:O	2.19	0.42
47:3C:267:HIS:CE1	47:3C:269:LYS:HB3	2.54	0.42
48:3D:254:TYR:CZ	48:3D:257:VAL:HG23	2.54	0.42
49:3E:159:ILE:H	49:3E:159:ILE:HD12	1.83	0.42
50:3F:61:ARG:NH2	50:3F:112:GLU:OE1	2.46	0.42
47:3P:126:THR:HG21	47:3P:186:PRO:HG3	2.01	0.42
49:3R:187:GLU:HA	49:3R:190:VAL:HB	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:3R:219:HIS:HB3	72:3R:301:FES:S2	2.59	0.42
49:3R:225:ILE:HG22	49:3R:228:ALA:HB3	2.00	0.42
55:4A:177:SER:H	55:4A:180:GLN:HE21	1.66	0.42
55:4A:361:SER:HG	56:4B:84:LEU:HD13	1.84	0.42
5:1E:24:THR:HG23	5:1E:57:GLN:OE1	2.19	0.42
5:1E:163:ASP:CG	5:1E:188:SER:HG	2.23	0.42
7:1G:359:ARG:O	7:1G:363:LEU:HG	2.19	0.42
12:1L:182:PHE:O	12:1L:186:MET:HG3	2.18	0.42
12:1L:473:PRO:HG2	12:1L:475:MET:HE3	2.00	0.42
15:1O:22:SER:O	15:1O:22:SER:OG	2.31	0.42
19:1S:38:LYS:HA	19:1S:38:LYS:HD3	1.82	0.42
20:1T:79:TYR:O	20:1T:83:LYS:HG2	2.19	0.42
35:1j:32:MET:O	35:1j:36:ILE:HG12	2.19	0.42
38:1m:80:ARG:HB3	70:1m:201:PC1:H133	2.01	0.42
40:1o:17:ASP:OD1	40:1o:17:ASP:N	2.44	0.42
46:3B:78:LYS:HA	46:3B:131:GLU:OE2	2.19	0.42
69:3N:501:3PE:H31	75:3N:502:CDL:C51	2.43	0.42
51:3T:71:ARG:HD2	51:3T:71:ARG:HA	1.85	0.42
55:4A:127:THR:HB	55:4A:129:TYR:CE1	2.54	0.42
4:1D:165:THR:HG23	8:1H:32:GLN:HG3	2.01	0.42
7:1G:252:PRO:HB3	7:1G:263:ILE:HG23	2.01	0.42
8:1H:126:LYS:HD2	8:1H:126:LYS:HA	1.65	0.42
13:1M:8:THR:O	13:1M:11:LEU:HB2	2.20	0.42
13:1M:217:PRO:HG3	93:1M:774:HOH:O	2.19	0.42
14:1N:87:THR:HG22	33:1h:126:PRO:HG2	2.00	0.42
15:1O:19:THR:HG22	15:1O:20:GLU:H	1.85	0.42
18:1R:38:ASN:HB3	18:1R:43:LEU:HD11	2.00	0.42
22:1W:120:SER:O	22:1W:124:VAL:HG13	2.19	0.42
41:1p:83:CYS:HB2	93:1p:216:HOH:O	2.19	0.42
69:3A:503:3PE:H2	69:3A:503:3PE:O14	2.19	0.42
47:3C:47:THR:OG1	93:3C:603:HOH:O	2.05	0.42
49:3E:103:SER:O	49:3E:110:ARG:NH2	2.49	0.42
50:3F:86:ILE:HD12	50:3F:92:TRP:CZ2	2.54	0.42
50:3F:110:ILE:O	50:3F:114:LYS:HG2	2.20	0.42
75:3G:102:CDL:OA9	75:3G:103:CDL:H741	2.20	0.42
53:3J:30:LEU:HA	54:3Y:34:TRP:CD1	2.54	0.42
45:3N:77:LYS:HB2	45:3N:77:LYS:HE2	1.88	0.42
45:3N:290:MET:HE2	93:3N:768:HOH:O	2.18	0.42
69:3N:503:3PE:H2	69:3N:503:3PE:H221	1.31	0.42
46:3O:314:ALA:HA	49:3V:63:PRO:HD3	2.01	0.42
47:3P:112:THR:O	47:3P:196:HIS:CE1	2.72	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:3P:315:MET:HE1	47:3P:325:PHE:CB	2.47	0.42
48:3Q:41:HIS:HE1	48:3Q:111:PRO:HD2	1.83	0.42
48:3Q:123:GLY:O	48:3Q:127:VAL:HG23	2.20	0.42
49:3R:180:THR:N	49:3R:183:GLU:OE1	2.52	0.42
49:3V:70:LEU:HA	93:3V:304:HOH:O	2.18	0.42
55:4A:28:MET:HE2	55:4A:28:MET:N	2.33	0.42
85:4B:301:PGV:H22	75:4D:201:CDL:H312	2.02	0.42
57:4C:117:PRO:HG2	57:4C:123:PRO:HG3	2.01	0.42
2:1B:154:GLU:HG2	9:1I:50:TYR:CE2	2.54	0.42
2:1B:175:ILE:O	2:1B:179:ARG:HG3	2.20	0.42
4:1D:62:LEU:HB2	4:1D:425:PHE:CZ	2.54	0.42
4:1D:404:LYS:HE2	4:1D:404:LYS:HB3	1.68	0.42
5:1E:162:GLU:OE2	6:1F:108:ARG:NH1	2.47	0.42
6:1F:384:ALA:O	6:1F:430:MET:HG2	2.19	0.42
7:1G:539:LYS:HA	7:1G:539:LYS:HD3	1.76	0.42
10:1J:126:VAL:HG21	93:1J:355:HOH:O	2.19	0.42
12:1L:151:SER:HB2	12:1L:252:MET:SD	2.59	0.42
14:1N:91:ASN:OD1	14:1N:93:VAL:HG13	2.19	0.42
15:1O:74:SER:HB2	93:1O:548:HOH:O	2.20	0.42
15:1O:235:VAL:O	15:1O:239:GLU:HG3	2.19	0.42
25:1Z:95:ALA:O	25:1Z:99:LYS:HG3	2.19	0.42
28:1c:43:LYS:HA	93:1c:116:HOH:O	2.20	0.42
34:1i:18:ARG:NH1	39:1n:170:VAL:O	2.40	0.42
34:1i:82:HIS:CD2	41:1p:44:VAL:HG21	2.55	0.42
42:1q:75:TRP:HD1	70:1q:201:PC1:H121	1.84	0.42
46:3B:200:THR:OG1	46:3B:229:GLY:O	2.29	0.42
45:3N:75:LEU:O	45:3N:79:VAL:HG23	2.19	0.42
47:3P:240:LEU:HD11	69:3R:302:3PE:H381	2.01	0.42
49:3R:159:ILE:HD13	49:3R:176:VAL:HG11	1.99	0.42
49:3R:183:GLU:HB3	49:3R:245:ALA:HB2	2.02	0.42
49:3R:207:LYS:HE3	49:3R:210:TRP:HZ3	1.84	0.42
55:4A:473:TRP:CE2	66:4L:22:LEU:HD13	2.54	0.42
86:4A:604:HEA:H202	86:4A:604:HEA:H171	1.76	0.42
56:4B:143:VAL:HG12	56:4B:219:PHE:HD1	1.83	0.42
57:4C:179:SER:OG	85:4G:101:PGV:H101	2.19	0.42
59:4E:49:ASP:HA	93:4E:202:HOH:O	2.18	0.42
5:1E:12:THR:HG1	5:1E:15:ASN:H	1.68	0.42
5:1E:61:LEU:HD12	93:1E:450:HOH:O	2.20	0.42
5:1E:115:SER:O	5:1E:118:GLU:HG3	2.18	0.42
5:1E:153:MET:HE2	5:1E:153:MET:HB2	1.90	0.42
12:1L:512:LYS:HD2	64:4J:18:LEU:HD12	1.99	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:1M:7:PRO:HB2	13:1M:34:ILE:HG12	2.01	0.42
13:1M:346:ARG:O	13:1M:419:TYR:HA	2.18	0.42
16:1P:315:ILE:O	16:1P:319:ARG:HB2	2.19	0.42
19:1S:74:LYS:NZ	93:1S:106:HOH:O	2.40	0.42
23:1X:79:GLU:O	23:1X:83:GLU:HG3	2.19	0.42
28:1c:41:GLU:OE1	28:1c:44:ARG:NH1	2.53	0.42
37:1l:40:ASP:N	37:1l:40:ASP:OD1	2.53	0.42
39:1n:45:ALA:O	39:1n:49:GLU:HG3	2.18	0.42
39:1n:55:ASP:CB	39:1n:58:LYS:HZ3	2.33	0.42
39:1n:169:ILE:O	39:1n:172:ARG:HD3	2.18	0.42
46:3B:244:ILE:O	46:3B:425:ALA:HA	2.19	0.42
47:3C:199:PHE:HE1	47:3P:9:PRO:HG2	1.85	0.42
49:3E:206:LYS:O	49:3E:207:LYS:HD3	2.20	0.42
46:3O:228:GLY:HA3	93:3O:660:HOH:O	2.19	0.42
49:3R:217:CYS:HB2	49:3R:224:PRO:CD	2.47	0.42
57:4C:179:SER:HB3	85:4G:101:PGV:H82	2.02	0.42
85:4C:304:PGV:H52	85:4C:304:PGV:H231	2.01	0.42
85:4G:101:PGV:H162	91:4G:102:PEK:H181	2.00	0.42
1:1A:1:FME:H	1:1A:4:MET:HE2	1.84	0.42
2:1B:67:TYR:CE1	2:1B:154:GLU:HG3	2.54	0.42
2:1B:110:PRO:HB3	2:1B:172:ARG:HH22	1.84	0.42
7:1G:24:THR:O	7:1G:73:VAL:HG22	2.19	0.42
7:1G:237:ASN:HB3	7:1G:253:ARG:HB3	2.00	0.42
7:1G:285:ARG:NH2	7:1G:555:PRO:O	2.52	0.42
7:1G:424:ASP:OD2	7:1G:660:PRO:HB3	2.20	0.42
7:1G:596:ASP:O	7:1G:600:ILE:HG13	2.19	0.42
12:1L:2:ASN:HB2	12:1L:3:PRO:HD2	2.01	0.42
12:1L:583:LEU:HB2	12:1L:586:LEU:HG	2.01	0.42
14:1N:87:THR:O	14:1N:147:GLN:NE2	2.51	0.42
14:1N:215:MET:HG3	14:1N:251:MET:SD	2.59	0.42
15:1O:147:GLN:HG3	15:1O:148:CYS:H	1.85	0.42
93:1R:301:HOH:O	42:1q:124:TYR:HA	2.20	0.42
20:1U:3:ALA:HA	20:1U:4:PRO:HD3	1.90	0.42
32:1g:86:GLN:HG2	93:1p:259:HOH:O	2.19	0.42
38:1m:43:LYS:HE2	38:1m:43:LYS:HB2	1.61	0.42
38:1m:107:ASP:HA	38:1m:110:LYS:CE	2.49	0.42
70:1m:201:PC1:H222	70:1m:201:PC1:H11	2.01	0.42
46:3B:76:THR:HG23	46:3B:81:SER:HA	2.01	0.42
46:3B:156:GLN:NE2	49:3I:78:TYR:CE2	2.87	0.42
47:3C:244:LEU:HD12	48:3D:297:MET:HE2	2.00	0.42
51:3G:36:ILE:HB	51:3G:37:PRO:HD3	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:3G:72:LYS:HE3	51:3G:72:LYS:HB2	1.82	0.42
45:3N:358:LYS:HE3	45:3N:399:ILE:O	2.20	0.42
47:3P:107:TYR:HB3	47:3P:113:TRP:CD2	2.54	0.42
48:3Q:75:ASN:OD1	48:3Q:79:GLU:HG2	2.19	0.42
48:3Q:212:MET:HE2	69:3R:302:3PE:H352	2.02	0.42
49:3R:163:LYS:O	49:3R:177:ARG:HA	2.19	0.42
49:3R:200:HIS:HB3	49:3R:203:GLU:HB3	2.01	0.42
52:3U:47:ARG:HG3	93:3U:101:HOH:O	2.20	0.42
54:3Y:6:LEU:O	54:3Y:10:TYR:HD2	2.02	0.42
85:4B:301:PGV:H252	75:4D:201:CDL:H261	2.01	0.42
57:4C:63:ARG:HA	57:4C:67:PHE:CD2	2.55	0.42
75:4D:201:CDL:H512	75:4D:201:CDL:HB4	1.43	0.42
2:1B:68:ASP:O	2:1B:71:ARG:HG2	2.20	0.42
6:1F:20:ARG:NE	6:1F:269:GLU:O	2.49	0.42
6:1F:256:PHE:CE2	6:1F:270:GLU:HB3	2.55	0.42
6:1F:423:ARG:N	6:1F:424:PRO:HD2	2.35	0.42
8:1H:264:LEU:O	8:1H:268:ILE:HG12	2.19	0.42
9:1I:70:TYR:C	9:1I:72:SER:H	2.27	0.42
12:1L:207:GLU:HG2	12:1L:269:THR:HG21	2.01	0.42
13:1M:231:LEU:HA	13:1M:235:LEU:HB2	2.00	0.42
69:1M:501:3PE:H321	24:1Y:132:TRP:CZ3	2.54	0.42
14:1N:133:TRP:HE3	75:1N:902:CDL:H201	1.84	0.42
14:1N:183:SER:O	14:1N:187:MET:HG2	2.19	0.42
15:1O:95:ARG:HB2	15:1O:281:GLU:O	2.20	0.42
16:1P:270:PHE:HD2	16:1P:278:TRP:HB2	1.84	0.42
29:1d:94:VAL:HA	29:1d:101:PHE:CD2	2.55	0.42
31:1f:38:ARG:HG3	31:1f:56:TRP:CE2	2.55	0.42
38:1m:38:ILE:O	38:1m:41:ARG:HG3	2.19	0.42
45:3A:436:ARG:HD3	47:3C:222:PRO:HD3	2.01	0.42
69:3A:503:3PE:H121	47:3C:4:ILE:H	1.85	0.42
47:3C:82:LEU:HD12	47:3C:243:VAL:HG21	2.02	0.42
48:3D:106:LEU:HD13	48:3D:295:LEU:HD13	2.02	0.42
45:3N:158:PHE:HB3	45:3N:161:THR:OG1	2.20	0.42
49:3R:149:MET:C	49:3R:151:LYS:H	2.27	0.42
49:3R:149:MET:C	49:3R:151:LYS:N	2.78	0.42
49:3R:175:PHE:HB2	49:3R:213:LEU:O	2.19	0.42
49:3R:180:THR:O	49:3R:182:LYS:N	2.53	0.42
55:4A:236:TRP:O	55:4A:288:TRP:HB2	2.20	0.42
55:4A:452:THR:HG22	55:4A:456:MET:HE3	2.01	0.42
75:4B:302:CDL:H442	75:4B:302:CDL:H162	2.02	0.42
62:4H:57:ARG:O	62:4H:61:LYS:HB2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1B:48:MET:O	93:1B:303:HOH:O	2.20	0.42
4:1D:106:LEU:HD22	4:1D:430:ARG:HG2	2.02	0.42
4:1D:107:ASP:OD2	4:1D:371:LYS:HD2	2.19	0.42
6:1F:347:ILE:HG13	6:1F:418:LEU:HD13	2.01	0.42
7:1G:154:ILE:O	7:1G:154:ILE:HG13	2.19	0.42
7:1G:254:MET:HA	7:1G:260:GLU:O	2.20	0.42
8:1H:179:TRP:HE1	25:1Z:43:LEU:HG	1.84	0.42
13:1M:257:MET:SD	69:1M:504:3PE:H352	2.60	0.42
13:1M:393:ILE:O	13:1M:397:GLY:N	2.52	0.42
16:1P:264:ARG:NH1	16:1P:281:ARG:HG2	2.34	0.42
17:1Q:60:ASP:OD1	17:1Q:60:ASP:N	2.47	0.42
20:1U:33:ASN:HA	20:1U:72:CYS:SG	2.60	0.42
23:1X:105:LYS:HE2	23:1X:105:LYS:HB2	1.79	0.42
25:1Z:58:ARG:NH2	27:1b:48:THR:OG1	2.48	0.42
34:1i:82:HIS:NE2	41:1p:41:ASP:OD1	2.36	0.42
40:1o:112:LYS:HE2	40:1o:112:LYS:HB3	1.78	0.42
43:1r:45:SER:O	43:1r:51:ASN:ND2	2.51	0.42
46:3B:74:SER:O	46:3B:74:SER:OG	2.36	0.42
46:3B:109:VAL:HB	46:3B:119:LEU:HD12	2.02	0.42
47:3C:67:THR:HG21	48:3D:133:TYR:CG	2.54	0.42
49:3E:164:ASN:HA	49:3E:177:ARG:HB2	2.00	0.42
50:3F:117:GLU:HB3	54:3X:4:ARG:HG2	2.02	0.42
55:4A:6:TRP:CE3	66:4L:12:PRO:HG3	2.54	0.42
55:4A:229:ILE:HD11	56:4B:175:ILE:HD13	2.02	0.42
56:4B:5:PHE:O	93:4B:402:HOH:O	2.22	0.42
4:1D:306:GLN:O	4:1D:310:ILE:HG13	2.20	0.42
5:1E:216:GLY:O	5:1E:217:LEU:HD23	2.20	0.42
6:1F:193:ILE:HG23	6:1F:215:VAL:HA	2.02	0.42
69:1M:502:3PE:H382	69:1M:502:3PE:H352	1.95	0.42
16:1P:144:ARG:HG2	16:1P:147:ARG:HH12	1.85	0.42
93:1g:224:HOH:O	33:1h:16:PHE:HE1	2.03	0.42
38:1m:47:LEU:HB3	39:1n:165:LEU:HD13	2.02	0.42
41:1p:101:ILE:O	41:1p:105:ILE:HG12	2.20	0.42
47:3C:104:TYR:HE2	69:3C:503:3PE:H251	1.82	0.42
47:3C:112:THR:O	47:3C:196:HIS:CD2	2.73	0.42
47:3C:183:PHE:HB3	47:3P:183:PHE:CZ	2.55	0.42
47:3C:233:LEU:HB2	70:3E:302:PC1:H3A2	2.02	0.42
49:3E:155:LYS:HE2	49:3E:159:ILE:HD11	2.01	0.42
47:3P:318:ARG:O	47:3P:322:GLN:HG3	2.20	0.42
47:3P:377:LEU:HD23	47:3P:377:LEU:HA	1.91	0.42
52:3U:32:LYS:O	52:3U:36:ARG:HD3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:4A:455:SER:O	55:4A:458:SER:OG	2.38	0.42
55:4A:467:LEU:O	55:4A:471:ILE:HG13	2.20	0.42
58:4D:117:ALA:HB1	65:4K:51:LYS:HG2	2.01	0.42
58:4D:135:SER:OG	58:4D:140:TYR:OH	2.29	0.42
2:1B:65:PRO:HB3	8:1H:33:LEU:O	2.20	0.42
2:1B:96:MET:HE3	2:1B:99:ALA:HB3	2.01	0.42
4:1D:329:LYS:HE2	43:1r:53:TYR:CE2	2.54	0.42
7:1G:302:ARG:HE	7:1G:302:ARG:HB2	1.52	0.42
12:1L:336:LYS:HB2	12:1L:336:LYS:HE3	1.92	0.42
12:1L:363:TYR:CD1	12:1L:370:THR:HG21	2.55	0.42
12:1L:440:LEU:HD23	12:1L:440:LEU:HA	1.76	0.42
15:1O:53:GLU:HG2	15:1O:104:ARG:HH12	1.84	0.42
15:1O:206:TYR:O	15:1O:210:PHE:HB3	2.19	0.42
15:1O:304:TYR:CE1	69:1d:201:3PE:H112	2.55	0.42
16:1P:270:PHE:HE2	16:1P:278:TRP:HE3	1.66	0.42
22:1W:37:ARG:NH2	93:1W:201:HOH:O	2.38	0.42
69:1Y:203:3PE:H331	69:1Y:203:3PE:H231	2.01	0.42
25:1Z:40:ILE:HD13	25:1Z:40:ILE:HA	1.85	0.42
25:1Z:96:ILE:HA	25:1Z:99:LYS:HZ2	1.85	0.42
29:1d:49:ARG:HD3	29:1d:51:ARG:NH2	2.35	0.42
38:1m:2:PHE:CZ	39:1n:69:GLU:HG3	2.55	0.42
38:1m:37:ALA:O	38:1m:41:ARG:HG2	2.19	0.42
41:1p:159:LYS:HA	93:1p:315:HOH:O	2.20	0.42
45:3A:403:ASP:OD1	45:3A:406:VAL:HG23	2.20	0.42
46:3B:314:ALA:HB1	49:3I:63:PRO:HG3	2.02	0.42
46:3B:340:ALA:O	46:3B:344:VAL:HG23	2.19	0.42
47:3C:111:GLU:CD	47:3C:111:GLU:N	2.77	0.42
49:3E:207:LYS:C	49:3E:209:GLU:H	2.28	0.42
49:3E:235:TYR:HD1	49:3E:242:HIS:HA	1.85	0.42
45:3N:214:LYS:HB2	45:3N:214:LYS:HE2	1.73	0.42
69:3N:501:3PE:H332	75:3N:502:CDL:H111	2.01	0.42
47:3P:120:LEU:O	47:3P:124:MET:HG3	2.20	0.42
49:3R:244:ASP:OD1	49:3R:248:ARG:HB2	2.20	0.42
55:4A:274:VAL:O	55:4A:278:MET:HG3	2.19	0.42
55:4A:305:PHE:O	55:4A:309:THR:HG22	2.20	0.42
56:4B:68:LEU:HB3	90:4B:304:PSC:H183	2.02	0.42
60:4F:50:PRO:O	60:4F:56:ARG:NH1	2.52	0.42
2:1B:63:ALA:HB2	2:1B:69:MET:SD	2.60	0.41
4:1D:34:ASN:ND2	93:1D:515:HOH:O	2.41	0.41
7:1G:39:ARG:HB2	72:1G:803:FES:S2	2.59	0.41
7:1G:41:CYS:O	7:1G:161:ARG:NH2	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:1G:108:CYS:SG	7:1G:206:GLY:HA3	2.59	0.41
7:1G:157:THR:HG22	7:1G:157:THR:O	2.20	0.41
7:1G:394:ARG:HD3	7:1G:394:ARG:HA	1.89	0.41
12:1L:285:THR:HA	12:1L:308:SER:HA	2.01	0.41
13:1M:122:PHE:HE1	13:1M:206:LYS:HD3	1.83	0.41
13:1M:432:ARG:NH2	93:1M:616:HOH:O	2.33	0.41
14:1N:347:ASN:OD1	29:1d:82:MET:HE2	2.20	0.41
15:1O:49:ARG:HD3	15:1O:51:PHE:CE1	2.54	0.41
21:1V:21:GLU:O	21:1V:25:ILE:HG23	2.19	0.41
23:1X:168:PHE:CE1	75:1X:201:CDL:H142	2.55	0.41
27:1b:58:ASP:O	93:1b:101:HOH:O	2.22	0.41
29:1d:82:MET:HE3	29:1d:82:MET:HB3	1.90	0.41
30:1e:64:GLU:O	30:1e:68:ARG:HD2	2.20	0.41
32:1g:108:MET:HB3	41:1p:137:ALA:CB	2.49	0.41
33:1h:113:LEU:HD12	33:1h:113:LEU:HA	1.88	0.41
37:1l:99:ASN:O	37:1l:103:LYS:HG3	2.19	0.41
38:1m:23:ASP:CG	45:3N:230:ALA:HB3	2.45	0.41
43:1r:4:THR:O	43:1r:8:GLN:HG3	2.20	0.41
75:3A:501:CDL:H311	47:3C:221:HIS:CE1	2.54	0.41
49:3E:177:ARG:CD	49:3E:179:ARG:HG2	2.50	0.41
49:3E:206:LYS:HD2	49:3E:265:PHE:HD1	1.85	0.41
48:3Q:231:LYS:HA	48:3Q:231:LYS:HD3	1.89	0.41
53:3W:33:ARG:HG2	54:3X:47:TYR:CE2	2.54	0.41
59:4E:52:LEU:HD22	59:4E:98:ILE:HD13	2.02	0.41
62:4H:24:ASN:OD1	62:4H:26:THR:HG22	2.20	0.41
62:4H:56:TYR:CE2	68:4N:80:PRO:HD2	2.55	0.41
3:1C:35:LYS:HD3	3:1C:36:TYR:CZ	2.55	0.41
3:1C:195:ARG:NH1	93:1C:327:HOH:O	2.52	0.41
4:1D:169:TRP:CH2	9:1I:36:MET:HG3	2.55	0.41
6:1F:229:ALA:O	6:1F:232:PRO:HD2	2.20	0.41
73:1F:501:FMN:HM81	73:1F:501:FMN:HM73	1.90	0.41
9:1I:18:THR:HG21	25:1Z:33:TYR:CD1	2.55	0.41
11:1K:94:ASN:O	11:1K:97:GLN:HG3	2.20	0.41
12:1L:96:VAL:O	12:1L:100:ILE:HG12	2.19	0.41
14:1N:162:ILE:HD13	14:1N:282:MET:HG2	2.01	0.41
69:1N:901:3PE:H331	69:1N:901:3PE:H262	2.01	0.41
16:1P:196:LEU:HD12	16:1P:196:LEU:HA	1.95	0.41
20:1T:13:ASP:HB3	20:1T:17:TYR:CZ	2.56	0.41
45:3A:172:GLU:CD	45:3A:172:GLU:H	2.23	0.41
45:3N:223:TYR:O	45:3N:224:VAL:C	2.63	0.41
46:3O:169:ARG:CG	46:3O:240:ARG:HB3	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:3R:249:ILE:HG12	49:3R:257:ASN:HA	2.02	0.41
55:4A:71:MET:HB2	55:4A:72:PRO:HD3	2.02	0.41
55:4A:491:ASN:HB3	55:4A:494:TRP:HD1	1.84	0.41
56:4B:41:ILE:HG21	90:4B:304:PSC:H9	2.01	0.41
58:4D:122:ARG:HG3	65:4K:53:TRP:CE2	2.55	0.41
59:4E:37:VAL:HG11	59:4E:70:VAL:HG21	2.02	0.41
7:1G:483:VAL:HG21	7:1G:487:TRP:HD1	1.85	0.41
8:1H:306:SER:HB3	27:1b:32:PRO:HG3	2.02	0.41
10:1J:26:PRO:HG3	10:1J:77:GLU:HG3	2.01	0.41
13:1M:54:LEU:HD23	33:1h:93:ILE:HG23	2.02	0.41
14:1N:340:THR:O	14:1N:343:LEU:HD23	2.20	0.41
69:1N:903:3PE:H252	69:1N:903:3PE:H372	2.02	0.41
19:1S:32:VAL:HG22	93:1S:123:HOH:O	2.20	0.41
20:1U:54:MET:HG3	20:1U:76:ILE:HG21	2.01	0.41
21:1V:76:ILE:HD12	21:1V:76:ILE:HA	1.91	0.41
23:1X:157:LEU:HD23	23:1X:157:LEU:HA	1.86	0.41
26:1a:64:LYS:HG2	93:1a:101:HOH:O	2.20	0.41
46:3B:341:TYR:O	46:3B:345:LYS:HG3	2.20	0.41
47:3C:138:MET:HE1	47:3C:268:ILE:HA	2.01	0.41
47:3C:329:VAL:HG13	93:3C:757:HOH:O	2.20	0.41
49:3E:179:ARG:NH2	49:3E:201:ASP:OD1	2.53	0.41
52:3U:28:GLU:C	52:3U:32:LYS:HZ3	2.28	0.41
55:4A:86:MET:HE3	55:4A:185:VAL:HG23	2.01	0.41
85:4B:301:PGV:O14	85:4B:301:PGV:O05	2.24	0.41
64:4J:8:LYS:HA	64:4J:11:ILE:HD12	2.02	0.41
6:1F:147:SER:HB2	44:1s:46:TYR:CE2	2.55	0.41
10:1J:23:LYS:NZ	11:1K:18:GLY:O	2.53	0.41
10:1J:51:PHE:HB3	10:1J:139:GLU:OE1	2.19	0.41
13:1M:123:GLU:HA	13:1M:126:LEU:HD23	2.01	0.41
13:1M:135:ARG:HD3	69:1M:502:3PE:H362	2.01	0.41
13:1M:357:THR:O	13:1M:361:MET:HG3	2.19	0.41
15:1O:260:ARG:HA	15:1O:263:VAL:HB	2.02	0.41
16:1P:24:PHE:CZ	16:1P:81:ILE:HG23	2.56	0.41
27:1b:17:VAL:O	27:1b:21:SER:OG	2.33	0.41
34:1i:83:TYR:CE2	34:1i:88:HIS:HE1	2.38	0.41
40:1o:36:ARG:NH1	40:1o:93:ASP:OD1	2.47	0.41
45:3A:77:LYS:O	45:3A:81:SER:N	2.52	0.41
93:3A:716:HOH:O	49:3E:104:LYS:HE3	2.20	0.41
49:3E:172:LYS:HB3	49:3E:214:ILE:HD12	2.03	0.41
49:3E:222:CYS:HB3	49:3E:238:CYS:HB3	1.43	0.41
49:3E:241:SER:HB2	72:3E:301:FES:S1	2.60	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:3N:214:LYS:HZ1	45:3N:215:HIS:CE1	2.35	0.41
45:3N:277:ILE:HB	45:3N:309:THR:HG21	2.02	0.41
49:3R:224:PRO:HB3	49:3R:243:TYR:HE2	1.85	0.41
61:4G:17:ARG:NH2	91:4G:102:PEK:O04	2.53	0.41
4:1D:260:LEU:HD22	4:1D:265:ILE:HD12	2.02	0.41
8:1H:135:ALA:HB2	8:1H:201:THR:HB	2.02	0.41
11:1K:73:LEU:HD12	11:1K:73:LEU:HA	1.84	0.41
12:1L:264:TYR:CG	12:1L:265:PRO:HD3	2.55	0.41
13:1M:243:MET:HB3	13:1M:301:ILE:HG21	2.02	0.41
14:1N:3:PRO:HG2	93:1O:502:HOH:O	2.20	0.41
15:1O:80:GLU:HB3	15:1O:190:HIS:CE1	2.55	0.41
21:1V:22:ARG:NH2	21:1V:84:GLU:OE1	2.54	0.41
26:1a:62:VAL:HG12	93:1a:101:HOH:O	2.21	0.41
37:1l:98:TRP:HA	37:1l:101:MET:HE3	2.03	0.41
45:3A:146:ARG:HA	45:3A:149:VAL:HG12	2.02	0.41
46:3B:83:PHE:CE2	50:3S:104:ARG:HG3	2.55	0.41
48:3D:198:PRO:HA	48:3D:199:PRO:HD3	1.89	0.41
48:3D:225:PRO:HA	48:3D:226:PRO:HD3	1.92	0.41
50:3F:40:LYS:HA	50:3F:92:TRP:CD1	2.55	0.41
46:3O:240:ARG:O	46:3O:421:ARG:NH1	2.53	0.41
48:3Q:47:ALA:HA	48:3Q:90:TYR:HA	2.01	0.41
50:3S:28:LYS:HA	50:3S:80:TRP:CD1	2.55	0.41
55:4A:403:TYR:HE1	67:4M:7:ARG:NH2	2.18	0.41
56:4B:171:LYS:HE3	56:4B:171:LYS:HB2	1.90	0.41
57:4C:19:THR:HG23	64:4J:39:CYS:SG	2.61	0.41
85:4C:302:PGV:H02	85:4C:302:PGV:H21	1.73	0.41
62:4H:9:LYS:HE3	62:4H:9:LYS:HB3	1.85	0.41
2:1B:174:ARG:O	2:1B:178:ARG:HG2	2.21	0.41
3:1C:133:GLU:O	3:1C:137:MET:HG2	2.21	0.41
4:1D:62:LEU:HD22	4:1D:425:PHE:HZ	1.85	0.41
5:1E:199:LEU:HD11	6:1F:26:TYR:CE2	2.56	0.41
7:1G:447:LYS:HB2	7:1G:447:LYS:HE2	1.74	0.41
7:1G:616:LEU:HA	7:1G:619:VAL:HG12	2.03	0.41
9:1I:95:GLU:HG3	9:1I:108:ARG:HD2	2.03	0.41
12:1L:211:MET:HB3	12:1L:212:PRO:HD3	2.02	0.41
13:1M:7:PRO:HB3	31:1f:16:VAL:HG13	2.02	0.41
13:1M:197:LEU:O	13:1M:201:MET:HG2	2.21	0.41
13:1M:206:LYS:HE3	13:1M:206:LYS:HB3	1.94	0.41
13:1M:207:MET:HE3	13:1M:207:MET:HB3	1.87	0.41
14:1N:112:HIS:CE1	14:1N:164:ILE:HG21	2.55	0.41
15:1O:310:GLU:HG2	15:1O:314:ASP:O	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:1W:119:LEU:HD12	22:1W:119:LEU:HA	1.83	0.41
25:1Z:129:THR:O	25:1Z:133:ILE:HG23	2.20	0.41
27:1b:78:GLU:HA	27:1b:81:LYS:HE2	2.02	0.41
38:1m:62:PRO:HD2	93:1m:306:HOH:O	2.21	0.41
75:3A:501:CDL:H722	70:3E:302:PC1:H232	2.03	0.41
75:3A:501:CDL:HB22	93:3A:705:HOH:O	2.20	0.41
47:3C:4:ILE:HD12	47:3C:4:ILE:HA	1.87	0.41
47:3C:77:TRP:CD2	48:3D:286:GLU:HG3	2.56	0.41
47:3C:149:LEU:HD22	47:3C:281:LEU:HD11	2.03	0.41
47:3C:237:LEU:HD13	48:3D:301:MET:CG	2.49	0.41
49:3E:270:LEU:O	49:3E:271:VAL:HG22	2.20	0.41
50:3F:107:LYS:HD3	50:3F:108:GLU:N	2.35	0.41
53:3J:34:ARG:HG2	54:3Y:47:TYR:CE2	2.54	0.41
53:3J:54:LYS:HA	53:3J:57:LYS:CE	2.43	0.41
45:3N:351:GLU:HG2	54:3X:12:GLU:OE2	2.20	0.41
93:3N:800:HOH:O	54:3X:17:TRP:HH2	2.03	0.41
47:3P:24:PRO:HB2	47:3P:27:ILE:HG23	2.02	0.41
48:3Q:110:PRO:HA	48:3Q:111:PRO:HD3	1.93	0.41
69:3Y:101:3PE:H351	69:3Y:101:3PE:H321	1.89	0.41
90:4B:304:PSC:H073	90:4B:304:PSC:H041	1.82	0.41
75:4D:201:CDL:H141	75:4D:201:CDL:H721	2.03	0.41
61:4G:48:ILE:O	61:4G:50:TYR:N	2.49	0.41
61:4G:50:TYR:HA	62:4H:80:THR:HG23	2.02	0.41
2:1B:154:GLU:HB3	9:1I:137:PHE:CE2	2.56	0.41
3:1C:34:PRO:HD2	21:1V:98:PRO:O	2.21	0.41
4:1D:183:ARG:NH1	4:1D:210:ASP:OD2	2.31	0.41
4:1D:237:ASN:O	8:1H:284:GLN:NE2	2.47	0.41
5:1E:51:LEU:HG	5:1E:61:LEU:HD11	2.02	0.41
6:1F:337:MET:HB3	6:1F:341:THR:HG21	2.03	0.41
7:1G:171:ASP:CG	7:1G:189:LYS:HD3	2.45	0.41
10:1J:52:LEU:O	10:1J:56:VAL:HG23	2.20	0.41
12:1L:118:PHE:HB2	93:1L:915:HOH:O	2.19	0.41
12:1L:225:ALA:HB1	12:1L:230:HIS:HA	2.01	0.41
12:1L:374:ILE:HD12	93:1k:119:HOH:O	2.21	0.41
12:1L:492:ILE:CG2	85:4J:101:PGV:H343	2.51	0.41
13:1M:186:LEU:HD23	13:1M:253:LEU:HD12	2.03	0.41
15:1O:57:HIS:CD2	15:1O:68:PRO:HB3	2.56	0.41
15:1O:135:LEU:HD13	15:1O:152:TYR:CD2	2.55	0.41
15:1O:195:THR:HG23	15:1O:198:TYR:H	1.86	0.41
18:1R:27:ARG:HE	18:1R:27:ARG:HB3	1.62	0.41
23:1X:152:GLU:H	23:1X:152:GLU:CD	2.16	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:1e:51:ALA:HA	93:1e:267:HOH:O	2.21	0.41
32:1g:100:ARG:HG2	32:1g:106:PRO:O	2.21	0.41
75:1h:202:CDL:H511	75:1h:202:CDL:HB4	1.61	0.41
37:1l:64:TRP:HA	93:1l:302:HOH:O	2.19	0.41
45:3A:80:GLU:HG2	46:3B:284:HIS:HB2	2.03	0.41
45:3A:124:ASP:O	45:3A:128:GLU:HG2	2.20	0.41
47:3C:104:TYR:CD1	47:3C:208:PRO:HA	2.55	0.41
47:3C:115:ILE:HB	47:3C:196:HIS:HD2	1.86	0.41
47:3C:158:THR:HA	47:3C:161:VAL:HG12	2.03	0.41
47:3C:206:ASN:HB3	83:3C:502:HEM:O2D	2.21	0.41
49:3E:212:ILE:O	49:3E:261:PRO:HD2	2.20	0.41
51:3G:35:GLY:O	51:3G:39:VAL:HG23	2.20	0.41
45:3N:38:GLY:O	45:3N:197:LEU:HD12	2.20	0.41
46:3O:221:GLU:O	46:3O:225:ASN:ND2	2.54	0.41
47:3P:67:THR:HG21	48:3Q:45:TYR:CD1	2.56	0.41
47:3P:131:TYR:O	47:3P:134:PRO:HD2	2.20	0.41
49:3R:184:ILE:HG21	49:3R:184:ILE:HD13	1.80	0.41
52:3U:69:VAL:HA	93:3U:128:HOH:O	2.21	0.41
55:4A:407:GLN:O	55:4A:411:LYS:HG3	2.21	0.41
57:4C:3:HIS:NE2	60:4F:96:LEU:HD11	2.36	0.41
57:4C:103:HIS:HA	85:4C:304:PGV:O02	2.21	0.41
59:4E:84:TYR:HA	59:4E:87:GLN:HG2	2.03	0.41
2:1B:91:THR:HA	2:1B:119:CYS:HB3	2.03	0.41
3:1C:171:TYR:CD1	17:1Q:78:PRO:HG2	2.56	0.41
4:1D:76:CYS:N	4:1D:403:ASP:OD1	2.48	0.41
5:1E:63:ILE:HD12	5:1E:63:ILE:HA	1.94	0.41
6:1F:138:ILE:HG21	6:1F:146:ALA:HB2	2.03	0.41
6:1F:185:ILE:HG23	93:1F:637:HOH:O	2.20	0.41
6:1F:293:ASN:OD1	6:1F:339:ARG:HB2	2.20	0.41
7:1G:399:TRP:O	17:1Q:127:ARG:HD2	2.20	0.41
69:1J:201:3PE:H3A2	69:1J:201:3PE:H3E2	2.02	0.41
12:1L:544:MET:HE3	13:1M:271:MET:HE1	2.02	0.41
13:1M:71:TRP:O	13:1M:74:PRO:HD2	2.21	0.41
13:1M:458:LEU:HA	13:1M:458:LEU:HD23	1.75	0.41
69:1M:504:3PE:H282	69:1M:504:3PE:H2B1	1.93	0.41
15:1O:13:ARG:HG3	15:1O:16:ARG:HH21	1.84	0.41
15:1O:23:LYS:HA	15:1O:167:HIS:CD2	2.56	0.41
19:1S:29:SER:O	19:1S:33:ARG:HG3	2.21	0.41
21:1V:75:GLN:O	21:1V:78:GLU:HG2	2.20	0.41
23:1X:10:GLU:HA	23:1X:13:LYS:HE3	2.02	0.41
24:1Y:129:LEU:HD23	24:1Y:129:LEU:HA	1.92	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:1c:34:GLN:HE21	28:1c:38:ASP:CG	2.29	0.41
33:1h:8:LEU:HA	34:1i:26:GLU:HA	2.03	0.41
38:1m:90:ALA:HA	38:1m:94:ILE:HD13	2.03	0.41
41:1p:50:PHE:O	41:1p:54:GLN:HG2	2.21	0.41
45:3A:390:ILE:HD13	93:3A:671:HOH:O	2.20	0.41
47:3C:98:VAL:O	47:3C:102:LEU:HG	2.21	0.41
47:3C:153:ILE:HA	47:3C:154:PRO:HD3	1.96	0.41
50:3F:114:LYS:HD2	93:3F:224:HOH:O	2.19	0.41
45:3N:2:ALA:HB1	93:3N:771:HOH:O	2.20	0.41
45:3N:281:ASP:HB3	45:3N:284:TYR:CE1	2.56	0.41
45:3N:442:PHE:CD1	70:3R:303:PC1:H122	2.55	0.41
49:3R:163:LYS:HB2	49:3R:163:LYS:HE2	1.88	0.41
49:3R:241:SER:HB2	72:3R:301:FES:S1	2.61	0.41
69:3R:302:3PE:H3B1	70:3R:303:PC1:H3F2	2.02	0.41
56:4B:12:ALA:O	56:4B:188:ARG:NH1	2.54	0.41
85:4B:301:PGV:H102	85:4B:301:PGV:H131	1.92	0.41
75:4B:302:CDL:H811	75:4B:302:CDL:H262	2.03	0.41
4:1D:281:VAL:HG21	4:1D:310:ILE:HG23	2.02	0.41
4:1D:299:CYS:O	4:1D:303:GLU:HG3	2.20	0.41
6:1F:48:ILE:HD11	6:1F:236:ARG:HG3	2.02	0.41
6:1F:115:PRO:O	6:1F:119:VAL:HG23	2.20	0.41
6:1F:393:TRP:O	6:1F:397:LYS:HG2	2.19	0.41
7:1G:159:CYS:HA	7:1G:202:ILE:HD11	2.03	0.41
7:1G:406:VAL:HG11	7:1G:417:TYR:HE1	1.86	0.41
7:1G:640:ASN:CG	7:1G:641:TYR:H	2.26	0.41
7:1G:682:GLN:N	93:1G:914:HOH:O	2.53	0.41
12:1L:267:MET:HE3	12:1L:267:MET:HB2	1.81	0.41
12:1L:271:LYS:HD3	12:1L:271:LYS:HA	1.64	0.41
12:1L:316:THR:HG23	12:1L:325:ALA:HB2	2.02	0.41
12:1L:386:LEU:HD13	35:1j:36:ILE:HD11	2.02	0.41
12:1L:407:TRP:O	12:1L:411:MET:HG2	2.20	0.41
13:1M:1:FME:SD	13:1M:111:THR:HG21	2.61	0.41
13:1M:6:ILE:HD11	31:1f:26:LEU:HD12	2.02	0.41
13:1M:197:LEU:HB3	69:1M:501:3PE:H2C2	2.02	0.41
13:1M:216:LEU:HB3	13:1M:217:PRO:HD3	2.03	0.41
15:1O:207:LYS:HA	15:1O:211:LEU:HD12	2.02	0.41
15:1O:223:TYR:OH	15:1O:237:ASP:OD2	2.32	0.41
16:1P:97:ARG:NH1	78:1P:402:NDP:O3X	2.54	0.41
17:1Q:16:LYS:HA	17:1Q:16:LYS:HD2	1.77	0.41
20:1U:19:LEU:HD13	93:1U:120:HOH:O	2.21	0.41
23:1X:165:ARG:O	33:1h:104:ARG:NH1	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:1Y:36:SER:O	24:1Y:40:ILE:HD13	2.20	0.41
27:1b:68:HIS:CE1	27:1b:70:GLN:HG3	2.56	0.41
75:1d:202:CDL:H512	75:1d:202:CDL:HA21	2.01	0.41
39:1n:55:ASP:OD2	45:3N:193:PRO:HB2	2.20	0.41
41:1p:6:LYS:H	41:1p:6:LYS:HG2	1.69	0.41
46:3B:101:THR:HG22	49:3I:65:VAL:HG12	2.03	0.41
47:3C:10:LEU:HB3	47:3C:11:MET:HE2	2.03	0.41
47:3C:137:GLN:HB2	47:3C:254:ASP:O	2.20	0.41
48:3D:261:ASP:OD1	48:3D:262:ASP:N	2.54	0.41
49:3E:117:ILE:HD11	69:3G:101:3PE:O32	2.21	0.41
49:3E:235:TYR:N	49:3E:243:TYR:HB2	2.35	0.41
45:3N:19:LEU:HB2	45:3N:21:ASN:OD1	2.20	0.41
45:3N:87:ASN:HB3	45:3N:98:TYR:CZ	2.55	0.41
45:3N:135:LEU:HD23	45:3N:135:LEU:HA	1.94	0.41
45:3N:140:GLU:O	45:3N:143:SER:OG	2.37	0.41
45:3N:209:LEU:HD12	45:3N:209:LEU:HA	1.83	0.41
45:3N:237:THR:HG21	51:3T:18:LEU:HD11	2.02	0.41
46:3O:195:VAL:O	46:3O:199:PHE:HB2	2.20	0.41
48:3Q:219:VAL:HG21	70:3R:303:PC1:H372	2.03	0.41
55:4A:23:GLY:HA3	55:4A:73:ILE:HG13	2.02	0.41
55:4A:110:LEU:HD22	85:4A:601:PGV:H181	2.01	0.41
55:4A:440:TYR:CZ	56:4B:205:SER:HA	2.56	0.41
55:4A:440:TYR:OH	56:4B:195:GLN:HB3	2.21	0.41
55:4A:470:PHE:CG	67:4M:19:LEU:HD13	2.56	0.41
75:4B:302:CDL:H811	75:4B:302:CDL:H242	2.03	0.41
1:1A:1:FME:HE2	25:1Z:142:TRP:CZ3	2.56	0.41
70:1B:202:PC1:H3A1	70:1B:202:PC1:H2A1	2.03	0.41
3:1C:39:GLN:HB3	3:1C:51:PHE:CD1	2.56	0.41
6:1F:90:PRO:O	6:1F:218:CYS:HB3	2.21	0.41
6:1F:93:LEU:O	6:1F:134:ALA:HA	2.20	0.41
6:1F:247:ARG:NH2	6:1F:320:ASP:HB2	2.36	0.41
6:1F:376:MET:O	6:1F:380:VAL:HG23	2.21	0.41
6:1F:385:ARG:O	6:1F:388:GLU:HG3	2.20	0.41
8:1H:183:MET:HE3	70:1Z:201:PC1:H281	2.03	0.41
8:1H:307:LEU:HB3	8:1H:308:PRO:HD3	2.03	0.41
10:1J:135:PHE:CD2	25:1Z:68:ARG:HD3	2.55	0.41
12:1L:37:LYS:HB3	12:1L:37:LYS:HE2	1.88	0.41
12:1L:514:LYS:HE2	12:1L:515:TYR:O	2.21	0.41
13:1M:310:MET:HG2	13:1M:455:LEU:O	2.21	0.41
15:1O:14:THR:HA	15:1O:17:LYS:HE2	2.02	0.41
26:1a:50:ARG:O	26:1a:54:ILE:HG23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:1i:5:PRO:O	34:1i:8:LYS:HE3	2.21	0.41
34:1i:54:ALA:O	34:1i:58:ASN:N	2.42	0.41
45:3A:34:THR:HG22	45:3A:102:LEU:HD23	2.03	0.41
75:3A:501:CDL:H1	69:3A:503:3PE:C3	2.51	0.41
48:3D:326:TYR:CZ	48:3D:328:PRO:HB3	2.56	0.41
49:3E:199:GLN:OE1	49:3E:204:ARG:HB3	2.21	0.41
69:3G:101:3PE:H351	69:3G:101:3PE:H322	1.97	0.41
45:3N:106:LEU:HD22	45:3N:203:VAL:HG23	2.03	0.41
46:3O:222:ARG:HE	46:3O:222:ARG:HB3	1.67	0.41
49:3R:136:PHE:HB3	69:3R:302:3PE:H2H1	2.03	0.41
49:3R:170:ARG:HG2	49:3R:274:GLY:O	2.21	0.41
55:4A:449:ALA:O	55:4A:453:ILE:HG12	2.20	0.41
56:4B:215:PRO:HG2	63:4I:57:MET:HE1	2.02	0.41
57:4C:161:GLN:O	57:4C:165:ILE:HG13	2.21	0.41
85:4C:303:PGV:H302	85:4C:303:PGV:H343	2.03	0.41
75:4C:306:CDL:H111	75:4C:306:CDL:H152	2.03	0.41
85:4K:101:PGV:O14	85:4K:101:PGV:O05	2.38	0.41
1:1A:94:LEU:HD23	1:1A:94:LEU:HA	1.93	0.40
2:1B:91:THR:HG23	2:1B:119:CYS:HB3	2.03	0.40
6:1F:294:LEU:HB3	6:1F:309:LYS:HG3	2.03	0.40
7:1G:122:MET:HA	43:1r:60:ARG:HH22	1.85	0.40
7:1G:215:PHE:CG	9:1I:104:ARG:HG3	2.56	0.40
9:1I:3:LYS:HE3	43:1r:109:GLN:O	2.22	0.40
9:1I:161:TRP:CE3	42:1q:84:PRO:HB3	2.55	0.40
10:1J:27:ILE:HD12	10:1J:27:ILE:HA	1.93	0.40
12:1L:289:ALA:O	12:1L:293:ILE:HG23	2.21	0.40
13:1M:8:THR:HG21	13:1M:103:GLN:HG2	2.03	0.40
14:1N:89:MET:SD	14:1N:95:MET:HA	2.61	0.40
14:1N:179:MET:SD	93:1N:1137:HOH:O	2.62	0.40
15:1O:23:LYS:HB3	15:1O:167:HIS:HB2	2.03	0.40
15:1O:144:ILE:HG13	93:1O:577:HOH:O	2.21	0.40
17:1Q:54:LYS:NZ	21:1V:115:ILE:O	2.52	0.40
23:1X:23:VAL:HG21	26:1a:65:GLY:HA2	2.03	0.40
30:1e:23:GLU:OE1	93:1e:202:HOH:O	2.22	0.40
32:1g:114:ASP:HA	32:1g:115:PRO:HD2	1.97	0.40
33:1h:19:ARG:O	33:1h:23:LYS:HG2	2.22	0.40
43:1r:39:LYS:HA	43:1r:39:LYS:HD2	1.88	0.40
45:3A:178:SER:O	45:3A:182:LEU:HG	2.21	0.40
45:3A:311:ASN:HB2	93:3A:658:HOH:O	2.20	0.40
46:3B:39:GLU:CD	46:3B:113:ARG:HH22	2.25	0.40
48:3D:291:LYS:HB2	93:3J:101:HOH:O	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:3N:87:ASN:ND2	45:3N:98:TYR:OH	2.42	0.40
51:3T:72:LYS:HD2	52:3U:52:GLU:HG3	2.03	0.40
55:4A:319:LYS:HE3	55:4A:319:LYS:HB3	1.95	0.40
85:4B:301:PGV:H232	75:4D:201:CDL:H401	2.03	0.40
57:4C:30:GLY:HA2	57:4C:42:LEU:HB3	2.03	0.40
85:4C:305:PGV:O13	85:4C:305:PGV:O05	2.32	0.40
60:4F:44:GLU:H	60:4F:44:GLU:HG2	1.71	0.40
62:4H:14:ALA:HB3	62:4H:63:PHE:HE1	1.86	0.40
5:1E:23:PHE:HB2	5:1E:28:TYR:CE2	2.57	0.40
5:1E:31:ILE:HG13	5:1E:53:LEU:HD23	2.02	0.40
6:1F:90:PRO:HD2	6:1F:218:CYS:SG	2.61	0.40
6:1F:137:TYR:HB3	6:1F:192:LEU:HD11	2.03	0.40
6:1F:306:LEU:HD13	6:1F:347:ILE:HD11	2.04	0.40
7:1G:144:PRO:HB3	7:1G:698:VAL:HG21	2.02	0.40
7:1G:693:GLU:HG2	7:1G:697:ALA:HB2	2.03	0.40
8:1H:66:SER:HA	8:1H:122:ALA:O	2.20	0.40
12:1L:186:MET:HE2	12:1L:186:MET:HB3	1.94	0.40
13:1M:131:ILE:HD12	14:1N:302:LEU:HD21	2.04	0.40
14:1N:270:MET:HB3	14:1N:275:SER:HB3	2.03	0.40
16:1P:147:ARG:O	16:1P:151:VAL:HG23	2.21	0.40
23:1X:84:TYR:CE1	23:1X:103:GLN:HB2	2.56	0.40
24:1Y:18:HIS:CD2	24:1Y:19:ARG:HG2	2.56	0.40
29:1d:46:ASN:HD22	29:1d:51:ARG:HD2	1.86	0.40
29:1d:64:TYR:CZ	75:1d:202:CDL:H312	2.56	0.40
42:1q:53:LYS:HB2	42:1q:53:LYS:HE2	1.86	0.40
45:3A:316:GLU:OE1	45:3A:316:GLU:N	2.54	0.40
75:3A:501:CDL:H152	69:3A:503:3PE:H381	2.03	0.40
48:3D:129:HIS:CE1	48:3D:199:PRO:HD2	2.52	0.40
51:3G:47:ILE:HD12	51:3G:47:ILE:HA	1.91	0.40
52:3H:53:GLU:HA	52:3H:56:ILE:HD12	2.03	0.40
45:3N:392:LEU:HD23	45:3N:395:TRP:HD1	1.87	0.40
46:3O:160:LEU:HD12	49:3V:64:LEU:HD13	2.03	0.40
47:3P:55:TYR:HB2	93:3P:701:HOH:O	2.20	0.40
49:3R:133:VAL:O	49:3R:137:VAL:HG23	2.21	0.40
54:3X:42:LEU:HA	54:3X:42:LEU:HD23	1.80	0.40
59:4E:36:LEU:HA	59:4E:39:TYR:CE2	2.56	0.40
1:1A:73:LEU:HD23	1:1A:73:LEU:HA	1.79	0.40
2:1B:84:ASP:O	2:1B:111:ARG:HA	2.21	0.40
4:1D:78:PRO:HG3	4:1D:402:LEU:HD23	2.03	0.40
6:1F:138:ILE:O	6:1F:180:GLY:N	2.49	0.40
7:1G:366:THR:O	7:1G:367:THR:OG1	2.30	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:1I:158:GLY:O	9:1I:162:GLU:HB2	2.21	0.40
11:1K:4:VAL:HA	11:1K:7:ASN:HD22	1.87	0.40
13:1M:16:TRP:HA	13:1M:93:LYS:HD3	2.02	0.40
13:1M:398:MET:O	13:1M:402:ILE:HG13	2.22	0.40
13:1M:434:ASN:HB3	33:1h:21:PHE:CE2	2.56	0.40
14:1N:287:LEU:HB3	69:1N:901:3PE:H291	2.03	0.40
30:1e:28:ILE:HA	30:1e:29:PRO:HD3	1.96	0.40
37:1l:82:ASP:OD1	37:1l:82:ASP:N	2.54	0.40
38:1m:81:PRO:HD2	70:1m:201:PC1:O13	2.21	0.40
42:1q:49:TYR:HB2	42:1q:61:TRP:CE2	2.56	0.40
45:3A:240:GLU:HG2	93:3G:231:HOH:O	2.22	0.40
45:3A:410:VAL:HB	93:3A:699:HOH:O	2.22	0.40
49:3E:191:GLU:HG3	49:3E:194:GLN:H	1.86	0.40
45:3N:432:PRO:HB2	45:3N:437:ILE:HG13	2.02	0.40
46:3O:190:GLN:HB2	93:3O:502:HOH:O	2.21	0.40
47:3P:5:ARG:NH1	47:3P:15:ASN:OD1	2.52	0.40
47:3P:185:LEU:HD23	47:3P:185:LEU:HA	1.85	0.40
49:3R:248:ARG:HH11	49:3R:257:ASN:HB3	1.86	0.40
50:3S:12:TRP:NE1	50:3S:14:GLU:HB2	2.36	0.40
54:3X:8:PRO:O	54:3X:11:ARG:HG2	2.21	0.40
57:4C:112:LEU:HB3	57:4C:118:PRO:HB3	2.03	0.40
75:4D:201:CDL:H162	75:4D:201:CDL:H751	2.03	0.40
1:1A:113:TRP:CZ2	8:1H:286:MET:HG3	2.57	0.40
2:1B:33:LEU:HD13	70:1B:202:PC1:H281	2.04	0.40
3:1C:32:ILE:HG21	3:1C:63:PHE:CE1	2.57	0.40
4:1D:151:ILE:O	4:1D:155:THR:OG1	2.35	0.40
6:1F:108:ARG:HB2	6:1F:142:PHE:CE2	2.57	0.40
12:1L:161:ARG:HH21	39:1n:90:TYR:N	2.20	0.40
12:1L:249:SER:HB2	12:1L:340:PHE:CD2	2.57	0.40
13:1M:299:VAL:HG11	13:1M:396:MET:HE1	2.02	0.40
14:1N:67:SER:HB2	93:1N:1046:HOH:O	2.20	0.40
15:1O:61:SER:HA	15:1O:66:GLY:HA2	2.02	0.40
15:1O:83:TYR:HB3	15:1O:190:HIS:O	2.22	0.40
75:1X:201:CDL:H232	75:1X:201:CDL:H262	1.89	0.40
25:1Z:97:ILE:HG22	30:1e:81:GLN:HG2	2.03	0.40
32:1g:43:ASP:OD1	39:1n:107:HIS:NE2	2.39	0.40
48:3D:171:ARG:CZ	48:3D:174:LYS:HD2	2.52	0.40
50:3F:83:ARG:O	50:3F:85:GLN:HG2	2.22	0.40
45:3N:439:SER:HB3	69:3N:503:3PE:C11	2.50	0.40
45:3N:443:TRP:HB3	45:3N:445:ARG:HG2	2.02	0.40
46:3O:199:PHE:O	46:3O:227:ARG:NE	2.41	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:3P:216:ASP:HB3	93:3P:638:HOH:O	2.20	0.40
48:3Q:238:ARG:O	51:3T:12:HIS:HB3	2.20	0.40
56:4B:108:TYR:HD2	93:4B:423:HOH:O	2.03	0.40
56:4B:179:LEU:HD23	93:4H:202:HOH:O	2.22	0.40
57:4C:117:PRO:HA	57:4C:118:PRO:HD3	1.97	0.40
75:4D:201:CDL:H1O1	75:4D:201:CDL:HA62	1.86	0.40
1:1A:72:LEU:O	8:1H:151:LEU:HD11	2.22	0.40
3:1C:109:THR:OG1	3:1C:110:TYR:N	2.53	0.40
7:1G:32:LYS:HB3	7:1G:32:LYS:HE2	1.88	0.40
7:1G:391:PHE:CE2	7:1G:395:ILE:HD11	2.56	0.40
11:1K:15:ALA:CB	11:1K:36:MET:HG3	2.49	0.40
93:1L:1012:HOH:O	41:1p:102:VAL:HG11	2.21	0.40
13:1M:160:LEU:HD13	13:1M:199:CYS:HA	2.04	0.40
14:1N:170:LEU:O	14:1N:295:ARG:NH2	2.38	0.40
16:1P:13:ARG:NH1	93:1P:521:HOH:O	2.54	0.40
18:1R:10:LYS:O	18:1R:33:LYS:NZ	2.43	0.40
19:1S:30:GLN:HG2	19:1S:33:ARG:HH12	1.85	0.40
28:1c:36:LYS:HB2	28:1c:36:LYS:HE3	1.79	0.40
33:1h:12:LYS:HA	39:1n:98:VAL:HG21	2.04	0.40
41:1p:45:THR:O	41:1p:49:GLU:HG3	2.21	0.40
47:3C:348:ILE:HG22	47:3C:352:GLN:OE1	2.21	0.40
48:3D:146:GLU:HG2	48:3D:175:LEU:HD11	2.03	0.40
49:3E:263:TYR:HB3	49:3E:273:VAL:HG13	2.03	0.40
50:3F:25:LEU:HD13	50:3F:28:ILE:HB	2.02	0.40
45:3N:444:LEU:HD11	69:3N:503:3PE:H12	2.02	0.40
48:3Q:134:TYR:CD2	48:3Q:162:PRO:HG3	2.56	0.40
55:4A:9:SER:HB3	55:4A:99:ASN:ND2	2.36	0.40
55:4A:254:ILE:HD12	55:4A:341:ALA:HA	2.03	0.40
55:4A:418:PHE:CE1	85:4B:301:PGV:H061	2.57	0.40
56:4B:195:GLN:HA	56:4B:208:PRO:HA	2.03	0.40
62:4H:14:ALA:HB3	62:4H:63:PHE:CE1	2.57	0.40
65:4K:42:LEU:HD22	85:4K:101:PGV:H202	2.03	0.40

There are no symmetry-related clashes.

