



Full wwPDB EM Validation Report ⓘ

Jan 19, 2026 – 02:15 PM JST

PDB ID : 9UBX / pdb_00009ubx
EMDB ID : EMD-64028
Title : The atomic coordinates of the mouse CatSper trimer
Authors : Xu, Q.; Lin, S.; Zhao, Q.; Yan, Z.; Wu, J.
Deposited on : 2025-04-03
Resolution : 6.80 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.dev129
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4-5-2 with Phenix2.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : **NOT EXECUTED**
MapQ : **FAILED**
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.47

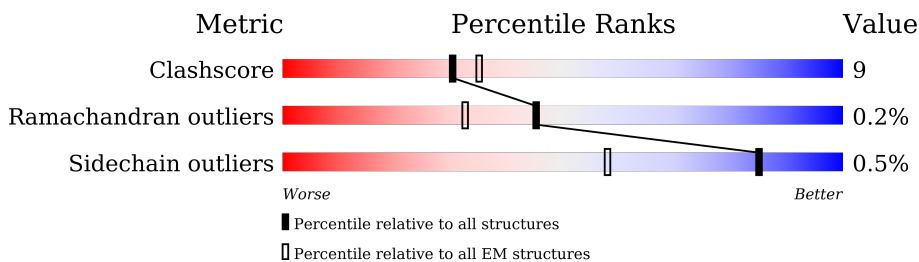
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 6.80 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)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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 $\leq 5\%$.

Mol	Chain	Length	Quality of chain
1	A	251	72% 27% .
1	a	251	74% 25% .
1	n	251	71% 27% .
2	B	281	74% 25% .
2	b	281	76% 24%
2	o	281	74% 26%
3	C	278	79% 21%
3	c	278	79% 20%
3	p	278	76% 24%






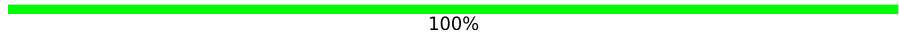
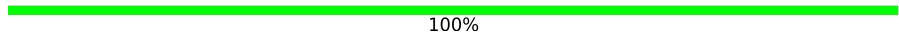
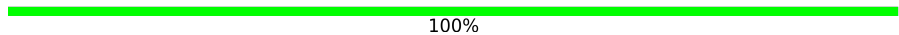





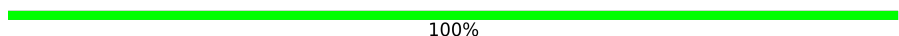
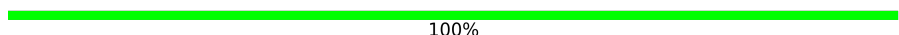
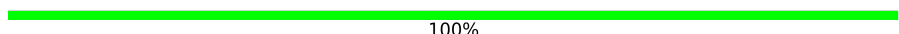


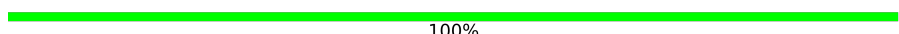
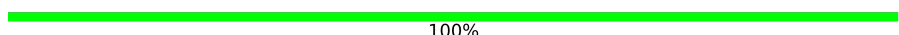
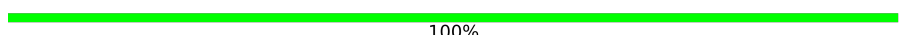


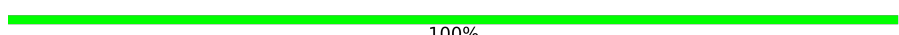

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Mol	Chain	Length	Quality of chain	
4	D	250	76%	23%
4	d	250	77%	23%
4	q	250	77%	22%
5	E	1065	81%	18%
5	e	1065	78%	21%
5	r	1065	77%	22%
6	F	1042	82%	17%
6	f	1042	69%	29%
6	s	1042	69%	30%
7	G	733	79%	18%
7	g	733	79%	18%
7	t	733	75%	22%
8	H	921	76%	23%
8	h	921	77%	22%
8	u	921	75%	24%
9	I	174	99%	
9	Q	174	99%	
9	i	174	99%	
10	J	168	70%	29%
10	j	168	73%	27%
10	w	168	66%	33%
11	K	149	99%	
11	k	149	99%	
11	x	149	99%	
12	L	610	83%	14%

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Mol	Chain	Length	Quality of chain
12	l	610	 85% 12%
12	y	610	 83% 14%
13	M	115	 64% 36%
13	m	115	 77% 23%
13	z	115	 68% 32%
14	N	28	 100%
14	O	28	 100%
14	P	28	 100%
15	0	7	 86% 14%
15	AA	7	 86% 14%
15	R	7	 57% 14% 29%
16	1	3	 67% 33%
16	2	3	 67% 33%
16	4	3	 100%
16	5	3	 100%
16	6	3	 100%
16	BA	3	 33% 67%
16	CA	3	 67% 33%
16	EA	3	 100%
16	FA	3	 100%
16	GA	3	 100%
16	S	3	 33% 67%
16	T	3	 67% 33%
16	V	3	 100%
16	W	3	 67% 33%

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Mol	Chain	Length	Quality of chain
16	X	3	 100%
17	3	2	 50% 50%
17	8	2	 50% 50%
17	DA	2	 50% 50%
17	IA	2	 50% 50%
17	U	2	 50% 50%
17	Z	2	 50% 50%
18	7	7	 71% 29%
18	HA	7	 86% 14%
18	Y	7	 71% 14% 14%
19	9	5	 20% 80%
19	JA	5	 20% 80%
19	v	5	 60% 40%

2 Entry composition [i](#)

There are 21 unique types of molecules in this entry. The entry contains 144816 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 Cation channel sperm-associated protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	251	2053	1383	313	346	11	0	0
1	n	251	2053	1383	313	346	11	0	0
1	a	251	2053	1383	313	346	11	0	0

- Molecule 2 is a protein called Cation channel sperm-associated protein 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	281	2343	1585	363	384	11	0	0
2	o	281	2343	1585	363	384	11	0	0
2	b	281	2343	1585	363	384	11	0	0

- Molecule 3 is a protein called Cation channel sperm-associated protein 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	278	2277	1506	359	400	12	0	0
3	p	278	2277	1506	359	400	12	0	0
3	c	278	2277	1506	359	400	12	0	0

- Molecule 4 is a protein called Cation channel sperm-associated protein 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	250	2035	1370	311	338	16	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
4	q	250	Total	C	N	O	S	0	0
			2035	1370	311	338	16		
4	d	250	Total	C	N	O	S	0	0
			2035	1370	311	338	16		

- Molecule 5 is a protein called Cation channel sperm-associated auxiliary subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	1058	Total	C	N	O	S	0	0
			8510	5524	1395	1547	44		
5	r	1058	Total	C	N	O	S	0	0
			8510	5524	1395	1547	44		
5	e	1058	Total	C	N	O	S	0	0
			8510	5524	1395	1547	44		

- Molecule 6 is a protein called Cation channel sperm-associated auxiliary subunit gamma 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	1042	Total	C	N	O	S	0	0
			8454	5515	1354	1538	47		
6	f	1042	Total	C	N	O	S	0	0
			8454	5515	1354	1538	47		
6	s	1042	Total	C	N	O	S	0	0
			8454	5515	1354	1538	47		

- Molecule 7 is a protein called Cation channel sperm-associated auxiliary subunit delta.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	714	Total	C	N	O	S	0	0
			5680	3669	923	1056	32		
7	t	714	Total	C	N	O	S	0	0
			5680	3669	923	1056	32		
7	g	714	Total	C	N	O	S	0	0
			5680	3669	923	1056	32		

- Molecule 8 is a protein called Cation channel sperm-associated auxiliary subunit epsilon.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	916	Total	C	N	O	S	0	0
			7502	4865	1208	1389	40		
8	u	916	Total	C	N	O	S	0	0
			7502	4865	1208	1389	40		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	h	916	7502	4865	1208	1389	40	0	0

- Molecule 9 is a protein called EF-hand calcium-binding domain-containing protein 9.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
9	I	174	863	515	174	174	0	0
9	i	174	863	515	174	174	0	0
9	Q	174	863	515	174	174	0	0

- Molecule 10 is a protein called Cation channel sperm-associated auxiliary subunit TMEM249.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	J	168	1398	921	238	225	14	0	0
10	w	168	1398	921	238	225	14	0	0
10	j	168	1398	921	238	225	14	0	0

There are 69 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	1	MET	-	initiating methionine	UNP A0A2R8VHF7
J	2	CYS	-	expression tag	UNP A0A2R8VHF7
J	3	TRP	-	expression tag	UNP A0A2R8VHF7
J	4	VAL	-	expression tag	UNP A0A2R8VHF7
J	5	MET	-	expression tag	UNP A0A2R8VHF7
J	6	PRO	-	expression tag	UNP A0A2R8VHF7
J	7	PRO	-	expression tag	UNP A0A2R8VHF7
J	8	SER	-	expression tag	UNP A0A2R8VHF7
J	9	VAL	-	expression tag	UNP A0A2R8VHF7
J	10	PHE	-	expression tag	UNP A0A2R8VHF7
J	11	VAL	-	expression tag	UNP A0A2R8VHF7
J	12	LEU	-	expression tag	UNP A0A2R8VHF7
J	13	GLU	-	expression tag	UNP A0A2R8VHF7
J	14	TYR	-	expression tag	UNP A0A2R8VHF7
J	15	TYR	-	expression tag	UNP A0A2R8VHF7
J	16	LEU	-	expression tag	UNP A0A2R8VHF7

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Chain	Residue	Modelled	Actual	Comment	Reference
J	17	ASP	-	expression tag	UNP A0A2R8VHF7
J	18	THR	-	expression tag	UNP A0A2R8VHF7
J	19	LEU	-	expression tag	UNP A0A2R8VHF7
J	20	TRP	-	expression tag	UNP A0A2R8VHF7
J	21	LYS	-	expression tag	UNP A0A2R8VHF7
J	22	GLY	-	expression tag	UNP A0A2R8VHF7
J	23	THR	-	expression tag	UNP A0A2R8VHF7
w	1	MET	-	initiating methionine	UNP A0A2R8VHF7
w	2	CYS	-	expression tag	UNP A0A2R8VHF7
w	3	TRP	-	expression tag	UNP A0A2R8VHF7
w	4	VAL	-	expression tag	UNP A0A2R8VHF7
w	5	MET	-	expression tag	UNP A0A2R8VHF7
w	6	PRO	-	expression tag	UNP A0A2R8VHF7
w	7	PRO	-	expression tag	UNP A0A2R8VHF7
w	8	SER	-	expression tag	UNP A0A2R8VHF7
w	9	VAL	-	expression tag	UNP A0A2R8VHF7
w	10	PHE	-	expression tag	UNP A0A2R8VHF7
w	11	VAL	-	expression tag	UNP A0A2R8VHF7
w	12	LEU	-	expression tag	UNP A0A2R8VHF7
w	13	GLU	-	expression tag	UNP A0A2R8VHF7
w	14	TYR	-	expression tag	UNP A0A2R8VHF7
w	15	TYR	-	expression tag	UNP A0A2R8VHF7
w	16	LEU	-	expression tag	UNP A0A2R8VHF7
w	17	ASP	-	expression tag	UNP A0A2R8VHF7
w	18	THR	-	expression tag	UNP A0A2R8VHF7
w	19	LEU	-	expression tag	UNP A0A2R8VHF7
w	20	TRP	-	expression tag	UNP A0A2R8VHF7
w	21	LYS	-	expression tag	UNP A0A2R8VHF7
w	22	GLY	-	expression tag	UNP A0A2R8VHF7
w	23	THR	-	expression tag	UNP A0A2R8VHF7
j	1	MET	-	initiating methionine	UNP A0A2R8VHF7
j	2	CYS	-	expression tag	UNP A0A2R8VHF7
j	3	TRP	-	expression tag	UNP A0A2R8VHF7
j	4	VAL	-	expression tag	UNP A0A2R8VHF7
j	5	MET	-	expression tag	UNP A0A2R8VHF7
j	6	PRO	-	expression tag	UNP A0A2R8VHF7
j	7	PRO	-	expression tag	UNP A0A2R8VHF7
j	8	SER	-	expression tag	UNP A0A2R8VHF7
j	9	VAL	-	expression tag	UNP A0A2R8VHF7
j	10	PHE	-	expression tag	UNP A0A2R8VHF7
j	11	VAL	-	expression tag	UNP A0A2R8VHF7
j	12	LEU	-	expression tag	UNP A0A2R8VHF7

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Chain	Residue	Modelled	Actual	Comment	Reference
j	13	GLU	-	expression tag	UNP A0A2R8VHF7
j	14	TYR	-	expression tag	UNP A0A2R8VHF7
j	15	TYR	-	expression tag	UNP A0A2R8VHF7
j	16	LEU	-	expression tag	UNP A0A2R8VHF7
j	17	ASP	-	expression tag	UNP A0A2R8VHF7
j	18	THR	-	expression tag	UNP A0A2R8VHF7
j	19	LEU	-	expression tag	UNP A0A2R8VHF7
j	20	TRP	-	expression tag	UNP A0A2R8VHF7
j	21	LYS	-	expression tag	UNP A0A2R8VHF7
j	22	GLY	-	expression tag	UNP A0A2R8VHF7
j	23	THR	-	expression tag	UNP A0A2R8VHF7

- Molecule 11 is a protein called Cation channel sperm-associated auxiliary subunit zeta.

Mol	Chain	Residues	Atoms				AltConf	Trace
11	K	149	Total	C	N	O	0	0
			755	453	152	150		
11	x	149	Total	C	N	O	0	0
			755	453	152	150		
11	k	149	Total	C	N	O	0	0
			755	453	152	150		

- Molecule 12 is a protein called Solute carrier organic anion transporter family member 6C1.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	597	Total	C	N	O	S	0	0
			4694	3079	747	829	39		
12	y	597	Total	C	N	O	S	0	0
			4694	3079	747	829	39		
12	l	597	Total	C	N	O	S	0	0
			4694	3079	747	829	39		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
L	224	GLY	ALA	engineered mutation	UNP Q8C0X7
y	224	GLY	ALA	engineered mutation	UNP Q8C0X7
l	224	GLY	ALA	engineered mutation	UNP Q8C0X7

- Molecule 13 is a protein called Cation channel sperm-associated auxiliary subunit TMEM262.

Mol	Chain	Residues	Atoms				AltConf	Trace
16	S	3	Total	C	N	O	0	0
			39	22	2	15		
16	T	3	Total	C	N	O	0	0
			39	22	2	15		
16	V	3	Total	C	N	O	0	0
			39	22	2	15		
16	W	3	Total	C	N	O	0	0
			39	22	2	15		
16	X	3	Total	C	N	O	0	0
			39	22	2	15		
16	1	3	Total	C	N	O	0	0
			39	22	2	15		
16	2	3	Total	C	N	O	0	0
			39	22	2	15		
16	4	3	Total	C	N	O	0	0
			39	22	2	15		
16	5	3	Total	C	N	O	0	0
			39	22	2	15		
16	6	3	Total	C	N	O	0	0
			39	22	2	15		
16	BA	3	Total	C	N	O	0	0
			39	22	2	15		
16	CA	3	Total	C	N	O	0	0
			39	22	2	15		
16	EA	3	Total	C	N	O	0	0
			39	22	2	15		
16	FA	3	Total	C	N	O	0	0
			39	22	2	15		
16	GA	3	Total	C	N	O	0	0
			39	22	2	15		

- Molecule 17 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



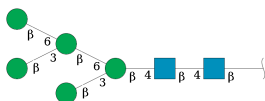
Mol	Chain	Residues	Atoms				AltConf	Trace
17	U	2	Total	C	N	O	0	0
			28	16	2	10		
17	Z	2	Total	C	N	O	0	0
			28	16	2	10		

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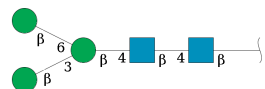
Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
17	3	2	Total	C	N	O	0	0
			28	16	2	10		
17	8	2	Total	C	N	O	0	0
			28	16	2	10		
17	DA	2	Total	C	N	O	0	0
			28	16	2	10		
17	IA	2	Total	C	N	O	0	0
			28	16	2	10		

- Molecule 18 is an oligosaccharide called beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-6)-[beta-D-mannopyranose-(1-3)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



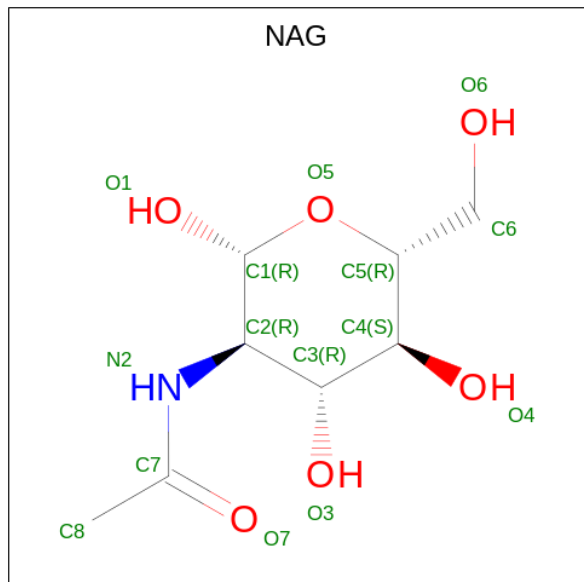
Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
18	Y	7	Total	C	N	O	0	0
			83	46	2	35		
18	7	7	Total	C	N	O	0	0
			83	46	2	35		
18	HA	7	Total	C	N	O	0	0
			83	46	2	35		

- Molecule 19 is an oligosaccharide called beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
19	v	5	Total	C	N	O	0	0
			61	34	2	25		
19	9	5	Total	C	N	O	0	0
			61	34	2	25		
19	JA	5	Total	C	N	O	0	0
			61	34	2	25		

- Molecule 20 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$) (labeled as "Ligand of Interest" by depositor).



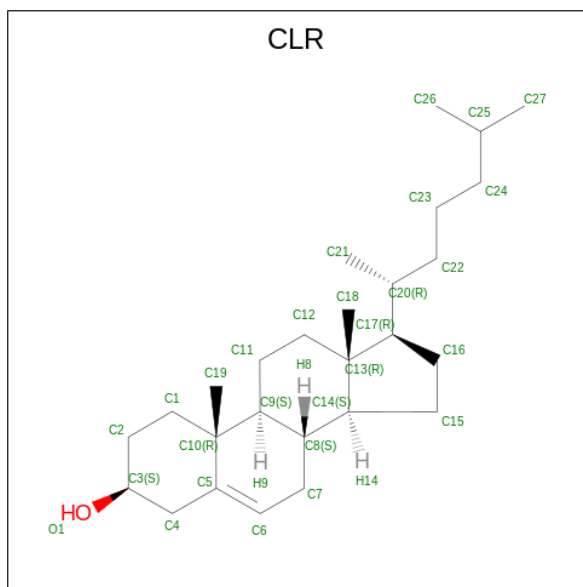
Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
20	E	1	Total 14	C 8	N 1	O 5	0
20	E	1	Total 14	C 8	N 1	O 5	0
20	E	1	Total 14	C 8	N 1	O 5	0
20	E	1	Total 14	C 8	N 1	O 5	0
20	E	1	Total 14	C 8	N 1	O 5	0
20	E	1	Total 14	C 8	N 1	O 5	0
20	F	1	Total 14	C 8	N 1	O 5	0
20	G	1	Total 14	C 8	N 1	O 5	0
20	G	1	Total 14	C 8	N 1	O 5	0
20	r	1	Total 14	C 8	N 1	O 5	0
20	r	1	Total 14	C 8	N 1	O 5	0
20	r	1	Total 14	C 8	N 1	O 5	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
20	r	1	14	8	1	5	0
20	r	1	14	8	1	5	0
20	r	1	14	8	1	5	0
20	f	1	14	8	1	5	0
20	t	1	14	8	1	5	0
20	t	1	14	8	1	5	0
20	e	1	14	8	1	5	0
20	e	1	14	8	1	5	0
20	e	1	14	8	1	5	0
20	e	1	14	8	1	5	0
20	e	1	14	8	1	5	0
20	e	1	14	8	1	5	0
20	e	1	14	8	1	5	0
20	s	1	14	8	1	5	0
20	g	1	14	8	1	5	0
20	g	1	14	8	1	5	0

- Molecule 21 is CHOLESTEROL (CCD ID: CLR) (formula: C₂₇H₄₆O) (labeled as "Ligand of Interest" by depositor).

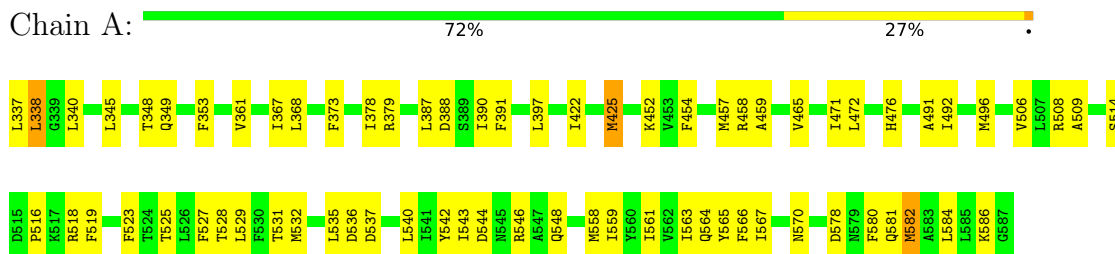


Mol	Chain	Residues	Atoms			AltConf
21	M	1	Total	C	O	0
			28	27	1	
21	z	1	Total	C	O	0
			28	27	1	
21	m	1	Total	C	O	0
			28	27	1	

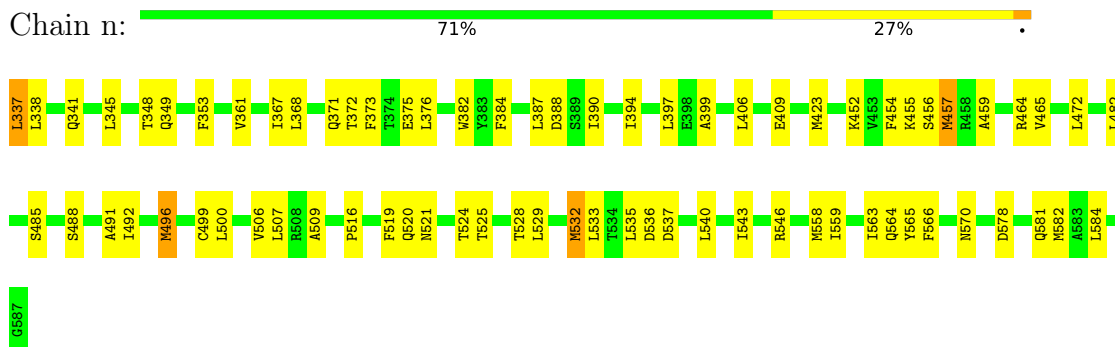
3 Residue-property plots

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

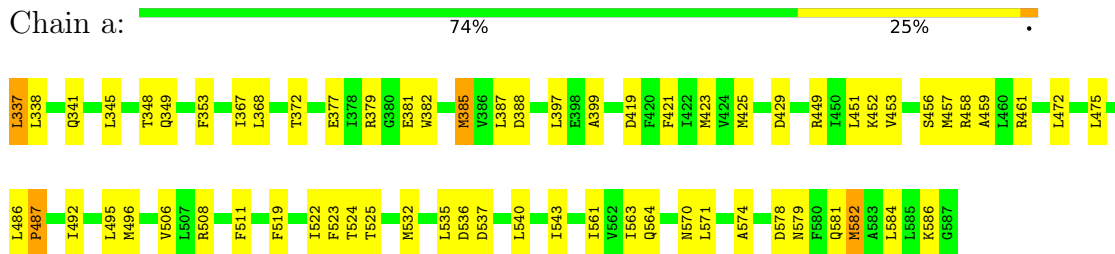
- Molecule 1: Cation channel sperm-associated protein 1



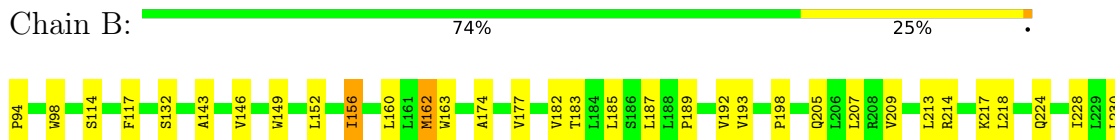
- Molecule 1: Cation channel sperm-associated protein 1

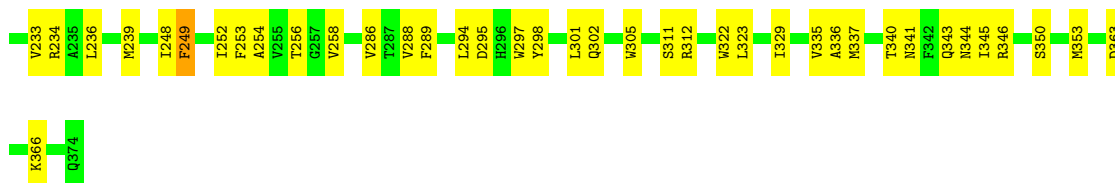


- Molecule 1: Cation channel sperm-associated protein 1

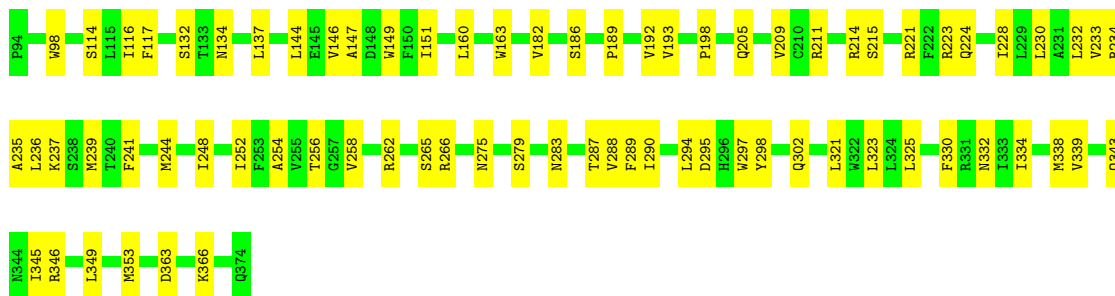


- Molecule 2: Cation channel sperm-associated protein 2





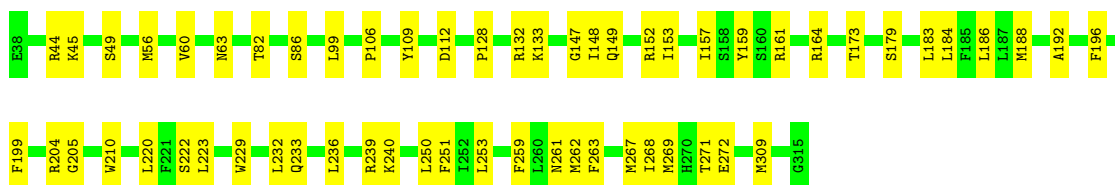
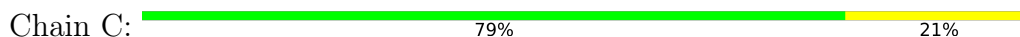
• Molecule 2: Cation channel sperm-associated protein 2



• Molecule 2: Cation channel sperm-associated protein 2



• Molecule 3: Cation channel sperm-associated protein 3

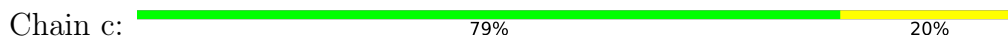


• Molecule 3: Cation channel sperm-associated protein 3

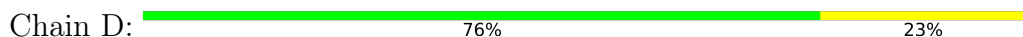




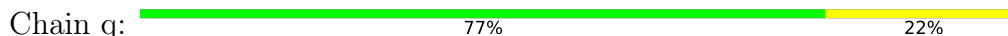
- Molecule 3: Cation channel sperm-associated protein 3



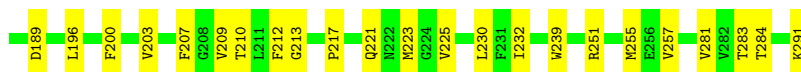
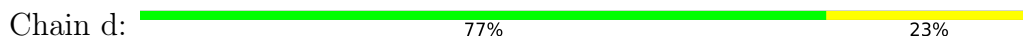
- Molecule 4: Cation channel sperm-associated protein 4



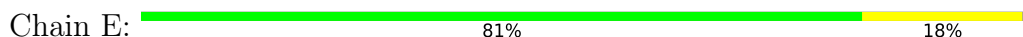
- Molecule 4: Cation channel sperm-associated protein 4

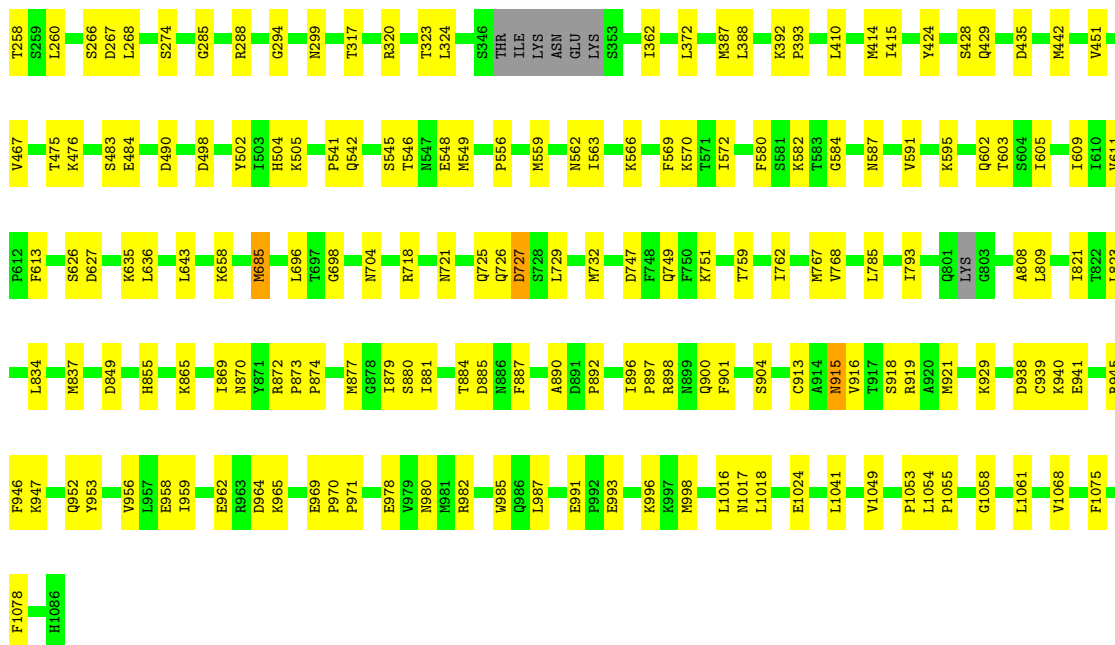


- Molecule 4: Cation channel sperm-associated protein 4



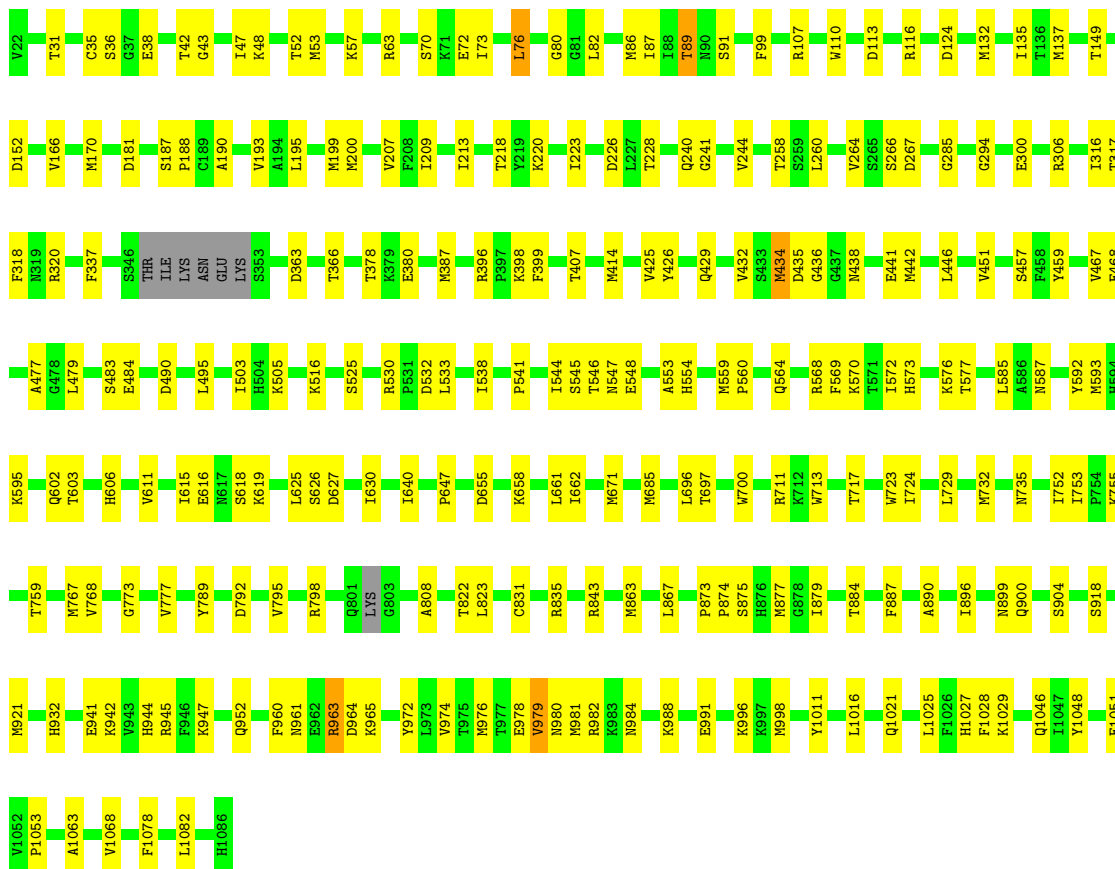
- Molecule 5: Cation channel sperm-associated auxiliary subunit beta



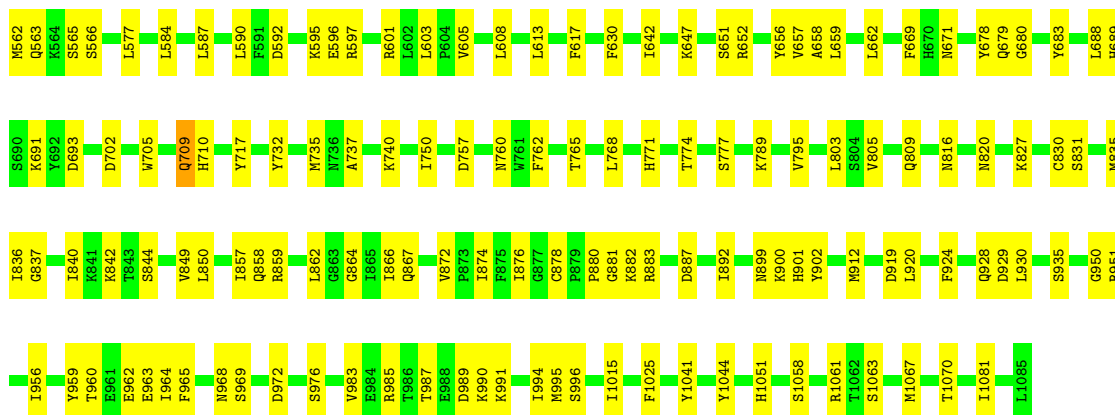


- Molecule 5: Cation channel sperm-associated auxiliary subunit beta

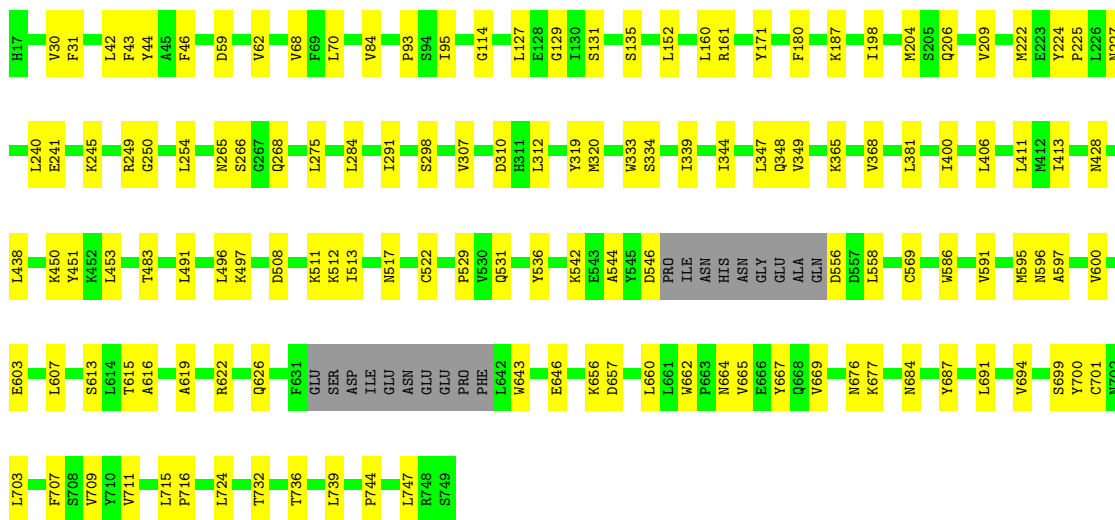
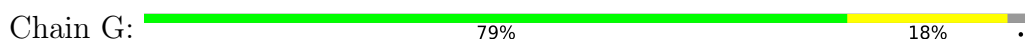
Chain r: 77% 22%



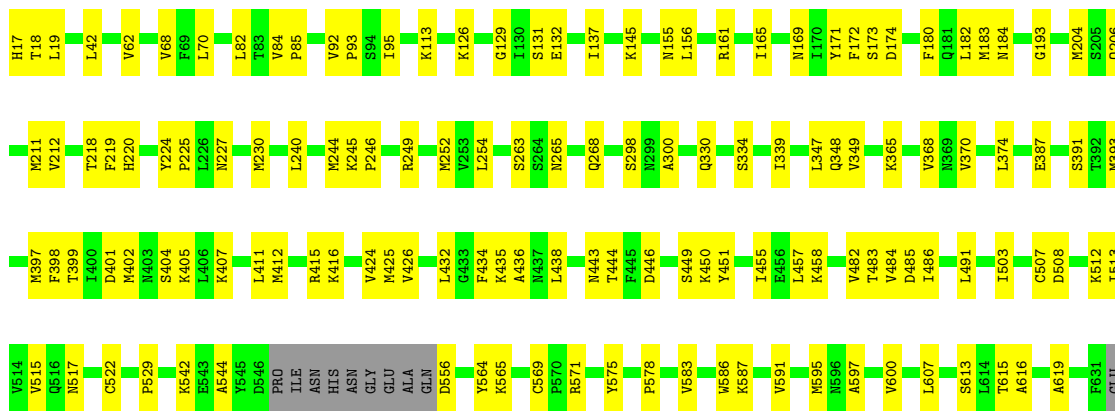
- Molecule 5: Cation channel sperm-associated auxiliary subunit beta

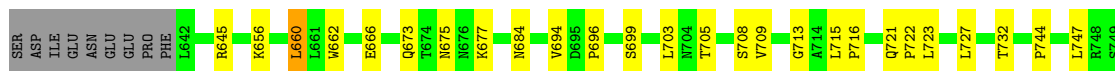


• Molecule 7: Cation channel sperm-associated auxiliary subunit delta

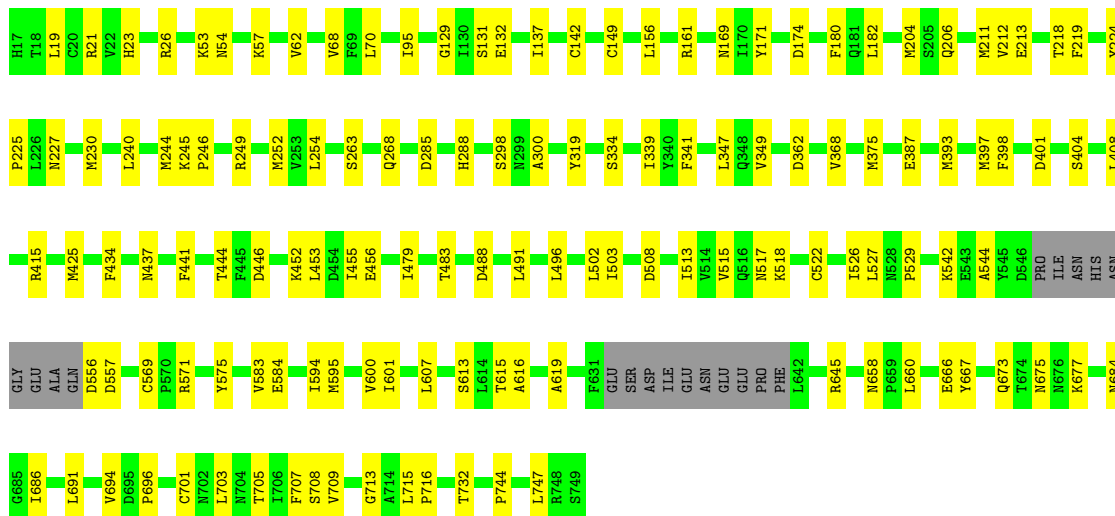
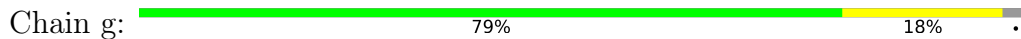


• Molecule 7: Cation channel sperm-associated auxiliary subunit delta

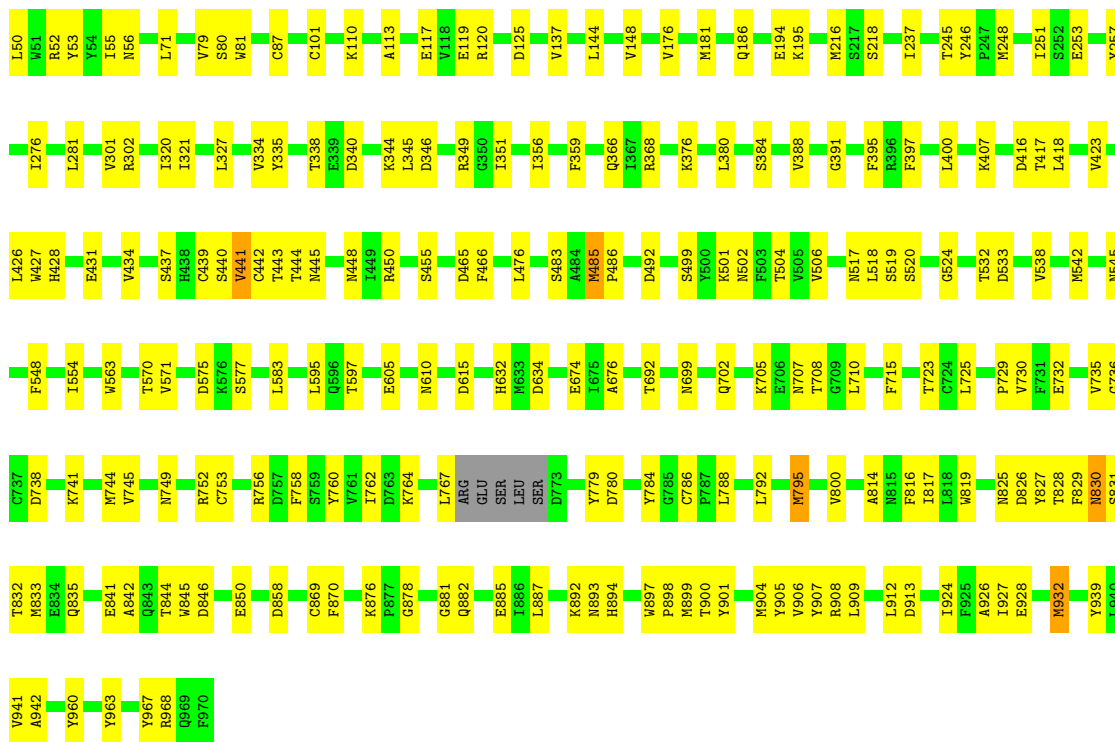




• Molecule 7: Cation channel sperm-associated auxiliary subunit delta

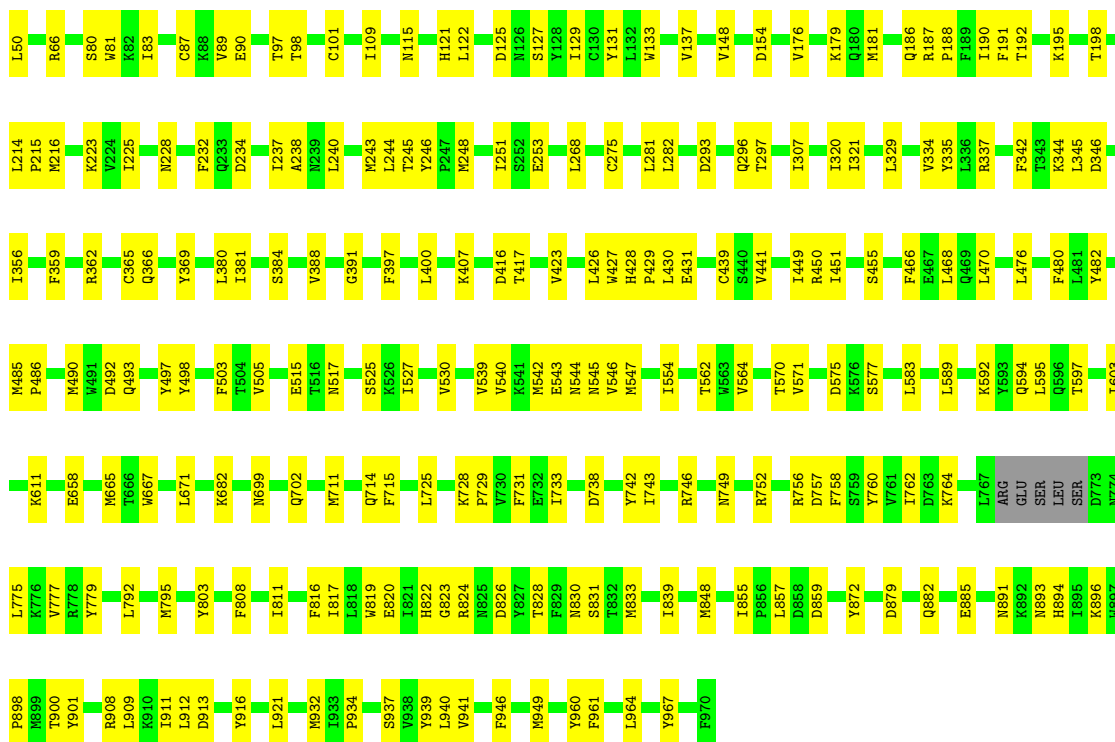


• Molecule 8: Cation channel sperm-associated auxiliary subunit epsilon




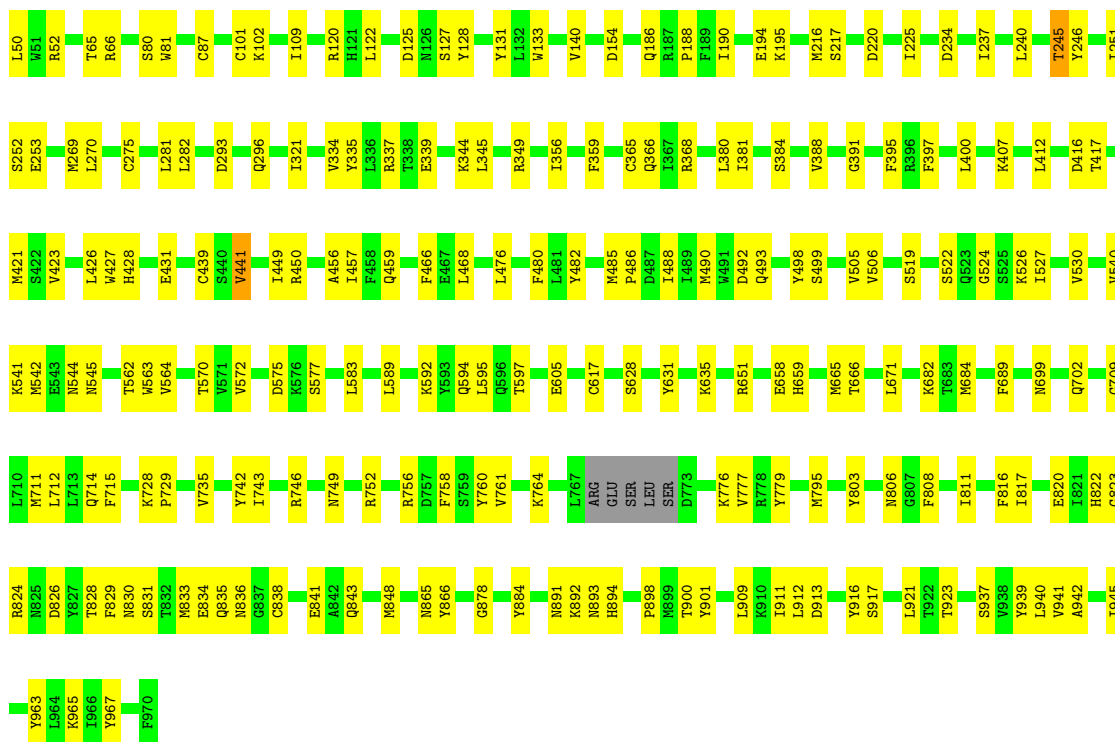
• Molecule 8: Cation channel sperm-associated auxiliary subunit epsilon

Chain u:  75% 24%



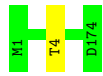
• Molecule 8: Cation channel sperm-associated auxiliary subunit epsilon

Chain h:  77% 22%



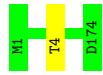
- Molecule 9: EF-hand calcium-binding domain-containing protein 9

Chain I:  99%



- Molecule 9: EF-hand calcium-binding domain-containing protein 9

Chain i:  99%



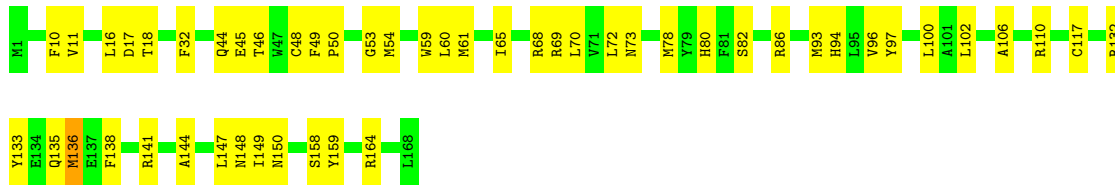
- Molecule 9: EF-hand calcium-binding domain-containing protein 9

Chain Q:  99%



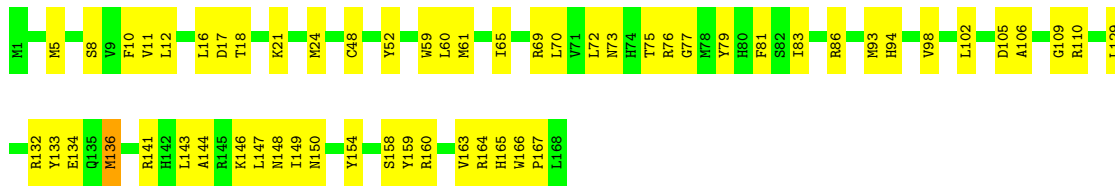
- Molecule 10: Cation channel sperm-associated auxiliary subunit TMEM249

Chain J:  70% 29%



- Molecule 10: Cation channel sperm-associated auxiliary subunit TMEM249

Chain w:  66% 33%



- Molecule 10: Cation channel sperm-associated auxiliary subunit TMEM249

Chain j:  73% 27%





- Molecule 11: Cation channel sperm-associated auxiliary subunit zeta



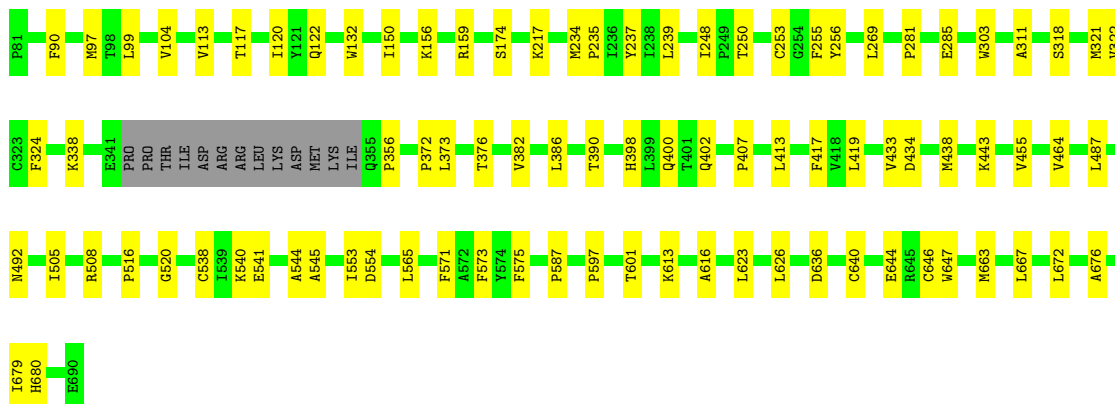
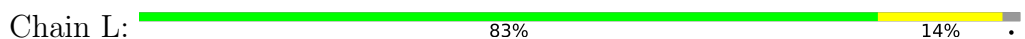
- Molecule 11: Cation channel sperm-associated auxiliary subunit zeta



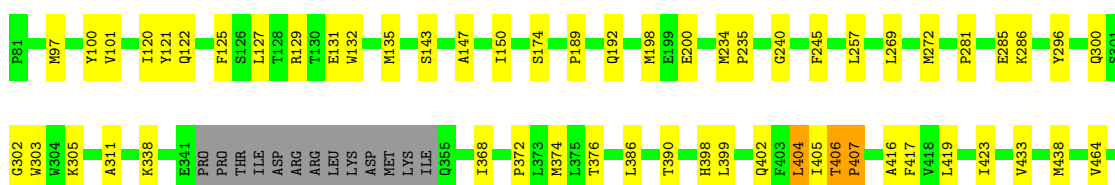
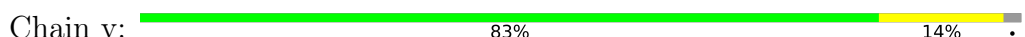
- Molecule 11: Cation channel sperm-associated auxiliary subunit zeta

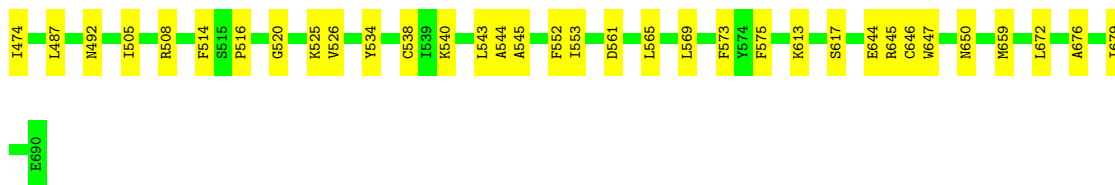


- Molecule 12: Solute carrier organic anion transporter family member 6C1



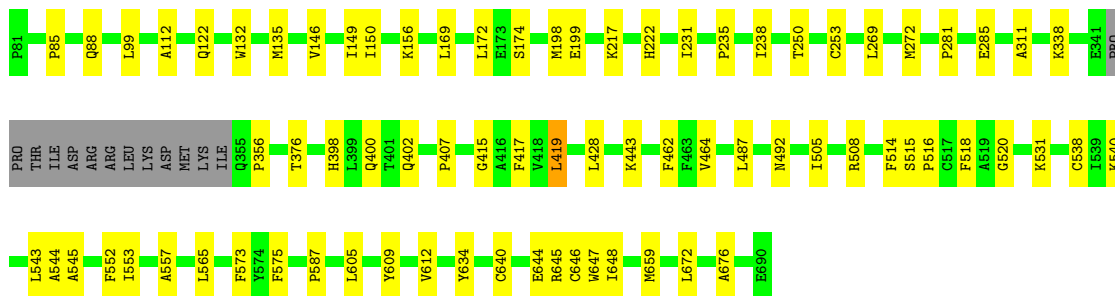
- Molecule 12: Solute carrier organic anion transporter family member 6C1





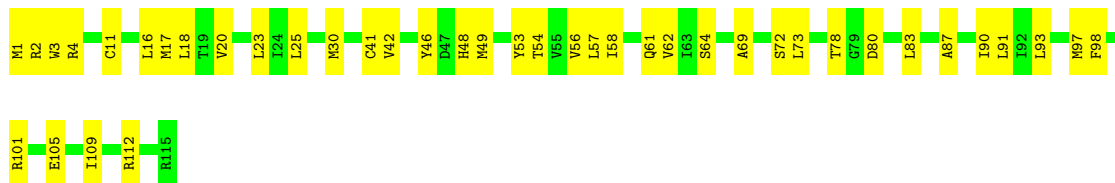
- Molecule 12: Solute carrier organic anion transporter family member 6C1

Chain I: 85% 12%



- Molecule 13: Cation channel sperm-associated auxiliary subunit TMEM262

Chain M: 64% 36%



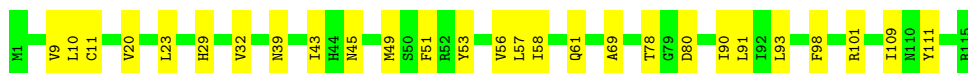
- Molecule 13: Cation channel sperm-associated auxiliary subunit TMEM262

Chain z: 68% 32%



- Molecule 13: Cation channel sperm-associated auxiliary subunit TMEM262

Chain m: 77% 23%



- Molecule 14: Unknown protein

Chain N: 100%

There are no outlier residues recorded for this chain.

- Molecule 14: Unknown protein

Chain P:  100%

There are no outlier residues recorded for this chain.

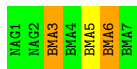
- Molecule 14: Unknown protein

Chain O:  100%


There are no outlier residues recorded for this chain.

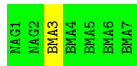
- Molecule 15: beta-D-mannopyranose-(1-2)-beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-3)-beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain R:  57% 14% 29%



- Molecule 15: beta-D-mannopyranose-(1-2)-beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-3)-beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 0:  86% 14%



- Molecule 15: beta-D-mannopyranose-(1-2)-beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-3)-beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain AA:  86% 14%



- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain S:  33% 67%



- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain T:  67% 33%

MAG1
MAG2
BMA3

- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain V:  100%

MAG1
MAG2
BMA3

- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain W:  67% 33%

MAG1
MAG2
BMA3

- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain X:  100%

MAG1
MAG2
BMA3

- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 1:  67% 33%

MAG1
MAG2
BMA3

- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 2:  67% 33%

MAG1
MAG2
BMA3

- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 4:  100%

MAG1
MAG2
BMA3

- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 5:  100%

MAG1
MAG2
BMA3

- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 6:  100%

MAG1
MAG2
BMA3

- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain BA:  33% 67%

MAG1
MAG2
BMA3

- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain CA:  67% 33%

MAG1
MAG2
BMA3

- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain EA:  100%

MAG1
MAG2
BMA3

- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain FA:  100%

MAG1
MAG2
BMA3

- Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain GA:  100%



- Molecule 17: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain U:



- Molecule 17: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain Z:



- Molecule 17: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 3:



- Molecule 17: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 8:



- Molecule 17: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain DA:



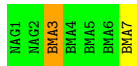
- Molecule 17: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain IA:



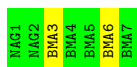
- Molecule 18: beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-6)-[beta-D-mannopyranose-(1-3)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain Y:  71% 14% 14%




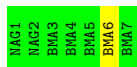
- Molecule 18: beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-6)-[beta-D-mannopyranose-(1-3)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 7:  71% 29%



- Molecule 18: beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-6)-[beta-D-mannopyranose-(1-3)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain HA:  86% 14%

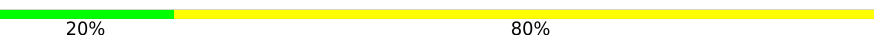


- Molecule 19: beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain v:  60% 40%



- Molecule 19: beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 9:  20% 80%



- Molecule 19: beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain JA:  20% 80%

MAC1
MAC2
BMA3
BMA4
BMA5

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	69708	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: BMA, NAG, CLR

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.24	0/2100	0.63	3/2855 (0.1%)
1	a	0.30	0/2100	0.63	2/2855 (0.1%)
1	n	0.26	0/2100	0.64	6/2855 (0.2%)
2	B	0.19	0/2406	0.50	1/3270 (0.0%)
2	b	0.19	0/2406	0.49	1/3270 (0.0%)
2	o	0.20	0/2406	0.49	0/3270
3	C	0.19	0/2324	0.45	0/3141
3	c	0.21	0/2324	0.47	1/3141 (0.0%)
3	p	0.19	0/2324	0.45	0/3141
4	D	0.23	0/2087	0.61	3/2835 (0.1%)
4	d	0.21	0/2087	0.57	1/2835 (0.0%)
4	q	0.24	0/2087	0.59	2/2835 (0.1%)
5	E	0.23	0/8746	0.51	3/11874 (0.0%)
5	e	0.22	1/8746 (0.0%)	0.53	3/11874 (0.0%)
5	r	0.20	0/8746	0.51	6/11874 (0.1%)
6	F	0.21	0/8695	0.47	4/11809 (0.0%)
6	f	0.28	1/8695 (0.0%)	0.55	6/11809 (0.1%)
6	s	0.28	1/8695 (0.0%)	0.55	6/11809 (0.1%)
7	G	0.18	0/5823	0.48	0/7921
7	g	0.17	0/5823	0.46	0/7921
7	t	0.18	0/5823	0.48	0/7921
8	H	0.20	0/7706	0.51	4/10491 (0.0%)
8	h	0.17	0/7706	0.48	1/10491 (0.0%)
8	u	0.18	0/7706	0.49	0/10491
9	I	0.11	0/862	0.34	0/1201
9	Q	0.11	0/862	0.34	0/1201
9	i	0.11	0/862	0.34	0/1201
10	J	0.23	0/1441	0.60	0/1955
10	j	0.20	0/1441	0.59	0/1955
10	w	0.25	0/1441	0.65	1/1955 (0.1%)
11	K	0.12	0/755	0.32	0/1051
11	k	0.11	0/755	0.31	0/1051

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
11	x	0.14	0/755	0.38	0/1051
12	L	0.18	0/4817	0.43	0/6543
12	l	0.18	0/4817	0.43	0/6543
12	y	0.18	0/4817	0.43	0/6543
13	M	0.19	0/961	0.53	0/1299
13	m	0.19	0/961	0.54	0/1299
13	z	0.27	0/961	0.62	0/1299
All	All	0.21	3/146169 (0.0%)	0.51	54/198735 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	a	0	1
1	n	0	1
5	E	0	1
5	e	0	2
5	r	0	1
6	f	0	3
7	G	0	1
7	g	0	1
7	t	0	1
All	All	0	12

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	f	280	ASP	CA-C	-7.04	1.43	1.53
6	s	280	ASP	CA-C	-6.28	1.44	1.52
5	e	388	LEU	CG-CD2	-5.41	1.34	1.52

All (54) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	425	MET	CG-SD-CE	-11.14	76.38	100.90
5	r	647	PRO	CA-N-CD	-10.56	97.21	112.00
1	a	487	PRO	CA-N-CD	-9.88	98.17	112.00
8	H	485	MET	CG-SD-CE	-7.99	83.32	100.90
8	H	485	MET	CB-CA-C	7.90	119.66	108.68
6	s	286	SER	N-CA-C	7.83	117.50	108.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	c	56	MET	CB-CG-SD	7.31	134.62	112.70
6	F	89	PRO	CA-N-CD	-7.22	101.89	112.00
1	n	457	MET	CA-CB-CG	7.20	128.50	114.10
6	f	286	SER	N-CA-C	7.12	116.68	108.49
6	f	278	SER	CA-C-N	-7.11	114.37	123.19
6	f	278	SER	C-N-CA	-7.11	114.37	123.19
1	n	516	PRO	CA-N-CD	-6.93	102.29	112.00
5	E	970	PRO	CA-N-CD	-6.83	102.44	112.00
6	f	292	LEU	N-CA-C	6.43	120.99	112.25
5	E	685	MET	CA-CB-CG	6.33	126.77	114.10
8	H	932	MET	N-CA-C	6.20	121.91	113.97
5	e	170	MET	N-CA-C	-6.03	105.87	113.23
8	H	744	MET	CB-CG-SD	6.01	130.74	112.70
5	r	170	MET	N-CA-C	-6.00	105.92	113.23
4	d	154	MET	CA-CB-CG	5.83	125.77	114.10
1	n	532	MET	CB-CG-SD	5.75	129.95	112.70
1	n	582	MET	CA-CB-CG	5.75	125.60	114.10
1	n	496	MET	CG-SD-CE	5.71	113.47	100.90
1	A	582	MET	CA-CB-CG	5.64	125.39	114.10
5	r	685	MET	CB-CG-SD	5.62	129.56	112.70
5	e	767	MET	CA-CB-CG	5.60	125.30	114.10
8	h	216	MET	CB-CG-SD	-5.58	95.96	112.70
5	E	970	PRO	N-CD-CG	-5.55	94.87	103.20
6	s	292	LEU	N-CA-C	5.51	120.30	111.81
6	s	862	LEU	CA-CB-CG	5.51	135.60	116.30
4	q	154	MET	CB-CG-SD	5.48	129.13	112.70
4	q	154	MET	CA-CB-CG	5.47	125.05	114.10
6	s	192	ILE	CG1-CB-CG2	-5.46	94.32	110.70
1	a	582	MET	N-CA-CB	5.42	118.69	110.28
1	A	425	MET	N-CA-CB	-5.41	102.16	110.12
4	D	154	MET	CB-CG-SD	5.36	128.79	112.70
5	r	442	MET	CB-CG-SD	5.30	128.59	112.70
4	D	187	MET	CA-CB-CG	5.28	124.67	114.10
6	f	285	GLY	N-CA-C	5.26	125.65	113.18
6	s	735	MET	CB-CG-SD	5.25	128.45	112.70
4	D	248	MET	CA-CB-CG	5.24	124.58	114.10
10	w	61	MET	CA-CB-CG	5.24	124.57	114.10
6	s	286	SER	CB-CA-C	-5.23	106.98	114.87
5	r	981	MET	CB-CG-SD	5.18	128.23	112.70
6	F	912	MET	CA-CB-CG	5.17	124.43	114.10
5	e	976	MET	CB-CG-SD	5.14	128.11	112.70
6	f	154	MET	CB-CG-SD	5.13	128.09	112.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	F	132	MET	CB-CG-SD	5.13	128.08	112.70
2	B	162	MET	CB-CG-SD	5.12	128.07	112.70
5	r	434	MET	CA-CB-CG	5.08	124.26	114.10
1	n	457	MET	N-CA-CB	5.04	118.76	110.39
6	F	1034	ARG	CA-CB-CG	5.04	124.18	114.10
2	b	223	ARG	CA-CB-CG	5.03	124.15	114.10

There are no chirality outliers.

All (12) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
5	E	916	VAL	Peptide
7	G	660	LEU	Peptide
1	a	372	THR	Peptide
5	e	468	GLU	Peptide
5	e	916	VAL	Peptide
6	f	278	SER	Mainchain
6	f	439	THR	Peptide
6	f	700	VAL	Peptide
7	g	660	LEU	Peptide
1	n	372	THR	Peptide
5	r	468	GLU	Peptide
7	t	660	LEU	Peptide

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	A	2053	0	2142	55	0
1	a	2053	0	2142	53	0
1	n	2053	0	2142	54	0
2	B	2343	0	2435	56	0
2	b	2343	0	2435	52	0
2	o	2343	0	2435	57	0
3	C	2277	0	2339	48	0
3	c	2277	0	2339	41	0
3	p	2277	0	2339	51	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	D	2035	0	2088	47	0
4	d	2035	0	2088	46	0
4	q	2035	0	2088	49	0
5	E	8510	0	8442	128	0
5	e	8510	0	8442	148	0
5	r	8510	0	8442	157	0
6	F	8454	0	8307	116	0
6	f	8454	0	8308	241	0
6	s	8454	0	8309	258	0
7	G	5680	0	5597	83	0
7	g	5680	0	5597	85	0
7	t	5680	0	5597	108	0
8	H	7502	0	7358	144	0
8	h	7502	0	7358	134	0
8	u	7502	0	7358	143	0
9	I	863	0	370	0	0
9	Q	863	0	370	0	0
9	i	863	0	370	0	0
10	J	1398	0	1410	39	0
10	j	1398	0	1410	29	0
10	w	1398	0	1410	41	0
11	K	755	0	351	1	0
11	k	755	0	351	1	0
11	x	755	0	351	1	0
12	L	4694	0	4700	52	0
12	l	4694	0	4700	49	0
12	y	4694	0	4700	62	0
13	M	936	0	943	38	0
13	m	936	0	943	21	0
13	z	936	0	943	31	0
14	N	140	0	31	0	0
14	O	140	0	31	0	0
14	P	140	0	31	0	0
15	0	83	0	70	0	0
15	AA	83	0	70	0	0
15	R	83	0	70	1	0
16	1	39	0	34	1	0
16	2	39	0	34	0	0
16	4	39	0	34	0	0
16	5	39	0	34	0	0
16	6	39	0	34	0	0
16	BA	39	0	34	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
16	CA	39	0	34	0	0
16	EA	39	0	34	0	0
16	FA	39	0	34	0	0
16	GA	39	0	34	0	0
16	S	39	0	34	1	0
16	T	39	0	34	0	0
16	V	39	0	34	0	0
16	W	39	0	34	0	0
16	X	39	0	34	0	0
17	3	28	0	25	0	0
17	8	28	0	25	1	0
17	DA	28	0	25	0	0
17	IA	28	0	25	2	0
17	U	28	0	25	2	0
17	Z	28	0	25	1	0
18	7	83	0	70	0	0
18	HA	83	0	70	0	0
18	Y	83	0	70	1	0
19	9	61	0	52	1	0
19	JA	61	0	52	1	0
19	v	61	0	52	1	0
20	E	84	0	78	0	0
20	F	14	0	13	0	0
20	G	28	0	26	0	0
20	e	84	0	78	0	0
20	f	14	0	13	0	0
20	g	28	0	26	0	0
20	r	84	0	78	0	0
20	s	14	0	13	0	0
20	t	28	0	26	0	0
21	M	28	0	46	0	0
21	m	28	0	46	1	0
21	z	28	0	46	1	0
All	All	144816	0	141267	2517	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 9.