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	1A	113/115 (98%)	105 (93%)	6 (5%)	2 (2%)	6	3
2	1B	153/258 (59%)	145 (95%)	8 (5%)	0	100	100
3	1C	207/264 (78%)	204 (99%)	3 (1%)	0	100	100
4	1D	427/476 (90%)	408 (96%)	19 (4%)	0	100	100
5	1E	212/249 (85%)	198 (93%)	14 (7%)	0	100	100
6	1F	430/464 (93%)	410 (95%)	18 (4%)	2 (0%)	24	22
7	1G	697/727 (96%)	672 (96%)	22 (3%)	3 (0%)	30	28
8	1H	316/318 (99%)	297 (94%)	18 (6%)	1 (0%)	36	36
9	1I	174/239 (73%)	169 (97%)	5 (3%)	0	100	100
10	1J	172/175 (98%)	157 (91%)	13 (8%)	2 (1%)	10	7
11	1K	96/98 (98%)	93 (97%)	3 (3%)	0	100	100
12	1L	604/606 (100%)	572 (95%)	30 (5%)	2 (0%)	36	36
13	1M	457/459 (100%)	450 (98%)	6 (1%)	1 (0%)	43	44
14	1N	345/347 (99%)	334 (97%)	10 (3%)	1 (0%)	36	36
15	1O	318/357 (89%)	308 (97%)	10 (3%)	0	100	100
16	1P	340/377 (90%)	324 (95%)	16 (5%)	0	100	100
17	1Q	127/175 (73%)	120 (94%)	7 (6%)	0	100	100
18	1R	94/123 (76%)	88 (94%)	6 (6%)	0	100	100
19	1S	85/99 (86%)	81 (95%)	4 (5%)	0	100	100
20	1T	83/156 (53%)	83 (100%)	0	0	100	100
20	1U	84/156 (54%)	83 (99%)	1 (1%)	0	100	100
21	1V	113/116 (97%)	111 (98%)	2 (2%)	0	100	100
22	1W	113/128 (88%)	109 (96%)	4 (4%)	0	100	100
23	1X	169/172 (98%)	161 (95%)	7 (4%)	1 (1%)	21	18
24	1Y	137/141 (97%)	136 (99%)	1 (1%)	0	100	100
25	1Z	139/144 (96%)	138 (99%)	1 (1%)	0	100	100
26	1a	68/70 (97%)	68 (100%)	0	0	100	100
27	1b	81/84 (96%)	77 (95%)	4 (5%)	0	100	100
28	1c	47/76 (62%)	47 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
29	1d	117/122 (96%)	116 (99%)	1 (1%)	0	100	100
30	1e	97/106 (92%)	93 (96%)	4 (4%)	0	100	100
31	1f	55/135 (41%)	51 (93%)	4 (7%)	0	100	100
32	1g	98/154 (64%)	87 (89%)	11 (11%)	0	100	100
33	1h	136/189 (72%)	134 (98%)	2 (2%)	0	100	100
34	1i	126/128 (98%)	123 (98%)	3 (2%)	0	100	100
35	1j	69/105 (66%)	65 (94%)	4 (6%)	0	100	100
36	1k	79/98 (81%)	76 (96%)	3 (4%)	0	100	100
37	1l	154/186 (83%)	149 (97%)	5 (3%)	0	100	100
38	1m	126/129 (98%)	121 (96%)	5 (4%)	0	100	100
39	1n	170/179 (95%)	163 (96%)	7 (4%)	0	100	100
40	1o	120/137 (88%)	117 (98%)	3 (2%)	0	100	100
41	1p	171/176 (97%)	170 (99%)	1 (1%)	0	100	100
42	1q	143/145 (99%)	141 (99%)	2 (1%)	0	100	100
43	1r	90/113 (80%)	86 (96%)	4 (4%)	0	100	100
44	1s	43/471 (9%)	41 (95%)	2 (5%)	0	100	100
45	3A	436/480 (91%)	423 (97%)	12 (3%)	1 (0%)	43	44
45	3N	444/480 (92%)	424 (96%)	18 (4%)	2 (0%)	24	22
46	3B	414/453 (91%)	397 (96%)	17 (4%)	0	100	100
46	3O	413/453 (91%)	402 (97%)	10 (2%)	1 (0%)	43	44
47	3C	377/379 (100%)	370 (98%)	6 (2%)	1 (0%)	36	36
47	3P	377/379 (100%)	369 (98%)	8 (2%)	0	100	100
48	3D	235/325 (72%)	232 (99%)	3 (1%)	0	100	100
48	3Q	237/325 (73%)	228 (96%)	9 (4%)	0	100	100
49	3E	194/274 (71%)	169 (87%)	24 (12%)	1 (0%)	24	22
49	3I	45/274 (16%)	40 (89%)	4 (9%)	1 (2%)	5	2
49	3R	194/274 (71%)	167 (86%)	23 (12%)	4 (2%)	5	2
49	3V	29/274 (11%)	28 (97%)	1 (3%)	0	100	100
50	3F	96/111 (86%)	95 (99%)	1 (1%)	0	100	100
50	3S	96/111 (86%)	95 (99%)	1 (1%)	0	100	100
51	3G	72/82 (88%)	70 (97%)	2 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
51	3T	72/82 (88%)	71 (99%)	0	1 (1%)	9	5
52	3H	63/91 (69%)	61 (97%)	1 (2%)	1 (2%)	7	4
52	3U	63/91 (69%)	62 (98%)	1 (2%)	0	100	100
53	3J	54/64 (84%)	51 (94%)	1 (2%)	2 (4%)	2	1
53	3W	54/64 (84%)	53 (98%)	1 (2%)	0	100	100
54	3X	50/56 (89%)	47 (94%)	3 (6%)	0	100	100
54	3Y	49/56 (88%)	45 (92%)	4 (8%)	0	100	100
55	4A	512/514 (100%)	500 (98%)	12 (2%)	0	100	100
56	4B	225/227 (99%)	216 (96%)	9 (4%)	0	100	100
57	4C	257/261 (98%)	249 (97%)	8 (3%)	0	100	100
58	4D	137/169 (81%)	130 (95%)	7 (5%)	0	100	100
59	4E	103/152 (68%)	99 (96%)	4 (4%)	0	100	100
60	4F	95/129 (74%)	94 (99%)	1 (1%)	0	100	100
61	4G	73/97 (75%)	69 (94%)	4 (6%)	0	100	100
62	4H	80/86 (93%)	77 (96%)	3 (4%)	0	100	100
63	4I	65/75 (87%)	64 (98%)	1 (2%)	0	100	100
64	4J	56/80 (70%)	55 (98%)	1 (2%)	0	100	100
65	4K	47/80 (59%)	46 (98%)	1 (2%)	0	100	100
66	4L	44/63 (70%)	43 (98%)	1 (2%)	0	100	100
67	4M	41/70 (59%)	41 (100%)	0	0	100	100
68	4N	80/82 (98%)	72 (90%)	7 (9%)	1 (1%)	9	6
All	All	14074/17005 (83%)	13535 (96%)	508 (4%)	31 (0%)	44	44

All (31) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
10	1J	66	VAL
13	1M	82	SER
23	1X	28	ALA
47	3C	270	PRO
49	3E	271	VAL
45	3N	224	VAL
49	3R	150	SER
68	4N	33	VAL
7	1G	155	GLN

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Mol	Chain	Res	Type
8	1H	208	VAL
49	3I	36	ALA
53	3J	54	LYS
49	3R	228	ALA
49	3R	273	VAL
1	1A	52	SER
6	1F	249	ARG
6	1F	297	VAL
7	1G	186	TYR
7	1G	654	GLN
10	1J	78	MET
46	3O	171	ALA
49	3R	181	LYS
1	1A	109	LYS
12	1L	208	CYS
12	1L	601	LEU
14	1N	110	PRO
52	3H	78	ASP
53	3J	58	HIS
51	3T	74	PRO
45	3A	231	PHE
45	3N	71	PRO

5.3.2 Protein sidechains ⓘ

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	1A	99/99 (100%)	93 (94%)	6 (6%)	17	15
2	1B	131/212 (62%)	122 (93%)	9 (7%)	14	12
3	1C	190/227 (84%)	187 (98%)	3 (2%)	55	64
4	1D	371/405 (92%)	363 (98%)	8 (2%)	45	53
5	1E	183/207 (88%)	176 (96%)	7 (4%)	29	32
6	1F	346/368 (94%)	334 (96%)	12 (4%)	32	35
7	1G	588/610 (96%)	571 (97%)	17 (3%)	37	42

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	1H	274/274 (100%)	265 (97%)	9 (3%)	33	37
9	1I	151/201 (75%)	147 (97%)	4 (3%)	40	46
10	1J	140/141 (99%)	131 (94%)	9 (6%)	16	14
11	1K	84/84 (100%)	84 (100%)	0	100	100
12	1L	539/539 (100%)	521 (97%)	18 (3%)	33	37
13	1M	408/408 (100%)	395 (97%)	13 (3%)	34	38
14	1N	310/310 (100%)	303 (98%)	7 (2%)	44	51
15	1O	283/307 (92%)	270 (95%)	13 (5%)	24	25
16	1P	296/323 (92%)	290 (98%)	6 (2%)	48	56
17	1Q	117/152 (77%)	110 (94%)	7 (6%)	17	15
18	1R	79/97 (81%)	77 (98%)	2 (2%)	42	48
19	1S	77/82 (94%)	73 (95%)	4 (5%)	21	20
20	1T	79/133 (59%)	77 (98%)	2 (2%)	42	48
20	1U	79/133 (59%)	73 (92%)	6 (8%)	12	9
21	1V	100/101 (99%)	99 (99%)	1 (1%)	68	76
22	1W	107/112 (96%)	106 (99%)	1 (1%)	70	78
23	1X	153/154 (99%)	150 (98%)	3 (2%)	48	56
24	1Y	101/102 (99%)	96 (95%)	5 (5%)	22	22
25	1Z	123/124 (99%)	119 (97%)	4 (3%)	33	37
26	1a	58/58 (100%)	58 (100%)	0	100	100
27	1b	69/70 (99%)	65 (94%)	4 (6%)	18	16
28	1c	45/66 (68%)	42 (93%)	3 (7%)	15	12
29	1d	106/109 (97%)	102 (96%)	4 (4%)	29	32
30	1e	87/94 (93%)	85 (98%)	2 (2%)	44	51
31	1f	54/113 (48%)	52 (96%)	2 (4%)	30	33
32	1g	92/129 (71%)	91 (99%)	1 (1%)	65	74
33	1h	121/158 (77%)	118 (98%)	3 (2%)	42	48
34	1i	120/120 (100%)	118 (98%)	2 (2%)	53	62
35	1j	62/84 (74%)	59 (95%)	3 (5%)	23	23
36	1k	63/76 (83%)	62 (98%)	1 (2%)	55	64
37	1l	141/161 (88%)	138 (98%)	3 (2%)	47	54

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	1m	113/114 (99%)	111 (98%)	2 (2%)	51	60
39	1n	156/160 (98%)	151 (97%)	5 (3%)	34	38
40	1o	110/119 (92%)	104 (94%)	6 (6%)	19	18
41	1p	154/156 (99%)	150 (97%)	4 (3%)	40	46
42	1q	131/131 (100%)	131 (100%)	0	100	100
43	1r	85/98 (87%)	84 (99%)	1 (1%)	63	72
44	1s	44/351 (12%)	40 (91%)	4 (9%)	9	6
45	3A	367/397 (92%)	365 (100%)	2 (0%)	81	88
45	3N	372/397 (94%)	369 (99%)	3 (1%)	73	81
46	3B	328/355 (92%)	327 (100%)	1 (0%)	86	91
46	3O	327/355 (92%)	326 (100%)	1 (0%)	86	91
47	3C	332/332 (100%)	332 (100%)	0	100	100
47	3P	332/332 (100%)	330 (99%)	2 (1%)	78	86
48	3D	202/258 (78%)	200 (99%)	2 (1%)	68	76
48	3Q	204/258 (79%)	204 (100%)	0	100	100
49	3E	166/225 (74%)	166 (100%)	0	100	100
49	3I	36/225 (16%)	36 (100%)	0	100	100
49	3R	166/225 (74%)	165 (99%)	1 (1%)	78	86
49	3V	24/225 (11%)	24 (100%)	0	100	100
50	3F	90/99 (91%)	90 (100%)	0	100	100
50	3S	90/99 (91%)	90 (100%)	0	100	100
51	3G	67/73 (92%)	67 (100%)	0	100	100
51	3T	67/73 (92%)	66 (98%)	1 (2%)	57	65
52	3H	62/85 (73%)	62 (100%)	0	100	100
52	3U	62/85 (73%)	62 (100%)	0	100	100
53	3J	46/52 (88%)	42 (91%)	4 (9%)	9	7
53	3W	46/52 (88%)	46 (100%)	0	100	100
54	3X	42/46 (91%)	42 (100%)	0	100	100
54	3Y	41/46 (89%)	41 (100%)	0	100	100
55	4A	425/425 (100%)	421 (99%)	4 (1%)	70	78
56	4B	210/210 (100%)	205 (98%)	5 (2%)	43	49

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
57	4C	223/225 (99%)	217 (97%)	6 (3%)	39	45
58	4D	124/149 (83%)	120 (97%)	4 (3%)	34	38
59	4E	92/124 (74%)	88 (96%)	4 (4%)	26	27
60	4F	80/101 (79%)	78 (98%)	2 (2%)	42	48
61	4G	65/80 (81%)	60 (92%)	5 (8%)	12	9
62	4H	73/76 (96%)	70 (96%)	3 (4%)	27	29
63	4I	54/61 (88%)	54 (100%)	0	100	100
64	4J	49/68 (72%)	48 (98%)	1 (2%)	48	56
65	4K	38/66 (58%)	38 (100%)	0	100	100
66	4L	39/55 (71%)	38 (97%)	1 (3%)	40	46
67	4M	37/57 (65%)	37 (100%)	0	100	100
68	4N	70/70 (100%)	66 (94%)	4 (6%)	18	17
All	All	12267/14333 (86%)	11985 (98%)	282 (2%)	44	51

All (282) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	1A	6	THR
1	1A	17	LEU
1	1A	61	THR
1	1A	86	THR
1	1A	98	LEU
1	1A	111	LEU
2	1B	30	VAL
2	1B	37	VAL
2	1B	54	CYS
2	1B	59	MET
2	1B	76	PHE
2	1B	85	VAL
2	1B	91	THR
2	1B	125	TYR
2	1B	133	VAL
3	1C	32	ILE
3	1C	114	LEU
3	1C	115	THR
4	1D	18	VAL
4	1D	29	LYS
4	1D	36	VAL

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Mol	Chain	Res	Type
4	1D	85	ARG
4	1D	95	THR
4	1D	184	VAL
4	1D	281	VAL
4	1D	323	ILE
5	1E	36	LYS
5	1E	121	GLN
5	1E	132	THR
5	1E	149	VAL
5	1E	181	ILE
5	1E	202	LEU
5	1E	203	THR
6	1F	10	THR
6	1F	59	GLU
6	1F	104	THR
6	1F	207	PRO
6	1F	221	THR
6	1F	250	ASN
6	1F	267	THR
6	1F	269	GLU
6	1F	272	MET
6	1F	287	VAL
6	1F	334	VAL
6	1F	395	ILE
7	1G	151	THR
7	1G	193	SER
7	1G	199	ILE
7	1G	216	THR
7	1G	225	THR
7	1G	227	SER
7	1G	335	LEU
7	1G	348	VAL
7	1G	371	VAL
7	1G	376	VAL
7	1G	471	SER
7	1G	475	GLN
7	1G	503	LEU
7	1G	531	CYS
7	1G	613	TYR
7	1G	651	LEU
7	1G	659	ASP
8	1H	72	ILE

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Mol	Chain	Res	Type
8	1H	87	VAL
8	1H	102	VAL
8	1H	105	MET
8	1H	116	ILE
8	1H	119	SER
8	1H	178	SER
8	1H	197	PRO
8	1H	201	THR
9	1I	1	THR
9	1I	7	MET
9	1I	37	THR
9	1I	103	SER
10	1J	31	LEU
10	1J	41	CYS
10	1J	50	SER
10	1J	78	MET
10	1J	97	LEU
10	1J	100	GLU
10	1J	113	VAL
10	1J	151	THR
10	1J	163	ILE
12	1L	71	LEU
12	1L	77	SER
12	1L	140	LEU
12	1L	147	VAL
12	1L	190	LEU
12	1L	206	ASN
12	1L	207	GLU
12	1L	419	THR
12	1L	440	LEU
12	1L	489	THR
12	1L	491	LEU
12	1L	507	THR
12	1L	514	LYS
12	1L	517	SER
12	1L	526	LEU
12	1L	543	SER
12	1L	554	ASP
12	1L	560	THR
13	1M	83	HIS
13	1M	94	LEU
13	1M	104	LEU

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Mol	Chain	Res	Type
13	1M	116	ILE
13	1M	122	PHE
13	1M	253	LEU
13	1M	265	SER
13	1M	303	ILE
13	1M	305	THR
13	1M	350	THR
13	1M	365	THR
13	1M	385	SER
13	1M	391	ILE
14	1N	43	VAL
14	1N	93	VAL
14	1N	109	SER
14	1N	227	THR
14	1N	250	SER
14	1N	268	GLN
14	1N	322	GLN
15	1O	14	THR
15	1O	15	THR
15	1O	18	LEU
15	1O	24	VAL
15	1O	60	ASP
15	1O	87	LYS
15	1O	106	LEU
15	1O	154	GLU
15	1O	206	TYR
15	1O	209	THR
15	1O	217	LYS
15	1O	263	VAL
15	1O	282	ILE
16	1P	85	VAL
16	1P	126	VAL
16	1P	275	PHE
16	1P	311	GLU
16	1P	318	LEU
16	1P	340	VAL
17	1Q	22	LEU
17	1Q	44	ASN
17	1Q	61	THR
17	1Q	80	SER
17	1Q	105	VAL
17	1Q	112	LYS

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Mol	Chain	Res	Type
17	1Q	128	THR
18	1R	58	SER
18	1R	83	THR
19	1S	58	SER
19	1S	76	VAL
19	1S	87	THR
19	1S	93	VAL
20	1T	70	LEU
20	1T	76	ILE
20	1U	19	LEU
20	1U	31	SER
20	1U	37	MET
20	1U	64	ASP
20	1U	77	VAL
20	1U	86	VAL
21	1V	103	VAL
22	1W	22	SER
23	1X	63	ASN
23	1X	99	CYS
23	1X	130	VAL
24	1Y	11	ILE
24	1Y	39	SER
24	1Y	47	SER
24	1Y	68	ILE
24	1Y	76	SER
25	1Z	34	SER
25	1Z	113	THR
25	1Z	133	ILE
25	1Z	137	THR
27	1b	21	SER
27	1b	34	LEU
27	1b	54	VAL
27	1b	83	LEU
28	1c	4	ILE
28	1c	19	LEU
28	1c	21	LEU
29	1d	14	LEU
29	1d	43	LEU
29	1d	53	VAL
29	1d	65	VAL
30	1e	18	THR
30	1e	57	ILE

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Mol	Chain	Res	Type
31	1f	4	LEU
31	1f	45	LYS
32	1g	101	GLU
33	1h	36	VAL
33	1h	103	LEU
33	1h	113	LEU
34	1i	58	ASN
34	1i	71	VAL
35	1j	29	SER
35	1j	44	SER
35	1j	67	LEU
36	1k	63	VAL
37	1l	5	THR
37	1l	146	PRO
37	1l	158	ILE
38	1m	87	LEU
38	1m	106	THR
39	1n	52	ASN
39	1n	84	SER
39	1n	122	GLU
39	1n	135	GLU
39	1n	169	ILE
40	1o	19	LEU
40	1o	30	PHE
40	1o	34	LYS
40	1o	39	VAL
40	1o	49	GLN
40	1o	52	LEU
41	1p	11	GLU
41	1p	35	ILE
41	1p	119	SER
41	1p	134	VAL
43	1r	24	GLN
44	1s	37	THR
44	1s	47	SER
44	1s	48	THR
44	1s	59	SER
45	3A	68	LYS
45	3A	184	GLU
46	3B	424	MET
48	3D	156	VAL
48	3D	259	GLU

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Mol	Chain	Res	Type
53	3J	54	LYS
53	3J	56	ILE
53	3J	57	LYS
53	3J	58	HIS
45	3N	112	LEU
45	3N	117	VAL
45	3N	284	TYR
46	3O	211	VAL
47	3P	284	ILE
47	3P	352	GLN
49	3R	263	TYR
51	3T	47	ARG
55	4A	208	MET
55	4A	316	THR
55	4A	436	MET
55	4A	513	LEU
56	4B	27	THR
56	4B	33	LEU
56	4B	54	SER
56	4B	138	VAL
56	4B	149	THR
57	4C	29	SER
57	4C	44	SER
57	4C	129	VAL
57	4C	192	VAL
57	4C	245	VAL
57	4C	247	VAL
58	4D	15	VAL
58	4D	17	VAL
58	4D	27	VAL
58	4D	42	GLU
59	4E	17	THR
59	4E	47	ILE
59	4E	87	GLN
59	4E	109	VAL
60	4F	49	VAL
60	4F	76	LYS
61	4G	15	THR
61	4G	25	LEU
61	4G	30	LEU
61	4G	64	ASP
61	4G	75	VAL

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Mol	Chain	Res	Type
62	4H	6	THR
62	4H	12	GLN
62	4H	50	VAL
64	4J	10	LYS
66	4L	14	SER
68	4N	6	ILE
68	4N	14	SER
68	4N	33	VAL
68	4N	69	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (119) such sidechains are listed below:

Mol	Chain	Res	Type
1	1A	26	GLN
3	1C	41	GLN
3	1C	69	ASN
3	1C	88	ASN
3	1C	160	HIS
4	1D	13	GLN
4	1D	150	HIS
4	1D	157	HIS
4	1D	201	GLN
5	1E	58	ASN
6	1F	200	GLN
6	1F	250	ASN
6	1F	373	ASN
6	1F	398	GLN
7	1G	82	ASN
7	1G	110	GLN
7	1G	141	ASN
11	1K	52	HIS
12	1L	30	ASN
12	1L	296	ASN
12	1L	321	GLN
12	1L	400	ASN
12	1L	447	ASN
12	1L	524	ASN
12	1L	540	HIS
12	1L	605	HIS
13	1M	81	GLN
13	1M	144	ASN
13	1M	220	HIS

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Mol	Chain	Res	Type
13	1M	331	ASN
13	1M	422	HIS
14	1N	172	GLN
14	1N	268	GLN
14	1N	322	GLN
15	1O	114	HIS
15	1O	200	GLN
15	1O	204	ASN
15	1O	288	GLN
16	1P	8	HIS
16	1P	131	HIS
16	1P	234	ASN
20	1U	33	ASN
22	1W	26	ASN
22	1W	51	GLN
22	1W	95	ASN
23	1X	72	GLN
23	1X	94	GLN
25	1Z	76	GLN
26	1a	40	HIS
26	1a	46	ASN
27	1b	68	HIS
29	1d	46	ASN
29	1d	59	HIS
29	1d	61	GLN
29	1d	97	HIS
32	1g	57	ASN
32	1g	103	ASN
33	1h	44	ASN
34	1i	25	GLN
34	1i	125	GLN
36	1k	58	ASN
37	1l	99	ASN
37	1l	132	GLN
39	1n	11	HIS
39	1n	77	GLN
40	1o	3	HIS
40	1o	49	GLN
41	1p	27	ASN
41	1p	130	GLN
42	1q	5	GLN
43	1r	50	ASN

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Mol	Chain	Res	Type
45	3A	21	ASN
45	3A	52	ASN
45	3A	53	ASN
45	3A	87	ASN
45	3A	118	GLN
45	3A	165	GLN
45	3A	207	GLN
45	3A	215	HIS
45	3A	271	GLN
46	3B	143	GLN
46	3B	156	GLN
46	3B	297	GLN
46	3B	394	GLN
47	3C	54	HIS
47	3C	97	HIS
47	3C	267	HIS
47	3C	341	GLN
48	3D	119	GLN
48	3D	238	ASN
48	3D	270	GLN
52	3H	88	HIS
53	3J	49	GLN
45	3N	9	GLN
45	3N	118	GLN
45	3N	119	ASN
45	3N	215	HIS
45	3N	308	GLN
46	3O	143	GLN
46	3O	305	GLN
46	3O	351	ASN
46	3O	401	GLN
46	3O	432	HIS
47	3P	16	ASN
47	3P	221	HIS
47	3P	341	GLN
48	3Q	150	ASN
49	3R	219	HIS
49	3R	257	ASN
51	3T	64	GLN
53	3W	57	HIS
55	4A	43	GLN
57	4C	76	GLN

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Mol	Chain	Res	Type
57	4C	133	ASN
58	4D	37	GLN
61	4G	72	ASN
61	4G	84	GLN
68	4N	8	GLN
68	4N	69	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

7 non-standard protein/DNA/RNA residues are 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	$\# Z > 2$
11	FME	1K	1	11	8,9,10	0.53	0	8,9,11	0.98	1 (12%)
8	FME	1H	1	8	8,9,10	0.55	0	8,9,11	1.04	1 (12%)
56	FME	4B	1	56	8,9,10	0.95	0	8,9,11	0.91	0
13	FME	1M	1	13	8,9,10	0.54	0	8,9,11	1.08	1 (12%)
12	FME	1L	1	12	8,9,10	0.55	0	8,9,11	0.91	1 (12%)
14	FME	1N	1	14	8,9,10	0.56	0	8,9,11	0.96	1 (12%)
1	FME	1A	1	1	8,9,10	0.55	0	8,9,11	1.02	1 (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
11	FME	1K	1	11	-	2/7/9/11	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
8	FME	1H	1	8	-	1/7/9/11	-
56	FME	4B	1	56	-	4/7/9/11	-
13	FME	1M	1	13	-	1/7/9/11	-
12	FME	1L	1	12	-	0/7/9/11	-
14	FME	1N	1	14	-	0/7/9/11	-
1	FME	1A	1	1	-	1/7/9/11	-

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	1K	1	FME	O-C-CA	-2.67	117.91	124.77
8	1H	1	FME	O-C-CA	-2.66	117.93	124.77
13	1M	1	FME	O-C-CA	-2.65	117.94	124.77
14	1N	1	FME	O-C-CA	-2.62	118.04	124.77
1	1A	1	FME	O-C-CA	-2.46	118.44	124.77
12	1L	1	FME	O-C-CA	-2.41	118.57	124.77

There are no chirality outliers.

All (9) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
8	1H	1	FME	O1-CN-N-CA
56	4B	1	FME	O1-CN-N-CA
56	4B	1	FME	C-CA-CB-CG
11	1K	1	FME	N-CA-CB-CG
56	4B	1	FME	N-CA-CB-CG
56	4B	1	FME	CB-CG-SD-CE
11	1K	1	FME	C-CA-CB-CG
13	1M	1	FME	C-CA-CB-CG
1	1A	1	FME	CB-CG-SD-CE

There are no ring outliers.

5 monomers are involved in 10 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
11	1K	1	FME	2	0
56	4B	1	FME	1	0
13	1M	1	FME	2	0
14	1N	1	FME	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	1A	1	FME	3	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 109 ligands modelled in this entry, 7 are monoatomic - leaving 102 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	$\# Z > 2$
75	CDL	3T	101	-	56,56,99	0.36	0	62,68,111	0.71	2 (3%)
72	FES	3E	301	49	0,4,4	-	-	-		
70	PC1	1Z	201	-	43,43,53	0.28	0	49,51,61	0.33	0
73	FMN	1F	501	-	33,33,33	0.62	0	48,50,50	0.66	1 (2%)
85	PGV	4A	602	-	50,50,50	0.28	0	53,56,56	0.36	0
85	PGV	4C	303	-	50,50,50	0.29	0	53,56,56	0.33	0
69	3PE	3Y	101	-	29,29,50	0.36	0	32,34,55	0.46	0
80	EHZ	1n	201	-	31,36,37	0.18	0	36,44,47	1.12	1 (2%)
75	CDL	4C	306	-	99,99,99	0.27	0	105,111,111	0.41	1 (0%)
71	SF4	1G	802	7	0,12,12	-	-	-		
85	PGV	4C	307	-	50,50,50	0.29	0	53,56,56	0.36	0
75	CDL	1q	202	-	60,60,99	0.34	0	66,72,111	0.43	0
72	FES	3R	301	49	0,4,4	-	-	-		
85	PGV	4L	101	-	50,50,50	0.30	0	53,56,56	0.38	0
85	PGV	4A	601	-	50,50,50	0.27	0	53,56,56	0.32	0
83	HEM	3C	502	47	50,50,50	1.59	9 (18%)	67,82,82	1.56	11 (16%)
69	3PE	1N	901	-	48,48,50	0.32	0	51,53,55	0.41	0
69	3PE	1L	704	-	30,30,50	0.34	0	33,35,55	0.69	1 (3%)
69	3PE	1N	903	-	32,32,50	0.33	0	35,37,55	0.44	0
75	CDL	1d	202	-	64,64,99	0.33	0	70,76,111	0.41	0
75	CDL	3A	501	-	57,57,99	0.34	0	63,69,111	0.55	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
85	PGV	4C	305	-	50,50,50	0.30	0	53,56,56	0.57	1 (1%)
69	3PE	1Y	202	-	39,39,50	0.29	0	42,44,55	0.40	0
86	HEA	4A	605	55	67,67,67	2.46	25 (37%)	81,103,103	2.49	34 (41%)
75	CDL	3N	502	-	42,42,99	0.40	0	48,54,111	0.62	0
71	SF4	1B	201	2	0,12,12	-	-	-		
85	PGV	4M	101	-	50,50,50	0.29	0	53,56,56	0.31	0
75	CDL	1L	702	-	75,75,99	0.29	0	81,87,111	0.39	0
70	PC1	1P	401	-	32,32,53	0.33	0	38,40,61	0.47	0
85	PGV	4C	301	-	50,50,50	0.28	0	53,56,56	0.32	0
71	SF4	1G	801	7	0,12,12	-	-	-		
71	SF4	1I	202	9	0,12,12	-	-	-		
75	CDL	4D	201	-	99,99,99	0.27	0	105,111,111	0.38	0
86	HEA	4A	604	55	67,67,67	2.45	25 (37%)	81,103,103	2.52	33 (40%)
75	CDL	3G	102	-	51,51,99	0.36	0	57,63,111	0.66	1 (1%)
84	HEC	3Q	501	48	46,50,50	2.57	25 (54%)	58,82,82	2.14	18 (31%)
69	3PE	1L	701	-	45,45,50	0.31	0	48,50,55	0.47	0
69	3PE	3A	503	-	31,31,50	0.35	0	34,36,55	0.42	0
70	PC1	3E	302	-	46,46,53	0.28	0	52,54,61	0.39	0
69	3PE	3G	101	-	28,28,50	0.35	0	31,33,55	0.44	0
70	PC1	1I	201	-	53,53,53	0.27	0	59,61,61	0.38	0
89	CUA	4B	303	56	0,1,1	-	-	-		
70	PC1	1M	503	-	43,43,53	0.32	0	49,51,61	0.37	0
76	GTP	1O	401	77	33,34,34	0.58	0	50,54,54	0.65	0
85	PGV	4G	101	-	50,50,50	0.29	0	53,56,56	0.46	1 (1%)
75	CDL	1N	902	-	61,61,99	0.31	0	67,73,111	0.58	1 (1%)
69	3PE	1M	502	-	50,50,50	0.28	0	53,55,55	0.40	0
70	PC1	3X	101	-	28,28,53	0.37	0	34,36,61	0.64	1 (2%)
69	3PE	3N	501	-	31,31,50	0.35	0	34,36,55	0.74	1 (2%)
85	PGV	4J	101	-	50,50,50	0.29	0	53,56,56	0.36	0
69	3PE	3C	504	-	33,33,50	0.36	0	36,38,55	0.53	0
70	PC1	1H	401	-	47,47,53	0.29	0	53,55,61	0.38	0
75	CDL	3G	103	-	55,55,99	0.35	0	61,67,111	0.48	0
69	3PE	1J	201	-	43,43,50	0.29	0	46,48,55	0.39	0
85	PGV	4C	302	-	50,50,50	0.30	0	53,56,56	0.68	1 (1%)
85	PGV	4K	101	-	50,50,50	0.30	0	53,56,56	0.33	0
69	3PE	1L	703	-	44,44,50	0.28	0	47,49,55	0.48	0
75	CDL	1X	201	-	85,85,99	0.28	0	91,97,111	0.40	0
69	3PE	3D	502	-	32,32,50	0.36	0	35,37,55	0.52	0
84	HEC	3D	501	48	44,49,50	2.61	25 (56%)	56,80,82	2.13	17 (30%)
70	PC1	1h	203	-	46,46,53	0.28	0	52,54,61	0.31	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
91	PEK	4G	103	-	51,51,52	0.48	0	54,56,57	0.46	0
69	3PE	1Y	203	-	29,29,50	0.34	0	32,34,55	0.71	1 (3%)
70	PC1	1B	202	-	45,45,53	0.28	0	51,53,61	0.33	0
69	3PE	1Y	205	-	40,40,50	0.30	0	43,45,55	0.68	1 (2%)
70	PC1	3R	303	-	44,44,53	0.30	0	50,52,61	0.42	0
69	3PE	3N	503	-	24,24,50	0.37	0	27,29,55	0.54	0
69	3PE	1d	201	-	47,47,50	0.29	0	50,52,55	0.44	0
69	3PE	3P	503	-	32,32,50	0.33	0	35,37,55	0.56	0
70	PC1	1A	202	-	34,34,53	0.32	0	40,42,61	0.40	0
69	3PE	3R	302	-	46,46,50	0.29	0	49,51,55	0.34	0
71	SF4	1I	203	9	0,12,12	-	-	-		
71	SF4	1F	502	6	0,12,12	-	-	-		
69	3PE	1M	504	-	49,49,50	0.27	0	52,54,55	0.36	0
75	CDL	4B	302	-	99,99,99	0.27	0	105,111,111	0.31	0
85	PGV	4A	603	-	50,50,50	0.30	0	53,56,56	0.35	0
83	HEM	3C	501	47	50,50,50	1.58	8 (16%)	67,82,82	1.62	10 (14%)
92	PO4	4H	101	-	4,4,4	0.97	0	6,6,6	0.44	0
70	PC1	1B	203	-	47,47,53	0.28	0	53,55,61	0.45	0
83	HEM	3P	501	47	50,50,50	1.58	8 (16%)	67,82,82	1.60	12 (17%)
83	HEM	3P	502	47	50,50,50	1.59	8 (16%)	67,82,82	1.60	15 (22%)
70	PC1	1m	201	-	45,45,53	0.30	0	51,53,61	1.10	3 (5%)
82	MYR	1l	201	-	13,14,15	0.31	0	12,13,15	0.29	0
69	3PE	1M	501	-	44,44,50	0.29	0	47,49,55	0.37	0
69	3PE	3C	503	-	34,34,50	0.36	0	37,39,55	0.55	0
69	3PE	3A	502	-	26,26,50	0.37	0	29,31,55	0.68	1 (3%)
72	FES	1G	803	7	0,4,4	-	-	-		
69	3PE	1A	201	-	46,46,50	0.28	0	49,51,55	0.34	0
80	EHZ	1T	101	20	31,36,37	0.20	0	36,44,47	1.10	1 (2%)
81	AME	1h	201	-	9,10,11	0.52	0	9,11,13	1.10	1 (11%)
70	PC1	1q	201	-	48,48,53	0.28	0	54,56,61	0.55	1 (1%)
91	PEK	4G	102	-	52,52,52	0.47	0	55,57,57	0.46	0
85	PGV	4B	301	-	50,50,50	0.28	0	53,56,56	0.34	0
70	PC1	1Y	201	-	34,34,53	0.33	0	40,42,61	0.43	0
75	CDL	3P	504	-	55,55,99	0.37	0	61,67,111	0.61	1 (1%)
75	CDL	1h	202	-	79,79,99	0.30	0	85,91,111	0.45	0
90	PSC	4B	304	-	51,51,51	0.48	0	57,59,59	0.44	0
78	NDP	1P	402	-	51,52,52	0.51	0	71,80,80	0.81	2 (2%)
72	FES	1E	301	5	0,4,4	-	-	-		
85	PGV	4C	304	-	50,50,50	0.30	0	53,56,56	0.39	0
69	3PE	1Y	204	-	26,26,50	0.36	0	29,31,55	0.43	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
69	3PE	1j	101	-	43,43,50	0.29	0	46,48,55	0.45	0

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
75	CDL	3T	101	-	-	13/67/67/110	-
72	FES	3E	301	49	-	-	0/1/1/1
70	PC1	1Z	201	-	-	1/47/47/57	-
73	FMN	1F	501	-	-	1/18/18/18	0/3/3/3
85	PGV	4A	602	-	-	6/55/55/55	-
85	PGV	4C	303	-	-	10/55/55/55	-
69	3PE	3Y	101	-	-	2/33/33/54	-
80	EHZ	1n	201	-	-	3/42/44/45	-
75	CDL	4C	306	-	-	24/110/110/110	-
71	SF4	1G	802	7	-	-	0/6/5/5
85	PGV	4C	307	-	-	4/55/55/55	-
75	CDL	1q	202	-	-	7/71/71/110	-
72	FES	3R	301	49	-	-	0/1/1/1
85	PGV	4L	101	-	-	7/55/55/55	-
85	PGV	4A	601	-	-	10/55/55/55	-
83	HEM	3C	502	47	-	6/14/54/54	-
69	3PE	1N	901	-	-	13/52/52/54	-
69	3PE	1L	704	-	-	8/34/34/54	-
69	3PE	1N	903	-	-	3/36/36/54	-
75	CDL	1d	202	-	-	22/75/75/110	-
75	CDL	3A	501	-	-	5/68/68/110	-
85	PGV	4C	305	-	-	16/55/55/55	-
69	3PE	1Y	202	-	-	9/43/43/54	-
86	HEA	4A	605	55	-	7/36/76/76	-
75	CDL	3N	502	-	-	8/53/53/110	-
71	SF4	1B	201	2	-	-	0/6/5/5
85	PGV	4M	101	-	-	8/55/55/55	-
75	CDL	1L	702	-	-	11/86/86/110	-
70	PC1	1P	401	-	-	10/36/36/57	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
85	PGV	4C	301	-	-	1/55/55/55	-
71	SF4	1G	801	7	-	-	0/6/5/5
71	SF4	1I	202	9	-	-	0/6/5/5
75	CDL	4D	201	-	-	16/110/110/110	-
86	HEA	4A	604	55	-	8/36/76/76	-
75	CDL	3G	102	-	-	10/62/62/110	-
84	HEC	3Q	501	48	-	4/14/54/54	-
69	3PE	1L	701	-	-	5/49/49/54	-
69	3PE	3A	503	-	-	6/35/35/54	-
70	PC1	3E	302	-	-	2/50/50/57	-
69	3PE	3G	101	-	-	10/32/32/54	-
70	PC1	1I	201	-	-	9/57/57/57	-
70	PC1	1M	503	-	-	8/47/47/57	-
76	GTP	1O	401	77	-	4/22/38/38	0/3/3/3
85	PGV	4G	101	-	-	8/55/55/55	-
75	CDL	1N	902	-	-	10/71/71/110	-
69	3PE	1M	502	-	-	10/54/54/54	-
70	PC1	3X	101	-	-	4/32/32/57	-
69	3PE	3N	501	-	-	10/35/35/54	-
85	PGV	4J	101	-	-	10/55/55/55	-
69	3PE	3C	504	-	-	9/37/37/54	-
70	PC1	1H	401	-	-	13/51/51/57	-
75	CDL	3G	103	-	-	11/66/66/110	-
69	3PE	1J	201	-	-	10/47/47/54	-
85	PGV	4C	302	-	-	6/55/55/55	-
85	PGV	4K	101	-	-	14/55/55/55	-
69	3PE	1L	703	-	-	9/48/48/54	-
75	CDL	1X	201	-	-	18/96/96/110	-
69	3PE	3D	502	-	-	4/36/36/54	-
84	HEC	3D	501	48	-	3/13/53/54	-
70	PC1	1h	203	-	-	12/50/50/57	-
91	PEK	4G	103	-	-	9/55/55/56	-
69	3PE	1Y	203	-	-	13/33/33/54	-
70	PC1	1B	202	-	-	8/49/49/57	-
69	3PE	1Y	205	-	-	15/44/44/54	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
70	PC1	3R	303	-	-	5/48/48/57	-
69	3PE	3N	503	-	-	7/28/28/54	-
69	3PE	1d	201	-	-	16/51/51/54	-
69	3PE	3P	503	-	-	10/36/36/54	-
70	PC1	1A	202	-	-	3/38/38/57	-
69	3PE	3R	302	-	-	9/50/50/54	-
71	SF4	1I	203	9	-	-	0/6/5/5
71	SF4	1F	502	6	-	-	0/6/5/5
69	3PE	1M	504	-	-	5/53/53/54	-
75	CDL	4B	302	-	-	15/110/110/110	-
85	PGV	4A	603	-	-	11/55/55/55	-
83	HEM	3C	501	47	-	5/14/54/54	-
70	PC1	1B	203	-	-	12/51/51/57	-
83	HEM	3P	501	47	-	7/14/54/54	-
83	HEM	3P	502	47	-	8/14/54/54	-
70	PC1	1m	201	-	-	11/49/49/57	-
82	MYR	1l	201	-	-	2/12/12/13	-
69	3PE	1M	501	-	-	7/48/48/54	-
69	3PE	3C	503	-	-	11/38/38/54	-
69	3PE	3A	502	-	-	7/30/30/54	-
72	FES	1G	803	7	-	-	0/1/1/1
69	3PE	1A	201	-	-	9/50/50/54	-
80	EHZ	1T	101	20	-	14/42/44/45	-
81	AME	1h	201	-	-	2/9/10/12	-
70	PC1	1q	201	-	-	7/52/52/57	-
91	PEK	4G	102	-	-	10/56/56/56	-
85	PGV	4B	301	-	-	11/55/55/55	-
70	PC1	1Y	201	-	-	8/38/38/57	-
75	CDL	3P	504	-	-	13/66/66/110	-
75	CDL	1h	202	-	-	10/90/90/110	-
90	PSC	4B	304	-	-	17/55/55/55	-
78	NDP	1P	402	-	-	2/34/77/77	0/5/5/5
72	FES	1E	301	5	-	-	0/1/1/1
85	PGV	4C	304	-	-	15/55/55/55	-
69	3PE	1Y	204	-	-	5/30/30/54	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
69	3PE	1j	101	-	-	3/47/47/54	-

All (133) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
86	4A	604	HEA	FE-ND	5.69	2.12	1.94
86	4A	605	HEA	FE-NB	5.61	2.12	1.94
86	4A	605	HEA	FE-ND	5.60	2.12	1.94
86	4A	604	HEA	FE-NB	5.56	2.12	1.94
83	3P	501	HEM	FE-NB	5.51	2.11	1.94
86	4A	604	HEA	C3B-C2B	5.48	1.47	1.34
86	4A	605	HEA	C3B-C2B	5.46	1.47	1.34
83	3C	501	HEM	FE-NB	5.42	2.11	1.94
83	3C	502	HEM	FE-NB	5.35	2.11	1.94
83	3P	502	HEM	FE-NB	5.13	2.10	1.94
84	3Q	501	HEC	CHD-C4C	5.00	1.48	1.38
86	4A	605	HEA	FE-NC	4.99	2.11	1.95
86	4A	605	HEA	C3D-C2D	4.96	1.47	1.36
86	4A	604	HEA	FE-NC	4.86	2.11	1.95
84	3D	501	HEC	CHD-C4C	4.83	1.47	1.38
86	4A	604	HEA	C3D-C2D	4.82	1.47	1.36
84	3D	501	HEC	C2A-C3A	4.82	1.47	1.36
84	3D	501	HEC	CHA-C1A	4.73	1.47	1.38
84	3Q	501	HEC	C2A-C3A	4.72	1.47	1.36
86	4A	604	HEA	C3A-C2A	4.61	1.47	1.37
86	4A	605	HEA	C3A-C2A	4.59	1.47	1.37
84	3Q	501	HEC	CHC-C4B	4.58	1.47	1.38
84	3Q	501	HEC	CHA-C1A	4.54	1.47	1.38
84	3D	501	HEC	CAB-C3B	4.51	1.49	1.35
86	4A	605	HEA	CHD-C1D	4.49	1.47	1.38
86	4A	604	HEA	CHD-C1D	4.48	1.47	1.38
84	3Q	501	HEC	CAC-C3C	4.47	1.49	1.35
84	3D	501	HEC	CHC-C4B	4.46	1.47	1.38
84	3D	501	HEC	CHB-C4A	4.46	1.47	1.38
84	3Q	501	HEC	CAB-C3B	4.44	1.49	1.35
84	3D	501	HEC	CAC-C3C	4.43	1.49	1.35
86	4A	605	HEA	CHC-C4B	4.42	1.47	1.38
86	4A	605	HEA	C1A-NA	4.41	1.47	1.39
84	3Q	501	HEC	CHB-C4A	4.40	1.47	1.38
83	3C	502	HEM	FE-NC	4.40	2.09	1.95
83	3P	502	HEM	FE-NC	4.38	2.09	1.95
83	3C	501	HEM	FE-NC	4.35	2.09	1.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
86	4A	604	HEA	CHC-C4B	4.34	1.47	1.38
86	4A	604	HEA	CHB-C4A	4.33	1.46	1.38
83	3P	501	HEM	FE-NC	4.32	2.09	1.95
86	4A	604	HEA	CHA-C1A	4.20	1.46	1.38
86	4A	605	HEA	CHB-C4A	4.18	1.46	1.38
86	4A	605	HEA	C4A-NA	4.11	1.47	1.39
86	4A	605	HEA	CHA-C1A	4.10	1.46	1.38
86	4A	604	HEA	C1A-NA	4.09	1.47	1.39
86	4A	604	HEA	C4A-NA	3.96	1.47	1.39
84	3Q	501	HEC	CHD-C1D	3.88	1.48	1.39
84	3D	501	HEC	CHD-C1D	3.78	1.47	1.39
84	3D	501	HEC	CHA-C4D	3.77	1.47	1.39
84	3Q	501	HEC	CHC-C1C	3.66	1.47	1.39
84	3Q	501	HEC	CHA-C4D	3.65	1.47	1.39
86	4A	605	HEA	CHD-C4C	3.56	1.47	1.39
84	3D	501	HEC	CHC-C1C	3.55	1.47	1.39
86	4A	604	HEA	CHD-C4C	3.54	1.47	1.39
86	4A	605	HEA	CHC-C1C	3.48	1.47	1.39
84	3D	501	HEC	CHB-C1B	3.42	1.47	1.39
86	4A	604	HEA	CHC-C1C	3.42	1.47	1.39
84	3Q	501	HEC	CHB-C1B	3.40	1.47	1.39
83	3P	502	HEM	C1B-NB	-3.36	1.34	1.40
86	4A	604	HEA	CHA-C4D	3.35	1.46	1.39
86	4A	604	HEA	CHB-C1B	3.32	1.46	1.39
83	3C	502	HEM	C1B-NB	-3.30	1.34	1.40
86	4A	605	HEA	CHB-C1B	3.29	1.46	1.39
86	4A	605	HEA	CHA-C4D	3.28	1.46	1.39
83	3P	502	HEM	C4D-ND	-3.28	1.34	1.40
84	3D	501	HEC	C3D-C2D	3.24	1.47	1.38
84	3Q	501	HEC	C3D-C2D	3.23	1.47	1.38
83	3C	501	HEM	C1B-NB	-3.21	1.34	1.40
83	3C	502	HEM	C4D-ND	-3.16	1.34	1.40
83	3P	501	HEM	C4D-ND	-3.16	1.34	1.40
83	3C	501	HEM	C4D-ND	-3.14	1.34	1.40
83	3P	501	HEM	C1B-NB	-3.12	1.34	1.40
86	4A	604	HEA	C4B-C3B	2.74	1.49	1.44
86	4A	605	HEA	C4B-C3B	2.74	1.49	1.44
86	4A	604	HEA	C1D-ND	-2.64	1.35	1.40
84	3Q	501	HEC	C1D-C2D	2.63	1.49	1.43
83	3P	502	HEM	C1C-C2C	-2.61	1.40	1.45
84	3Q	501	HEC	C1A-NA	-2.60	1.34	1.39
83	3P	502	HEM	FE-ND	-2.59	1.86	1.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
86	4A	604	HEA	C4B-NB	-2.57	1.35	1.40
86	4A	605	HEA	C1D-ND	-2.56	1.35	1.40
86	4A	605	HEA	C1C-C2C	2.54	1.49	1.43
84	3D	501	HEC	C1A-NA	-2.54	1.34	1.39
84	3Q	501	HEC	C4B-NB	-2.53	1.34	1.39
83	3C	501	HEM	C1C-C2C	-2.50	1.40	1.45
84	3Q	501	HEC	C4D-ND	-2.48	1.34	1.39
86	4A	604	HEA	C4D-C3D	2.48	1.49	1.45
86	4A	604	HEA	C1C-C2C	2.48	1.48	1.43
84	3D	501	HEC	C4B-NB	-2.47	1.35	1.39
84	3D	501	HEC	C1D-C2D	2.47	1.48	1.43
84	3D	501	HEC	C4D-ND	-2.44	1.35	1.39
86	4A	605	HEA	C4B-NB	-2.43	1.36	1.40
83	3C	502	HEM	C1C-C2C	-2.41	1.40	1.45
84	3Q	501	HEC	C1C-C2C	2.41	1.48	1.43
84	3Q	501	HEC	C1B-C2B	2.40	1.48	1.43
84	3D	501	HEC	C1C-C2C	2.37	1.48	1.43
83	3P	501	HEM	C1C-C2C	-2.36	1.40	1.45
86	4A	605	HEA	C1D-C2D	2.33	1.49	1.44
83	3C	501	HEM	FE-ND	-2.33	1.87	1.94
84	3D	501	HEC	C1B-C2B	2.30	1.48	1.43
84	3D	501	HEC	C4A-NA	-2.30	1.35	1.39
83	3C	502	HEM	FE-ND	-2.30	1.87	1.94
83	3P	502	HEM	C4B-NB	-2.27	1.34	1.38
83	3P	501	HEM	FE-ND	-2.26	1.87	1.94
84	3Q	501	HEC	C4C-NC	-2.26	1.35	1.39
84	3D	501	HEC	C1B-NB	-2.25	1.35	1.39
84	3D	501	HEC	C4C-NC	-2.24	1.35	1.39
83	3C	501	HEM	C1D-ND	-2.19	1.34	1.38
84	3Q	501	HEC	C4A-NA	-2.19	1.35	1.39
83	3C	502	HEM	C1D-ND	-2.18	1.34	1.38
84	3D	501	HEC	C4D-C3D	2.18	1.48	1.44
84	3Q	501	HEC	C1B-NB	-2.18	1.35	1.39
84	3D	501	HEC	C1D-ND	-2.17	1.35	1.39
84	3D	501	HEC	C1C-NC	-2.16	1.35	1.39
83	3C	501	HEM	C4B-NB	-2.15	1.34	1.38
86	4A	604	HEA	C1A-C2A	2.15	1.49	1.45
86	4A	604	HEA	C1D-C2D	2.15	1.48	1.44
86	4A	604	HEA	C4C-NC	-2.14	1.35	1.39
83	3P	502	HEM	C1D-ND	-2.13	1.34	1.38
86	4A	605	HEA	C1A-C2A	2.13	1.48	1.45
86	4A	605	HEA	C4C-NC	-2.11	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
83	3C	502	HEM	C3C-C4C	-2.10	1.42	1.46
83	3C	502	HEM	C4B-NB	-2.09	1.34	1.38
83	3P	501	HEM	C1D-ND	-2.07	1.34	1.38
84	3Q	501	HEC	C3C-C2C	2.07	1.48	1.41
84	3Q	501	HEC	C1C-NC	-2.07	1.35	1.39
86	4A	604	HEA	C1B-C2B	2.06	1.48	1.44
84	3Q	501	HEC	C1D-ND	-2.05	1.35	1.39
83	3P	501	HEM	C3C-C4C	-2.05	1.42	1.46
86	4A	605	HEA	C1B-C2B	2.05	1.48	1.44
84	3Q	501	HEC	C3B-C2B	2.02	1.48	1.41
84	3D	501	HEC	C3C-C2C	2.01	1.47	1.41
86	4A	605	HEA	C4D-C3D	2.01	1.48	1.45