All (2517) 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)
6:s:291:ILE:CD1	6:s:314:GLN:HG2	1.40	1.47
6:s:291:ILE:CD1	6:s:314:GLN:CG	2.21	1.18
8:H:485:MET:HE1	8:H:502:ASN:HB2	1.31	1.12
6:s:291:ILE:HD12	6:s:314:GLN:CG	1.76	1.12
6:s:291:ILE:HG13	6:s:314:GLN:CD	1.76	1.10
6:s:291:ILE:HG13	6:s:314:GLN:CG	1.82	1.09
6:s:291:ILE:CG1	6:s:314:GLN:CG	2.31	1.08
6:f:840:ILE:HA	6:f:876:ILE:O	1.64	0.97
6:s:840:ILE:HA	6:s:876:ILE:O	1.66	0.95
6:f:223:TYR:HE2	6:s:288:TYR:HH	1.00	0.94
6:f:291:ILE:HG22	6:f:313:ASN:ND2	1.88	0.88
8:h:421:MET:HE1	8:h:476:LEU:H	1.38	0.87
6:F:116:ARG:HG2	6:F:165:MET:HE3	1.58	0.86
5:r:961:ASN:HB3	5:r:963:ARG:HH12	1.40	0.84
5:r:593:MET:HE1	5:r:603:THR:HG22	1.58	0.84
5:E:541:PRO:HB2	5:E:549:MET:HE2	1.61	0.83
8:H:816:PHE:HB3	8:H:909:LEU:HD11	1.61	0.82
6:s:291:ILE:CG1	6:s:314:GLN:CD	2.52	0.82
13:m:39:ASN:HD21	13:m:45:ASN:H	1.25	0.82
2:b:236:LEU:HA	2:b:239:MET:HG2	1.61	0.82
6:s:515:LYS:HE3	6:s:530:GLU:HA	1.60	0.82
6:s:288:TYR:HD1	6:s:289:CYS:H	1.26	0.81
5:r:961:ASN:HB3	5:r:963:ARG:NH1	1.96	0.81
6:s:291:ILE:HD12	6:s:314:GLN:HG2	0.81	0.80
8:H:87:CYS:HA	8:H:101:CYS:HB3	1.64	0.79
5:e:593:MET:HE1	5:e:603:THR:HG22	1.65	0.79
6:s:291:ILE:HG13	6:s:314:GLN:HG3	1.63	0.79
6:f:154:MET:HG3	6:f:171:TYR:HD2	1.48	0.78
7:t:438:LEU:HD11	7:t:451:TYR:HB3	1.66	0.77
6:s:291:ILE:CG1	6:s:314:GLN:HG3	2.14	0.77
3:c:106:PRO:HA	3:c:109:TYR:HB2	1.65	0.77
8:H:963:TYR:O	8:H:967:TYR:HB3	1.83	0.77
12:l:272:MET:HE1	12:l:415:GLY:HA3	1.68	0.76
5:E:696:LEU:HD23	5:E:698:GLY:H	1.48	0.76
2:o:236:LEU:HA	2:o:239:MET:HG2	1.68	0.76
5:e:867:LEU:HD12	5:e:868:PRO:HD2	1.66	0.76
5:E:231:ILE:HD11	5:E:258:THR:HG21	1.68	0.75
3:p:106:PRO:HA	3:p:109:TYR:HB2	1.67	0.75
6:s:291:ILE:CG1	6:s:314:GLN:HG2	2.05	0.75
6:f:291:ILE:CG2	6:f:313:ASN:ND2	2.51	0.73
7:t:252:MET:HB2	7:t:263:SER:HB3	1.69	0.73
13:M:105:GLU:HG3	13:M:112:ARG:HH22	1.51	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:128:PRO:HB2	3:C:148:ILE:HD11	1.71	0.73
8:H:391:GLY:HA2	8:H:397:PHE:HB3	1.71	0.73
6:s:881:GLY:H	6:s:883:ARG:HH12	1.35	0.72
4:q:116:VAL:HG21	4:q:140:VAL:HG21	1.71	0.72
6:f:82:LEU:HD13	6:f:85:SER:HB2	1.71	0.72
7:g:252:MET:HB2	7:g:263:SER:HB3	1.71	0.72
5:e:729:LEU:HA	5:e:732:MET:HE1	1.71	0.72
12:l:531:LYS:HG3	12:l:557:ALA:HB3	1.70	0.72
8:u:268:LEU:HD13	8:u:282:LEU:HD21	1.71	0.71
3:p:269:MET:SD	3:p:269:MET:N	2.62	0.71
3:C:99:LEU:HD11	7:G:732:THR:HG22	1.72	0.71
5:r:896:ILE:HG12	5:r:899:ASN:HD22	1.56	0.71
8:u:539:VAL:HG13	8:u:547:MET:HE1	1.71	0.71
10:j:141:ARG:HH12	10:j:162:VAL:HG11	1.56	0.71
11:k:133:GLN:HA	11:k:137:LEU:HB2	1.73	0.70
8:H:819:TRP:HE1	8:H:908:ARG:HB2	1.54	0.70
3:p:169:ALA:HB1	3:p:275:MET:HE1	1.72	0.70
5:r:976:MET:HE1	5:r:1028:PHE:HB3	1.71	0.70
5:E:240:GLN:HE21	5:E:288:ARG:HD3	1.57	0.70
3:C:106:PRO:HA	3:C:109:TYR:HB2	1.74	0.70
10:w:72:LEU:O	10:w:146:LYS:NZ	2.23	0.70
11:x:137:LEU:HD23	11:x:138:PRO:HD3	1.74	0.70
5:E:387:MET:HE3	5:E:388:LEU:H	1.56	0.69
6:f:617:PHE:HA	6:f:630:PHE:HB2	1.74	0.69
8:H:833:MET:HB3	8:H:881:GLY:H	1.55	0.69
5:E:549:MET:HB2	5:E:609:ILE:HD11	1.75	0.69
6:f:450:ILE:HG21	6:f:510:LYS:HG2	1.75	0.69
8:u:830:ASN:HB2	8:u:894:HIS:H	1.58	0.69
7:g:375:MET:HE3	8:h:651:ARG:HE	1.56	0.69
6:s:592:ASP:HB3	6:s:595:LYS:HB3	1.74	0.69
4:D:116:VAL:HG21	4:D:140:VAL:HG21	1.74	0.68
10:w:132:ARG:HD3	10:w:134:GLU:H	1.58	0.68
12:y:150:ILE:HG12	12:y:235:PRO:HB3	1.76	0.68
8:H:610:ASN:OD1	8:H:723:THR:OG1	2.12	0.68
6:s:407:TRP:HB3	6:s:420:LEU:HD21	1.75	0.68
3:c:267:MET:SD	3:c:271:THR:OG1	2.51	0.68
13:m:57:LEU:HB3	13:m:101:ARG:HH12	1.57	0.68
7:g:206:GLN:NE2	7:g:225:PRO:O	2.27	0.68
8:h:186:GLN:HE21	8:h:237:ILE:HD12	1.57	0.68
8:H:792:LEU:HD21	8:H:932:MET:HE1	1.76	0.68
3:p:161:ARG:HG3	3:p:164:ARG:HH21	1.59	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:s:75:VAL:HG21	6:s:95:SER:HB3	1.76	0.68
8:u:879:ASP:OD2	8:u:882:GLN:NE2	2.26	0.68
11:K:133:GLN:HA	11:K:137:LEU:HB2	1.75	0.67
13:M:61:GLN:NE2	13:M:97:MET:SD	2.68	0.67
1:a:399:ALA:HB2	1:a:423:MET:HG3	1.75	0.67
3:C:269:MET:HA	3:C:272:GLU:HB3	1.74	0.67
6:F:590:LEU:O	6:F:596:GLU:HA	1.94	0.67
6:F:976:SER:HB2	6:F:1009:ASN:HB2	1.77	0.67
2:o:241:PHE:HA	2:o:244:MET:HE2	1.76	0.67
7:t:575:TYR:HB2	7:t:713:GLY:HA2	1.77	0.67
7:g:137:ILE:HG23	7:g:156:LEU:HD21	1.77	0.67
8:h:270:LEU:HB2	8:h:282:LEU:HD12	1.76	0.67
5:E:837:MET:HB2	5:E:959:ILE:HG12	1.76	0.67
8:u:225:ILE:HD11	8:u:240:LEU:HD23	1.77	0.66
6:F:75:VAL:HG21	6:F:95:SER:HB3	1.77	0.66
6:F:169:ASN:ND2	16:S:1:NAG:O7	2.27	0.66
8:H:320:ILE:HG22	8:H:327:LEU:HB2	1.78	0.66
1:A:397:LEU:HD11	6:F:1070:THR:HA	1.76	0.66
3:p:258:ILE:O	3:p:262:MET:HB3	1.95	0.66
6:f:592:ASP:HB3	6:f:595:LYS:HB3	1.77	0.66
3:c:161:ARG:HG3	3:c:164:ARG:HH21	1.61	0.66
4:D:98:TYR:HE1	5:E:1053:PRO:HG3	1.60	0.66
6:f:315:LEU:HD22	6:f:338:ARG:HD3	1.75	0.66
3:c:128:PRO:HB2	3:c:148:ILE:HD11	1.76	0.66
3:p:223:LEU:HD13	3:p:232:LEU:HD23	1.78	0.66
12:y:505:ILE:HD12	12:y:516:PRO:HB3	1.77	0.66
5:e:434:MET:HE2	5:e:768:VAL:HB	1.77	0.66
6:s:291:ILE:CD1	6:s:314:GLN:CD	2.69	0.66
6:f:142:MET:HE1	6:f:836:ILE:HG22	1.78	0.66
8:u:758:PHE:HB3	8:u:779:TYR:HB3	1.78	0.66
10:w:102:LEU:HB3	10:w:110:ARG:HH21	1.61	0.66
3:c:99:LEU:HD11	7:g:732:THR:HG22	1.76	0.66
5:r:195:LEU:HB3	5:r:209:ILE:HD11	1.77	0.65
12:y:281:PRO:HB2	12:y:285:GLU:HG2	1.78	0.65
6:s:950:GLY:HA3	6:s:956:ILE:HG12	1.77	0.65
8:H:338:THR:HG23	8:H:340:ASP:H	1.61	0.65
4:q:98:TYR:HE2	5:r:1053:PRO:HG3	1.60	0.65
7:t:571:ARG:HB2	7:t:709:VAL:HG12	1.79	0.65
1:n:337:LEU:HD22	1:n:341:GLN:HB2	1.79	0.65
6:s:450:ILE:HG21	6:s:510:LYS:HG2	1.78	0.65
3:p:128:PRO:HB2	3:p:148:ILE:HD11	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:f:291:ILE:HG21	6:f:313:ASN:CG	2.21	0.65
5:e:978:GLU:HG3	5:e:980:ASN:H	1.62	0.65
1:a:385:MET:SD	1:a:385:MET:N	2.63	0.65
5:e:867:LEU:HD11	5:e:871:TYR:CG	2.32	0.65
7:G:206:GLN:NE2	7:G:225:PRO:O	2.30	0.65
7:t:397:MET:HE1	7:t:399:THR:HG23	1.78	0.65
1:a:419:ASP:OD1	1:a:461:ARG:NH1	2.30	0.65
3:c:223:LEU:HD13	3:c:232:LEU:HD23	1.79	0.65
3:p:186:LEU:HD13	4:q:167:VAL:HG22	1.78	0.64
5:e:887:PHE:HB3	5:e:890:ALA:HB2	1.78	0.64
7:g:575:TYR:HB2	7:g:713:GLY:HA2	1.78	0.64
6:f:223:TYR:CD2	6:s:287:PHE:HZ	2.15	0.64
8:u:109:ILE:HD12	8:u:122:LEU:HD23	1.79	0.64
2:b:241:PHE:HB3	3:c:166:LEU:HD11	1.79	0.64
4:d:56:ILE:HA	4:d:59:MET:HE2	1.79	0.64
2:o:189:PRO:HA	2:o:192:VAL:HG22	1.78	0.64
6:f:291:ILE:CG2	6:f:313:ASN:CG	2.71	0.64
12:y:269:LEU:HD13	12:y:419:LEU:HD23	1.80	0.64
5:r:998:MET:HE2	6:f:717:TYR:HA	1.78	0.64
6:f:154:MET:HA	6:f:154:MET:HE3	1.79	0.64
7:g:571:ARG:HB2	7:g:709:VAL:HG12	1.80	0.64
10:J:65:ILE:HD11	10:J:68:ARG:HG3	1.80	0.64
1:n:406:LEU:HD11	1:n:409:GLU:HB3	1.79	0.64
6:F:566:SER:O	6:F:597:ARG:NH2	2.31	0.64
5:r:887:PHE:HB3	5:r:890:ALA:HB2	1.79	0.64
5:E:869:ILE:HG22	5:E:870:ASN:HD22	1.63	0.64
7:G:245:LYS:HE2	7:G:298:SER:HB3	1.80	0.64
12:L:281:PRO:HB2	12:L:285:GLU:HG2	1.79	0.64
2:b:339:VAL:HG21	3:c:268:ILE:HG23	1.77	0.64
6:f:221:ILE:HG23	6:f:336:TRP:HE1	1.63	0.64
6:f:771:HIS:O	6:f:816:ASN:ND2	2.30	0.64
6:s:526:ALA:HB1	6:s:534:ILE:HD11	1.80	0.63
12:l:520:GLY:HA3	12:l:538:CYS:H	1.63	0.63
2:b:189:PRO:HA	2:b:192:VAL:HG22	1.79	0.63
12:l:269:LEU:HB2	12:l:419:LEU:HG	1.81	0.63
12:L:520:GLY:HA3	12:L:538:CYS:H	1.64	0.63
8:u:715:PHE:HB2	8:u:729:PRO:HG2	1.79	0.63
12:y:646:CYS:SG	12:y:647:TRP:N	2.72	0.63
5:r:107:ARG:HH22	5:r:110:TRP:HA	1.62	0.63
6:s:95:SER:HB2	6:s:679:GLN:HG2	1.79	0.63
6:s:850:LEU:HD11	8:h:234:ASP:HA	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:h:407:LYS:NZ	8:h:416:ASP:O	2.31	0.63
6:F:665:GLU:HG2	6:F:668:GLY:H	1.63	0.63
1:n:506:VAL:HB	2:o:209:VAL:HG21	1.80	0.63
5:e:387:MET:HG3	5:e:389:LYS:HE3	1.80	0.63
6:s:231:SER:HA	6:s:234:ARG:HE	1.63	0.63
5:E:874:PRO:HB3	5:E:879:ILE:HA	1.81	0.63
8:H:792:LEU:HD11	8:H:932:MET:SD	2.37	0.63
6:f:231:SER:HA	6:f:234:ARG:HE	1.63	0.63
6:f:283:TRP:CD1	6:f:284:VAL:N	2.67	0.63
7:t:206:GLN:NE2	7:t:225:PRO:O	2.32	0.63
10:w:11:VAL:HG11	10:w:69:ARG:HH21	1.63	0.63
2:b:328:ILE:O	2:b:332:ASN:HB2	1.99	0.63
12:L:455:VAL:HG13	12:L:663:MET:HE1	1.79	0.63
6:s:590:LEU:O	6:s:596:GLU:HA	1.99	0.63
6:s:652:ARG:NH2	6:s:929:ASP:OD1	2.31	0.63
10:j:93:MET:O	10:j:94:HIS:ND1	2.32	0.63
1:A:506:VAL:HB	2:B:209:VAL:HG21	1.81	0.63
5:E:79:SER:OG	7:G:265:ASN:ND2	2.32	0.63
5:E:892:PRO:HD2	5:E:918:SER:HA	1.81	0.63
2:o:294:LEU:HD21	2:o:323:LEU:HD13	1.80	0.63
3:p:99:LEU:HD11	7:t:732:THR:HG22	1.79	0.63
2:b:294:LEU:HD21	2:b:323:LEU:HD13	1.79	0.63
5:e:423:LEU:HB2	5:e:433:SER:HB3	1.80	0.63
7:G:438:LEU:HD11	7:G:451:TYR:HB3	1.80	0.62
8:H:366:GLN:NE2	8:H:427:TRP:O	2.31	0.62
6:s:771:HIS:O	6:s:816:ASN:ND2	2.31	0.62
5:r:900:GLN:O	5:r:904:SER:OG	2.17	0.62
5:r:978:GLU:HG3	5:r:980:ASN:H	1.64	0.62
8:u:366:GLN:NE2	8:u:427:TRP:O	2.32	0.62
8:u:515:GLU:HG3	8:u:517:ASN:H	1.63	0.62
5:r:843:ARG:HH21	5:r:863:MET:HB3	1.64	0.62
3:C:223:LEU:HD13	3:C:232:LEU:HD23	1.79	0.62
7:G:522:CYS:HB3	7:G:529:PRO:HD3	1.80	0.62
5:r:595:LYS:HA	5:r:602:GLN:HG2	1.81	0.62
5:e:86:MET:HE1	5:e:135:ILE:HG23	1.79	0.62
5:e:399:PHE:HB3	6:s:165:MET:HB2	1.79	0.62
8:u:407:LYS:NZ	8:u:416:ASP:O	2.31	0.62
7:G:198:ILE:HG13	7:G:209:VAL:HG12	1.81	0.62
8:u:583:LEU:HD21	8:u:595:LEU:HD23	1.81	0.62
8:u:939:TYR:HB2	12:y:565:LEU:HB3	1.81	0.62
6:s:279:ILE:CD1	6:s:335:ARG:HH21	2.12	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:2:ARG:HH22	13:z:80:ASP:HB2	1.64	0.62
5:r:630:ILE:HG22	5:r:640:ILE:HG12	1.82	0.62
5:r:979:VAL:HG12	5:r:1029:LYS:HZ2	1.65	0.62
6:s:286:SER:O	6:s:287:PHE:C	2.43	0.62
12:l:640:CYS:HB3	12:l:644:GLU:HB2	1.80	0.62
10:J:100:LEU:HD22	10:J:136:MET:HE1	1.82	0.62
1:a:349:GLN:O	1:a:353:PHE:HB2	2.00	0.61
7:g:645:ARG:NH2	7:g:696:PRO:O	2.33	0.61
8:h:758:PHE:HB3	8:h:779:TYR:HB3	1.81	0.61
8:H:388:VAL:HG23	8:H:400:LEU:HB3	1.82	0.61
8:H:583:LEU:HD21	8:H:595:LEU:HD23	1.81	0.61
5:r:723:TRP:HB2	5:r:753:ILE:HB	1.81	0.61
6:f:850:LEU:HD11	8:u:234:ASP:HA	1.82	0.61
8:h:583:LEU:HD12	8:h:597:THR:HG22	1.82	0.61
8:h:939:TYR:HB2	12:l:565:LEU:HB3	1.82	0.61
5:r:57:LYS:HD3	5:r:113:ASP:HB3	1.83	0.61
6:f:577:LEU:HD12	6:f:584:LEU:HD21	1.81	0.61
6:s:617:PHE:HA	6:s:630:PHE:HB2	1.81	0.61
12:l:135:MET:SD	12:l:222:HIS:HB3	2.41	0.61
2:B:189:PRO:HA	2:B:192:VAL:HG12	1.82	0.61
2:o:332:ASN:HB3	3:p:267:MET:HG2	1.82	0.61
5:e:630:ILE:HG22	5:e:640:ILE:HG12	1.83	0.61
13:M:57:LEU:HB3	13:M:101:ARG:HH12	1.65	0.61
1:n:349:GLN:O	1:n:353:PHE:HB2	2.01	0.61
13:z:61:GLN:HE21	13:z:98:PHE:HA	1.64	0.61
8:H:756:ARG:NH2	12:L:545:ALA:O	2.33	0.61
8:u:243:MET:SD	8:u:243:MET:N	2.74	0.61
1:a:579:ASN:HA	1:a:582:MET:HE1	1.83	0.61
7:g:526:ILE:HG22	7:g:527:LEU:HG	1.82	0.61
12:L:234:MET:HE1	12:L:613:LYS:HG3	1.82	0.61
8:h:715:PHE:HB2	8:h:729:PRO:HG2	1.81	0.61
12:l:646:CYS:SG	12:l:647:TRP:N	2.74	0.61
5:e:595:LYS:HA	5:e:602:GLN:HG2	1.81	0.61
5:e:723:TRP:HB2	5:e:753:ILE:HB	1.83	0.61
6:s:789:LYS:NZ	8:h:125:ASP:OD2	2.33	0.61
8:h:542:MET:HG2	8:h:544:ASN:H	1.66	0.61
12:l:376:THR:HG23	12:l:672:LEU:HB3	1.81	0.61
8:u:482:TYR:O	8:u:728:LYS:NZ	2.33	0.61
12:y:143:SER:HB3	12:y:234:MET:HE2	1.82	0.61
12:y:198:MET:HE3	12:y:200:GLU:HB2	1.81	0.61
12:y:376:THR:HG23	12:y:672:LEU:HB3	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:y:376:THR:HG21	12:y:676:ALA:HB2	1.83	0.61
7:g:245:LYS:HE2	7:g:298:SER:HB2	1.82	0.61
8:h:831:SER:OG	8:h:893:ASN:OD1	2.19	0.61
3:C:229:TRP:HE1	4:D:232:ILE:HG12	1.65	0.60
10:J:102:LEU:HB3	10:J:110:ARG:HH21	1.66	0.60
13:z:77:MET:SD	13:z:77:MET:N	2.72	0.60
6:s:989:ASP:HB3	6:s:991:LYS:HG2	1.83	0.60
8:h:426:LEU:HD21	8:h:431:GLU:HB3	1.82	0.60
1:n:529:LEU:O	1:n:532:MET:HG3	2.00	0.60
5:r:378:THR:HG22	5:r:380:GLU:H	1.66	0.60
6:f:372:TYR:HA	6:f:389:PRO:HG2	1.83	0.60
10:j:102:LEU:HB3	10:j:110:ARG:HH21	1.65	0.60
1:A:378:ILE:HD12	6:F:903:PHE:HB2	1.82	0.60
6:F:710:HIS:O	6:F:713:LYS:NZ	2.34	0.60
7:G:339:ILE:HG22	7:G:349:VAL:HG22	1.84	0.60
7:t:193:GLY:HA3	7:t:211:MET:HE1	1.84	0.60
8:u:66:ARG:NH2	8:u:154:ASP:OD1	2.35	0.60
8:u:583:LEU:HD12	8:u:597:THR:HG22	1.83	0.60
3:c:229:TRP:HE1	4:d:232:ILE:HG12	1.65	0.60
6:s:315:LEU:HG	6:s:338:ARG:HD3	1.82	0.60
10:j:132:ARG:HD3	10:j:134:GLU:H	1.66	0.60
12:l:505:ILE:HD12	12:l:516:PRO:HB3	1.84	0.60
2:B:98:TRP:HZ2	8:H:960:TYR:HA	1.66	0.60
6:f:338:ARG:NH2	6:f:340:LEU:O	2.34	0.60
8:u:749:ASN:HB3	8:u:752:ARG:HG2	1.84	0.60
1:a:397:LEU:HD11	6:s:1070:THR:HA	1.83	0.60
6:s:142:MET:HE1	6:s:836:ILE:HG22	1.83	0.60
6:s:338:ARG:NH2	6:s:340:LEU:O	2.34	0.60
3:c:149:GLN:HA	3:c:152:ARG:HD3	1.84	0.60
4:d:213:GLY:HA2	4:d:221:GLN:HG3	1.84	0.60
5:r:732:MET:SD	5:r:732:MET:N	2.75	0.60
6:s:1058:SER:HB2	6:s:1061:ARG:HG3	1.82	0.60
8:H:634:ASP:OD2	8:H:741:LYS:NZ	2.34	0.60
5:r:258:THR:HG23	5:r:260:LEU:H	1.66	0.60
5:r:875:SER:OG	5:r:877:MET:SD	2.59	0.60
6:f:286:SER:O	6:f:287:PHE:C	2.44	0.60
12:L:433:VAL:HG13	12:L:438:MET:HB3	1.83	0.60
6:f:291:ILE:HG22	6:f:313:ASN:HD21	1.67	0.60
6:f:989:ASP:HB3	6:f:991:LYS:HG2	1.84	0.60
5:e:845:ILE:HD11	5:e:863:MET:HG3	1.82	0.60
6:s:1015:ILE:O	6:s:1061:ARG:NH1	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:h:50:LEU:HD13	8:h:562:THR:HG22	1.82	0.60
6:F:295:SER:H	6:F:313:ASN:HD21	1.49	0.60
6:f:605:VAL:HA	6:f:608:LEU:HB2	1.84	0.60
6:f:830:CYS:O	6:f:1041:TYR:OH	2.20	0.60
8:u:417:THR:HB	8:u:439:CYS:HB2	1.84	0.60
10:w:73:ASN:ND2	10:w:75:THR:OG1	2.35	0.60
5:E:877:MET:HE1	5:E:881:ILE:HD13	1.84	0.59
5:E:958:GLU:HG3	5:E:965:LYS:HD2	1.84	0.59
6:F:959:TYR:HB3	6:F:963:GLU:HB3	1.84	0.59
12:L:540:LYS:HD3	12:L:541:GLU:H	1.66	0.59
6:s:221:ILE:HG23	6:s:336:TRP:HE1	1.67	0.59
2:B:183:THR:O	2:B:187:LEU:HG	2.03	0.59
12:L:376:THR:HG21	12:L:676:ALA:HB2	1.83	0.59
3:p:229:TRP:HE1	4:q:232:ILE:HG12	1.65	0.59
5:r:843:ARG:HH22	5:r:945:ARG:H	1.50	0.59
7:t:137:ILE:HG23	7:t:156:LEU:HD21	1.84	0.59
1:A:349:GLN:O	1:A:353:PHE:HB2	2.02	0.59
8:h:417:THR:HB	8:h:439:CYS:HB2	1.83	0.59
8:u:50:LEU:HD13	8:u:562:THR:HG22	1.83	0.59
5:e:378:THR:HG22	5:e:380:GLU:H	1.68	0.59
8:h:66:ARG:NH2	8:h:154:ASP:OD1	2.35	0.59
10:j:22:GLY:HA3	10:j:61:MET:HE3	1.84	0.59
4:q:213:GLY:HA2	4:q:221:GLN:HG3	1.84	0.59
6:f:363:ALA:HB3	6:f:374:HIS:HB2	1.85	0.59
6:s:531:ASN:HB3	6:s:533:GLU:HG2	1.83	0.59
8:h:831:SER:HB2	8:h:835:GLN:HE21	1.66	0.59
1:A:348:THR:HG21	6:F:1081:ILE:HG23	1.85	0.59
6:F:845:MET:HE1	6:F:847:LEU:HB2	1.84	0.59
12:L:156:LYS:HB3	12:L:356:PRO:HG3	1.85	0.59
1:a:348:THR:HG21	6:s:1081:ILE:HG23	1.84	0.59
4:d:209:VAL:HA	4:d:212:PHE:HB2	1.83	0.59
8:h:490:MET:SD	8:h:490:MET:N	2.75	0.59
2:B:294:LEU:HD21	2:B:323:LEU:HD13	1.85	0.59
3:C:45:LYS:NZ	3:C:49:SER:OG	2.36	0.59
8:H:841:GLU:OE1	8:H:882:GLN:NE2	2.35	0.59
6:f:590:LEU:O	6:f:596:GLU:HA	2.02	0.59
6:F:912:MET:O	6:F:912:MET:HE3	2.02	0.59
8:H:908:ARG:HG2	8:H:924:ILE:HG12	1.83	0.59
13:M:25:LEU:HD13	13:M:64:SER:HB2	1.83	0.59
6:f:684:TYR:HH	6:f:707:TRP:CD1	2.20	0.59
6:s:125:PRO:HD2	6:s:151:ALA:HB3	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:s:291:ILE:HD11	6:s:314:GLN:OE1	2.03	0.59
5:E:163:LEU:HD23	5:E:225:HIS:HB2	1.84	0.59
6:f:311:ARG:NH1	6:f:346:LYS:O	2.36	0.59
6:f:457:ASP:OD1	6:f:457:ASP:N	2.35	0.59
12:y:520:GLY:HA3	12:y:538:CYS:H	1.68	0.59
6:s:287:PHE:O	6:s:288:TYR:C	2.44	0.59
8:h:830:ASN:HB2	8:h:894:HIS:H	1.68	0.59
6:F:373:ILE:HD11	6:F:417:LEU:HD21	1.85	0.59
7:G:736:THR:HA	7:G:739:LEU:HD12	1.85	0.59
12:L:505:ILE:HD12	12:L:516:PRO:HB3	1.83	0.59
5:r:545:SER:OG	5:r:546:THR:N	2.36	0.59
10:w:166:TRP:HE3	10:w:167:PRO:HD2	1.67	0.59
8:h:826:ASP:HB2	8:h:898:PRO:HG2	1.84	0.59
3:C:161:ARG:HG3	3:C:164:ARG:HH21	1.68	0.58
8:H:899:MET:HE3	8:H:932:MET:HE2	1.83	0.58
12:y:398:HIS:NE2	12:y:402:GLN:OE1	2.36	0.58
1:n:348:THR:HG21	6:f:1081:ILE:HG23	1.85	0.58
1:n:520:GLN:OE1	1:n:520:GLN:N	2.36	0.58
7:t:245:LYS:HE2	7:t:298:SER:HB2	1.84	0.58
2:B:239:MET:HE1	2:B:337:MET:HG3	1.83	0.58
5:E:545:SER:OG	5:E:546:THR:N	2.36	0.58
8:H:450:ARG:NH1	8:H:466:PHE:O	2.36	0.58
6:f:647:LYS:O	6:f:651:SER:OG	2.21	0.58
7:t:391:SER:OG	7:t:393:MET:SD	2.56	0.58
5:e:592:TYR:HE2	5:e:606:HIS:HB2	1.68	0.58
6:s:279:ILE:CD1	6:s:335:ARG:NH2	2.65	0.58
8:H:186:GLN:HE21	8:H:237:ILE:HD12	1.68	0.58
13:M:1:MET:SD	13:M:2:ARG:N	2.76	0.58
7:t:174:ASP:OD1	7:t:174:ASP:N	2.37	0.58
5:e:258:THR:HG23	5:e:260:LEU:H	1.68	0.58
6:s:457:ASP:OD1	6:s:457:ASP:N	2.35	0.58
6:s:553:TRP:HH2	6:s:601:ARG:HH12	1.51	0.58
8:H:904:MET:HB3	8:H:928:GLU:HG3	1.86	0.58
10:J:149:ILE:HG13	10:J:150:ASN:N	2.19	0.58
6:f:786:ASN:O	6:f:790:LYS:NZ	2.30	0.58
10:w:86:ARG:NH2	13:z:11:CYS:SG	2.74	0.58
4:d:95:GLN:HG3	4:d:96:LYS:HD2	1.84	0.58
10:j:70:LEU:HB2	10:j:72:LEU:HG	1.86	0.58
12:l:464:VAL:HG21	12:l:573:PHE:HE2	1.69	0.58
8:u:542:MET:SD	8:u:543:GLU:N	2.76	0.58
8:u:756:ARG:NH2	12:y:545:ALA:O	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:349:CYS:HB2	6:F:362:LEU:HB2	1.84	0.58
5:r:264:VAL:HG11	5:r:337:PHE:HB2	1.85	0.58
7:t:675:ASN:O	7:t:677:LYS:NZ	2.37	0.58
5:e:630:ILE:O	5:e:692:ASN:ND2	2.37	0.58
8:h:671:LEU:HD12	8:h:684:MET:HB2	1.84	0.58
7:G:744:PRO:HA	7:G:747:LEU:HB2	1.86	0.58
8:H:819:TRP:NE1	8:H:908:ARG:HB2	2.19	0.58
12:L:255:PHE:N	12:L:434:ASP:OD2	2.37	0.58
4:q:136:ASN:OD1	4:q:165:ARG:NH1	2.37	0.58
7:t:645:ARG:NH2	7:t:696:PRO:O	2.37	0.58
3:c:184:LEU:HG	3:c:188:MET:HE3	1.86	0.58
6:F:100:LEU:HB2	6:F:172:THR:HG23	1.85	0.58
5:e:264:VAL:HG11	5:e:337:PHE:HB2	1.86	0.58
1:n:464:ARG:HH11	1:n:465:VAL:HG12	1.67	0.58
6:f:757:ASP:OD2	6:f:760:ASN:ND2	2.37	0.58
5:e:538:ILE:HB	5:e:554:HIS:HB3	1.86	0.58
5:e:627:ASP:HB3	5:e:643:LEU:HB3	1.84	0.58
3:C:186:LEU:HD13	4:D:167:VAL:HG22	1.86	0.57
5:E:887:PHE:HB3	5:E:890:ALA:HB2	1.85	0.57
6:f:91:GLU:OE2	6:f:707:TRP:NE1	2.35	0.57
6:s:647:LYS:O	6:s:651:SER:OG	2.21	0.57
8:h:109:ILE:HD12	8:h:122:LEU:HD13	1.86	0.57
5:E:929:LYS:O	5:E:940:LYS:NZ	2.37	0.57
1:n:397:LEU:HD11	6:f:1070:THR:HA	1.84	0.57
6:f:129:ILE:HG22	6:f:185:VAL:HG12	1.86	0.57
7:t:398:PHE:HB2	7:t:503:ILE:HG12	1.85	0.57
3:c:186:LEU:HD13	4:d:167:VAL:HG22	1.85	0.57
6:s:283:TRP:NE1	6:s:291:ILE:O	2.38	0.57
7:g:675:ASN:O	7:g:677:LYS:NZ	2.37	0.57
12:L:99:LEU:HD22	12:L:321:MET:SD	2.44	0.57
6:f:652:ARG:NH2	6:f:929:ASP:OD1	2.32	0.57
6:f:702:ASP:HB3	6:f:705:TRP:HB3	1.86	0.57
6:f:1030:LEU:HD12	6:f:1047:THR:HG22	1.85	0.57
10:w:154:TYR:OH	10:w:160:ARG:NH1	2.37	0.57
6:s:279:ILE:HG12	6:s:336:TRP:HB2	1.85	0.57
6:s:551:GLN:HE22	6:s:613:LEU:HD12	1.69	0.57
7:g:375:MET:SD	7:g:375:MET:N	2.77	0.57
7:g:393:MET:HE3	7:g:408:LEU:HB3	1.85	0.57
5:E:285:GLY:HA2	5:r:285:GLY:HA2	1.86	0.57
5:E:591:VAL:HG22	5:E:605:ILE:HG22	1.85	0.57
8:H:545:ASN:OD1	8:H:570:THR:OG1	2.22	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:11:VAL:HG11	10:J:69:ARG:HH21	1.70	0.57
10:J:70:LEU:HB2	10:J:72:LEU:HG	1.86	0.57
5:r:984:ASN:ND2	5:r:1021:GLN:O	2.37	0.57
8:u:833:MET:HE1	8:u:882:GLN:H	1.69	0.57
5:E:969:GLU:HG3	5:E:971:PRO:HG2	1.86	0.57
6:f:101:GLN:HB2	6:f:171:TYR:HE1	1.70	0.57
6:f:1013:TYR:HA	6:f:1057:LEU:O	2.05	0.57
8:h:482:TYR:O	8:h:728:LYS:NZ	2.36	0.57
5:r:577:THR:HG22	5:r:587:ASN:HA	1.87	0.57
8:u:268:LEU:HD11	8:u:571:VAL:HB	1.87	0.57
2:b:223:ARG:HA	2:b:226:LYS:HE3	1.87	0.57
8:H:831:SER:HB2	17:Z:1:NAG:H82	1.87	0.57
5:r:570:LYS:H	5:r:573:HIS:CE1	2.23	0.57
5:r:768:VAL:HG22	5:r:808:ALA:HB3	1.87	0.57
2:b:153:LEU:HD13	2:b:156:ILE:HD12	1.86	0.57
6:s:405:ILE:HG23	6:s:419:LEU:HD13	1.86	0.57
7:g:744:PRO:HA	7:g:747:LEU:HB2	1.86	0.57
3:C:261:ASN:HD22	4:D:278:PHE:HB3	1.70	0.57
5:E:929:LYS:HE2	5:E:939:CYS:HB2	1.85	0.57
8:H:887:LEU:HB2	8:H:893:ASN:HB3	1.85	0.57
1:n:482:LEU:HD21	4:q:277:LEU:HD21	1.86	0.57
7:t:744:PRO:HA	7:t:747:LEU:HB2	1.87	0.57
5:e:187:SER:O	5:e:187:SER:OG	2.21	0.57
5:e:867:LEU:HD21	5:e:888:TYR:HB3	1.86	0.57
6:s:282:CYS:HB2	6:s:315:LEU:HD22	1.87	0.57
6:s:985:ARG:NH2	6:s:996:SER:OG	2.38	0.57
3:C:204:ARG:NH2	3:C:240:LYS:O	2.38	0.57
6:F:49:LEU:HD22	6:F:187:ILE:HD11	1.87	0.57
8:u:777:VAL:HG21	8:u:822:HIS:HE2	1.70	0.57
13:z:78:THR:HG23	13:z:80:ASP:H	1.70	0.57
5:e:207:VAL:HG22	5:e:244:VAL:HG22	1.86	0.57
8:h:391:GLY:HA2	8:h:397:PHE:HB3	1.86	0.57
13:m:39:ASN:HD22	13:m:43:ILE:HG23	1.70	0.57
5:E:727:ASP:N	5:E:727:ASP:OD1	2.33	0.57
6:F:328:ASP:OD2	6:F:330:SER:OG	2.22	0.57
7:G:400:ILE:HD11	7:G:406:LEU:HB3	1.87	0.57
5:r:477:ALA:O	5:r:822:THR:OG1	2.19	0.57
7:t:721:GLN:HG2	7:t:722:PRO:HD3	1.87	0.57
8:h:795:MET:HE3	8:h:894:HIS:HB2	1.85	0.57
1:A:425:MET:HE1	1:A:454:PHE:CD1	2.40	0.56
7:G:595:MET:SD	7:G:597:ALA:N	2.78	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:517:ASN:O	8:H:520:SER:OG	2.22	0.56
13:M:20:VAL:HA	13:M:23:LEU:HG	1.86	0.56
13:M:48:HIS:ND1	13:M:48:HIS:O	2.38	0.56
6:s:482:LEU:HD12	6:s:844:SER:HB3	1.87	0.56
7:g:246:PRO:HD2	7:g:300:ALA:HA	1.87	0.56
8:h:194:GLU:HB2	8:h:220:ASP:HB3	1.87	0.56
5:r:495:LEU:HG	5:r:503:ILE:HD11	1.87	0.56
5:e:991:GLU:O	5:e:996:LYS:NZ	2.38	0.56
2:B:311:SER:O	2:B:312:ARG:NH1	2.32	0.56
5:E:768:VAL:HG22	5:E:808:ALA:HB3	1.87	0.56
6:F:1015:ILE:HG22	6:F:1061:ARG:HH22	1.70	0.56
8:H:418:LEU:HA	8:H:437:SER:O	2.06	0.56
1:n:371:GLN:NE2	1:n:388:ASP:OD1	2.36	0.56
6:f:1015:ILE:O	6:f:1061:ARG:NH1	2.38	0.56
12:y:269:LEU:HB2	12:y:419:LEU:HG	1.87	0.56
1:a:388:ASP:OD1	1:a:458:ARG:NH1	2.36	0.56
1:a:506:VAL:HB	2:b:209:VAL:HG21	1.86	0.56
5:e:900:GLN:O	5:e:904:SER:OG	2.15	0.56
6:s:260:LYS:HZ3	6:s:281:SER:HB3	1.71	0.56
8:h:756:ARG:NH2	12:l:545:ALA:O	2.36	0.56
6:f:288:TYR:HD1	6:f:289:CYS:N	2.02	0.56
7:t:19:LEU:HD13	7:t:330:GLN:HB2	1.88	0.56
5:e:570:LYS:H	5:e:573:HIS:CE1	2.23	0.56
12:L:646:CYS:SG	12:L:647:TRP:N	2.79	0.56
13:M:90:ILE:HD13	13:M:93:LEU:HD21	1.86	0.56
1:n:566:PHE:O	1:n:570:ASN:HB2	2.06	0.56
3:p:149:GLN:HA	3:p:152:ARG:HD3	1.87	0.56
2:b:363:ASP:HA	2:b:366:LYS:HE3	1.86	0.56
6:s:363:ALA:HB3	6:s:374:HIS:HB2	1.88	0.56
7:g:339:ILE:HG22	7:g:349:VAL:HG22	1.87	0.56
6:F:815:ARG:NH2	8:H:674:GLU:OE2	2.33	0.56
13:M:46:TYR:HA	13:M:49:MET:HG2	1.86	0.56
10:w:16:LEU:HB2	10:w:65:ILE:HD13	1.88	0.56
6:s:311:ARG:NH1	6:s:346:LYS:O	2.39	0.56
8:H:120:ARG:NH1	8:H:605:GLU:OE1	2.38	0.56
6:f:1013:TYR:HE1	6:f:1057:LEU:HD12	1.68	0.56
5:r:407:THR:OG1	5:r:429:GLN:NE2	2.38	0.56
13:z:57:LEU:HB3	13:z:101:ARG:HH12	1.69	0.56
2:b:337:MET:SD	2:b:341:ASN:ND2	2.79	0.56
5:e:767:MET:HA	5:e:808:ALA:O	2.05	0.56
6:s:291:ILE:HG13	6:s:314:GLN:NE2	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:g:129:GLY:HA3	7:g:180:PHE:H	1.70	0.56
8:h:356:ILE:HD13	8:h:384:SER:HB2	1.88	0.56
8:h:831:SER:HB2	8:h:835:GLN:NE2	2.21	0.56
10:j:158:SER:OG	10:j:159:TYR:N	2.38	0.56
2:B:363:ASP:HA	2:B:366:LYS:HE3	1.87	0.56
3:C:179:SER:HB2	4:D:179:ILE:HD12	1.88	0.56
6:F:965:PHE:O	6:F:969:SER:OG	2.21	0.56
8:H:80:SER:OG	8:H:81:TRP:N	2.39	0.56
6:f:553:TRP:HH2	6:f:601:ARG:HH12	1.53	0.56
5:e:477:ALA:O	5:e:822:THR:OG1	2.19	0.56
8:h:52:ARG:NH1	8:h:563:TRP:O	2.39	0.56
8:H:50:LEU:N	8:H:117:GLU:OE1	2.39	0.55
6:f:652:ARG:NH2	6:f:880:PRO:O	2.39	0.55
7:t:218:THR:OG1	7:t:219:PHE:N	2.39	0.55
6:s:82:LEU:HD13	6:s:85:SER:HB2	1.87	0.55
6:s:830:CYS:O	6:s:1041:TYR:OH	2.24	0.55
1:A:388:ASP:OD1	1:A:458:ARG:NH1	2.38	0.55
1:a:532:MET:SD	1:a:561:ILE:HD11	2.45	0.55
5:e:57:LYS:HD3	5:e:113:ASP:HB3	1.88	0.55
6:s:789:LYS:NZ	8:h:127:SER:OG	2.36	0.55
7:g:218:THR:OG1	7:g:219:PHE:N	2.34	0.55
8:h:366:GLN:NE2	8:h:427:TRP:O	2.38	0.55
8:h:583:LEU:HD21	8:h:595:LEU:HD23	1.88	0.55
10:j:39:ARG:HH21	10:j:46:THR:HG23	1.72	0.55
1:A:546:ARG:O	1:A:546:ARG:NH1	2.34	0.55
5:E:595:LYS:HA	5:E:602:GLN:HG2	1.89	0.55
5:r:767:MET:HA	5:r:808:ALA:O	2.07	0.55
6:f:559:LEU:HA	6:f:562:MET:HE3	1.88	0.55
8:u:891:ASN:ND2	19:9:1:NAG:O6	2.38	0.55
7:g:347:LEU:HB3	7:g:368:VAL:HB	1.88	0.55
1:A:422:ILE:O	1:A:425:MET:HG3	2.07	0.55
1:n:535:LEU:HG	2:o:295:ASP:HB3	1.87	0.55
8:u:80:SER:OG	8:u:81:TRP:N	2.38	0.55
8:u:90:GLU:O	8:u:97:THR:OG1	2.22	0.55
6:s:559:LEU:HA	6:s:562:MET:HE3	1.89	0.55
8:h:816:PHE:HB3	8:h:909:LEU:HD11	1.89	0.55
12:l:376:THR:HG21	12:l:676:ALA:HB2	1.87	0.55
10:J:149:ILE:HG13	10:J:150:ASN:H	1.72	0.55
6:f:71:PRO:HA	6:f:97:PRO:HD3	1.88	0.55
8:u:746:ARG:HH22	8:u:811:ILE:HG13	1.71	0.55
8:u:816:PHE:HB3	8:u:909:LEU:HD11	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:t:249:ARG:HH21	7:t:483:THR:HG21	1.71	0.55
5:e:86:MET:HE3	5:e:99:PHE:HE1	1.72	0.55
5:e:545:SER:OG	5:e:546:THR:N	2.36	0.55
6:s:260:LYS:NZ	6:s:281:SER:HB3	2.22	0.55
10:j:47:TRP:NE1	13:m:53:TYR:OH	2.40	0.55
8:H:137:VAL:HG12	8:H:148:VAL:HG12	1.89	0.55
8:H:817:ILE:HD13	8:H:912:LEU:HD13	1.89	0.55
10:J:93:MET:O	10:J:94:HIS:ND1	2.40	0.55
12:L:398:HIS:NE2	12:L:402:GLN:OE1	2.40	0.55
3:p:267:MET:SD	3:p:271:THR:OG1	2.61	0.55
5:r:777:VAL:HG22	5:r:795:VAL:HG22	1.89	0.55
5:r:979:VAL:HG22	5:r:1027:HIS:HB3	1.88	0.55
6:f:154:MET:HG3	6:f:171:TYR:CD2	2.36	0.55
2:b:279:SER:OG	2:b:283:ASN:ND2	2.35	0.55
6:s:226:LEU:HD11	6:s:276:GLU:HB2	1.88	0.55
6:s:518:VAL:HG23	6:s:526:ALA:HB3	1.87	0.55
8:h:80:SER:OG	8:h:81:TRP:N	2.38	0.55
8:h:777:VAL:HG21	8:h:822:HIS:HE2	1.71	0.55
13:m:61:GLN:HG2	13:m:98:PHE:HD1	1.71	0.55
8:H:571:VAL:HG12	8:H:583:LEU:HB3	1.88	0.55
3:p:179:SER:HB2	4:q:179:ILE:HD12	1.89	0.55
5:r:398:LYS:O	6:f:165:MET:N	2.39	0.55
8:u:946:PHE:HA	8:u:949:MET:SD	2.47	0.55
6:s:577:LEU:HD12	6:s:584:LEU:HD21	1.89	0.55
3:C:262:MET:HA	4:D:282:VAL:HG11	1.88	0.55
5:r:831:CYS:HB2	5:r:835:ARG:HD3	1.89	0.55
7:t:660:LEU:HD23	7:t:662:TRP:H	1.72	0.55
13:z:15:GLY:O	13:z:17:MET:HG3	2.07	0.55
6:s:129:ILE:HG22	6:s:185:VAL:HG12	1.87	0.55
8:h:388:VAL:HG23	8:h:400:LEU:HB3	1.89	0.55
8:h:749:ASN:HB3	8:h:752:ARG:HG2	1.87	0.55
2:B:193:VAL:HG12	2:B:198:PRO:HG3	1.87	0.55
7:G:135:SER:HB3	7:G:160:LEU:HA	1.89	0.55
3:p:250:LEU:HD23	3:p:253:LEU:HD21	1.88	0.55
7:t:426:VAL:HG11	7:t:432:LEU:HB3	1.89	0.55
12:y:147:ALA:HB2	12:y:234:MET:HE3	1.89	0.55
1:a:368:LEU:HD23	1:a:459:ALA:HB2	1.89	0.55
1:a:486:LEU:HB3	1:a:487:PRO:HD2	1.89	0.55
1:a:584:LEU:HD21	4:d:284:THR:HA	1.89	0.55
5:e:979:VAL:HG22	5:e:1027:HIS:HB3	1.89	0.55
4:D:286:LEU:HG	4:D:290:MET:HE3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:279:ILE:HG22	6:F:281:SER:H	1.72	0.54
6:F:814:ASN:HB2	8:H:676:ALA:HB3	1.89	0.54
1:n:519:PHE:HB2	1:n:525:THR:HA	1.89	0.54
10:J:45:GLU:HB2	13:M:53:TYR:HE1	1.72	0.54
1:n:558:MET:HE3	2:o:289:PHE:HB3	1.88	0.54
5:e:630:ILE:HD11	5:e:693:LEU:HD12	1.89	0.54
6:s:372:TYR:HA	6:s:389:PRO:HG2	1.89	0.54
2:B:217:LYS:HZ3	2:B:218:LEU:HG	1.72	0.54
4:D:280:VAL:HA	4:D:283:THR:HG22	1.88	0.54
6:F:447:PRO:HG2	6:F:472:MET:HE1	1.88	0.54
7:G:411:LEU:HD11	7:G:450:LYS:HB3	1.90	0.54
4:q:78:LEU:HD22	4:q:166:LEU:HG	1.89	0.54
7:t:68:VAL:HG21	7:t:95:ILE:HD13	1.90	0.54
1:a:578:ASP:HA	1:a:581:GLN:HB3	1.88	0.54
2:b:234:ARG:HD3	2:b:345:ILE:HD11	1.88	0.54
6:s:288:TYR:HD1	6:s:289:CYS:N	1.99	0.54
5:E:834:LEU:HB2	5:E:962:GLU:HG3	1.89	0.54
10:J:59:TRP:CE2	13:M:17:MET:HE3	2.41	0.54
4:q:160:PRO:HA	4:q:163:VAL:HG22	1.88	0.54
6:s:959:TYR:HB3	6:s:963:GLU:HB3	1.90	0.54
10:J:48:CYS:HB3	13:M:56:VAL:HG21	1.89	0.54
5:r:207:VAL:HG22	5:r:244:VAL:HG22	1.89	0.54
6:f:288:TYR:HD1	6:f:289:CYS:H	1.54	0.54
6:f:518:VAL:HG23	6:f:526:ALA:HB3	1.89	0.54
5:e:626:SER:OG	5:e:627:ASP:N	2.41	0.54
5:E:435:ASP:HB3	6:F:121:MET:HG3	1.90	0.54
10:J:147:LEU:O	10:J:149:ILE:HG23	2.08	0.54
6:f:901:HIS:NE2	6:f:919:ASP:OD1	2.41	0.54
6:f:959:TYR:HB3	6:f:963:GLU:HB3	1.90	0.54
7:t:172:PHE:HB3	7:t:183:MET:HE1	1.90	0.54
8:u:542:MET:HG3	8:u:544:ASN:HB3	1.87	0.54
8:u:757:ASP:HB3	12:y:543:LEU:HD11	1.89	0.54
7:g:244:MET:N	7:g:244:MET:SD	2.80	0.54
12:l:400:GLN:HG3	12:l:407:PRO:HG3	1.88	0.54
8:H:359:PHE:HB2	8:H:380:LEU:HD11	1.90	0.54
8:H:439:CYS:HB2	8:H:442:CYS:HA	1.88	0.54
8:h:711:MET:HE3	8:h:712:LEU:H	1.73	0.54
4:D:209:VAL:HA	4:D:212:PHE:HB2	1.90	0.54
5:E:872:ARG:HH21	5:E:885:ASP:H	1.53	0.54
10:J:158:SER:OG	10:J:159:TYR:N	2.39	0.54
6:f:125:PRO:HD2	6:f:151:ALA:HB3	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:f:482:LEU:HD12	6:f:844:SER:HB3	1.89	0.54
5:e:732:MET:SD	5:e:732:MET:N	2.65	0.54
8:h:891:ASN:ND2	19:JA:1:NAG:O6	2.41	0.54
1:A:491:ALA:HB2	2:B:224:GLN:HG3	1.89	0.54
10:J:44:GLN:HE22	13:M:54:THR:H	1.54	0.54
10:J:86:ARG:NH2	13:M:11:CYS:SG	2.80	0.54
12:L:269:LEU:HB2	12:L:419:LEU:HD13	1.89	0.54
1:n:454:PHE:HA	1:n:457:MET:SD	2.48	0.54
1:n:536:ASP:OD2	4:q:239:TRP:NE1	2.41	0.54
2:o:363:ASP:HA	2:o:366:LYS:HE3	1.89	0.54
3:p:184:LEU:O	3:p:188:MET:HG3	2.07	0.54
3:c:258:ILE:O	3:c:262:MET:HB2	2.08	0.54
5:e:685:MET:HE1	5:e:688:ALA:HB3	1.90	0.54
5:E:584:GLY:HA2	5:E:611:VAL:HB	1.90	0.54
6:F:523:GLY:HA3	6:F:869:PHE:HZ	1.73	0.54
8:H:407:LYS:NZ	8:H:416:ASP:O	2.41	0.54
12:L:508:ARG:HB3	12:L:544:ALA:H	1.72	0.54
8:u:658:GLU:OE1	8:u:714:GLN:NE2	2.39	0.54
7:g:169:ASN:HB3	7:g:182:LEU:HD13	1.90	0.54
8:h:530:VAL:HG22	8:h:540:VAL:HG22	1.90	0.54
12:l:281:PRO:HB2	12:l:285:GLU:HG2	1.90	0.54
6:F:697:ALA:HB2	6:F:885:ALA:HB1	1.89	0.53
4:q:209:VAL:HA	4:q:212:PHE:HB2	1.89	0.53
5:r:952:GLN:H	5:r:988:LYS:HZ1	1.56	0.53
5:e:532:ASP:OD2	5:e:711:ARG:NH2	2.37	0.53
6:s:702:ASP:HB3	6:s:705:TRP:HB3	1.89	0.53
8:h:349:ARG:NH1	8:h:395:PHE:O	2.41	0.53
1:A:540:LEU:HA	1:A:543:ILE:HG22	1.89	0.53
7:G:68:VAL:HG21	7:G:95:ILE:HD13	1.90	0.53
7:G:616:ALA:HB2	7:G:667:TYR:HB2	1.91	0.53
1:n:521:ASN:O	1:n:525:THR:OG1	2.24	0.53
5:r:941:GLU:HG2	5:r:942:LYS:HD2	1.90	0.53
8:u:665:MET:SD	8:u:667:TRP:NE1	2.75	0.53
5:e:490:ASP:OD2	5:e:505:LYS:NZ	2.40	0.53
4:D:213:GLY:HA2	4:D:221:GLN:HG3	1.90	0.53
5:r:559:MET:HE1	5:r:564:GLN:HA	1.90	0.53
7:t:62:VAL:HG22	7:t:70:LEU:HD13	1.90	0.53
10:w:8:SER:HB2	10:w:12:LEU:HD13	1.90	0.53
10:w:93:MET:O	10:w:94:HIS:ND1	2.41	0.53
1:a:536:ASP:OD2	4:d:239:TRP:NE1	2.41	0.53
7:g:542:LYS:HG3	7:g:556:ASP:HA	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:q:98:TYR:OH	5:r:1051:GLU:OE2	2.25	0.53
6:f:789:LYS:NZ	8:u:127:SER:OG	2.30	0.53
13:z:54:THR:HG23	13:z:55:VAL:HG13	1.90	0.53
8:h:658:GLU:OE1	8:h:714:GLN:NE2	2.42	0.53
3:C:205:GLY:HA3	3:C:239:ARG:HD2	1.91	0.53
13:M:69:ALA:HA	13:M:91:LEU:HD11	1.91	0.53
1:n:537:ASP:HB2	4:q:240:LEU:HD22	1.91	0.53
7:t:169:ASN:HB3	7:t:182:LEU:HD13	1.91	0.53
1:a:492:ILE:HD11	2:b:228:ILE:HG12	1.88	0.53
6:s:283:TRP:CD1	6:s:284:VAL:N	2.77	0.53
8:h:384:SER:O	8:h:384:SER:OG	2.27	0.53
12:l:156:LYS:HB3	12:l:356:PRO:HG3	1.89	0.53
6:F:524:GLN:OE1	6:F:536:TYR:OH	2.26	0.53
6:F:833:GLN:NE2	6:F:1034:ARG:O	2.42	0.53
3:p:52:PHE:O	3:p:56:MET:HG3	2.09	0.53
6:f:62:SER:HA	16:1:2:NAG:H3	1.91	0.53
4:d:160:PRO:HA	4:d:163:VAL:HG22	1.90	0.53
5:e:569:PHE:H	5:e:603:THR:HG21	1.73	0.53
6:s:69:HIS:HB2	6:s:324:ILE:HD11	1.90	0.53
6:s:339:VAL:HG13	6:s:340:LEU:HD12	1.91	0.53
7:g:174:ASP:OD1	7:g:174:ASP:N	2.42	0.53
12:l:122:GLN:HG3	12:l:132:TRP:HB2	1.90	0.53
7:G:512:LYS:HG2	7:G:586:TRP:HB2	1.90	0.53
7:G:715:LEU:HD12	7:G:716:PRO:HD2	1.90	0.53
4:d:59:MET:SD	5:e:1082:LEU:HD21	2.49	0.53
7:t:507:CYS:SG	7:t:508:ASP:N	2.81	0.53
3:c:250:LEU:HD23	3:c:253:LEU:HD21	1.90	0.53
6:s:346:LYS:N	6:s:364:LEU:O	2.37	0.53
8:h:225:ILE:HD11	8:h:240:LEU:HD23	1.91	0.53
5:E:837:MET:HE2	5:E:1041:LEU:HB3	1.91	0.53
7:G:603:GLU:HG3	7:G:607:LEU:HG	1.90	0.53
8:H:349:ARG:NH1	8:H:395:PHE:O	2.42	0.53
7:t:571:ARG:HH21	7:t:708:SER:H	1.55	0.53
1:A:454:PHE:HA	1:A:457:MET:SD	2.49	0.53
7:G:347:LEU:HB3	7:G:368:VAL:HB	1.91	0.53
3:p:82:THR:O	3:p:86:SER:OG	2.23	0.53
5:r:285:GLY:O	5:r:320:ARG:NH2	2.42	0.53
10:w:144:ALA:HA	10:w:148:ASN:HA	1.91	0.53
5:e:777:VAL:HG22	5:e:795:VAL:HG22	1.90	0.53
6:s:372:TYR:HB3	6:s:387:MET:SD	2.49	0.53
4:D:65:LEU:HD23	10:J:106:ALA:HB2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:849:ASP:OD2	5:E:855:HIS:ND1	2.42	0.52
6:F:922:GLN:NE2	6:F:923:PRO:O	2.42	0.52
8:H:334:VAL:HG13	8:H:345:LEU:HB2	1.90	0.52
6:f:290:PRO:O	6:f:291:ILE:C	2.52	0.52
1:a:449:ARG:HE	4:d:255:MET:HE2	1.72	0.52
5:e:218:THR:HG22	5:e:220:LYS:H	1.73	0.52
8:h:963:TYR:O	8:h:967:TYR:HB3	2.09	0.52
5:E:274:SER:O	5:E:274:SER:OG	2.27	0.52
6:F:688:LEU:HD11	6:F:706:ARG:HH21	1.73	0.52
12:L:174:SER:HB3	12:L:311:ALA:HB2	1.92	0.52
5:r:89:THR:HG23	5:r:132:MET:HE2	1.91	0.52
6:f:132:MET:SD	6:f:247:HIS:ND1	2.81	0.52
7:t:244:MET:SD	7:t:252:MET:HE1	2.49	0.52
7:t:542:LYS:HG3	7:t:556:ASP:HA	1.92	0.52
12:l:634:TYR:CD1	12:l:648:ILE:HD12	2.44	0.52
12:l:645:ARG:NH1	12:l:646:CYS:O	2.42	0.52
8:H:55:ILE:HD12	8:H:56:ASN:H	1.75	0.52
12:L:122:GLN:HG3	12:L:132:TRP:HB2	1.91	0.52
1:n:540:LEU:HA	1:n:543:ILE:HG22	1.91	0.52
6:f:528:VAL:HG12	6:f:534:ILE:HG22	1.91	0.52
6:s:475:LYS:HG2	6:s:490:GLY:HA2	1.91	0.52
8:h:281:LEU:HB3	8:h:321:ILE:HD11	1.90	0.52
5:E:978:GLU:HG3	5:E:980:ASN:H	1.74	0.52
5:E:1055:PRO:HG2	13:M:109:ILE:HD11	1.91	0.52
7:G:161:ARG:NH1	7:G:240:LEU:O	2.43	0.52
7:G:310:ASP:OD1	7:G:333:TRP:N	2.35	0.52
7:G:646:GLU:OE1	7:G:646:GLU:N	2.39	0.52
5:r:483:SER:HB2	5:r:576:LYS:HE3	1.90	0.52
5:r:655:ASP:HA	5:r:658:LYS:HD2	1.91	0.52
5:r:724:ILE:HD13	5:r:823:LEU:HD11	1.90	0.52
6:f:156:SER:HB3	6:f:167:VAL:HG13	1.91	0.52
6:f:283:TRP:NE1	6:f:291:ILE:O	2.42	0.52
4:d:116:VAL:HG21	4:d:140:VAL:HG21	1.91	0.52
4:d:120:TRP:HZ2	4:d:137:PHE:HB2	1.74	0.52
5:e:941:GLU:HG2	5:e:942:LYS:HD2	1.90	0.52
8:h:699:ASN:HB3	8:h:702:GLN:HB2	1.91	0.52
6:f:789:LYS:NZ	8:u:125:ASP:OD2	2.42	0.52
5:e:48:LYS:NZ	5:e:149:THR:OG1	2.39	0.52
12:l:398:HIS:NE2	12:l:402:GLN:OE1	2.42	0.52
12:l:508:ARG:HB3	12:l:544:ALA:H	1.74	0.52
1:A:537:ASP:HB3	1:A:540:LEU:HB2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:252:ILE:HG12	6:F:303:ALA:HB2	1.92	0.52
8:H:194:GLU:HB3	8:H:368:ARG:HH11	1.74	0.52
8:H:218:SER:HA	8:H:245:THR:HG23	1.90	0.52
8:H:426:LEU:HD12	8:H:428:HIS:H	1.75	0.52
8:H:892:LYS:O	8:H:894:HIS:ND1	2.36	0.52
3:p:223:LEU:HD11	3:p:229:TRP:HE3	1.75	0.52
7:t:522:CYS:HB3	7:t:529:PRO:HD3	1.92	0.52
13:z:69:ALA:HA	13:z:91:LEU:HD11	1.92	0.52
6:s:513:THR:HG23	6:s:530:GLU:HB2	1.91	0.52
6:s:652:ARG:HH21	6:s:881:GLY:HA3	1.75	0.52
8:h:589:LEU:HB2	8:h:594:GLN:HG2	1.90	0.52
10:j:144:ALA:HA	10:j:148:ASN:HA	1.92	0.52
4:D:61:ILE:HB	4:D:66:ARG:HH21	1.74	0.52
5:E:1054:LEU:HD13	5:E:1058:GLY:HA3	1.91	0.52
7:G:544:ALA:HA	7:G:607:LEU:HA	1.92	0.52
1:n:536:ASP:HB3	4:q:240:LEU:HD13	1.92	0.52
2:o:338:MET:HA	2:o:338:MET:HE3	1.92	0.52
5:r:516:LYS:O	5:r:525:SER:OG	2.24	0.52
6:f:835:MET:O	6:f:837:GLY:N	2.42	0.52
1:a:381:GLU:O	1:a:382:TRP:HD1	1.93	0.52
5:e:792:ASP:N	5:e:792:ASP:OD1	2.43	0.52
5:e:864:ILE:HD11	5:e:942:LYS:HG2	1.89	0.52
6:s:131:TYR:OH	6:s:175:PRO:O	2.27	0.52
6:s:283:TRP:CE3	6:s:294:PHE:CZ	2.97	0.52
7:g:161:ARG:NH1	7:g:240:LEU:O	2.42	0.52
6:F:470:THR:HG21	6:F:510:LYS:HD3	1.91	0.52
2:o:234:ARG:HD3	2:o:345:ILE:HD11	1.91	0.52
5:r:240:GLN:NE2	5:r:241:GLY:O	2.42	0.52
7:t:161:ARG:NH1	7:t:240:LEU:O	2.42	0.52
6:s:226:LEU:CD1	6:s:276:GLU:HB2	2.40	0.52
6:s:515:LYS:HG3	6:s:529:THR:C	2.35	0.52
7:g:508:ASP:N	7:g:701:CYS:SG	2.83	0.52
10:j:39:ARG:HH22	10:j:44:GLN:CD	2.17	0.52
12:l:443:LYS:HG2	12:l:587:PRO:HB3	1.92	0.52
5:E:729:LEU:HA	5:E:732:MET:HE1	1.91	0.52
3:p:223:LEU:HB3	3:p:251:PHE:HE2	1.73	0.52
8:u:826:ASP:HB2	8:u:898:PRO:HG2	1.92	0.52
5:e:483:SER:OG	5:e:484:GLU:N	2.43	0.52
7:g:156:LEU:HD22	7:g:180:PHE:HE1	1.75	0.52
3:C:56:MET:HE2	3:C:159:TYR:HE1	1.74	0.52
5:E:809:LEU:HD12	5:E:823:LEU:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:982:ARG:NH2	5:E:1024:GLU:OE2	2.40	0.52
6:F:744:MET:N	6:F:744:MET:SD	2.83	0.52
6:F:834:GLY:H	6:F:1042:CYS:HA	1.75	0.52
8:H:830:ASN:HB2	8:H:894:HIS:H	1.75	0.52
3:c:223:LEU:HB3	3:c:251:PHE:HE2	1.75	0.52
5:e:874:PRO:HB3	5:e:879:ILE:HA	1.92	0.52
6:s:132:MET:SD	6:s:247:HIS:ND1	2.83	0.52
8:h:293:ASP:OD1	8:h:296:GLN:N	2.42	0.52
8:h:480:PHE:HE1	8:h:486:PRO:HB3	1.74	0.52
2:B:254:ALA:HB2	2:B:288:VAL:HG21	1.92	0.51
7:G:600:VAL:HG13	7:G:694:VAL:HG21	1.92	0.51
12:L:150:ILE:HG12	12:L:235:PRO:HB3	1.92	0.51
5:r:193:VAL:HG12	5:r:213:ILE:HD12	1.91	0.51
5:r:592:TYR:HE2	5:r:606:HIS:HB2	1.75	0.51
6:f:284:VAL:HA	6:s:280:ASP:CG	2.35	0.51
6:f:287:PHE:HZ	6:s:223:TYR:CD2	2.29	0.51
6:f:372:TYR:HB3	6:f:387:MET:SD	2.50	0.51
6:f:788:ASP:HA	6:f:792:ALA:HB2	1.91	0.51
1:a:511:PHE:HB3	1:a:519:PHE:CE1	2.45	0.51
4:d:154:MET:SD	4:d:155:VAL:N	2.74	0.51
6:s:293:GLY:O	6:s:313:ASN:ND2	2.43	0.51
6:s:693:ASP:OD1	6:s:693:ASP:N	2.40	0.51
6:s:960:THR:OG1	6:s:962:GLU:OE2	2.27	0.51
7:g:62:VAL:HG22	7:g:70:LEU:HD13	1.91	0.51
13:m:90:ILE:HD13	13:m:93:LEU:HD21	1.91	0.51
5:E:982:ARG:O	5:E:985:TRP:NE1	2.42	0.51
1:n:368:LEU:HD23	1:n:459:ALA:HB2	1.92	0.51
6:f:398:LEU:HD12	6:f:429:TYR:HD2	1.75	0.51
7:t:129:GLY:HA3	7:t:180:PHE:H	1.75	0.51
7:t:600:VAL:HG13	7:t:694:VAL:HG21	1.92	0.51
8:u:699:ASN:HB3	8:u:702:GLN:HB2	1.92	0.51
10:w:17:ASP:OD1	10:w:17:ASP:N	2.42	0.51
6:s:327:PHE:HD1	6:s:328:ASP:H	1.59	0.51
5:E:626:SER:OG	5:E:627:ASP:N	2.43	0.51
6:F:656:TYR:OH	6:F:689:HIS:ND1	2.37	0.51
8:H:814:ALA:HB1	8:H:913:ASP:HB2	1.91	0.51
4:q:154:MET:HE2	4:q:156:ALA:H	1.74	0.51
5:r:483:SER:OG	5:r:484:GLU:N	2.43	0.51
5:e:193:VAL:HG12	5:e:213:ILE:HD12	1.92	0.51
5:E:1075:PHE:HZ	13:M:73:LEU:HB2	1.75	0.51
7:G:62:VAL:HG22	7:G:70:LEU:HD13	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:616:ALA:HA	7:G:619:ALA:HB3	1.92	0.51
8:H:819:TRP:CH2	8:H:858:ASP:HA	2.45	0.51
7:t:246:PRO:HD2	7:t:300:ALA:HA	1.93	0.51
8:u:828:THR:HG23	8:u:896:LYS:HB2	1.92	0.51
8:h:334:VAL:HG12	8:h:345:LEU:HD13	1.92	0.51
1:A:578:ASP:HA	1:A:581:GLN:HB3	1.91	0.51
6:F:411:ILE:HD11	6:F:418:LEU:HD11	1.92	0.51
8:H:758:PHE:HB3	8:H:779:TYR:HB3	1.91	0.51
12:L:443:LYS:HG2	12:L:587:PRO:HB3	1.93	0.51
6:f:475:LYS:HG2	6:f:490:GLY:HA2	1.93	0.51
7:t:265:ASN:ND2	7:t:268:GLN:OE1	2.43	0.51
5:e:187:SER:OG	5:e:190:ALA:O	2.28	0.51
7:g:571:ARG:HH21	7:g:708:SER:H	1.58	0.51
5:E:442:MET:HE2	5:E:442:MET:HA	1.92	0.51
6:F:921:PHE:O	6:F:1002:VAL:N	2.42	0.51
8:H:846:ASP:O	8:H:850:GLU:HG2	2.10	0.51
12:L:540:LYS:HD3	12:L:541:GLU:N	2.25	0.51
13:M:61:GLN:HE21	13:M:98:PHE:HA	1.75	0.51
1:n:345:LEU:O	1:n:349:GLN:CB	2.59	0.51
2:o:254:ALA:HB2	2:o:288:VAL:HG21	1.92	0.51
5:r:530:ARG:NH1	5:r:717:THR:O	2.43	0.51
8:u:388:VAL:HG23	8:u:400:LEU:HB3	1.91	0.51
8:u:589:LEU:HB2	8:u:594:GLN:HG2	1.93	0.51
6:s:286:SER:O	6:s:289:CYS:N	2.43	0.51
6:s:392:TRP:HH2	6:s:438:LYS:HB3	1.75	0.51
8:H:832:THR:OG1	8:H:835:GLN:OE1	2.28	0.51
2:o:134:ASN:HB3	2:o:137:LEU:HB2	1.93	0.51
5:r:387:MET:SD	5:r:387:MET:N	2.84	0.51
6:f:283:TRP:HB2	6:f:294:PHE:CE1	2.46	0.51
6:f:985:ARG:NH2	6:f:996:SER:OG	2.43	0.51
10:w:10:PHE:HA	10:w:73:ASN:HA	1.93	0.51
12:y:174:SER:HB3	12:y:311:ALA:HB2	1.93	0.51
12:y:650:ASN:OD1	12:y:650:ASN:N	2.43	0.51
7:g:600:VAL:HG13	7:g:694:VAL:HG21	1.93	0.51
13:m:78:THR:HG23	13:m:80:ASP:H	1.76	0.51
5:E:258:THR:HG23	5:E:260:LEU:H	1.76	0.51
4:q:286:LEU:O	4:q:289:MET:N	2.44	0.51
6:f:534:ILE:HG12	6:f:548:VAL:HG13	1.92	0.51
7:g:408:LEU:HB2	7:g:455:ILE:HG13	1.92	0.51
1:A:561:ILE:O	1:A:565:TYR:HB2	2.10	0.51
4:q:207:PHE:O	4:q:210:THR:OG1	2.28	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:f:515:LYS:H	6:f:529:THR:HA	1.76	0.51
6:f:1060:LYS:HE3	6:f:1061:ARG:HA	1.93	0.51
7:t:42:LEU:HD12	7:t:82:LEU:HB3	1.93	0.51
8:u:575:ASP:OD2	8:u:577:SER:OG	2.28	0.51
13:z:61:GLN:NE2	13:z:98:PHE:HA	2.26	0.51
5:e:294:GLY:HA2	5:e:317:THR:O	2.11	0.51
5:e:724:ILE:HD13	5:e:823:LEU:HD11	1.93	0.51
5:e:849:ASP:OD2	5:e:855:HIS:ND1	2.44	0.51
7:g:616:ALA:HA	7:g:619:ALA:HB3	1.93	0.51
8:h:450:ARG:NH1	8:h:466:PHE:O	2.44	0.51
5:r:70:SER:OG	5:r:72:GLU:OE1	2.29	0.51
5:r:618:SER:OG	5:r:619:LYS:NZ	2.42	0.51
5:r:792:ASP:N	5:r:792:ASP:OD1	2.41	0.51
7:t:156:LEU:HD22	7:t:180:PHE:HE1	1.76	0.51
7:t:339:ILE:HG22	7:t:349:VAL:HG22	1.91	0.51
8:u:743:ILE:HG12	8:u:921:LEU:HB3	1.92	0.51
2:b:223:ARG:HD2	2:b:224:GLN:N	2.26	0.51
7:g:522:CYS:HB3	7:g:529:PRO:HD3	1.93	0.51
4:D:154:MET:HE2	4:D:155:VAL:H	1.76	0.50
5:E:498:ASP:OD2	5:E:504:HIS:NE2	2.35	0.50
8:H:52:ARG:NH1	8:H:563:TRP:O	2.44	0.50
12:L:376:THR:HG23	12:L:672:LEU:HB3	1.92	0.50
1:n:500:LEU:HD21	1:n:533:LEU:HD22	1.92	0.50
5:r:48:LYS:NZ	5:r:149:THR:OG1	2.44	0.50
7:t:544:ALA:HA	7:t:607:LEU:HA	1.93	0.50
10:w:48:CYS:HB3	13:z:56:VAL:HG21	1.93	0.50
6:F:189:THR:HG23	6:F:191:GLY:H	1.76	0.50
7:G:657:ASP:N	7:G:657:ASP:OD1	2.43	0.50
8:H:245:THR:HG22	8:H:246:TYR:H	1.75	0.50
5:r:52:THR:OG1	5:r:53:MET:N	2.43	0.50
6:f:327:PHE:HD1	6:f:328:ASP:H	1.57	0.50
6:f:768:LEU:HD11	6:f:849:VAL:HG11	1.93	0.50
13:z:46:TYR:HA	13:z:49:MET:HG2	1.94	0.50
5:e:982:ARG:NH2	5:e:1025:LEU:O	2.42	0.50
7:g:240:LEU:HD13	7:g:254:LEU:HB3	1.94	0.50
6:F:149:MET:HE1	6:F:173:PRO:HG2	1.93	0.50
6:F:252:ILE:HD12	6:F:301:ALA:HB1	1.93	0.50
6:F:431:VAL:HG12	6:F:442:ILE:HA	1.92	0.50
2:o:339:VAL:HG21	3:p:268:ILE:HG23	1.94	0.50
5:r:752:ILE:HB	5:r:789:TYR:HB3	1.94	0.50
8:u:449:ILE:HB	8:u:468:LEU:HB3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:s:882:LYS:HE2	6:s:1044:TYR:HE1	1.77	0.50
7:g:211:MET:SD	7:g:212:VAL:N	2.85	0.50
2:B:132:SER:O	2:B:132:SER:OG	2.28	0.50
5:E:410:LEU:HD23	5:E:428:SER:HB3	1.93	0.50
6:F:132:MET:HE2	6:F:132:MET:HA	1.93	0.50
2:o:235:ALA:HB1	2:o:338:MET:HE1	1.93	0.50
5:r:294:GLY:HA2	5:r:317:THR:O	2.11	0.50
6:f:750:ILE:HD11	6:f:872:VAL:HG12	1.93	0.50
8:u:362:ARG:NH1	8:u:429:PRO:O	2.36	0.50
1:a:574:ALA:HB2	2:b:338:MET:HG3	1.94	0.50
5:e:964:ASP:OD1	5:e:964:ASP:N	2.44	0.50
6:s:831:SER:OG	6:s:1041:TYR:OH	2.24	0.50
6:s:835:MET:O	6:s:837:GLY:N	2.42	0.50
12:l:487:LEU:O	12:l:492:ASN:ND2	2.42	0.50
1:A:558:MET:HE1	2:B:286:VAL:HG13	1.93	0.50
5:E:998:MET:HE1	6:F:717:TYR:N	2.27	0.50
6:F:345:ILE:HD12	6:F:363:ALA:HB1	1.94	0.50
2:o:160:LEU:HD23	2:o:163:TRP:HD1	1.77	0.50
5:r:399:PHE:HB3	6:f:165:MET:HB2	1.94	0.50
6:f:280:ASP:OD2	6:s:284:VAL:HA	2.10	0.50
6:f:425:SER:O	6:f:427:GLN:NE2	2.44	0.50
10:w:148:ASN:HB2	10:w:164:ARG:HG3	1.93	0.50
1:a:570:ASN:HD22	2:b:335:VAL:HG12	1.76	0.50
5:e:104:PHE:HZ	7:g:268:GLN:HB3	1.76	0.50
6:s:148:LEU:HD23	6:s:657:VAL:HG12	1.92	0.50
6:s:290:PRO:O	6:s:291:ILE:C	2.55	0.50
1:A:367:ILE:HD13	1:A:387:LEU:HB3	1.92	0.50
1:A:471:ILE:HB	1:A:476:HIS:NE2	2.27	0.50
1:A:529:LEU:HA	1:A:532:MET:HG3	1.93	0.50
5:r:218:THR:HG22	5:r:220:LYS:H	1.77	0.50
7:t:398:PHE:O	7:t:503:ILE:HA	2.11	0.50
8:u:253:GLU:OE1	8:u:253:GLU:N	2.45	0.50
8:u:542:MET:HB3	8:u:546:VAL:H	1.77	0.50
2:B:217:LYS:NZ	2:B:218:LEU:HG	2.27	0.50
7:G:613:SER:HB2	7:G:677:LYS:H	1.77	0.50
6:f:223:TYR:HD2	6:s:287:PHE:HZ	1.59	0.50
6:f:339:VAL:HG13	6:f:340:LEU:HD12	1.92	0.50
8:u:121:HIS:O	8:u:611:LYS:NZ	2.44	0.50
12:y:129:ARG:NH1	12:y:644:GLU:O	2.44	0.50
4:d:78:LEU:HD22	4:d:166:LEU:HG	1.94	0.50
7:g:387:GLU:HG3	7:g:415:ARG:HA	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:250:LEU:HD23	3:C:253:LEU:HD21	1.94	0.50
8:u:281:LEU:HB3	8:u:321:ILE:HD11	1.94	0.50
2:b:221:ARG:HH21	2:b:229:LEU:HD23	1.76	0.50
6:s:398:LEU:HD12	6:s:429:TYR:HD2	1.76	0.50
7:g:684:ASN:OD1	7:g:713:GLY:N	2.45	0.50
1:A:535:LEU:HG	2:B:295:ASP:HB3	1.94	0.50
6:f:880:PRO:HA	6:f:883:ARG:HH22	1.77	0.50
10:w:70:LEU:HB2	10:w:72:LEU:HG	1.93	0.50
1:a:345:LEU:O	1:a:349:GLN:CB	2.59	0.50
3:c:223:LEU:HD11	3:c:229:TRP:HE3	1.77	0.50
5:e:533:LEU:HD23	5:e:572:ILE:HG12	1.94	0.50
7:g:544:ALA:HA	7:g:607:LEU:HA	1.94	0.50
8:h:498:TYR:HE2	8:h:505:VAL:HG12	1.77	0.50
8:h:823:GLY:H	8:h:824:ARG:HH11	1.60	0.50
1:A:425:MET:HE1	1:A:454:PHE:CG	2.47	0.49
3:C:149:GLN:HA	3:C:152:ARG:HD3	1.94	0.49
7:G:204:MET:HG3	7:G:206:GLN:HG3	1.94	0.49
7:G:542:LYS:HG3	7:G:556:ASP:HA	1.94	0.49
8:H:351:ILE:HD11	8:H:356:ILE:HD11	1.94	0.49
2:b:146:VAL:HA	2:b:149:TRP:HD1	1.77	0.49
2:b:252:ILE:O	2:b:256:THR:OG1	2.24	0.49
4:d:163:VAL:HA	4:d:166:LEU:HD12	1.94	0.49
6:s:154:MET:HE2	6:s:671:ASN:HA	1.94	0.49
7:g:615:THR:HB	7:g:666:GLU:HA	1.94	0.49
5:r:547:ASN:OD1	6:f:859:ARG:NH2	2.42	0.49
5:r:569:PHE:H	5:r:603:THR:HG21	1.77	0.49
8:u:186:GLN:OE1	8:u:187:ARG:N	2.45	0.49
12:y:234:MET:N	12:y:235:PRO:HD2	2.26	0.49
12:y:372:PRO:HG2	12:y:679:ILE:HG21	1.94	0.49
13:z:29:HIS:HA	13:z:32:VAL:HG22	1.94	0.49
6:s:71:PRO:HA	6:s:97:PRO:HD3	1.94	0.49
3:C:223:LEU:HD11	3:C:229:TRP:HE3	1.77	0.49
10:J:135:GLN:HG3	10:J:138:PHE:HD2	1.78	0.49
6:f:239:ARG:O	6:f:576:SER:OG	2.29	0.49
7:t:613:SER:HB2	7:t:677:LYS:H	1.78	0.49
6:s:595:LYS:HE2	6:s:597:ARG:HE	1.77	0.49
8:h:828:THR:OG1	8:h:829:PHE:N	2.46	0.49
5:E:991:GLU:O	5:E:996:LYS:NZ	2.45	0.49
1:n:581:GLN:OE1	2:o:346:ARG:NH2	2.46	0.49
2:o:298:TYR:O	2:o:302:GLN:NE2	2.46	0.49
5:e:516:LYS:O	5:e:525:SER:OG	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:h:493:GLN:HA	8:h:527:ILE:HB	1.93	0.49
5:E:42:THR:OG1	5:E:43:GLY:N	2.44	0.49
5:E:993:GLU:HG3	6:F:713:LYS:HD3	1.95	0.49
6:F:976:SER:O	6:F:976:SER:OG	2.29	0.49
8:H:842:ALA:HB2	8:H:869:CYS:HB3	1.93	0.49
6:f:515:LYS:HG3	6:f:530:GLU:HA	1.93	0.49
7:t:132:GLU:HG2	7:t:169:ASN:HB2	1.93	0.49
8:h:635:LYS:NZ	8:h:917:SER:O	2.45	0.49
1:A:544:ASP:O	1:A:548:GLN:NE2	2.45	0.49
5:E:62:PHE:HD2	5:E:73:ILE:HG12	1.78	0.49
10:J:148:ASN:N	10:J:148:ASN:OD1	2.43	0.49
13:M:46:TYR:HD1	13:M:49:MET:HE2	1.77	0.49
5:r:873:PRO:HG2	5:r:884:THR:HG21	1.94	0.49
6:f:95:SER:HB2	6:f:679:GLN:HG2	1.95	0.49
5:e:52:THR:OG1	5:e:53:MET:N	2.42	0.49
5:e:530:ARG:NH1	5:e:717:THR:O	2.46	0.49
8:h:217:SER:OG	8:h:220:ASP:OD1	2.28	0.49
8:h:545:ASN:OD1	8:h:570:THR:OG1	2.28	0.49
5:E:107:ARG:NH2	17:U:2:NAG:O6	2.46	0.49
5:E:915:ASN:OD1	5:E:915:ASN:N	2.41	0.49
8:H:251:ILE:HD11	8:H:301:VAL:HG22	1.93	0.49
8:H:483:SER:HA	8:H:730:VAL:HG21	1.93	0.49
5:r:533:LEU:HD23	5:r:572:ILE:HG12	1.95	0.49
6:f:226:LEU:HD12	6:f:274:LEU:HD21	1.93	0.49
6:f:551:GLN:HE22	6:f:613:LEU:HD12	1.76	0.49
7:t:673:GLN:OE1	7:t:673:GLN:N	2.34	0.49
8:u:426:LEU:HG	8:u:428:HIS:H	1.76	0.49
2:b:146:VAL:HA	2:b:149:TRP:CD1	2.48	0.49
7:g:244:MET:HG3	7:g:252:MET:HE1	1.92	0.49
8:h:841:GLU:HB2	8:h:878:GLY:H	1.78	0.49
8:h:848:MET:HE1	8:h:865:ASN:HB3	1.95	0.49
2:B:252:ILE:O	2:B:256:THR:OG1	2.18	0.49
2:B:298:TYR:HB2	3:C:222:SER:HB2	1.95	0.49
4:D:225:VAL:O	4:D:229:THR:OG1	2.30	0.49
5:E:726:GLN:NE2	5:E:749:GLN:O	2.46	0.49
6:F:49:LEU:HD11	6:F:100:LEU:HD22	1.95	0.49
13:M:61:GLN:HG2	13:M:98:PHE:HD1	1.76	0.49
3:c:169:ALA:HB1	3:c:275:MET:HE1	1.95	0.49
6:s:662:LEU:HB2	6:s:732:TYR:HB3	1.95	0.49
6:s:965:PHE:O	6:s:969:SER:OG	2.25	0.49
4:D:212:PHE:CG	4:D:220:PHE:HB3	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:953:TYR:HB3	5:E:1018:LEU:HB3	1.95	0.49
8:H:110:LYS:HB2	8:H:119:GLU:HB3	1.94	0.49
2:o:349:LEU:O	2:o:353:MET:HG2	2.13	0.49
6:f:688:LEU:HA	6:f:691:LYS:HB3	1.95	0.49
6:f:845:MET:HG2	6:f:872:VAL:HG22	1.95	0.49
8:u:470:LEU:HD13	8:u:476:LEU:HD21	1.95	0.49
8:u:480:PHE:HE1	8:u:486:PRO:HB3	1.78	0.49
8:u:525:SER:HB2	8:u:542:MET:SD	2.53	0.49
2:b:160:LEU:HD23	2:b:163:TRP:HD1	1.78	0.49
6:s:901:HIS:NE2	6:s:919:ASP:OD1	2.45	0.49
7:g:613:SER:HB2	7:g:677:LYS:H	1.78	0.49
12:l:85:PRO:HA	12:l:88:GLN:HB2	1.93	0.49
12:l:198:MET:SD	12:l:199:GLU:N	2.86	0.49
1:A:349:GLN:O	1:A:353:PHE:CB	2.61	0.49
6:F:483:ASN:ND2	6:F:539:GLU:OE1	2.43	0.49
8:H:248:MET:HE2	8:H:276:ILE:HD11	1.95	0.49
12:L:464:VAL:HG21	12:L:573:PHE:HE2	1.77	0.49
5:r:615:ILE:HG12	6:f:626:GLN:HB2	1.95	0.49
5:r:616:GLU:OE2	5:r:658:LYS:NZ	2.45	0.49
6:f:71:PRO:HB3	6:f:96:PHE:HA	1.95	0.49
6:f:662:LEU:HB2	6:f:732:TYR:HB3	1.94	0.49
7:t:145:LYS:HE2	7:t:145:LYS:N	2.28	0.49
2:b:134:ASN:OD1	2:b:134:ASN:N	2.46	0.49
5:e:446:LEU:HD13	5:e:467:VAL:HG21	1.94	0.49
6:s:241:LEU:HD11	6:s:251:PHE:HD2	1.78	0.49
6:s:283:TRP:HE3	6:s:294:PHE:CZ	2.30	0.49
8:h:220:ASP:OD1	8:h:220:ASP:N	2.42	0.49
8:h:666:THR:OG1	8:h:689:PHE:O	2.27	0.49
4:D:60:TYR:OH	4:D:118:LEU:O	2.26	0.48
8:H:632:HIS:NE2	8:H:736:GLY:O	2.41	0.48
2:o:287:THR:HA	2:o:290:ILE:HD12	1.94	0.48
6:f:283:TRP:HE3	6:f:294:PHE:CE2	2.31	0.48
8:u:564:VAL:HG21	8:u:570:THR:HG21	1.95	0.48
2:b:339:VAL:O	2:b:343:GLN:HG2	2.12	0.48
6:s:279:ILE:HD13	6:s:335:ARG:NH2	2.28	0.48
8:h:746:ARG:HH22	8:h:811:ILE:HG13	1.78	0.48
1:A:361:VAL:HG11	1:A:465:VAL:HG23	1.95	0.48
3:C:223:LEU:HB3	3:C:251:PHE:HE2	1.78	0.48
5:E:266:SER:OG	5:E:267:ASP:N	2.46	0.48
6:F:415:ARG:HB3	6:F:435:THR:HB	1.95	0.48
8:H:715:PHE:HB2	8:H:729:PRO:HG2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:q:201:MET:HE1	4:q:230:LEU:HB2	1.94	0.48
5:r:1068:VAL:HG21	13:z:98:PHE:CE2	2.48	0.48
6:f:922:GLN:HG3	6:f:924:PHE:CE1	2.47	0.48
8:u:334:VAL:HG12	8:u:345:LEU:HD13	1.94	0.48
8:u:542:MET:HG2	8:u:546:VAL:HG12	1.95	0.48
8:u:711:MET:HE3	8:u:711:MET:HA	1.95	0.48
3:c:269:MET:SD	4:d:283:THR:OG1	2.67	0.48
5:e:1072:VAL:O	5:e:1076:ILE:HG12	2.13	0.48
7:g:515:VAL:HG22	7:g:583:VAL:HG12	1.94	0.48
7:G:626:GLN:HG2	7:G:643:TRP:HZ2	1.78	0.48
8:H:583:LEU:HD12	8:H:597:THR:HG22	1.95	0.48
5:e:42:THR:OG1	5:e:43:GLY:N	2.46	0.48
8:h:743:ILE:HG12	8:h:921:LEU:HB3	1.94	0.48
8:h:941:VAL:O	8:h:945:ILE:HG13	2.13	0.48
13:m:69:ALA:HA	13:m:91:LEU:HD11	1.95	0.48
4:D:163:VAL:HA	4:D:166:LEU:HD12	1.94	0.48
6:F:781:GLN:HE22	8:H:725:LEU:HD22	1.79	0.48
7:G:517:ASN:ND2	7:G:569:CYS:O	2.37	0.48
8:H:745:VAL:HG22	8:H:800:VAL:HG12	1.95	0.48
1:n:519:PHE:HA	1:n:524:THR:HB	1.95	0.48
2:o:265:SER:HA	2:o:275:ASN:OD1	2.12	0.48
5:r:396:ARG:HH21	6:f:163:GLU:HA	1.78	0.48
5:r:874:PRO:HB3	5:r:879:ILE:HA	1.95	0.48
8:u:731:PHE:HE1	8:u:733:ILE:HD11	1.78	0.48
8:u:760:TYR:HE1	8:u:779:TYR:HB2	1.78	0.48
2:b:289:PHE:O	2:b:293:THR:HG23	2.14	0.48
5:e:166:VAL:HG13	5:e:223:ILE:HD11	1.96	0.48
7:g:285:ASP:HB3	7:g:288:HIS:HB2	1.96	0.48
1:A:345:LEU:O	1:A:349:GLN:CB	2.62	0.48
6:F:525:MET:HE3	6:F:527:VAL:HG23	1.94	0.48
8:H:831:SER:OG	8:H:832:THR:N	2.45	0.48
13:M:17:MET:SD	13:M:18:LEU:HG	2.54	0.48
1:n:491:ALA:HB2	2:o:224:GLN:HG3	1.95	0.48
5:r:546:THR:HA	6:f:630:PHE:HZ	1.78	0.48
6:f:219:PHE:HD2	6:f:275:LEU:HD13	1.78	0.48
7:t:240:LEU:HD13	7:t:254:LEU:HB3	1.94	0.48
8:u:937:SER:HB2	8:u:940:LEU:HD23	1.95	0.48
12:y:272:MET:HE1	12:y:416:ALA:N	2.28	0.48
4:d:65:LEU:HD23	10:j:106:ALA:HB2	1.96	0.48
4:d:87:LEU:HD13	4:d:93:LEU:HD11	1.96	0.48
7:g:398:PHE:O	7:g:503:ILE:HA	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:j:135:GLN:HG3	10:j:138:PHE:HB2	1.95	0.48
1:A:542:TYR:CZ	2:B:286:VAL:HG11	2.49	0.48
2:B:302:GLN:HA	2:B:305:TRP:HD1	1.78	0.48
4:D:78:LEU:HD22	4:D:166:LEU:HG	1.94	0.48
6:F:378:ILE:HG12	6:F:383:VAL:HG12	1.95	0.48
4:q:81:ASN:HB2	4:q:162:ARG:HH21	1.78	0.48
8:u:831:SER:OG	8:u:893:ASN:OD1	2.32	0.48
1:a:377:GLU:O	1:a:381:GLU:HB2	2.12	0.48
2:b:332:ASN:OD1	3:c:264:VAL:HA	2.14	0.48
8:h:911:ILE:HD12	8:h:921:LEU:HD13	1.95	0.48
3:C:82:THR:O	3:C:86:SER:OG	2.24	0.48
5:E:392:LYS:NZ	5:E:393:PRO:O	2.44	0.48
6:F:73:ASP:OD1	6:F:73:ASP:N	2.45	0.48
6:F:987:THR:HB	6:F:994:ILE:HD11	1.95	0.48
8:H:218:SER:HB3	8:H:246:TYR:HE1	1.78	0.48
6:f:69:HIS:HB2	6:f:324:ILE:HD11	1.95	0.48
6:f:283:TRP:CE3	6:f:294:PHE:CE2	3.01	0.48
7:t:387:GLU:HG3	7:t:415:ARG:HA	1.96	0.48
7:t:444:THR:HG23	7:t:446:ASP:H	1.78	0.48
5:e:86:MET:HE3	5:e:99:PHE:CE1	2.49	0.48
5:e:918:SER:H	5:e:921:MET:HB3	1.79	0.48
8:h:120:ARG:NH1	8:h:605:GLU:OE1	2.46	0.48
2:B:182:VAL:HG11	2:B:214:ARG:HB2	1.96	0.48
6:f:269:PHE:HB2	6:f:587:LEU:HD21	1.96	0.48
8:u:356:ILE:HD13	8:u:384:SER:HB2	1.94	0.48
5:e:752:ILE:HB	5:e:789:TYR:HB3	1.96	0.48
6:s:323:TYR:HB3	6:s:326:LEU:HD12	1.95	0.48
7:g:397:MET:HG2	7:g:502:LEU:HB3	1.94	0.48
1:A:338:LEU:HD11	1:A:340:LEU:HD23	1.95	0.48
4:D:160:PRO:HA	4:D:163:VAL:HG22	1.94	0.48
5:E:759:THR:OG1	5:E:762:ILE:O	2.31	0.48
6:F:796:THR:HB	6:F:846:MET:HB3	1.94	0.48
7:G:669:VAL:O	7:G:676:ASN:ND2	2.44	0.48
5:r:91:SER:OG	5:r:735:ASN:ND2	2.46	0.48
6:f:392:TRP:HH2	6:f:438:LYS:HB3	1.78	0.48
7:t:405:LYS:HD2	7:t:458:LYS:HD2	1.95	0.48
10:w:76:ARG:NH2	10:w:77:GLY:O	2.47	0.48
5:e:36:SER:OG	5:e:38:GLU:OE2	2.31	0.48
5:e:396:ARG:HH21	6:s:163:GLU:HA	1.79	0.48
6:s:278:SER:O	6:s:279:ILE:C	2.57	0.48
6:s:768:LEU:HD11	6:s:849:VAL:HG11	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:s:987:THR:HB	6:s:994:ILE:HD11	1.96	0.48
8:h:456:ALA:O	8:h:459:GLN:NE2	2.47	0.48
1:A:516:PRO:HA	1:A:519:PHE:CE1	2.49	0.48
5:E:226:ASP:OD1	5:E:228:THR:OG1	2.30	0.48
6:F:952:THR:O	6:F:955:THR:OG1	2.31	0.48
2:o:146:VAL:HA	2:o:149:TRP:HD1	1.79	0.48
3:p:197:CYS:HB3	4:q:156:ALA:HB2	1.95	0.48
5:r:568:ARG:HA	5:r:603:THR:HG21	1.96	0.48
6:f:122:GLY:HA3	6:f:192:ILE:HD11	1.95	0.48
6:f:658:ALA:O	6:f:678:TYR:OH	2.32	0.48
8:u:913:ASP:HB3	8:u:916:TYR:HB2	1.94	0.48
4:d:116:VAL:O	4:d:120:TRP:HD1	1.96	0.48
5:e:547:ASN:OD1	6:s:859:ARG:NH2	2.47	0.48
6:s:537:PHE:HB2	6:s:544:VAL:HG12	1.95	0.48
8:h:665:MET:SD	8:h:666:THR:N	2.87	0.48
8:h:913:ASP:HB3	8:h:916:TYR:HB2	1.95	0.48
12:l:146:VAL:HA	12:l:149:ILE:HD11	1.95	0.48
4:D:216:VAL:HG21	4:D:246:PHE:HB3	1.95	0.47
5:E:721:ASN:OD1	5:E:721:ASN:N	2.46	0.47
5:E:880:SER:HA	5:E:898:ARG:HH21	1.78	0.47
6:F:883:ARG:HG2	6:F:928:GLN:HB2	1.95	0.47
5:r:31:THR:HG1	5:r:63:ARG:HH12	1.59	0.47
6:f:223:TYR:CD2	6:s:287:PHE:CZ	2.99	0.47
6:f:241:LEU:HD11	6:f:251:PHE:HD1	1.79	0.47
6:f:1012:CYS:HB3	6:f:1055:LEU:HD11	1.95	0.47
8:u:932:MET:O	8:u:934:PRO:HD3	2.14	0.47
12:y:464:VAL:HG21	12:y:573:PHE:HE2	1.79	0.47
3:c:75:ILE:H	3:c:75:ILE:HD12	1.79	0.47
6:s:127:VAL:HG11	6:s:172:THR:HG21	1.95	0.47
6:s:364:LEU:HD13	6:s:364:LEU:HA	1.76	0.47
6:s:827:LYS:HA	6:s:827:LYS:HD2	1.55	0.47
12:l:464:VAL:HG21	12:l:573:PHE:CE2	2.49	0.47
5:E:169:GLU:O	5:E:170:MET:HG3	2.15	0.47
8:H:900:THR:OG1	8:H:901:TYR:N	2.46	0.47
10:J:16:LEU:HD12	10:J:65:ILE:HD12	1.96	0.47
1:n:456:SER:HB2	4:q:210:THR:HG21	1.95	0.47
2:o:262:ARG:HH11	2:o:266:ARG:HD2	1.79	0.47
5:r:266:SER:OG	5:r:267:ASP:N	2.47	0.47
10:w:21:LYS:HA	10:w:24:MET:SD	2.54	0.47
5:e:483:SER:HB2	5:e:576:LYS:HE3	1.96	0.47
6:s:288:TYR:CD1	6:s:289:CYS:N	2.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:j:17:ASP:OD1	10:j:17:ASP:N	2.41	0.47
7:G:224:TYR:HA	7:G:227:ASN:HB3	1.96	0.47
8:H:431:GLU:HG2	8:H:455:SER:HA	1.95	0.47
4:q:163:VAL:HA	4:q:166:LEU:HD12	1.95	0.47
5:r:662:ILE:HG13	5:r:700:TRP:HB3	1.95	0.47
7:t:436:ALA:HB2	7:t:455:ILE:HD12	1.95	0.47
8:u:87:CYS:HB3	8:u:101:CYS:HB2	1.81	0.47
8:u:115:ASN:OD1	8:u:115:ASN:N	2.41	0.47
6:s:149:MET:HE3	6:s:173:PRO:HG2	1.97	0.47
7:g:68:VAL:HG21	7:g:95:ILE:HD13	1.96	0.47
10:J:69:ARG:NH1	10:J:82:SER:OG	2.46	0.47
8:u:248:MET:HE3	8:u:248:MET:H	1.79	0.47
1:a:429:ASP:HB2	1:a:451:LEU:HD13	1.96	0.47
5:e:87:ILE:HB	5:e:134:LYS:HB3	1.97	0.47
5:e:559:MET:HE1	5:e:564:GLN:HA	1.95	0.47
5:e:655:ASP:HA	5:e:658:LYS:HD2	1.96	0.47
6:s:519:ASN:OD1	6:s:520:SER:N	2.47	0.47
8:h:485:MET:SD	8:h:486:PRO:HD2	2.54	0.47
8:h:937:SER:HB2	8:h:940:LEU:HD23	1.95	0.47
4:D:216:VAL:HG22	4:D:219:HIS:HE1	1.80	0.47
5:E:947:LYS:HE3	5:E:947:LYS:HB3	1.75	0.47
8:H:760:TYR:HE1	8:H:779:TYR:HB2	1.79	0.47
8:H:819:TRP:CZ3	8:H:858:ASP:HA	2.49	0.47
3:p:269:MET:HA	3:p:272:GLU:HB3	1.96	0.47
5:r:42:THR:OG1	5:r:43:GLY:N	2.47	0.47
5:r:226:ASP:OD1	5:r:228:THR:OG1	2.31	0.47
6:f:127:VAL:HG11	6:f:172:THR:HG21	1.96	0.47
6:f:493:ILE:HB	6:f:505:LEU:HD13	1.96	0.47
6:f:882:LYS:HE2	6:f:1044:TYR:HE1	1.78	0.47
7:t:684:ASN:OD1	7:t:713:GLY:N	2.48	0.47
8:u:823:GLY:H	8:u:824:ARG:HH11	1.62	0.47
10:w:141:ARG:HA	10:w:141:ARG:HD3	1.70	0.47
12:y:286:LYS:HB2	12:y:526:VAL:HG11	1.96	0.47
6:s:387:MET:SD	6:s:389:PRO:HD2	2.55	0.47
7:g:132:GLU:HG3	7:g:171:TYR:HE1	1.79	0.47
7:g:517:ASN:ND2	7:g:569:CYS:O	2.47	0.47
8:h:253:GLU:N	8:h:253:GLU:OE1	2.47	0.47
8:h:575:ASP:OD2	8:h:577:SER:OG	2.31	0.47
8:h:761:VAL:HG22	8:h:776:LYS:HD2	1.97	0.47
1:A:536:ASP:OD2	4:D:239:TRP:NE1	2.47	0.47
6:F:761:TRP:HB3	6:F:825:ILE:HG23	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:938:PHE:HE2	6:F:942:TYR:HB3	1.79	0.47
10:J:32:PHE:CE2	10:J:50:PRO:HG2	2.49	0.47
13:M:78:THR:HG23	13:M:80:ASP:H	1.80	0.47
1:n:452:LYS:HA	1:n:455:LYS:HG2	1.97	0.47
5:r:1025:LEU:HD13	5:r:1048:TYR:HD1	1.79	0.47
6:f:295:SER:O	6:f:297:THR:N	2.48	0.47
7:t:443:ASN:HA	7:t:449:SER:HA	1.97	0.47
8:u:214:LEU:HD21	8:u:244:LEU:HD11	1.95	0.47
2:b:132:SER:O	2:b:132:SER:OG	2.28	0.47
6:s:534:ILE:HG22	6:s:548:VAL:HG13	1.96	0.47
6:s:762:PHE:HE1	6:s:874:ILE:HD12	1.79	0.47
6:s:795:VAL:HG11	6:s:805:VAL:HG11	1.97	0.47
7:g:204:MET:HA	7:g:204:MET:HE3	1.97	0.47
7:g:375:MET:CE	8:h:651:ARG:HE	2.24	0.47
1:A:566:PHE:O	1:A:570:ASN:HB2	2.14	0.47
4:D:173:VAL:HG12	4:D:175:PRO:HD2	1.95	0.47
5:E:900:GLN:O	5:E:904:SER:OG	2.24	0.47
6:F:433:PHE:HD1	6:F:440:LEU:HB2	1.79	0.47
8:H:281:LEU:HB3	8:H:321:ILE:HD11	1.96	0.47
8:H:841:GLU:HB3	8:H:876:LYS:HB3	1.95	0.47
12:L:400:GLN:HG3	12:L:407:PRO:HG3	1.97	0.47
5:r:593:MET:HA	5:r:593:MET:HE3	1.96	0.47
6:f:101:GLN:HE21	6:f:171:TYR:HE1	1.62	0.47
6:f:946:VAL:HA	6:f:1029:LEU:HB3	1.97	0.47
8:u:391:GLY:HA2	8:u:397:PHE:HB3	1.95	0.47
8:u:451:ILE:HG21	8:u:503:PHE:HE2	1.78	0.47
8:u:961:PHE:HD1	8:u:964:LEU:HD12	1.80	0.47
10:w:59:TRP:CZ2	13:z:17:MET:HE3	2.50	0.47
2:b:154:SER:HA	2:b:157:VAL:HG22	1.96	0.47
6:s:156:SER:HB3	6:s:167:VAL:HG13	1.96	0.47
8:h:519:SER:HB2	8:h:524:GLY:HA2	1.97	0.47
8:h:665:MET:HE2	8:h:665:MET:HA	1.95	0.47
8:h:756:ARG:HD3	12:l:543:LEU:HD11	1.97	0.47
8:h:760:TYR:HE1	8:h:779:TYR:HB2	1.80	0.47
2:B:146:VAL:HA	2:B:149:TRP:CD1	2.50	0.47
3:C:309:MET:HE2	3:C:309:MET:HA	1.96	0.47
6:F:659:LEU:HB2	6:F:737:ALA:HB1	1.97	0.47
10:J:70:LEU:HD12	10:J:72:LEU:HD11	1.97	0.47
2:o:98:TRP:CH2	8:u:960:TYR:HA	2.49	0.47
5:r:538:ILE:HB	5:r:554:HIS:HB3	1.97	0.47
12:y:122:GLN:HG3	12:y:132:TRP:HB2	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:582:MET:H	1:a:582:MET:HE3	1.80	0.47
5:E:126:ALA:HB3	5:E:155:ARG:HH21	1.79	0.47
6:F:129:ILE:HB	6:F:147:ILE:HG23	1.97	0.47
6:F:514:ILE:HG23	6:F:527:VAL:HG13	1.97	0.47
4:q:88:ARG:NH1	4:q:159:TYR:OH	2.48	0.47
8:u:530:VAL:HG22	8:u:540:VAL:HG22	1.97	0.47
1:A:345:LEU:O	1:A:349:GLN:HB2	2.15	0.47
3:C:269:MET:HE2	4:D:286:LEU:HD23	1.97	0.47
4:q:225:VAL:O	4:q:229:THR:OG1	2.32	0.47
6:f:488:ILE:HB	6:f:494:LEU:HB2	1.96	0.47
6:f:595:LYS:HE2	6:f:597:ARG:HH21	1.80	0.47
6:f:858:GLN:N	6:f:867:GLN:OE1	2.48	0.47
6:f:881:GLY:H	6:f:883:ARG:HH12	1.63	0.47
8:u:671:LEU:HD11	8:u:682:LYS:HG2	1.97	0.47
5:e:692:ASN:O	5:e:694:LYS:NZ	2.48	0.47
6:F:156:SER:HB3	6:F:167:VAL:HG13	1.97	0.46
6:F:1006:CYS:HB2	6:F:1012:CYS:HB2	1.80	0.46
6:F:1008:GLU:HG3	6:F:1013:TYR:CZ	2.50	0.46
8:H:376:LYS:HA	8:H:376:LYS:HD2	1.63	0.46
8:H:841:GLU:HB2	8:H:878:GLY:H	1.79	0.46
3:p:59:THR:HG21	3:p:93:VAL:HG21	1.97	0.46
3:p:197:CYS:SG	4:q:155:VAL:HG12	2.54	0.46
6:f:387:MET:SD	6:f:389:PRO:HD2	2.56	0.46
6:f:656:TYR:HB3	6:f:685:LEU:HD21	1.95	0.46
7:t:513:ILE:HG13	7:t:705:THR:HB	1.97	0.46
8:u:476:LEU:HD13	8:u:492:ASP:HB3	1.96	0.46
8:u:964:LEU:HA	8:u:967:TYR:CD1	2.50	0.46
13:z:45:ASN:HD22	13:z:48:HIS:HB2	1.81	0.46
4:d:200:PHE:HA	4:d:203:VAL:HG22	1.97	0.46
6:s:912:MET:SD	6:s:1051:HIS:ND1	2.88	0.46
12:l:169:LEU:HA	12:l:172:LEU:HD12	1.97	0.46
13:M:78:THR:HG21	13:M:83:LEU:HD22	1.97	0.46
4:q:155:VAL:HG13	4:q:159:TYR:CD2	2.51	0.46
5:r:363:ASP:OD2	5:r:366:THR:OG1	2.30	0.46
6:f:282:CYS:HB2	6:f:315:LEU:CD1	2.45	0.46
6:f:558:ASN:HD22	6:f:562:MET:HE1	1.80	0.46
6:f:760:ASN:OD1	6:f:760:ASN:N	2.47	0.46
6:f:827:LYS:HA	6:f:827:LYS:HD2	1.56	0.46
6:f:960:THR:OG1	6:f:962:GLU:OE2	2.32	0.46
8:u:756:ARG:HG2	12:y:552:PHE:HB3	1.96	0.46
2:b:262:ARG:HH11	2:b:266:ARG:HD2	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:e:266:SER:OG	5:e:267:ASP:N	2.48	0.46
6:s:279:ILE:HG12	6:s:336:TRP:CB	2.45	0.46
6:s:304:THR:HG23	6:s:305:GLU:O	2.15	0.46
6:s:351:VAL:HG21	6:s:360:TYR:HB2	1.98	0.46
7:g:513:ILE:HG23	7:g:703:LEU:HD22	1.97	0.46
5:E:767:MET:HE2	5:E:767:MET:HB2	1.76	0.46
5:E:913:CYS:HB2	5:E:938:ASP:HB3	1.98	0.46
6:F:501:GLU:HG2	8:H:176:VAL:HG13	1.98	0.46
10:J:10:PHE:HA	10:J:73:ASN:HA	1.97	0.46
10:J:78:MET:SD	10:J:80:HIS:HB2	2.56	0.46
12:L:487:LEU:O	12:L:492:ASN:ND2	2.42	0.46
5:r:36:SER:OG	5:r:38:GLU:OE2	2.34	0.46
6:f:287:PHE:O	6:f:288:TYR:C	2.55	0.46
6:f:659:LEU:HB2	6:f:737:ALA:HB1	1.98	0.46
7:t:615:THR:HB	7:t:666:GLU:HA	1.97	0.46
8:u:764:LYS:HA	8:u:764:LYS:HD3	1.83	0.46
5:e:863:MET:O	5:e:863:MET:HE3	2.15	0.46
5:e:867:LEU:HD12	5:e:868:PRO:CD	2.40	0.46
5:e:1068:VAL:HG21	13:m:98:PHE:CE2	2.50	0.46
7:g:616:ALA:HB2	7:g:667:TYR:HB2	1.96	0.46
1:A:368:LEU:HD23	1:A:459:ALA:HB2	1.95	0.46
1:A:373:PHE:HA	4:D:223:MET:SD	2.56	0.46
6:F:52:ASN:O	6:F:98:TYR:HA	2.15	0.46
7:G:30:VAL:HG11	8:H:465:ASP:HA	1.97	0.46
8:H:826:ASP:HB2	8:H:898:PRO:HG2	1.98	0.46
1:n:546:ARG:HA	1:n:546:ARG:HD2	1.76	0.46
3:p:134:ILE:HG21	7:t:723:LEU:HD22	1.97	0.46
5:r:414:MET:HB3	5:r:425:VAL:HG22	1.97	0.46
5:r:432:VAL:HG13	5:r:441:GLU:HG2	1.97	0.46
5:r:773:GLY:O	5:r:798:ARG:NE	2.48	0.46
6:f:223:TYR:HD2	6:s:287:PHE:CZ	2.32	0.46
6:f:378:ILE:HG23	6:f:383:VAL:HG22	1.98	0.46
7:t:347:LEU:HB3	7:t:368:VAL:HB	1.96	0.46
8:u:190:ILE:HD11	8:u:223:LYS:HD3	1.97	0.46
8:u:293:ASP:OD1	8:u:296:GLN:N	2.48	0.46
8:u:426:LEU:HD12	8:u:486:PRO:HG3	1.98	0.46
5:e:48:LYS:HZ2	5:e:149:THR:HG1	1.60	0.46
5:e:773:GLY:O	5:e:798:ARG:NE	2.48	0.46
8:h:251:ILE:HD12	8:h:337:ARG:HH21	1.80	0.46
12:l:250:THR:HA	12:l:253:CYS:HB2	1.97	0.46
2:B:174:ALA:O	2:B:177:VAL:HG22	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:946:PHE:HB2	5:E:1049:VAL:HG12	1.96	0.46
6:F:904:ASP:OD1	6:F:904:ASP:N	2.49	0.46
12:L:372:PRO:HG2	12:L:679:ILE:HG21	1.97	0.46
12:L:382:VAL:HG13	12:L:616:ALA:HB2	1.98	0.46
2:o:146:VAL:HA	2:o:149:TRP:CD1	2.49	0.46
4:q:108:VAL:HA	4:q:111:ILE:HG12	1.98	0.46
5:r:532:ASP:OD2	5:r:711:ARG:NH2	2.37	0.46
5:r:918:SER:H	5:r:921:MET:HB3	1.81	0.46
6:s:62:SER:HA	16:BA:2:NAG:H3	1.98	0.46
6:s:373:ILE:H	6:s:389:PRO:HG2	1.80	0.46
7:g:131:SER:OG	7:g:171:TYR:OH	2.25	0.46
1:A:580:PHE:HB2	4:D:280:VAL:HG11	1.96	0.46
5:E:566:LYS:HE3	5:E:566:LYS:HB2	1.80	0.46
6:F:129:ILE:HG12	6:F:185:VAL:HG22	1.98	0.46
3:p:269:MET:CE	4:q:286:LEU:HB2	2.45	0.46
8:u:216:MET:HE2	8:u:246:TYR:CE1	2.51	0.46
12:y:404:LEU:HD12	12:y:561:ASP:HB3	1.98	0.46
4:d:182:VAL:HA	4:d:185:GLN:HB2	1.98	0.46
4:d:189:ASP:HB3	4:d:281:VAL:HG13	1.97	0.46
5:e:136:THR:OG1	5:e:138:HIS:O	2.32	0.46
6:s:803:LEU:HD11	6:s:874:ILE:HG21	1.97	0.46
6:s:887:ASP:HB2	6:s:924:PHE:HB2	1.97	0.46
8:h:564:VAL:HG21	8:h:570:THR:HG21	1.96	0.46
2:B:234:ARG:HD3	2:B:345:ILE:HD11	1.97	0.46
6:F:576:SER:HB3	6:F:587:LEU:HD21	1.98	0.46
8:H:753:CYS:HB3	8:H:786:CYS:HB2	1.69	0.46
5:r:548:GLU:OE1	5:r:606:HIS:NE2	2.37	0.46
7:t:172:PHE:HD1	7:t:183:MET:HE2	1.81	0.46
7:t:230:MET:HA	7:t:230:MET:HE2	1.97	0.46
7:t:721:GLN:H	7:t:721:GLN:CD	2.24	0.46
8:u:329:LEU:HB2	8:u:359:PHE:CE1	2.51	0.46
8:u:476:LEU:HD12	8:u:490:MET:HG2	1.97	0.46
5:e:31:THR:HG1	5:e:63:ARG:HH12	1.62	0.46
5:e:867:LEU:HD11	5:e:871:TYR:CD2	2.51	0.46
7:g:434:PHE:HA	7:g:456:GLU:O	2.16	0.46
12:l:238:ILE:HA	12:l:605:LEU:HD23	1.97	0.46
8:H:844:THR:OG1	8:H:845:TRP:N	2.49	0.46
5:r:116:ARG:NH2	5:r:152:ASP:OD1	2.46	0.46
6:f:181:VAL:HG12	6:f:205:MET:HG2	1.98	0.46
6:f:525:MET:HG2	6:f:537:PHE:HD2	1.81	0.46
6:f:595:LYS:HE2	6:f:597:ARG:HE	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:f:721:LEU:HB3	6:f:727:ALA:HB2	1.98	0.46
7:t:370:VAL:O	7:t:374:LEU:HG	2.16	0.46
12:y:417:PHE:HD1	12:y:575:PHE:HZ	1.64	0.46
13:z:72:SER:HB2	13:z:87:ALA:HB1	1.98	0.46
5:e:188:PRO:HB3	5:e:300:GLU:HG3	1.98	0.46
5:e:226:ASP:OD1	5:e:228:THR:OG1	2.32	0.46
1:A:578:ASP:O	1:A:582:MET:HE2	2.16	0.46
3:C:63:ASN:ND2	3:C:149:GLN:OE1	2.43	0.46
5:E:562:ASN:OD1	5:E:563:ILE:N	2.49	0.46
10:J:96:VAL:O	10:J:149:ILE:HD12	2.15	0.46
12:L:318:SER:O	12:L:322:VAL:HG23	2.16	0.46
2:o:294:LEU:HD23	2:o:294:LEU:HA	1.83	0.46
5:r:387:MET:SD	5:r:398:LYS:HB2	2.56	0.46
6:f:333:SER:OG	6:f:335:ARG:O	2.34	0.46
12:y:508:ARG:HB3	12:y:544:ALA:H	1.80	0.46
1:a:423:MET:HA	1:a:423:MET:HE3	1.98	0.46
6:s:96:PHE:CZ	6:s:683:TYR:HA	2.51	0.46
6:s:658:ALA:O	6:s:678:TYR:OH	2.30	0.46
7:g:142:CYS:HB3	7:g:149:CYS:HB2	1.86	0.46
12:l:505:ILE:HB	12:l:516:PRO:HG3	1.98	0.46
4:D:207:PHE:O	4:D:210:THR:OG1	2.33	0.46
5:E:747:ASP:HA	5:E:793:ILE:O	2.16	0.46
7:G:241:GLU:O	7:G:254:LEU:HA	2.16	0.46
12:L:640:CYS:HB3	12:L:644:GLU:HB2	1.97	0.46
13:M:4:ARG:HH11	13:z:3:TRP:HH2	1.64	0.46
4:q:65:LEU:HD23	10:w:106:ALA:HB2	1.98	0.46
4:q:254:ALA:C	4:q:255:MET:HE2	2.41	0.46
5:r:426:TYR:HB2	5:r:451:VAL:HG21	1.98	0.46
6:f:781:GLN:HA	8:u:725:LEU:HB2	1.98	0.46
12:y:120:ILE:HD11	12:y:303:TRP:HE1	1.81	0.46
3:c:114:TYR:HE1	3:c:158:SER:HB3	1.80	0.46
5:e:70:SER:OG	5:e:72:GLU:OE1	2.30	0.46
7:g:491:LEU:HD23	7:g:491:LEU:HA	1.80	0.46
18:Y:3:BMA:O6	18:Y:3:BMA:O4	2.28	0.46
3:C:261:ASN:OD1	3:C:262:MET:N	2.49	0.45
5:E:865:LYS:HB2	5:E:945:ARG:HD2	1.97	0.45
7:G:204:MET:HA	7:G:428:ASN:HB2	1.98	0.45
8:H:485:MET:HE3	8:H:485:MET:HB3	1.68	0.45
8:H:828:THR:OG1	8:H:829:PHE:N	2.49	0.45
6:f:49:LEU:HD11	6:f:100:LEU:HG	1.98	0.45
6:f:96:PHE:HB2	6:f:679:GLN:HE21	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:f:803:LEU:HD11	6:f:874:ILE:HG21	1.98	0.45
6:f:1017:PRO:HG3	6:f:1023:PRO:HD3	1.98	0.45
7:t:424:VAL:HG13	7:t:484:VAL:HG22	1.98	0.45
7:t:517:ASN:ND2	7:t:569:CYS:O	2.47	0.45
8:u:214:LEU:HD12	8:u:215:PRO:HD2	1.98	0.45
8:u:742:TYR:HA	8:u:921:LEU:HD23	1.96	0.45
13:z:78:THR:HG21	13:z:83:LEU:HD22	1.98	0.45
1:a:349:GLN:O	1:a:353:PHE:CB	2.63	0.45
5:e:593:MET:HA	5:e:593:MET:HE3	1.98	0.45
6:s:850:LEU:HD23	8:h:128:TYR:HB3	1.98	0.45
12:l:174:SER:HB3	12:l:311:ALA:HB2	1.97	0.45
2:B:162:MET:HA	2:B:162:MET:HE3	1.97	0.45
5:E:372:LEU:HB2	5:E:414:MET:CE	2.47	0.45
7:G:438:LEU:HD13	7:G:453:LEU:HB3	1.97	0.45
12:L:508:ARG:HA	12:L:508:ARG:HD2	1.69	0.45
4:q:200:PHE:HA	4:q:203:VAL:HG22	1.98	0.45
6:f:113:GLU:OE2	6:f:116:ARG:NE	2.46	0.45
6:f:289:CYS:HA	6:f:344:CYS:SG	2.55	0.45
7:t:131:SER:OG	7:t:171:TYR:OH	2.31	0.45
12:y:399:LEU:HB3	12:y:405:ILE:HG13	1.97	0.45
1:a:522:ILE:HG22	2:b:124:MET:HE2	1.99	0.45
6:s:181:VAL:HG21	6:s:249:PRO:HG3	1.98	0.45
6:s:493:ILE:HB	6:s:505:LEU:HD13	1.98	0.45
7:g:401:ASP:O	7:g:404:SER:OG	2.27	0.45
8:h:466:PHE:HZ	8:h:488:ILE:HD11	1.80	0.45
8:h:900:THR:OG1	8:h:901:TYR:N	2.47	0.45
10:j:150:ASN:ND2	10:j:163:VAL:HG23	2.31	0.45
5:E:874:PRO:O	5:E:982:ARG:NH1	2.46	0.45
10:J:53:GLY:C	10:J:54:MET:HE2	2.41	0.45
10:J:141:ARG:HD3	10:J:141:ARG:HA	1.71	0.45
12:L:250:THR:HA	12:L:253:CYS:HB2	1.97	0.45
6:f:492:PHE:HB2	6:f:504:PHE:HE1	1.81	0.45
6:f:531:ASN:HB3	6:f:533:GLU:HG2	1.98	0.45
8:u:181:MET:HB3	8:u:186:GLN:HB3	1.98	0.45
8:u:592:LYS:HB2	8:u:592:LYS:HE2	1.81	0.45
8:u:803:TYR:HA	8:u:808:PHE:HA	1.98	0.45
12:y:122:GLN:HA	12:y:127:LEU:HD13	1.98	0.45
5:e:553:ALA:HB3	5:e:603:THR:OG1	2.16	0.45
6:s:79:PHE:HZ	6:s:680:GLY:HA3	1.82	0.45
6:s:425:SER:O	6:s:427:GLN:NE2	2.49	0.45
6:s:850:LEU:HA	6:s:850:LEU:HD12	1.66	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:s:987:THR:O	6:s:990:LYS:NZ	2.45	0.45
2:B:253:PHE:CE1	2:B:322:TRP:HB2	2.52	0.45
7:G:508:ASP:N	7:G:701:CYS:SG	2.88	0.45
8:H:708:THR:OG1	8:H:735:VAL:O	2.33	0.45
12:L:413:LEU:HB3	12:L:571:PHE:HZ	1.82	0.45
3:p:100:MET:SD	3:p:101:LYS:HG3	2.56	0.45
5:r:187:SER:OG	5:r:190:ALA:O	2.35	0.45
6:f:53:LYS:HE2	6:f:53:LYS:HB2	1.75	0.45
6:f:665:GLU:OE1	6:f:669:PHE:N	2.41	0.45
8:u:485:MET:HE2	8:u:485:MET:HA	1.98	0.45
13:z:30:MET:HE2	13:z:30:MET:N	2.30	0.45
1:a:345:LEU:O	1:a:349:GLN:HB2	2.16	0.45
5:e:711:ARG:NH1	5:e:713:TRP:O	2.50	0.45
5:e:953:TYR:HB3	5:e:1018:LEU:HB3	1.98	0.45
6:s:269:PHE:HB2	6:s:587:LEU:HD21	1.98	0.45
8:h:817:ILE:HD13	8:h:912:LEU:HD13	1.99	0.45
13:m:9:VAL:HB	13:m:10:LEU:HG	1.99	0.45
7:G:275:LEU:HD12	7:G:284:LEU:HD22	1.98	0.45
7:G:586:TRP:NE1	7:G:591:VAL:HG22	2.31	0.45
8:H:356:ILE:HD13	8:H:384:SER:HB2	1.97	0.45
8:H:819:TRP:O	8:H:907:TYR:HA	2.16	0.45
10:J:17:ASP:OD1	10:J:17:ASP:N	2.40	0.45
10:J:44:GLN:NE2	13:M:54:THR:H	2.13	0.45
4:q:154:MET:HE2	4:q:155:VAL:N	2.32	0.45
4:q:189:ASP:HB3	4:q:281:VAL:HG13	1.98	0.45
6:f:287:PHE:CZ	6:s:223:TYR:CD2	3.04	0.45
6:f:329:LYS:O	6:f:329:LYS:NZ	2.35	0.45
6:f:513:THR:HG23	6:f:530:GLU:HB2	1.99	0.45
8:u:839:ILE:HD13	8:u:872:TYR:HB2	1.99	0.45
12:y:508:ARG:HA	12:y:508:ARG:HD2	1.68	0.45
1:a:492:ILE:HD12	1:a:571:LEU:HD13	1.98	0.45
6:s:555:THR:HA	6:s:558:ASN:OD1	2.16	0.45
6:s:750:ILE:HD11	6:s:872:VAL:HG12	1.97	0.45
1:A:581:GLN:OE1	2:B:346:ARG:NH2	2.49	0.45
3:C:199:PHE:HB2	3:C:210:TRP:HB2	1.99	0.45
5:E:372:LEU:HB2	5:E:414:MET:HE1	1.98	0.45
7:G:344:ILE:HD13	7:G:497:LYS:HD3	1.99	0.45
8:H:833:MET:HB3	8:H:881:GLY:N	2.29	0.45
3:p:114:TYR:HE1	3:p:158:SER:HB3	1.81	0.45
3:p:153:ILE:O	3:p:157:ILE:HG12	2.17	0.45
7:t:334:SER:O	7:t:334:SER:OG	2.33	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:w:73:ASN:O	10:w:75:THR:N	2.49	0.45
3:c:100:MET:SD	3:c:101:LYS:HG3	2.57	0.45
5:e:976:MET:HE2	5:e:976:MET:HA	1.98	0.45
6:s:652:ARG:NH2	6:s:880:PRO:O	2.50	0.45
8:h:252:SER:OG	8:h:339:GLU:OE2	2.34	0.45
7:G:187:LYS:HG3	7:G:222:MET:HE2	1.99	0.45
2:o:182:VAL:HG11	2:o:214:ARG:HB2	1.99	0.45
5:r:457:SER:OG	5:r:459:TYR:O	2.27	0.45
8:u:384:SER:O	8:u:384:SER:OG	2.26	0.45
12:y:659:MET:HE2	12:y:659:MET:HB2	1.76	0.45
6:s:219:PHE:HD2	6:s:275:LEU:HD13	1.82	0.45
1:A:586:LYS:HB2	1:A:586:LYS:HE2	1.83	0.45
5:E:166:VAL:HG13	5:E:223:ILE:HD11	1.98	0.45
5:E:874:PRO:C	5:E:982:ARG:HH12	2.24	0.45
7:G:131:SER:OG	7:G:171:TYR:OH	2.33	0.45
7:G:699:SER:OG	7:G:700:TYR:N	2.50	0.45
5:r:729:LEU:HA	5:r:732:MET:HE1	1.99	0.45
6:f:644:VAL:HG12	6:f:764:ILE:HG23	1.97	0.45
7:t:402:MET:HE3	7:t:699:SER:HA	1.99	0.45
1:a:570:ASN:HD21	2:b:335:VAL:HA	1.82	0.45
4:d:61:ILE:HA	4:d:65:LEU:HD13	1.99	0.45
4:d:155:VAL:HG13	4:d:159:TYR:CD2	2.52	0.45
5:e:89:THR:HG23	5:e:132:MET:HB2	1.98	0.45
5:e:360:PHE:HA	5:e:370:ILE:O	2.17	0.45
6:s:132:MET:HE3	6:s:182:VAL:HG11	1.99	0.45
6:s:546:GLN:HE21	6:s:549:PRO:HG2	1.82	0.45
6:s:878:CYS:HB2	6:s:882:LYS:NZ	2.32	0.45
7:g:224:TYR:HA	7:g:227:ASN:HB3	1.99	0.45
2:B:256:THR:HG23	3:C:147:GLY:HA2	1.99	0.45
5:E:392:LYS:HE3	5:E:392:LYS:HB3	1.87	0.45
6:F:372:TYR:HA	6:F:389:PRO:HG2	1.99	0.45
6:F:833:GLN:O	6:F:1034:ARG:NH2	2.50	0.45
7:G:42:LEU:HD21	7:G:84:VAL:HG23	1.98	0.45
7:G:546:ASP:O	7:G:556:ASP:N	2.50	0.45
8:H:632:HIS:HE2	8:H:736:GLY:C	2.25	0.45
10:J:18:THR:HB	10:J:60:LEU:HD12	1.98	0.45
13:M:30:MET:HA	13:M:30:MET:HE3	1.98	0.45
5:r:759:THR:O	5:r:759:THR:OG1	2.35	0.45
8:u:320:ILE:HG12	8:u:359:PHE:CE2	2.52	0.45
8:u:493:GLN:HA	8:u:527:ILE:HB	1.99	0.45
10:w:70:LEU:HD12	10:w:72:LEU:HD11	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:e:984:ASN:ND2	5:e:1021:GLN:O	2.50	0.45
6:s:101:GLN:HB2	6:s:171:TYR:HE1	1.82	0.45
6:s:496:SER:OG	6:s:498:ASN:O	2.30	0.45
8:h:476:LEU:HD13	8:h:492:ASP:HB3	1.98	0.45
8:h:756:ARG:HG2	12:l:552:PHE:HB3	1.98	0.45
8:h:843:GLN:HE22	8:h:866:TYR:HA	1.82	0.45
5:E:929:LYS:HA	5:E:929:LYS:HD3	1.76	0.45
6:F:345:ILE:HD13	6:F:365:THR:HG22	1.98	0.45
8:H:501:LYS:O	8:H:504:THR:OG1	2.20	0.45
2:o:256:THR:HG23	3:p:147:GLY:HA2	1.99	0.45
6:f:283:TRP:HD1	6:f:284:VAL:H	1.65	0.45
6:f:519:ASN:OD1	6:f:520:SER:N	2.50	0.45
7:t:656:LYS:HD3	7:t:656:LYS:HA	1.66	0.45
10:w:105:ASP:OD1	10:w:109:GLY:N	2.50	0.45
12:y:613:LYS:O	12:y:617:SER:OG	2.33	0.45
1:a:570:ASN:ND2	2:b:335:VAL:HA	2.31	0.45
5:e:549:MET:SD	5:e:609:ILE:HD11	2.57	0.45
6:s:294:PHE:CD1	6:s:294:PHE:N	2.78	0.45
6:s:642:ILE:HG13	6:s:765:THR:OG1	2.17	0.45
7:g:132:GLU:HG2	7:g:169:ASN:HB2	1.99	0.45
7:g:513:ILE:HG13	7:g:705:THR:HB	1.98	0.45
8:h:493:GLN:HB2	8:h:526:LYS:HB3	1.98	0.45
5:E:99:PHE:CD2	5:E:110:TRP:HB3	2.52	0.44
5:E:759:THR:OG1	5:E:759:THR:O	2.35	0.44
6:F:977:LEU:HD23	6:F:977:LEU:HA	1.83	0.44
8:H:533:ASP:OD1	8:H:533:ASP:N	2.50	0.44
12:L:120:ILE:HD11	12:L:303:TRP:HE1	1.82	0.44
1:n:546:ARG:O	1:n:546:ARG:NH1	2.43	0.44
2:o:343:GLN:HE22	2:o:346:ARG:HH22	1.66	0.44
5:r:921:MET:HE3	5:r:921:MET:O	2.18	0.44
6:f:1059:SER:O	6:f:1060:LYS:C	2.60	0.44
7:t:224:TYR:HA	7:t:227:ASN:HB3	1.99	0.44
8:u:181:MET:HE1	8:u:232:PHE:HB2	2.00	0.44
12:y:131:GLU:O	12:y:135:MET:HG3	2.17	0.44
5:e:759:THR:O	5:e:759:THR:OG1	2.35	0.44
5:e:921:MET:O	5:e:921:MET:HE3	2.17	0.44
5:e:948:PHE:N	5:e:1051:GLU:OE1	2.40	0.44
6:s:142:MET:SD	6:s:142:MET:N	2.89	0.44
6:s:278:SER:OG	6:s:279:ILE:N	2.50	0.44
6:s:279:ILE:HD11	6:s:335:ARG:NH2	2.32	0.44
6:s:315:LEU:HA	6:s:338:ARG:NH1	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:s:603:LEU:HD12	6:s:603:LEU:HA	1.82	0.44
6:s:688:LEU:HA	6:s:691:LYS:HG2	1.97	0.44
6:s:858:GLN:N	6:s:867:GLN:OE1	2.49	0.44
12:l:112:ALA:HB1	12:l:272:MET:HG3	1.99	0.44
21:m:201:CLR:H162	21:m:201:CLR:H222	1.77	0.44
4:D:154:MET:HE2	4:D:155:VAL:N	2.32	0.44
4:D:276:ASN:O	4:D:280:VAL:HG23	2.18	0.44
6:F:238:SER:O	6:F:515:LYS:NZ	2.50	0.44
8:H:125:ASP:N	8:H:125:ASP:OD1	2.49	0.44
8:H:699:ASN:OD1	8:H:702:GLN:HB2	2.17	0.44
2:o:230:LEU:HA	2:o:233:VAL:HG22	1.99	0.44
2:o:297:TRP:HE1	3:p:222:SER:HA	1.82	0.44
5:r:82:LEU:HB3	5:r:137:MET:SD	2.58	0.44
6:f:515:LYS:NZ	6:f:529:THR:O	2.43	0.44
6:f:1052:ILE:HD12	6:f:1052:ILE:HA	1.83	0.44
8:u:369:TYR:HE2	8:u:430:LEU:HD21	1.83	0.44
12:y:121:TYR:O	12:y:125:PHE:HB2	2.17	0.44
2:b:152:LEU:O	2:b:156:ILE:HG13	2.17	0.44
6:s:369:ASN:HB3	6:s:372:TYR:HB2	1.99	0.44
7:g:715:LEU:HD12	7:g:716:PRO:HD2	1.98	0.44
1:A:584:LEU:HD12	4:D:284:THR:HA	1.99	0.44
2:B:160:LEU:HD23	2:B:163:TRP:HD1	1.82	0.44
3:C:153:ILE:O	3:C:157:ILE:HG12	2.17	0.44
4:D:82:ALA:HB2	4:D:166:LEU:HD11	1.99	0.44
5:E:476:LYS:HD2	5:E:821:ILE:HB	1.99	0.44
6:F:850:LEU:HD23	6:F:850:LEU:HA	1.84	0.44
8:H:788:LEU:HD23	8:H:927:ILE:HG12	1.99	0.44
12:L:90:PHE:HB3	12:L:324:PHE:CZ	2.52	0.44
2:o:234:ARG:HA	2:o:237:LYS:HD2	1.99	0.44
4:q:182:VAL:HG11	4:q:289:MET:SD	2.57	0.44
5:r:592:TYR:CE2	5:r:606:HIS:HB2	2.53	0.44
10:w:158:SER:OG	10:w:159:TYR:N	2.47	0.44
1:a:453:VAL:O	1:a:457:MET:HG3	2.17	0.44
2:b:298:TYR:HB2	3:c:222:SER:HB2	2.00	0.44
6:s:605:VAL:HA	6:s:608:LEU:HB2	1.98	0.44
10:j:70:LEU:HD12	10:j:72:LEU:HD11	1.99	0.44
12:l:99:LEU:HD23	12:l:99:LEU:HA	1.83	0.44
7:G:265:ASN:ND2	7:G:268:GLN:OE1	2.51	0.44
12:L:636:ASP:OD2	12:L:647:TRP:NE1	2.49	0.44
13:M:83:LEU:HD21	13:z:4:ARG:HE	1.82	0.44
5:r:306:ARG:HA	5:r:306:ARG:HD3	1.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:r:991:GLU:O	5:r:996:LYS:NZ	2.51	0.44
6:f:139:ARG:NH1	6:f:327:PHE:HA	2.32	0.44
6:f:338:ARG:HH22	6:f:343:GLU:HA	1.82	0.44
6:f:450:ILE:N	6:f:470:THR:O	2.51	0.44
6:f:536:TYR:CD2	6:f:605:VAL:HG11	2.53	0.44
7:t:513:ILE:HG23	7:t:703:LEU:HD22	1.99	0.44
8:u:431:GLU:HG3	8:u:455:SER:HA	1.99	0.44
8:u:545:ASN:OD1	8:u:570:THR:OG1	2.34	0.44
12:y:487:LEU:O	12:y:492:ASN:ND2	2.46	0.44
13:z:113:GLU:HB3	13:z:115:ARG:HH12	1.82	0.44
1:a:535:LEU:HG	2:b:295:ASP:HB3	1.99	0.44
2:b:341:ASN:HA	2:b:344:ASN:HD21	1.82	0.44
3:c:269:MET:SD	3:c:269:MET:N	2.91	0.44
5:e:198:PHE:HB3	5:e:200:MET:SD	2.57	0.44
8:h:803:TYR:HA	8:h:808:PHE:HA	1.98	0.44
2:B:146:VAL:HG21	8:H:941:VAL:HB	1.99	0.44
3:C:184:LEU:O	3:C:188:MET:HB2	2.17	0.44
5:E:155:ARG:HE	5:E:155:ARG:HB3	1.57	0.44
6:F:318:TYR:CE1	6:F:337:VAL:HB	2.53	0.44
6:F:515:LYS:HB2	6:F:530:GLU:HG3	1.99	0.44
12:L:623:LEU:HA	12:L:626:LEU:HG	1.99	0.44
1:n:525:THR:O	1:n:528:THR:OG1	2.29	0.44
4:q:291:LYS:HA	4:q:291:LYS:HD2	1.78	0.44
6:f:283:TRP:HD1	6:f:284:VAL:N	2.14	0.44
6:f:688:LEU:HG	6:f:703:PRO:HB2	2.00	0.44
8:u:381:ILE:HG21	8:u:423:VAL:HG11	1.99	0.44
12:y:540:LYS:HD2	12:y:540:LYS:HA	1.91	0.44
6:s:338:ARG:HH22	6:s:343:GLU:HA	1.81	0.44
6:s:656:TYR:CZ	6:s:689:HIS:HB2	2.52	0.44
7:g:444:THR:HG23	7:g:446:ASP:H	1.81	0.44
8:h:833:MET:HA	8:h:884:TYR:HB2	2.00	0.44
1:A:492:ILE:HD11	2:B:228:ILE:HG12	2.00	0.44
3:C:192:ALA:HA	3:C:220:LEU:HD11	1.98	0.44
5:E:116:ARG:NH2	5:E:152:ASP:OD1	2.51	0.44
6:F:312:GLN:O	6:F:315:LEU:HB2	2.17	0.44
6:F:451:PRO:HB3	6:F:465:VAL:HG11	1.99	0.44
6:F:1027:PHE:HB2	6:F:1050:VAL:HG12	2.00	0.44
7:G:615:THR:OG1	7:G:664:ASN:OD1	2.35	0.44
5:r:446:LEU:HD13	5:r:467:VAL:HG21	2.00	0.44
5:r:947:LYS:H	5:r:947:LYS:HG2	1.67	0.44
7:t:401:ASP:O	7:t:404:SER:OG	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:t:407:LYS:HB3	7:t:407:LYS:HE3	1.76	0.44
7:t:435:LYS:HA	7:t:435:LYS:HD2	1.89	0.44
10:w:8:SER:O	10:w:8:SER:OG	2.33	0.44
10:w:149:ILE:HG23	10:w:165:HIS:NE2	2.33	0.44
12:y:189:PRO:HG2	12:y:192:GLN:HB2	1.98	0.44
4:d:182:VAL:O	4:d:186:SER:OG	2.30	0.44
6:s:47:TRP:NE1	6:s:197:SER:O	2.49	0.44
6:s:760:ASN:OD1	6:s:760:ASN:N	2.49	0.44
6:s:771:HIS:HB2	6:s:774:THR:HB	2.00	0.44
8:h:917:SER:HB3	8:h:921:LEU:HD11	1.99	0.44
3:C:262:MET:HE1	4:D:179:ILE:HG23	2.00	0.44
5:E:952:GLN:HA	5:E:1017:ASN:HB3	2.00	0.44
6:F:252:ILE:HD13	6:F:308:LEU:HD13	2.00	0.44
7:G:496:LEU:HD23	7:G:496:LEU:HA	1.86	0.44
8:H:800:VAL:HG11	8:H:909:LEU:HD23	2.00	0.44
2:o:147:ALA:O	2:o:151:ILE:HG12	2.17	0.44
5:r:220:LYS:HA	5:r:220:LYS:HD3	1.86	0.44
5:r:434:MET:HE2	5:r:768:VAL:HB	2.00	0.44
5:r:932:HIS:ND1	5:r:1046:GLN:OE1	2.50	0.44
6:f:237:LYS:HB2	6:f:515:LYS:HE2	2.00	0.44
7:t:244:MET:SD	7:t:244:MET:N	2.91	0.44
7:t:491:LEU:HD23	7:t:491:LEU:HA	1.81	0.44
7:t:586:TRP:HE1	7:t:591:VAL:HG22	1.82	0.44
8:u:885:GLU:OE1	8:u:885:GLU:N	2.51	0.44
10:w:133:TYR:HD1	10:w:136:MET:HE3	1.83	0.44
13:z:9:VAL:HB	13:z:10:LEU:HG	1.99	0.44
1:a:519:PHE:HA	1:a:524:THR:HB	2.00	0.44