All (175) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
86	4A	605	HEA	C3D-C4D-ND	6.71	116.84	110.35
86	4A	604	HEA	C3D-C4D-ND	6.51	116.64	110.35
80	1n	201	EHZ	C10-S1-C9	6.21	120.20	101.84
70	1m	201	PC1	O21-C21-C22	5.92	124.29	111.48
80	1T	101	EHZ	C10-S1-C9	5.91	119.31	101.84
86	4A	605	HEA	C2B-C1B-NB	5.80	116.61	109.90
86	4A	604	HEA	C2B-C1B-NB	5.71	116.50	109.90
86	4A	604	HEA	C3B-C4B-NB	5.64	116.32	109.84
86	4A	605	HEA	C3B-C4B-NB	5.57	116.24	109.84
86	4A	605	HEA	C3C-C2C-C1C	-5.56	100.61	107.17
86	4A	605	HEA	C2D-C1D-ND	5.54	116.21	109.84
83	3C	501	HEM	CHC-C4B-NB	5.47	130.31	124.42
86	4A	604	HEA	C3C-C2C-C1C	-5.43	100.76	107.17
86	4A	604	HEA	C2D-C1D-ND	5.43	116.08	109.84
86	4A	605	HEA	C3C-C4C-NC	5.22	114.20	109.80
83	3P	501	HEM	CHC-C4B-NB	5.22	130.04	124.42
84	3Q	501	HEC	C2A-C1A-NA	5.20	115.34	110.32
86	4A	604	HEA	C3C-C4C-NC	5.20	114.18	109.80
86	4A	605	HEA	C2A-C1A-NA	5.17	115.31	110.32
84	3D	501	HEC	C2A-C1A-NA	5.10	115.24	110.32
86	4A	604	HEA	C2A-C1A-NA	4.96	115.11	110.32
84	3Q	501	HEC	C3D-C4D-ND	4.92	115.61	110.15
83	3P	502	HEM	CHC-C4B-NB	4.70	129.49	124.42
84	3D	501	HEC	C3D-C4D-ND	4.63	115.29	110.15
83	3P	501	HEM	CHD-C1D-ND	4.58	129.35	124.42
83	3C	501	HEM	CHD-C1D-ND	4.58	129.35	124.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
83	3C	502	HEM	CHC-C4B-NB	4.57	129.34	124.42
78	1P	402	NDP	P2B-O2B-C2B	-4.47	111.48	123.43
86	4A	605	HEA	C1D-C2D-C3D	-4.31	102.45	106.98
83	3C	502	HEM	CHD-C1D-ND	4.30	129.05	124.42
84	3Q	501	HEC	CAA-CBA-CGA	-4.26	102.37	113.67
83	3P	502	HEM	CHD-C1D-ND	4.22	128.96	124.42
84	3D	501	HEC	CAA-CBA-CGA	-4.17	102.59	113.67
86	4A	605	HEA	C2C-C1C-NC	4.14	116.78	110.14
84	3Q	501	HEC	C2B-C1B-NB	4.08	116.68	110.14
84	3D	501	HEC	C2B-C1B-NB	4.06	116.65	110.14
86	4A	604	HEA	CHA-C4D-ND	-4.05	120.06	124.42
83	3P	502	HEM	CHA-C4D-ND	4.05	129.37	124.37
86	4A	604	HEA	C2C-C1C-NC	4.04	116.61	110.14
84	3D	501	HEC	C2C-C1C-NC	3.96	116.49	110.14
84	3Q	501	HEC	C2C-C1C-NC	3.83	116.28	110.14
86	4A	604	HEA	C1D-C2D-C3D	-3.83	102.95	106.98
86	4A	605	HEA	C3A-C2A-C1A	-3.81	103.44	107.05
86	4A	604	HEA	C3A-C2A-C1A	-3.73	103.52	107.05
84	3Q	501	HEC	C1D-C2D-C3D	-3.72	102.56	106.82
84	3D	501	HEC	C1D-C2D-C3D	-3.62	102.67	106.82
86	4A	604	HEA	C13-C14-C15	-3.62	119.35	127.62
86	4A	605	HEA	C1B-C2B-C3B	-3.59	102.64	106.80
83	3P	502	HEM	CHB-C1B-NB	3.52	128.73	124.37
86	4A	604	HEA	C1B-C2B-C3B	-3.51	102.73	106.80
86	4A	604	HEA	CAD-C3D-C4D	3.48	130.76	124.70
83	3P	502	HEM	C1B-NB-C4B	3.46	109.31	105.21
86	4A	604	HEA	C4D-C3D-C2D	-3.42	101.91	106.89
83	3C	502	HEM	CHA-C4D-ND	3.42	128.60	124.37
84	3Q	501	HEC	C3A-C4A-NA	3.42	115.96	109.64
84	3D	501	HEC	C3A-C4A-NA	3.39	115.90	109.64
84	3Q	501	HEC	C4A-C3A-C2A	-3.38	101.95	106.97
84	3D	501	HEC	C4A-C3A-C2A	-3.34	102.02	106.97
83	3C	502	HEM	CHB-C1B-NB	3.33	128.49	124.37
83	3C	502	HEM	C1B-NB-C4B	3.32	109.14	105.21
85	4C	302	PGV	O01-C1-C2	3.28	118.58	111.48
86	4A	605	HEA	C4A-NA-C1A	-3.27	100.49	105.82
83	3C	501	HEM	CHA-C4D-ND	3.26	128.40	124.37
75	1N	902	CDL	OB6-CB5-C51	3.22	116.82	111.09
86	4A	604	HEA	C4B-C3B-C2B	-3.22	102.03	107.44
84	3D	501	HEC	C2D-C1D-ND	3.18	115.24	110.14
86	4A	605	HEA	C4D-C3D-C2D	-3.18	102.27	106.89
69	1Y	205	3PE	O21-C21-C22	3.16	118.31	111.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
83	3C	501	HEM	C1B-NB-C4B	3.12	108.91	105.21
86	4A	605	HEA	C4B-C3B-C2B	-3.09	102.25	107.44
83	3P	501	HEM	CHA-C4D-ND	3.06	128.15	124.37
83	3P	501	HEM	C1B-NB-C4B	3.05	108.82	105.21
84	3Q	501	HEC	C2D-C1D-ND	3.05	115.02	110.14
81	1h	201	AME	O-C-CA	-3.05	116.94	124.77
83	3P	501	HEM	CHD-C1D-C2D	-3.00	120.29	125.03
83	3C	501	HEM	CHD-C1D-C2D	-2.97	120.34	125.03
86	4A	604	HEA	C13-C12-C11	-2.96	109.67	114.39
86	4A	604	HEA	C4A-NA-C1A	-2.95	101.02	105.82
83	3P	501	HEM	CHB-C1B-NB	2.93	127.99	124.37
84	3D	501	HEC	C1A-C2A-C3A	-2.91	103.27	107.11
84	3Q	501	HEC	CMD-C2D-C1D	2.89	129.81	125.42
69	1Y	203	3PE	O21-C21-C22	2.88	117.72	111.48
83	3C	501	HEM	CHB-C1B-NB	2.88	127.93	124.37
84	3Q	501	HEC	C1A-C2A-C3A	-2.85	103.35	107.11
86	4A	605	HEA	C13-C14-C15	-2.85	121.11	127.62
78	1P	402	NDP	O4D-C1D-C2D	-2.80	100.61	106.62
86	4A	604	HEA	CBA-CAA-C2A	-2.80	104.79	112.53
70	1m	201	PC1	O21-C21-O22	-2.79	117.19	123.70
83	3C	502	HEM	C3B-C4B-NB	-2.78	107.47	109.47
86	4A	605	HEA	C26-C15-C16	2.74	119.98	115.23
86	4A	605	HEA	C13-C12-C11	-2.72	110.04	114.39
86	4A	604	HEA	C17-C18-C19	-2.71	121.42	127.62
83	3P	502	HEM	C3B-C4B-NB	-2.70	107.53	109.47
83	3C	502	HEM	CHD-C1D-C2D	-2.68	120.80	125.03
86	4A	605	HEA	C27-C19-C20	2.67	119.86	115.23
86	4A	605	HEA	C17-C18-C19	-2.67	121.52	127.62
85	4C	305	PGV	O01-C1-C2	2.66	117.24	111.48
70	1q	201	PC1	O21-C21-C22	2.65	117.22	111.48
86	4A	604	HEA	CHB-C1B-NB	-2.65	121.58	124.42
86	4A	604	HEA	CHA-C1A-NA	-2.63	121.59	124.45
69	1L	704	3PE	O21-C21-C22	2.63	117.17	111.48
86	4A	604	HEA	C26-C15-C16	2.62	119.78	115.23
86	4A	605	HEA	CHA-C4D-ND	-2.62	121.61	124.42
84	3D	501	HEC	C4D-C3D-C2D	-2.61	102.83	106.87
84	3Q	501	HEC	CMC-C2C-C3C	2.60	132.66	126.55
86	4A	605	HEA	CHB-C1B-NB	-2.60	121.63	124.42
84	3D	501	HEC	CMC-C2C-C3C	2.58	132.61	126.55
86	4A	604	HEA	C27-C19-C20	2.56	119.67	115.23
83	3P	501	HEM	CHD-C4C-NC	2.56	127.24	124.45
84	3Q	501	HEC	C4D-C3D-C2D	-2.53	102.95	106.87

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
86	4A	605	HEA	CHC-C1C-C2C	-2.52	120.11	127.43
84	3D	501	HEC	CMB-C2B-C3B	2.51	132.46	126.55
86	4A	605	HEA	C1D-ND-C4D	-2.50	102.24	105.21
83	3P	501	HEM	CBA-CAA-C2A	-2.50	105.62	112.53
84	3Q	501	HEC	CMA-C3A-C4A	2.50	129.12	124.73
86	4A	604	HEA	CHC-C1C-C2C	-2.49	120.19	127.43
83	3C	501	HEM	CHD-C4C-NC	2.49	127.16	124.45
86	4A	605	HEA	C4B-NB-C1B	-2.48	102.27	105.21
84	3D	501	HEC	CMD-C2D-C1D	2.47	129.18	125.42
84	3Q	501	HEC	CMB-C2B-C3B	2.47	132.35	126.55
70	1m	201	PC1	C2-O21-C21	2.46	123.69	117.80
83	3P	502	HEM	C4C-CHD-C1D	-2.43	120.86	126.02
84	3D	501	HEC	CHB-C1B-C2B	-2.42	120.39	127.43
86	4A	604	HEA	CMD-C2D-C1D	2.41	128.81	125.03
84	3D	501	HEC	CHC-C1C-C2C	-2.40	120.46	127.43
83	3P	502	HEM	CHA-C4D-C3D	-2.37	120.85	125.23
86	4A	604	HEA	C1D-ND-C4D	-2.37	102.41	105.21
86	4A	604	HEA	C4B-NB-C1B	-2.36	102.41	105.21
84	3Q	501	HEC	CHB-C1B-C2B	-2.36	120.57	127.43
86	4A	605	HEA	CMC-C2C-C1C	2.36	129.01	125.42
75	3G	102	CDL	OA6-CA4-CA3	2.35	116.79	108.34
86	4A	605	HEA	CMB-C2B-C1B	2.35	128.71	125.03
84	3Q	501	HEC	CHC-C1C-C2C	-2.32	120.68	127.43
83	3C	502	HEM	C4C-CHD-C1D	-2.31	121.11	126.02
86	4A	605	HEA	C25-C23-C24	2.31	119.90	114.59
84	3D	501	HEC	CMA-C3A-C4A	2.30	128.78	124.73
70	3X	101	PC1	O21-C21-C22	2.28	116.41	111.48
83	3P	502	HEM	C4D-ND-C1D	2.27	107.90	105.21
83	3P	502	HEM	O2D-CGD-CBD	2.27	121.17	114.00
86	4A	605	HEA	CMD-C2D-C1D	2.26	128.57	125.03
69	3N	501	3PE	O21-C2-C1	2.26	116.44	108.34
86	4A	605	HEA	CBA-CAA-C2A	-2.25	106.32	112.53
86	4A	604	HEA	C25-C23-C24	2.24	119.75	114.59
83	3C	502	HEM	C1A-CHA-C4D	-2.22	121.02	126.25
83	3P	502	HEM	C1A-CHA-C4D	-2.22	121.03	126.25
83	3P	502	HEM	CHD-C1D-C2D	-2.22	121.53	125.03
86	4A	605	HEA	CHA-C4D-C3D	-2.21	121.55	124.77
86	4A	604	HEA	CMB-C2B-C1B	2.20	128.47	125.03
83	3C	502	HEM	O2A-CGA-CBA	2.20	120.94	114.00
86	4A	604	HEA	CMC-C2C-C1C	2.19	128.76	125.42
86	4A	604	HEA	CHD-C1D-C2D	-2.19	120.73	126.95
83	3P	501	HEM	CHA-C1A-NA	2.18	127.82	123.86

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
84	3Q	501	HEC	CBD-CAD-C3D	-2.18	106.52	112.53
85	4G	101	PGV	O01-C1-C2	2.17	116.18	111.48
83	3C	501	HEM	CHA-C1A-NA	2.15	127.76	123.86
69	3A	502	3PE	O21-C21-C22	2.14	116.12	111.48
86	4A	605	HEA	CHD-C1D-C2D	-2.14	120.87	126.95
86	4A	604	HEA	OMA-CMA-C3A	-2.11	120.85	125.62
83	3P	502	HEM	C4A-CHB-C1B	-2.10	121.31	126.25
75	3T	101	CDL	OA8-CA6-CA4	2.09	114.42	108.40
75	3T	101	CDL	OA6-CA4-CA3	2.08	115.82	108.34
83	3P	501	HEM	C1A-CHA-C4D	-2.08	121.35	126.25
73	1F	501	FMN	C4-N3-C2	-2.08	121.95	125.64
75	3P	504	CDL	OB6-CB4-CB6	-2.08	100.88	108.34
83	3P	502	HEM	CHB-C1B-C2B	-2.08	121.05	126.95
83	3C	501	HEM	C1A-CHA-C4D	-2.07	121.37	126.25
86	4A	605	HEA	CHB-C1B-C2B	-2.07	121.76	125.03
83	3P	502	HEM	O2A-CGA-CBA	2.06	120.50	114.00
75	4C	306	CDL	OB6-CB5-C51	2.05	115.92	111.48
86	4A	605	HEA	CHA-C1A-NA	-2.05	122.22	124.45
83	3P	501	HEM	O2A-CGA-CBA	2.04	120.43	114.00
83	3C	501	HEM	O2A-CGA-CBA	2.03	120.42	114.00
83	3C	502	HEM	CHB-C1B-C2B	-2.03	121.17	126.95
83	3P	501	HEM	CAD-C3D-C4D	2.02	128.22	124.70
86	4A	605	HEA	C21-C22-C23	-2.01	120.92	127.64

There are no chirality outliers.

All (780) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
69	1A	201	3PE	C1-O11-P-O13
69	1A	201	3PE	C1-O11-P-O14
69	1J	201	3PE	C1-O11-P-O13
69	1J	201	3PE	C1-O11-P-O14
69	1J	201	3PE	C11-O13-P-O12
69	1J	201	3PE	C12-C11-O13-P
69	1L	701	3PE	O32-C31-O31-C3
69	1L	701	3PE	C32-C31-O31-C3
69	1L	704	3PE	O22-C21-O21-C2
69	1L	704	3PE	C22-C21-O21-C2
69	1M	501	3PE	C1-O11-P-O14
69	1M	502	3PE	C2-C1-O11-P
69	1N	901	3PE	C11-O13-P-O14
69	1N	903	3PE	O21-C2-C3-O31

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Mol	Chain	Res	Type	Atoms
69	1Y	202	3PE	C1-O11-P-O12
69	1Y	202	3PE	C1-O11-P-O13
69	1Y	202	3PE	C2-C1-O11-P
69	1Y	203	3PE	O22-C21-O21-C2
69	1Y	203	3PE	C22-C21-O21-C2
69	1Y	204	3PE	C11-O13-P-O14
69	1Y	204	3PE	C12-C11-O13-P
69	1Y	204	3PE	O32-C31-O31-C3
69	1Y	204	3PE	C32-C31-O31-C3
69	1Y	205	3PE	C1-O11-P-O13
69	1Y	205	3PE	C11-O13-P-O11
69	1Y	205	3PE	C11-O13-P-O12
69	1Y	205	3PE	O32-C31-O31-C3
69	1Y	205	3PE	C32-C31-O31-C3
69	1Y	205	3PE	O22-C21-O21-C2
69	1Y	205	3PE	C22-C21-O21-C2
69	1d	201	3PE	C11-O13-P-O11
69	1d	201	3PE	C11-O13-P-O14
69	1d	201	3PE	C2-C1-O11-P
69	1d	201	3PE	O32-C31-O31-C3
69	1d	201	3PE	C32-C31-O31-C3
69	1j	101	3PE	O22-C21-O21-C2
69	1j	101	3PE	C22-C21-O21-C2
69	3A	502	3PE	O32-C31-O31-C3
69	3A	502	3PE	C32-C31-O31-C3
69	3A	502	3PE	O22-C21-O21-C2
69	3A	502	3PE	C22-C21-O21-C2
69	3A	503	3PE	C1-O11-P-O14
69	3A	503	3PE	C2-C1-O11-P
69	3C	503	3PE	C1-O11-P-O14
69	3C	503	3PE	C11-O13-P-O11
69	3C	503	3PE	C11-O13-P-O14
69	3C	504	3PE	C1-O11-P-O12
69	3C	504	3PE	C2-C1-O11-P
69	3C	504	3PE	O13-C11-C12-N
69	3G	101	3PE	C1-O11-P-O12
69	3G	101	3PE	C1-O11-P-O13
69	3G	101	3PE	C1-O11-P-O14
69	3G	101	3PE	O32-C31-O31-C3
69	3G	101	3PE	C32-C31-O31-C3
69	3N	501	3PE	C1-O11-P-O13
69	3N	501	3PE	C1-O11-P-O14

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Mol	Chain	Res	Type	Atoms
69	3N	503	3PE	O22-C21-O21-C2
69	3N	503	3PE	C22-C21-O21-C2
69	3P	503	3PE	C11-O13-P-O11
69	3P	503	3PE	C11-O13-P-O12
69	3P	503	3PE	C11-O13-P-O14
70	1A	202	PC1	C1-O11-P-O14
70	1A	202	PC1	O13-C11-C12-N
70	1B	203	PC1	O13-C11-C12-N
70	1H	401	PC1	C11-O13-P-O11
70	1H	401	PC1	C1-O11-P-O14
70	1H	401	PC1	C1-O11-P-O13
70	1H	401	PC1	C12-C11-O13-P
70	1H	401	PC1	O13-C11-C12-N
70	1I	201	PC1	C11-O13-P-O14
70	1P	401	PC1	O32-C31-O31-C3
70	1P	401	PC1	C32-C31-O31-C3
70	1Y	201	PC1	C1-O11-P-O14
70	1Z	201	PC1	C1-O11-P-O14
70	1h	203	PC1	C11-O13-P-O14
70	1h	203	PC1	O32-C31-O31-C3
70	1h	203	PC1	C32-C31-O31-C3
70	1m	201	PC1	C11-O13-P-O14
70	1m	201	PC1	O22-C21-O21-C2
70	1m	201	PC1	C22-C21-O21-C2
70	1q	201	PC1	C11-O13-P-O14
70	1q	201	PC1	O22-C21-O21-C2
70	1q	201	PC1	C22-C21-O21-C2
70	1q	201	PC1	O32-C31-O31-C3
70	1q	201	PC1	C32-C31-O31-C3
70	3R	303	PC1	C1-O11-P-O14
70	3R	303	PC1	O32-C31-O31-C3
70	3R	303	PC1	C32-C31-O31-C3
70	3X	101	PC1	C1-O11-P-O14
70	3X	101	PC1	O13-C11-C12-N
75	1L	702	CDL	CB2-OB2-PB2-OB4
75	1L	702	CDL	CB2-OB2-PB2-OB5
75	1N	902	CDL	CA3-OA5-PA1-OA3
75	1X	201	CDL	C1-CA2-OA2-PA1
75	1X	201	CDL	CA2-OA2-PA1-OA4
75	1X	201	CDL	CA2-OA2-PA1-OA5
75	1d	202	CDL	CA2-OA2-PA1-OA4
75	1d	202	CDL	CA2-OA2-PA1-OA5

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Mol	Chain	Res	Type	Atoms
75	1d	202	CDL	CA3-OA5-PA1-OA2
75	1d	202	CDL	CA3-OA5-PA1-OA4
75	1d	202	CDL	CB3-OB5-PB2-OB2
75	1d	202	CDL	CB3-OB5-PB2-OB3
75	1d	202	CDL	CB3-OB5-PB2-OB4
75	1d	202	CDL	OB5-CB3-CB4-OB6
75	1h	202	CDL	CA2-OA2-PA1-OA4
75	1h	202	CDL	CA2-OA2-PA1-OA5
75	1h	202	CDL	CB3-OB5-PB2-OB4
75	1h	202	CDL	OB7-CB5-OB6-CB4
75	1h	202	CDL	C51-CB5-OB6-CB4
75	1h	202	CDL	OB9-CB7-OB8-CB6
75	1h	202	CDL	C71-CB7-OB8-CB6
75	3A	501	CDL	CB2-OB2-PB2-OB4
75	3A	501	CDL	CB2-OB2-PB2-OB5
75	3G	102	CDL	CA3-OA5-PA1-OA2
75	3G	102	CDL	CA3-OA5-PA1-OA3
75	3G	102	CDL	CB2-OB2-PB2-OB4
75	3G	102	CDL	CB2-OB2-PB2-OB5
75	3G	103	CDL	CB2-OB2-PB2-OB4
75	3G	103	CDL	CB2-OB2-PB2-OB5
75	3G	103	CDL	CB3-OB5-PB2-OB2
75	3G	103	CDL	CB3-OB5-PB2-OB3
75	3P	504	CDL	OB5-CB3-CB4-OB6
75	3P	504	CDL	OB9-CB7-OB8-CB6
75	3P	504	CDL	C71-CB7-OB8-CB6
75	3T	101	CDL	OB9-CB7-OB8-CB6
75	3T	101	CDL	C71-CB7-OB8-CB6
75	4B	302	CDL	CA3-OA5-PA1-OA3
75	4B	302	CDL	OA9-CA7-OA8-CA6
75	4B	302	CDL	C31-CA7-OA8-CA6
75	4B	302	CDL	CB3-OB5-PB2-OB2
75	4B	302	CDL	CB3-OB5-PB2-OB3
75	4C	306	CDL	C1-CA2-OA2-PA1
75	4C	306	CDL	OB7-CB5-OB6-CB4
75	4C	306	CDL	C51-CB5-OB6-CB4
75	4C	306	CDL	OB9-CB7-OB8-CB6
75	4C	306	CDL	C71-CB7-OB8-CB6
75	4D	201	CDL	C1-CA2-OA2-PA1
75	4D	201	CDL	CB3-OB5-PB2-OB3
75	4D	201	CDL	OB7-CB5-OB6-CB4
75	4D	201	CDL	C51-CB5-OB6-CB4

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Mol	Chain	Res	Type	Atoms
75	4D	201	CDL	OB9-CB7-OB8-CB6
75	4D	201	CDL	C71-CB7-OB8-CB6
76	1O	401	GTP	PB-O3A-PA-O5'
80	1T	101	EHZ	N2-C15-C16-O5
82	1I	201	MYR	O1-C1-C2-C3
83	3C	501	HEM	C2B-C3B-CAB-CBB
83	3C	502	HEM	C2B-C3B-CAB-CBB
83	3P	502	HEM	C2B-C3B-CAB-CBB
83	3P	502	HEM	C2C-C3C-CAC-CBC
83	3P	502	HEM	C4C-C3C-CAC-CBC
85	4A	601	PGV	C03-O11-P-O12
85	4A	601	PGV	C03-O11-P-O13
85	4A	601	PGV	O04-C19-O03-C01
85	4A	601	PGV	C20-C19-O03-C01
85	4A	602	PGV	C02-C03-O11-P
85	4A	603	PGV	O03-C01-C02-O01
85	4B	301	PGV	C04-O12-P-O11
85	4C	302	PGV	C03-O11-P-O13
85	4C	302	PGV	O02-C1-O01-C02
85	4C	302	PGV	C2-C1-O01-C02
85	4C	303	PGV	C04-O12-P-O11
85	4C	303	PGV	C04-O12-P-O14
85	4C	303	PGV	O04-C19-O03-C01
85	4C	303	PGV	C20-C19-O03-C01
85	4C	304	PGV	C03-O11-P-O12
85	4C	304	PGV	C03-O11-P-O14
85	4C	304	PGV	C02-C03-O11-P
85	4C	305	PGV	C03-O11-P-O12
85	4C	305	PGV	C03-O11-P-O14
85	4C	305	PGV	C02-C03-O11-P
85	4C	305	PGV	O02-C1-O01-C02
85	4C	305	PGV	C2-C1-O01-C02
85	4G	101	PGV	O02-C1-O01-C02
85	4G	101	PGV	C2-C1-O01-C02
85	4G	101	PGV	O04-C19-O03-C01
85	4G	101	PGV	C20-C19-O03-C01
85	4K	101	PGV	C03-O11-P-O12
85	4K	101	PGV	C03-O11-P-O14
85	4K	101	PGV	O04-C19-O03-C01
85	4K	101	PGV	C20-C19-O03-C01
86	4A	604	HEA	C3B-C11-C12-C13
86	4A	604	HEA	O11-C11-C12-C13

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Mol	Chain	Res	Type	Atoms
90	4B	304	PSC	C03-O11-P-O12
90	4B	304	PSC	C03-O11-P-O13
90	4B	304	PSC	O02-C1-O01-C02
91	4G	102	PEK	C04-O12-P-O11
91	4G	102	PEK	C04-O12-P-O13
91	4G	103	PEK	O12-C04-C05-N
90	4B	304	PSC	C2-C1-O01-C02
80	1T	101	EHZ	C13-C12-N1-C11
75	3G	102	CDL	O1-C1-CB2-OB2
75	1N	902	CDL	OB7-CB5-OB6-CB4
75	1N	902	CDL	C51-CB5-OB6-CB4
76	1O	401	GTP	C3'-C4'-C5'-O5'
84	3D	501	HEC	C3D-CAD-CBD-CGD
69	3Y	101	3PE	C2-C1-O11-P
85	4C	305	PGV	C05-C04-O12-P
80	1T	101	EHZ	O3-C12-N1-C11
75	3N	502	CDL	OA6-CA4-CA6-OA8
76	1O	401	GTP	O4'-C4'-C5'-O5'
75	3P	504	CDL	CB5-C51-C52-C53
90	4B	304	PSC	C19-C20-C21-C22
70	1P	401	PC1	C21-C22-C23-C24
85	4J	101	PGV	C19-C20-C21-C22
85	4A	603	PGV	C05-C04-O12-P
69	3C	503	3PE	C21-C22-C23-C24
85	4G	101	PGV	C1-C2-C3-C4
70	1H	401	PC1	C22-C23-C24-C25
85	4L	101	PGV	C1-C2-C3-C4
75	1q	202	CDL	CA5-C11-C12-C13
85	4B	301	PGV	C4-C5-C6-C7
69	3G	101	3PE	C31-C32-C33-C34
75	4C	306	CDL	O1-C1-CA2-OA2
75	1d	202	CDL	C32-C33-C34-C35
69	3N	501	3PE	C2-C1-O11-P
70	1H	401	PC1	C2-C1-O11-P
70	1h	203	PC1	C2-C1-O11-P
75	3T	101	CDL	CA4-CA3-OA5-PA1
69	3C	504	3PE	C31-C32-C33-C34
69	3R	302	3PE	C35-C36-C37-C38
75	1L	702	CDL	C37-C38-C39-C40
75	4D	201	CDL	C75-C76-C77-C78
85	4J	101	PGV	C22-C23-C24-C25
69	1L	703	3PE	C33-C34-C35-C36

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Mol	Chain	Res	Type	Atoms
75	1d	202	CDL	C42-C43-C44-C45
75	1q	202	CDL	C14-C15-C16-C17
85	4L	101	PGV	C2-C3-C4-C5
78	1P	402	NDP	O4D-C1D-N1N-C6N
75	4D	201	CDL	O1-C1-CB2-OB2
70	1I	201	PC1	C31-C32-C33-C34
75	4B	302	CDL	C59-C60-C61-C62
69	1L	703	3PE	C39-C3A-C3B-C3C
69	1d	201	3PE	C32-C33-C34-C35
69	1d	201	3PE	C23-C24-C25-C26
70	1Y	201	PC1	C32-C33-C34-C35
91	4G	102	PEK	C26-C27-C28-C29
69	1Y	205	3PE	C2D-C2E-C2F-C2G
90	4B	304	PSC	C27-C28-C29-C30
69	3A	503	3PE	C32-C33-C34-C35
69	3A	503	3PE	C36-C37-C38-C39
90	4B	304	PSC	C22-C23-C24-C25
69	3R	302	3PE	C21-C22-C23-C24
85	4C	307	PGV	C02-C03-O11-P
85	4C	304	PGV	C24-C25-C26-C27
70	1q	201	PC1	C2A-C2B-C2C-C2D
75	3G	103	CDL	CA5-C11-C12-C13
70	1h	203	PC1	C32-C33-C34-C35
90	4B	304	PSC	C25-C26-C27-C28
69	1N	901	3PE	C31-C32-C33-C34
80	1T	101	EHZ	C21-C22-C23-C24
69	1M	504	3PE	C2B-C2C-C2D-C2E
70	1M	503	PC1	C21-C22-C23-C24
83	3C	502	HEM	C2C-C3C-CAC-CBC
75	1L	702	CDL	C33-C34-C35-C36
90	4B	304	PSC	C20-C21-C22-C23
69	1N	901	3PE	O11-C1-C2-O21
69	3A	502	3PE	O11-C1-C2-O21
83	3C	501	HEM	C4B-C3B-CAB-CBB
83	3C	502	HEM	C4B-C3B-CAB-CBB
83	3P	502	HEM	C4B-C3B-CAB-CBB
75	4D	201	CDL	C38-C39-C40-C41
69	3P	503	3PE	C21-C22-C23-C24
70	1A	202	PC1	C21-C22-C23-C24
91	4G	103	PEK	C21-C22-C23-C24
70	1M	503	PC1	C32-C33-C34-C35
69	1Y	202	3PE	O21-C2-C3-O31

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Mol	Chain	Res	Type	Atoms
75	1N	902	CDL	OA6-CA4-CA6-OA8
85	4C	305	PGV	O03-C01-C02-O01
70	1B	202	PC1	C38-C39-C3A-C3B
70	3R	303	PC1	C26-C27-C28-C29
85	4B	301	PGV	C27-C28-C29-C30
70	1m	201	PC1	C22-C23-C24-C25
69	1L	703	3PE	C2-C1-O11-P
69	1Y	203	3PE	C2-C1-O11-P
75	1h	202	CDL	C1-CB2-OB2-PB2
85	4C	303	PGV	C05-C04-O12-P
75	3G	102	CDL	CA2-C1-CB2-OB2
75	4C	306	CDL	CB2-C1-CA2-OA2
70	1B	203	PC1	C32-C33-C34-C35
70	1M	503	PC1	C2A-C2B-C2C-C2D
69	1M	502	3PE	C2D-C2E-C2F-C2G
69	3N	501	3PE	C33-C34-C35-C36
75	1X	201	CDL	C19-C20-C21-C22
80	1T	101	EHZ	O4-C15-C16-O5
69	1Y	203	3PE	O11-C1-C2-C3
69	3A	503	3PE	O11-C1-C2-C3
70	1P	401	PC1	O11-C1-C2-C3
85	4B	301	PGV	C6-C7-C8-C9
91	4G	102	PEK	C22-C23-C24-C25
69	1Y	205	3PE	C29-C2A-C2B-C2C
69	3Y	101	3PE	C31-C32-C33-C34
69	1d	201	3PE	C26-C27-C28-C29
75	3P	504	CDL	CA5-C11-C12-C13
69	1Y	203	3PE	C1-C2-C3-O31
69	3P	503	3PE	C1-C2-C3-O31
70	1P	401	PC1	C1-C2-C3-O31
70	1h	203	PC1	C1-C2-C3-O31
75	1X	201	CDL	CB3-CB4-CB6-OB8
75	1d	202	CDL	CA3-CA4-CA6-OA8
85	4C	305	PGV	O03-C01-C02-C03
85	4J	101	PGV	O03-C01-C02-C03
75	1X	201	CDL	C58-C59-C60-C61
75	3T	101	CDL	C31-CA7-OA8-CA6
69	1N	901	3PE	C28-C29-C2A-C2B
69	3R	302	3PE	C27-C28-C29-C2A
75	4C	306	CDL	C81-C82-C83-C84
75	4D	201	CDL	C62-C63-C64-C65
85	4L	101	PGV	C5-C6-C7-C8

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Mol	Chain	Res	Type	Atoms
69	1M	504	3PE	C27-C28-C29-C2A
85	4C	303	PGV	C5-C6-C7-C8
75	4C	306	CDL	C75-C76-C77-C78
69	1L	701	3PE	C28-C29-C2A-C2B
91	4G	102	PEK	C21-C22-C23-C24
75	4D	201	CDL	C14-C15-C16-C17
69	3P	503	3PE	C27-C28-C29-C2A
70	1I	201	PC1	C2B-C2C-C2D-C2E
70	1M	503	PC1	C23-C24-C25-C26
70	1Y	201	PC1	O21-C2-C3-O31
69	3R	302	3PE	C23-C24-C25-C26
69	1N	901	3PE	C32-C33-C34-C35
69	1M	504	3PE	C26-C27-C28-C29
69	1N	903	3PE	C35-C36-C37-C38
86	4A	605	HEA	C3B-C11-C12-C13
80	1T	101	EHZ	O4-C15-C16-C17
70	1h	203	PC1	C2A-C2B-C2C-C2D
85	4K	101	PGV	C22-C23-C24-C25
75	3T	101	CDL	C52-C53-C54-C55
73	1F	501	FMN	C4'-C5'-O5'-P
75	1X	201	CDL	C1-CB2-OB2-PB2
75	1d	202	CDL	C1-CA2-OA2-PA1
75	1d	202	CDL	CA4-CA3-OA5-PA1
85	4A	603	PGV	C02-C03-O11-P
85	4B	301	PGV	C05-C04-O12-P
85	4K	101	PGV	C02-C03-O11-P
83	3C	501	HEM	C3D-CAD-CBD-CGD
70	1m	201	PC1	C23-C24-C25-C26
69	1J	201	3PE	C34-C35-C36-C37
69	1N	901	3PE	O11-C1-C2-C3
75	1d	202	CDL	OB5-CB3-CB4-CB6
75	3P	504	CDL	OB5-CB3-CB4-CB6
75	1N	902	CDL	C32-C31-CA7-OA8
90	4B	304	PSC	C1-C2-C3-C4
69	1Y	203	3PE	O31-C31-C32-C33
75	1d	202	CDL	C12-C11-CA5-OA6
75	3G	102	CDL	C72-C71-CB7-OB8
75	1X	201	CDL	C18-C19-C20-C21
91	4G	103	PEK	C23-C24-C25-C26
69	1L	703	3PE	C1-C2-C3-O31
75	1N	902	CDL	CA3-CA4-CA6-OA8
75	3N	502	CDL	CA3-CA4-CA6-OA8

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Mol	Chain	Res	Type	Atoms
85	4A	603	PGV	O03-C01-C02-C03
90	4B	304	PSC	O03-C01-C02-C03
75	1X	201	CDL	C61-C62-C63-C64
75	4C	306	CDL	C59-C60-C61-C62
69	1Y	203	3PE	O11-C1-C2-O21
75	3P	504	CDL	C51-CB5-OB6-CB4
75	4B	302	CDL	C1-CA2-OA2-PA1
76	1O	401	GTP	C4'-C5'-O5'-PA
85	4C	304	PGV	C05-C04-O12-P
85	4K	101	PGV	C05-C04-O12-P
69	3P	503	3PE	C22-C23-C24-C25
69	1A	201	3PE	O31-C31-C32-C33
69	1A	201	3PE	O21-C21-C22-C23
75	1q	202	CDL	C52-C51-CB5-OB6
75	1X	201	CDL	CA7-C31-C32-C33
69	1L	703	3PE	O21-C2-C3-O31
69	1Y	203	3PE	O21-C2-C3-O31
69	1d	201	3PE	O21-C2-C3-O31
69	3G	101	3PE	O21-C2-C3-O31
75	1X	201	CDL	OB6-CB4-CB6-OB8
75	3G	103	CDL	OA6-CA4-CA6-OA8
90	4B	304	PSC	O03-C01-C02-O01
69	1J	201	3PE	C3A-C3B-C3C-C3D
75	4C	306	CDL	C36-C37-C38-C39
69	1L	703	3PE	C28-C29-C2A-C2B
85	4B	301	PGV	C2-C3-C4-C5
85	4A	603	PGV	C1-C2-C3-C4
69	3C	504	3PE	C29-C2A-C2B-C2C
75	1N	902	CDL	C12-C13-C14-C15
69	1d	201	3PE	O21-C21-C22-C23
70	1B	202	PC1	O31-C31-C32-C33
75	3N	502	CDL	CA2-C1-CB2-OB2
75	1X	201	CDL	C36-C37-C38-C39
85	4C	305	PGV	C26-C27-C28-C29
69	1Y	202	3PE	O11-C1-C2-C3
85	4B	301	PGV	C01-C02-C03-O11
75	4C	306	CDL	C51-C52-C53-C54
69	1Y	202	3PE	C23-C24-C25-C26
69	1d	201	3PE	C2C-C2D-C2E-C2F
85	4C	304	PGV	C23-C24-C25-C26
83	3P	501	HEM	C2B-C3B-CAB-CBB
85	4C	302	PGV	C22-C23-C24-C25

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Mol	Chain	Res	Type	Atoms
75	4C	306	CDL	C16-C17-C18-C19
75	1L	702	CDL	C11-C12-C13-C14
81	1h	201	AME	CB-CA-N-CT1
69	3A	503	3PE	O11-C1-C2-O21
70	1B	203	PC1	O11-C1-C2-O21
75	4B	302	CDL	OA5-CA3-CA4-OA6
85	4B	301	PGV	O01-C02-C03-O11
69	1N	903	3PE	C1-C2-C3-O31
69	3N	503	3PE	C1-C2-C3-O31
70	1B	203	PC1	C1-C2-C3-O31
75	4B	302	CDL	CB3-CB4-CB6-OB8
83	3C	502	HEM	C4C-C3C-CAC-CBC
69	3C	504	3PE	O31-C31-C32-C33
75	3G	103	CDL	C52-C53-C54-C55
69	1L	704	3PE	C12-C11-O13-P
69	1M	502	3PE	C12-C11-O13-P
69	1M	504	3PE	C12-C11-O13-P
69	1j	101	3PE	C12-C11-O13-P
69	3C	503	3PE	C12-C11-O13-P
69	3C	504	3PE	C12-C11-O13-P
70	1B	203	PC1	C12-C11-O13-P
70	1m	201	PC1	C12-C11-O13-P
80	1T	101	EHZ	C15-C16-C17-C19
69	1M	502	3PE	O21-C2-C3-O31
69	3A	502	3PE	O21-C2-C3-O31
69	3N	501	3PE	O21-C2-C3-O31
70	1B	203	PC1	O21-C2-C3-O31
75	1d	202	CDL	OA6-CA4-CA6-OA8
75	4B	302	CDL	OB6-CB4-CB6-OB8
85	4C	303	PGV	C02-C03-O11-P
75	4C	306	CDL	C71-C72-C73-C74
70	1h	203	PC1	O13-C11-C12-N
70	1m	201	PC1	O13-C11-C12-N
69	1M	502	3PE	C24-C25-C26-C27
70	1B	203	PC1	C24-C25-C26-C27
70	1I	201	PC1	C32-C33-C34-C35
69	3P	503	3PE	C25-C26-C27-C28
70	1h	203	PC1	C2B-C2C-C2D-C2E
75	4C	306	CDL	C79-C80-C81-C82
86	4A	604	HEA	C4D-C3D-CAD-CBD
69	3A	502	3PE	O11-C1-C2-C3
75	4B	302	CDL	OA5-CA3-CA4-CA6

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Mol	Chain	Res	Type	Atoms
69	1M	502	3PE	C3F-C3G-C3H-C3I
80	1T	101	EHZ	C15-C16-C17-C20
69	1Y	203	3PE	C23-C24-C25-C26
69	1A	201	3PE	C36-C37-C38-C39
70	1B	202	PC1	C23-C24-C25-C26
85	4K	101	PGV	C3-C4-C5-C6
75	3A	501	CDL	C52-C53-C54-C55
80	1n	201	EHZ	C11-C10-S1-C9
69	1Y	202	3PE	O11-C1-C2-O21
70	1P	401	PC1	O11-C1-C2-O21
75	4C	306	CDL	C52-C53-C54-C55
85	4C	301	PGV	C11-C12-C13-C14
85	4M	101	PGV	C9-C10-C11-C12
75	1X	201	CDL	C31-C32-C33-C34
69	3N	503	3PE	O21-C2-C3-O31
69	3P	503	3PE	O21-C2-C3-O31
70	1P	401	PC1	O21-C2-C3-O31
70	1h	203	PC1	O21-C2-C3-O31
85	4C	304	PGV	O03-C01-C02-O01
85	4J	101	PGV	O03-C01-C02-O01
69	1M	502	3PE	C1-C2-C3-O31
69	1Y	202	3PE	C1-C2-C3-O31
70	1Y	201	PC1	C1-C2-C3-O31
75	1X	201	CDL	C12-C11-CA5-OA6
69	1A	201	3PE	C28-C29-C2A-C2B
75	3A	501	CDL	O1-C1-CA2-OA2
69	1d	201	3PE	C3C-C3D-C3E-C3F
75	1h	202	CDL	C34-C35-C36-C37
69	1N	901	3PE	C2B-C2C-C2D-C2E
69	3G	101	3PE	C36-C37-C38-C39
69	1J	201	3PE	C1-O11-P-O12
69	1L	701	3PE	C11-O13-P-O14
69	1L	704	3PE	C11-O13-P-O14
69	1M	501	3PE	C1-O11-P-O13
69	1N	901	3PE	C11-O13-P-O12
69	1Y	205	3PE	C1-O11-P-O14
69	3C	503	3PE	C11-O13-P-O12
69	3C	504	3PE	C1-O11-P-O13
69	3C	504	3PE	C1-O11-P-O14
69	3G	101	3PE	C11-O13-P-O14
69	3N	501	3PE	C1-O11-P-O12
69	3N	501	3PE	C11-O13-P-O14

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Mol	Chain	Res	Type	Atoms
69	3N	503	3PE	C11-O13-P-O14
70	1B	203	PC1	C1-O11-P-O14
70	1H	401	PC1	C11-O13-P-O14
70	1H	401	PC1	C1-O11-P-O12
70	1I	201	PC1	C11-O13-P-O11
70	1P	401	PC1	C11-O13-P-O11
70	1m	201	PC1	C11-O13-P-O11
75	1L	702	CDL	CA2-OA2-PA1-OA4
75	1d	202	CDL	CA2-OA2-PA1-OA3
75	1d	202	CDL	CA3-OA5-PA1-OA3
75	1d	202	CDL	CB2-OB2-PB2-OB3
75	1h	202	CDL	CB3-OB5-PB2-OB2
75	1q	202	CDL	CA3-OA5-PA1-OA3
75	3G	102	CDL	CA3-OA5-PA1-OA4
75	3G	103	CDL	CA2-OA2-PA1-OA3
75	3N	502	CDL	CB3-OB5-PB2-OB3
75	3P	504	CDL	CA3-OA5-PA1-OA3
75	3P	504	CDL	CB3-OB5-PB2-OB3
75	3T	101	CDL	CA3-OA5-PA1-OA2
75	3T	101	CDL	CA3-OA5-PA1-OA3
75	3T	101	CDL	CA3-OA5-PA1-OA4
75	4B	302	CDL	CB3-OB5-PB2-OB4
75	4C	306	CDL	CB2-OB2-PB2-OB3
75	4C	306	CDL	CB3-OB5-PB2-OB3
75	4D	201	CDL	CA3-OA5-PA1-OA3
75	4D	201	CDL	CB2-OB2-PB2-OB3
85	4A	601	PGV	C03-O11-P-O14
85	4A	603	PGV	C03-O11-P-O13
85	4B	301	PGV	C04-O12-P-O13
85	4C	305	PGV	C04-O12-P-O13
85	4G	101	PGV	C04-O12-P-O14
85	4K	101	PGV	C04-O12-P-O13
85	4L	101	PGV	C03-O11-P-O13
69	3R	302	3PE	C26-C27-C28-C29
70	1H	401	PC1	C37-C38-C39-C3A
75	4C	306	CDL	C11-C12-C13-C14
69	1A	201	3PE	C2-C1-O11-P
69	1Y	204	3PE	C2-C1-O11-P
75	1d	202	CDL	CB4-CB3-OB5-PB2
75	3N	502	CDL	CB4-CB3-OB5-PB2
85	4A	603	PGV	C2-C3-C4-C5
85	4C	305	PGV	C24-C25-C26-C27

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Mol	Chain	Res	Type	Atoms
69	1M	501	3PE	C23-C24-C25-C26
69	3C	503	3PE	C29-C2A-C2B-C2C
75	1X	201	CDL	C55-C56-C57-C58
85	4K	101	PGV	C9-C10-C11-C12
85	4B	301	PGV	C1-C2-C3-C4
69	3R	302	3PE	C32-C33-C34-C35
69	3N	501	3PE	C1-C2-O21-C21
69	3N	501	3PE	C3-C2-O21-C21
75	4B	302	CDL	C38-C39-C40-C41
75	1d	202	CDL	OA5-CA3-CA4-CA6
75	3G	103	CDL	C11-C12-C13-C14
86	4A	604	HEA	C2D-C3D-CAD-CBD
85	4C	304	PGV	C11-C12-C13-C14
85	4G	101	PGV	C11-C12-C13-C14
85	4J	101	PGV	C11-C12-C13-C14
70	1H	401	PC1	C21-C22-C23-C24
69	1L	701	3PE	C25-C26-C27-C28
70	1I	201	PC1	C38-C39-C3A-C3B
69	1Y	205	3PE	C2-C1-O11-P
69	3C	503	3PE	C2C-C2D-C2E-C2F
85	4C	304	PGV	O03-C19-C20-C21
85	4A	601	PGV	C11-C10-C9-C8
69	3N	501	3PE	C1-C2-C3-O31
69	1L	704	3PE	C23-C24-C25-C26
70	3X	101	PC1	O21-C21-C22-C23
69	1N	901	3PE	C2D-C2E-C2F-C2G
80	1n	201	EHZ	C7-C8-C9-O2
80	1T	101	EHZ	C1-C2-C3-C4
85	4M	101	PGV	C11-C12-C13-C14
69	1Y	205	3PE	C2A-C2B-C2C-C2D
85	4C	304	PGV	C3-C4-C5-C6
75	3G	102	CDL	C72-C71-CB7-OB9
69	1Y	203	3PE	C21-C22-C23-C24
75	1X	201	CDL	C35-C36-C37-C38
85	4C	303	PGV	C11-C12-C13-C14
85	4M	101	PGV	C3-C4-C5-C6
85	4M	101	PGV	C22-C23-C24-C25
75	4D	201	CDL	OB6-CB4-CB6-OB8
75	3A	501	CDL	CA7-C31-C32-C33
69	3C	503	3PE	C23-C24-C25-C26
85	4C	302	PGV	C21-C22-C23-C24
70	1B	202	PC1	C35-C36-C37-C38

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Mol	Chain	Res	Type	Atoms
91	4G	103	PEK	C02-C03-O11-P
69	1M	502	3PE	C21-C22-C23-C24
85	4K	101	PGV	C1-C2-C3-C4
83	3P	501	HEM	CAA-CBA-CGA-O1A
83	3C	501	HEM	CAA-CBA-CGA-O2A
83	3P	502	HEM	CAA-CBA-CGA-O1A
80	1T	101	EHZ	C10-C11-N1-C12
80	1n	201	EHZ	C10-C11-N1-C12
85	4A	601	PGV	O03-C01-C02-C03
69	3C	503	3PE	C1-C2-O21-C21
86	4A	604	HEA	CAD-CBD-CGD-O2D
69	1M	501	3PE	C21-C22-C23-C24
83	3P	501	HEM	CAD-CBD-CGD-O1D
69	1A	201	3PE	O32-C31-C32-C33
83	3P	502	HEM	CAA-CBA-CGA-O2A
86	4A	605	HEA	CAD-CBD-CGD-O1D
90	4B	304	PSC	C5-C6-C7-C8
69	3C	503	3PE	O11-C1-C2-O21
85	4L	101	PGV	C21-C22-C23-C24
85	4A	602	PGV	C11-C12-C13-C14
75	1X	201	CDL	C12-C13-C14-C15
75	4C	306	CDL	C38-C39-C40-C41
69	1M	501	3PE	C2-C1-O11-P
70	1Y	201	PC1	C2-C1-O11-P
85	4J	101	PGV	C5-C6-C7-C8
81	1h	201	AME	C-CA-N-CT1
69	1J	201	3PE	C3D-C3E-C3F-C3G
70	1B	203	PC1	O11-C1-C2-C3
85	4M	101	PGV	C01-C02-C03-O11
83	3C	502	HEM	CAA-CBA-CGA-O2A
83	3P	501	HEM	CAD-CBD-CGD-O2D
69	1Y	202	3PE	C2D-C2E-C2F-C2G
85	4C	305	PGV	C9-C10-C11-C12
91	4G	102	PEK	O03-C01-C02-O01
83	3P	501	HEM	CAA-CBA-CGA-O2A
69	1L	704	3PE	C22-C23-C24-C25
78	1P	402	NDP	C2N-C3N-C7N-N7N
91	4G	102	PEK	C6-C7-C8-C9
91	4G	102	PEK	C9-C10-C11-C12
91	4G	103	PEK	C11-C12-C13-C14
69	1J	201	3PE	C23-C24-C25-C26
83	3C	502	HEM	CAA-CBA-CGA-O1A

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Mol	Chain	Res	Type	Atoms
86	4A	604	HEA	CAD-CBD-CGD-O1D
86	4A	605	HEA	CAD-CBD-CGD-O2D
85	4J	101	PGV	C2-C3-C4-C5
69	1d	201	3PE	O22-C21-C22-C23
85	4K	101	PGV	C5-C6-C7-C8
70	1h	203	PC1	C22-C23-C24-C25
86	4A	605	HEA	C26-C15-C16-C17
83	3C	501	HEM	CAA-CBA-CGA-O1A
75	1L	702	CDL	CA4-CA3-OA5-PA1
75	3N	502	CDL	C1-CB2-OB2-PB2
75	3T	101	CDL	C53-C54-C55-C56
75	4D	201	CDL	C12-C13-C14-C15
86	4A	605	HEA	C2A-CAA-CBA-CGA
69	3D	502	3PE	C35-C36-C37-C38
85	4A	603	PGV	C5-C6-C7-C8
86	4A	604	HEA	C19-C20-C21-C22
69	1M	502	3PE	C38-C39-C3A-C3B
75	4C	306	CDL	C72-C73-C74-C75
69	1M	501	3PE	C36-C37-C38-C39
80	1T	101	EHZ	C1-C21-C22-C23
91	4G	103	PEK	O01-C02-C03-O11
75	1q	202	CDL	C52-C51-CB5-OB7
80	1T	101	EHZ	C12-C13-C14-N2
85	4C	304	PGV	C9-C10-C11-C12
85	4K	101	PGV	C11-C12-C13-C14
70	1I	201	PC1	C34-C35-C36-C37
75	4B	302	CDL	C12-C11-CA5-OA6
69	3R	302	3PE	C22-C23-C24-C25
75	4D	201	CDL	C73-C74-C75-C76
75	3T	101	CDL	OA5-CA3-CA4-CA6
91	4G	103	PEK	C01-C02-C03-O11
70	1M	503	PC1	C2-C1-O11-P
75	1X	201	CDL	C63-C64-C65-C66
75	4C	306	CDL	C18-C19-C20-C21
70	1B	202	PC1	O32-C31-C32-C33
90	4B	304	PSC	C2-C3-C4-C5
84	3Q	501	HEC	CAA-CBA-CGA-O2A
69	1J	201	3PE	C28-C29-C2A-C2B
70	1H	401	PC1	C38-C39-C3A-C3B
86	4A	604	HEA	C26-C15-C16-C17
91	4G	103	PEK	O03-C21-C22-C23
70	1Y	201	PC1	C2-C3-O31-C31

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Mol	Chain	Res	Type	Atoms
69	1d	201	3PE	C36-C37-C38-C39
85	4C	303	PGV	C14-C15-C16-C17
69	1Y	203	3PE	O32-C31-C32-C33
69	1L	703	3PE	C29-C2A-C2B-C2C
75	3N	502	CDL	CB6-CB4-OB6-CB5
75	3G	102	CDL	C12-C13-C14-C15
84	3D	501	HEC	CAA-CBA-CGA-O2A
70	1B	202	PC1	C33-C34-C35-C36
85	4C	305	PGV	C6-C7-C8-C9
70	1M	503	PC1	C28-C29-C2A-C2B
69	1L	703	3PE	C34-C35-C36-C37
70	1B	203	PC1	C22-C23-C24-C25
84	3Q	501	HEC	CAA-CBA-CGA-O1A
69	1d	201	3PE	C1-C2-C3-O31
83	3P	501	HEM	C4B-C3B-CAB-CBB
70	1B	202	PC1	C3D-C3E-C3F-C3G
84	3D	501	HEC	CAA-CBA-CGA-O1A
70	3X	101	PC1	C21-C22-C23-C24
85	4A	603	PGV	C24-C25-C26-C27
85	4J	101	PGV	C9-C10-C11-C12
69	1Y	205	3PE	C12-C11-O13-P
80	1T	101	EHZ	C15-C16-C17-C18
70	1I	201	PC1	C22-C23-C24-C25
85	4C	304	PGV	C29-C30-C31-C32
85	4C	305	PGV	C4-C5-C6-C7
75	1N	902	CDL	C32-C31-CA7-OA9
70	1I	201	PC1	O21-C2-C3-O31
75	1N	902	CDL	OB6-CB4-CB6-OB8
75	3T	101	CDL	OB6-CB4-CB6-OB8
75	4B	302	CDL	C60-C61-C62-C63
85	4A	601	PGV	C9-C10-C11-C12
85	4C	307	PGV	C11-C12-C13-C14
85	4L	101	PGV	C9-C10-C11-C12
75	1L	702	CDL	C72-C71-CB7-OB8
69	1M	504	3PE	C3A-C3B-C3C-C3D
85	4A	602	PGV	C6-C7-C8-C9
85	4C	302	PGV	C24-C25-C26-C27
75	4C	306	CDL	C22-C23-C24-C25
85	4L	101	PGV	C24-C25-C26-C27
85	4M	101	PGV	C27-C28-C29-C30
90	4B	304	PSC	O03-C19-C20-C21
75	1d	202	CDL	C12-C11-CA5-OA7

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Mol	Chain	Res	Type	Atoms
69	1Y	205	3PE	C26-C27-C28-C29
75	3P	504	CDL	C32-C31-CA7-OA8
85	4A	602	PGV	C14-C15-C16-C17
91	4G	103	PEK	C22-C23-C24-C25
91	4G	102	PEK	C14-C15-C16-C17
85	4C	304	PGV	C02-C01-O03-C19
69	1L	703	3PE	C25-C26-C27-C28
85	4C	307	PGV	C5-C6-C7-C8
70	1q	201	PC1	C34-C35-C36-C37
75	3G	103	CDL	C72-C73-C74-C75
90	4B	304	PSC	C24-C25-C26-C27
85	4A	602	PGV	C28-C29-C30-C31
69	3R	302	3PE	C37-C38-C39-C3A
85	4A	603	PGV	C20-C21-C22-C23
69	1A	201	3PE	O22-C21-C22-C23
83	3P	502	HEM	CAD-CBD-CGD-O2D
70	3R	303	PC1	C39-C3A-C3B-C3C
70	1P	401	PC1	O21-C21-C22-C23
85	4A	601	PGV	O03-C19-C20-C21
70	1B	203	PC1	C23-C24-C25-C26
69	3G	101	3PE	C1-C2-C3-O31
75	1N	902	CDL	CB3-CB4-CB6-OB8
83	3P	502	HEM	CAD-CBD-CGD-O1D
69	1Y	203	3PE	O21-C21-C22-C23
75	3T	101	CDL	C52-C51-CB5-OB6
85	4C	305	PGV	O03-C19-C20-C21
75	3G	103	CDL	OB6-CB4-CB6-OB8
85	4M	101	PGV	C20-C21-C22-C23
69	1N	901	3PE	O31-C31-C32-C33
70	1m	201	PC1	O21-C21-C22-C23
85	4A	602	PGV	C2-C3-C4-C5
91	4G	102	PEK	C23-C24-C25-C26
69	1L	704	3PE	O21-C21-C22-C23
75	1q	202	CDL	C53-C54-C55-C56
75	4C	306	CDL	CA2-C1-CB2-OB2
69	3D	502	3PE	C24-C25-C26-C27
85	4J	101	PGV	C6-C7-C8-C9
69	1M	502	3PE	C3-C2-O21-C21
70	1m	201	PC1	C3-C2-O21-C21
85	4C	304	PGV	C01-C02-O01-C1
85	4C	304	PGV	C21-C22-C23-C24
70	1B	202	PC1	C37-C38-C39-C3A

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Mol	Chain	Res	Type	Atoms
85	4A	603	PGV	C26-C27-C28-C29
80	1T	101	EHZ	N2-C15-C16-C17
75	3N	502	CDL	C52-C51-CB5-OB6
85	4C	303	PGV	C2-C3-C4-C5
85	4C	307	PGV	C14-C15-C16-C17
69	1M	501	3PE	C3A-C3B-C3C-C3D
70	3E	302	PC1	C3B-C3C-C3D-C3E
70	3E	302	PC1	C36-C37-C38-C39
69	1N	901	3PE	C23-C24-C25-C26
85	4B	301	PGV	C23-C24-C25-C26
69	1L	704	3PE	O22-C21-C22-C23
75	3P	504	CDL	C32-C31-CA7-OA9
69	3P	503	3PE	C24-C25-C26-C27
70	1H	401	PC1	C2C-C2D-C2E-C2F
69	1N	901	3PE	C34-C35-C36-C37
85	4J	101	PGV	C26-C27-C28-C29
69	1Y	205	3PE	C23-C24-C25-C26
69	3R	302	3PE	C34-C35-C36-C37
75	1L	702	CDL	C36-C37-C38-C39
70	1P	401	PC1	O22-C21-C22-C23
75	3P	504	CDL	C72-C71-CB7-OB9
69	3N	503	3PE	C31-C32-C33-C34
69	1Y	203	3PE	O22-C21-C22-C23
70	1M	503	PC1	O22-C21-C22-C23
90	4B	304	PSC	O04-C19-C20-C21
70	1Y	201	PC1	O22-C21-C22-C23
75	1L	702	CDL	C72-C71-CB7-OB9
69	3D	502	3PE	C31-C32-C33-C34
82	1I	201	MYR	C3-C4-C5-C6
69	1N	901	3PE	O32-C31-C32-C33
75	3P	504	CDL	C72-C71-CB7-OB8
83	3P	501	HEM	C2C-C3C-CAC-CBC
84	3Q	501	HEC	CAD-CBD-CGD-O2D
86	4A	605	HEA	CAA-CBA-CGA-O2A
70	1m	201	PC1	O22-C21-C22-C23
70	1M	503	PC1	O21-C21-C22-C23
84	3Q	501	HEC	CAD-CBD-CGD-O1D
85	4C	305	PGV	O04-C19-C20-C21
70	1B	203	PC1	C2A-C2B-C2C-C2D
85	4K	101	PGV	C2-C3-C4-C5
69	3N	503	3PE	O31-C31-C32-C33
70	1Y	201	PC1	O21-C21-C22-C23

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Mol	Chain	Res	Type	Atoms
70	1h	203	PC1	O31-C31-C32-C33
75	1L	702	CDL	C32-C31-CA7-OA8
75	1q	202	CDL	C12-C11-CA5-OA6
85	4M	101	PGV	O01-C1-C2-C3
86	4A	605	HEA	CAA-CBA-CGA-O1A
75	3T	101	CDL	C52-C51-CB5-OB7
69	1d	201	3PE	O31-C31-C32-C33
69	3D	502	3PE	C34-C35-C36-C37
85	4G	101	PGV	C2-C3-C4-C5
85	4A	601	PGV	O04-C19-C20-C21

There are no ring outliers.

96 monomers are involved in 475 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
75	3T	101	CDL	6	0
72	3E	301	FES	2	0
70	1Z	201	PC1	5	0
73	1F	501	FMN	2	0
85	4A	602	PGV	7	0
85	4C	303	PGV	7	0
69	3Y	101	3PE	1	0
80	1n	201	EHZ	1	0
75	4C	306	CDL	14	0
71	1G	802	SF4	1	0
85	4C	307	PGV	10	0
75	1q	202	CDL	6	0
72	3R	301	FES	5	0
85	4L	101	PGV	10	0
85	4A	601	PGV	9	0
83	3C	502	HEM	4	0
69	1N	901	3PE	4	0
69	1L	704	3PE	1	0
69	1N	903	3PE	2	0
75	1d	202	CDL	9	0
75	3A	501	CDL	13	0
85	4C	305	PGV	4	0
69	1Y	202	3PE	1	0
86	4A	605	HEA	1	0
75	3N	502	CDL	8	0
71	1B	201	SF4	2	0
85	4M	101	PGV	5	0

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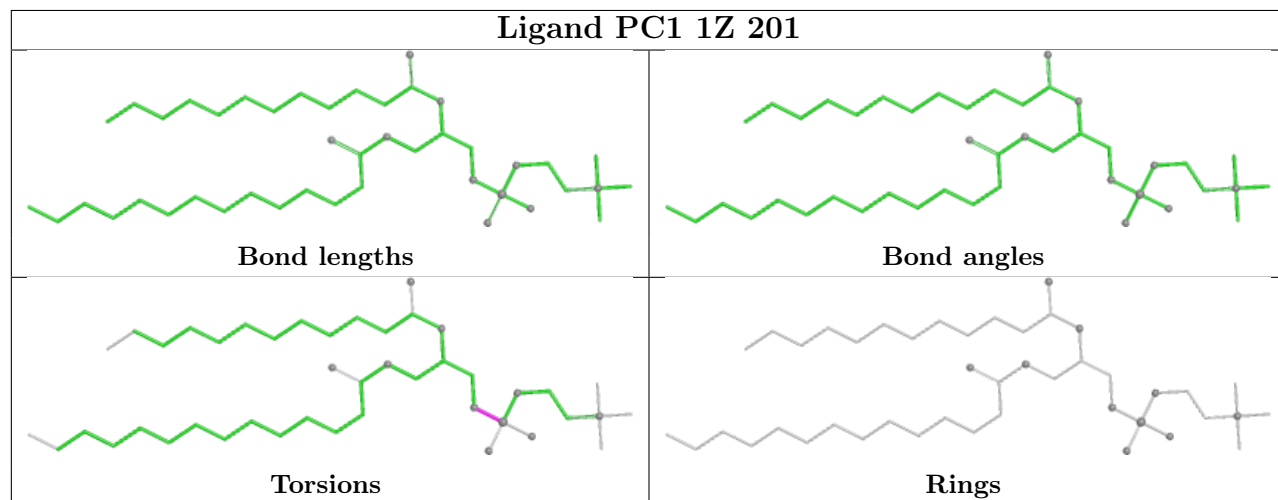
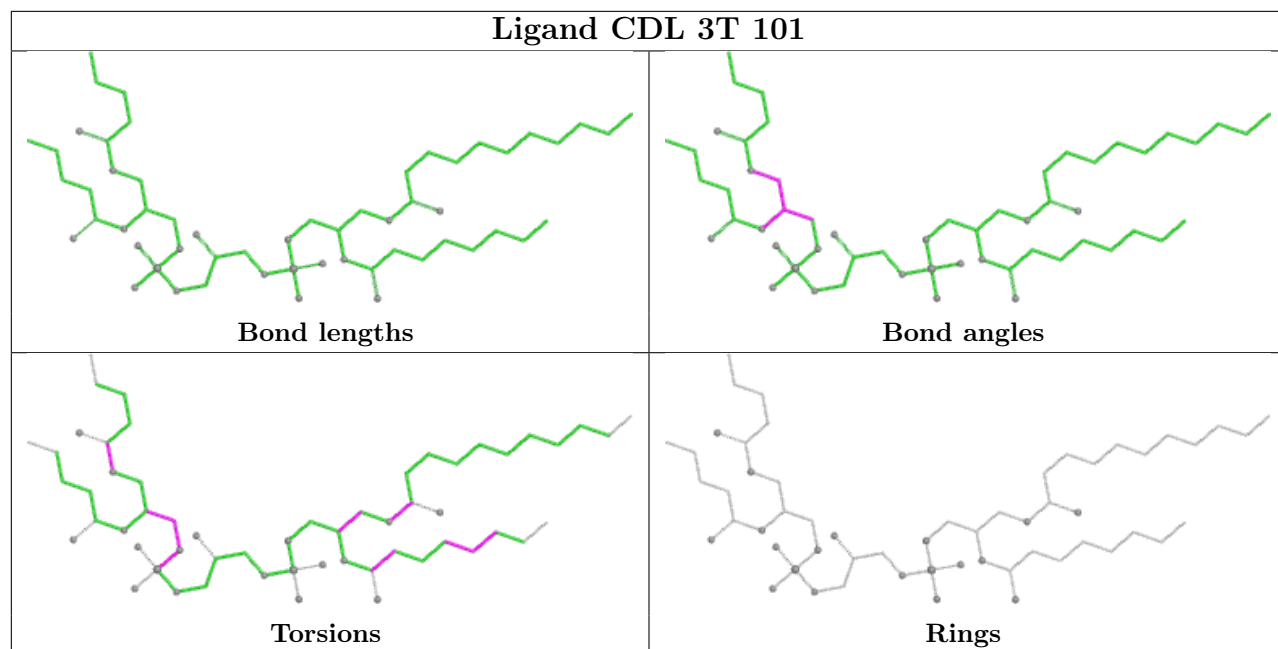
Mol	Chain	Res	Type	Clashes	Symm-Clashes
75	1L	702	CDL	4	0
85	4C	301	PGV	4	0
75	4D	201	CDL	20	0
86	4A	604	HEA	6	0
75	3G	102	CDL	4	0
84	3Q	501	HEC	2	0
69	1L	701	3PE	3	0
69	3A	503	3PE	10	0
70	3E	302	PC1	7	0
69	3G	101	3PE	3	0
70	1I	201	PC1	4	0
89	4B	303	CUA	2	0
70	1M	503	PC1	8	0
76	1O	401	GTP	2	0
85	4G	101	PGV	5	0
75	1N	902	CDL	4	0
69	1M	502	3PE	13	0
70	3X	101	PC1	4	0
69	3N	501	3PE	6	0
85	4J	101	PGV	7	0
69	3C	504	3PE	6	0
70	1H	401	PC1	6	0
75	3G	103	CDL	5	0
69	1J	201	3PE	6	0
85	4C	302	PGV	6	0
85	4K	101	PGV	6	0
69	1L	703	3PE	5	0
75	1X	201	CDL	13	0
69	3D	502	3PE	5	0
84	3D	501	HEC	2	0
70	1h	203	PC1	2	0
91	4G	103	PEK	5	0
69	1Y	203	3PE	5	0
70	1B	202	PC1	4	0
69	1Y	205	3PE	5	0
70	3R	303	PC1	10	0
69	3N	503	3PE	6	0
69	1d	201	3PE	12	0
69	3P	503	3PE	5	0
70	1A	202	PC1	1	0
69	3R	302	3PE	8	0
71	1F	502	SF4	1	0

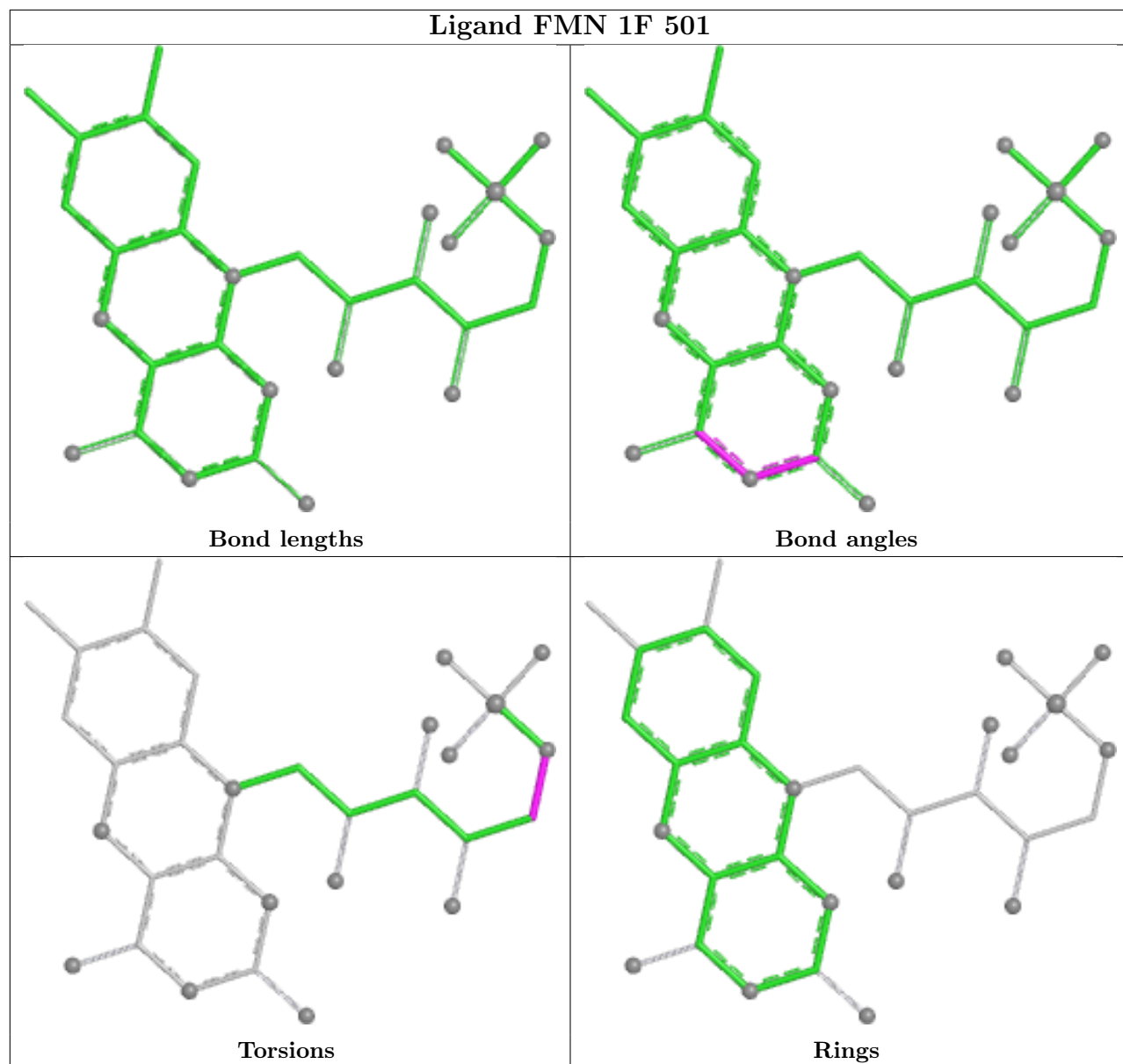
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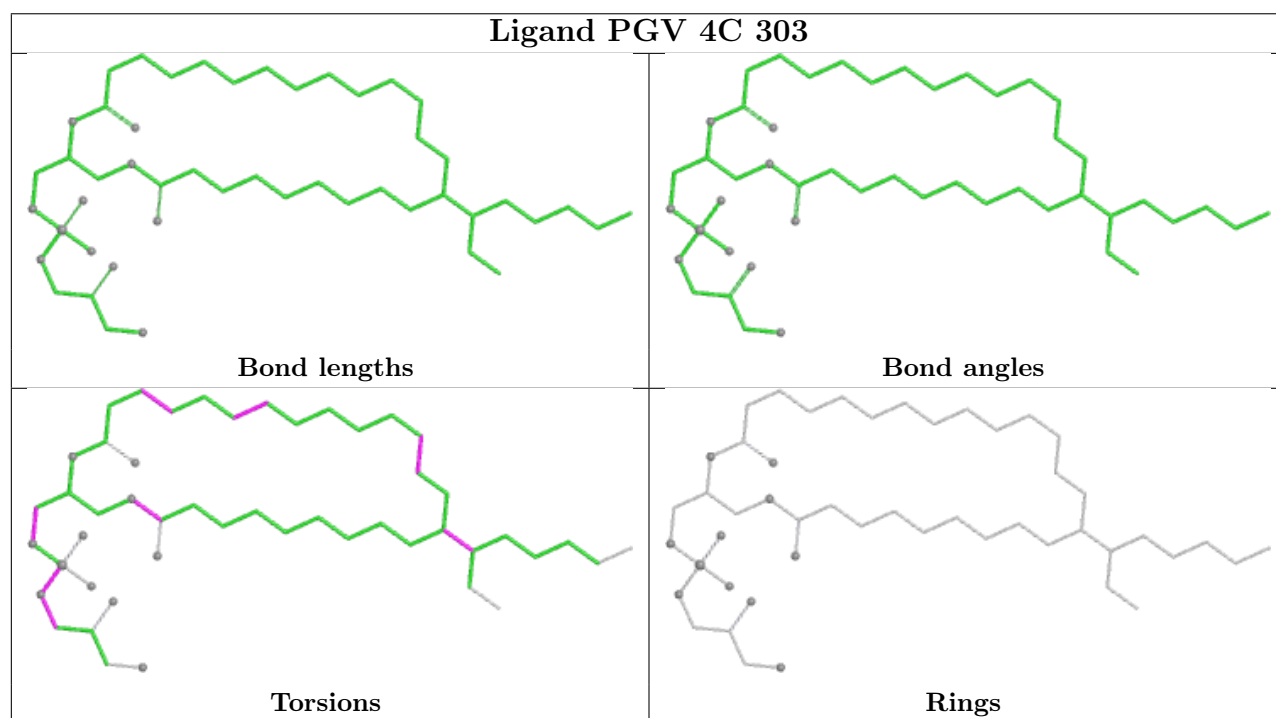
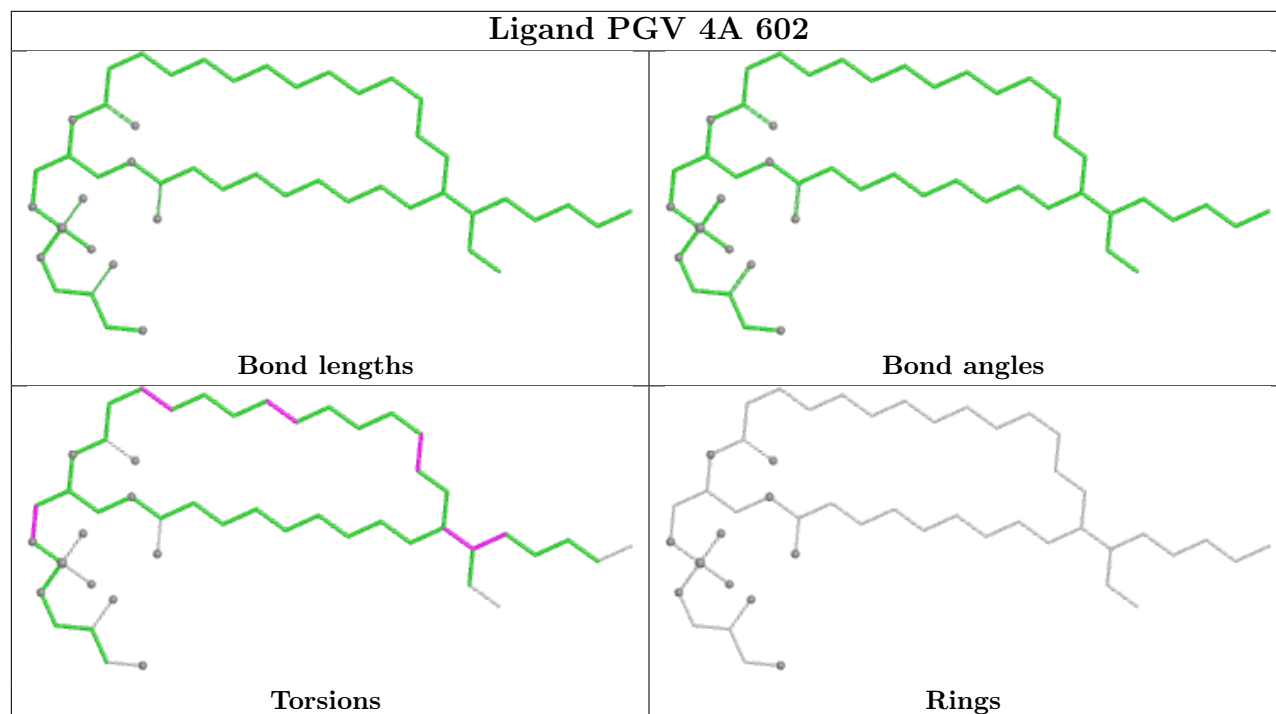
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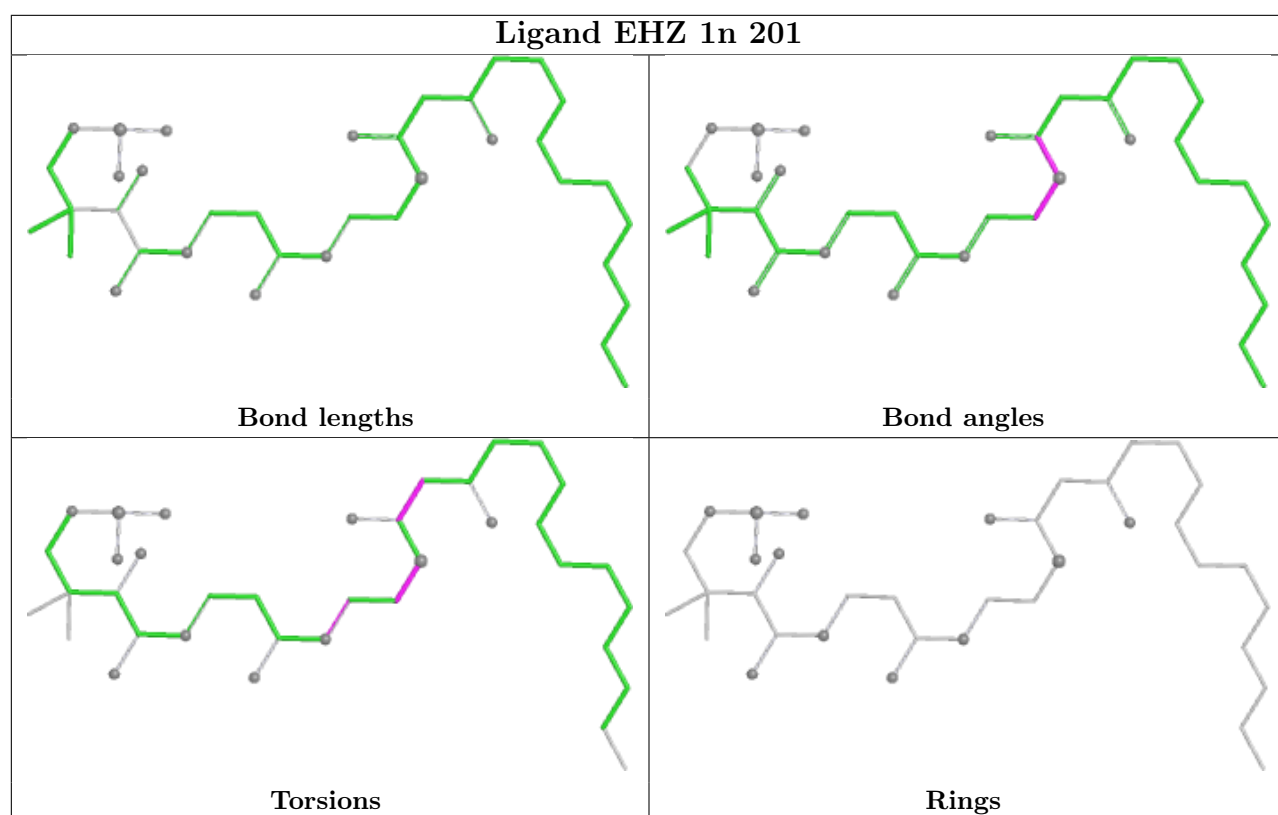
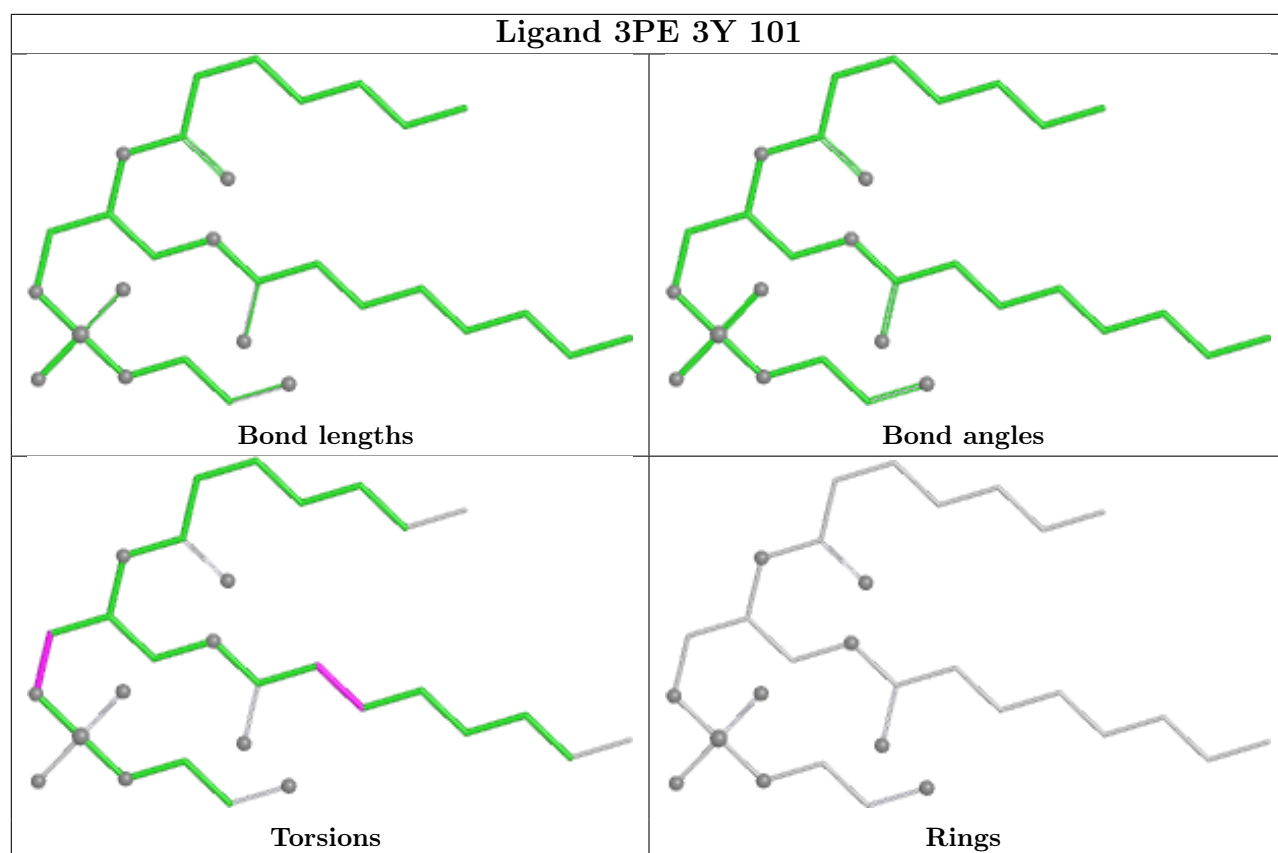
Mol	Chain	Res	Type	Clashes	Symm-Clashes
69	1M	504	3PE	8	0
75	4B	302	CDL	9	0
85	4A	603	PGV	6	0
83	3C	501	HEM	3	0
70	1B	203	PC1	7	0
83	3P	501	HEM	2	0
83	3P	502	HEM	2	0
70	1m	201	PC1	9	0
69	1M	501	3PE	6	0
69	3C	503	3PE	7	0
69	3A	502	3PE	3	0
72	1G	803	FES	1	0
69	1A	201	3PE	3	0
80	1T	101	EHZ	1	0
81	1h	201	AME	4	0
70	1q	201	PC1	10	0
91	4G	102	PEK	4	0
85	4B	301	PGV	13	0
70	1Y	201	PC1	4	0
75	3P	504	CDL	6	0
75	1h	202	CDL	10	0
90	4B	304	PSC	7	0
78	1P	402	NDP	1	0
72	1E	301	FES	1	0
85	4C	304	PGV	10	0
69	1Y	204	3PE	4	0
69	1j	101	3PE	1	0

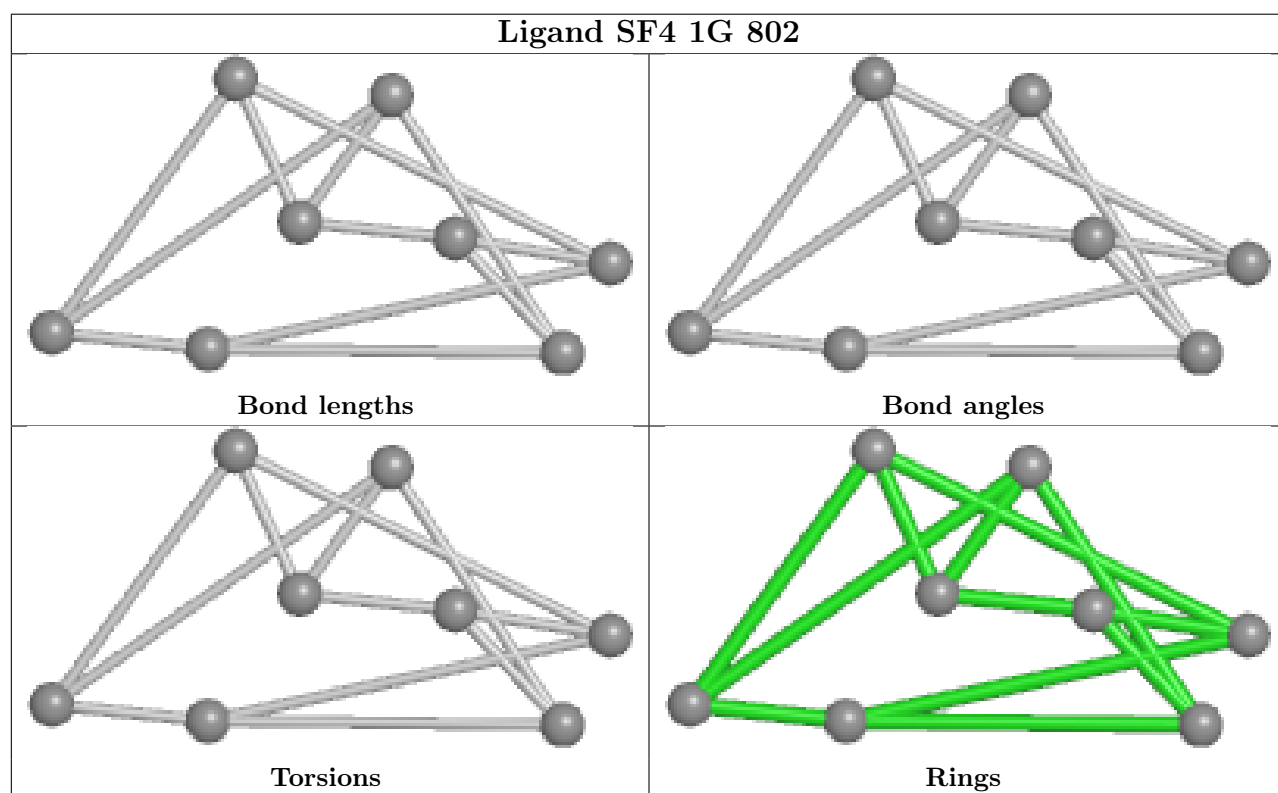
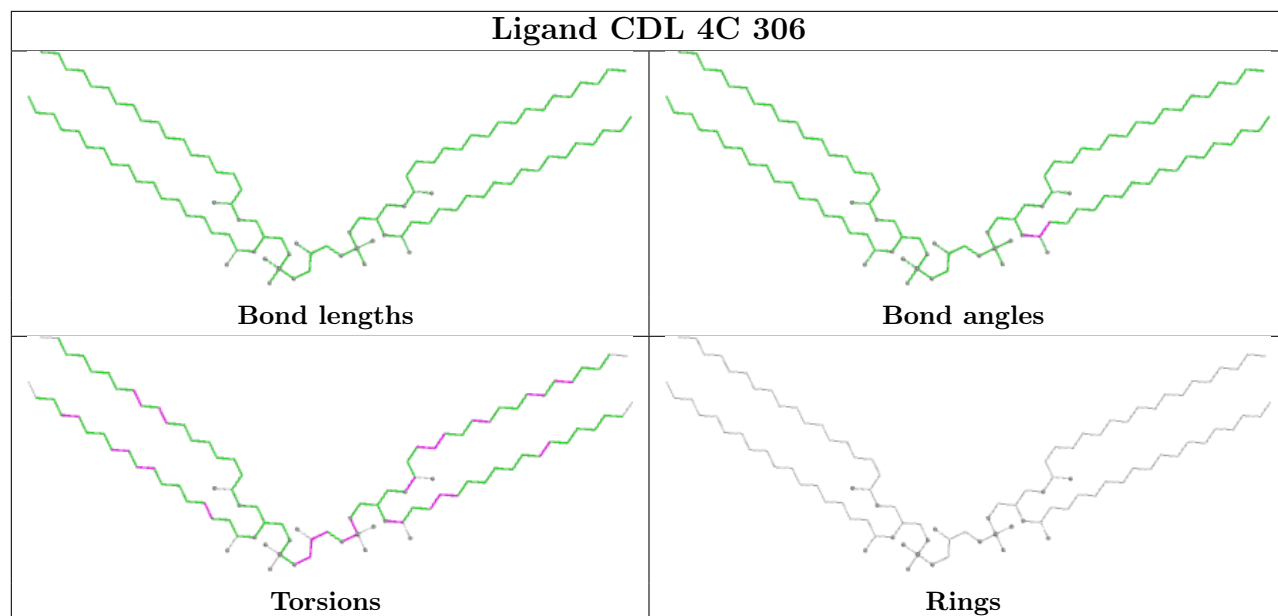
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

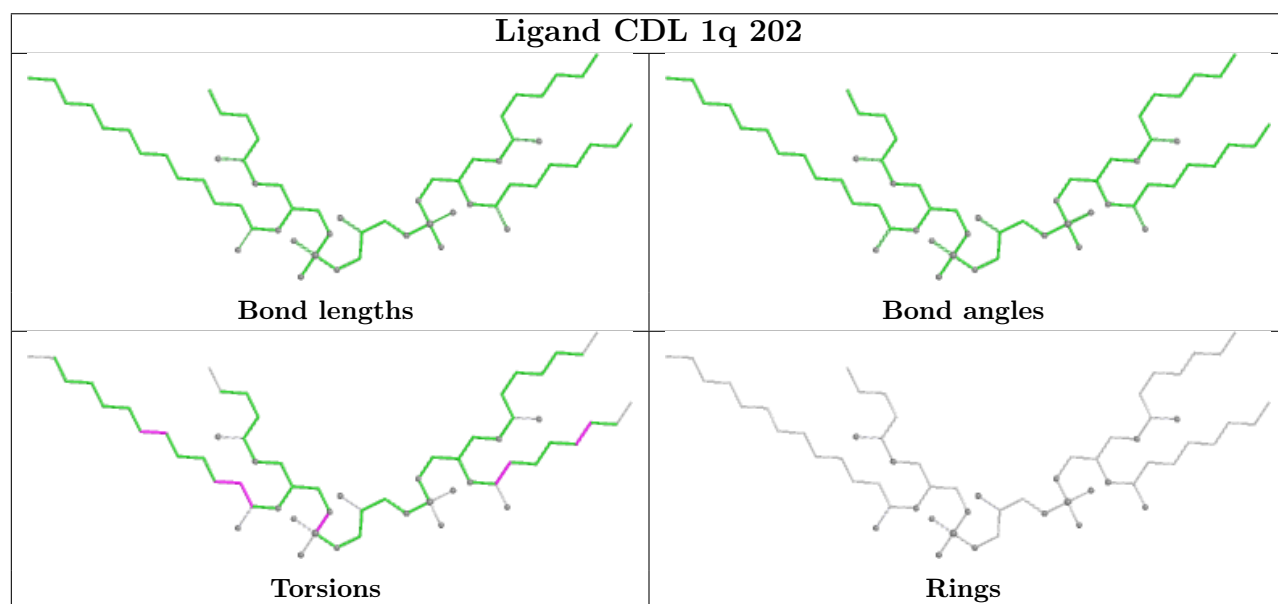
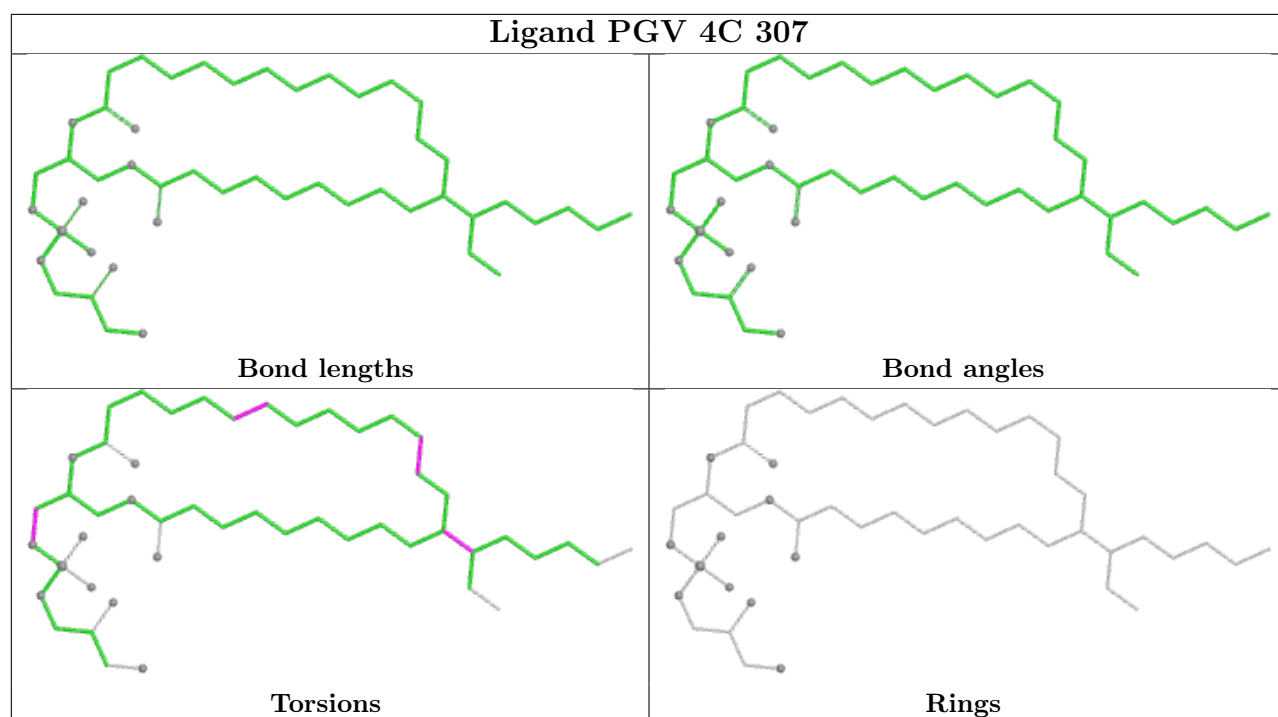


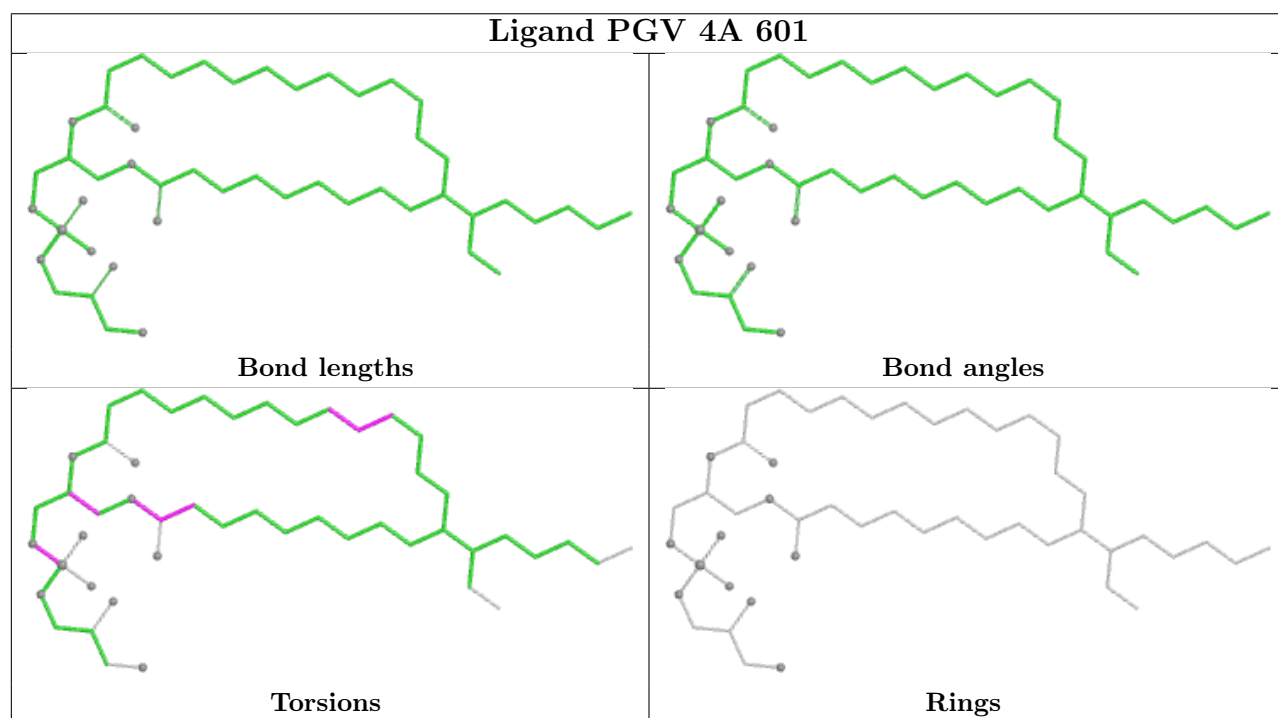
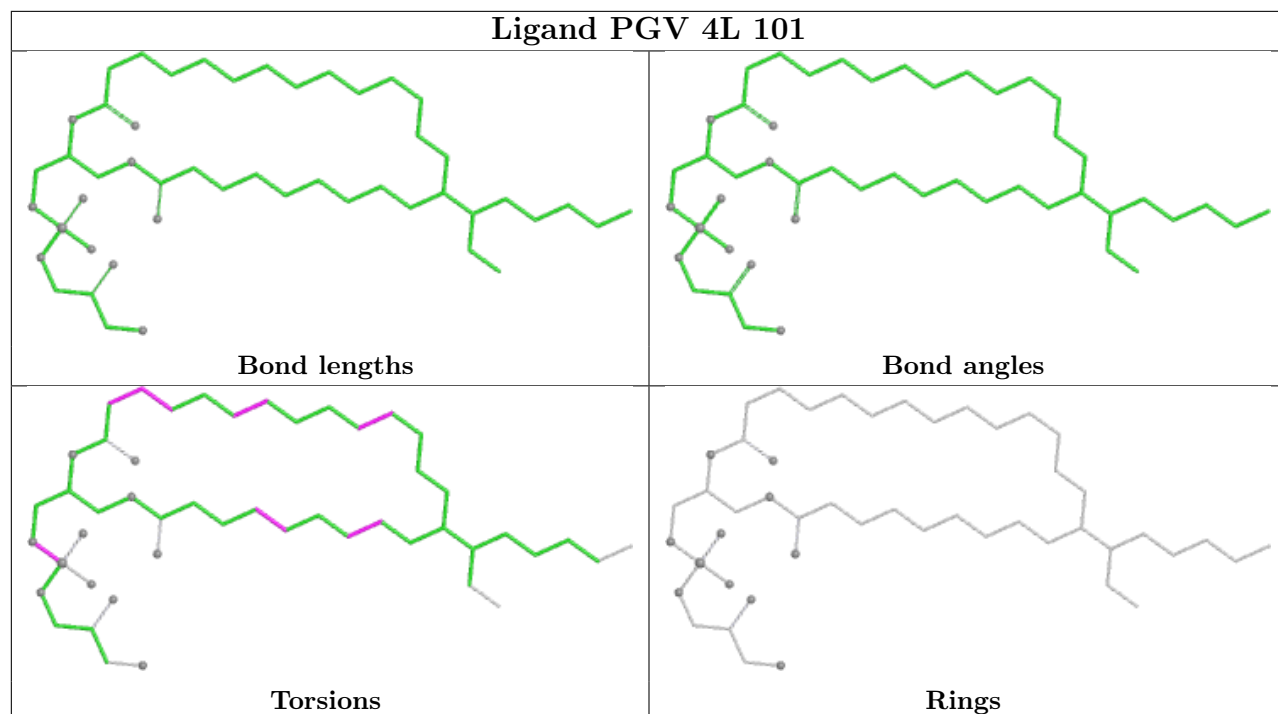




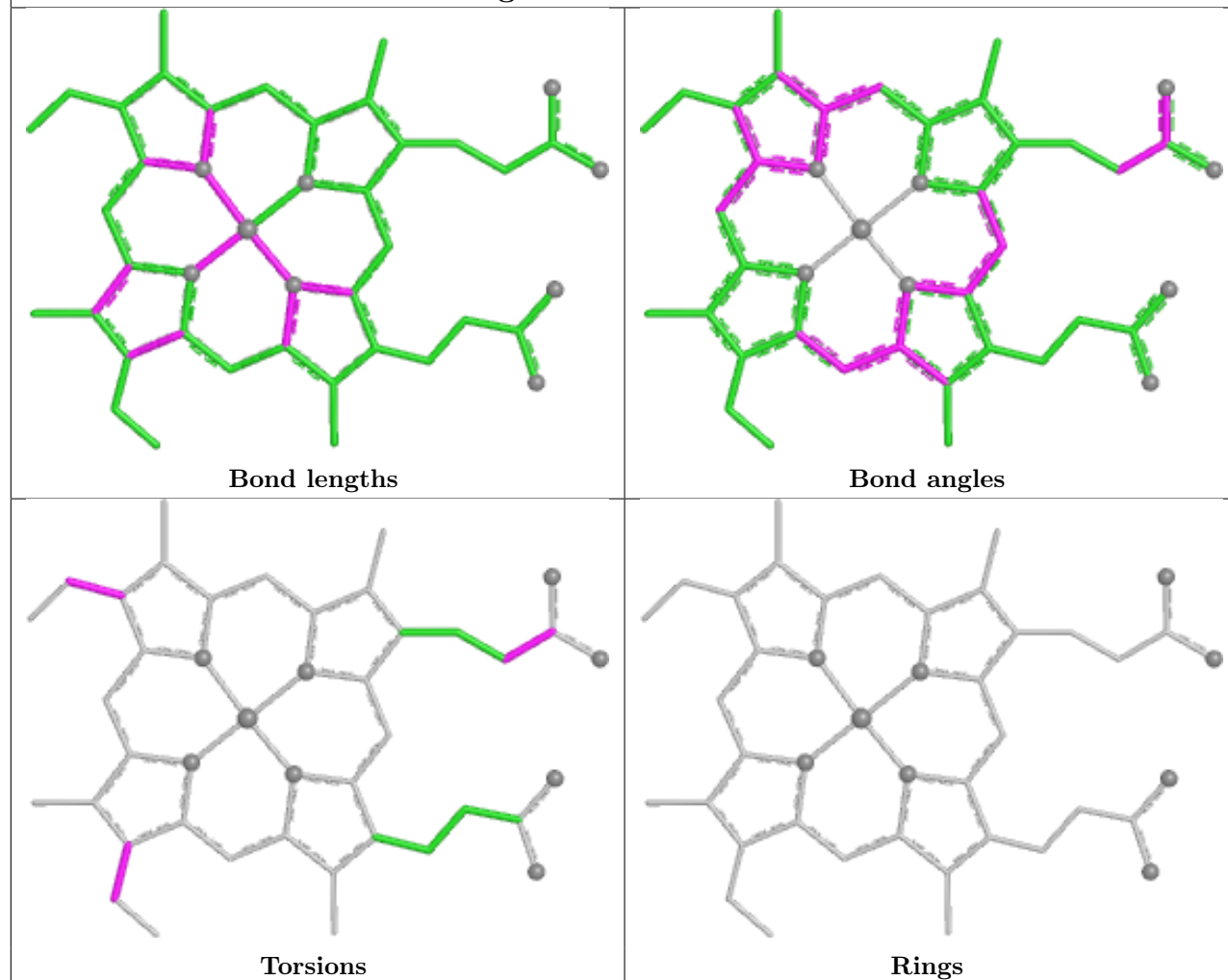




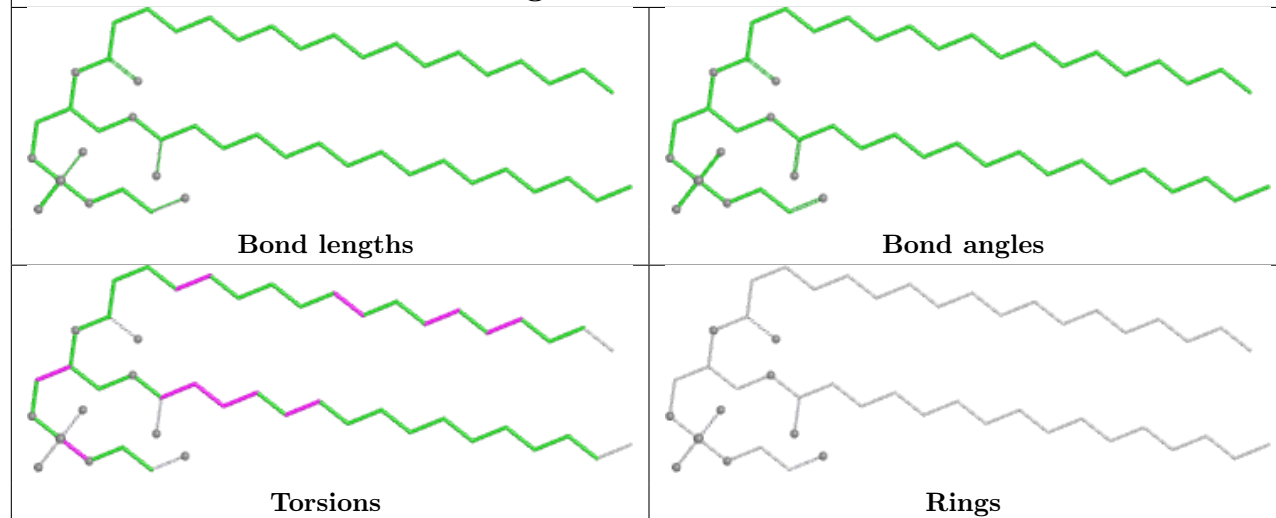


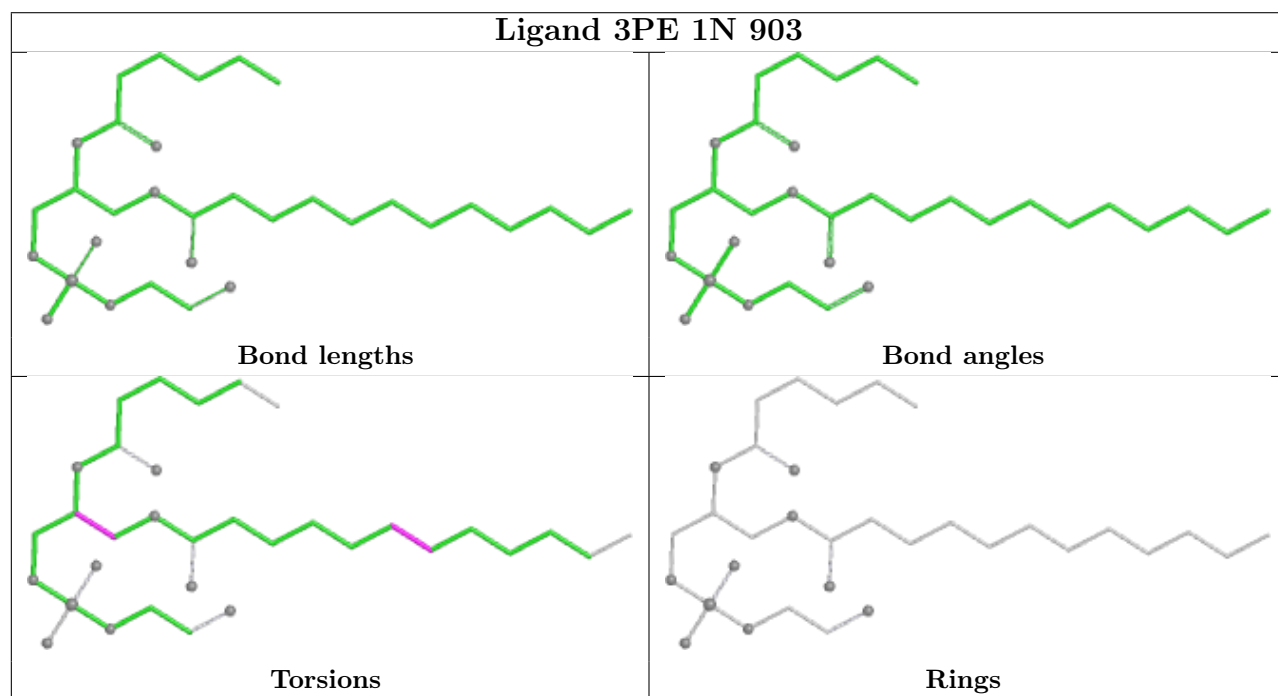
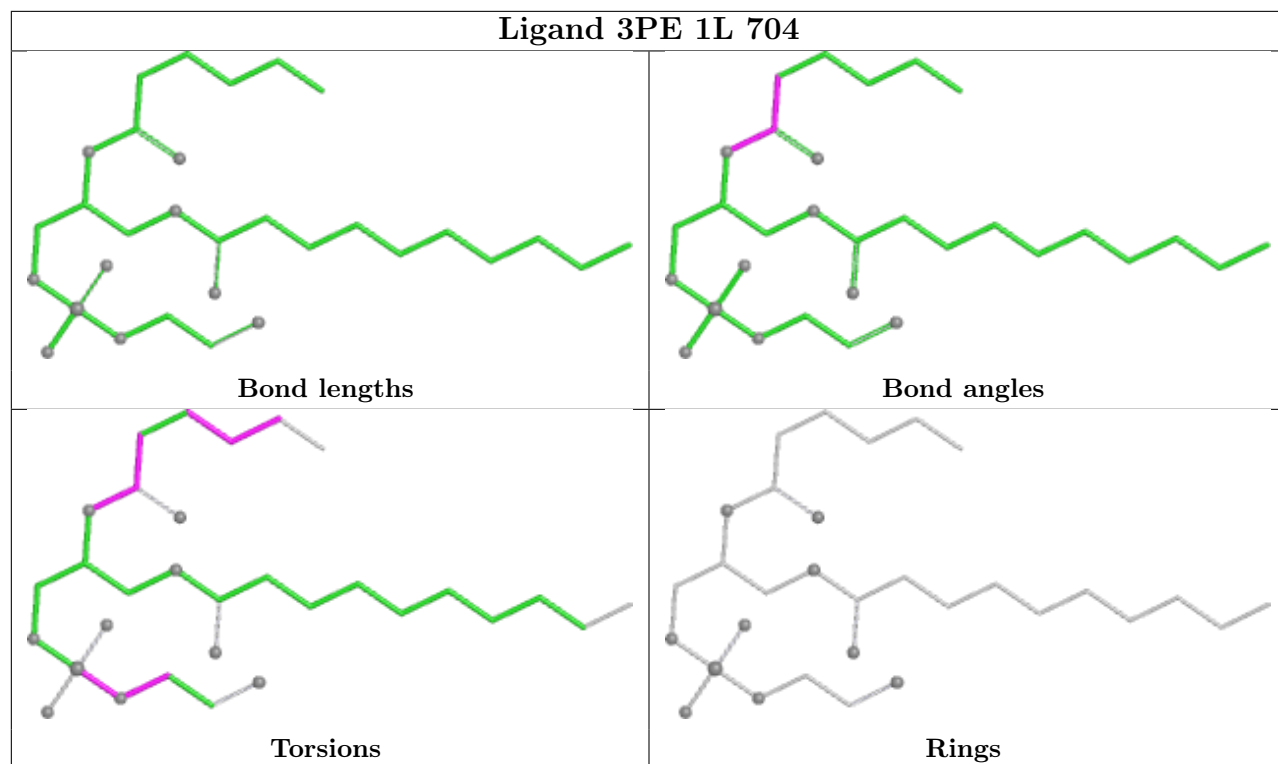