12:l:462:PHE:HB2	12:l:659:MET:HE1	1.98	0.44
2:B:343:GLN:HE22	2:B:346:ARG:HH22	1.64	0.44
5:E:483:SER:OG	5:E:484:GLU:N	2.50	0.44
6:F:722:PHE:CG	6:F:732:TYR:HB2	2.53	0.44
7:G:400:ILE:HD13	7:G:400:ILE:HA	1.93	0.44
8:H:575:ASP:OD2	8:H:577:SER:OG	2.32	0.44
1:n:349:GLN:O	1:n:353:PHE:CB	2.65	0.44
2:o:252:ILE:O	2:o:256:THR:OG1	2.28	0.44
3:p:261:ASN:HA	3:p:264:VAL:HG22	1.99	0.44
6:f:123:MET:HE1	6:f:189:THR:OG1	2.17	0.44
6:f:472:MET:SD	6:f:474:PRO:HD3	2.57	0.44
6:f:656:TYR:CZ	6:f:689:HIS:HB2	2.52	0.44
6:f:916:LEU:HB3	6:f:919:ASP:HB2	2.00	0.44
8:u:133:TRP:CH2	8:u:188:PRO:HB3	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:z:201:CLR:H222	21:z:201:CLR:H162	1.72	0.44
1:a:586:LYS:HB2	1:a:586:LYS:HE2	1.82	0.44
4:d:251:ARG:O	4:d:251:ARG:NE	2.43	0.44
5:e:407:THR:OG1	5:e:429:GLN:NE2	2.50	0.44
6:s:565:SER:OG	6:s:566:SER:N	2.51	0.44
7:g:673:GLN:OE1	7:g:673:GLN:N	2.43	0.44
8:h:449:ILE:HB	8:h:468:LEU:HB3	2.00	0.44
10:j:48:CYS:HB3	13:m:56:VAL:HG21	1.99	0.44
10:j:105:ASP:OD2	10:j:106:ALA:N	2.47	0.44
13:m:58:ILE:HD13	13:m:58:ILE:HA	1.90	0.44
1:A:563:ILE:HG13	1:A:564:GLN:N	2.33	0.44
5:E:267:ASP:OD1	5:E:268:LEU:N	2.49	0.44
6:F:652:ARG:HA	6:F:931:VAL:HG21	1.99	0.44
8:H:792:LEU:HD12	8:H:792:LEU:HA	1.79	0.44
13:M:16:LEU:HD12	13:M:16:LEU:HA	1.86	0.44
5:r:479:LEU:HD23	5:r:479:LEU:HA	1.83	0.44
6:f:1012:CYS:HB3	6:f:1057:LEU:HB2	1.99	0.44
8:u:245:THR:HG22	8:u:246:TYR:H	1.82	0.44
8:u:960:TYR:O	8:u:964:LEU:HG	2.18	0.44
2:b:147:ALA:O	2:b:151:ILE:HG12	2.18	0.44
6:s:252:ILE:HD13	6:s:303:ALA:HB2	2.00	0.44
6:s:291:ILE:CB	6:s:314:GLN:HG3	2.48	0.44
6:s:777:SER:HB3	8:h:617:CYS:HB3	2.00	0.44
6:s:1063:SER:O	6:s:1067:MET:HG2	2.18	0.44
8:h:190:ILE:HG12	8:h:225:ILE:HG22	1.99	0.44
8:h:522:SER:O	8:h:522:SER:OG	2.36	0.44
8:h:834:GLU:C	8:h:836:ASN:H	2.25	0.44
6:F:574:LEU:HA	6:F:588:VAL:HG23	2.00	0.43
8:H:519:SER:HB2	8:H:524:GLY:HA2	2.00	0.43
8:H:692:THR:HG21	8:H:707:ASN:HD22	1.82	0.43
2:o:279:SER:OG	2:o:283:ASN:ND2	2.45	0.43
3:p:56:MET:O	3:p:60:VAL:HG23	2.18	0.43
6:f:148:LEU:HD23	6:f:657:VAL:HG12	2.00	0.43
5:e:361:LEU:HD23	5:e:361:LEU:HA	1.87	0.43
5:e:568:ARG:HA	5:e:603:THR:HG21	1.99	0.43
5:e:867:LEU:HD23	5:e:940:LYS:O	2.18	0.43
6:s:300:ASP:HB3	6:s:348:LEU:HB3	2.00	0.43
6:s:558:ASN:HD22	6:s:562:MET:HE1	1.83	0.43
7:g:211:MET:SD	7:g:213:GLU:HG3	2.58	0.43
12:l:150:ILE:HG12	12:l:235:PRO:HB3	2.00	0.43
4:D:108:VAL:HA	4:D:111:ILE:HG12	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:448:ASN:OD1	8:H:448:ASN:N	2.51	0.43
8:H:702:GLN:HA	8:H:705:LYS:HD3	1.99	0.43
10:J:46:THR:HA	10:J:49:PHE:HE2	1.83	0.43
1:n:361:VAL:HG11	1:n:465:VAL:HG23	2.00	0.43
5:r:132:MET:N	5:r:132:MET:SD	2.91	0.43
5:r:490:ASP:OD2	5:r:505:LYS:NZ	2.48	0.43
6:f:608:LEU:HD23	6:f:608:LEU:HA	1.74	0.43
7:t:723:LEU:O	7:t:727:LEU:HG	2.18	0.43
8:u:498:TYR:HE2	8:u:505:VAL:HG12	1.82	0.43
8:u:819:TRP:NE1	8:u:908:ARG:HB2	2.33	0.43
1:a:508:ARG:HB2	1:a:525:THR:HG21	1.99	0.43
3:c:162:GLY:O	3:c:166:LEU:HG	2.18	0.43
6:s:290:PRO:HD2	6:s:291:ILE:H	1.84	0.43
6:s:291:ILE:HD11	6:s:314:GLN:CD	2.41	0.43
1:A:542:TYR:CE1	2:B:286:VAL:HG11	2.53	0.43
4:D:200:PHE:HA	4:D:203:VAL:HG22	2.00	0.43
5:E:415:ILE:HG13	5:E:424:TYR:HB2	1.99	0.43
5:E:635:LYS:HG3	5:E:636:LEU:H	1.84	0.43
6:F:240:PRO:HG3	6:F:516:TYR:CG	2.54	0.43
6:F:646:LYS:H	6:F:646:LYS:HG2	1.62	0.43
7:G:348:GLN:HE21	7:G:365:LYS:HB3	1.82	0.43
12:L:113:VAL:O	12:L:117:THR:OG1	2.33	0.43
5:r:964:ASP:N	5:r:964:ASP:OD1	2.48	0.43
6:f:284:VAL:HA	6:s:280:ASP:OD2	2.18	0.43
6:f:565:SER:OG	6:f:566:SER:N	2.51	0.43
8:u:186:GLN:NE2	8:u:228:ASN:O	2.52	0.43
8:u:251:ILE:HD12	8:u:337:ARG:HH21	1.83	0.43
10:w:150:ASN:ND2	10:w:163:VAL:HG23	2.33	0.43
12:y:525:LYS:HB3	12:y:534:TYR:CE1	2.53	0.43
3:c:59:THR:HG21	3:c:93:VAL:HG21	2.00	0.43
5:e:363:ASP:O	5:e:367:ASP:HA	2.18	0.43
6:s:122:GLY:HA3	6:s:192:ILE:HD11	2.01	0.43
6:s:349:CYS:HB2	6:s:362:LEU:HB2	1.99	0.43
10:j:149:ILE:HG22	10:j:150:ASN:OD1	2.18	0.43
12:l:514:PHE:HE2	12:l:647:TRP:HB3	1.83	0.43
1:A:527:PHE:O	1:A:531:THR:HG23	2.18	0.43
2:B:143:ALA:HA	2:B:146:VAL:HG12	2.00	0.43
2:B:236:LEU:HA	2:B:239:MET:HG2	2.00	0.43
6:F:721:LEU:HD13	6:F:727:ALA:HB2	2.01	0.43
7:G:204:MET:CE	7:G:266:SER:HB3	2.48	0.43
8:H:499:SER:HB2	8:H:506:VAL:HG12	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:r:585:LEU:H	5:r:611:VAL:HB	1.83	0.43
5:r:671:MET:SD	5:r:671:MET:N	2.90	0.43
5:r:711:ARG:NH1	5:r:713:TRP:O	2.50	0.43
5:r:768:VAL:HG12	6:f:121:MET:HE1	1.99	0.43
7:t:411:LEU:HD11	7:t:450:LYS:HB3	1.99	0.43
10:w:94:HIS:H	10:w:165:HIS:CE1	2.37	0.43
10:w:147:LEU:O	10:w:149:ILE:HG13	2.19	0.43
13:z:39:ASN:HA	13:z:43:ILE:HG13	2.00	0.43
13:z:45:ASN:ND2	13:z:48:HIS:HB2	2.33	0.43
13:z:49:MET:HG3	13:z:51:PHE:CZ	2.54	0.43
5:e:632:TYR:OH	5:e:635:LYS:O	2.27	0.43
6:s:757:ASP:H	6:s:760:ASN:HD21	1.65	0.43
6:s:964:ILE:HG23	6:s:968:ASN:HD22	1.82	0.43
8:h:195:LYS:HE3	8:h:368:ARG:HH12	1.83	0.43
8:h:659:HIS:HB2	8:h:711:MET:HE2	2.00	0.43
10:j:148:ASN:HB2	10:j:164:ARG:HG3	2.00	0.43
3:C:56:MET:O	3:C:60:VAL:HG23	2.17	0.43
3:C:210:TRP:HZ3	3:C:220:LEU:HG	1.83	0.43
6:F:525:MET:HE2	6:F:537:PHE:HB3	2.00	0.43
6:F:1073:PHE:HA	6:F:1076:LEU:HG	2.00	0.43
7:G:129:GLY:HA3	7:G:180:PHE:H	1.83	0.43
8:H:764:LYS:HA	8:H:764:LYS:HD3	1.91	0.43
12:L:373:LEU:HD21	12:L:680:HIS:HB2	2.01	0.43
1:n:535:LEU:N	1:n:565:TYR:OH	2.52	0.43
1:n:578:ASP:HB2	2:o:346:ARG:HH21	1.82	0.43
2:o:193:VAL:HG12	2:o:198:PRO:HG3	1.99	0.43
4:q:63:GLN:HG3	5:r:1078:PHE:HE1	1.84	0.43
5:r:73:ILE:HD12	5:r:76:LEU:HD22	2.01	0.43
6:f:410:TYR:OH	6:f:415:ARG:NH2	2.52	0.43
6:f:833:GLN:OE1	6:f:1042:CYS:HA	2.19	0.43
7:t:132:GLU:HG3	7:t:171:TYR:HE1	1.84	0.43
7:t:412:MET:HE3	7:t:451:TYR:HB2	2.00	0.43
8:u:335:TYR:CE2	8:u:344:LYS:HB2	2.54	0.43
5:e:85:ASN:HB2	5:e:136:THR:HG23	2.01	0.43
6:s:595:LYS:HE2	6:s:597:ARG:HH21	1.84	0.43
6:s:809:GLN:HA	6:s:820:ASN:HB3	2.00	0.43
6:s:857:ILE:HD11	6:s:864:GLY:HA3	2.01	0.43
10:j:69:ARG:NH1	10:j:82:SER:OG	2.52	0.43
1:A:452:LYS:HG2	4:D:210:THR:HG22	2.01	0.43
3:C:229:TRP:NE1	4:D:232:ILE:HG12	2.33	0.43
6:F:515:LYS:HG2	6:F:516:TYR:HD1	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:738:ASP:OD1	8:H:738:ASP:N	2.36	0.43
12:L:104:VAL:HG22	12:L:237:TYR:HE1	1.84	0.43
13:M:41:CYS:SG	13:M:42:VAL:HG22	2.59	0.43
1:n:507:LEU:HD23	1:n:507:LEU:HA	1.78	0.43
6:f:154:MET:HE1	6:f:670:HIS:C	2.44	0.43
6:f:181:VAL:HG21	6:f:249:PRO:HG3	2.01	0.43
6:f:287:PHE:CG	6:f:288:TYR:N	2.81	0.43
6:f:950:GLY:HA3	6:f:956:ILE:HG12	1.99	0.43
12:y:245:PHE:HE1	12:y:257:LEU:HD11	1.83	0.43
12:y:514:PHE:HE1	12:y:647:TRP:HB3	1.83	0.43
13:z:41:CYS:SG	13:z:42:VAL:HG22	2.59	0.43
2:b:182:VAL:HG11	2:b:214:ARG:HB2	2.00	0.43
3:c:153:ILE:O	3:c:157:ILE:HG12	2.18	0.43
6:s:351:VAL:HG11	6:s:360:TYR:HD2	1.84	0.43
8:h:592:LYS:HE2	8:h:592:LYS:HB2	1.81	0.43
12:l:508:ARG:HG3	12:l:544:ALA:HB3	2.00	0.43
12:l:540:LYS:HD2	12:l:540:LYS:HA	1.84	0.43
2:B:297:TRP:HE1	3:C:222:SER:HA	1.84	0.43
2:B:336:ALA:HB1	3:C:271:THR:OG1	2.18	0.43
2:B:350:SER:HA	2:B:353:MET:SD	2.59	0.43
5:E:490:ASP:OD2	5:E:505:LYS:NZ	2.52	0.43
7:G:249:ARG:HH21	7:G:483:THR:HG21	1.84	0.43
8:H:532:THR:HG22	8:H:538:VAL:HG22	2.01	0.43
1:n:345:LEU:O	1:n:349:GLN:HB2	2.19	0.43
5:r:86:MET:HE3	5:r:87:ILE:N	2.33	0.43
7:t:204:MET:HE3	7:t:204:MET:HA	2.01	0.43
7:t:583:VAL:HG23	7:t:595:MET:HB3	2.00	0.43
8:u:820:GLU:HG3	8:u:824:ARG:HD2	2.00	0.43
10:w:98:VAL:HG21	10:w:143:LEU:HD23	2.00	0.43
5:e:548:GLU:OE1	5:e:606:HIS:NE2	2.50	0.43
6:s:983:VAL:HG21	6:s:995:MET:HE1	2.00	0.43
10:j:66:PRO:HD2	10:j:83:ILE:HD11	2.01	0.43
1:A:379:ARG:HD3	1:A:379:ARG:HA	1.79	0.43
2:B:254:ALA:O	2:B:258:VAL:HG23	2.19	0.43
5:E:52:THR:OG1	5:E:53:MET:N	2.52	0.43
5:E:299:ASN:ND2	5:E:362:ILE:O	2.52	0.43
6:F:671:ASN:OD1	6:F:671:ASN:N	2.51	0.43
7:G:687:TYR:HB2	7:G:709:VAL:HG22	2.00	0.43
8:H:939:TYR:HB2	12:L:565:LEU:HD23	1.98	0.43
1:n:371:GLN:HG3	1:n:384:PHE:CD2	2.53	0.43
2:o:116:ILE:HG23	2:o:215:SER:HB3	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:o:232:LEU:O	2:o:235:ALA:HB3	2.18	0.43
4:q:78:LEU:HA	4:q:81:ASN:ND2	2.34	0.43
5:r:86:MET:SD	5:r:135:ILE:HG13	2.59	0.43
1:a:452:LYS:HG2	4:d:210:THR:HG22	2.01	0.43
1:a:523:PHE:CG	4:d:257:VAL:HG12	2.54	0.43
3:c:183:LEU:HG	4:d:176:LEU:HD11	2.01	0.43
4:d:78:LEU:HA	4:d:81:ASN:ND2	2.34	0.43
6:s:76:ALA:O	6:s:80:GLN:HG2	2.18	0.43
1:A:518:ARG:NH1	1:A:544:ASP:OD2	2.51	0.43
2:B:249:PHE:CE1	2:B:253:PHE:HE2	2.37	0.43
4:D:247:GLN:HG3	4:D:248:MET:H	1.84	0.43
5:E:964:ASP:OD1	5:E:964:ASP:N	2.50	0.43
7:G:291:ILE:HB	7:G:307:VAL:HG11	2.01	0.43
5:r:863:MET:N	5:r:863:MET:SD	2.91	0.43
5:r:960:PHE:HD1	5:r:965:LYS:HD2	1.84	0.43
6:f:519:ASN:CG	6:f:521:PHE:H	2.25	0.43
7:t:715:LEU:HD12	7:t:716:PRO:HD2	2.00	0.43
10:w:79:TYR:HE1	10:w:147:LEU:HD23	1.83	0.43
1:a:563:ILE:HG13	1:a:564:GLN:N	2.34	0.43
5:e:213:ILE:HD12	5:e:213:ILE:HA	1.84	0.43
5:e:306:ARG:HD3	5:e:306:ARG:HA	1.79	0.43
5:e:784:ASP:HB2	5:e:788:ASN:O	2.19	0.43
5:e:869:ILE:HG13	5:e:870:ASN:HD22	1.84	0.43
6:s:414:GLU:O	6:s:416:ASN:ND2	2.52	0.43
7:g:658:ASN:N	7:g:658:ASN:OD1	2.51	0.43
10:j:147:LEU:HD12	10:j:147:LEU:HA	1.89	0.43
13:m:39:ASN:OD1	13:m:49:MET:HB3	2.18	0.43
5:E:250:THR:HG22	5:E:251:ASN:H	1.84	0.43
7:G:43:PHE:HE1	7:G:93:PRO:HD2	1.83	0.43
8:H:144:LEU:C	8:H:216:MET:HG3	2.44	0.43
10:J:61:MET:HA	10:J:61:MET:HE2	2.00	0.43
12:L:597:PRO:O	12:L:601:THR:OG1	2.32	0.43
1:n:563:ILE:HG13	1:n:564:GLN:N	2.33	0.43
2:o:266:ARG:HH12	2:o:279:SER:HA	1.84	0.43
5:r:544:ILE:HG13	5:r:548:GLU:HB2	2.00	0.43
6:f:49:LEU:HD12	6:f:50:VAL:N	2.34	0.43
6:f:106:CYS:H	6:f:114:LEU:HD13	1.84	0.43
6:f:267:SER:OG	6:f:268:ASN:N	2.52	0.43
7:t:485:ASP:OD1	7:t:486:ILE:N	2.52	0.43
8:u:307:ILE:HG21	8:u:342:PHE:HD2	1.83	0.43
1:a:574:ALA:CB	2:b:338:MET:HG3	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:b:270:GLU:HG2	7:g:518:LYS:HD2	2.00	0.43
2:b:293:THR:OG1	2:b:295:ASP:OD1	2.37	0.43
4:d:110:THR:HA	4:d:113:ILE:HG12	2.00	0.43
5:e:116:ARG:NH2	5:e:152:ASP:OD1	2.50	0.43
5:e:274:SER:O	5:e:274:SER:OG	2.32	0.43
6:s:123:MET:HE1	6:s:193:GLY:HA3	2.01	0.43
6:s:286:SER:N	6:s:289:CYS:SG	2.91	0.43
2:B:146:VAL:HA	2:B:149:TRP:HD1	1.84	0.42
2:B:341:ASN:HA	2:B:344:ASN:HD21	1.84	0.42
4:D:59:MET:HE3	5:E:1078:PHE:CD1	2.54	0.42
5:E:1068:VAL:HG21	13:M:98:PHE:CE2	2.53	0.42
7:G:31:PHE:HE1	8:H:450:ARG:HG3	1.83	0.42
8:H:442:CYS:HB3	8:H:443:THR:H	1.66	0.42
12:L:386:LEU:O	12:L:390:THR:OG1	2.30	0.42
13:M:57:LEU:HD12	13:M:57:LEU:HA	1.85	0.42
2:o:132:SER:O	2:o:132:SER:OG	2.28	0.42
5:r:99:PHE:CD2	5:r:110:TRP:HB3	2.54	0.42
5:r:434:MET:HG3	6:f:121:MET:SD	2.59	0.42
6:f:555:THR:HA	6:f:558:ASN:OD1	2.19	0.42
6:f:967:TYR:HD1	6:f:976:SER:HB2	1.83	0.42
7:t:155:ASN:HA	7:t:173:SER:O	2.19	0.42
8:u:359:PHE:HB2	8:u:380:LEU:HD11	2.00	0.42
8:u:855:ILE:HD12	8:u:859:ASP:HB3	2.01	0.42
10:w:133:TYR:O	10:w:136:MET:HG2	2.19	0.42
12:y:368:ILE:HG23	12:y:374:MET:HG2	2.01	0.42
12:y:399:LEU:HB3	12:y:405:ILE:CG1	2.49	0.42
5:e:620:ASP:OD1	5:e:620:ASP:N	2.49	0.42
6:s:100:LEU:HD13	6:s:174:MET:HB2	2.01	0.42
3:C:183:LEU:HD11	4:D:180:ILE:HG22	2.00	0.42
5:E:414:MET:HE2	5:E:414:MET:HB3	1.78	0.42
5:E:498:ASP:OD2	5:E:502:TYR:HB2	2.19	0.42
5:E:725:GLN:HB3	5:E:751:LYS:HB3	2.00	0.42
8:H:795:MET:HB3	8:H:894:HIS:CD2	2.54	0.42
4:q:250:GLU:HB3	4:q:254:ALA:HB2	2.01	0.42
7:t:434:PHE:HB2	7:t:455:ILE:HD11	2.01	0.42
8:u:817:ILE:HD13	8:u:912:LEU:HD13	2.01	0.42
3:c:241:PHE:HD2	3:c:244:SER:HB3	1.83	0.42
4:d:108:VAL:HA	4:d:111:ILE:HG12	2.00	0.42
5:e:932:HIS:ND1	5:e:1046:GLN:OE1	2.51	0.42
6:s:283:TRP:CD1	6:s:283:TRP:C	2.95	0.42
5:E:570:LYS:HB2	5:E:572:ILE:HG22	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:227:VAL:O	6:F:229:LYS:NZ	2.51	0.42
7:G:511:LYS:HA	7:G:586:TRP:O	2.20	0.42
8:H:440:SER:O	8:H:441:VAL:HG12	2.19	0.42
8:H:780:ASP:H	8:H:784:TYR:HD1	1.66	0.42
12:L:554:ASP:OD1	12:L:554:ASP:N	2.52	0.42
2:o:332:ASN:HB3	3:p:267:MET:CG	2.48	0.42
5:r:696:LEU:O	5:r:700:TRP:NE1	2.53	0.42
7:t:564:TYR:OH	7:t:569:CYS:SG	2.63	0.42
8:u:181:MET:O	8:u:186:GLN:N	2.43	0.42
8:u:795:MET:HE3	17:8:1:NAG:H61	2.00	0.42
12:y:525:LYS:HD3	12:y:534:TYR:OH	2.20	0.42
2:b:254:ALA:O	2:b:258:VAL:HG23	2.18	0.42
7:g:441:PHE:CE1	7:g:452:LYS:HB2	2.55	0.42
7:g:488:ASP:OD1	7:g:488:ASP:N	2.48	0.42
8:h:87:CYS:HB3	8:h:101:CYS:HB2	1.81	0.42
13:m:51:PHE:HZ	13:m:111:TYR:HB3	1.84	0.42
2:B:213:LEU:O	2:B:217:LYS:HG2	2.20	0.42
6:F:835:MET:O	6:F:837:GLY:N	2.50	0.42
8:H:253:GLU:OE1	8:H:253:GLU:N	2.52	0.42
8:H:710:LEU:HB2	8:H:732:GLU:OE2	2.20	0.42
4:q:110:THR:HA	4:q:113:ILE:HG12	2.02	0.42
5:r:625:LEU:HA	5:r:697:THR:HG23	2.01	0.42
6:f:499:ARG:HD3	6:f:499:ARG:HA	1.79	0.42
7:t:348:GLN:HE21	7:t:365:LYS:HB3	1.84	0.42
7:t:508:ASP:OD2	7:t:587:LYS:NZ	2.52	0.42
8:u:964:LEU:HA	8:u:967:TYR:HD1	1.84	0.42
12:y:338:LYS:HA	12:y:338:LYS:HD3	1.76	0.42
12:y:645:ARG:NH1	12:y:646:CYS:O	2.53	0.42
4:d:88:ARG:HD3	4:d:88:ARG:HA	1.91	0.42
5:e:877:MET:HE1	5:e:881:ILE:HB	2.01	0.42
6:s:315:LEU:HA	6:s:338:ARG:HH11	1.84	0.42
6:s:951:ARG:HD3	6:s:1025:PHE:HE1	1.85	0.42
8:h:628:SER:HB2	8:h:631:TYR:CZ	2.54	0.42
8:h:764:LYS:HD3	8:h:764:LYS:HA	1.83	0.42
8:h:831:SER:HB3	17:IA:1:NAG:H82	2.00	0.42
1:A:508:ARG:HB2	1:A:525:THR:HG21	2.02	0.42
1:A:509:ALA:HB1	2:B:205:GLN:HB3	2.02	0.42
5:E:545:SER:HB3	5:E:548:GLU:HG3	2.02	0.42
5:E:918:SER:OG	5:E:921:MET:SD	2.68	0.42
6:F:1015:ILE:H	6:F:1061:ARG:NH2	2.18	0.42
8:H:845:TRP:CD1	8:H:885:GLU:HG3	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:159:ARG:HG2	12:L:239:LEU:HD22	2.01	0.42
1:n:367:ILE:HD13	1:n:387:LEU:HB3	2.01	0.42
2:o:248:ILE:HG12	3:p:157:ILE:HG13	2.00	0.42
2:o:254:ALA:O	2:o:258:VAL:HG23	2.19	0.42
4:q:88:ARG:HD3	4:q:88:ARG:HA	1.94	0.42
6:f:283:TRP:CD1	6:f:283:TRP:C	2.97	0.42
6:f:340:LEU:HD11	6:f:385:PHE:CD1	2.54	0.42
7:t:113:LYS:HE3	7:t:126:LYS:NZ	2.34	0.42
6:s:283:TRP:HB2	6:s:294:PHE:CD2	2.54	0.42
6:s:488:ILE:HB	6:s:494:LEU:HB2	2.01	0.42
7:g:26:ARG:HB3	7:g:362:ASP:HB3	2.01	0.42
7:g:319:TYR:CZ	7:g:425:MET:HG3	2.55	0.42
7:g:513:ILE:HD13	7:g:703:LEU:HB3	2.02	0.42
8:h:833:MET:O	8:h:838:CYS:HB2	2.19	0.42
8:h:892:LYS:O	8:h:894:HIS:ND1	2.50	0.42
10:j:8:SER:HB2	10:j:12:LEU:HD13	2.01	0.42
2:B:152:LEU:HD22	2:B:187:LEU:HD23	2.00	0.42
2:B:185:LEU:HB3	2:B:207:LEU:HD22	2.01	0.42
3:C:267:MET:O	3:C:271:THR:HG23	2.20	0.42
5:E:451:VAL:HG12	5:E:467:VAL:HB	2.01	0.42
8:H:542:MET:H	8:H:542:MET:HG2	1.72	0.42
10:J:148:ASN:HB2	10:J:164:ARG:HG3	2.01	0.42
3:p:126:THR:HA	3:p:129:TYR:CZ	2.55	0.42
3:p:132:ARG:HA	3:p:132:ARG:HD2	1.88	0.42
6:f:515:LYS:N	6:f:528:VAL:O	2.53	0.42
6:f:878:CYS:HB2	6:f:882:LYS:NZ	2.35	0.42
7:t:220:HIS:CG	7:t:230:MET:HE1	2.54	0.42
7:t:513:ILE:HD13	7:t:703:LEU:HB3	2.00	0.42
5:e:84:PRO:HB2	5:e:99:PHE:CD1	2.55	0.42
6:s:560:GLN:HA	6:s:563:GLN:HB2	2.01	0.42
6:s:652:ARG:NH2	6:s:881:GLY:HA3	2.34	0.42
6:s:866:ILE:HD13	6:s:866:ILE:HA	1.88	0.42
7:g:53:LYS:NZ	7:g:341:PHE:O	2.43	0.42
8:h:335:TYR:CE2	8:h:344:LYS:HB2	2.54	0.42
8:h:381:ILE:HG21	8:h:423:VAL:HG11	2.01	0.42
1:A:390:ILE:HD13	1:A:390:ILE:HA	1.91	0.42
1:A:570:ASN:OD1	2:B:335:VAL:HA	2.19	0.42
5:E:658:LYS:HZ3	5:E:704:ASN:HB2	1.85	0.42
6:F:673:ASN:OD1	6:F:673:ASN:N	2.53	0.42
6:F:734:ASN:OD1	6:F:735:MET:N	2.50	0.42
7:G:513:ILE:HG23	7:G:703:LEU:HD22	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:662:TRP:HD1	7:G:665:VAL:HB	1.83	0.42
8:H:423:VAL:HG22	8:H:434:VAL:HG23	2.01	0.42
8:H:476:LEU:HD13	8:H:492:ASP:HB3	2.02	0.42
8:H:939:TYR:HA	8:H:942:ALA:HB3	2.01	0.42
4:q:61:ILE:HA	4:q:65:LEU:HD13	2.00	0.42
5:r:124:ASP:OD1	5:r:124:ASP:N	2.51	0.42
5:r:545:SER:HB3	5:r:548:GLU:HG3	2.02	0.42
6:f:379:THR:O	6:f:379:THR:OG1	2.37	0.42
6:f:1015:ILE:H	6:f:1061:ARG:NH2	2.17	0.42
6:f:1058:SER:HB3	6:f:1059:SER:H	1.72	0.42
10:w:81:PHE:CZ	10:w:83:ILE:HD11	2.54	0.42
1:a:540:LEU:HA	1:a:543:ILE:HG22	2.01	0.42
2:b:116:ILE:HG23	2:b:215:SER:HB3	2.02	0.42
5:e:73:ILE:HD12	5:e:76:LEU:HD22	2.01	0.42
6:s:103:ASN:ND2	6:s:169:ASN:OD1	2.53	0.42
6:s:129:ILE:O	6:s:146:GLN:HA	2.20	0.42
6:s:291:ILE:HB	6:s:314:GLN:HG3	2.02	0.42
6:s:659:LEU:HB2	6:s:737:ALA:HB1	2.02	0.42
7:g:54:ASN:ND2	7:g:57:LYS:HB2	2.34	0.42
12:l:417:PHE:HD1	12:l:575:PHE:HZ	1.67	0.42
12:l:508:ARG:HA	12:l:508:ARG:HD2	1.68	0.42
5:E:556:PRO:HG2	5:E:559:MET:HG2	2.02	0.42
6:F:956:ILE:HG21	6:F:1028:LYS:HB2	2.01	0.42
8:H:444:THR:OG1	8:H:445:ASN:N	2.53	0.42
7:t:240:LEU:HD23	7:t:240:LEU:HA	1.93	0.42
7:t:457:LEU:HD11	7:t:482:VAL:HG21	2.00	0.42
7:t:595:MET:SD	7:t:597:ALA:N	2.88	0.42
8:u:554:ILE:HD13	8:u:554:ILE:HA	1.93	0.42
12:y:302:GLY:HA2	12:y:305:LYS:HD2	2.02	0.42
1:a:537:ASP:HB3	1:a:540:LEU:HB2	2.02	0.42
2:b:186:SER:HB2	2:b:211:ARG:HD2	2.01	0.42
2:b:294:LEU:HD23	2:b:294:LEU:HA	1.87	0.42
5:e:577:THR:HG22	5:e:587:ASN:HA	2.02	0.42
5:e:873:PRO:HA	5:e:874:PRO:HD3	1.90	0.42
5:e:997:LYS:HE2	5:e:997:LYS:HB2	1.85	0.42
6:s:106:CYS:H	6:s:114:LEU:HD13	1.85	0.42
6:s:295:SER:O	6:s:297:THR:N	2.50	0.42
1:A:348:THR:HB	6:F:1081:ILE:HG12	2.01	0.42
2:B:343:GLN:OE1	2:B:346:ARG:NH1	2.41	0.42
6:F:238:SER:OG	6:F:515:LYS:NZ	2.48	0.42
6:F:450:ILE:HA	6:F:472:MET:HE2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:878:CYS:HA	6:F:879:PRO:HD3	1.94	0.42
6:F:994:ILE:HD12	6:F:1036:VAL:HG11	2.01	0.42
6:f:286:SER:OG	6:f:287:PHE:HD1	2.02	0.42
6:f:688:LEU:HA	6:f:688:LEU:HD12	1.89	0.42
6:f:795:VAL:HG11	6:f:805:VAL:HG11	2.01	0.42
6:f:850:LEU:HD12	6:f:850:LEU:HA	1.62	0.42
8:u:191:PHE:HD1	8:u:198:THR:HG22	1.84	0.42
8:u:450:ARG:NH1	8:u:466:PHE:O	2.53	0.42
12:y:97:MET:SD	12:y:101:VAL:HG23	2.60	0.42
6:s:48:LEU:HD12	6:s:48:LEU:HA	1.89	0.42
6:s:49:LEU:HD12	6:s:50:VAL:N	2.35	0.42
6:s:443:LEU:HD23	6:s:443:LEU:HA	1.80	0.42
7:g:437:ASN:O	7:g:453:LEU:HA	2.20	0.42
8:h:407:LYS:HG3	8:h:412:LEU:HD12	2.01	0.42
13:m:29:HIS:HA	13:m:32:VAL:HG22	2.01	0.42
3:C:233:GLN:HA	3:C:236:LEU:HG	2.02	0.42
5:E:134:LYS:HE2	5:E:134:LYS:HB3	1.88	0.42
5:E:475:THR:OG1	5:E:476:LYS:N	2.53	0.42
5:E:542:GLN:HE22	5:E:685:MET:HG2	1.85	0.42
5:E:940:LYS:HA	5:E:940:LYS:HD2	1.81	0.42
6:F:793:ILE:HD12	6:F:849:VAL:HG22	2.01	0.42
8:H:248:MET:N	8:H:248:MET:HE3	2.34	0.42
10:J:132:ARG:HE	10:J:133:TYR:H	1.68	0.42
12:L:248:ILE:HG21	12:L:256:TYR:CD2	2.55	0.42
12:L:417:PHE:HD2	12:L:575:PHE:HZ	1.66	0.42
2:o:146:VAL:HG21	8:u:941:VAL:HB	2.02	0.42
3:p:44:ARG:HD3	3:p:44:ARG:HA	1.80	0.42
3:p:192:ALA:HA	3:p:220:LEU:HD11	2.02	0.42
3:p:276:LYS:O	3:p:280:ARG:HG2	2.19	0.42
4:q:109:LEU:HD23	4:q:109:LEU:HA	1.94	0.42
5:r:213:ILE:HD12	5:r:213:ILE:HA	1.84	0.42
5:r:553:ALA:HB3	5:r:603:THR:OG1	2.20	0.42
5:r:755:LYS:HD3	5:r:755:LYS:HA	1.83	0.42
5:r:843:ARG:HH12	5:r:944:HIS:HB3	1.85	0.42
5:r:867:LEU:HD12	5:r:867:LEU:HA	1.89	0.42
6:f:309:PHE:CE1	6:f:318:TYR:HB2	2.55	0.42
7:t:17:HIS:ND1	7:t:18:THR:HG23	2.34	0.42
3:c:47:ILE:HD12	3:c:47:ILE:HA	1.93	0.42
3:c:82:THR:O	3:c:86:SER:OG	2.24	0.42
4:d:42:ASP:HB3	4:d:43:VAL:H	1.64	0.42
6:s:112:GLU:CD	6:s:167:VAL:HA	2.45	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:s:928:GLN:HA	6:s:935:SER:HA	2.02	0.42
7:g:496:LEU:HD23	7:g:496:LEU:HA	1.92	0.42
8:h:421:MET:HE1	8:h:476:LEU:N	2.20	0.42
3:C:173:THR:HG21	3:C:267:MET:HE1	2.02	0.41
3:C:269:MET:HG3	4:D:290:MET:SD	2.60	0.41
5:E:320:ARG:HH12	5:E:323:THR:HG22	1.85	0.41
6:F:472:MET:HE3	6:F:472:MET:HB2	1.86	0.41
7:G:59:ASP:OD1	7:G:59:ASP:N	2.53	0.41
8:H:610:ASN:HD21	8:H:615:ASP:H	1.67	0.41
8:H:906:VAL:HG13	8:H:926:ALA:HB2	2.02	0.41
8:H:967:TYR:OH	8:H:968:ARG:NH2	2.53	0.41
1:n:371:GLN:NE2	1:n:384:PHE:HB3	2.35	0.41
1:n:373:PHE:HD2	1:n:376:LEU:HB2	1.85	0.41
1:n:496:MET:HE3	1:n:499:CYS:HB2	2.02	0.41
1:n:509:ALA:HB1	2:o:205:GLN:HB3	2.02	0.41
4:q:223:MET:H	4:q:223:MET:HE2	1.83	0.41
6:f:304:THR:HG23	6:f:305:GLU:O	2.20	0.41
6:f:758:LYS:H	6:f:1041:TYR:HD2	1.68	0.41
6:f:972:ASP:OD2	6:f:976:SER:OG	2.38	0.41
8:u:275:CYS:HA	8:u:365:CYS:HB2	2.01	0.41
1:a:348:THR:HB	6:s:1081:ILE:HG12	2.01	0.41
3:c:93:VAL:O	3:c:97:GLU:HG2	2.19	0.41
6:s:96:PHE:HD2	6:s:679:GLN:HG3	1.85	0.41
6:s:119:HIS:NE2	6:s:669:PHE:HE1	2.18	0.41
6:s:267:SER:OG	6:s:268:ASN:N	2.52	0.41
7:g:584:GLU:C	7:g:595:MET:HE1	2.45	0.41
7:g:601:ILE:HG22	7:g:691:LEU:HD12	2.01	0.41
8:h:245:THR:HG22	8:h:246:TYR:H	1.84	0.41
5:E:231:ILE:HD13	5:E:242:LEU:HD11	2.02	0.41
7:G:114:GLY:HA3	7:G:127:LEU:HD12	2.01	0.41
7:G:250:GLY:O	7:G:266:SER:HA	2.20	0.41
7:G:513:ILE:HD13	7:G:703:LEU:HB3	2.02	0.41
8:H:346:ASP:OD1	8:H:346:ASP:N	2.52	0.41
8:H:870:PHE:CE1	19:v:2:NAG:H3	2.55	0.41
12:L:217:LYS:HE2	12:L:217:LYS:HB2	1.87	0.41
12:L:413:LEU:HD22	12:L:571:PHE:HE2	1.85	0.41
1:n:375:GLU:OE1	1:n:375:GLU:N	2.53	0.41
4:q:85:ILE:HG12	4:q:159:TYR:CE1	2.55	0.41
5:r:80:GLY:HA3	7:t:425:MET:HB2	2.02	0.41
5:r:835:ARG:NH2	5:r:972:TYR:OH	2.53	0.41
6:f:606:GLY:O	6:f:610:GLU:HB2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:t:193:GLY:CA	7:t:211:MET:HE1	2.47	0.41
7:t:565:LYS:HB2	7:t:565:LYS:HE3	1.81	0.41
12:y:386:LEU:O	12:y:390:THR:OG1	2.26	0.41
4:d:207:PHE:O	4:d:210:THR:OG1	2.38	0.41
5:e:200:MET:HA	5:e:200:MET:HE3	2.02	0.41
6:s:536:TYR:CD2	6:s:605:VAL:HG11	2.55	0.41
12:l:146:VAL:HG21	12:l:231:ILE:HA	2.01	0.41
1:A:519:PHE:HD2	1:A:528:THR:HG21	1.85	0.41
5:E:580:PHE:CE2	5:E:582:LYS:HG3	2.54	0.41
5:E:919:ARG:NH2	5:E:941:GLU:OE2	2.53	0.41
7:G:319:TYR:HB2	7:G:320:MET:SD	2.60	0.41
7:G:558:LEU:HD23	7:G:558:LEU:HA	1.91	0.41
10:J:54:MET:HE2	10:J:54:MET:N	2.35	0.41
12:L:438:MET:HG3	12:L:443:LYS:HG3	2.02	0.41
3:p:233:GLN:HA	3:p:236:LEU:HG	2.02	0.41
5:r:181:ASP:HB3	5:r:199:MET:SD	2.59	0.41
6:f:260:LYS:NZ	6:f:281:SER:HB3	2.35	0.41
8:u:129:ILE:HG21	8:u:238:ALA:HB2	2.03	0.41
8:u:762:ILE:HB	8:u:775:LEU:HD11	2.02	0.41
12:y:122:GLN:HE22	12:y:131:GLU:HB2	1.85	0.41
12:y:505:ILE:HB	12:y:516:PRO:HG3	2.01	0.41
1:a:337:LEU:HD22	1:a:341:GLN:HB2	2.00	0.41
3:c:126:THR:HA	3:c:129:TYR:CZ	2.55	0.41
4:d:81:ASN:HB2	4:d:162:ARG:HH21	1.85	0.41
6:s:70:GLU:HA	6:s:71:PRO:HD3	1.92	0.41
6:s:277:LEU:HA	6:s:277:LEU:HD22	1.89	0.41
10:j:100:LEU:HD11	10:j:112:PHE:HB3	2.01	0.41
3:C:133:LYS:HB3	7:G:724:LEU:HD11	2.00	0.41
5:E:873:PRO:HG2	5:E:884:THR:HG21	2.01	0.41
8:H:485:MET:HA	8:H:486:PRO:HD3	1.97	0.41
1:n:529:LEU:HA	1:n:532:MET:CG	2.49	0.41
3:p:199:PHE:HB2	3:p:210:TRP:HB2	2.02	0.41
7:t:165:ILE:H	7:t:165:ILE:HD12	1.86	0.41
8:u:900:THR:OG1	8:u:901:TYR:N	2.54	0.41
8:u:911:ILE:HD12	8:u:921:LEU:HD13	2.03	0.41
2:b:361:LYS:HA	2:b:361:LYS:HD3	1.94	0.41
5:e:619:LYS:H	5:e:619:LYS:HG2	1.71	0.41
5:e:873:PRO:HG2	5:e:884:THR:HG21	2.02	0.41
6:s:124:LYS:HB2	6:s:190:ASN:HB2	2.01	0.41
6:s:284:VAL:HB	6:s:289:CYS:SG	2.60	0.41
6:s:656:TYR:CE1	6:s:740:LYS:HB2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:s:803:LEU:HD23	6:s:803:LEU:HA	1.88	0.41
1:A:567:ILE:HD13	1:A:567:ILE:HA	1.91	0.41
2:B:230:LEU:HA	2:B:233:VAL:HG22	2.01	0.41
2:B:248:ILE:HG12	3:C:157:ILE:HG13	2.01	0.41
7:G:312:LEU:HD12	7:G:312:LEU:HA	1.88	0.41
13:M:57:LEU:HD23	13:M:101:ARG:NH2	2.35	0.41
13:M:72:SER:HB2	13:M:87:ALA:HB1	2.01	0.41
3:p:209:ASN:HA	3:p:219:THR:HG21	2.01	0.41
5:r:978:GLU:HG2	5:r:982:ARG:HG3	2.02	0.41
6:f:47:TRP:NE1	6:f:197:SER:O	2.48	0.41
6:f:414:GLU:O	6:f:416:ASN:ND2	2.53	0.41
7:t:512:LYS:HB3	7:t:512:LYS:HE3	1.80	0.41
8:u:83:ILE:HD13	8:u:89:VAL:HG12	2.02	0.41
8:u:97:THR:OG1	8:u:98:THR:N	2.53	0.41
8:u:176:VAL:O	8:u:179:LYS:HG2	2.21	0.41
8:u:293:ASP:OD2	8:u:297:THR:OG1	2.33	0.41
12:y:569:LEU:HD12	12:y:569:LEU:HA	1.89	0.41
3:c:245:ARG:HH12	4:d:225:VAL:HG22	1.86	0.41
5:e:235:LEU:HD12	5:e:235:LEU:HA	1.91	0.41
6:s:280:ASP:HB3	6:s:281:SER:H	1.44	0.41
6:s:338:ARG:NH2	6:s:343:GLU:HG2	2.35	0.41
6:s:1015:ILE:H	6:s:1061:ARG:NH2	2.19	0.41
8:h:671:LEU:HD21	8:h:682:LYS:HD3	2.02	0.41
8:h:795:MET:HG2	17:IA:1:NAG:H61	2.01	0.41
1:A:523:PHE:CG	4:D:257:VAL:HG22	2.56	0.41
6:F:805:VAL:HG22	6:F:824:VAL:HG13	2.03	0.41
7:G:381:LEU:HD23	7:G:381:LEU:HA	1.88	0.41
8:H:195:LYS:HE2	8:H:195:LYS:HB3	1.95	0.41
8:H:335:TYR:CZ	8:H:344:LYS:HB2	2.56	0.41
8:H:749:ASN:HB3	8:H:752:ARG:HB2	2.03	0.41
12:L:97:MET:HG3	12:L:97:MET:O	2.20	0.41
2:o:330:PHE:O	2:o:334:ILE:HG12	2.20	0.41
8:u:131:TYR:HB2	8:u:237:ILE:HG12	2.02	0.41
8:u:137:VAL:HG12	8:u:148:VAL:HG12	2.02	0.41
8:u:490:MET:SD	8:u:497:TYR:HB2	2.60	0.41
10:w:52:TYR:OH	13:z:67:TRP:NE1	2.54	0.41
1:a:421:PHE:O	1:a:425:MET:HE2	2.21	0.41
1:a:456:SER:HB2	4:d:210:THR:HG21	2.03	0.41
2:b:343:GLN:OE1	2:b:346:ARG:NH2	2.48	0.41
5:e:130:GLN:OE1	5:e:191:ASN:N	2.53	0.41
5:e:249:LEU:HD13	5:e:254:LEU:HD13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:e:387:MET:HE2	5:e:387:MET:HA	2.01	0.41
5:e:858:SER:O	5:e:858:SER:OG	2.36	0.41
5:e:1074:ILE:O	5:e:1078:PHE:HB2	2.20	0.41
6:s:339:VAL:HG22	6:s:340:LEU:H	1.86	0.41
6:s:920:LEU:HD12	6:s:920:LEU:HA	1.90	0.41
8:h:133:TRP:CH2	8:h:188:PRO:HB3	2.55	0.41
8:h:359:PHE:HB2	8:h:380:LEU:HD11	2.01	0.41
5:E:200:MET:HE3	5:E:204:SER:HB3	2.02	0.41
5:E:569:PHE:HB2	5:E:603:THR:HB	2.02	0.41
5:E:1075:PHE:CZ	13:M:73:LEU:HB2	2.55	0.41
7:G:245:LYS:HZ2	7:G:245:LYS:HG3	1.59	0.41
8:H:351:ILE:HD12	8:H:351:ILE:HA	1.96	0.41
12:L:667:LEU:HD23	12:L:667:LEU:HA	1.88	0.41
1:n:492:ILE:HD11	2:o:228:ILE:HG12	2.01	0.41
2:o:221:ARG:H	2:o:221:ARG:HG2	1.59	0.41
3:p:265:GLY:O	3:p:268:ILE:N	2.54	0.41
6:f:73:ASP:HA	6:f:94:LEU:HB2	2.03	0.41
7:t:92:VAL:HA	7:t:93:PRO:HD3	1.90	0.41
10:w:133:TYR:CD1	10:w:136:MET:HE3	2.56	0.41
12:y:406:THR:O	12:y:407:PRO:C	2.63	0.41
6:s:139:ARG:NH1	6:s:327:PHE:HA	2.36	0.41
6:s:608:LEU:HA	6:s:608:LEU:HD23	1.77	0.41
6:s:709:GLN:HB3	6:s:710:HIS:H	1.69	0.41
7:g:249:ARG:HH21	7:g:483:THR:HG21	1.86	0.41
12:l:338:LYS:HD3	12:l:338:LYS:HA	1.83	0.41
2:B:114:SER:HA	2:B:117:PHE:CE2	2.55	0.41
2:B:156:ILE:HD13	2:B:156:ILE:HA	1.83	0.41
4:D:110:THR:HA	4:D:113:ILE:HG12	2.02	0.41
5:E:220:LYS:HD3	5:E:220:LYS:HA	1.82	0.41
5:E:987:LEU:HD23	5:E:1016:LEU:HD22	2.03	0.41
10:J:144:ALA:HA	10:J:148:ASN:HA	2.03	0.41
12:L:338:LYS:HD3	12:L:338:LYS:HA	1.81	0.41
1:n:399:ALA:HB2	1:n:423:MET:HG3	2.03	0.41
1:n:559:ILE:O	1:n:563:ILE:HG12	2.20	0.41
3:p:229:TRP:NE1	4:q:232:ILE:HG12	2.34	0.41
4:q:244:THR:HA	4:q:247:GLN:HB2	2.03	0.41
5:r:1016:LEU:HD23	5:r:1016:LEU:HA	1.90	0.41
6:f:112:GLU:CD	6:f:167:VAL:HA	2.46	0.41
6:f:508:PHE:HE2	6:f:514:ILE:HD11	1.86	0.41
6:f:1013:TYR:CE1	6:f:1057:LEU:HD12	2.53	0.41
7:t:515:VAL:HG22	7:t:583:VAL:HG12	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:a:379:ARG:HD3	1:a:379:ARG:HA	1.83	0.41
3:c:192:ALA:HA	3:c:220:LEU:HD11	2.03	0.41
4:d:127:PHE:CE2	4:d:133:ASN:HB3	2.56	0.41
5:e:905:LYS:HD3	5:e:905:LYS:HA	1.83	0.41
6:s:49:LEU:HD11	6:s:100:LEU:HG	2.02	0.41
6:s:472:MET:SD	6:s:474:PRO:HD3	2.61	0.41
6:s:899:ASN:O	6:s:901:HIS:ND1	2.54	0.41
7:g:156:LEU:HD22	7:g:180:PHE:CE1	2.53	0.41
8:h:65:THR:HB	8:h:102:LYS:HA	2.02	0.41
8:h:909:LEU:HB3	8:h:923:THR:HG22	2.02	0.41
13:m:20:VAL:HA	13:m:23:LEU:HG	2.03	0.41
2:B:94:PRO:HA	2:B:98:TRP:HE3	1.86	0.41
2:B:329:ILE:HD13	2:B:329:ILE:HA	1.93	0.41
3:C:259:PHE:O	3:C:263:PHE:HB2	2.21	0.41
5:E:169:GLU:C	5:E:171:GLU:H	2.29	0.41
5:E:429:GLN:HB3	5:E:442:MET:HE1	2.02	0.41
5:E:584:GLY:HA3	5:E:613:PHE:HA	2.02	0.41
5:E:1061:LEU:HD11	13:M:105:GLU:HB3	2.02	0.41
6:F:306:SER:HA	6:F:323:TYR:HE2	1.85	0.41
7:G:656:LYS:HB2	7:G:656:LYS:HE2	1.81	0.41
8:H:351:ILE:HB	8:H:397:PHE:HE1	1.86	0.41
8:H:762:ILE:HD13	8:H:762:ILE:HA	1.91	0.41
10:J:135:GLN:HG3	10:J:138:PHE:CD2	2.56	0.41
13:M:3:TRP:HB2	13:z:3:TRP:CD2	2.55	0.41
13:M:58:ILE:O	13:M:62:VAL:HG13	2.20	0.41
1:n:382:TRP:CZ2	6:f:1017:PRO:HD2	2.56	0.41
1:n:390:ILE:O	1:n:394:ILE:HG12	2.21	0.41
5:r:35:CYS:HB2	5:r:47:ILE:HG21	2.02	0.41
5:r:188:PRO:HB3	5:r:300:GLU:HG3	2.02	0.41
6:f:129:ILE:O	6:f:146:GLN:HA	2.20	0.41
6:f:132:MET:HE3	6:f:182:VAL:HG11	2.03	0.41
6:f:252:ILE:HD13	6:f:303:ALA:HB2	2.01	0.41
6:f:282:CYS:HA	6:s:282:CYS:HA	2.03	0.41
6:f:291:ILE:HG21	6:f:314:GLN:HG2	2.03	0.41
6:f:443:LEU:HD13	6:f:499:ARG:HB3	2.03	0.41
6:f:450:ILE:HA	6:f:451:PRO:HD3	1.91	0.41
6:f:629:SER:O	6:f:629:SER:OG	2.36	0.41
6:f:709:GLN:HB3	6:f:710:HIS:H	1.69	0.41
6:f:1012:CYS:HB3	6:f:1057:LEU:CB	2.51	0.41
6:f:1057:LEU:HD13	6:f:1057:LEU:HA	1.81	0.41
7:t:616:ALA:HA	7:t:619:ALA:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:w:18:THR:HB	10:w:60:LEU:HD12	2.03	0.41
12:y:433:VAL:HG13	12:y:438:MET:HB2	2.01	0.41
12:y:474:ILE:HD12	12:y:474:ILE:HA	1.92	0.41
1:a:457:MET:HB3	4:d:207:PHE:CE2	2.56	0.41
2:b:144:LEU:HD12	2:b:144:LEU:HA	1.92	0.41
3:c:56:MET:O	3:c:60:VAL:HG23	2.21	0.41
3:c:199:PHE:HB2	3:c:210:TRP:HB2	2.03	0.41
3:c:223:LEU:HD12	3:c:223:LEU:HA	1.93	0.41
5:e:220:LYS:HA	5:e:220:LYS:HD3	1.86	0.41
5:e:426:TYR:HB2	5:e:451:VAL:HG21	2.03	0.41
5:e:544:ILE:CG2	5:e:548:GLU:HB2	2.51	0.41
5:e:676:LYS:HA	5:e:676:LYS:HD2	1.85	0.41
5:e:998:MET:SD	6:s:717:TYR:HD1	2.44	0.41
5:e:1055:PRO:HD2	13:m:109:ILE:HD11	2.03	0.41
6:s:136:ASN:OD1	6:s:139:ARG:N	2.50	0.41
6:s:260:LYS:HE2	6:s:280:ASP:O	2.21	0.41
7:g:21:ARG:HH22	7:g:23:HIS:HB2	1.86	0.41
7:g:584:GLU:HG3	7:g:594:ILE:HG22	2.01	0.41
8:h:428:HIS:HB3	8:h:431:GLU:HB2	2.03	0.41
8:h:499:SER:HB2	8:h:506:VAL:HG12	2.03	0.41
8:h:709:GLY:H	8:h:735:VAL:HG23	1.86	0.41
8:h:820:GLU:HG3	8:h:824:ARG:HD2	2.03	0.41
10:j:11:VAL:HG21	10:j:69:ARG:HH21	1.86	0.41
10:j:56:ILE:HD13	10:j:56:ILE:HA	1.87	0.41
12:l:217:LYS:HE2	12:l:217:LYS:HB2	1.90	0.41
13:m:57:LEU:HD23	13:m:101:ARG:NH2	2.36	0.41
15:R:3:BMA:H61	15:R:6:BMA:H2	1.81	0.41
17:U:1:NAG:H4	17:U:2:NAG:N2	2.36	0.41
2:B:340:THR:O	2:B:344:ASN:ND2	2.53	0.41
3:C:44:ARG:HA	3:C:44:ARG:HD3	1.80	0.41
5:E:324:LEU:HD11	5:r:260:LEU:HA	2.03	0.41
5:E:627:ASP:HB2	5:E:643:LEU:HB2	2.03	0.41
5:E:896:ILE:HA	5:E:897:PRO:HD3	1.94	0.41
7:G:491:LEU:HD23	7:G:491:LEU:HA	1.91	0.41
7:G:595:MET:SD	7:G:596:ASN:N	2.94	0.41
8:H:827:TYR:CE1	8:H:897:TRP:HB3	2.56	0.41
2:o:144:LEU:HD12	2:o:144:LEU:HA	1.91	0.41
2:o:223:ARG:H	2:o:223:ARG:HG2	1.59	0.41
2:o:321:LEU:HG	2:o:325:LEU:HD23	2.02	0.41
3:p:116:ILE:HA	3:p:119:VAL:HG22	2.02	0.41
3:p:250:LEU:O	3:p:254:LEU:HG	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:q:59:MET:HG2	5:r:1082:LEU:HD21	2.02	0.41
5:r:626:SER:OG	5:r:627:ASP:N	2.54	0.41
6:f:681:LEU:HD11	6:f:733:ILE:HD13	2.02	0.41
8:u:603:ILE:HD13	8:u:603:ILE:HA	1.91	0.41
8:u:738:ASP:OD1	8:u:738:ASP:N	2.38	0.41
8:u:792:LEU:HD11	8:u:932:MET:HE3	2.02	0.41
12:y:100:TYR:CZ	12:y:240:GLY:HA3	2.56	0.41
12:y:296:TYR:O	12:y:300:GLN:HG2	2.21	0.41
3:c:193:ILE:HD12	3:c:193:ILE:HA	1.89	0.41
8:h:541:LYS:HD2	8:h:572:VAL:HG13	2.03	0.41
8:h:742:TYR:HA	8:h:921:LEU:HD23	2.03	0.41
8:h:942:ALA:HA	8:h:945:ILE:HD12	2.02	0.41
12:l:609:TYR:HA	12:l:612:VAL:HB	2.02	0.41
4:D:291:LYS:HA	4:D:291:LYS:HD2	1.78	0.40
7:G:622:ARG:O	7:G:622:ARG:NH1	2.53	0.40
8:H:181:MET:HE2	8:H:181:MET:HB2	1.93	0.40
2:o:186:SER:HB2	2:o:211:ARG:HD2	2.02	0.40
5:r:559:MET:HA	5:r:560:PRO:HD3	1.86	0.40
5:r:974:VAL:HG13	5:r:1011:TYR:HB2	2.02	0.40
6:f:857:ILE:HD11	6:f:864:GLY:HA3	2.03	0.40
6:f:881:GLY:HA2	6:f:930:LEU:HG	2.04	0.40
6:f:928:GLN:HA	6:f:935:SER:HA	2.03	0.40
7:t:211:MET:HE3	7:t:212:VAL:C	2.46	0.40
7:t:578:PRO:HB2	7:t:677:LYS:HD2	2.03	0.40
10:w:129:LEU:HD23	10:w:129:LEU:HA	1.98	0.40
13:z:57:LEU:HD12	13:z:57:LEU:HA	1.81	0.40
1:a:475:LEU:HD13	4:d:196:LEU:HD21	2.03	0.40
1:a:581:GLN:OE1	2:b:346:ARG:NH2	2.54	0.40
4:d:212:PHE:HE2	4:d:230:LEU:HD11	1.85	0.40
5:e:435:ASP:OD1	5:e:436:GLY:N	2.54	0.40
5:e:987:LEU:HD22	5:e:1016:LEU:HD22	2.02	0.40
6:s:252:ILE:HG22	6:s:301:ALA:HB1	2.02	0.40
8:h:777:VAL:HG21	8:h:822:HIS:NE2	2.36	0.40
12:l:515:SER:HB3	12:l:518:PHE:HB3	2.03	0.40
13:m:29:HIS:ND1	13:m:61:GLN:OE1	2.54	0.40
3:C:196:PHE:CE2	4:D:89:THR:HG22	2.56	0.40
5:E:785:LEU:HD11	6:F:642:ILE:HG12	2.03	0.40
6:F:284:VAL:HG21	6:F:338:ARG:HH12	1.86	0.40
7:G:44:TYR:CE2	7:G:46:PHE:HB2	2.56	0.40
7:G:531:GLN:HB2	7:G:536:TYR:CZ	2.56	0.40
10:J:97:TYR:HB2	10:J:117:CYS:HB3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:o:114:SER:HA	2:o:117:PHE:CE2	2.56	0.40
3:p:60:VAL:HB	3:p:156:LEU:HG	2.02	0.40
5:r:166:VAL:HG13	5:r:223:ILE:HD11	2.02	0.40
5:r:541:PRO:O	5:r:661:LEU:HD21	2.21	0.40
5:r:960:PHE:CD1	5:r:965:LYS:HD2	2.55	0.40
6:f:124:LYS:HB2	6:f:190:ASN:HB2	2.03	0.40
6:f:339:VAL:HG22	6:f:340:LEU:H	1.87	0.40
7:t:416:LYS:HA	7:t:416:LYS:HD2	1.95	0.40
7:t:586:TRP:NE1	7:t:591:VAL:HG22	2.37	0.40
1:a:495:LEU:HB2	1:a:496:MET:HE2	2.03	0.40
3:c:229:TRP:NE1	4:d:232:ILE:HG12	2.33	0.40
4:d:217:PRO:HG3	6:s:900:LYS:HG3	2.03	0.40
5:e:292:ILE:HG13	5:e:293:ARG:HG3	2.03	0.40
6:s:972:ASP:OD2	6:s:976:SER:OG	2.39	0.40
7:g:334:SER:O	7:g:334:SER:OG	2.32	0.40
7:g:515:VAL:HG21	7:g:707:PHE:CD1	2.56	0.40
8:h:131:TYR:HB2	8:h:237:ILE:HG12	2.02	0.40
10:j:10:PHE:HA	10:j:73:ASN:HA	2.04	0.40
1:A:559:ILE:O	1:A:563:ILE:HG12	2.22	0.40
5:E:294:GLY:HA2	5:E:317:THR:O	2.21	0.40
5:E:587:ASN:HB3	5:E:718:ARG:HH21	1.86	0.40
7:G:334:SER:O	7:G:334:SER:OG	2.30	0.40
8:H:53:TYR:HB3	8:H:71:LEU:HD23	2.04	0.40
8:H:767:LEU:HG	8:H:825:ASN:HD21	1.86	0.40
1:n:348:THR:HB	6:f:1081:ILE:HG12	2.02	0.40
1:n:485:SER:OG	1:n:488:SER:OG	2.28	0.40
2:o:265:SER:HB2	2:o:266:ARG:CZ	2.50	0.40
5:r:200:MET:HE3	5:r:200:MET:HA	2.04	0.40
5:r:435:ASP:OD1	5:r:436:GLY:N	2.54	0.40
5:r:451:VAL:HA	5:r:467:VAL:HA	2.03	0.40
6:f:316:VAL:H	6:f:338:ARG:NH1	2.19	0.40
6:f:528:VAL:HG11	6:f:577:LEU:HD21	2.03	0.40
6:f:1065:ILE:HA	6:f:1068:VAL:HG12	2.02	0.40
7:t:184:ASN:OD1	7:t:184:ASN:N	2.53	0.40
8:u:346:ASP:OD1	8:u:346:ASP:N	2.55	0.40
8:u:542:MET:CG	8:u:546:VAL:HG12	2.52	0.40
12:y:122:GLN:NE2	12:y:131:GLU:HB2	2.36	0.40
13:z:57:LEU:HD23	13:z:101:ARG:NH2	2.36	0.40
1:a:367:ILE:HD13	1:a:387:LEU:HB3	2.03	0.40
5:e:533:LEU:HB2	5:e:715:ILE:HG22	2.03	0.40
6:s:881:GLY:HA2	6:s:930:LEU:HG	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:s:892:ILE:HG12	6:s:902:TYR:CE2	2.55	0.40
10:j:86:ARG:NH2	13:m:11:CYS:SG	2.92	0.40
1:A:387:LEU:HD12	1:A:391:PHE:HE1	1.86	0.40
2:B:336:ALA:HA	3:C:268:ILE:HG12	2.02	0.40
3:C:132:ARG:HA	3:C:132:ARG:HD2	1.89	0.40
4:D:136:ASN:HD22	4:D:165:ARG:HH11	1.70	0.40
4:D:265:VAL:HA	4:D:268:THR:HG22	2.04	0.40
6:F:100:LEU:HG	6:F:174:MET:HB2	2.02	0.40
6:F:441:ASN:OD1	6:F:441:ASN:N	2.54	0.40
7:G:413:ILE:HD11	7:G:450:LYS:HG2	2.04	0.40
7:G:684:ASN:HA	7:G:711:VAL:HG23	2.04	0.40
8:H:79:VAL:HG23	8:H:113:ALA:HA	2.03	0.40
8:H:257:TYR:HB3	8:H:302:ARG:HB3	2.03	0.40
10:J:147:LEU:HD12	10:J:147:LEU:HA	1.81	0.40
3:p:193:ILE:HD12	3:p:193:ILE:HA	1.90	0.40
6:f:833:GLN:OE1	6:f:834:GLY:N	2.54	0.40
8:u:192:THR:OG1	8:u:195:LYS:O	2.24	0.40
10:w:5:MET:HE3	10:w:12:LEU:HD11	2.04	0.40
12:y:234:MET:O	12:y:235:PRO:C	2.64	0.40
12:y:419:LEU:O	12:y:423:ILE:HG12	2.21	0.40
2:b:114:SER:HA	2:b:117:PHE:CE2	2.57	0.40
5:e:196:ILE:O	5:e:209:ILE:HA	2.20	0.40
5:e:479:LEU:HD23	5:e:479:LEU:HA	1.83	0.40
6:s:492:PHE:HB2	6:s:504:PHE:HE1	1.86	0.40
6:s:842:LYS:H	6:s:842:LYS:HG3	1.71	0.40
8:h:269:MET:N	8:h:269:MET:SD	2.95	0.40
8:h:806:ASN:OD1	8:h:806:ASN:N	2.45	0.40
13:m:53:TYR:HD1	13:m:53:TYR:HA	1.82	0.40
6:F:72:ILE:O	6:F:94:LEU:HB2	2.22	0.40
7:G:691:LEU:HB2	7:G:707:PHE:HE1	1.86	0.40
8:H:417:THR:HB	8:H:439:CYS:SG	2.61	0.40
8:H:517:ASN:OD1	8:H:519:SER:OG	2.39	0.40
8:H:518:LEU:HB3	8:H:548:PHE:HE2	1.87	0.40
8:H:554:ILE:HD13	8:H:554:ILE:HA	1.94	0.40
2:o:262:ARG:HG2	2:o:266:ARG:NE	2.37	0.40
3:p:210:TRP:HZ3	3:p:220:LEU:HG	1.85	0.40
4:q:106:ASP:HB3	5:r:1063:ALA:HB2	2.03	0.40
5:r:316:ILE:HG12	5:r:318:PHE:CE2	2.57	0.40
5:r:438:ASN:HD22	6:f:116:ARG:HD2	1.86	0.40
5:r:538:ILE:O	5:r:553:ALA:HA	2.21	0.40
6:f:892:ILE:HG12	6:f:902:TYR:CE2	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:f:922:GLN:HG3	6:f:924:PHE:HE1	1.86	0.40
7:t:84:VAL:HA	7:t:85:PRO:HD3	1.96	0.40
2:b:230:LEU:HA	2:b:233:VAL:HG22	2.04	0.40
2:b:337:MET:HE3	2:b:338:MET:N	2.36	0.40
3:c:94:TYR:CE2	3:c:152:ARG:HG2	2.57	0.40
4:d:291:LYS:HA	4:d:291:LYS:HD2	1.77	0.40
5:e:763:PRO:HD2	6:s:195:PHE:HE1	1.87	0.40
5:e:880:SER:HA	5:e:898:ARG:HH21	1.85	0.40
6:s:113:GLU:OE2	6:s:116:ARG:NE	2.46	0.40
6:s:508:PHE:HE2	6:s:514:ILE:HD11	1.86	0.40
6:s:515:LYS:HB2	6:s:528:VAL:HG13	2.03	0.40
7:g:556:ASP:HB3	7:g:557:ASP:H	1.65	0.40
7:g:686:ILE:HA	7:g:709:VAL:O	2.22	0.40
8:h:275:CYS:HA	8:h:365:CYS:HB2	2.03	0.40
12:l:428:LEU:HD12	12:l:428:LEU:HA	1.91	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	A	249/251 (99%)	225 (90%)	23 (9%)	1 (0%)	30	68
1	a	249/251 (99%)	227 (91%)	21 (8%)	1 (0%)	30	68
1	n	249/251 (99%)	225 (90%)	23 (9%)	1 (0%)	30	68
2	B	279/281 (99%)	259 (93%)	20 (7%)	0	100	100
2	b	279/281 (99%)	257 (92%)	22 (8%)	0	100	100
2	o	279/281 (99%)	255 (91%)	24 (9%)	0	100	100
3	C	276/278 (99%)	261 (95%)	15 (5%)	0	100	100
3	c	276/278 (99%)	264 (96%)	12 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	p	276/278 (99%)	261 (95%)	15 (5%)	0	100	100
4	D	248/250 (99%)	226 (91%)	22 (9%)	0	100	100
4	d	248/250 (99%)	228 (92%)	19 (8%)	1 (0%)	30	68
4	q	248/250 (99%)	226 (91%)	21 (8%)	1 (0%)	30	68
5	E	1052/1065 (99%)	962 (91%)	89 (8%)	1 (0%)	48	83
5	e	1052/1065 (99%)	979 (93%)	73 (7%)	0	100	100
5	r	1052/1065 (99%)	972 (92%)	80 (8%)	0	100	100
6	F	1040/1042 (100%)	981 (94%)	58 (6%)	1 (0%)	48	83
6	f	1040/1042 (100%)	921 (89%)	109 (10%)	10 (1%)	13	49
6	s	1040/1042 (100%)	929 (89%)	102 (10%)	9 (1%)	14	52
7	G	708/733 (97%)	657 (93%)	51 (7%)	0	100	100
7	g	708/733 (97%)	648 (92%)	59 (8%)	1 (0%)	48	83
7	t	708/733 (97%)	649 (92%)	59 (8%)	0	100	100
8	H	912/921 (99%)	833 (91%)	78 (9%)	1 (0%)	48	83
8	h	912/921 (99%)	844 (92%)	67 (7%)	1 (0%)	48	83
8	u	912/921 (99%)	850 (93%)	61 (7%)	1 (0%)	48	83
9	I	172/174 (99%)	162 (94%)	9 (5%)	1 (1%)	22	60
9	Q	172/174 (99%)	162 (94%)	9 (5%)	1 (1%)	22	60
9	i	172/174 (99%)	162 (94%)	9 (5%)	1 (1%)	22	60
10	J	166/168 (99%)	135 (81%)	30 (18%)	1 (1%)	22	60
10	j	166/168 (99%)	132 (80%)	32 (19%)	2 (1%)	11	45
10	w	166/168 (99%)	132 (80%)	33 (20%)	1 (1%)	22	60
11	K	147/149 (99%)	139 (95%)	8 (5%)	0	100	100
11	k	147/149 (99%)	140 (95%)	7 (5%)	0	100	100
11	x	147/149 (99%)	141 (96%)	6 (4%)	0	100	100
12	L	593/610 (97%)	563 (95%)	29 (5%)	1 (0%)	44	78
12	l	593/610 (97%)	556 (94%)	36 (6%)	1 (0%)	44	78
12	y	593/610 (97%)	554 (93%)	37 (6%)	2 (0%)	37	73
13	M	113/115 (98%)	104 (92%)	9 (8%)	0	100	100
13	m	113/115 (98%)	104 (92%)	9 (8%)	0	100	100
13	z	113/115 (98%)	103 (91%)	10 (9%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	17865/18111 (99%)	16428 (92%)	1396 (8%)	41 (0%)	45 78