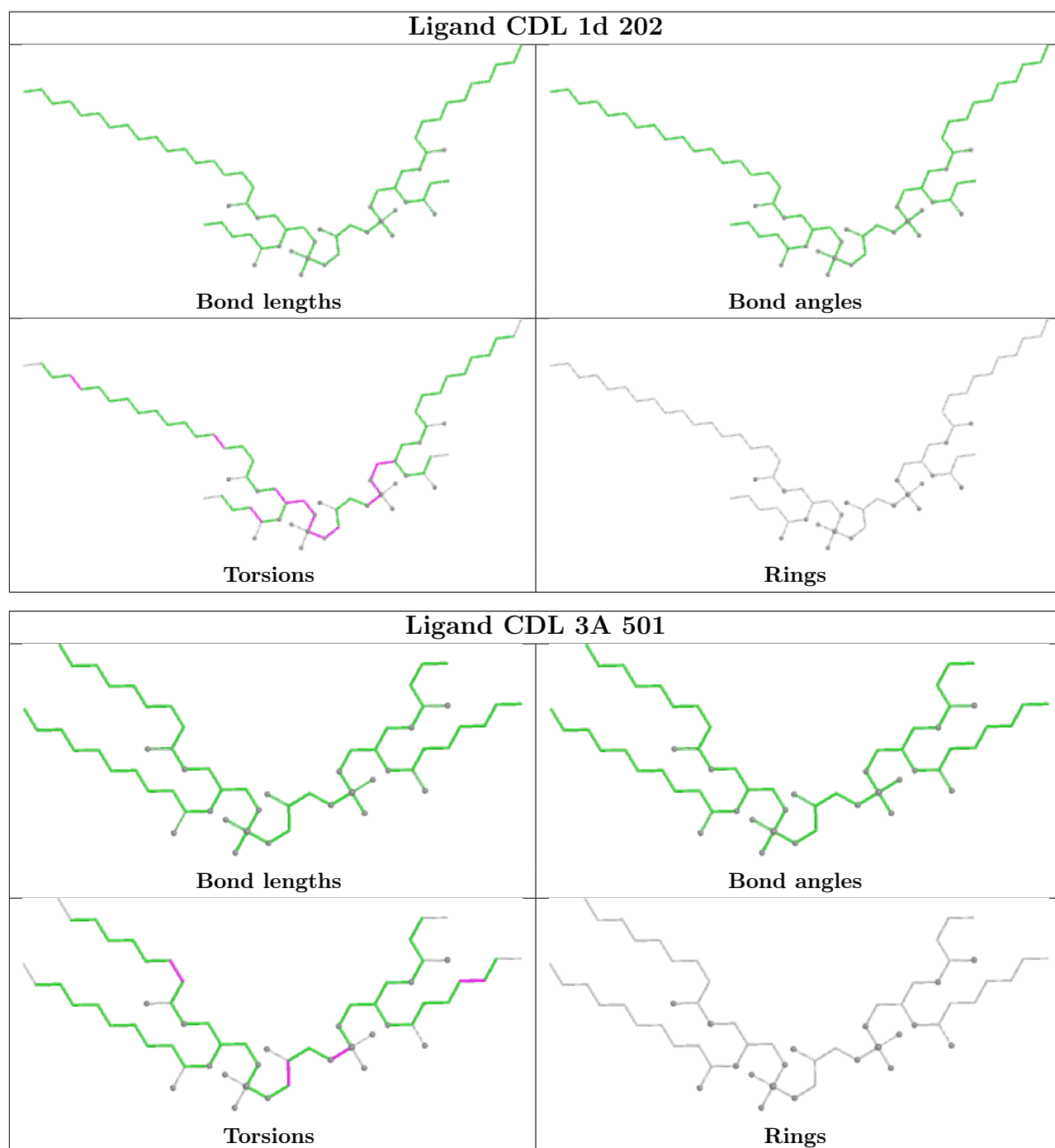
Ligand HEM 3C 502

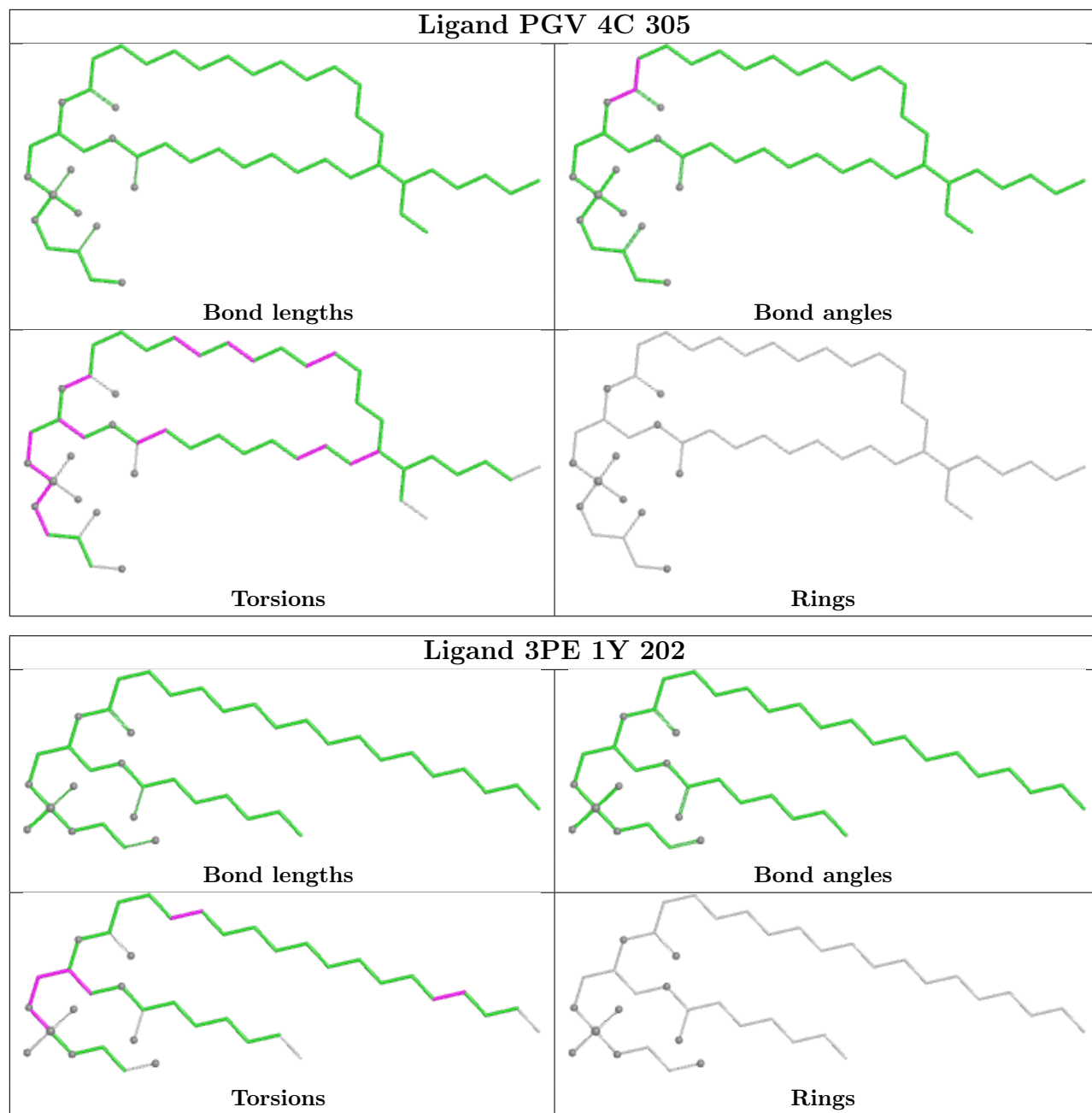


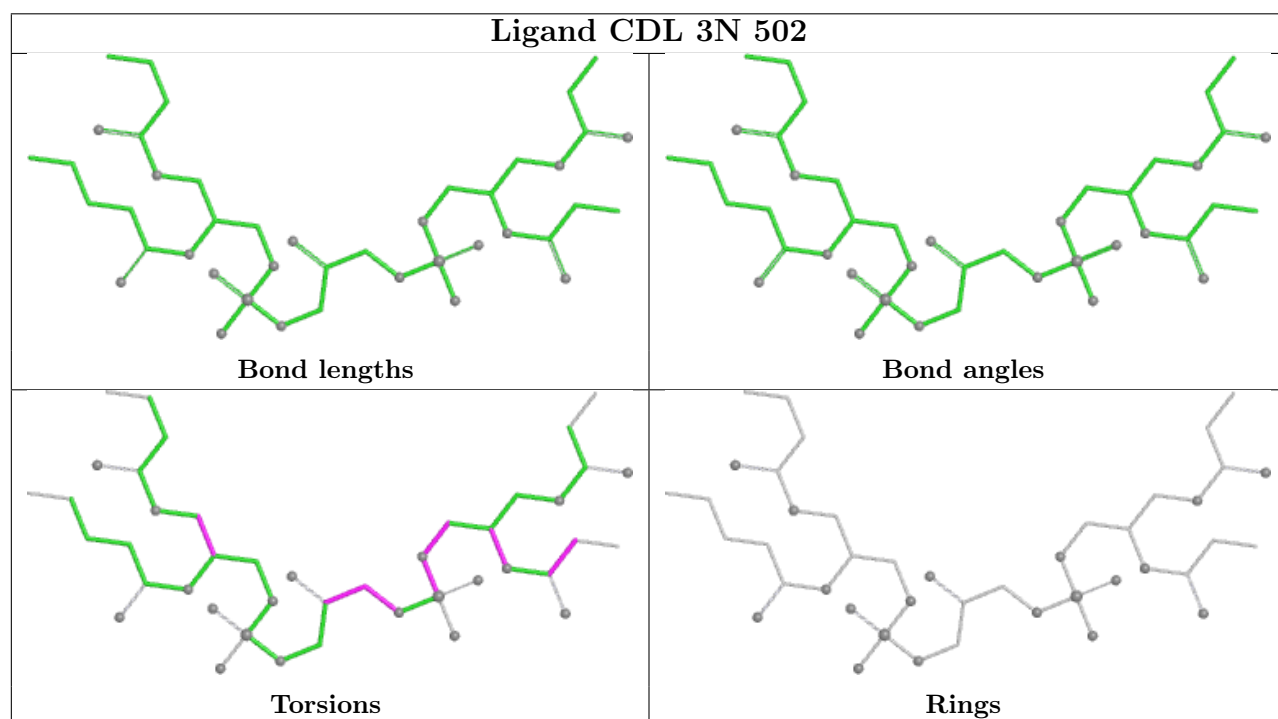
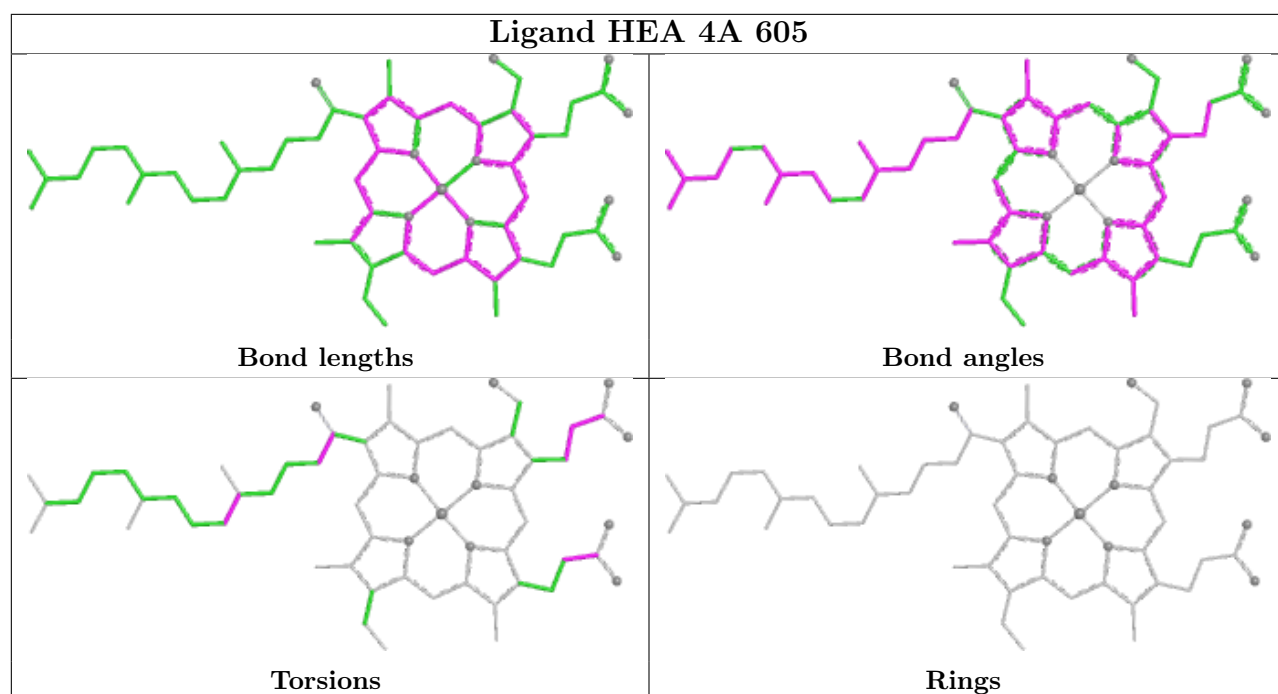
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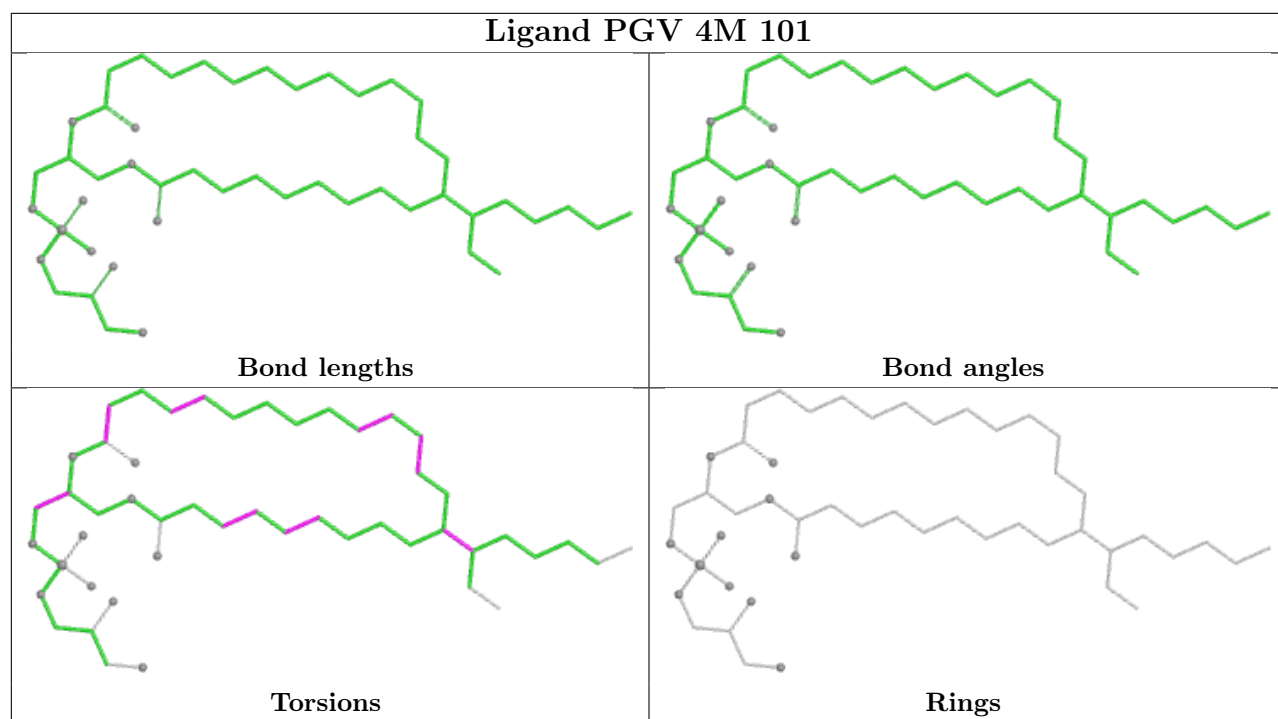
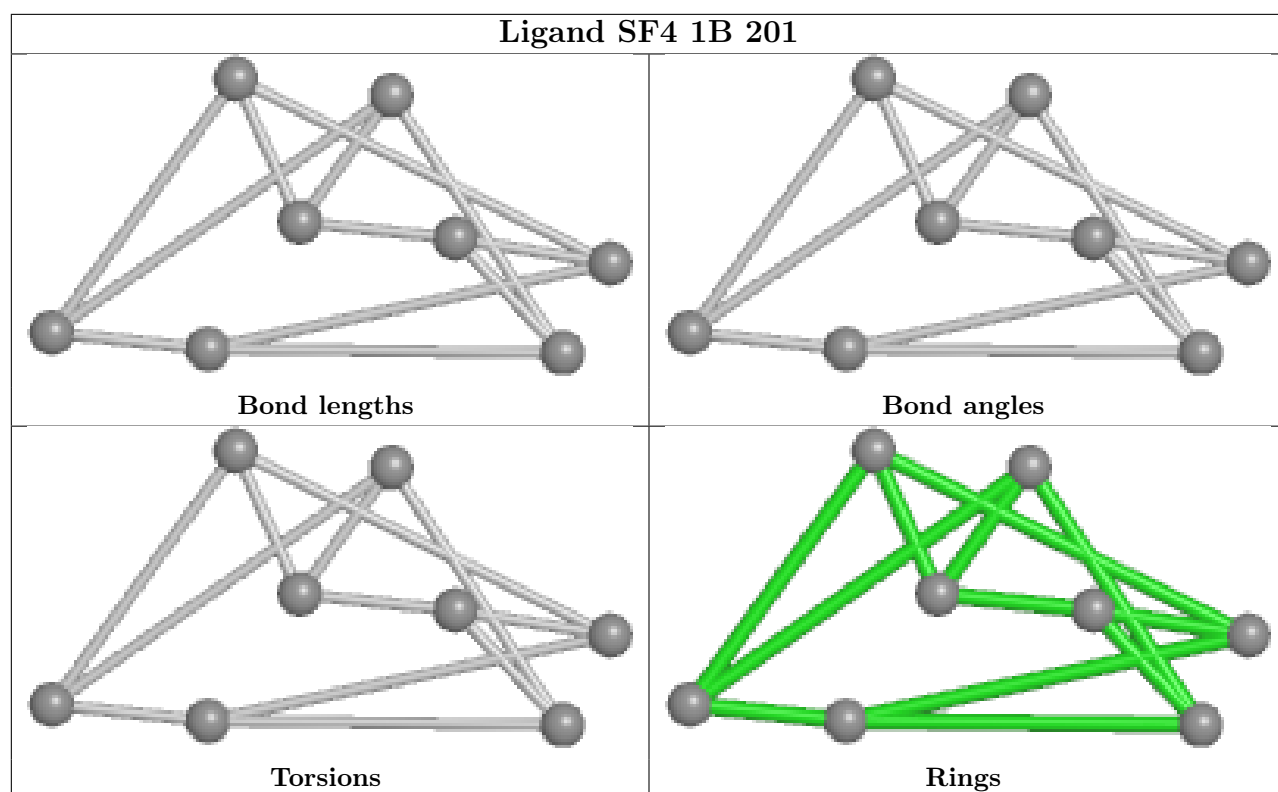


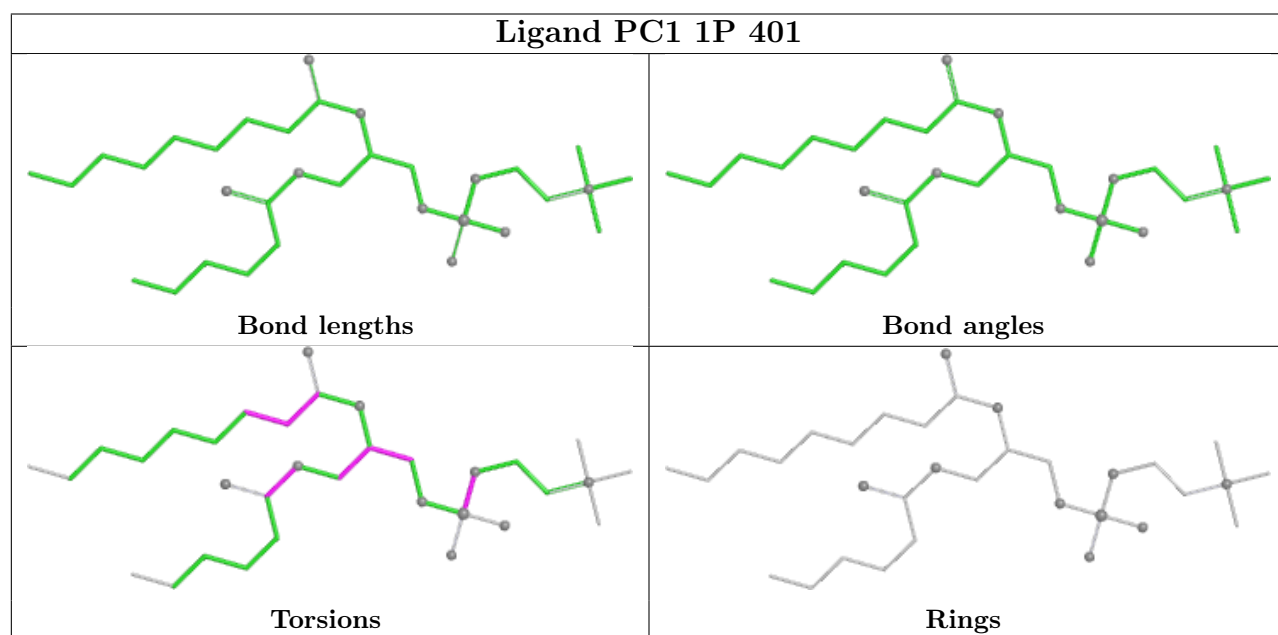
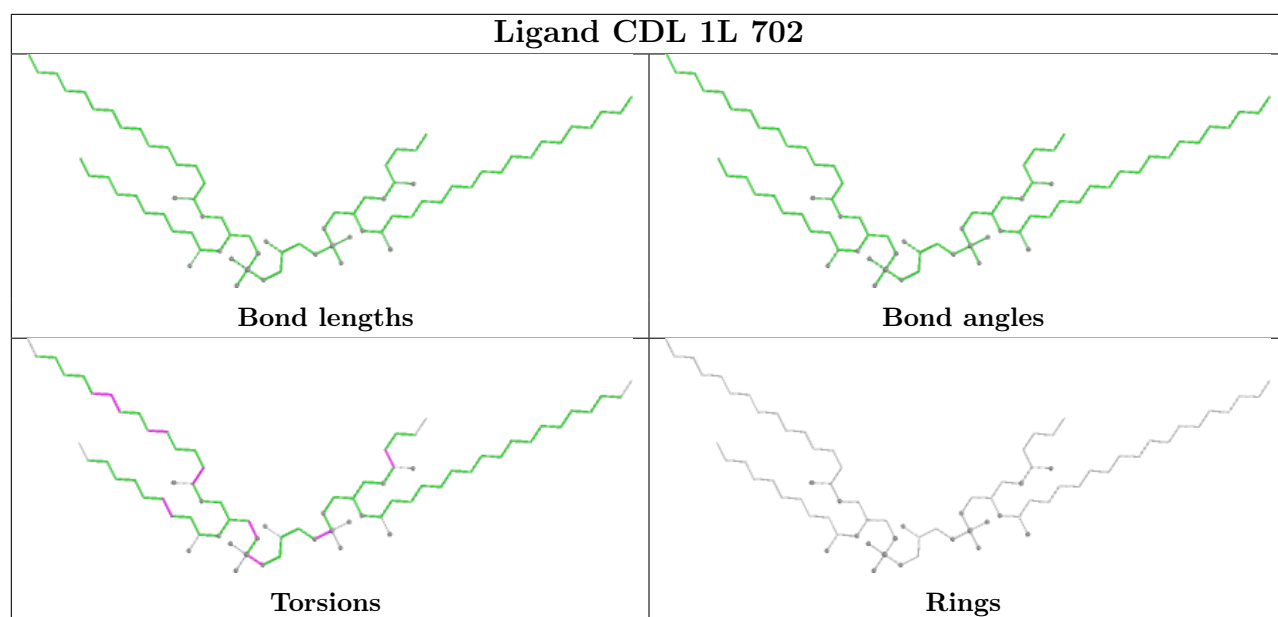


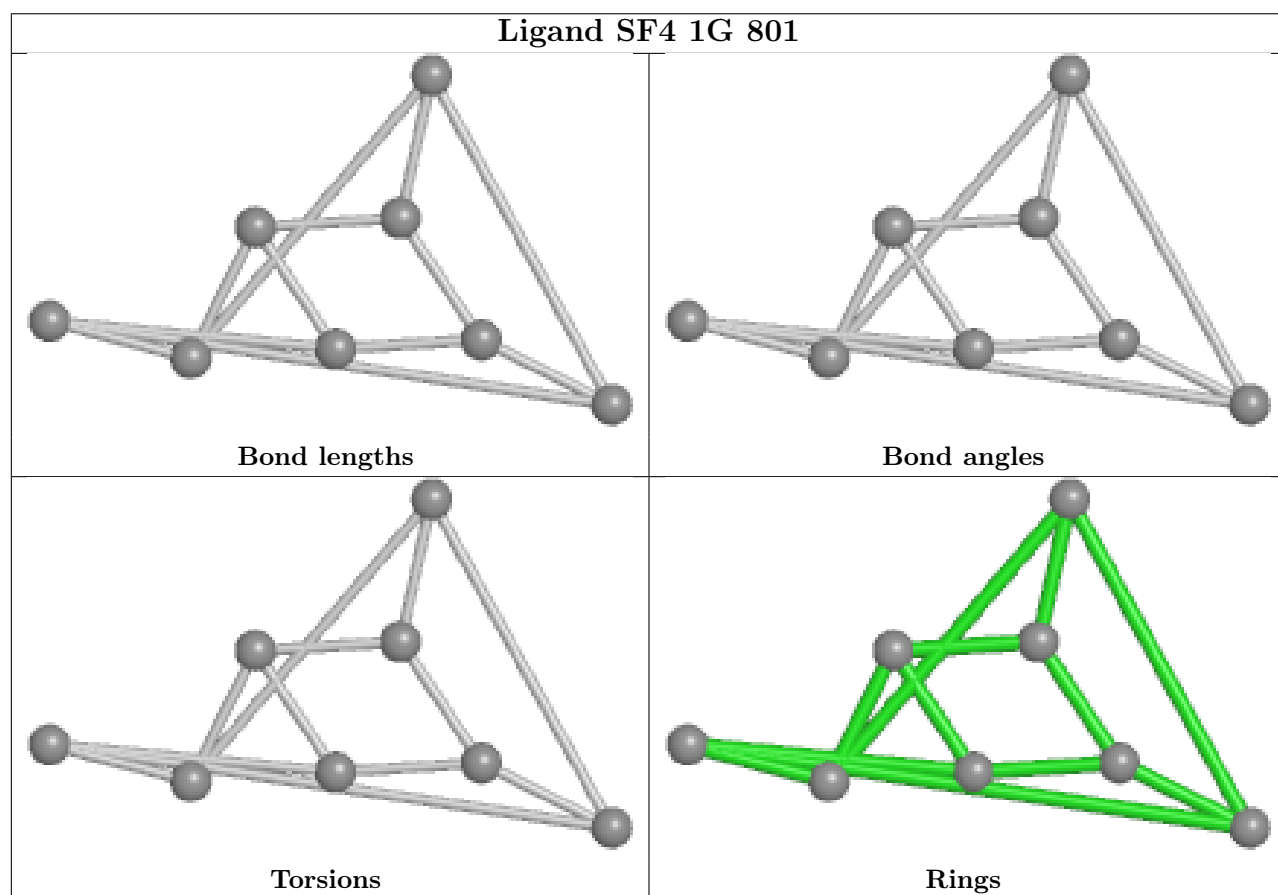
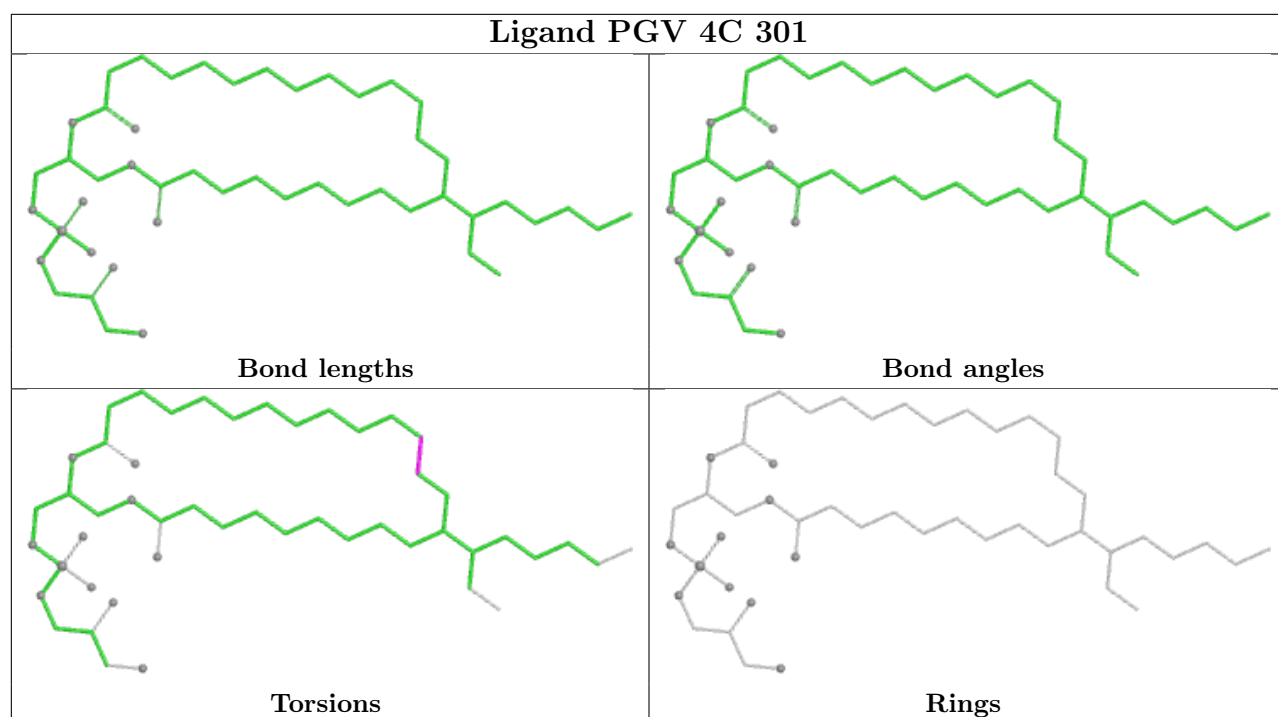


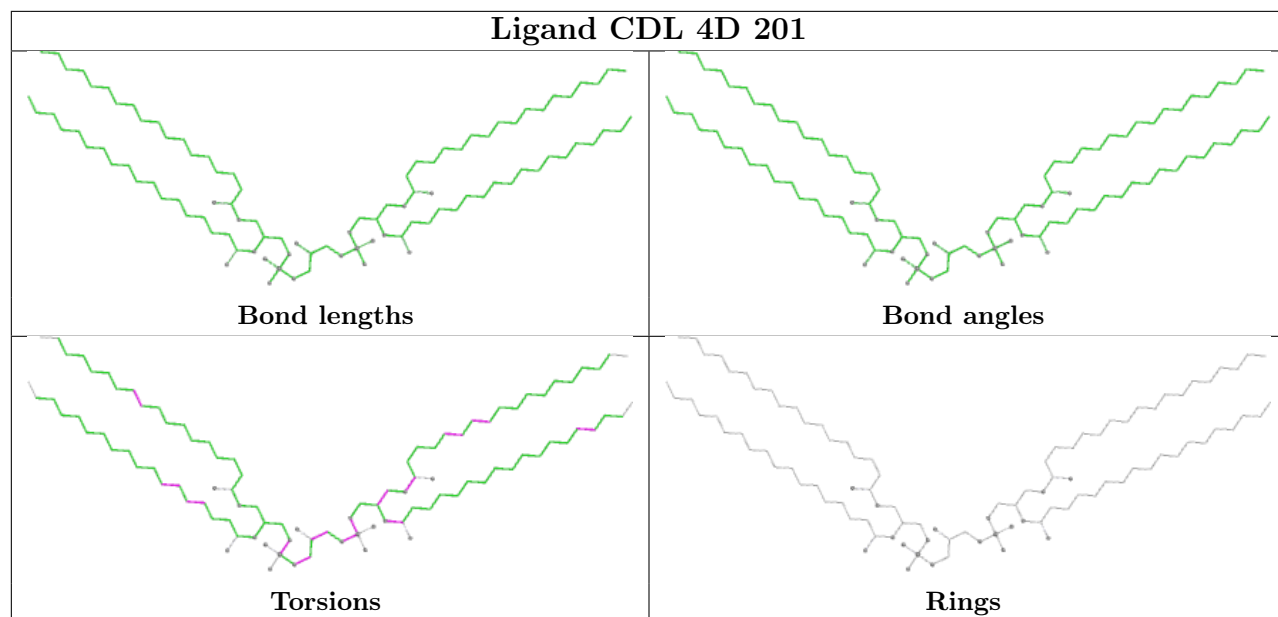
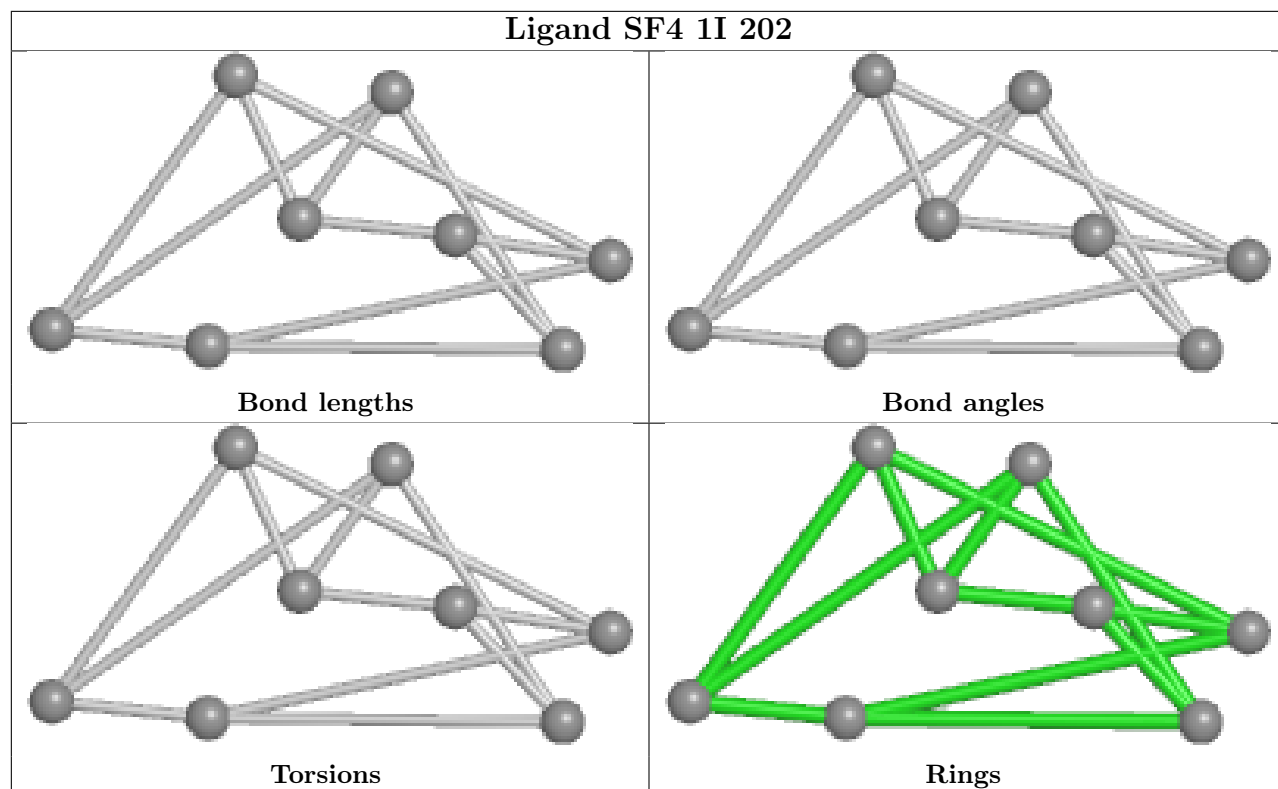


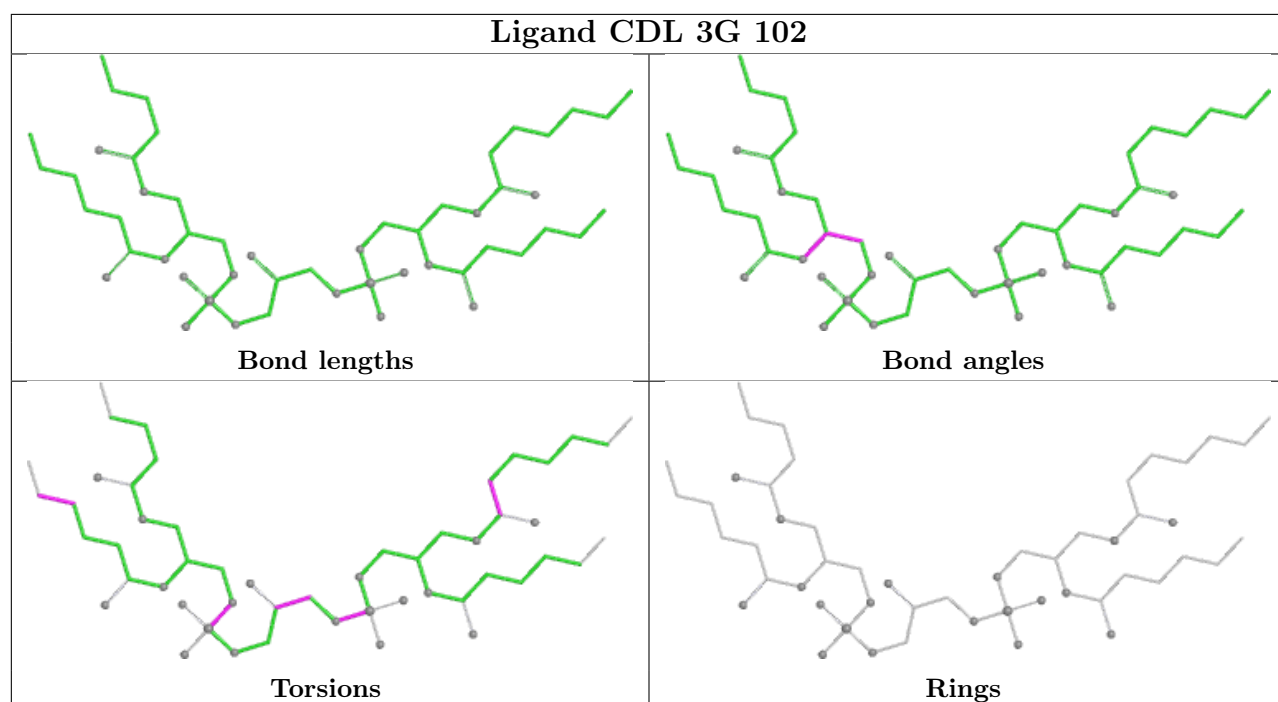
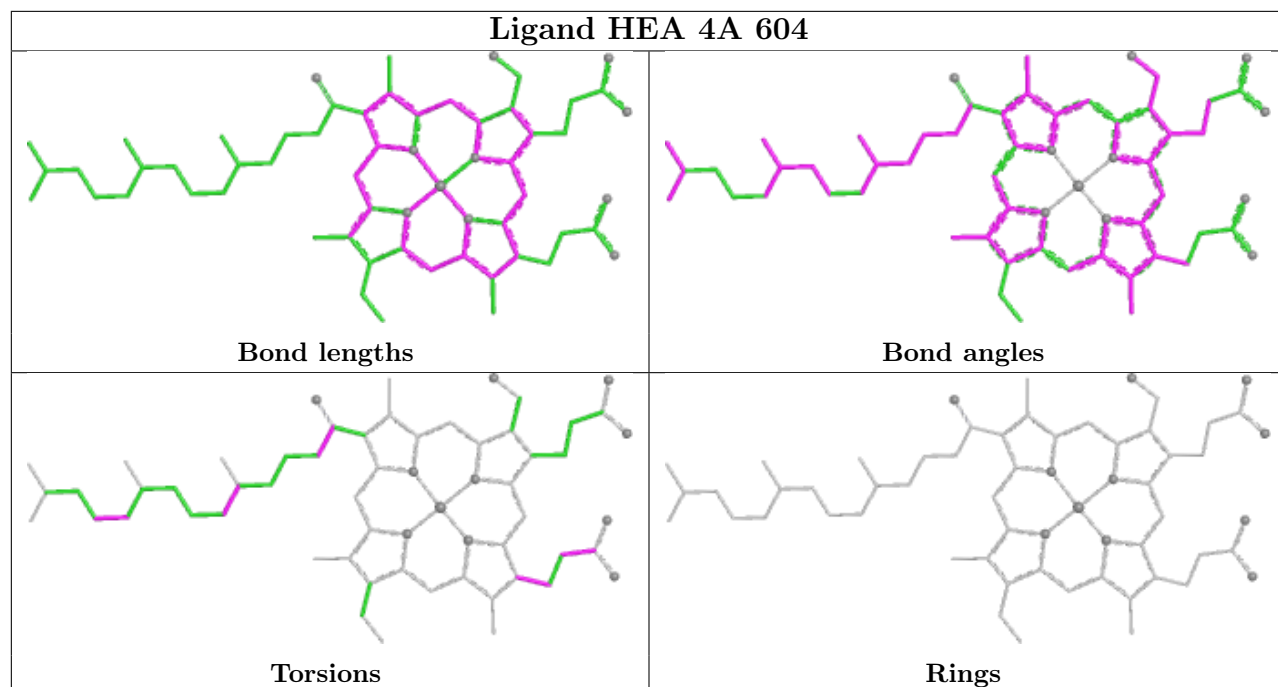




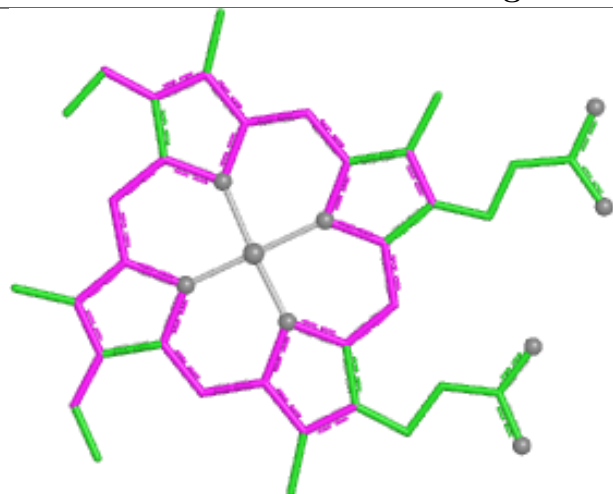




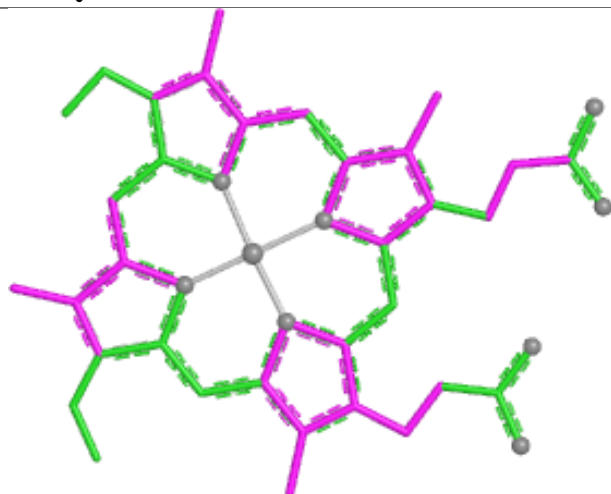




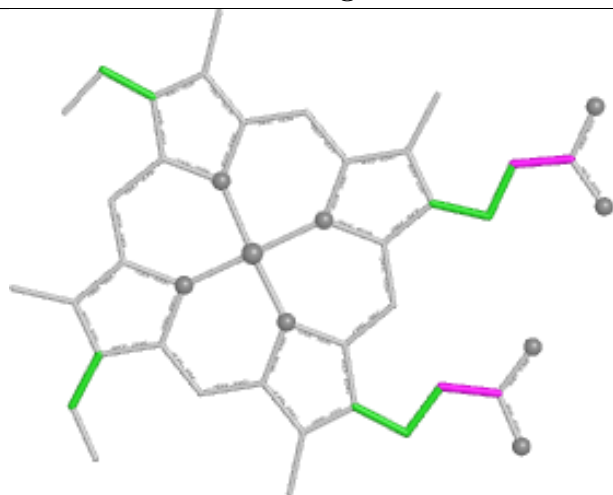
Ligand HEC 3Q 501



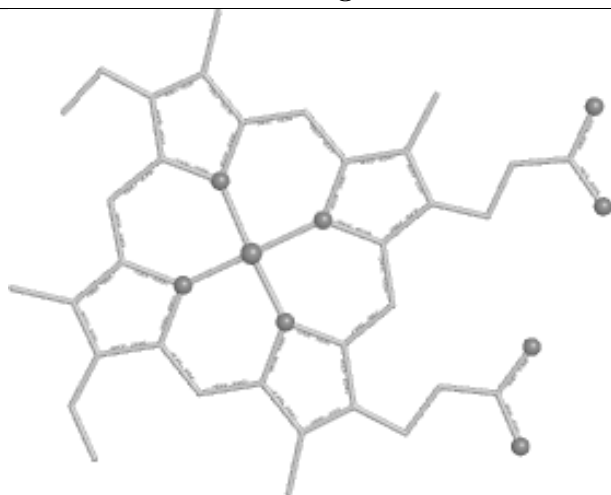
Bond lengths



Bond angles

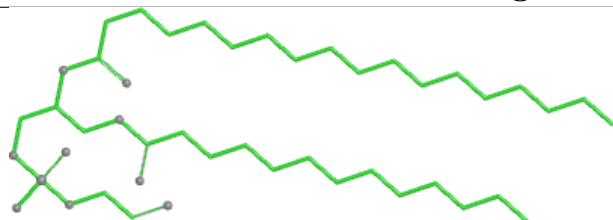


Torsions

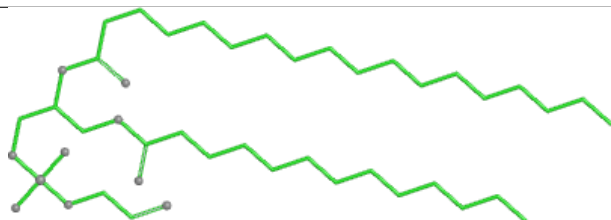


Rings

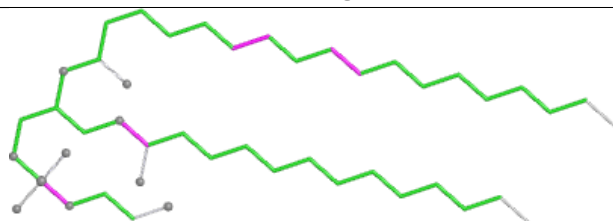
Ligand 3PE 1L 701



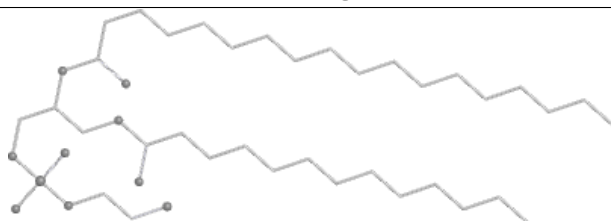
Bond lengths



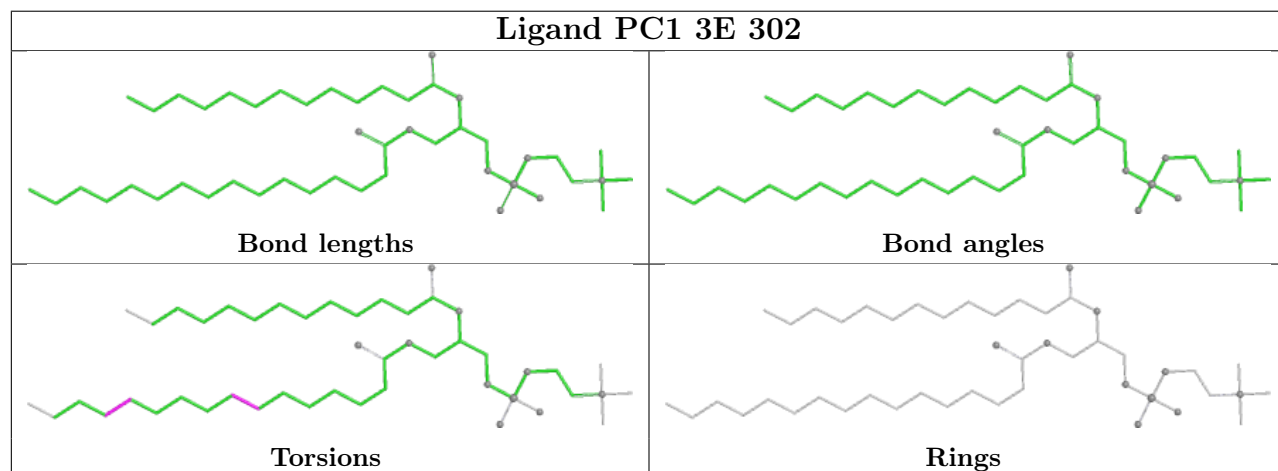
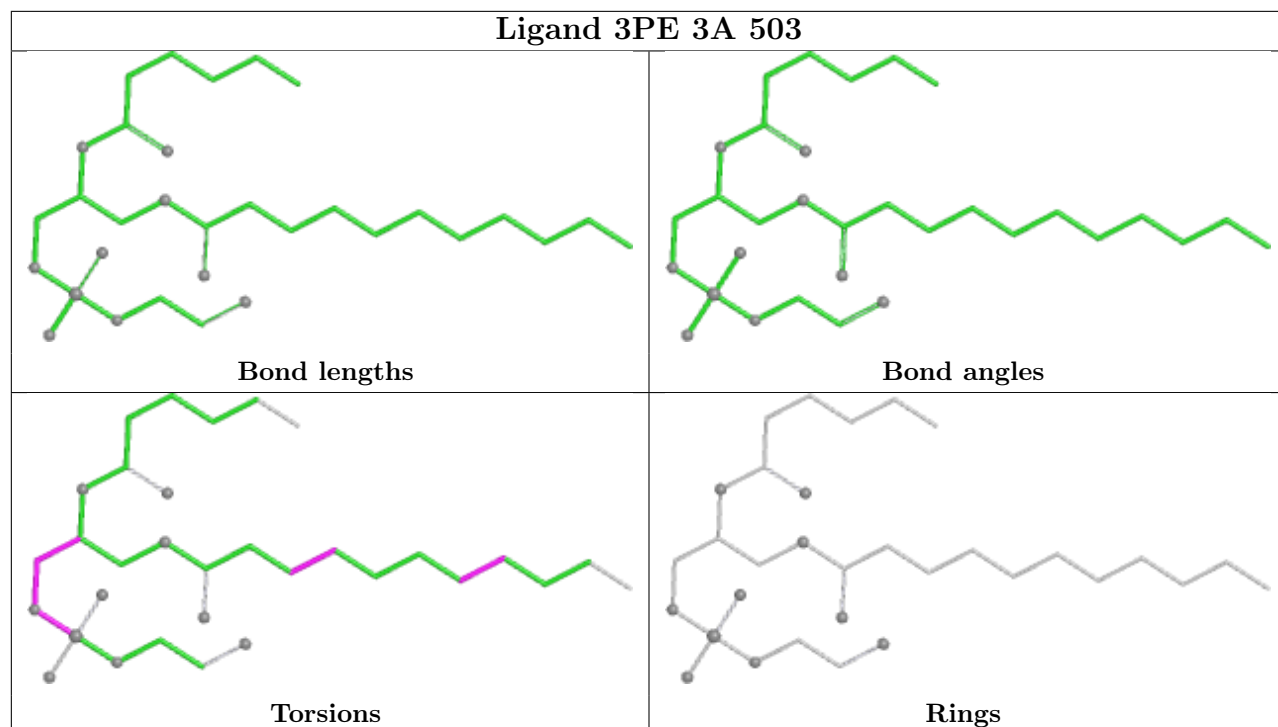
Bond angles

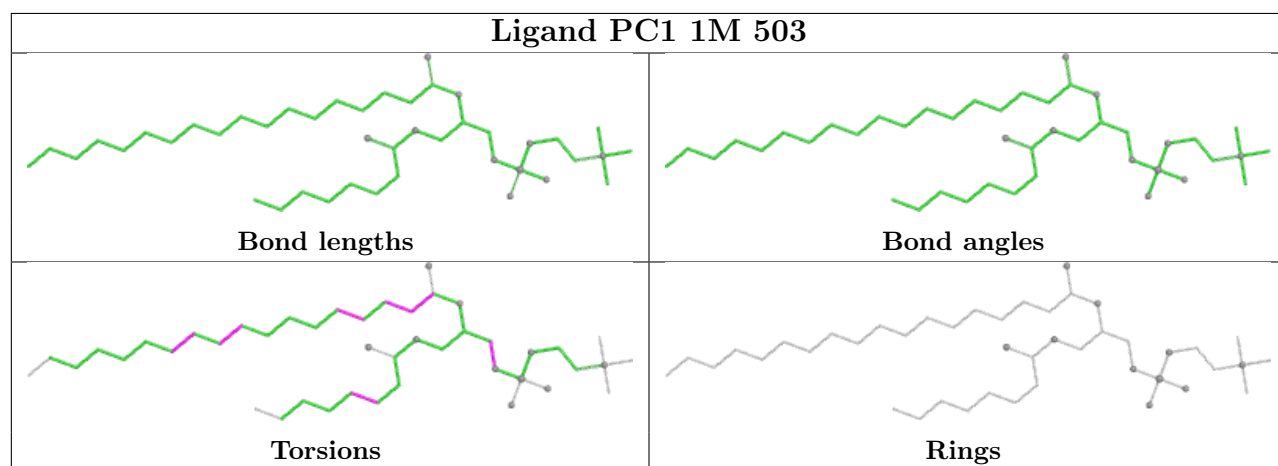
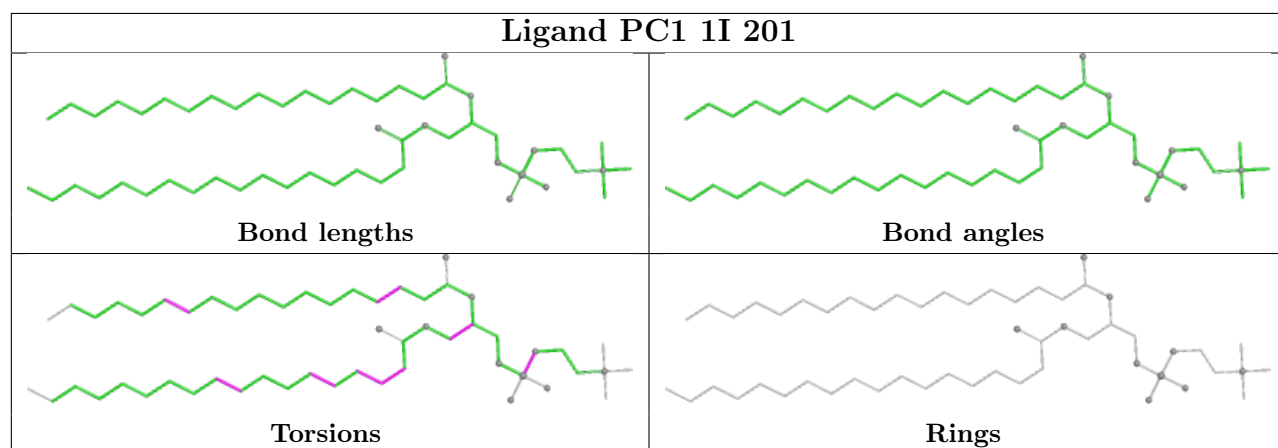
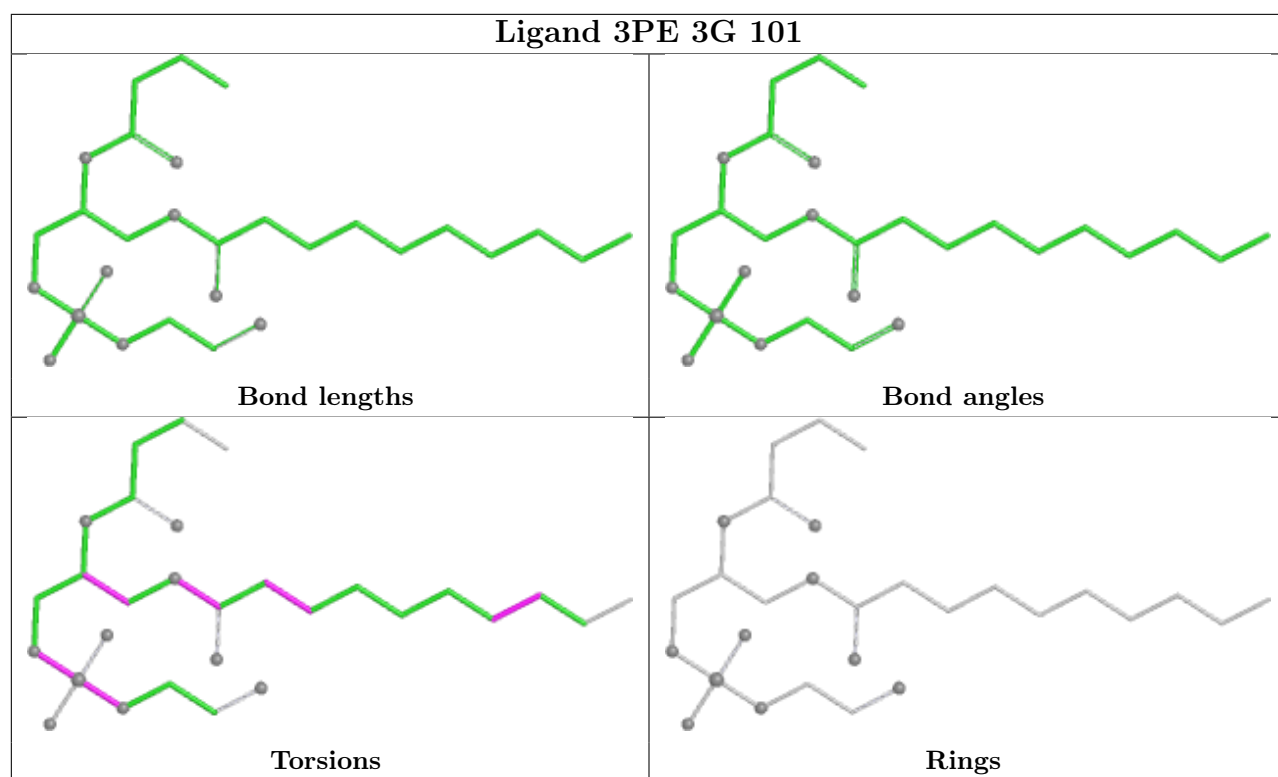


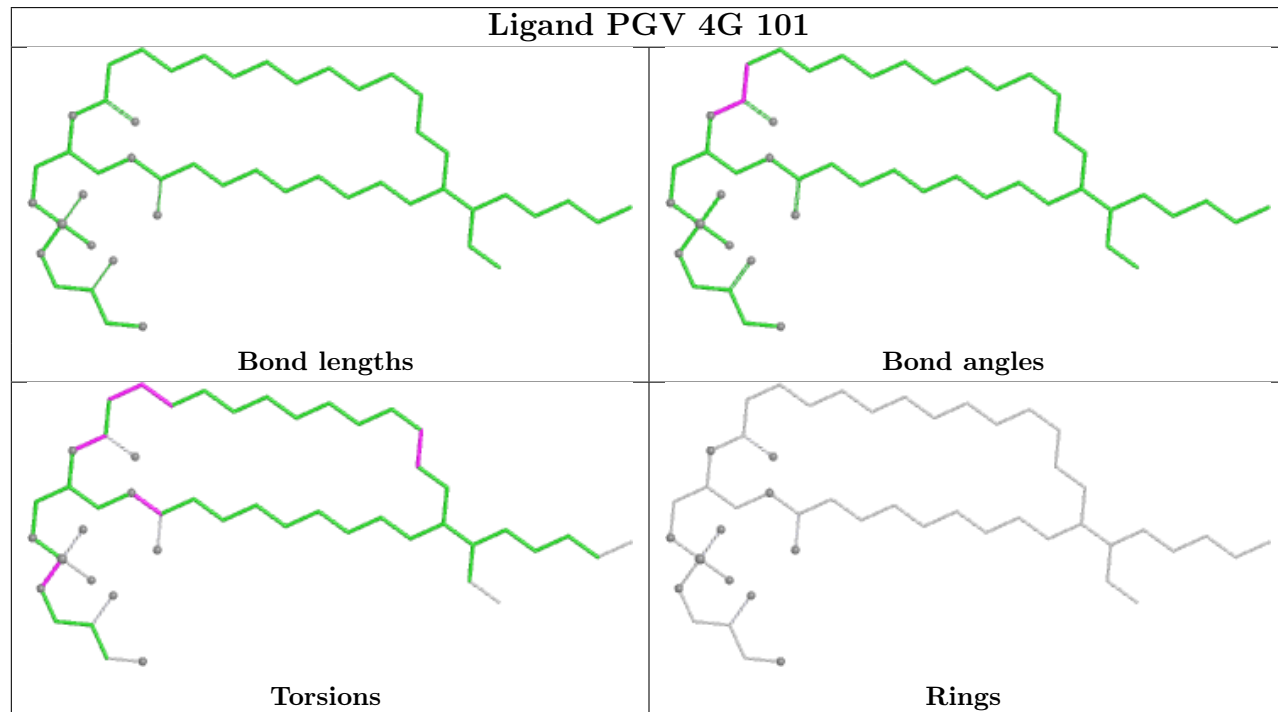
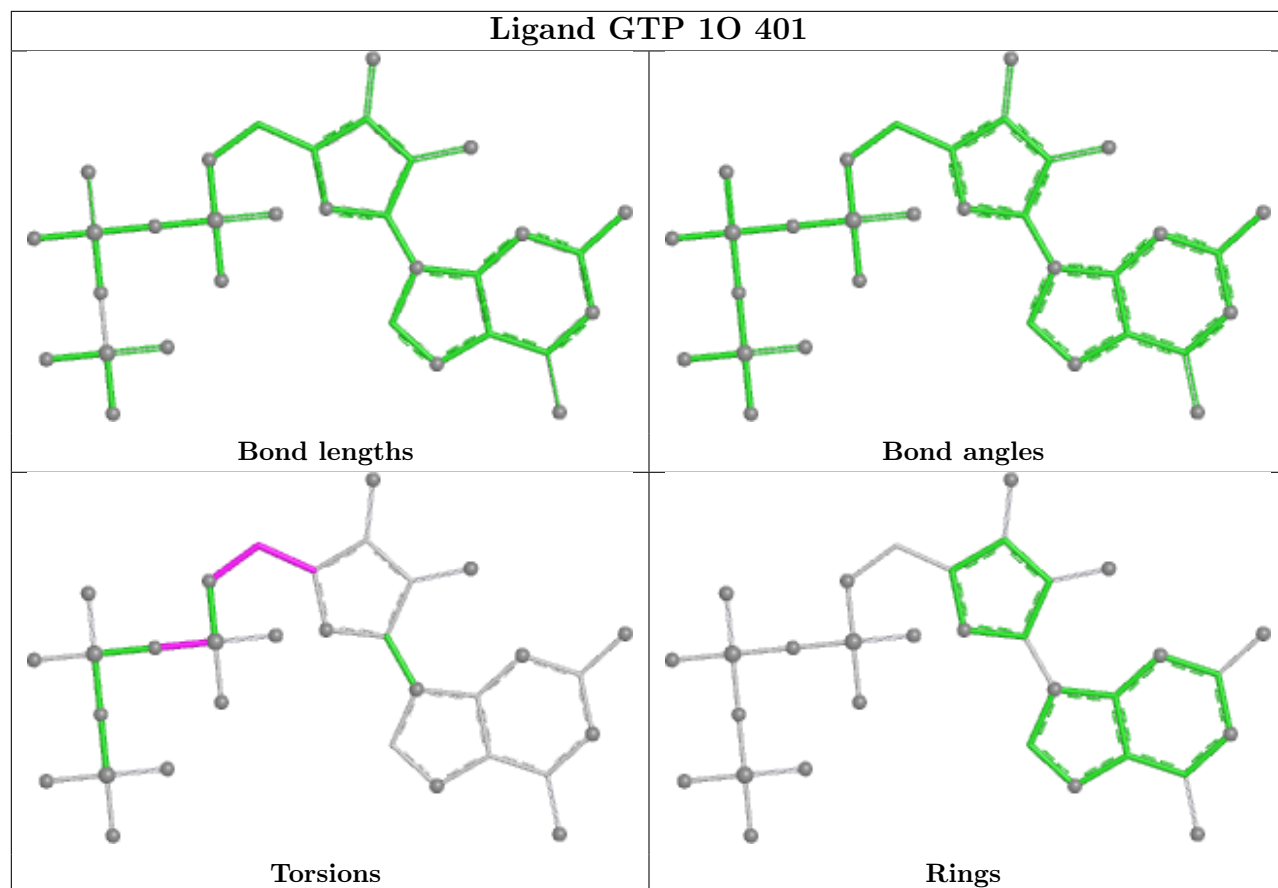
Torsions

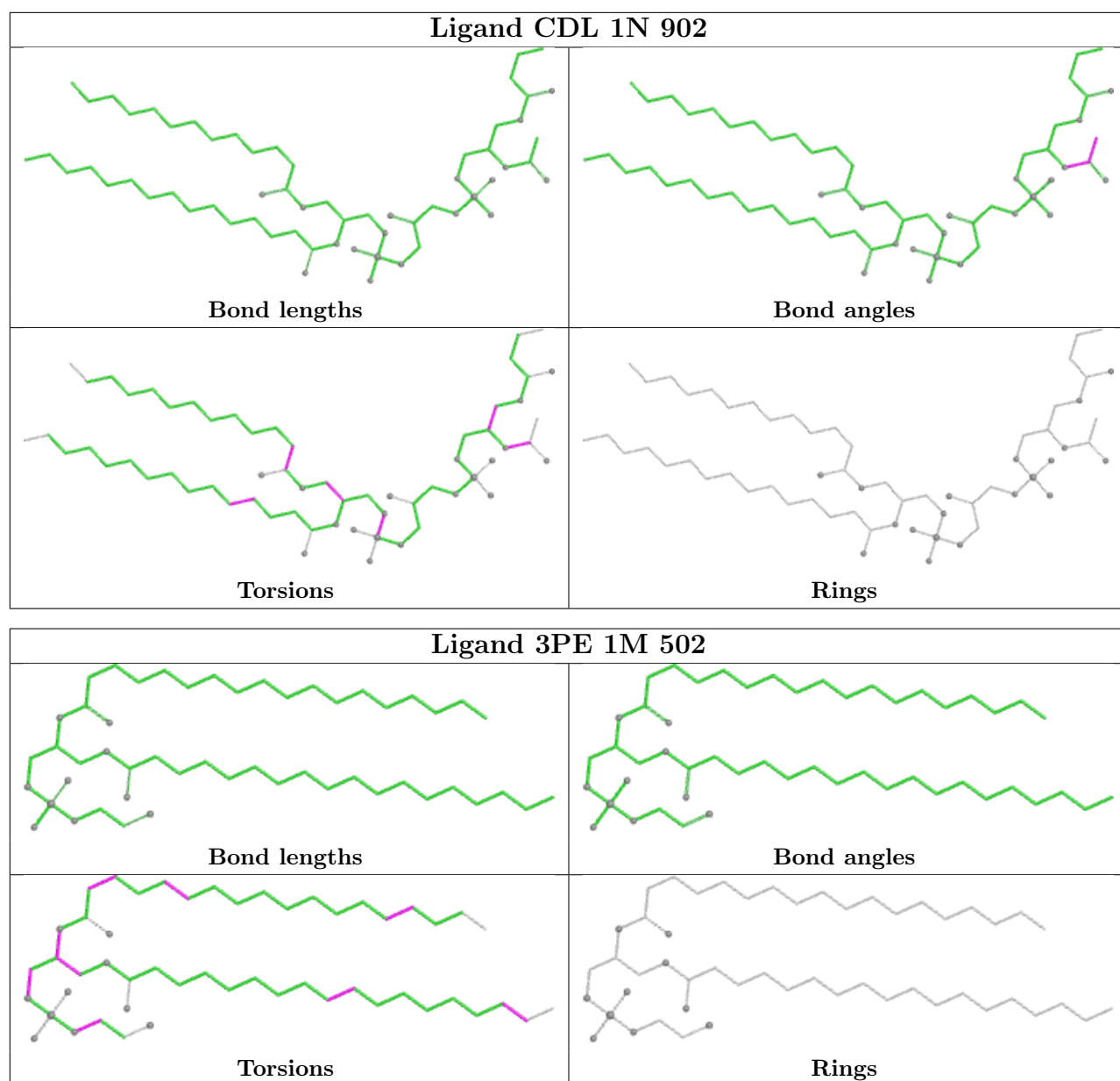


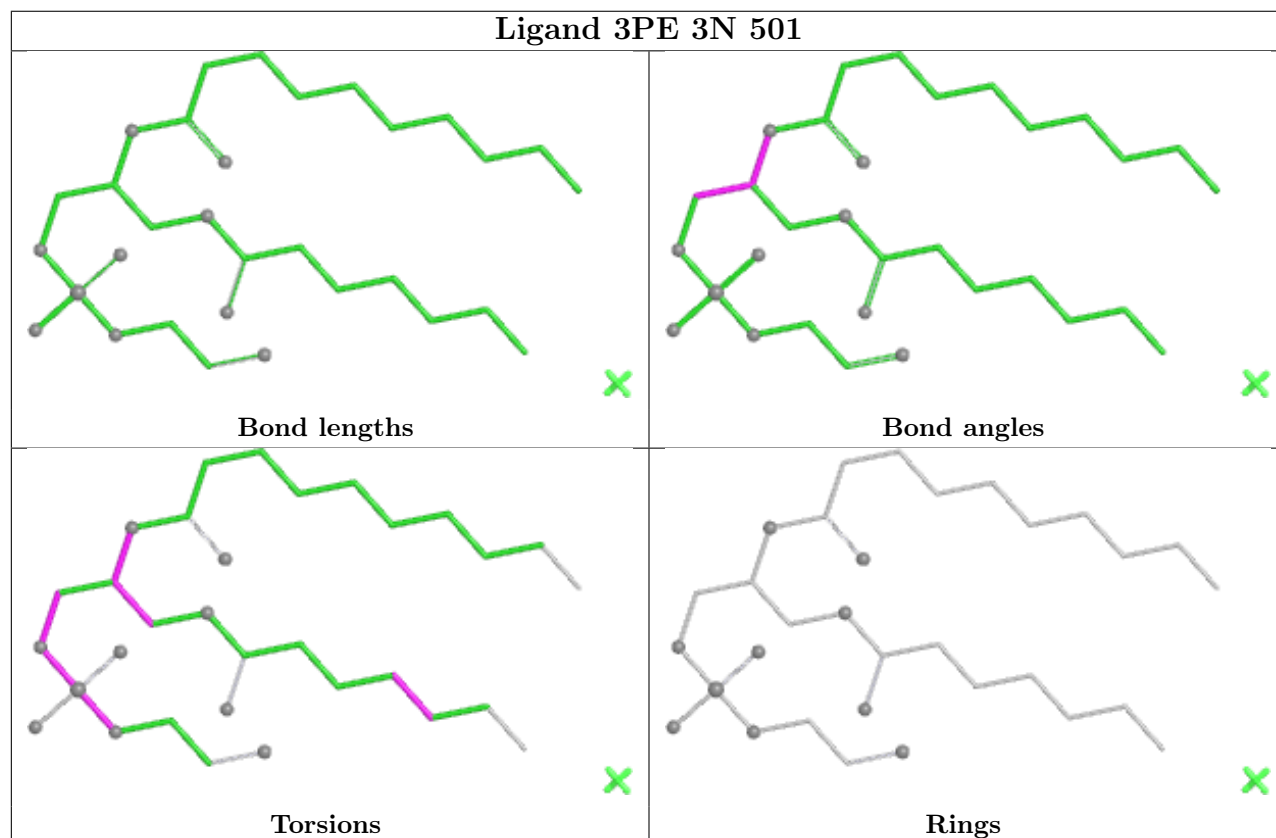
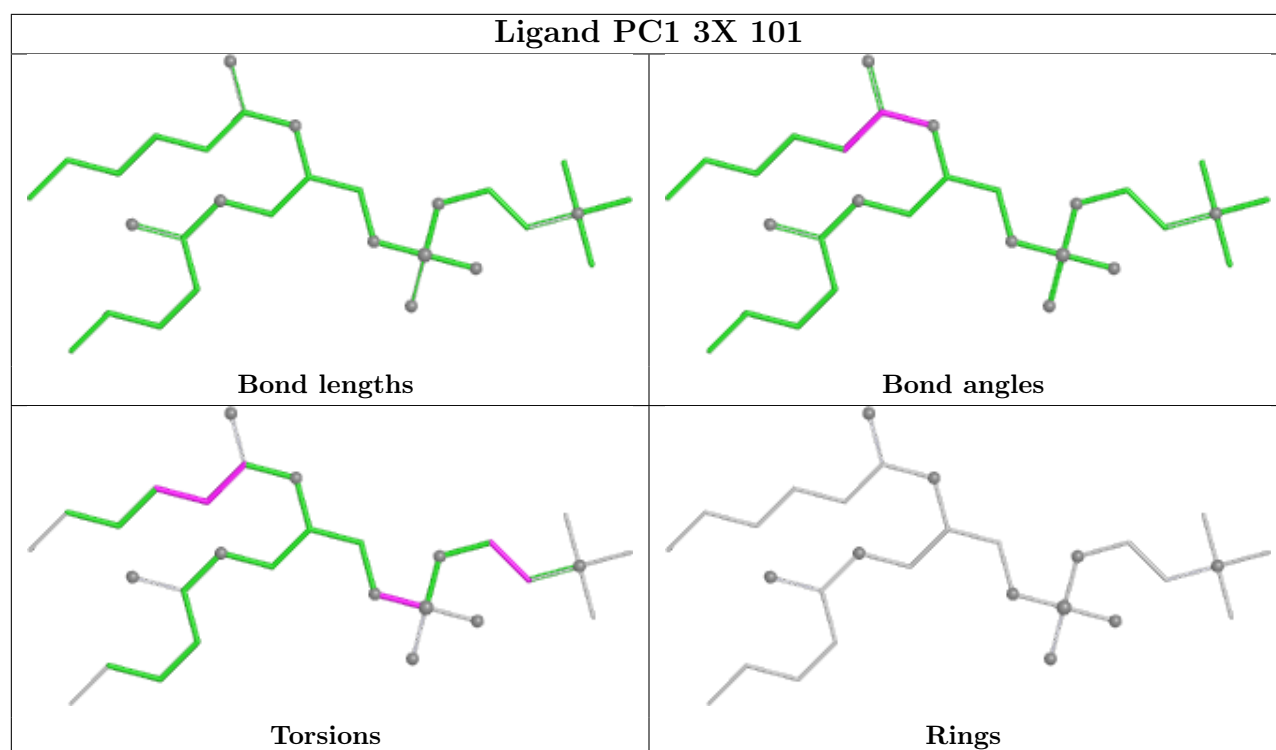
Rings

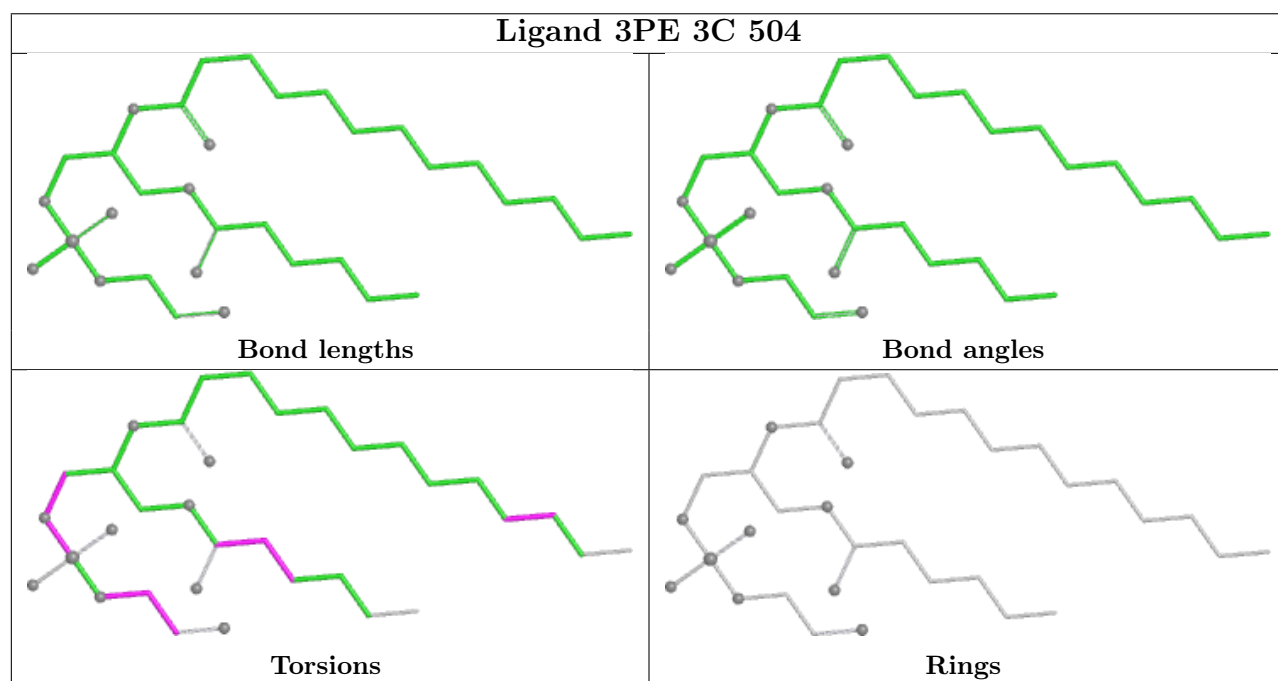
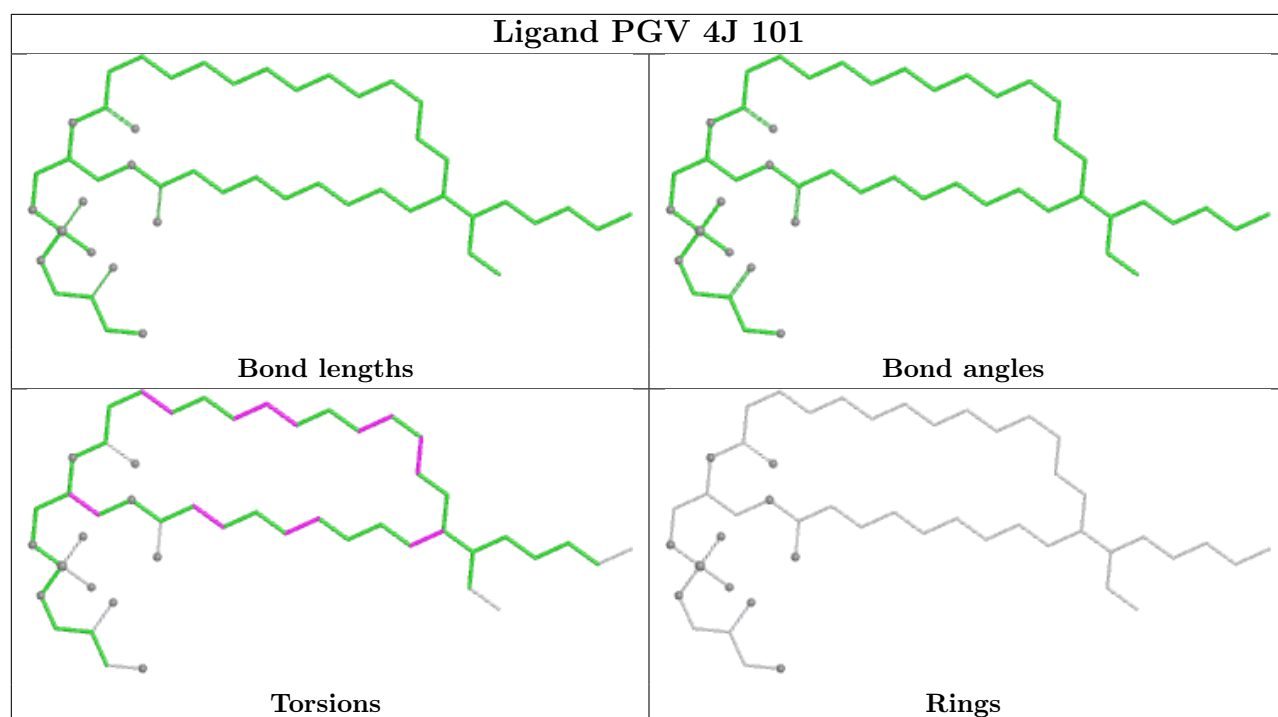


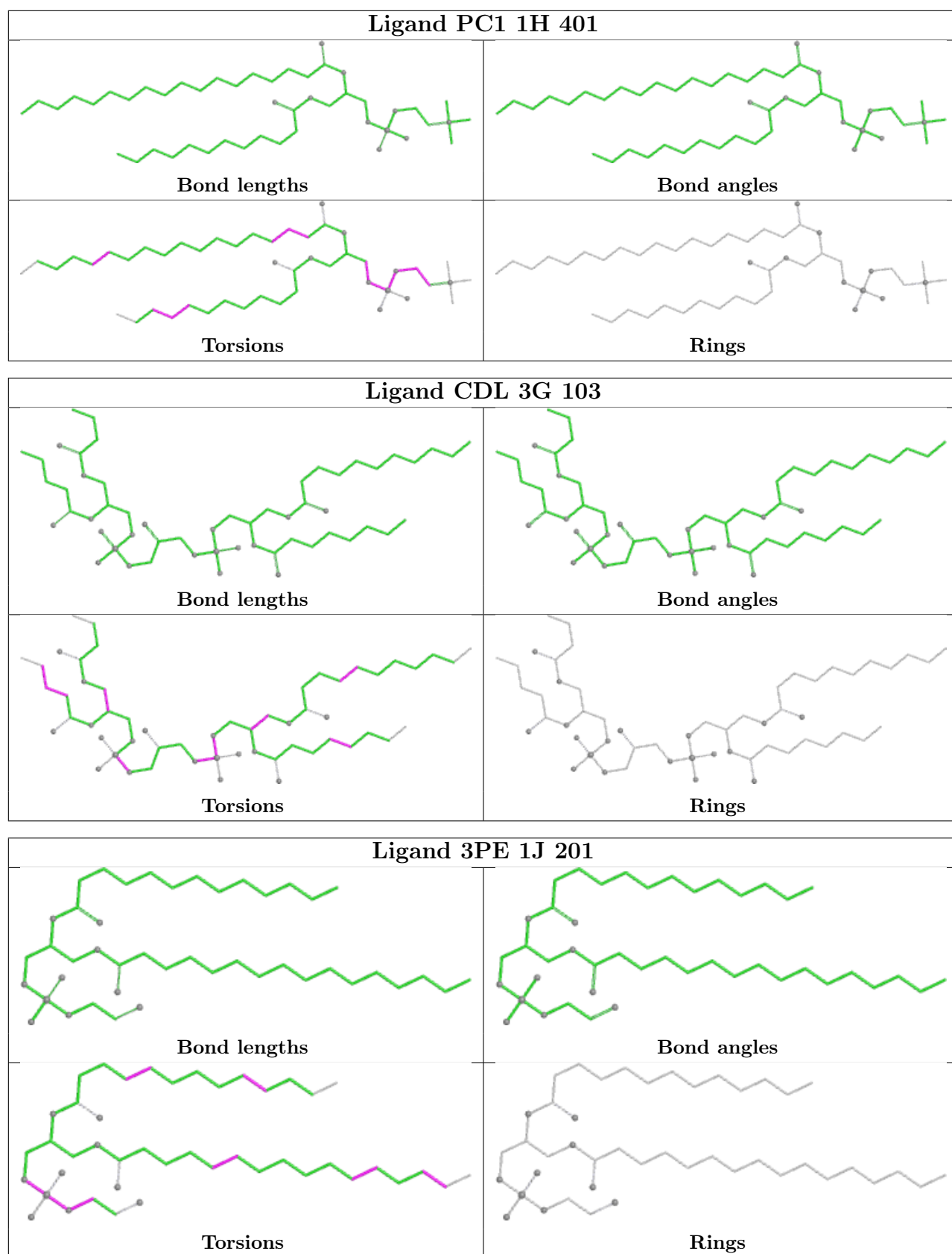


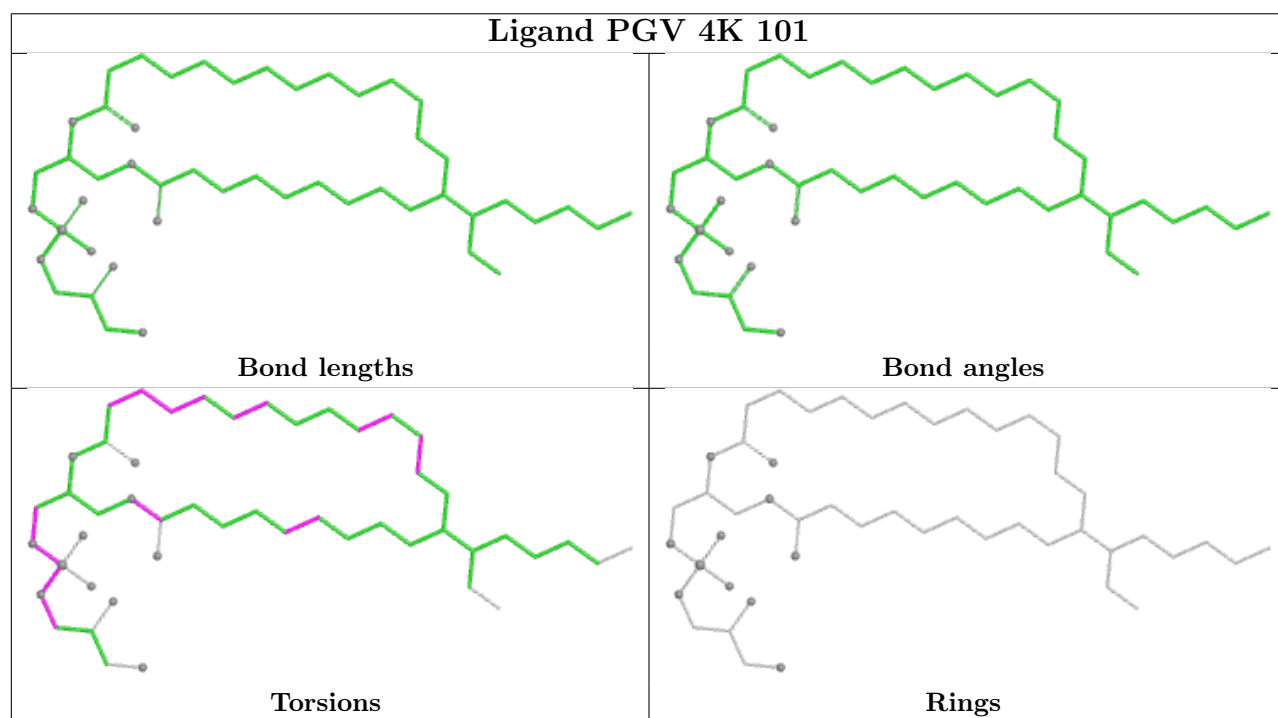
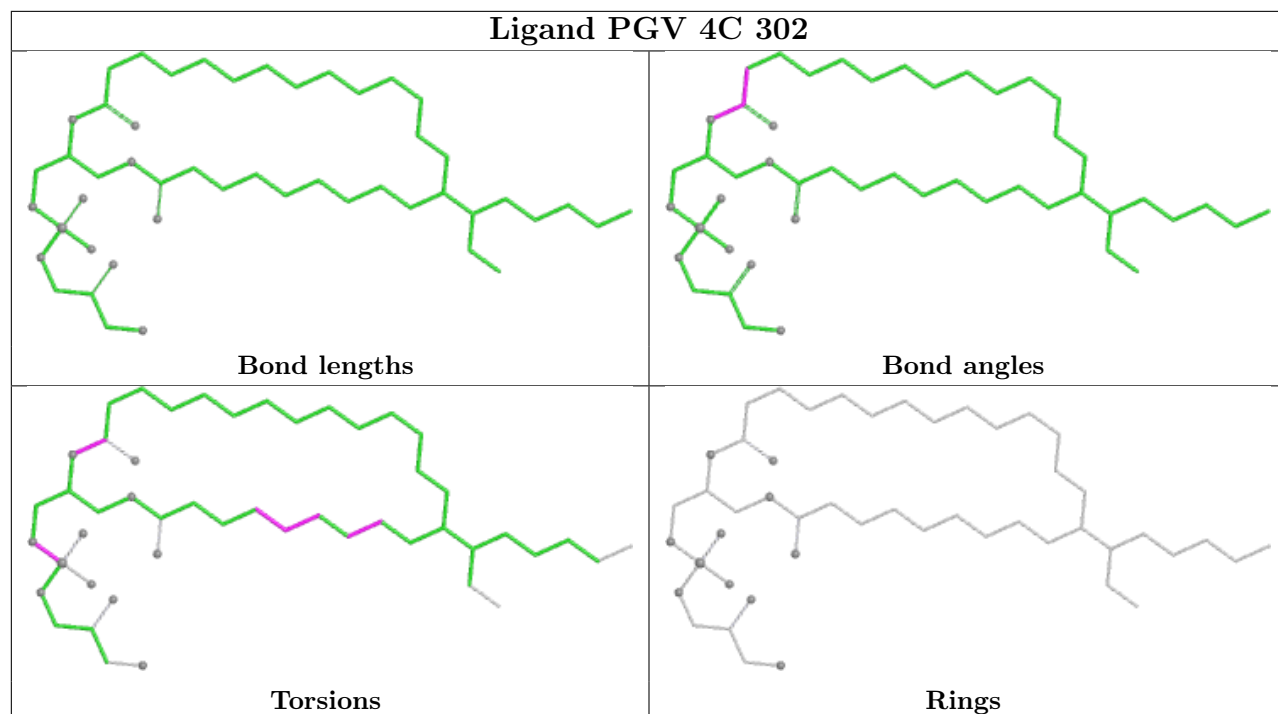


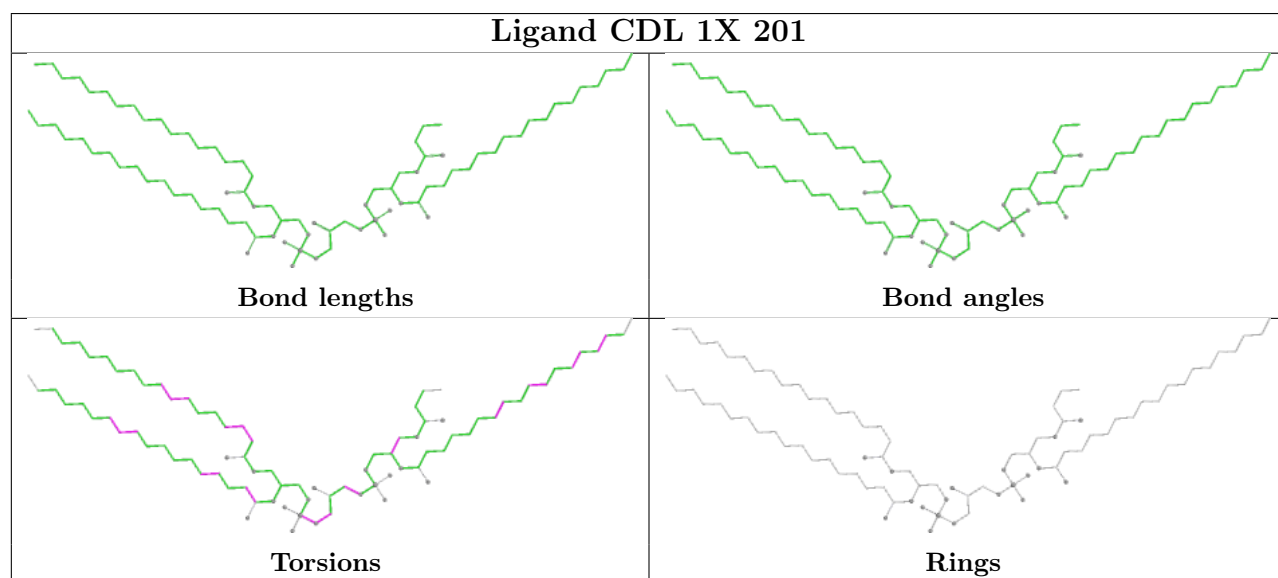
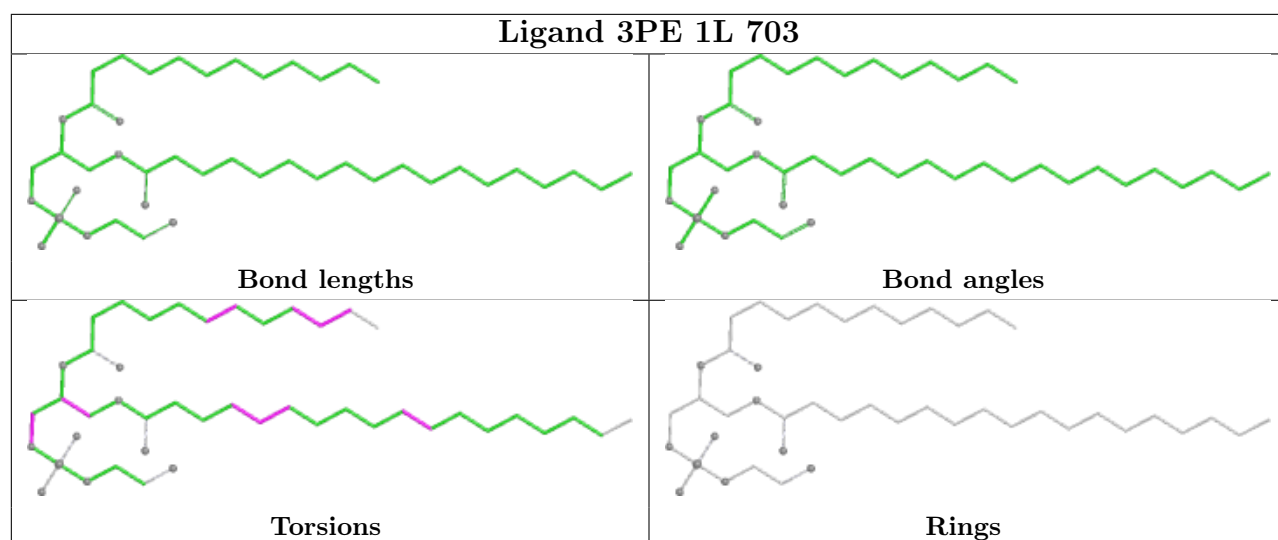


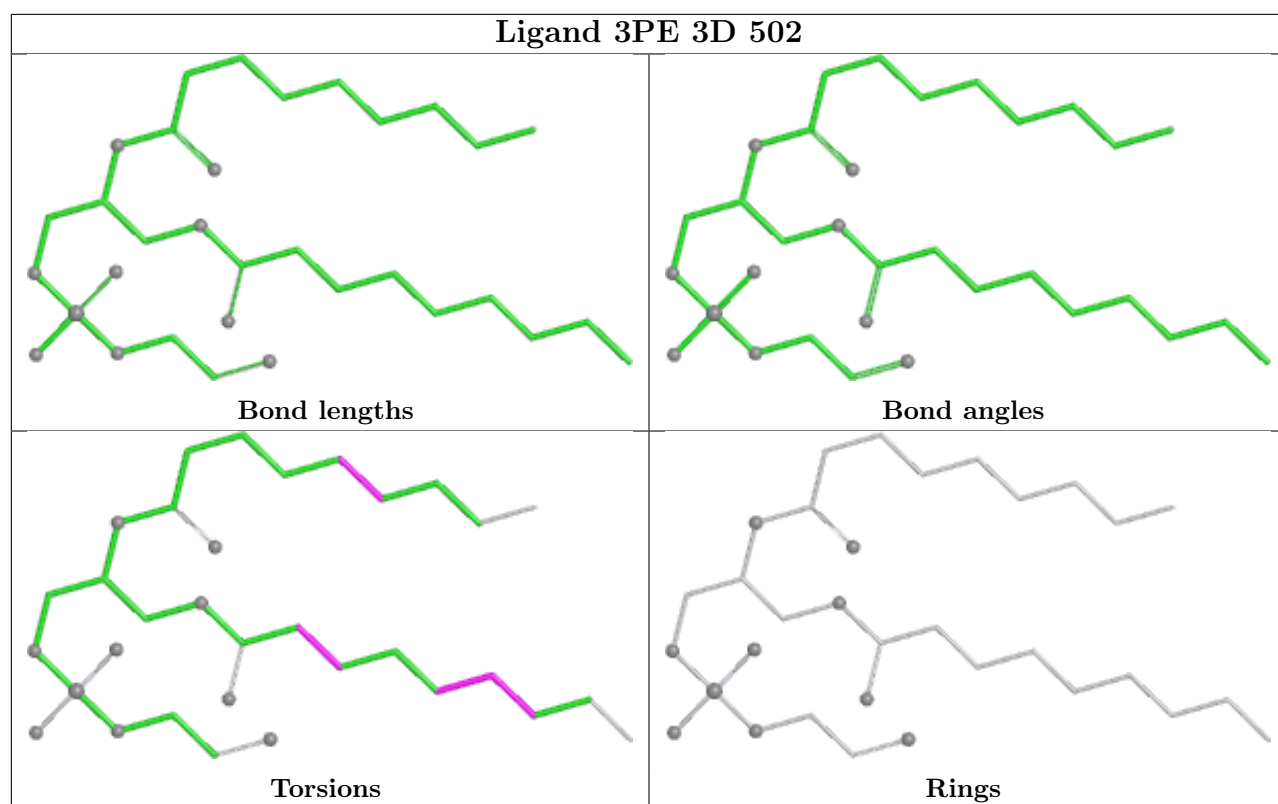




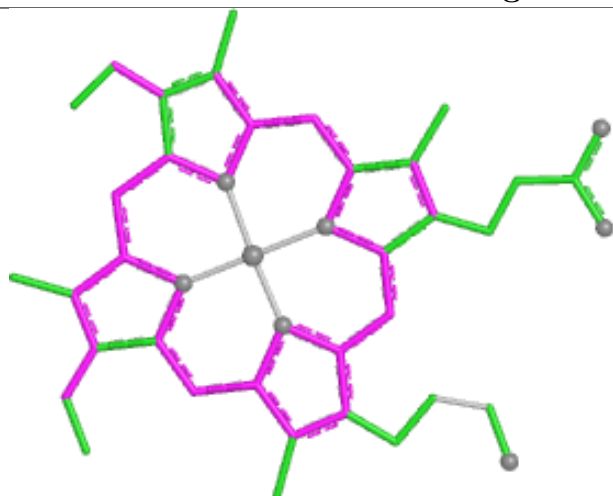




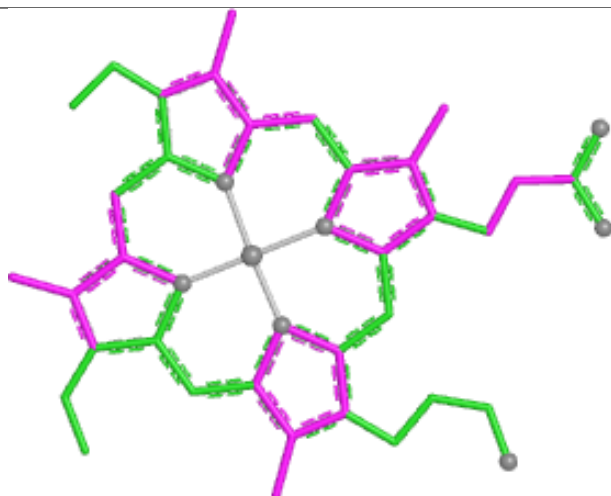




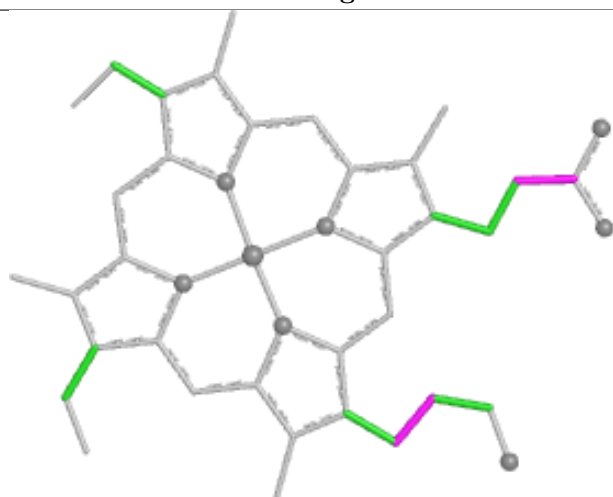
Ligand HEC 3D 501



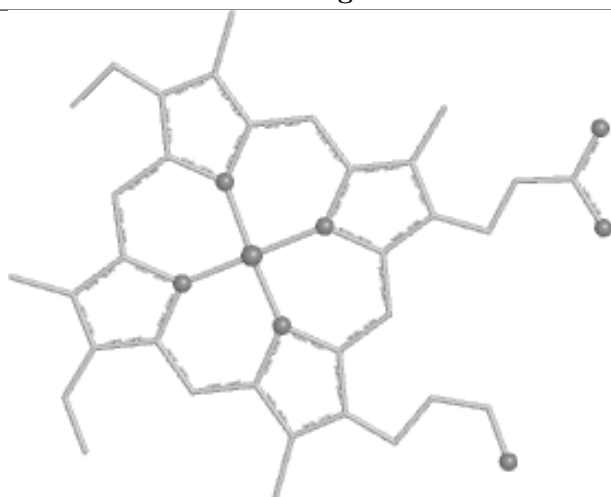
Bond lengths



Bond angles

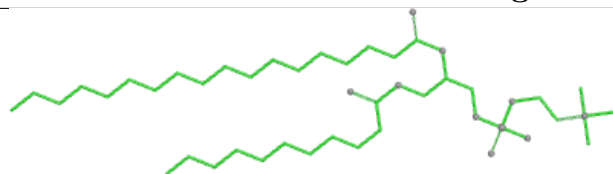


Torsions

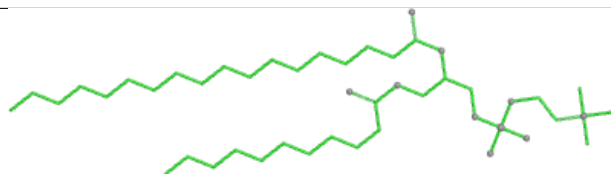


Rings

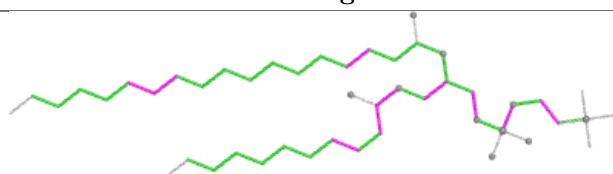
Ligand PC1 1h 203



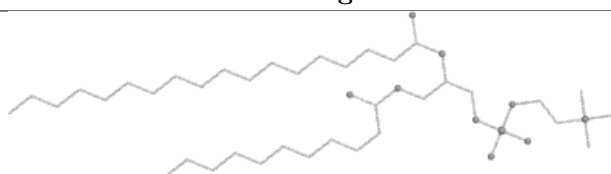
Bond lengths



Bond angles

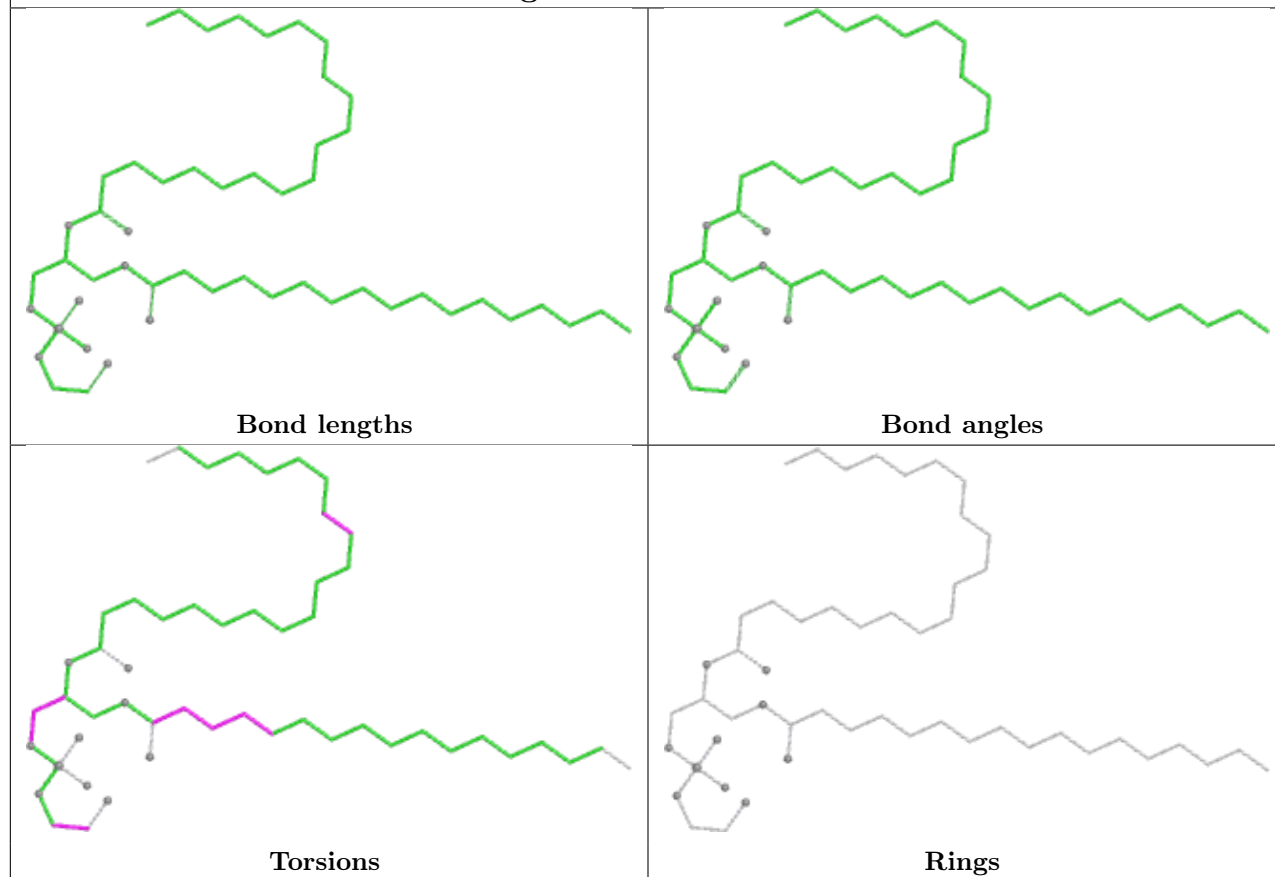


Torsions

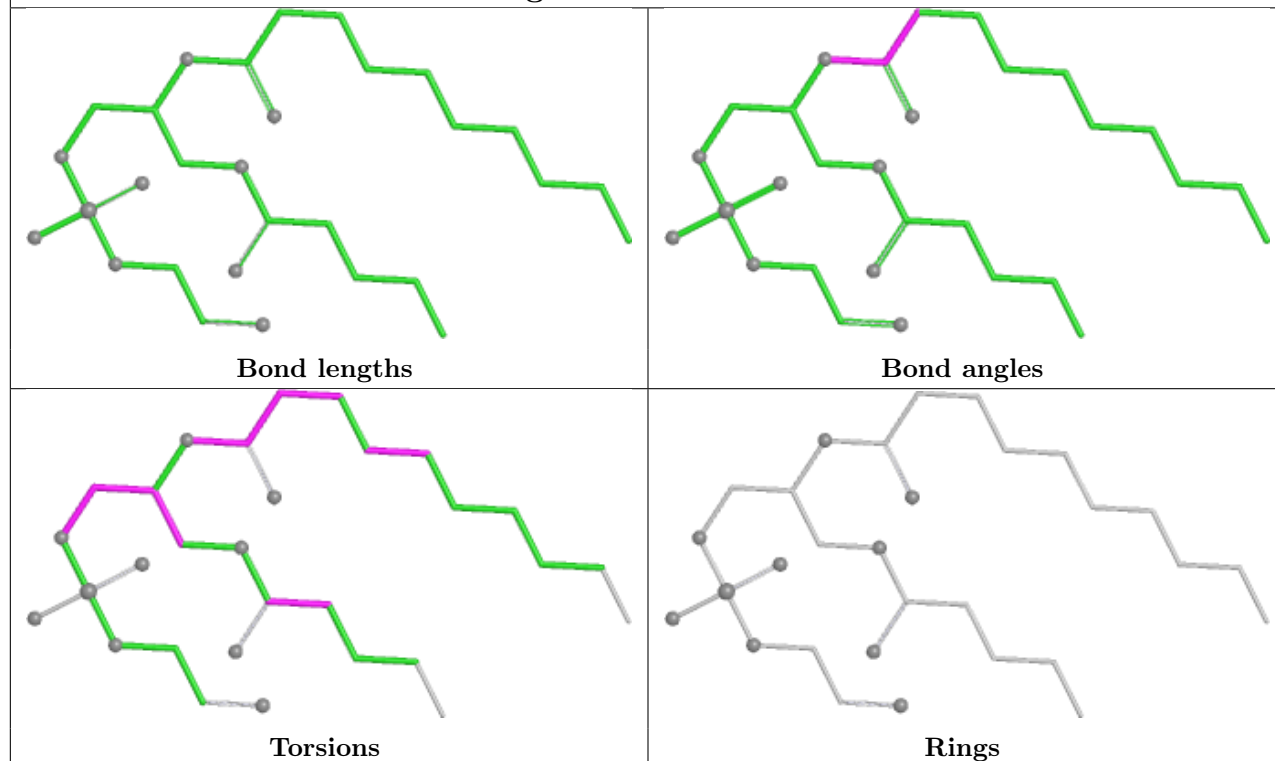


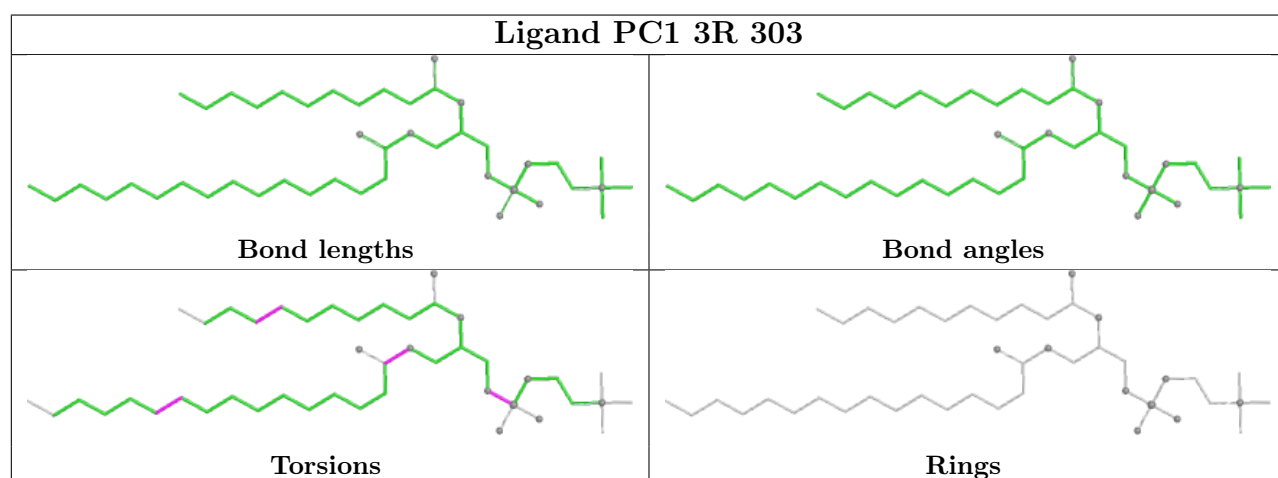
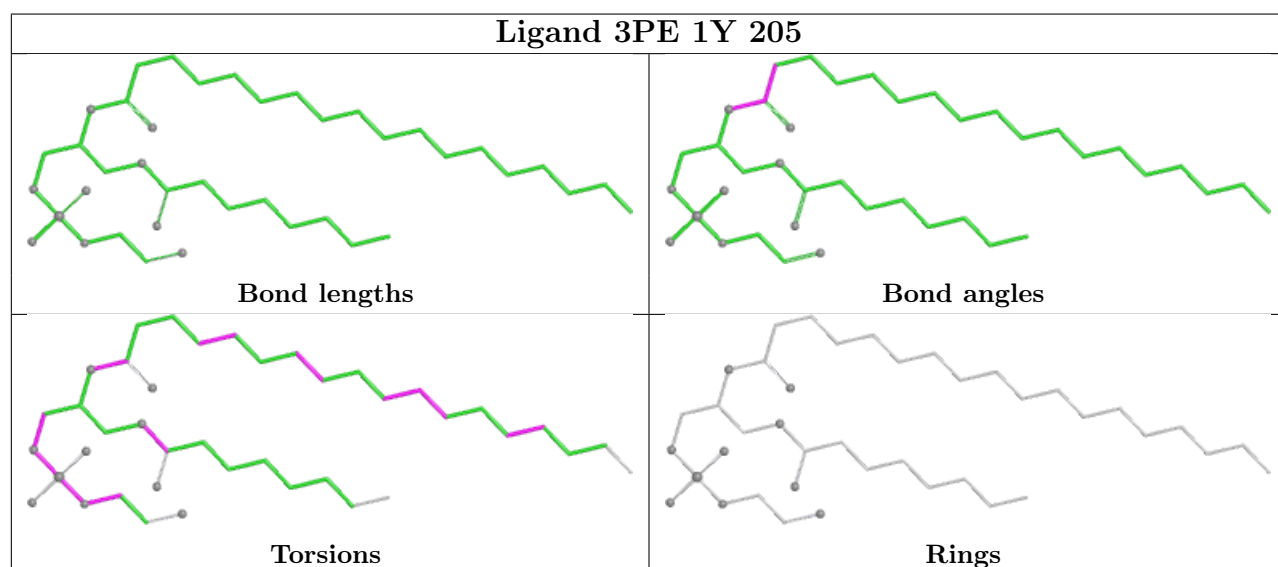
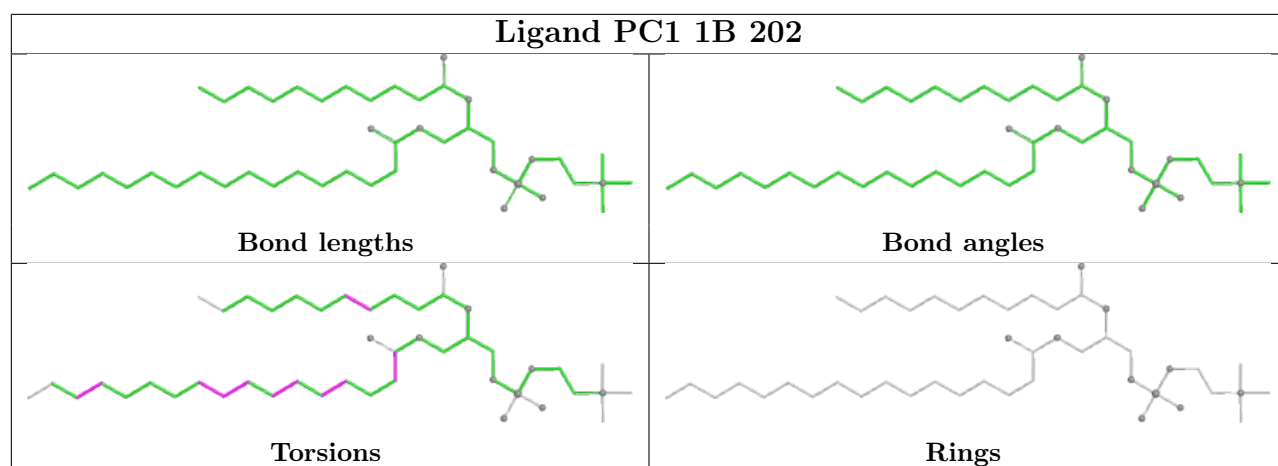
Rings