All (41) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	f	290	PRO
6	f	291	ILE
6	s	279	ILE
6	s	290	PRO
6	s	291	ILE
6	f	287	PHE
6	f	296	ALA
6	f	298	ILE
6	f	1056	PRO
6	f	1058	SER
10	w	136	MET
6	s	287	PHE
10	j	136	MET
6	f	1059	SER
6	s	280	ASP
4	q	154	MET
6	f	306	SER
6	s	296	ALA
6	s	306	SER
6	s	709	GLN
1	A	472	LEU
8	H	441	VAL
1	n	472	LEU
12	y	407	PRO
1	a	472	LEU
5	E	901	PHE
10	J	136	MET
4	d	223	MET
7	g	19	LEU
10	j	13	GLU
8	u	441	VAL
8	h	441	VAL
6	f	293	GLY
6	F	836	ILE
12	y	553	ILE
9	I	4	THR
12	L	553	ILE

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Mol	Chain	Res	Type
6	s	293	GLY
9	i	4	THR
12	l	553	ILE
9	Q	4	THR

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	230/230 (100%)	226 (98%)	4 (2%)	56	72
1	a	230/230 (100%)	227 (99%)	3 (1%)	65	77
1	n	230/230 (100%)	227 (99%)	3 (1%)	65	77
2	B	262/262 (100%)	258 (98%)	4 (2%)	60	75
2	b	262/262 (100%)	261 (100%)	1 (0%)	89	91
2	o	262/262 (100%)	262 (100%)	0	100	100
3	C	253/253 (100%)	252 (100%)	1 (0%)	89	91
3	c	253/253 (100%)	253 (100%)	0	100	100
3	p	253/253 (100%)	251 (99%)	2 (1%)	79	85
4	D	220/220 (100%)	220 (100%)	0	100	100
4	d	220/220 (100%)	220 (100%)	0	100	100
4	q	220/220 (100%)	220 (100%)	0	100	100
5	E	962/969 (99%)	959 (100%)	3 (0%)	91	92
5	e	962/969 (99%)	959 (100%)	3 (0%)	91	92
5	r	962/969 (99%)	958 (100%)	4 (0%)	89	91
6	F	946/946 (100%)	945 (100%)	1 (0%)	92	95
6	f	946/946 (100%)	933 (99%)	13 (1%)	62	75
6	s	946/946 (100%)	933 (99%)	13 (1%)	62	75
7	G	642/659 (97%)	641 (100%)	1 (0%)	92	94
7	g	642/659 (97%)	640 (100%)	2 (0%)	91	92