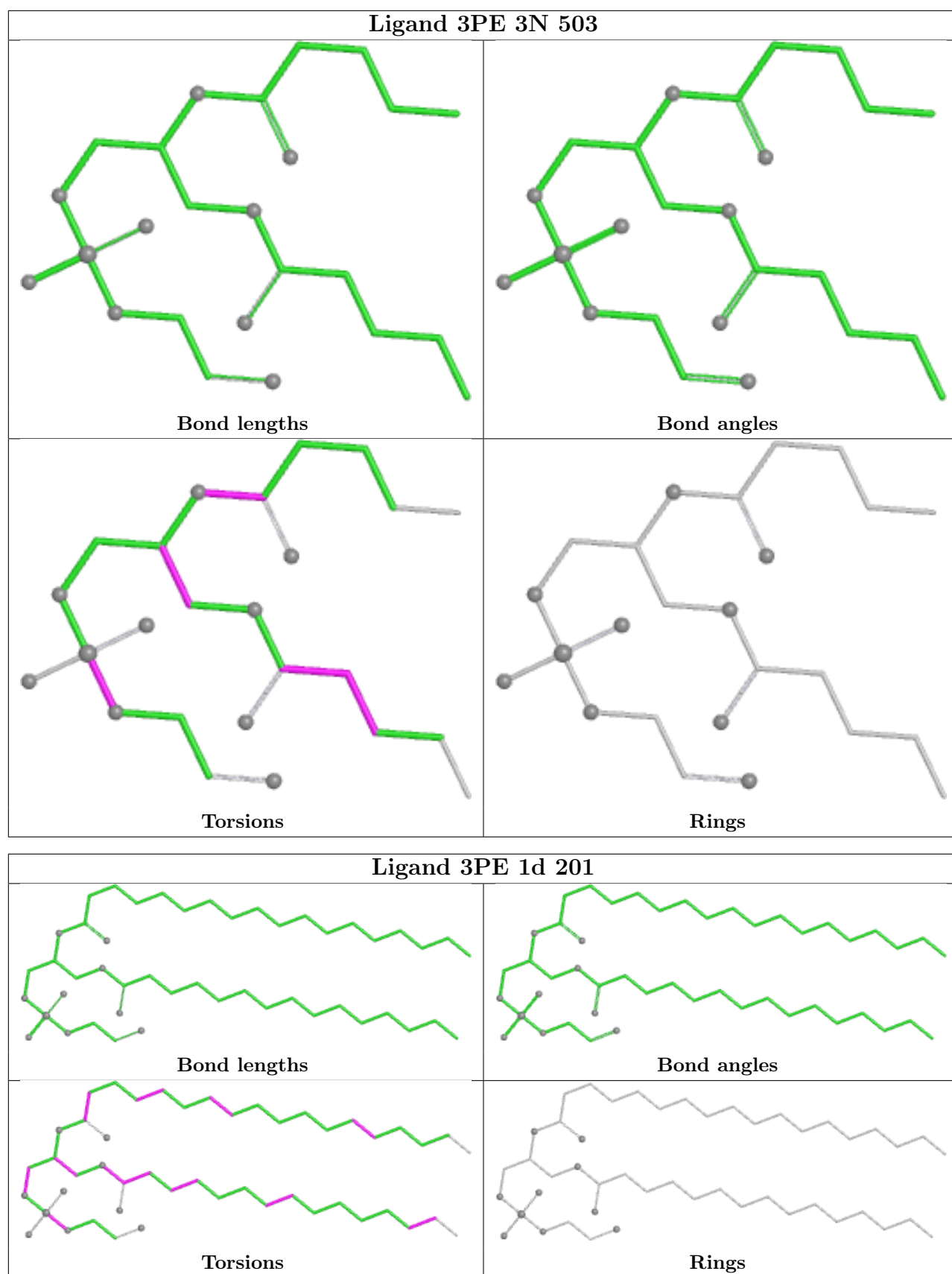
Ligand PEK 4G 103

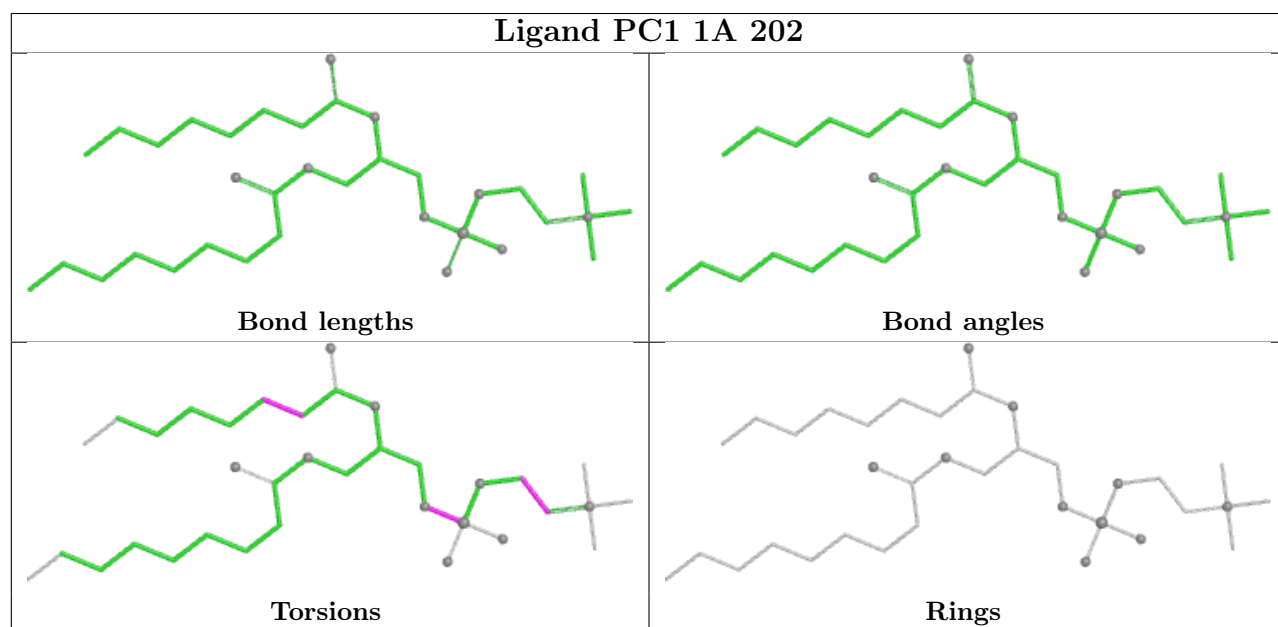
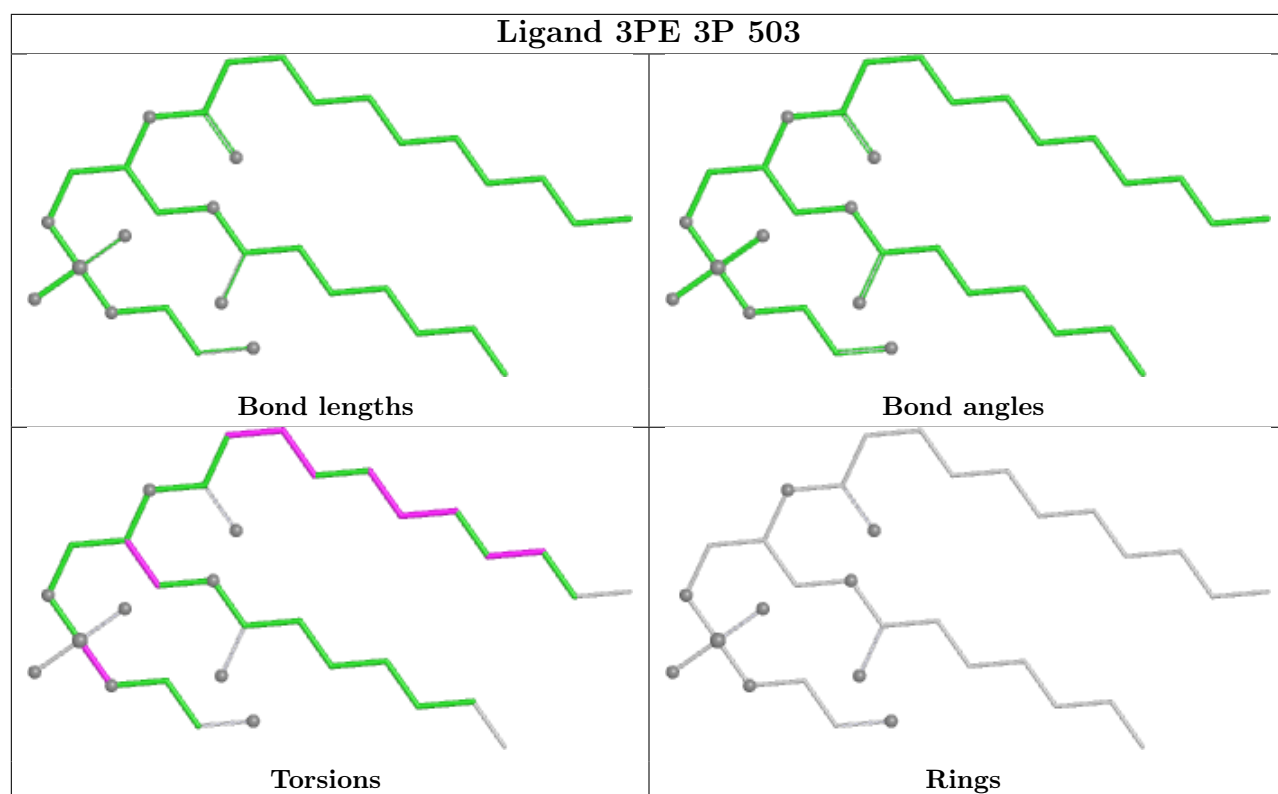


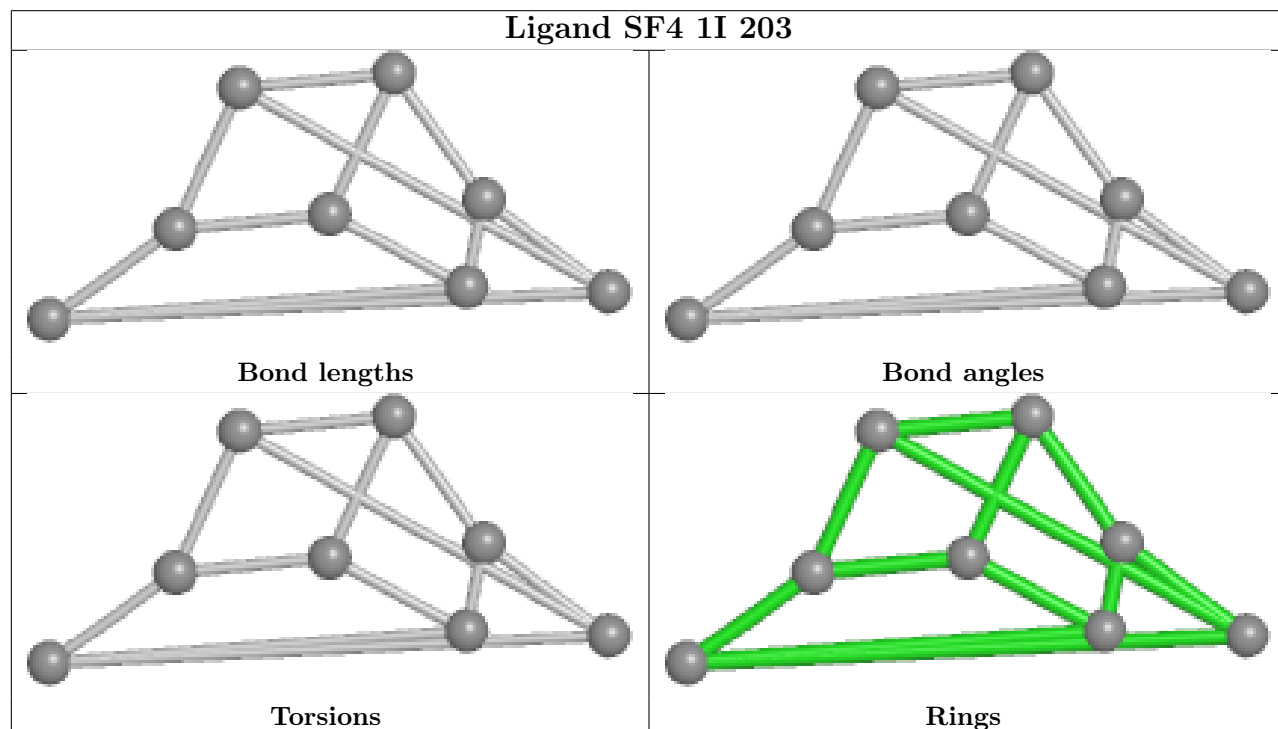
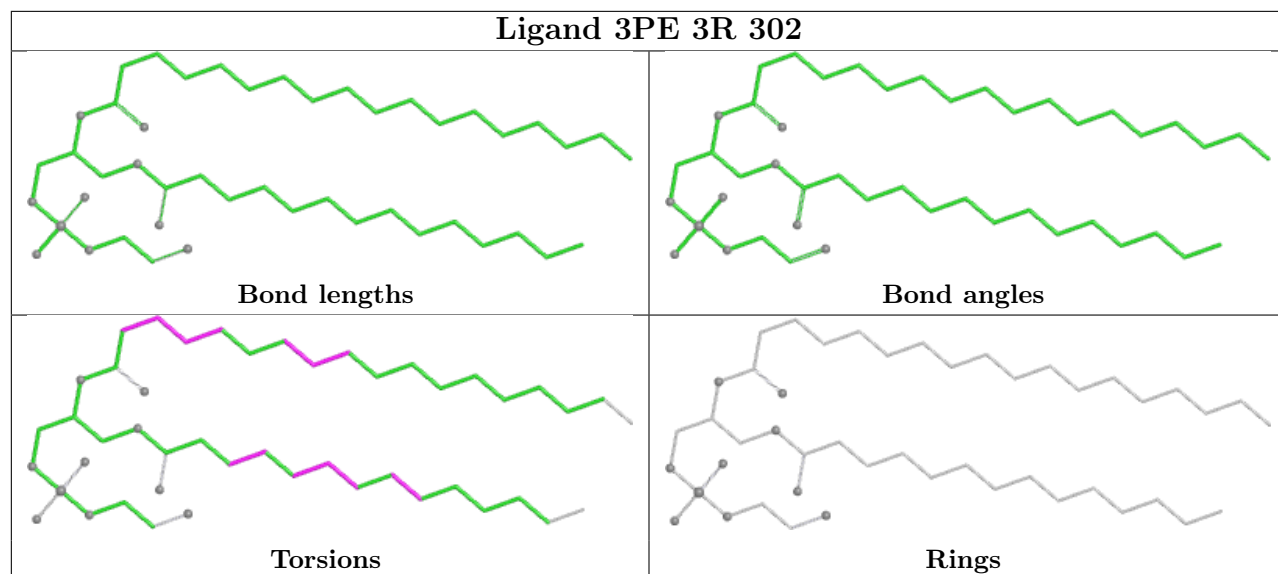
Ligand 3PE 1Y 203

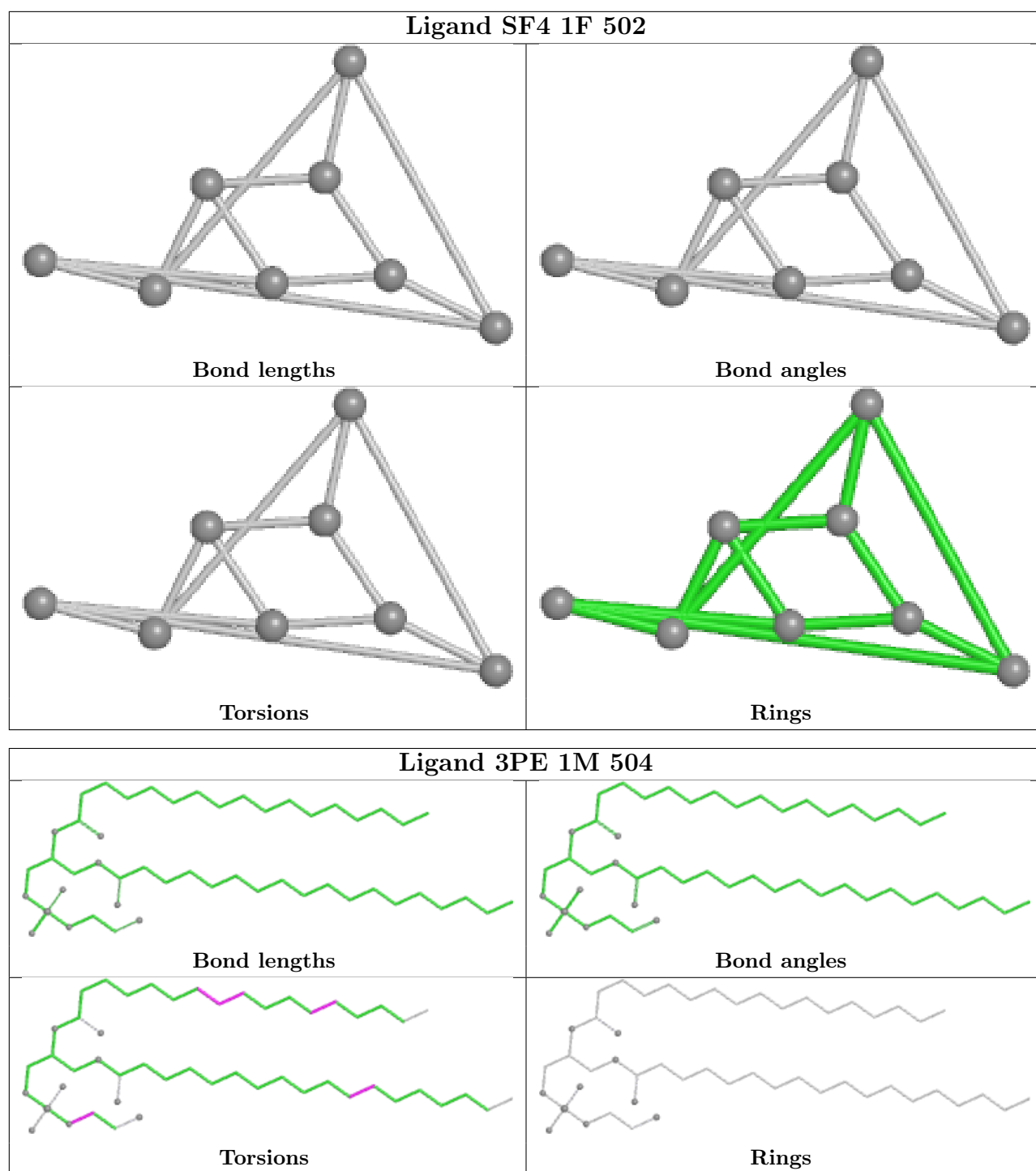


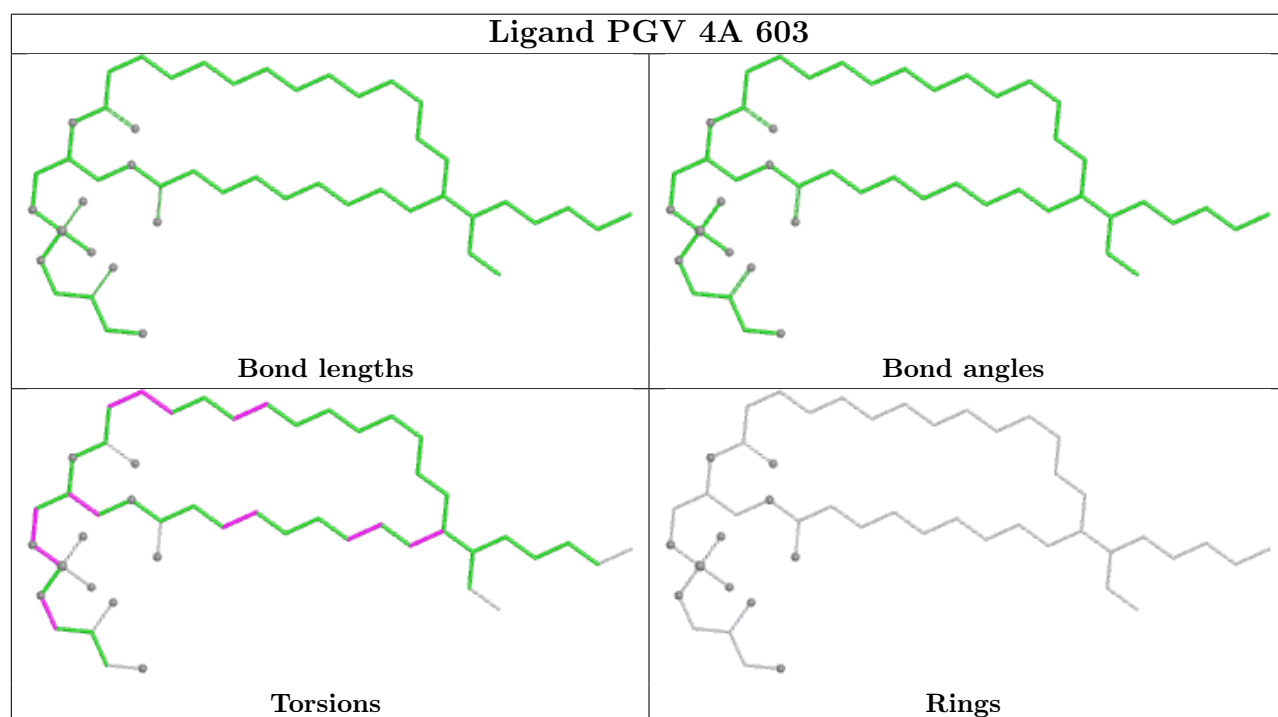
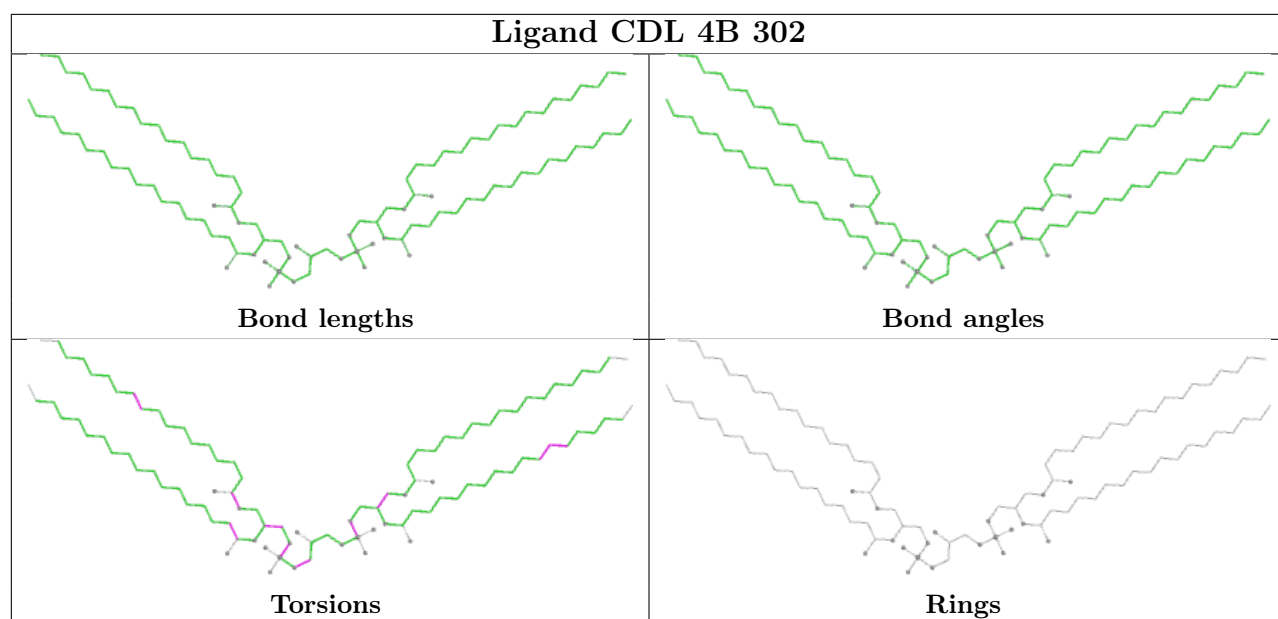




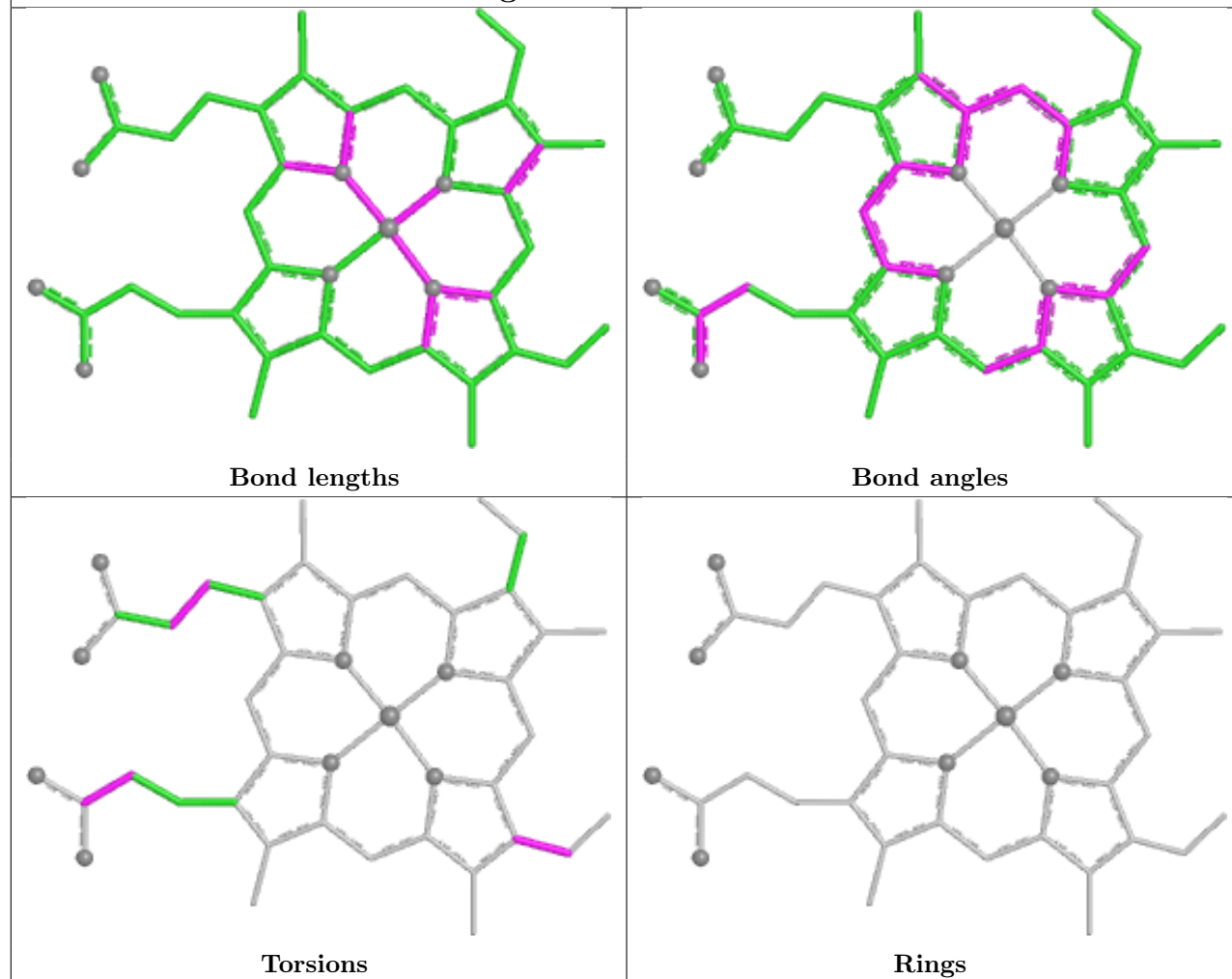




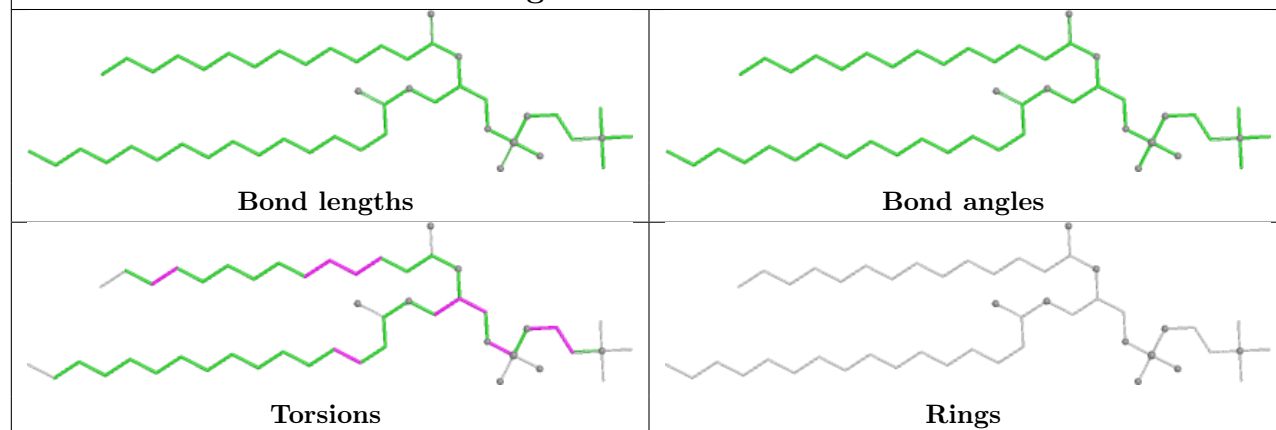




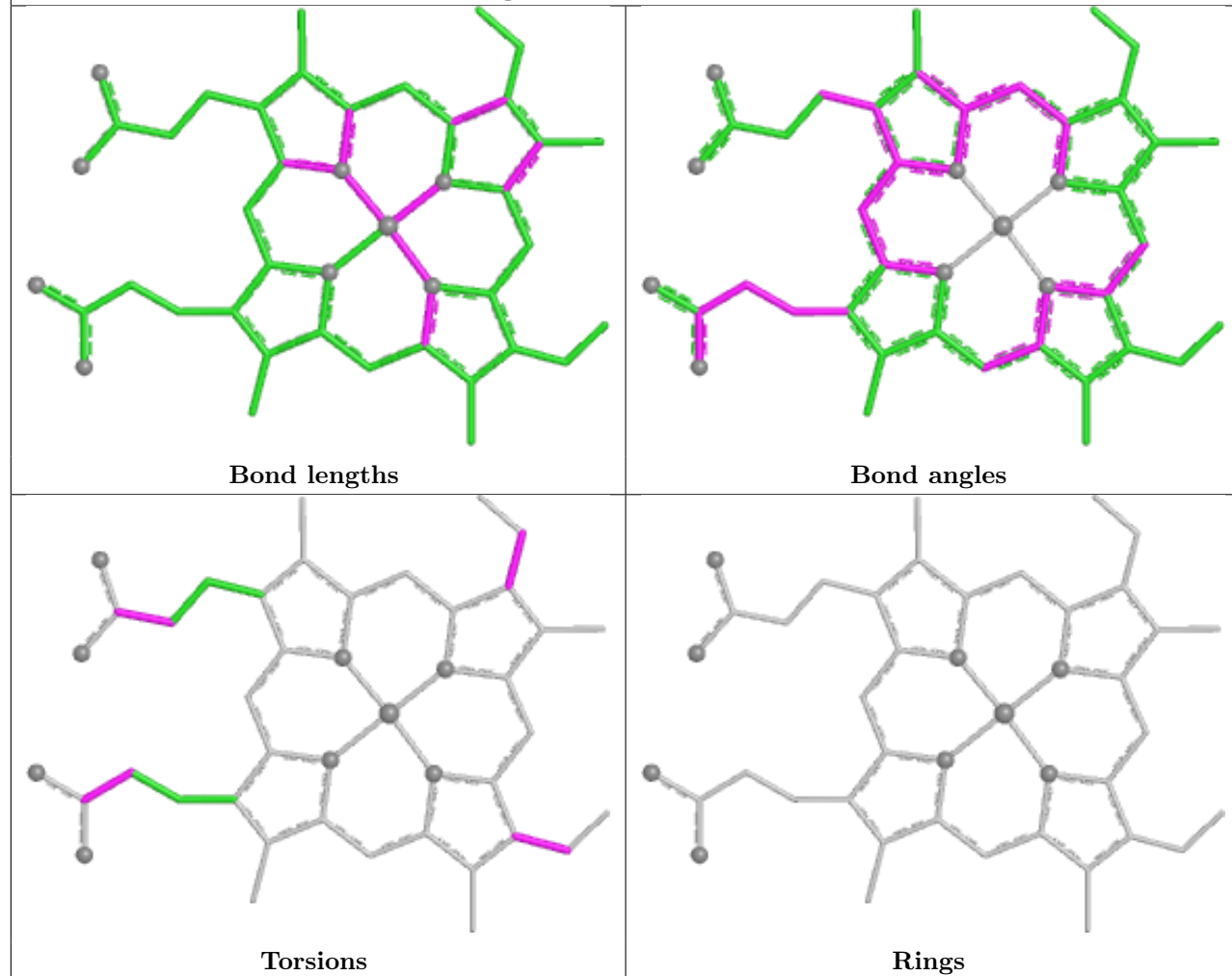
Ligand HEM 3C 501



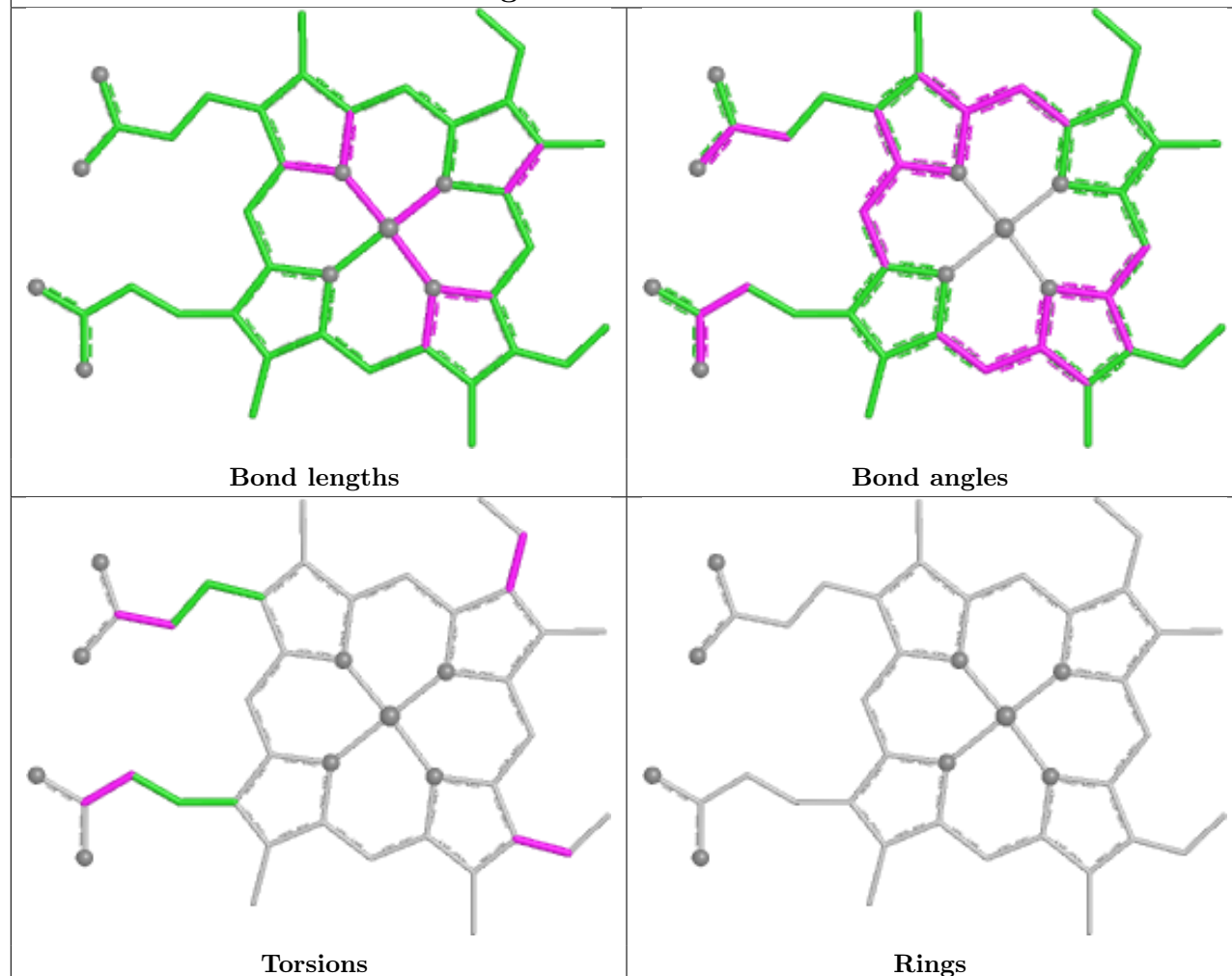
Ligand PC1 1B 203



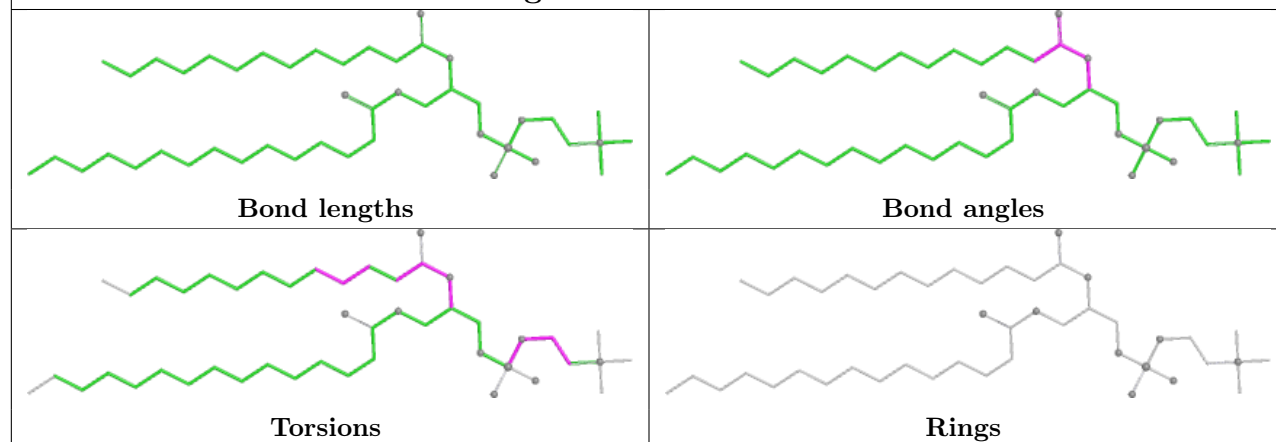
Ligand HEM 3P 501

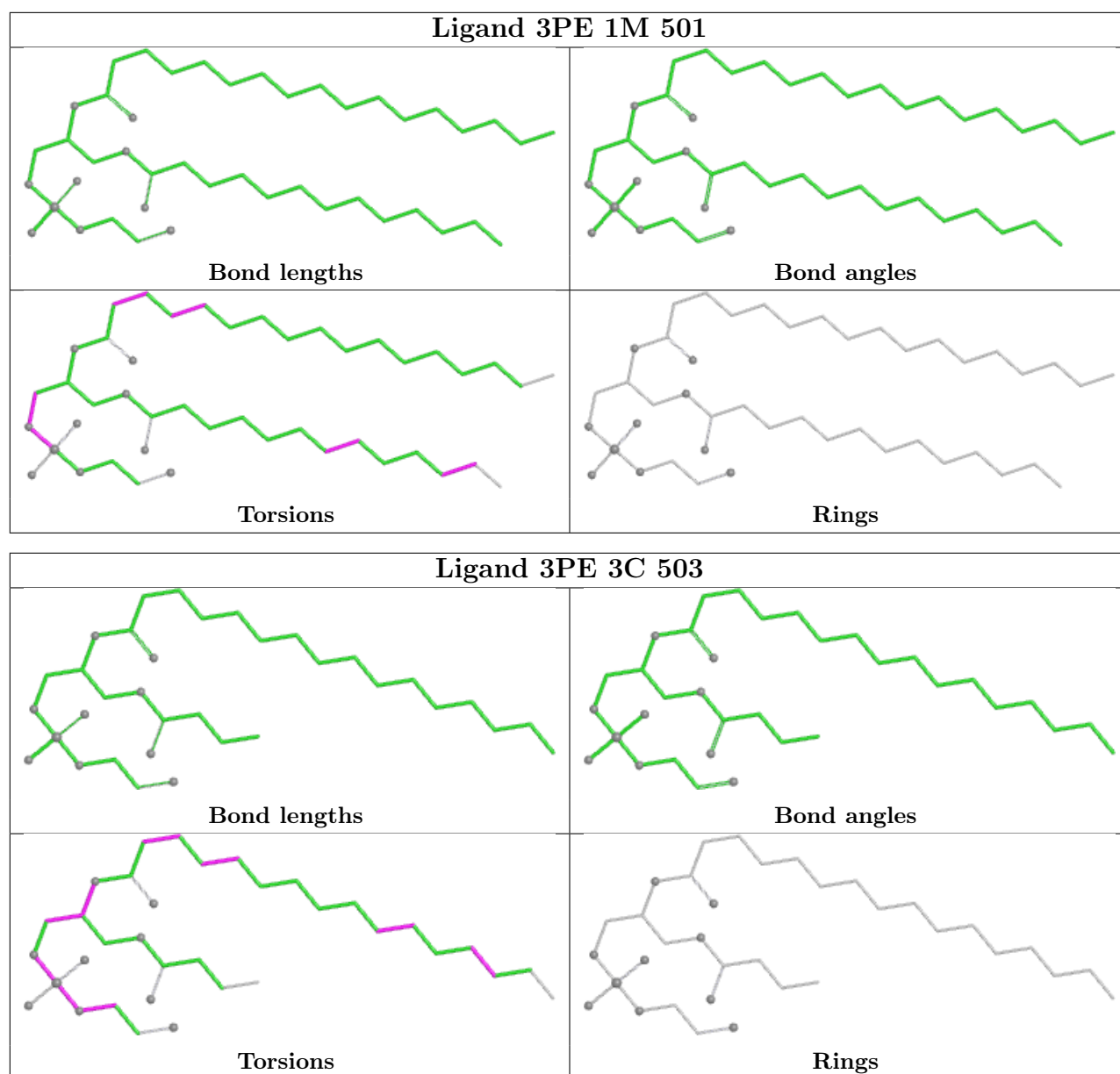


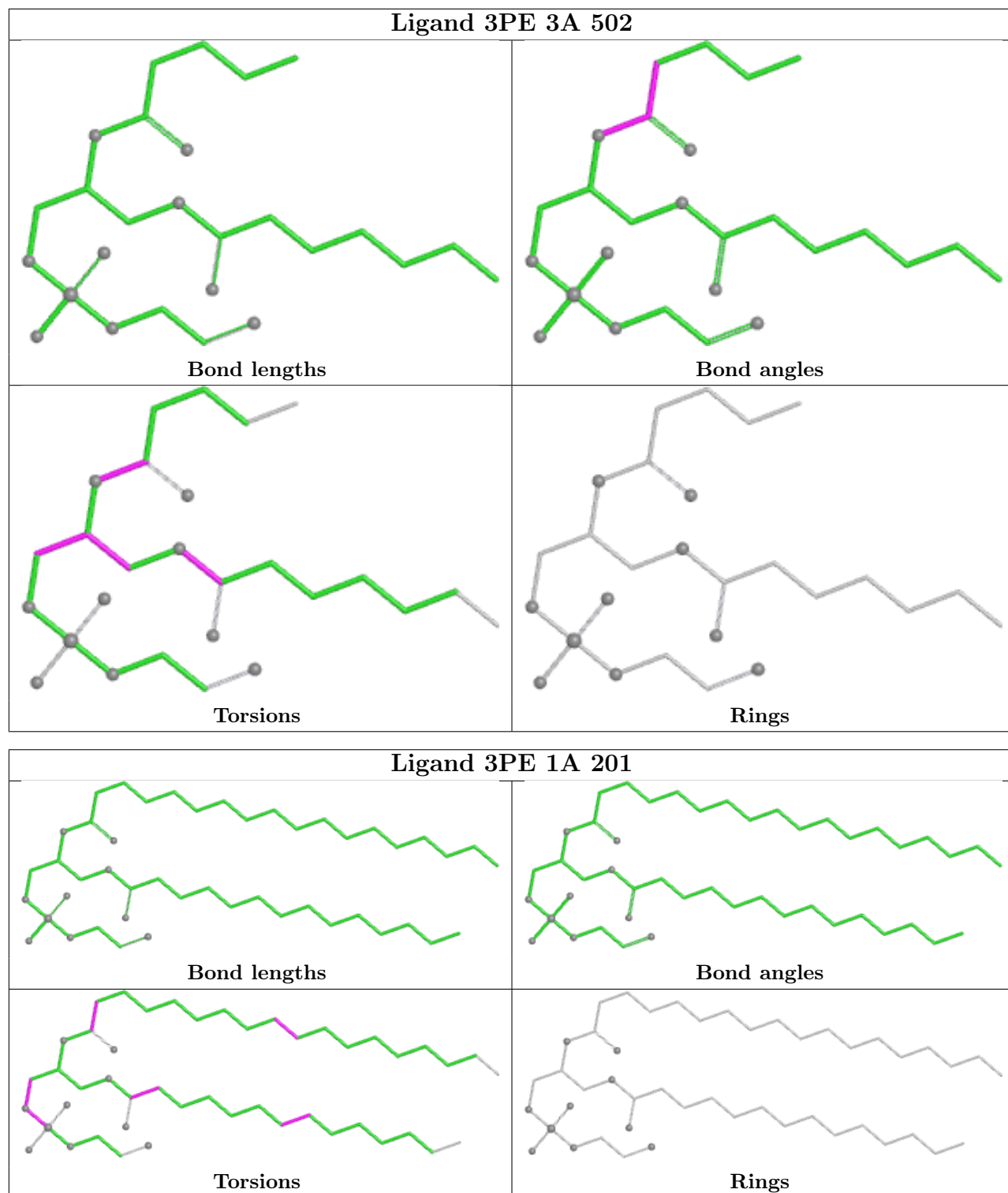
Ligand HEM 3P 502

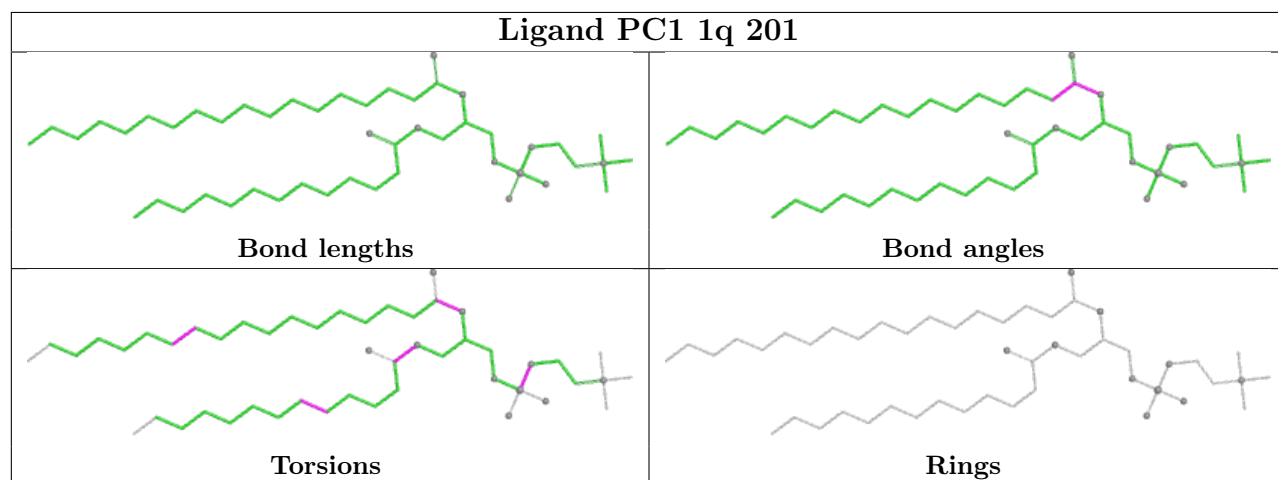
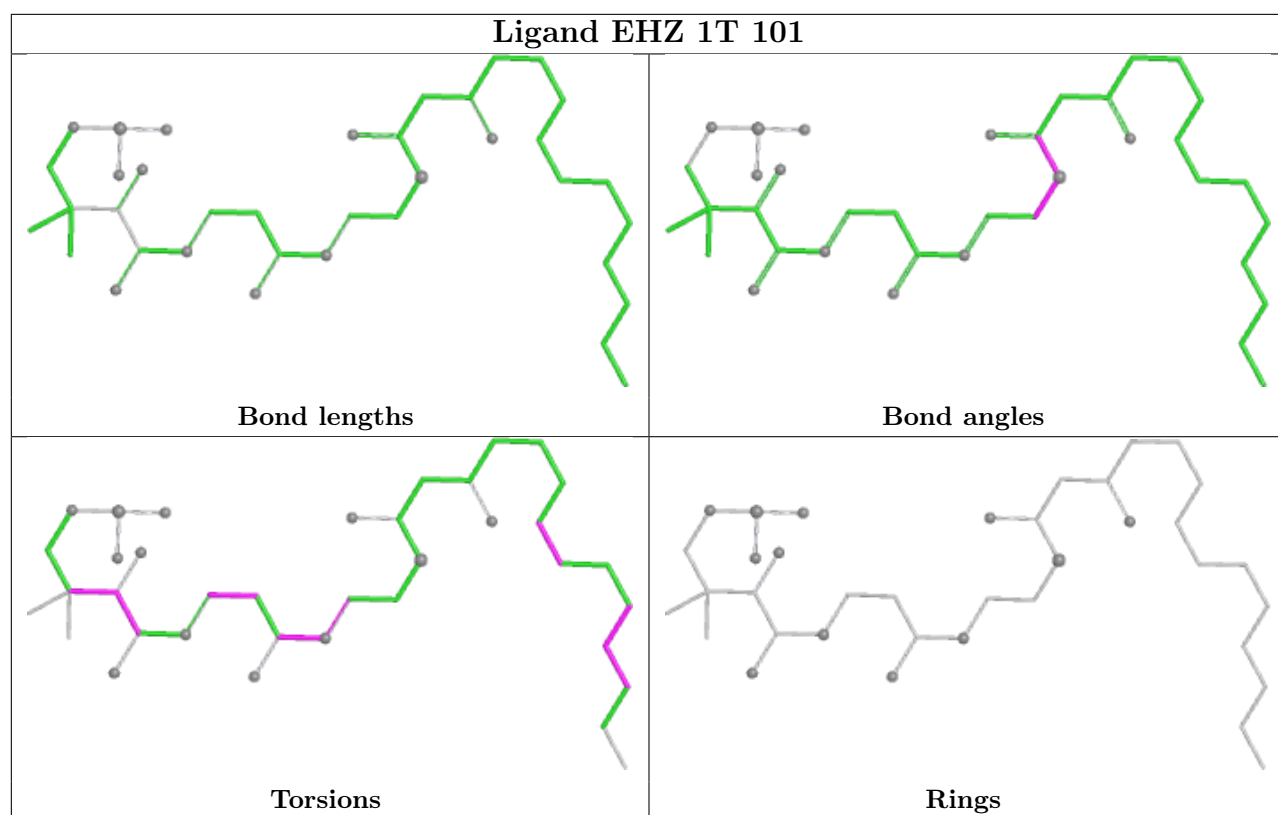