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	t	642/659 (97%)	642 (100%)	0	100	100
8	H	842/847 (99%)	839 (100%)	3 (0%)	89	91
8	h	842/847 (99%)	837 (99%)	5 (1%)	84	88
8	u	842/847 (99%)	840 (100%)	2 (0%)	92	94
10	J	153/153 (100%)	153 (100%)	0	100	100
10	j	153/153 (100%)	153 (100%)	0	100	100
10	w	153/153 (100%)	153 (100%)	0	100	100
11	K	5/139 (4%)	5 (100%)	0	100	100
11	k	5/139 (4%)	5 (100%)	0	100	100
11	x	5/139 (4%)	5 (100%)	0	100	100
12	L	516/529 (98%)	516 (100%)	0	100	100
12	l	516/529 (98%)	515 (100%)	1 (0%)	92	94
12	y	516/529 (98%)	514 (100%)	2 (0%)	89	91
13	M	99/99 (100%)	99 (100%)	0	100	100
13	m	99/99 (100%)	99 (100%)	0	100	100
13	z	99/99 (100%)	99 (100%)	0	100	100
All	All	15390/15918 (97%)	15319 (100%)	71 (0%)	85	89

All (71) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	337	LEU
1	A	338	LEU
1	A	496	MET
1	A	514	SER
2	B	156	ILE
2	B	249	PHE
2	B	289	PHE
2	B	301	LEU
3	C	112	ASP
5	E	727	ASP
5	E	915	ASN
5	E	956	VAL
6	F	123	MET
7	G	152	LEU
8	H	795	MET

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Mol	Chain	Res	Type
8	H	830	ASN
8	H	905	TYR
1	n	337	LEU
1	n	338	LEU
1	n	584	LEU
3	p	86	SER
3	p	263	PHE
5	r	76	LEU
5	r	89	THR
5	r	963	ARG
5	r	979	VAL
6	f	279	ILE
6	f	280	ASP
6	f	284	VAL
6	f	288	TYR
6	f	291	ILE
6	f	292	LEU
6	f	515	LYS
6	f	847	LEU
6	f	1055	LEU
6	f	1057	LEU
6	f	1058	SER
6	f	1059	SER
6	f	1060	LYS
8	u	848	MET
8	u	857	LEU
12	y	404	LEU
12	y	406	THR
1	a	337	LEU
1	a	338	LEU
1	a	385	MET
2	b	244	MET
5	e	52	THR
5	e	187	SER
5	e	809	LEU
6	s	239	ARG
6	s	277	LEU
6	s	279	ILE
6	s	280	ASP
6	s	284	VAL
6	s	288	TYR
6	s	291	ILE

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Mol	Chain	Res	Type
6	s	292	LEU
6	s	294	PHE
6	s	297	THR
6	s	420	LEU
6	s	450	ILE
6	s	462	LEU
7	g	230	MET
7	g	479	ILE
8	h	140	VAL
8	h	245	THR
8	h	441	VAL
8	h	457	ILE
8	h	965	LYS
12	l	419	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (150) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	548	GLN
2	B	224	GLN
2	B	344	ASN
3	C	76	GLN
3	C	115	ASN
3	C	209	ASN
3	C	295	GLN
4	D	67	HIS
4	D	71	GLN
4	D	219	HIS
4	D	288	GLN
5	E	85	ASN
5	E	138	HIS
5	E	225	HIS
5	E	240	GLN
5	E	251	ASN
5	E	374	ASN
5	E	554	HIS
5	E	771	ASN
5	E	870	ASN
5	E	912	GLN
5	E	928	GLN
5	E	961	ASN
6	F	69	HIS

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Mol	Chain	Res	Type
6	F	130	ASN
6	F	495	GLN
6	F	649	HIS
6	F	833	GLN
6	F	1009	ASN
7	G	202	HIS
7	G	228	HIS
7	G	292	ASN
7	G	357	HIS
7	G	428	ASN
7	G	668	GLN
8	H	544	ASN
8	H	623	GLN
8	H	690	GLN
8	H	707	ASN
8	H	794	GLN
8	H	825	ASN
10	J	142	HIS
12	L	192	GLN
12	L	367	HIS
12	L	535	ASN
12	L	594	GLN
12	L	637	ASN
12	L	650	ASN
13	M	45	ASN
13	M	61	GLN
1	n	548	GLN
2	o	224	GLN
3	p	76	GLN
3	p	209	ASN
4	q	71	GLN
5	r	130	GLN
5	r	240	GLN
5	r	499	GLN
5	r	692	ASN
5	r	735	ASN
5	r	786	ASN
5	r	899	ASN
5	r	912	GLN
5	r	928	GLN
5	r	952	GLN
5	r	961	ASN

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Mol	Chain	Res	Type
5	r	1086	HIS
6	f	52	ASN
6	f	92	ASN
6	f	495	GLN
6	f	621	ASN
6	f	672	ASN
6	f	709	GLN
6	f	786	ASN
6	f	855	ASN
6	f	894	HIS
6	f	899	ASN
6	f	954	ASN
6	f	1009	ASN
7	t	202	HIS
7	t	257	GLN
7	t	265	ASN
7	t	292	ASN
7	t	439	ASN
7	t	443	ASN
7	t	675	ASN
8	u	91	ASN
8	u	182	ASN
8	u	312	GLN
8	u	544	ASN
8	u	561	HIS
8	u	699	ASN
8	u	825	ASN
8	u	852	ASN
10	w	148	ASN
12	y	152	HIS
12	y	355	GLN
12	y	389	ASN
12	y	582	ASN
12	y	594	GLN
12	y	666	GLN
13	z	61	GLN
1	a	349	GLN
1	a	476	HIS
1	a	548	GLN
1	a	570	ASN
2	b	344	ASN
3	c	76	GLN

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Mol	Chain	Res	Type
3	c	209	ASN
4	d	71	GLN
4	d	95	GLN
4	d	288	GLN
5	e	138	HIS
5	e	421	HIS
5	e	771	ASN
5	e	899	ASN
5	e	912	GLN
5	e	928	GLN
5	e	1021	GLN
6	s	52	ASN
6	s	480	ASN
6	s	495	GLN
6	s	558	ASN
6	s	612	ASN
6	s	781	GLN
6	s	894	HIS
6	s	954	ASN
6	s	1009	ASN
7	g	200	HIS
7	g	268	GLN
7	g	292	ASN
7	g	460	GLN
7	g	605	ASN
7	g	675	ASN
8	h	91	ASN
8	h	182	ASN
8	h	186	GLN
8	h	312	GLN
8	h	438	HIS
8	h	517	ASN
8	h	588	ASN
8	h	699	ASN
8	h	852	ASN
8	h	891	ASN
10	j	74	HIS
12	l	192	GLN
12	l	280	GLN
12	l	594	GLN
12	l	666	GLN
13	m	39	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

114 monosaccharides 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
15	NAG	0	1	5,15	14,14,15	0.21	0	17,19,21	0.44	0
15	NAG	0	2	15	14,14,15	0.19	0	17,19,21	0.43	0
15	BMA	0	3	15	11,11,12	1.02	1 (9%)	15,15,17	0.86	1 (6%)
15	BMA	0	4	15	11,11,12	0.64	0	15,15,17	0.84	0
15	BMA	0	5	15	11,11,12	0.70	0	15,15,17	0.79	0
15	BMA	0	6	15	11,11,12	0.66	0	15,15,17	0.78	0
15	BMA	0	7	15	11,11,12	0.66	0	15,15,17	0.74	0
16	NAG	1	1	6,16	14,14,15	0.55	0	17,19,21	0.55	0
16	NAG	1	2	16	14,14,15	0.26	0	17,19,21	0.65	0
16	BMA	1	3	16	11,11,12	0.61	0	15,15,17	0.77	0
16	NAG	2	1	6,16	14,14,15	0.61	1 (7%)	17,19,21	0.68	0
16	NAG	2	2	16	14,14,15	0.23	0	17,19,21	0.40	0
16	BMA	2	3	16	11,11,12	0.65	0	15,15,17	0.82	0
17	NAG	3	1	7,17	14,14,15	0.58	0	17,19,21	0.72	0
17	NAG	3	2	17	14,14,15	0.63	1 (7%)	17,19,21	0.60	0
16	NAG	4	1	7,16	14,14,15	0.20	0	17,19,21	0.41	0
16	NAG	4	2	16	14,14,15	0.22	0	17,19,21	0.42	0
16	BMA	4	3	16	11,11,12	0.66	0	15,15,17	0.75	0
16	NAG	5	1	16,8	14,14,15	0.31	0	17,19,21	0.47	0
16	NAG	5	2	16	14,14,15	0.20	0	17,19,21	0.40	0
16	BMA	5	3	16	11,11,12	0.77	0	15,15,17	0.77	0
16	NAG	6	1	16,8	14,14,15	0.30	0	17,19,21	0.44	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
16	NAG	6	2	16	14,14,15	0.22	0	17,19,21	0.45	0
16	BMA	6	3	16	11,11,12	0.61	0	15,15,17	0.78	0
18	NAG	7	1	18,8	14,14,15	0.27	0	17,19,21	0.52	0
18	NAG	7	2	18	14,14,15	0.21	0	17,19,21	0.44	0
18	BMA	7	3	18	11,11,12	0.56	0	15,15,17	0.99	1 (6%)
18	BMA	7	4	18	11,11,12	0.58	0	15,15,17	0.81	0
18	BMA	7	5	18	11,11,12	0.63	0	15,15,17	0.81	0
18	BMA	7	6	18	11,11,12	0.90	1 (9%)	15,15,17	0.91	0
18	BMA	7	7	18	11,11,12	0.61	0	15,15,17	0.78	0
17	NAG	8	1	17,8	14,14,15	0.77	1 (7%)	17,19,21	0.99	1 (5%)
17	NAG	8	2	17	14,14,15	0.30	0	17,19,21	0.65	1 (5%)
19	NAG	9	1	19,8	14,14,15	0.24	0	17,19,21	0.48	0
19	NAG	9	2	19	14,14,15	0.35	0	17,19,21	0.72	1 (5%)
19	BMA	9	3	19	11,11,12	0.85	1 (9%)	15,15,17	1.11	1 (6%)
19	BMA	9	4	19	11,11,12	0.80	1 (9%)	15,15,17	0.81	0
19	BMA	9	5	19	11,11,12	0.66	0	15,15,17	0.74	0
15	NAG	AA	1	5,15	14,14,15	0.18	0	17,19,21	0.41	0
15	NAG	AA	2	15	14,14,15	0.17	0	17,19,21	0.44	0
15	BMA	AA	3	15	11,11,12	0.98	1 (9%)	15,15,17	0.87	1 (6%)
15	BMA	AA	4	15	11,11,12	0.58	0	15,15,17	0.81	0
15	BMA	AA	5	15	11,11,12	0.69	0	15,15,17	0.79	0
15	BMA	AA	6	15	11,11,12	0.68	0	15,15,17	0.78	0
15	BMA	AA	7	15	11,11,12	0.69	0	15,15,17	0.74	0
16	NAG	BA	1	6,16	14,14,15	0.61	1 (7%)	17,19,21	0.59	0
16	NAG	BA	2	16	14,14,15	0.26	0	17,19,21	0.66	0
16	BMA	BA	3	16	11,11,12	0.60	0	15,15,17	0.75	0
16	NAG	CA	1	6,16	14,14,15	0.64	1 (7%)	17,19,21	0.66	0
16	NAG	CA	2	16	14,14,15	0.21	0	17,19,21	0.39	0
16	BMA	CA	3	16	11,11,12	0.61	0	15,15,17	0.78	0
17	NAG	DA	1	7,17	14,14,15	0.56	0	17,19,21	0.69	0
17	NAG	DA	2	17	14,14,15	0.62	0	17,19,21	0.62	1 (5%)
16	NAG	EA	1	7,16	14,14,15	0.21	0	17,19,21	0.39	0
16	NAG	EA	2	16	14,14,15	0.25	0	17,19,21	0.44	0
16	BMA	EA	3	16	11,11,12	0.69	0	15,15,17	0.74	0
16	NAG	FA	1	16,8	14,14,15	0.34	0	17,19,21	0.42	0
16	NAG	FA	2	16	14,14,15	0.20	0	17,19,21	0.39	0
16	BMA	FA	3	16	11,11,12	0.76	0	15,15,17	0.75	0
16	NAG	GA	1	16,8	14,14,15	0.40	0	17,19,21	0.45	0
16	NAG	GA	2	16	14,14,15	0.21	0	17,19,21	0.46	0
16	BMA	GA	3	16	11,11,12	0.64	0	15,15,17	0.75	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
18	NAG	HA	1	18,8	14,14,15	0.26	0	17,19,21	0.51	0
18	NAG	HA	2	18	14,14,15	0.23	0	17,19,21	0.45	0
18	BMA	HA	3	18	11,11,12	0.55	0	15,15,17	1.01	0
18	BMA	HA	4	18	11,11,12	0.57	0	15,15,17	0.84	0
18	BMA	HA	5	18	11,11,12	0.65	0	15,15,17	0.81	0
18	BMA	HA	6	18	11,11,12	0.91	1 (9%)	15,15,17	0.94	0
18	BMA	HA	7	18	11,11,12	0.62	0	15,15,17	0.78	0
17	NAG	IA	1	17,8	14,14,15	0.56	0	17,19,21	0.74	0
17	NAG	IA	2	17	14,14,15	0.24	0	17,19,21	0.58	0
19	NAG	JA	1	19,8	14,14,15	0.24	0	17,19,21	0.46	0
19	NAG	JA	2	19	14,14,15	0.34	0	17,19,21	0.73	1 (5%)
19	BMA	JA	3	19	11,11,12	0.85	1 (9%)	15,15,17	1.13	1 (6%)
19	BMA	JA	4	19	11,11,12	0.80	1 (9%)	15,15,17	0.82	0
19	BMA	JA	5	19	11,11,12	0.67	0	15,15,17	0.76	0
15	NAG	R	1	5,15	14,14,15	0.26	0	17,19,21	0.50	0
15	NAG	R	2	15	14,14,15	0.30	0	17,19,21	0.40	0
15	BMA	R	3	15	11,11,12	0.84	0	15,15,17	1.02	1 (6%)
15	BMA	R	4	15	11,11,12	0.49	0	15,15,17	0.83	0
15	BMA	R	5	15	11,11,12	0.75	1 (9%)	15,15,17	0.83	0
15	BMA	R	6	15	11,11,12	0.77	0	15,15,17	0.92	1 (6%)
15	BMA	R	7	15	11,11,12	0.66	0	15,15,17	0.73	0
16	NAG	S	1	6,16	14,14,15	0.27	0	17,19,21	0.42	0
16	NAG	S	2	16	14,14,15	0.16	0	17,19,21	0.49	0
16	BMA	S	3	16	11,11,12	0.65	0	15,15,17	1.03	1 (6%)
16	NAG	T	1	6,16	14,14,15	0.82	1 (7%)	17,19,21	0.79	0
16	NAG	T	2	16	14,14,15	0.25	0	17,19,21	0.39	0
16	BMA	T	3	16	11,11,12	0.61	0	15,15,17	0.78	0
17	NAG	U	1	7,17	14,14,15	0.43	0	17,19,21	0.70	0
17	NAG	U	2	17	14,14,15	0.61	0	17,19,21	0.68	1 (5%)
16	NAG	V	1	7,16	14,14,15	0.33	0	17,19,21	0.47	0
16	NAG	V	2	16	14,14,15	0.22	0	17,19,21	0.52	0
16	BMA	V	3	16	11,11,12	0.72	0	15,15,17	0.73	0
16	NAG	W	1	16,8	14,14,15	0.27	0	17,19,21	0.45	0
16	NAG	W	2	16	14,14,15	0.22	0	17,19,21	0.44	0
16	BMA	W	3	16	11,11,12	0.76	1 (9%)	15,15,17	0.76	0
16	NAG	X	1	16,8	14,14,15	0.32	0	17,19,21	0.54	0
16	NAG	X	2	16	14,14,15	0.27	0	17,19,21	0.44	0
16	BMA	X	3	16	11,11,12	0.60	0	15,15,17	0.71	0
18	NAG	Y	1	18,8	14,14,15	0.29	0	17,19,21	0.58	0
18	NAG	Y	2	18	14,14,15	0.28	0	17,19,21	0.44	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
18	BMA	Y	3	18	11,11,12	0.63	0	15,15,17	1.19	2 (13%)
18	BMA	Y	4	18	11,11,12	0.49	0	15,15,17	1.01	0
18	BMA	Y	5	18	11,11,12	0.62	0	15,15,17	0.85	0
18	BMA	Y	6	18	11,11,12	0.68	0	15,15,17	0.90	0
18	BMA	Y	7	18	11,11,12	0.59	0	15,15,17	1.05	1 (6%)
17	NAG	Z	1	17,8	14,14,15	0.93	1 (7%)	17,19,21	0.85	1 (5%)
17	NAG	Z	2	17	14,14,15	0.26	0	17,19,21	0.58	0
19	NAG	v	1	19,8	14,14,15	0.26	0	17,19,21	0.46	0
19	NAG	v	2	19	14,14,15	0.25	0	17,19,21	0.53	0
19	BMA	v	3	19	11,11,12	0.93	0	15,15,17	1.40	2 (13%)
19	BMA	v	4	19	11,11,12	0.91	0	15,15,17	0.75	0
19	BMA	v	5	19	11,11,12	0.60	0	15,15,17	0.75	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
15	NAG	0	1	5,15	-	1/6/23/26	0/1/1/1
15	NAG	0	2	15	-	2/6/23/26	0/1/1/1
15	BMA	0	3	15	-	0/2/19/22	0/1/1/1
15	BMA	0	4	15	-	2/2/19/22	0/1/1/1
15	BMA	0	5	15	-	0/2/19/22	0/1/1/1
15	BMA	0	6	15	-	0/2/19/22	0/1/1/1
15	BMA	0	7	15	-	0/2/19/22	0/1/1/1
16	NAG	1	1	6,16	-	2/6/23/26	0/1/1/1
16	NAG	1	2	16	-	2/6/23/26	0/1/1/1
16	BMA	1	3	16	-	2/2/19/22	0/1/1/1
16	NAG	2	1	6,16	-	0/6/23/26	0/1/1/1
16	NAG	2	2	16	-	2/6/23/26	0/1/1/1
16	BMA	2	3	16	-	0/2/19/22	0/1/1/1
17	NAG	3	1	7,17	-	1/6/23/26	0/1/1/1
17	NAG	3	2	17	-	2/6/23/26	0/1/1/1
16	NAG	4	1	7,16	-	2/6/23/26	0/1/1/1
16	NAG	4	2	16	-	0/6/23/26	0/1/1/1
16	BMA	4	3	16	-	1/2/19/22	0/1/1/1
16	NAG	5	1	16,8	-	1/6/23/26	0/1/1/1
16	NAG	5	2	16	-	0/6/23/26	0/1/1/1
16	BMA	5	3	16	-	1/2/19/22	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
16	NAG	6	1	16,8	-	2/6/23/26	0/1/1/1
16	NAG	6	2	16	-	0/6/23/26	0/1/1/1
16	BMA	6	3	16	-	0/2/19/22	0/1/1/1
18	NAG	7	1	18,8	-	0/6/23/26	0/1/1/1
18	NAG	7	2	18	-	2/6/23/26	0/1/1/1
18	BMA	7	3	18	-	2/2/19/22	0/1/1/1
18	BMA	7	4	18	-	2/2/19/22	0/1/1/1
18	BMA	7	5	18	-	2/2/19/22	0/1/1/1
18	BMA	7	6	18	-	1/2/19/22	0/1/1/1
18	BMA	7	7	18	-	2/2/19/22	0/1/1/1
17	NAG	8	1	17,8	-	2/6/23/26	0/1/1/1
17	NAG	8	2	17	-	0/6/23/26	0/1/1/1
19	NAG	9	1	19,8	-	0/6/23/26	0/1/1/1
19	NAG	9	2	19	-	0/6/23/26	0/1/1/1
19	BMA	9	3	19	-	1/2/19/22	0/1/1/1
19	BMA	9	4	19	-	1/2/19/22	0/1/1/1
19	BMA	9	5	19	-	0/2/19/22	0/1/1/1
15	NAG	AA	1	5,15	-	1/6/23/26	0/1/1/1
15	NAG	AA	2	15	-	2/6/23/26	0/1/1/1
15	BMA	AA	3	15	-	0/2/19/22	0/1/1/1
15	BMA	AA	4	15	-	2/2/19/22	0/1/1/1
15	BMA	AA	5	15	-	0/2/19/22	0/1/1/1
15	BMA	AA	6	15	-	0/2/19/22	0/1/1/1
15	BMA	AA	7	15	-	0/2/19/22	0/1/1/1
16	NAG	BA	1	6,16	-	2/6/23/26	0/1/1/1
16	NAG	BA	2	16	-	2/6/23/26	0/1/1/1
16	BMA	BA	3	16	-	2/2/19/22	0/1/1/1
16	NAG	CA	1	6,16	-	2/6/23/26	0/1/1/1
16	NAG	CA	2	16	-	2/6/23/26	0/1/1/1
16	BMA	CA	3	16	-	0/2/19/22	0/1/1/1
17	NAG	DA	1	7,17	-	2/6/23/26	0/1/1/1
17	NAG	DA	2	17	-	2/6/23/26	0/1/1/1
16	NAG	EA	1	7,16	-	2/6/23/26	0/1/1/1
16	NAG	EA	2	16	-	0/6/23/26	0/1/1/1
16	BMA	EA	3	16	-	1/2/19/22	0/1/1/1
16	NAG	FA	1	16,8	-	1/6/23/26	0/1/1/1
16	NAG	FA	2	16	-	0/6/23/26	0/1/1/1
16	BMA	FA	3	16	-	1/2/19/22	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
16	NAG	GA	1	16,8	-	1/6/23/26	0/1/1/1
16	NAG	GA	2	16	-	0/6/23/26	0/1/1/1
16	BMA	GA	3	16	-	0/2/19/22	0/1/1/1
18	NAG	HA	1	18,8	-	0/6/23/26	0/1/1/1
18	NAG	HA	2	18	-	2/6/23/26	0/1/1/1
18	BMA	HA	3	18	-	2/2/19/22	0/1/1/1
18	BMA	HA	4	18	-	2/2/19/22	0/1/1/1
18	BMA	HA	5	18	-	2/2/19/22	0/1/1/1
18	BMA	HA	6	18	-	1/2/19/22	0/1/1/1
18	BMA	HA	7	18	-	2/2/19/22	0/1/1/1
17	NAG	IA	1	17,8	-	2/6/23/26	0/1/1/1
17	NAG	IA	2	17	-	2/6/23/26	0/1/1/1
19	NAG	JA	1	19,8	-	1/6/23/26	0/1/1/1
19	NAG	JA	2	19	-	0/6/23/26	0/1/1/1
19	BMA	JA	3	19	-	1/2/19/22	0/1/1/1
19	BMA	JA	4	19	-	1/2/19/22	0/1/1/1
19	BMA	JA	5	19	-	0/2/19/22	0/1/1/1
15	NAG	R	1	5,15	-	1/6/23/26	0/1/1/1
15	NAG	R	2	15	-	0/6/23/26	0/1/1/1
15	BMA	R	3	15	-	0/2/19/22	0/1/1/1
15	BMA	R	4	15	-	0/2/19/22	0/1/1/1
15	BMA	R	5	15	-	0/2/19/22	0/1/1/1
15	BMA	R	6	15	-	2/2/19/22	0/1/1/1
15	BMA	R	7	15	-	0/2/19/22	0/1/1/1
16	NAG	S	1	6,16	-	2/6/23/26	0/1/1/1
16	NAG	S	2	16	-	2/6/23/26	0/1/1/1
16	BMA	S	3	16	-	2/2/19/22	0/1/1/1
16	NAG	T	1	6,16	-	2/6/23/26	0/1/1/1
16	NAG	T	2	16	-	2/6/23/26	0/1/1/1
16	BMA	T	3	16	-	0/2/19/22	0/1/1/1
17	NAG	U	1	7,17	-	1/6/23/26	0/1/1/1
17	NAG	U	2	17	-	2/6/23/26	0/1/1/1
16	NAG	V	1	7,16	-	1/6/23/26	0/1/1/1
16	NAG	V	2	16	-	2/6/23/26	0/1/1/1
16	BMA	V	3	16	-	0/2/19/22	0/1/1/1
16	NAG	W	1	16,8	-	2/6/23/26	0/1/1/1
16	NAG	W	2	16	-	1/6/23/26	0/1/1/1
16	BMA	W	3	16	-	2/2/19/22	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
16	NAG	X	1	16,8	-	0/6/23/26	0/1/1/1
16	NAG	X	2	16	-	0/6/23/26	0/1/1/1
16	BMA	X	3	16	-	0/2/19/22	0/1/1/1
18	NAG	Y	1	18,8	-	2/6/23/26	0/1/1/1
18	NAG	Y	2	18	-	2/6/23/26	0/1/1/1
18	BMA	Y	3	18	-	2/2/19/22	0/1/1/1
18	BMA	Y	4	18	-	2/2/19/22	0/1/1/1
18	BMA	Y	5	18	-	2/2/19/22	0/1/1/1
18	BMA	Y	6	18	-	2/2/19/22	0/1/1/1
18	BMA	Y	7	18	-	2/2/19/22	0/1/1/1
17	NAG	Z	1	17,8	-	2/6/23/26	0/1/1/1
17	NAG	Z	2	17	-	0/6/23/26	0/1/1/1
19	NAG	v	1	19,8	-	2/6/23/26	0/1/1/1
19	NAG	v	2	19	-	2/6/23/26	0/1/1/1
19	BMA	v	3	19	-	2/2/19/22	0/1/1/1
19	BMA	v	4	19	-	2/2/19/22	0/1/1/1
19	BMA	v	5	19	-	1/2/19/22	0/1/1/1

All (17) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	Z	1	NAG	O5-C1	-3.33	1.38	1.43
16	T	1	NAG	O5-C1	-2.93	1.39	1.43
17	8	1	NAG	O5-C1	-2.66	1.39	1.43
18	HA	6	BMA	C1-C2	2.59	1.58	1.52
18	7	6	BMA	C1-C2	2.58	1.58	1.52
17	3	2	NAG	C1-C2	2.23	1.55	1.52
16	CA	1	NAG	O5-C1	-2.22	1.40	1.43
15	0	3	BMA	C2-C3	2.21	1.55	1.52
16	BA	1	NAG	O5-C1	-2.12	1.40	1.43
19	JA	4	BMA	C1-C2	2.11	1.57	1.52
19	9	4	BMA	C1-C2	2.10	1.57	1.52
15	R	5	BMA	C1-C2	2.10	1.57	1.52
16	2	1	NAG	O5-C1	-2.09	1.40	1.43
19	9	3	BMA	O5-C5	2.05	1.47	1.43
19	JA	3	BMA	O5-C5	2.05	1.47	1.43
15	AA	3	BMA	C2-C3	2.03	1.55	1.52
16	W	3	BMA	C1-C2	2.01	1.56	1.52

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	JA	3	BMA	C1-O5-C5	3.50	116.93	112.19
19	9	3	BMA	C1-O5-C5	3.36	116.75	112.19
19	v	3	BMA	C1-C2-C3	-3.18	105.76	109.67
17	U	2	NAG	C1-O5-C5	2.40	115.44	112.19
17	8	1	NAG	O4-C4-C5	-2.39	103.37	109.30
17	8	2	NAG	C1-O5-C5	2.31	115.32	112.19
15	R	3	BMA	O3-C3-C2	2.30	114.39	109.99
18	Y	3	BMA	C1-C2-C3	2.16	112.32	109.67
19	v	3	BMA	O2-C2-C3	-2.15	105.84	110.14
17	DA	2	NAG	C1-O5-C5	2.12	115.07	112.19
19	JA	2	NAG	O4-C4-C3	2.12	115.25	110.35
19	9	2	NAG	O4-C4-C3	2.11	115.24	110.35
16	S	3	BMA	C1-O5-C5	2.07	114.99	112.19
18	Y	3	BMA	C1-O5-C5	2.07	114.99	112.19
18	Y	7	BMA	C1-O5-C5	2.06	114.99	112.19
15	0	3	BMA	O3-C3-C2	2.05	113.93	109.99
15	AA	3	BMA	O3-C3-C2	2.02	113.86	109.99
18	7	3	BMA	C1-O5-C5	2.02	114.92	112.19
15	R	6	BMA	O3-C3-C2	2.01	113.84	109.99
17	Z	1	NAG	O4-C4-C5	-2.00	104.33	109.30

There are no chirality outliers.

All (130) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
16	S	1	NAG	O5-C5-C6-O6
15	0	2	NAG	O5-C5-C6-O6
16	1	2	NAG	O5-C5-C6-O6
16	4	1	NAG	O5-C5-C6-O6
17	Z	1	NAG	O5-C5-C6-O6
17	U	2	NAG	O5-C5-C6-O6
18	Y	2	NAG	O5-C5-C6-O6
18	7	2	NAG	O5-C5-C6-O6
18	7	3	BMA	O5-C5-C6-O6
18	Y	6	BMA	C4-C5-C6-O6
15	AA	2	NAG	O5-C5-C6-O6
18	Y	4	BMA	O5-C5-C6-O6
18	HA	2	NAG	O5-C5-C6-O6
16	BA	2	NAG	C4-C5-C6-O6
17	8	1	NAG	C4-C5-C6-O6
18	7	2	NAG	C4-C5-C6-O6
17	IA	1	NAG	O5-C5-C6-O6
18	HA	3	BMA	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
15	0	2	NAG	C4-C5-C6-O6
16	1	2	NAG	C4-C5-C6-O6
16	BA	2	NAG	O5-C5-C6-O6
16	EA	1	NAG	O5-C5-C6-O6
17	8	1	NAG	O5-C5-C6-O6
15	AA	2	NAG	C4-C5-C6-O6
17	Z	1	NAG	C4-C5-C6-O6
16	2	2	NAG	O5-C5-C6-O6
16	CA	2	NAG	O5-C5-C6-O6
18	HA	2	NAG	C4-C5-C6-O6
16	S	2	NAG	O5-C5-C6-O6
16	W	1	NAG	O5-C5-C6-O6
18	Y	3	BMA	O5-C5-C6-O6
19	v	3	BMA	O5-C5-C6-O6
16	S	1	NAG	C4-C5-C6-O6
18	Y	3	BMA	C4-C5-C6-O6
18	Y	6	BMA	O5-C5-C6-O6
19	v	2	NAG	O5-C5-C6-O6
16	4	1	NAG	C4-C5-C6-O6
18	7	4	BMA	O5-C5-C6-O6
19	v	1	NAG	O5-C5-C6-O6
16	S	2	NAG	C4-C5-C6-O6
19	v	1	NAG	C4-C5-C6-O6
16	EA	1	NAG	C4-C5-C6-O6
17	U	2	NAG	C4-C5-C6-O6
17	IA	1	NAG	C4-C5-C6-O6
16	W	1	NAG	C4-C5-C6-O6
16	2	2	NAG	C4-C5-C6-O6
16	BA	1	NAG	C4-C5-C6-O6
16	CA	2	NAG	C4-C5-C6-O6
18	Y	2	NAG	C4-C5-C6-O6
18	7	4	BMA	C4-C5-C6-O6
19	v	3	BMA	C4-C5-C6-O6
18	HA	7	BMA	O5-C5-C6-O6
18	HA	4	BMA	O5-C5-C6-O6
18	Y	4	BMA	C4-C5-C6-O6
16	1	3	BMA	O5-C5-C6-O6
16	BA	3	BMA	O5-C5-C6-O6
18	Y	5	BMA	C4-C5-C6-O6
18	Y	1	NAG	C4-C5-C6-O6
16	T	2	NAG	O5-C5-C6-O6
16	V	2	NAG	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
17	DA	1	NAG	O5-C5-C6-O6
19	v	2	NAG	C4-C5-C6-O6
16	W	3	BMA	O5-C5-C6-O6
18	7	3	BMA	C4-C5-C6-O6
18	HA	4	BMA	C4-C5-C6-O6
16	BA	3	BMA	C4-C5-C6-O6
16	T	2	NAG	C4-C5-C6-O6
16	1	3	BMA	C4-C5-C6-O6
18	HA	7	BMA	C4-C5-C6-O6
18	Y	5	BMA	O5-C5-C6-O6
18	7	7	BMA	O5-C5-C6-O6
16	V	2	NAG	C4-C5-C6-O6
16	1	1	NAG	C4-C5-C6-O6
18	HA	3	BMA	C4-C5-C6-O6
16	BA	1	NAG	O5-C5-C6-O6
17	3	1	NAG	O5-C5-C6-O6
19	JA	3	BMA	O5-C5-C6-O6
16	FA	3	BMA	O5-C5-C6-O6
15	0	4	BMA	O5-C5-C6-O6
18	7	7	BMA	C4-C5-C6-O6
18	Y	1	NAG	O5-C5-C6-O6
16	1	1	NAG	O5-C5-C6-O6
19	9	3	BMA	O5-C5-C6-O6
15	R	1	NAG	O5-C5-C6-O6
16	FA	1	NAG	O5-C5-C6-O6
17	U	1	NAG	O5-C5-C6-O6
19	9	4	BMA	O5-C5-C6-O6
16	5	1	NAG	O5-C5-C6-O6
19	v	4	BMA	C4-C5-C6-O6
18	HA	6	BMA	O5-C5-C6-O6
15	0	4	BMA	C4-C5-C6-O6
18	Y	7	BMA	O5-C5-C6-O6
16	5	3	BMA	O5-C5-C6-O6
15	AA	1	NAG	O5-C5-C6-O6
15	0	1	NAG	O5-C5-C6-O6
19	v	5	BMA	O5-C5-C6-O6
19	JA	4	BMA	O5-C5-C6-O6
18	7	6	BMA	O5-C5-C6-O6
17	IA	2	NAG	C4-C5-C6-O6
19	v	4	BMA	O5-C5-C6-O6
15	R	6	BMA	C4-C5-C6-O6
17	DA	2	NAG	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
17	DA	2	NAG	C4-C5-C6-O6
18	HA	5	BMA	C4-C5-C6-O6
18	Y	7	BMA	C4-C5-C6-O6
18	7	5	BMA	C4-C5-C6-O6
15	R	6	BMA	O5-C5-C6-O6
16	6	1	NAG	C4-C5-C6-O6
17	DA	1	NAG	C4-C5-C6-O6
16	CA	1	NAG	C4-C5-C6-O6
16	S	3	BMA	O5-C5-C6-O6
16	V	1	NAG	C4-C5-C6-O6
17	IA	2	NAG	O5-C5-C6-O6
18	HA	5	BMA	O5-C5-C6-O6
16	W	3	BMA	C4-C5-C6-O6
19	JA	1	NAG	C4-C5-C6-O6
17	3	2	NAG	C4-C5-C6-O6
16	CA	1	NAG	O5-C5-C6-O6
17	3	2	NAG	O5-C5-C6-O6
16	T	1	NAG	C4-C5-C6-O6
15	AA	4	BMA	O5-C5-C6-O6
16	EA	3	BMA	C4-C5-C6-O6
16	4	3	BMA	C4-C5-C6-O6
18	7	5	BMA	O5-C5-C6-O6
16	T	1	NAG	O5-C5-C6-O6
16	W	2	NAG	C4-C5-C6-O6
15	AA	4	BMA	C4-C5-C6-O6
16	6	1	NAG	O5-C5-C6-O6
16	S	3	BMA	C4-C5-C6-O6
16	GA	1	NAG	C4-C5-C6-O6

There are no ring outliers.