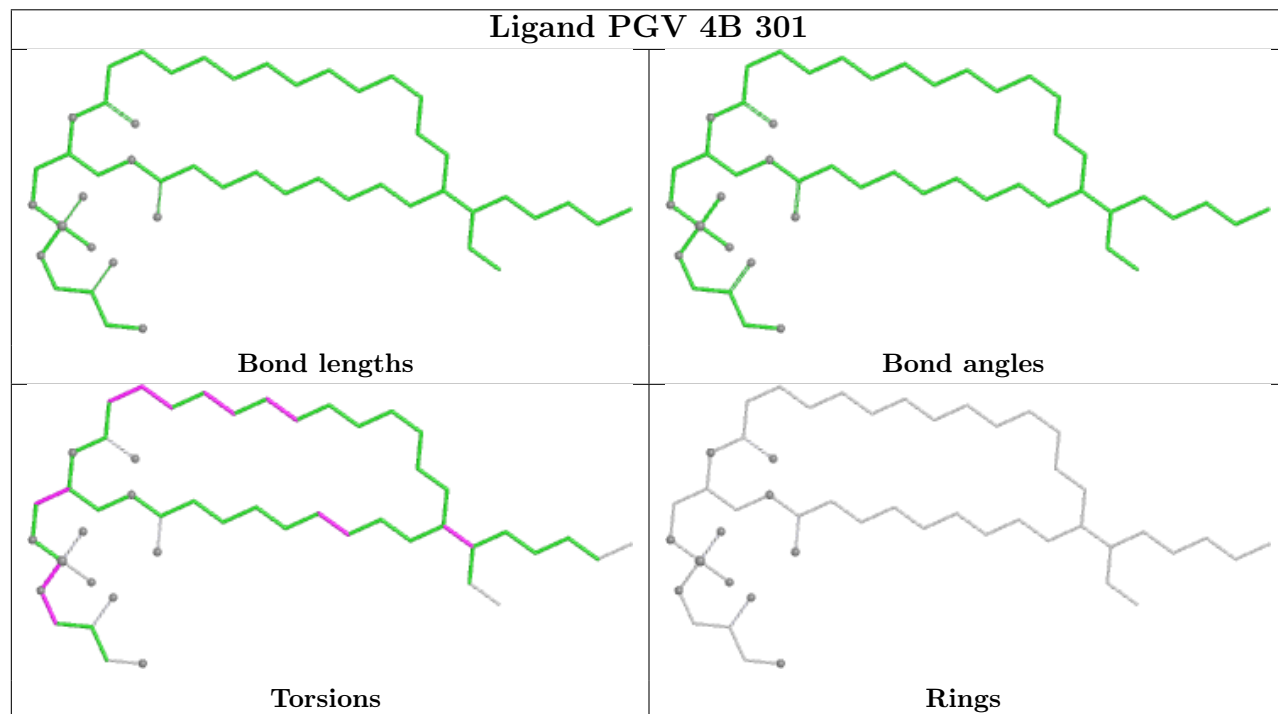
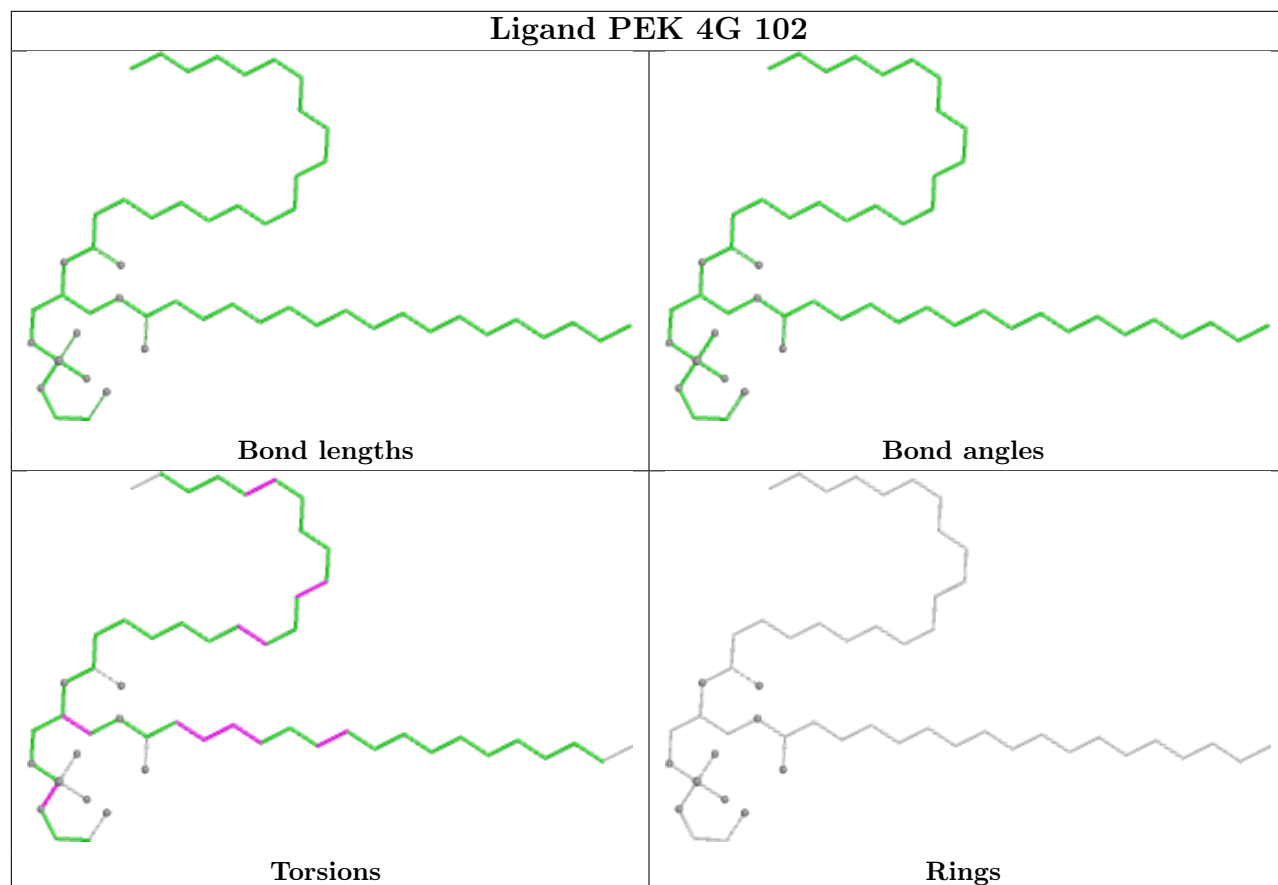
Ligand PC1 1m 201

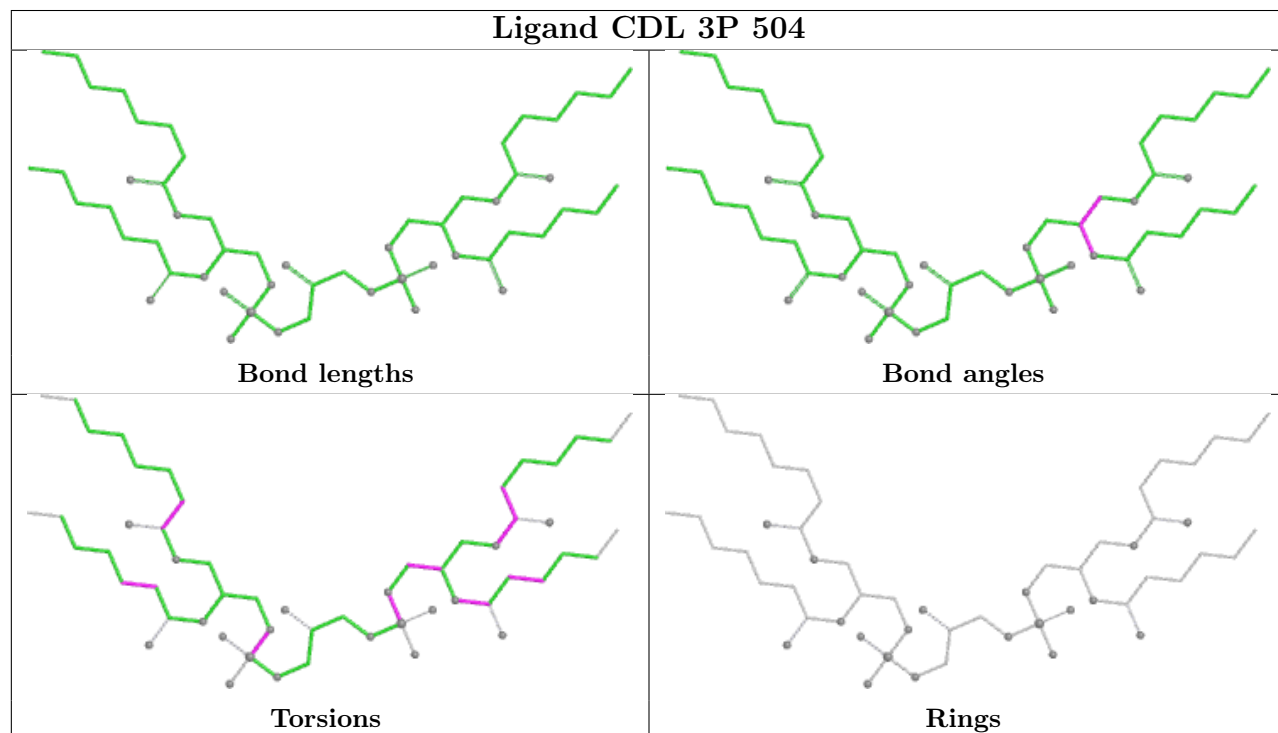
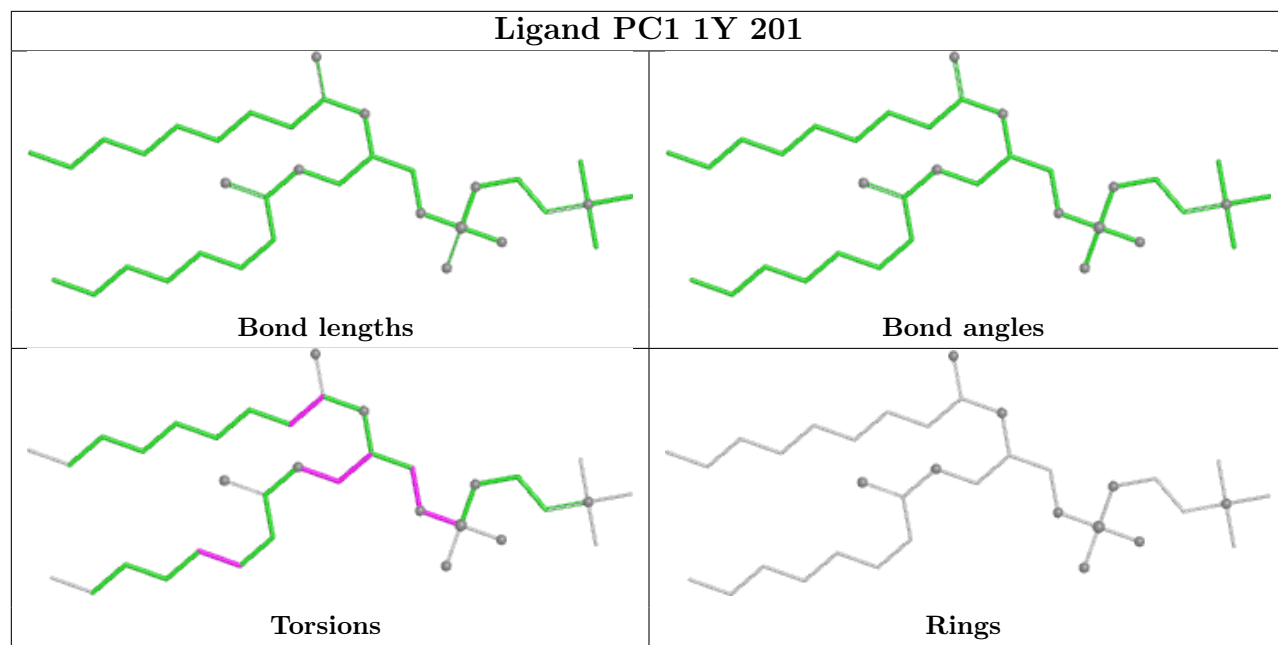


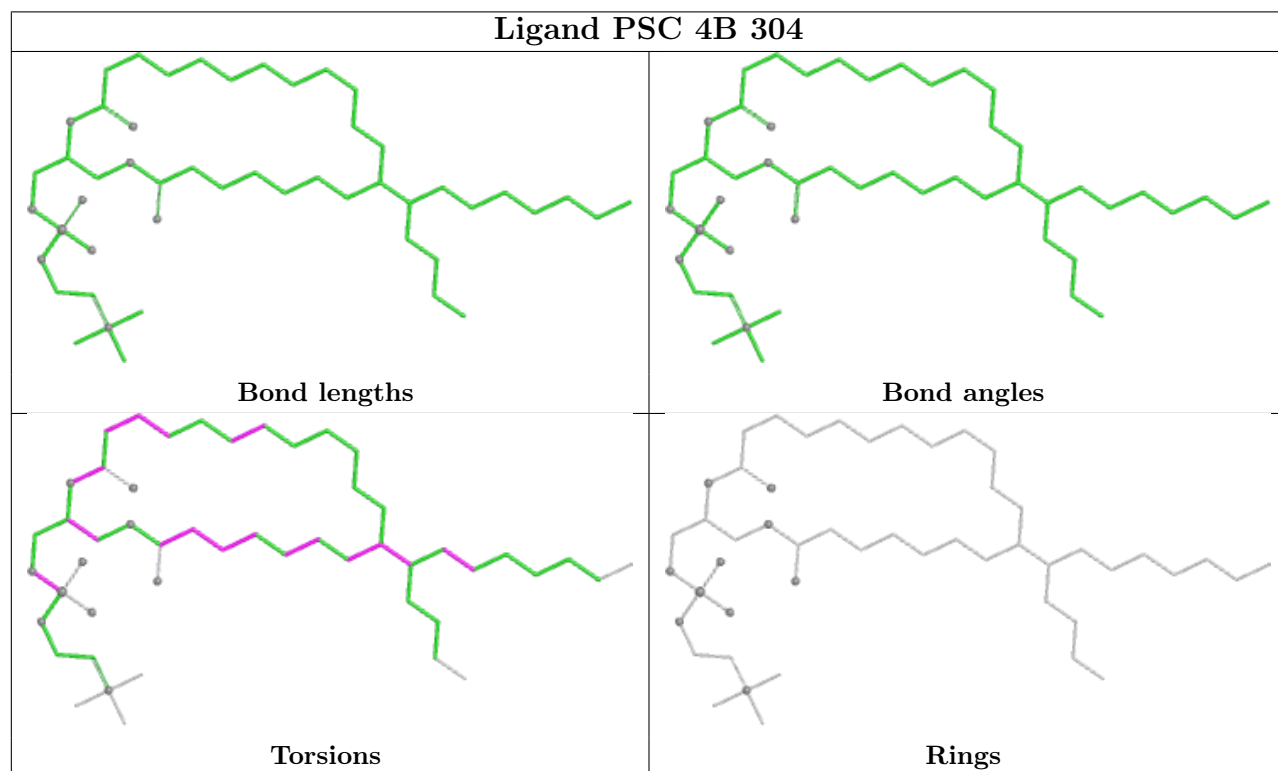
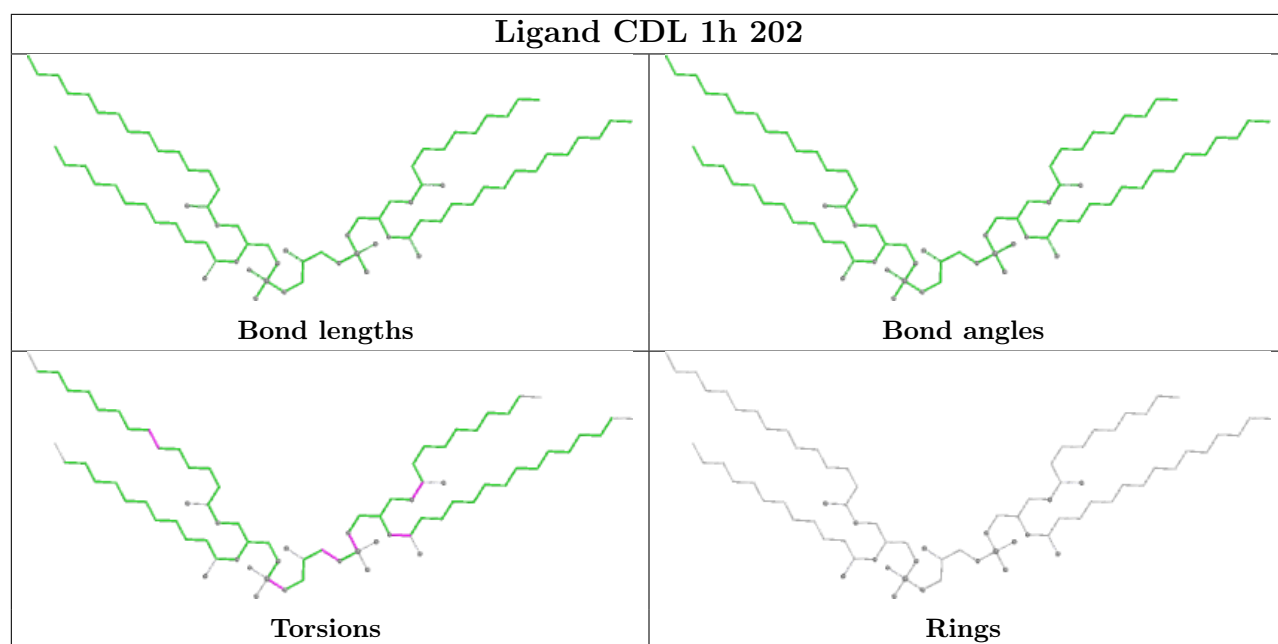


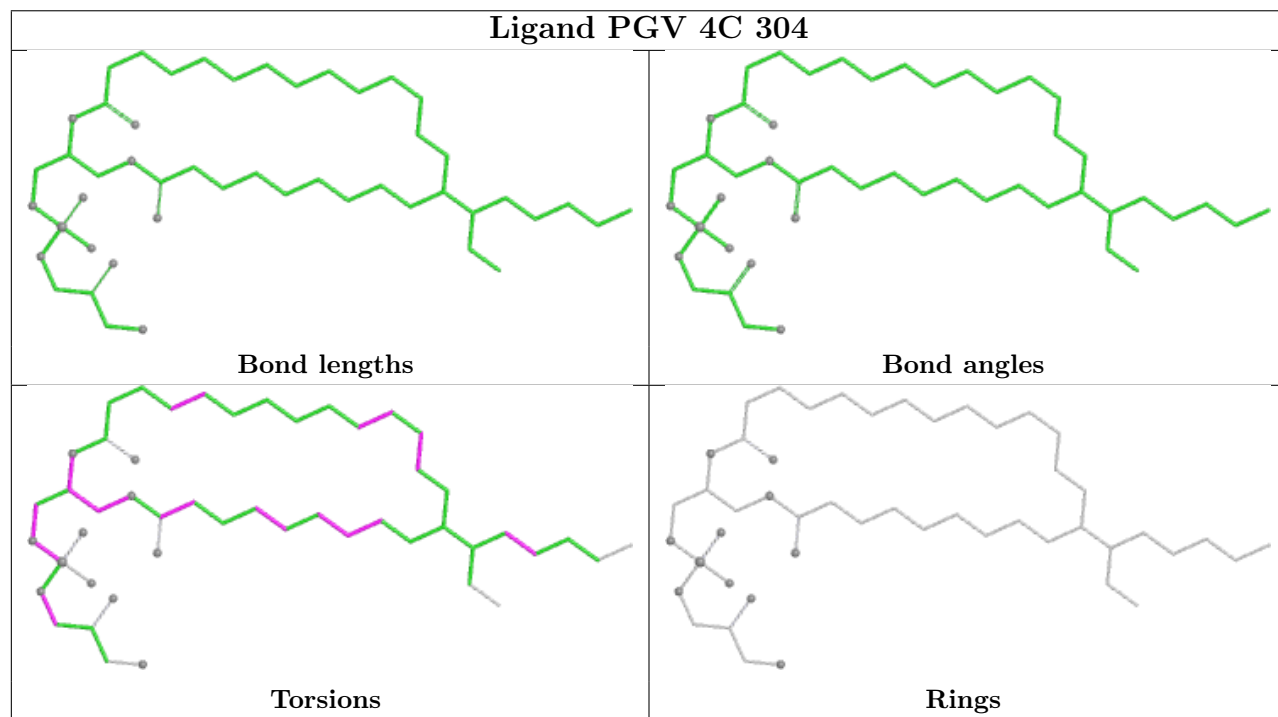
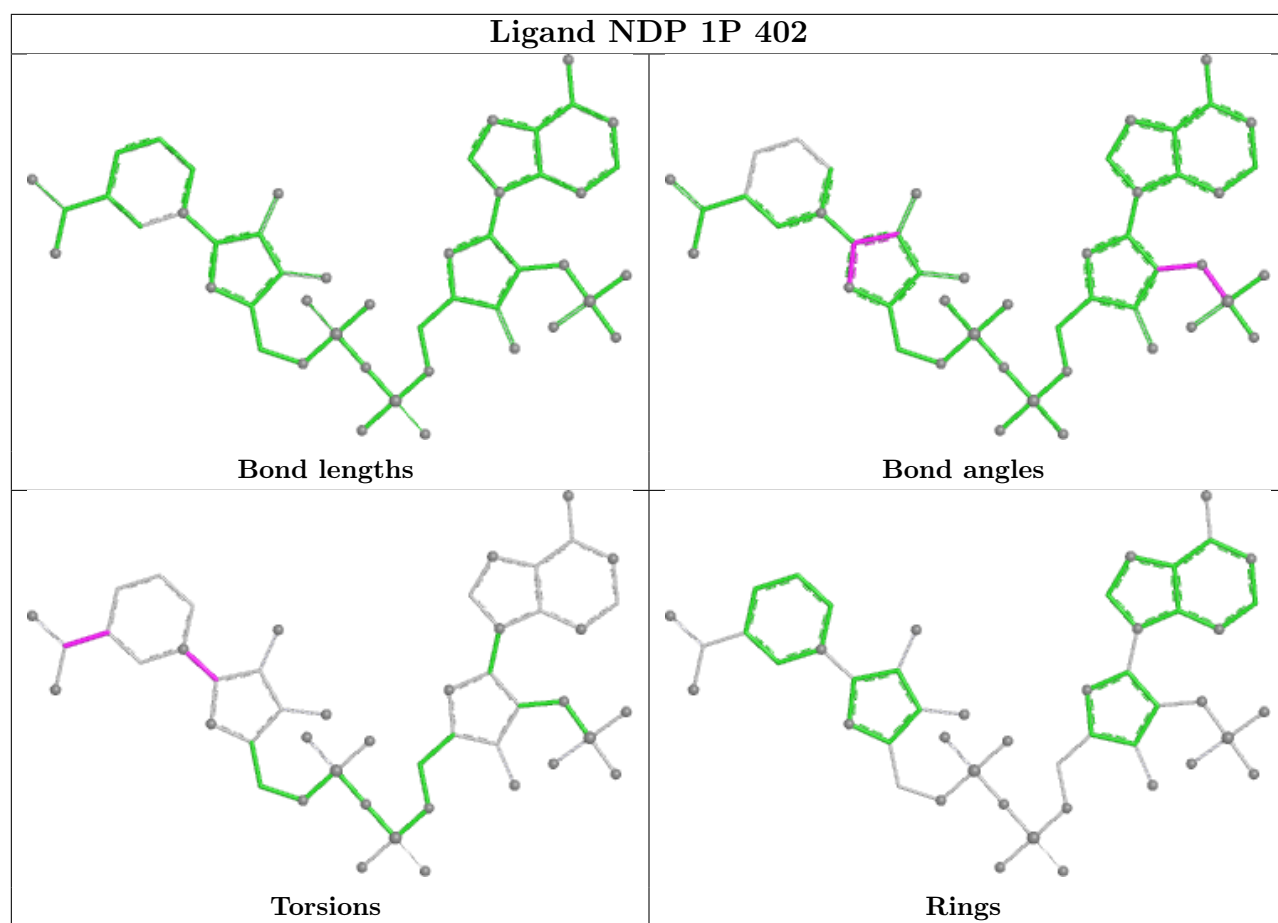


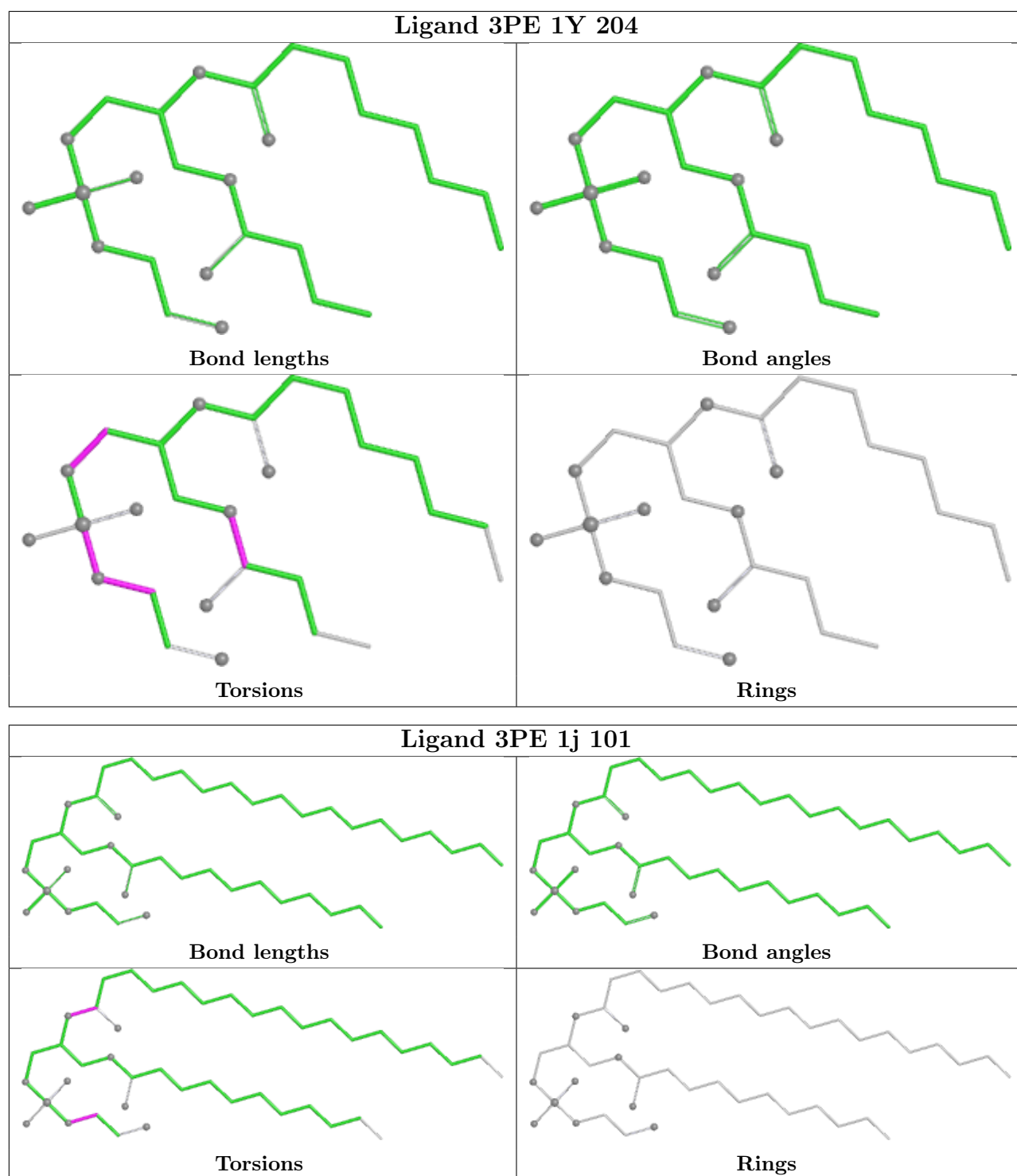












5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
49	3I	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	3I	48:SER	C	49:PHE	N	1.08

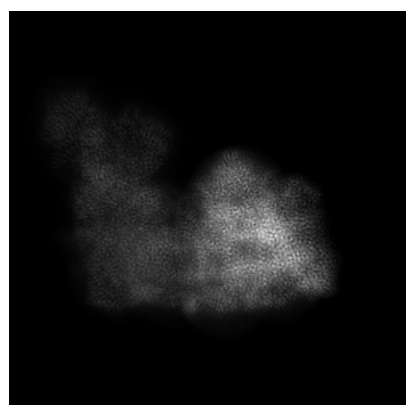
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-42226. These allow visual inspection of the internal detail of the map and identification of artifacts.

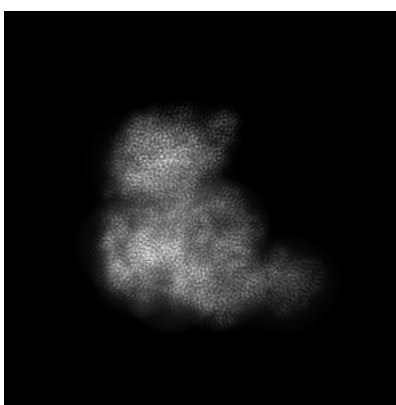
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

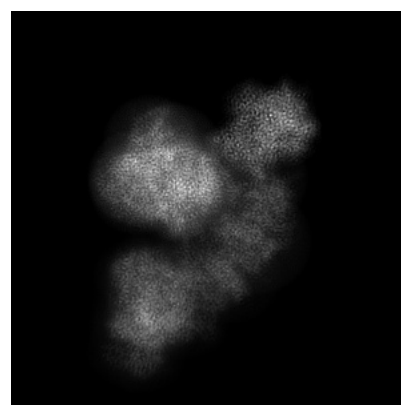
6.1.1 Primary map



X



Y

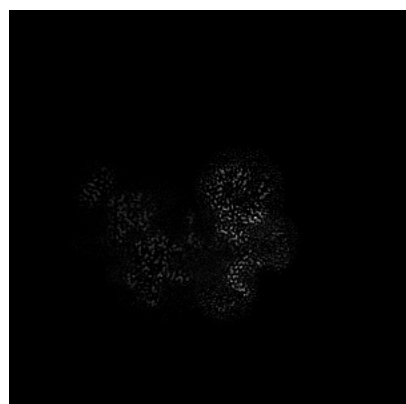


Z

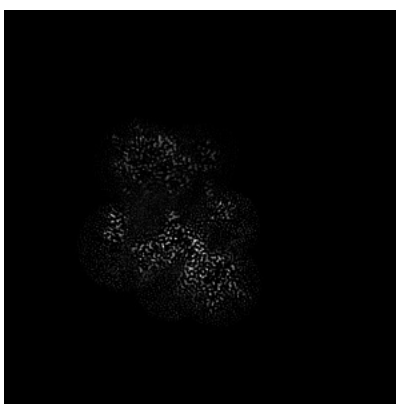
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

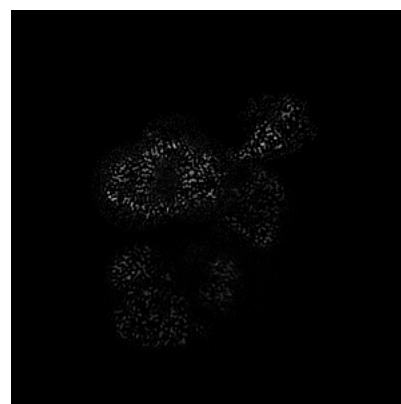
6.2.1 Primary map



X Index: 444



Y Index: 444



Z Index: 444

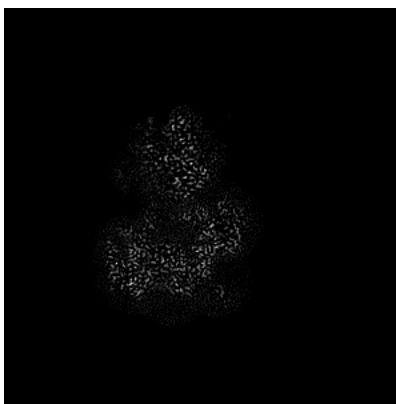
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

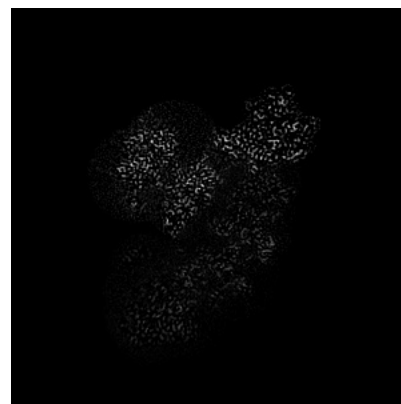
6.3.1 Primary map



X Index: 322



Y Index: 568

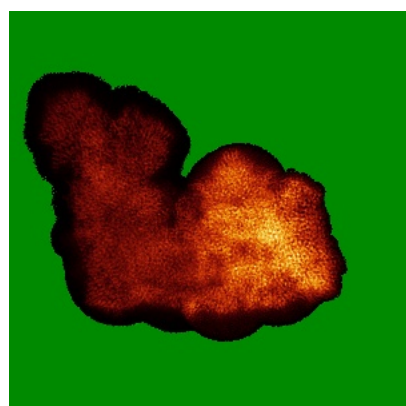


Z Index: 387

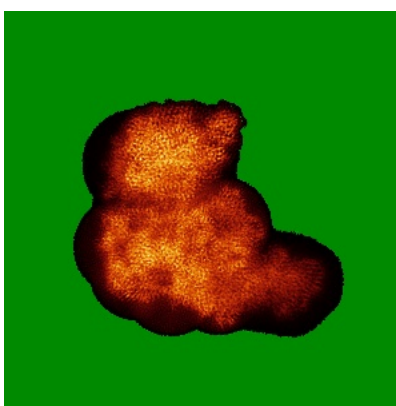
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

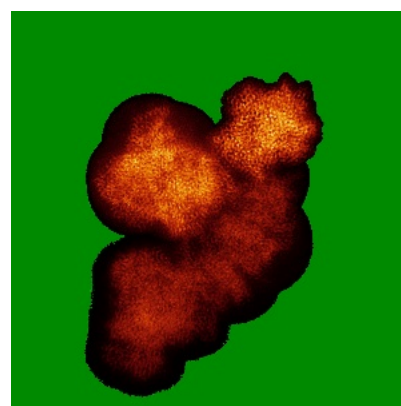
6.4.1 Primary map



X



Y

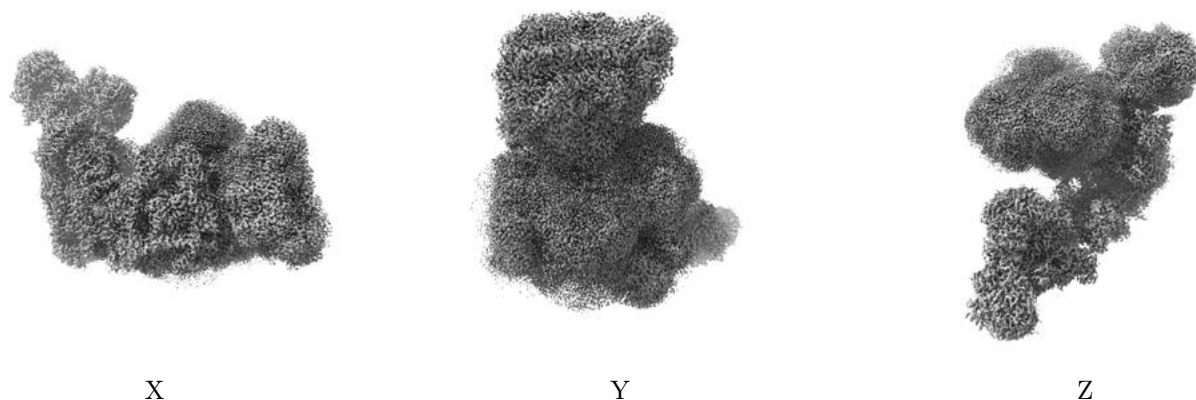


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.12. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

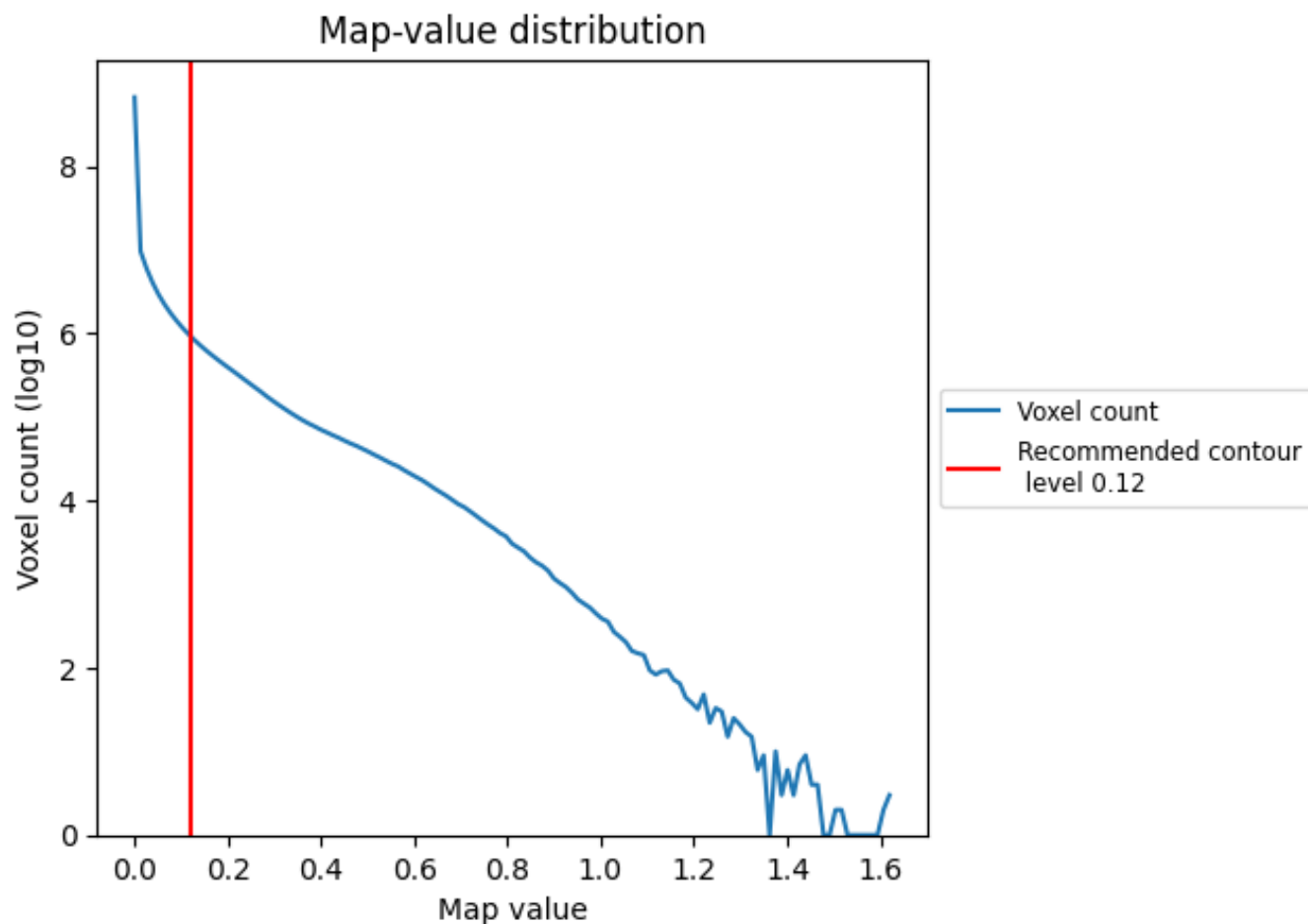
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

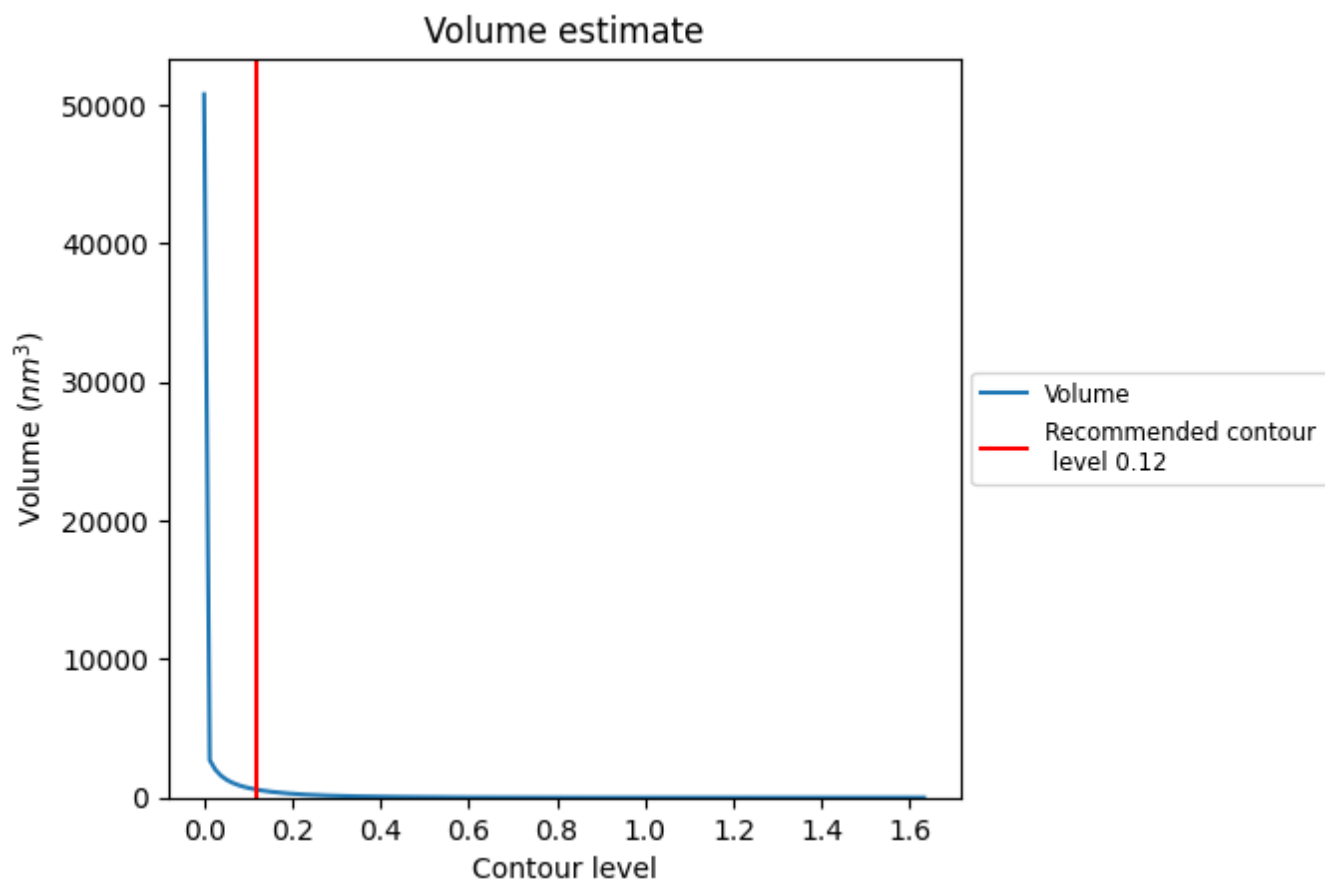
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

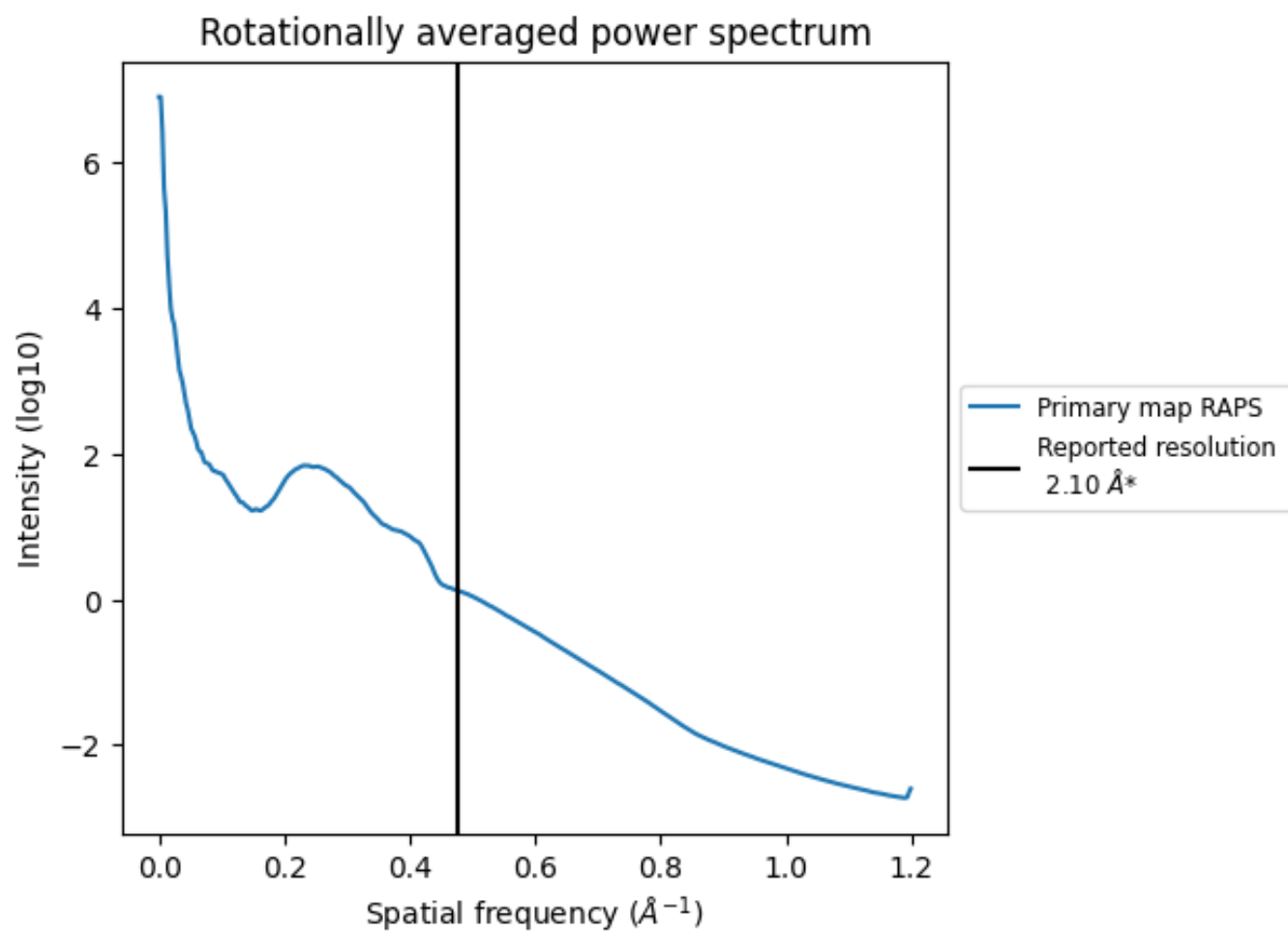
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 569 nm^3 ; this corresponds to an approximate mass of 514 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 ⓘ



*Reported resolution corresponds to spatial frequency of 0.476 Å⁻¹

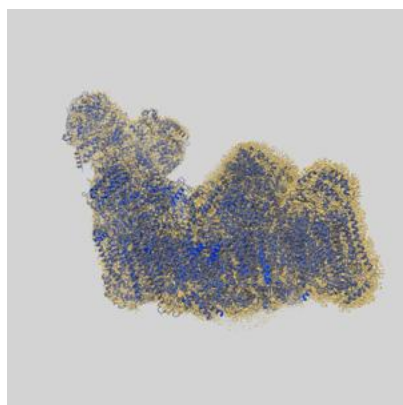
8 Fourier-Shell correlation

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

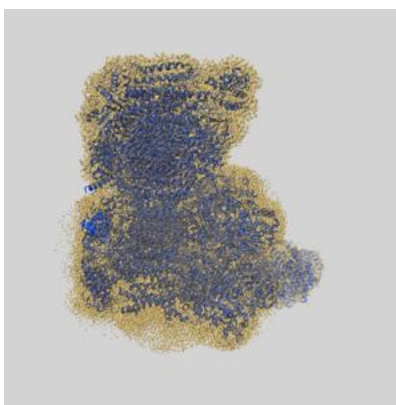
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-42226 and PDB model 8UGI. Per-residue inclusion information can be found in section [3](#) on page [38](#).

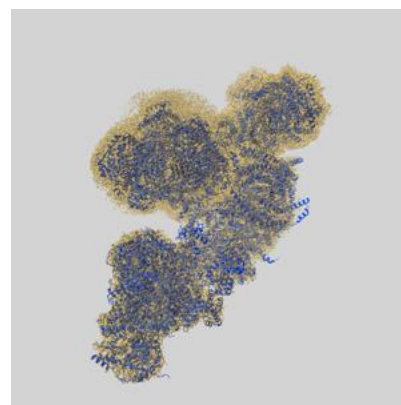
9.1 Map-model overlay [i](#)



X



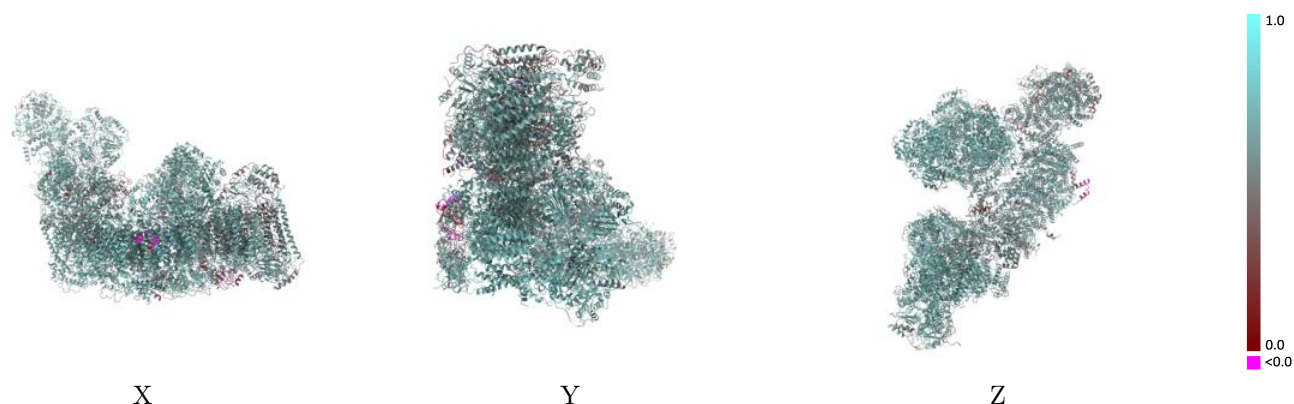
Y



Z

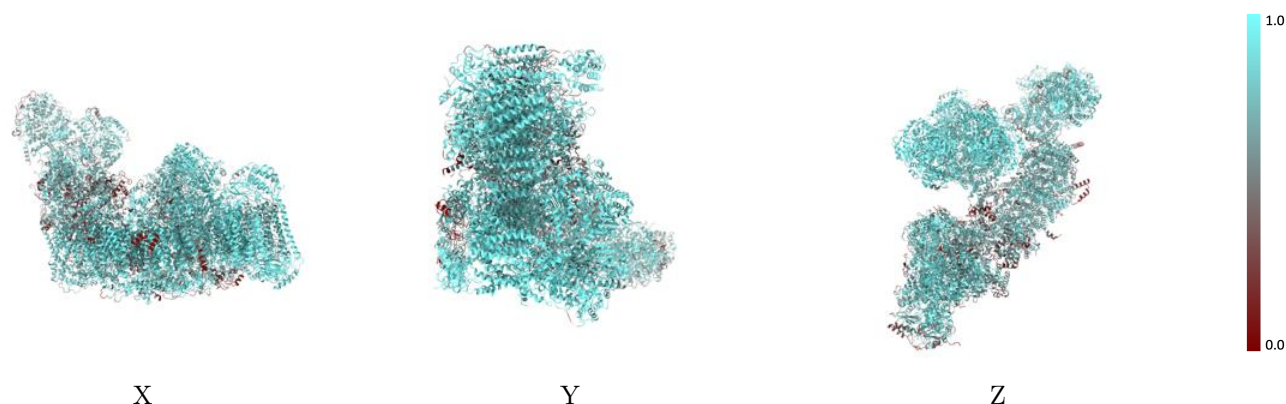
The images above show the 3D surface view of the map at the recommended contour level 0.12 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



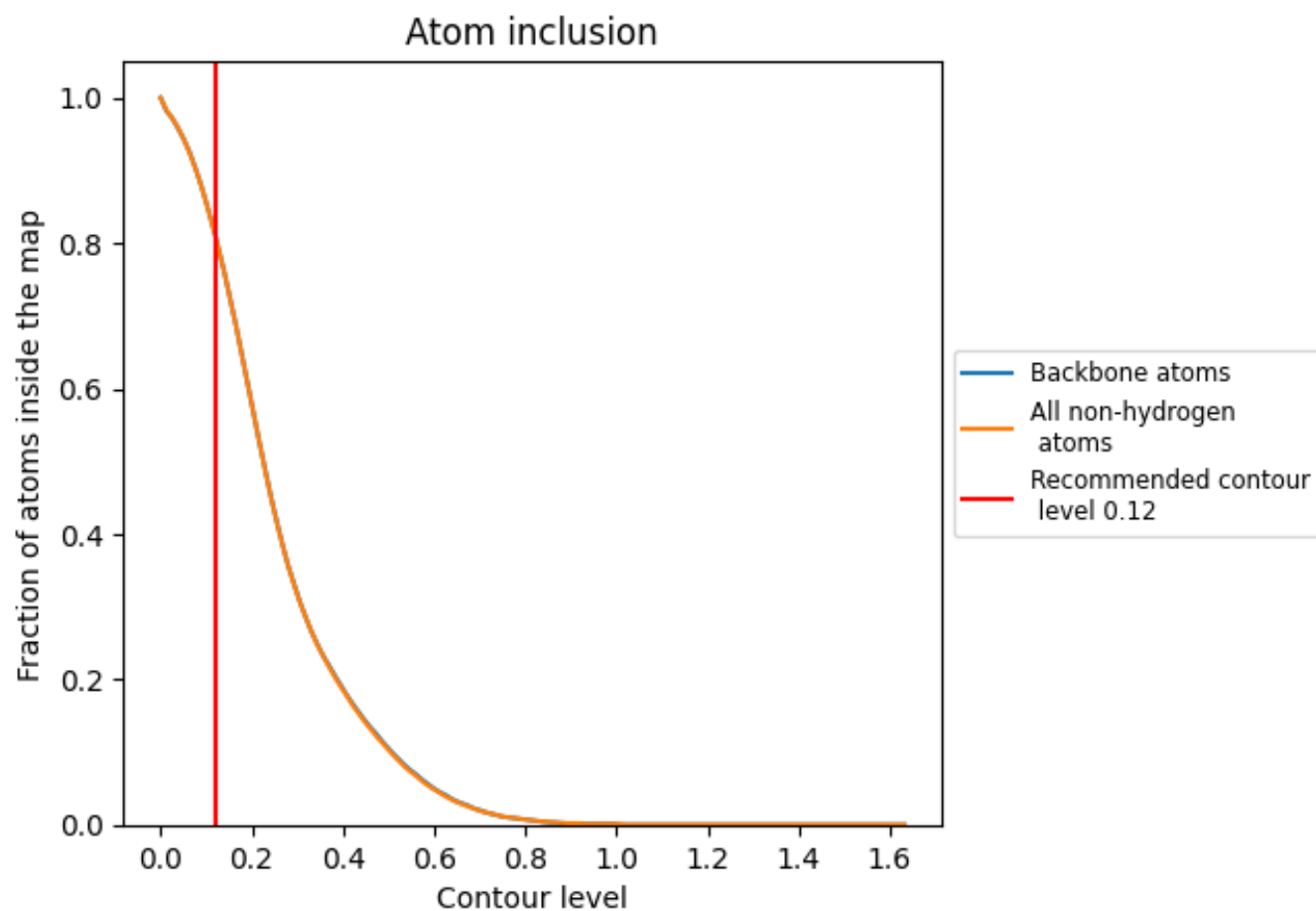
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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](#)



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 (0.12).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 81% of all backbone atoms, 81% 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 (0.12) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8110	 0.6290
1A	 0.5190	 0.5330
1B	 0.7830	 0.6630
1C	 0.8480	 0.6870
1D	 0.7960	 0.6680
1E	 0.6080	 0.5860
1F	 0.7220	 0.6170
1G	 0.8100	 0.6560
1H	 0.7760	 0.6240
1I	 0.8700	 0.6900
1J	 0.6170	 0.5640
1K	 0.9020	 0.6730
1L	 0.8600	 0.6620
1M	 0.9120	 0.6880
1N	 0.9020	 0.6860
1O	 0.6060	 0.5640
1P	 0.7150	 0.6230
1Q	 0.7540	 0.6250
1R	 0.7400	 0.6380
1S	 0.7690	 0.6130
1T	 0.2250	 0.4150
1U	 0.6450	 0.6190
1V	 0.5750	 0.6070
1W	 0.7400	 0.6490
1X	 0.7720	 0.6300
1Y	 0.6240	 0.5950
1Z	 0.7610	 0.6400
1a	 0.8560	 0.6560
1b	 0.6820	 0.6010
1c	 0.5860	 0.5910
1d	 0.7900	 0.6610
1e	 0.8390	 0.6470
1f	 0.6250	 0.5700
1g	 0.7350	 0.6110
1h	 0.7890	 0.6540













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Chain	Atom inclusion	Q-score
1i	0.5040	0.4740
1j	0.5840	0.5440
1k	0.5970	0.5710
1l	0.7700	0.6440
1m	0.7570	0.6210
1n	0.7920	0.6340
1o	0.6910	0.5950
1p	0.7720	0.6270
1q	0.7100	0.6630
1r	0.6990	0.6480
1s	0.5900	0.5740
3A	0.9450	0.6800
3B	0.9270	0.6670
3C	0.9880	0.7070
3D	0.9560	0.6770
3E	0.5280	0.4410
3F	0.9730	0.6820
3G	0.9560	0.6510
3H	0.8620	0.5730
3I	0.7010	0.5410
3J	0.9620	0.6820
3N	0.9370	0.6780
3O	0.9260	0.6560
3P	0.9800	0.7090
3Q	0.9540	0.6850
3R	0.5250	0.3980
3S	0.9570	0.6990
3T	0.9270	0.6610
3U	0.8700	0.5800
3V	0.7210	0.5630
3W	0.9820	0.6920
3X	0.9090	0.6210
3Y	0.9190	0.6390
4A	0.9490	0.6290
4B	0.8690	0.5720
4C	0.8990	0.5850
4D	0.8030	0.5190
4E	0.8260	0.5190
4F	0.8400	0.5430
4G	0.7930	0.5020
4H	0.8580	0.5360
4I	0.8670	0.5790

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Chain	Atom inclusion	Q-score
4J	 0.8620	 0.5620
4K	 0.7910	 0.5190
4L	 0.8730	 0.5580
4M	 0.8250	 0.5480
4N	 0.8070	 0.5330