14 monomers are involved in 14 short contacts:

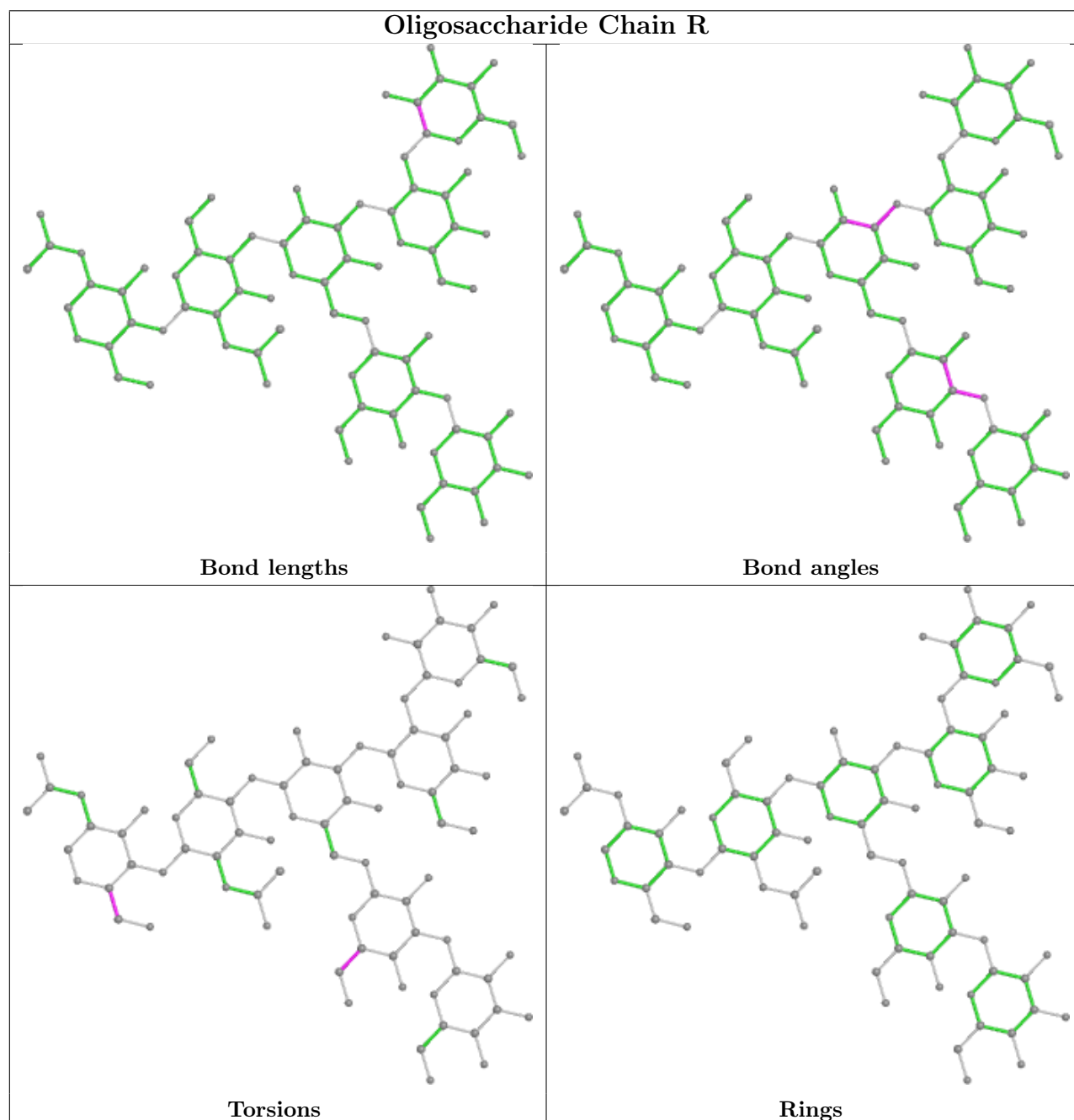
Mol	Chain	Res	Type	Clashes	Symm-Clashes
15	R	3	BMA	1	0
19	JA	1	NAG	1	0
16	1	2	NAG	1	0
19	v	2	NAG	1	0
17	IA	1	NAG	2	0
16	S	1	NAG	1	0
18	Y	3	BMA	1	0
16	BA	2	NAG	1	0
19	9	1	NAG	1	0

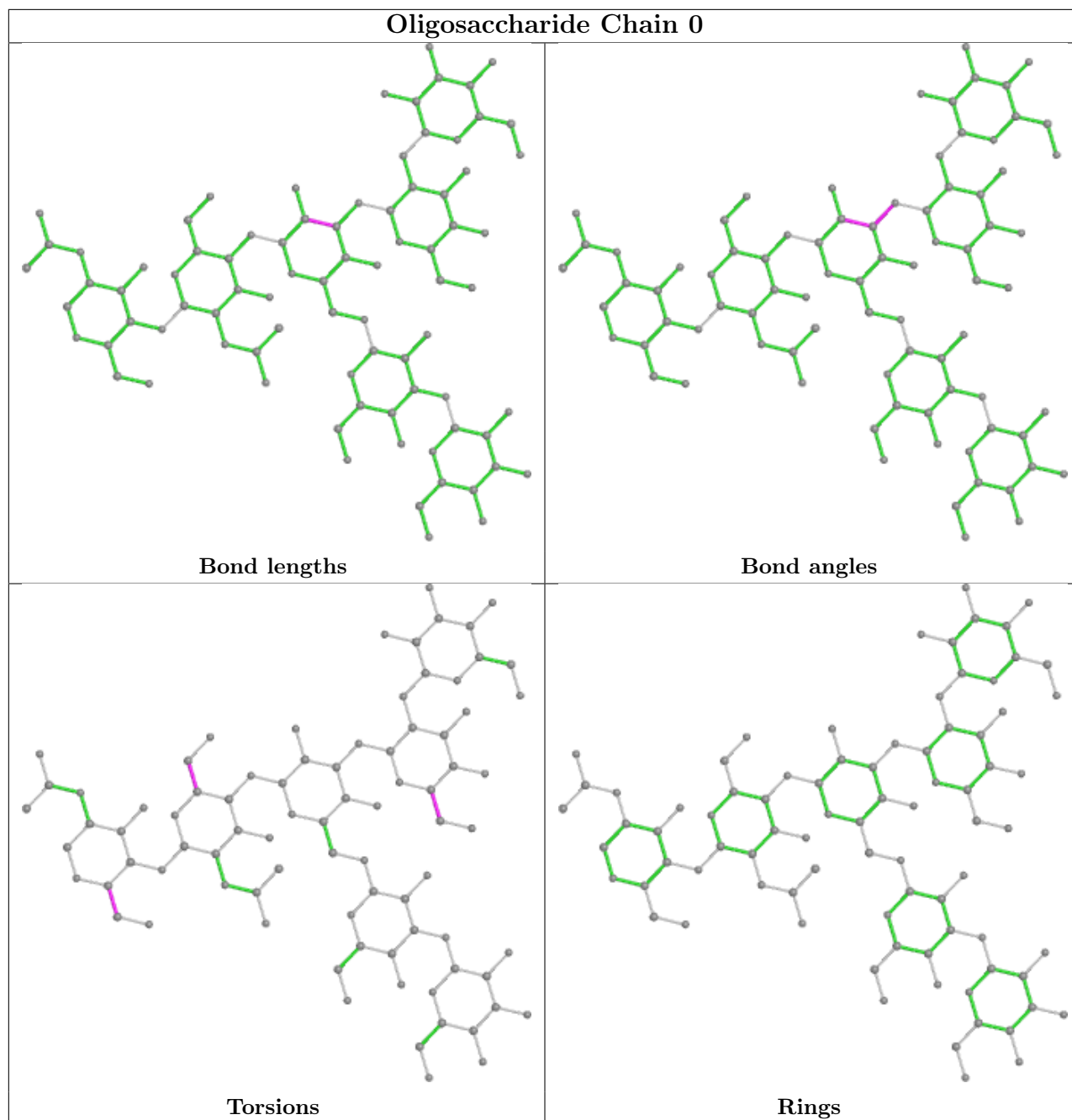
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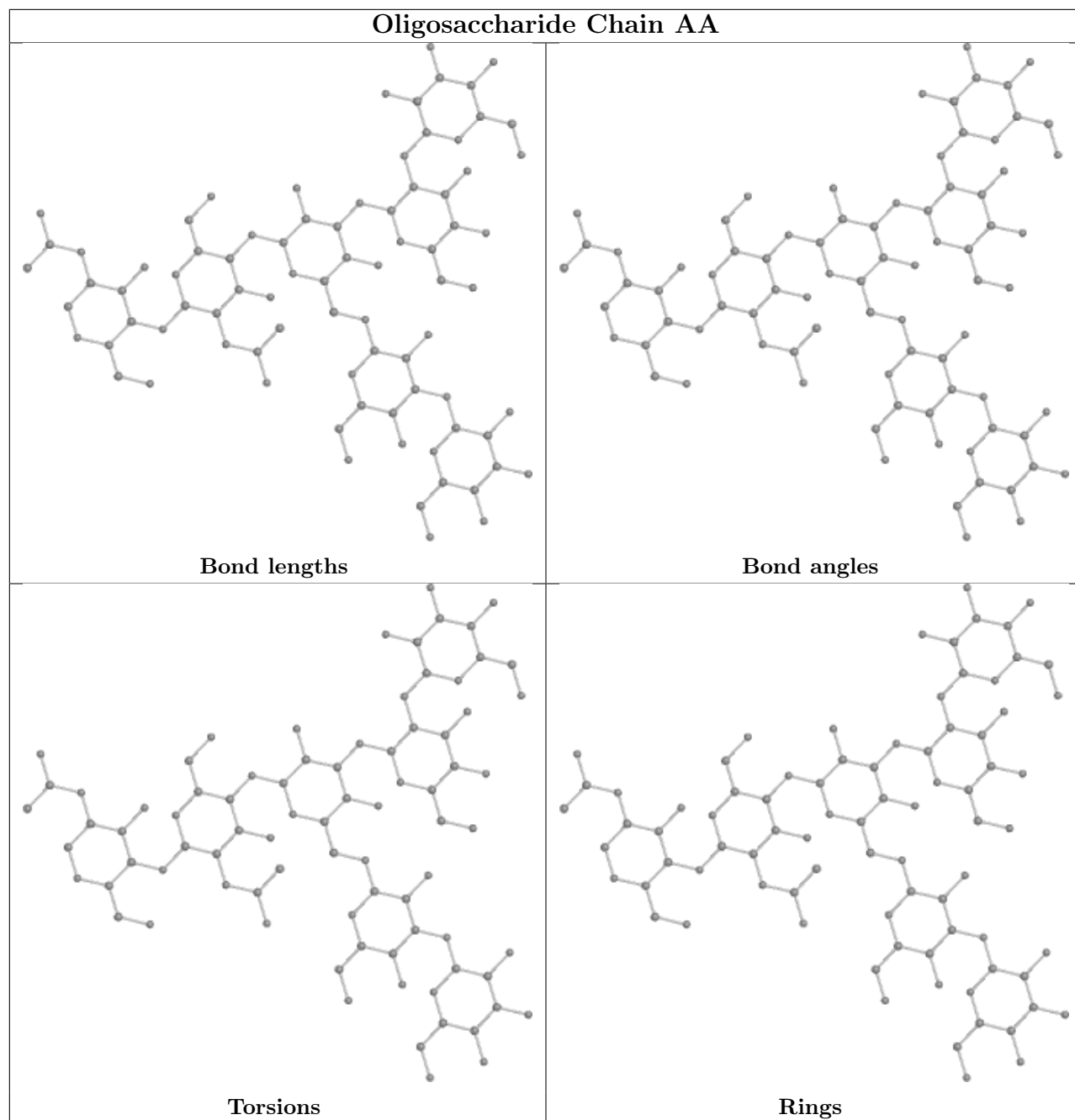
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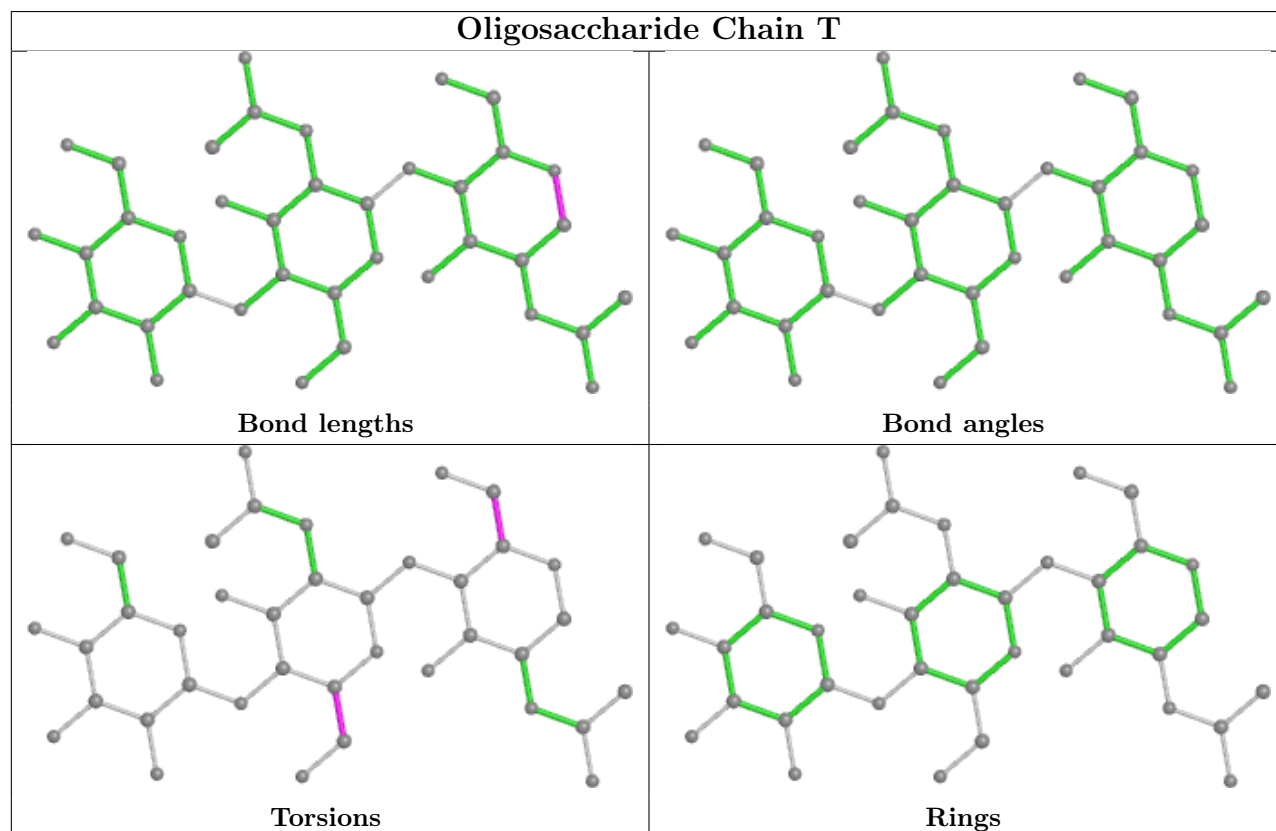
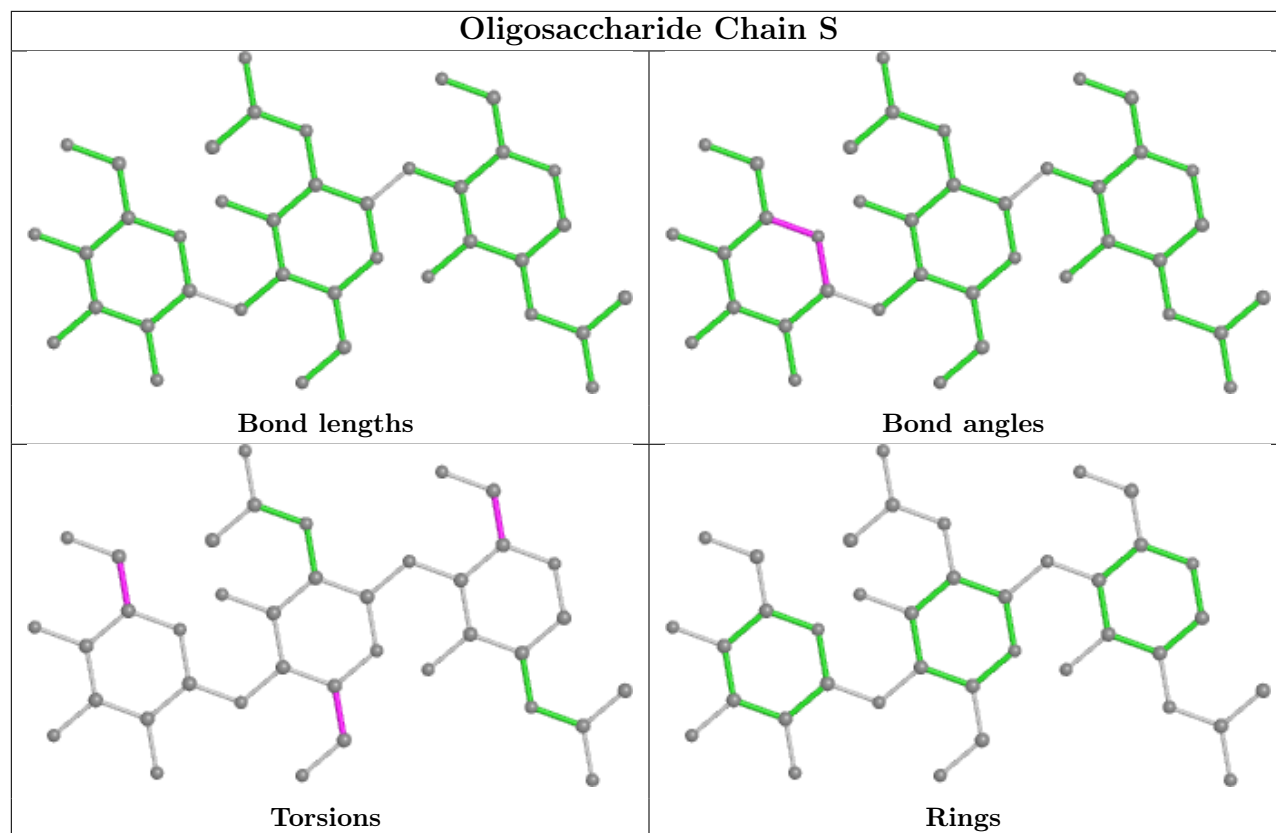
Mol	Chain	Res	Type	Clashes	Symm-Clashes
17	Z	1	NAG	1	0
17	U	1	NAG	1	0
17	8	1	NAG	1	0
17	U	2	NAG	2	0
15	R	6	BMA	1	0

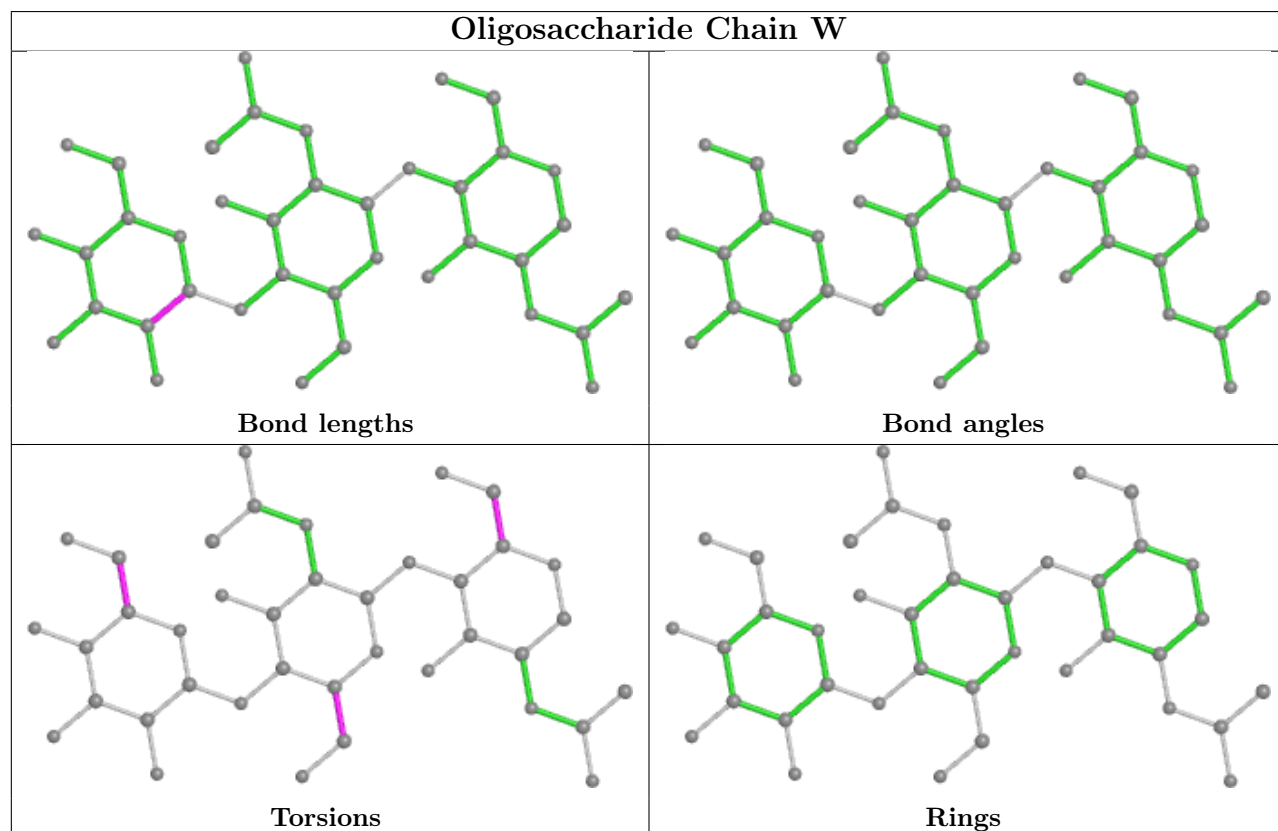
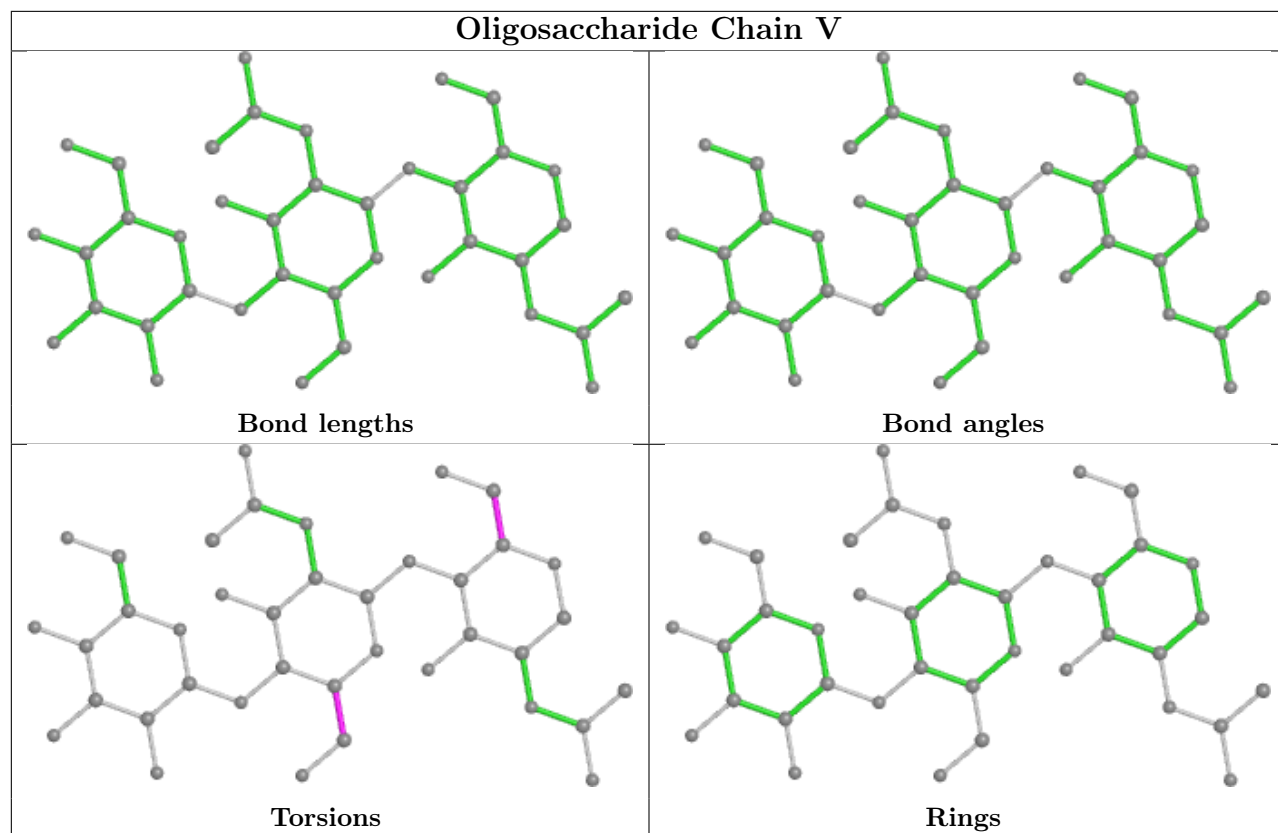
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

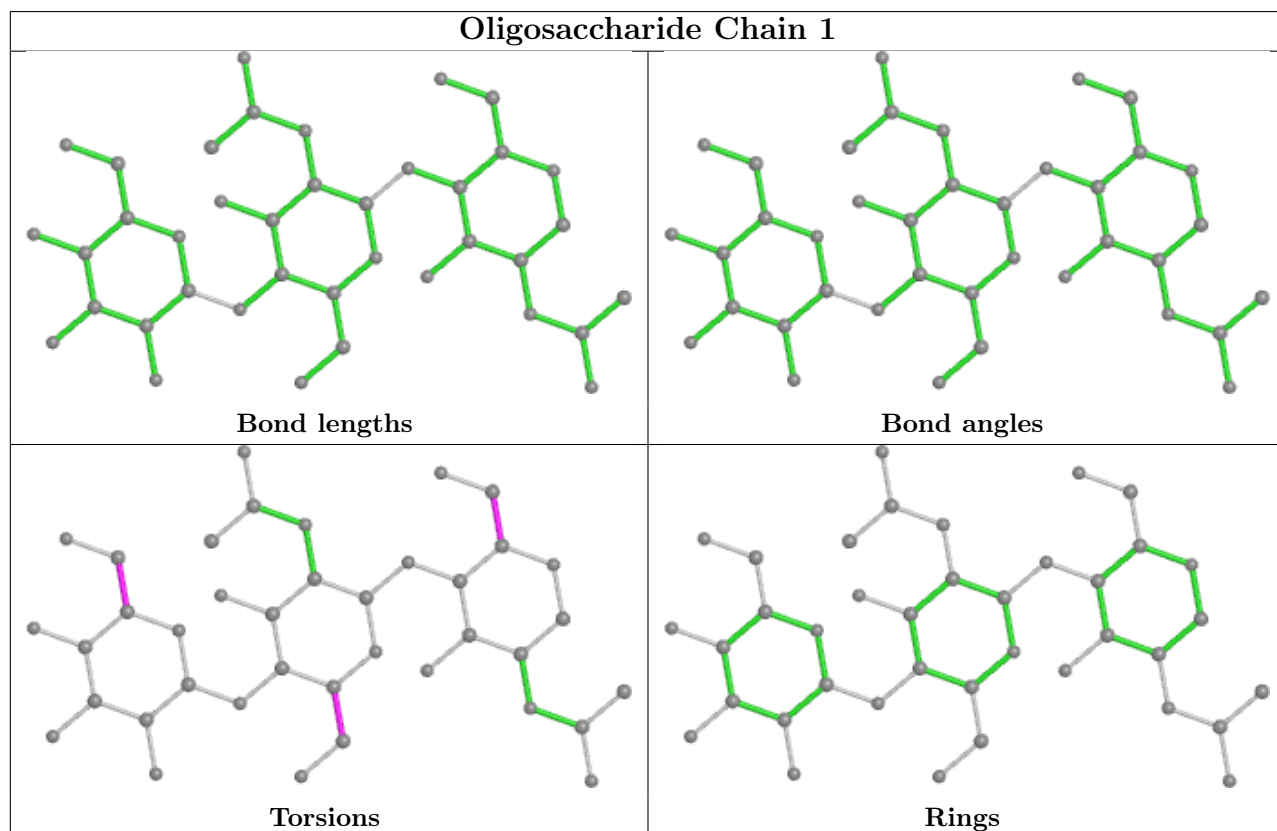
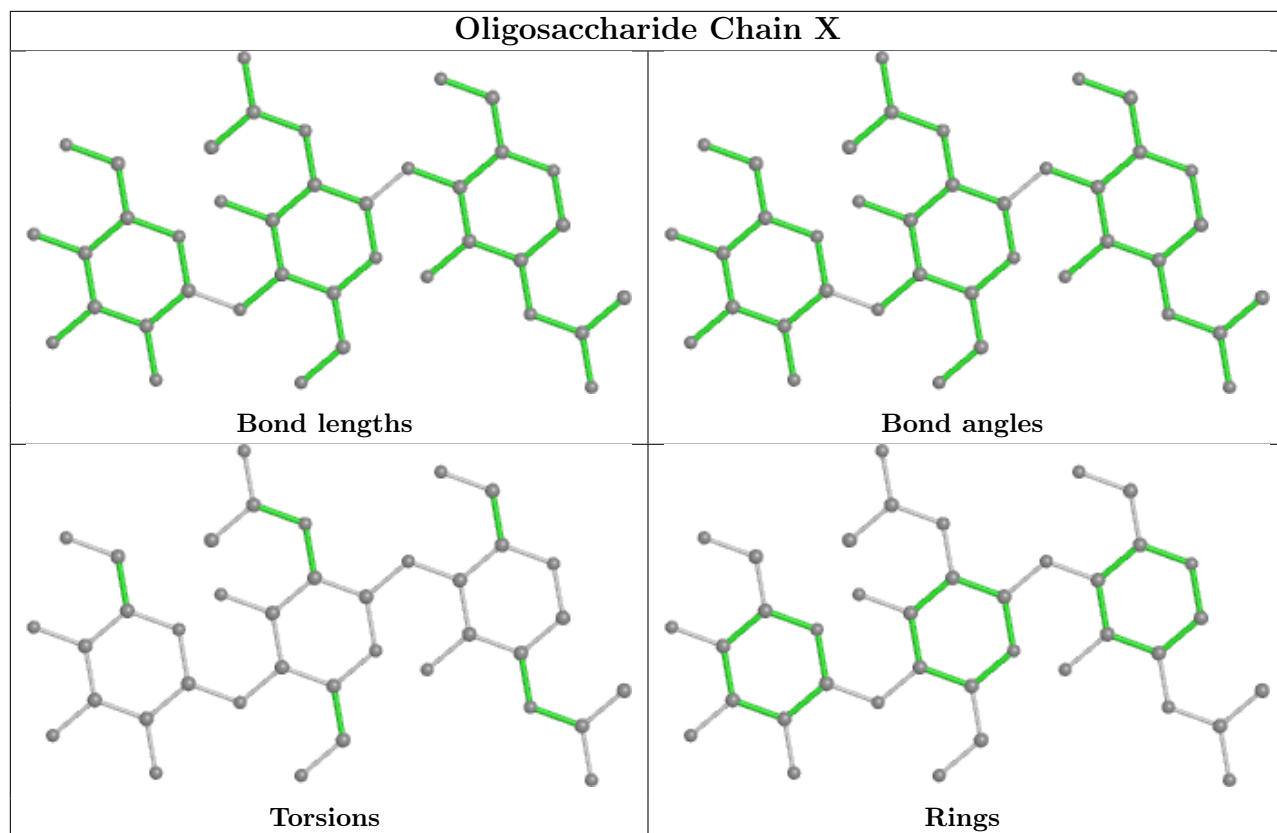


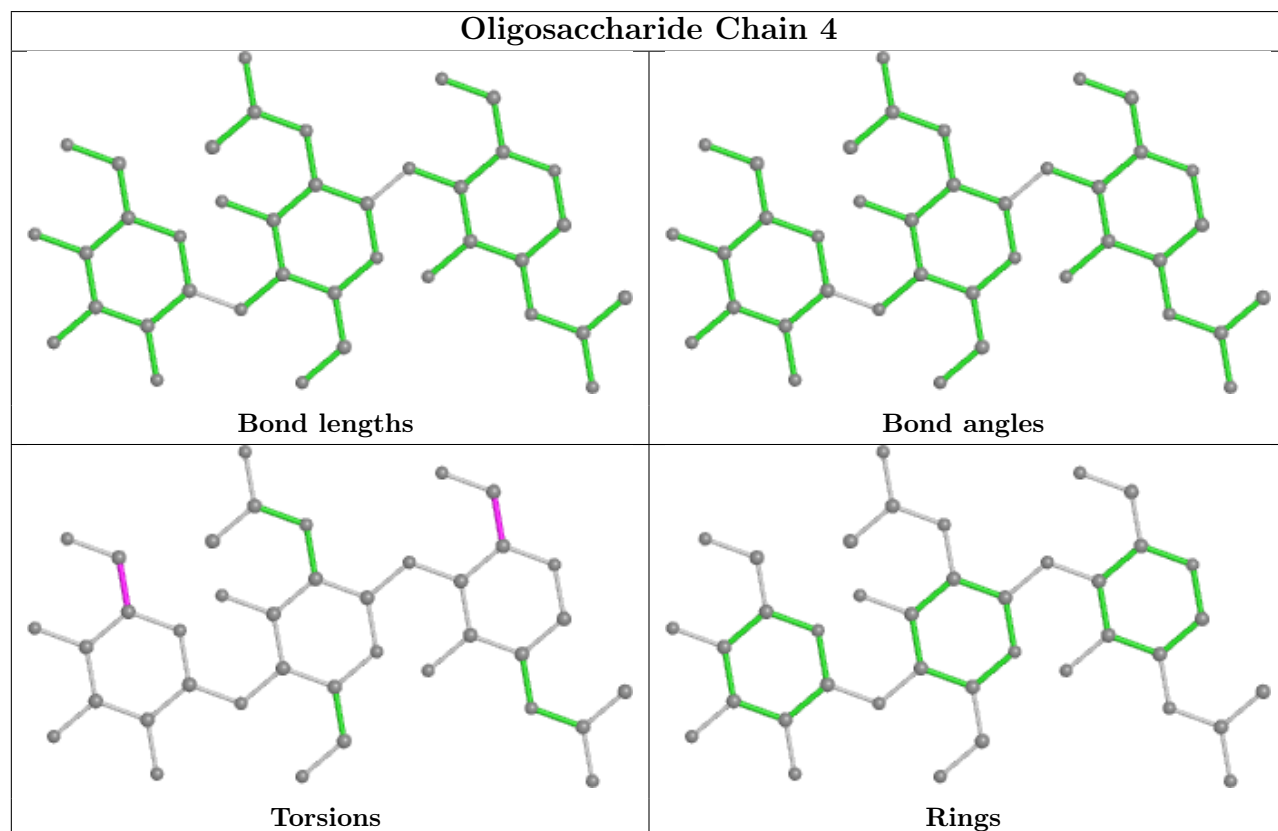
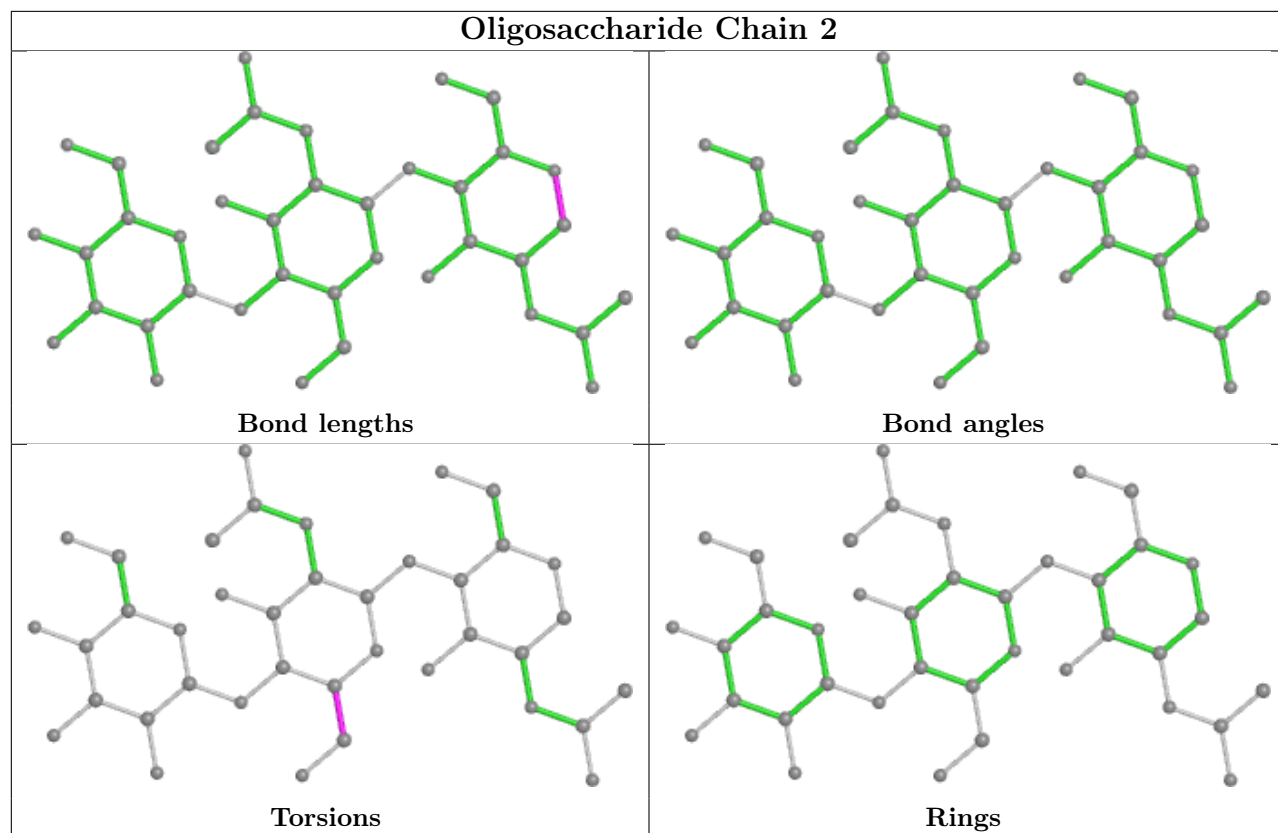


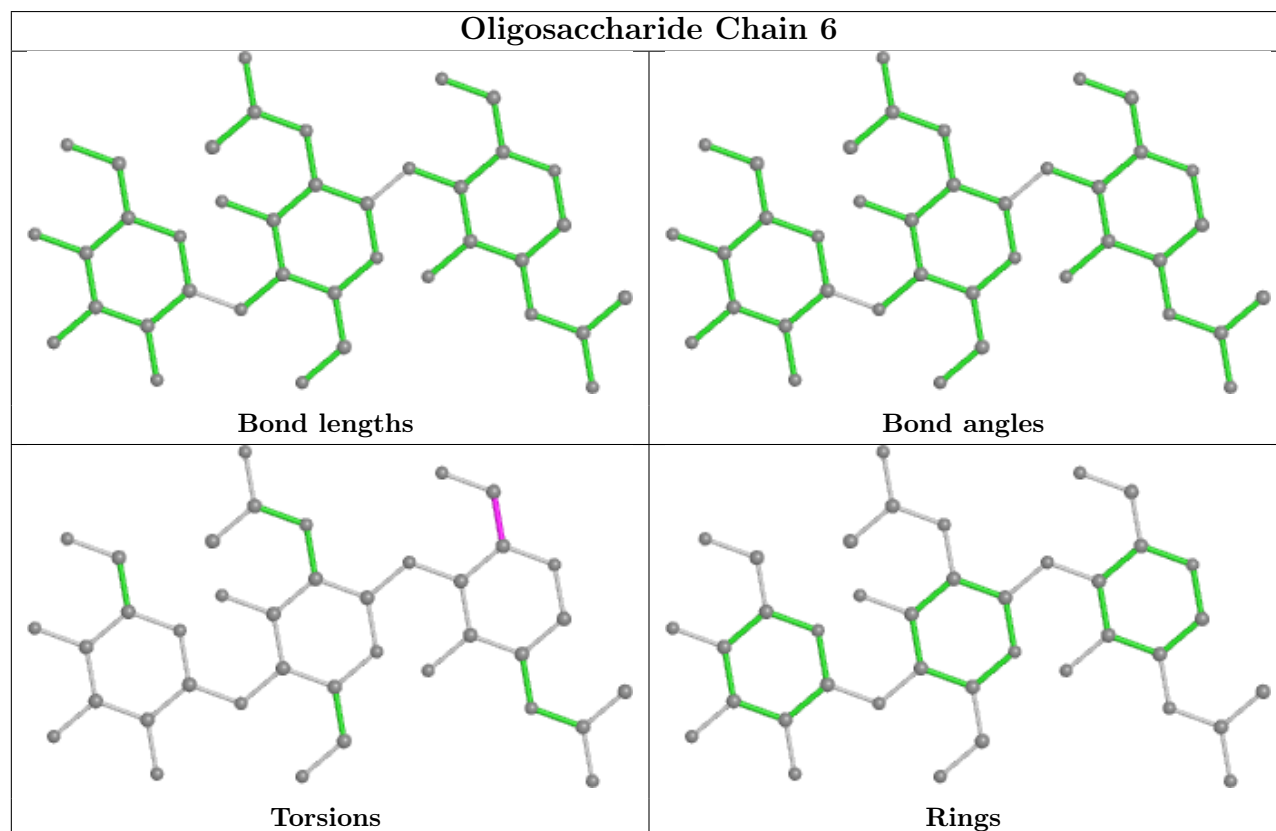
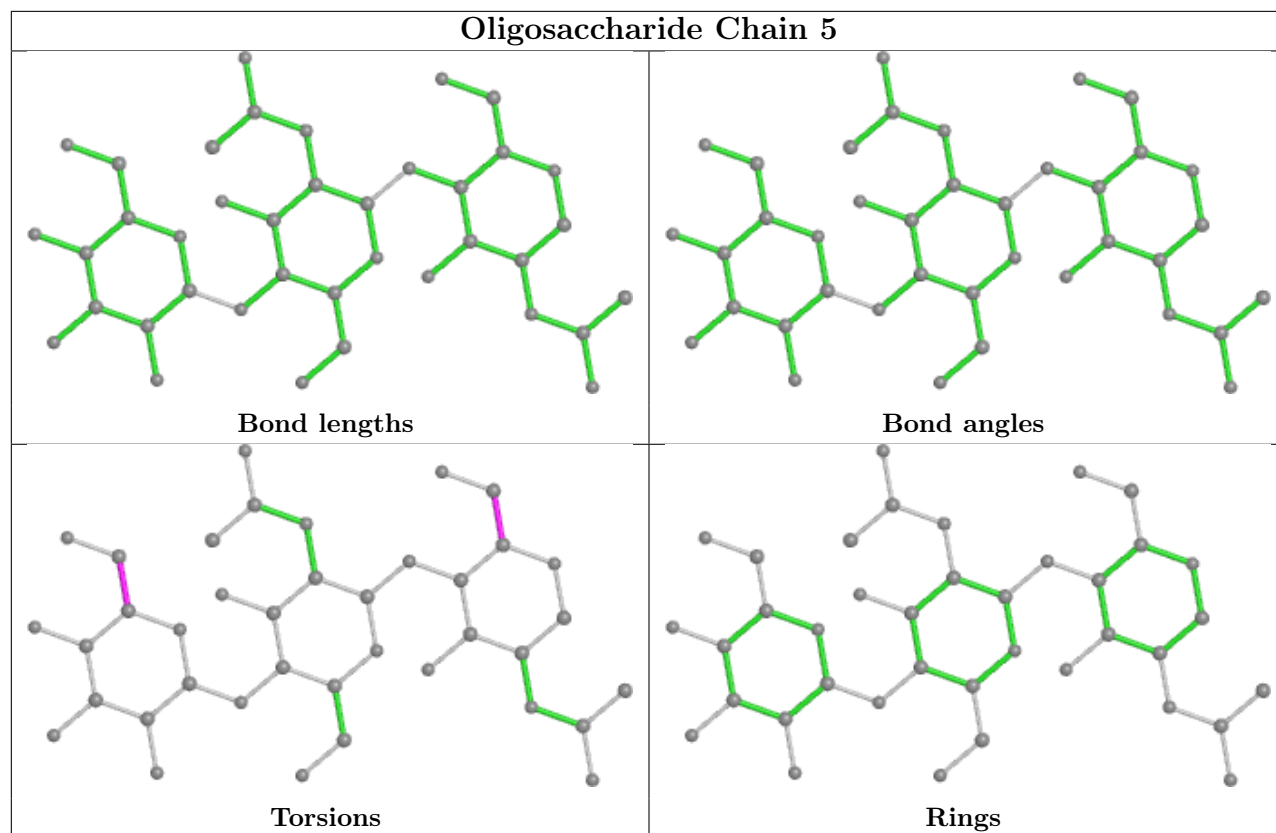


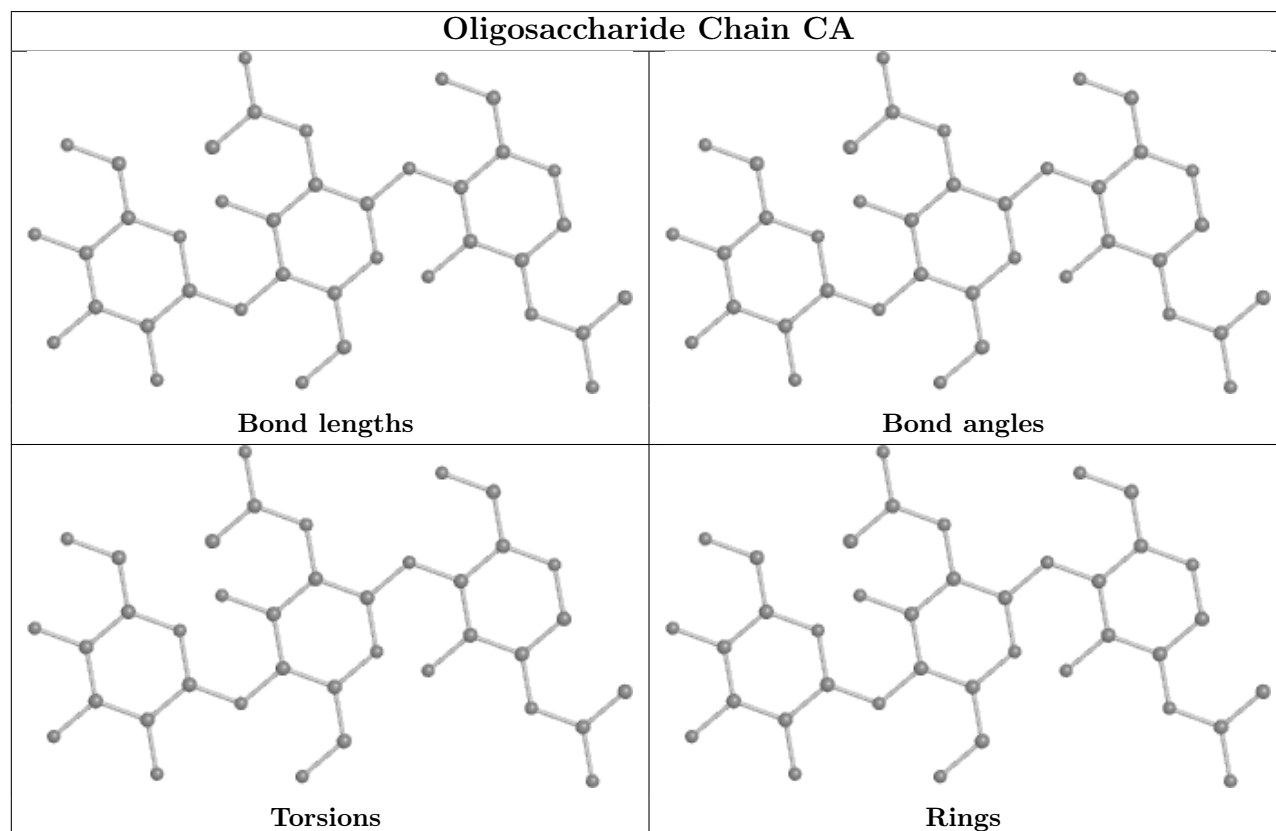
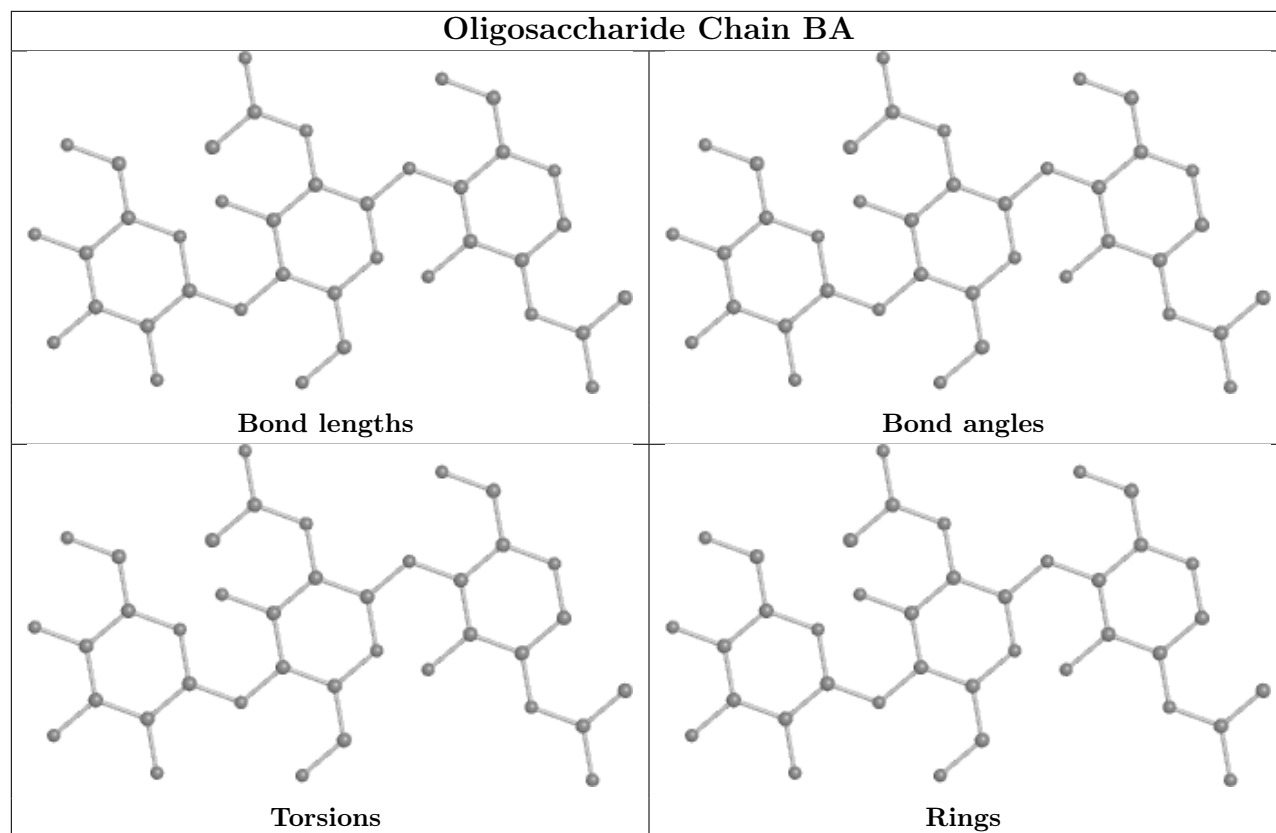


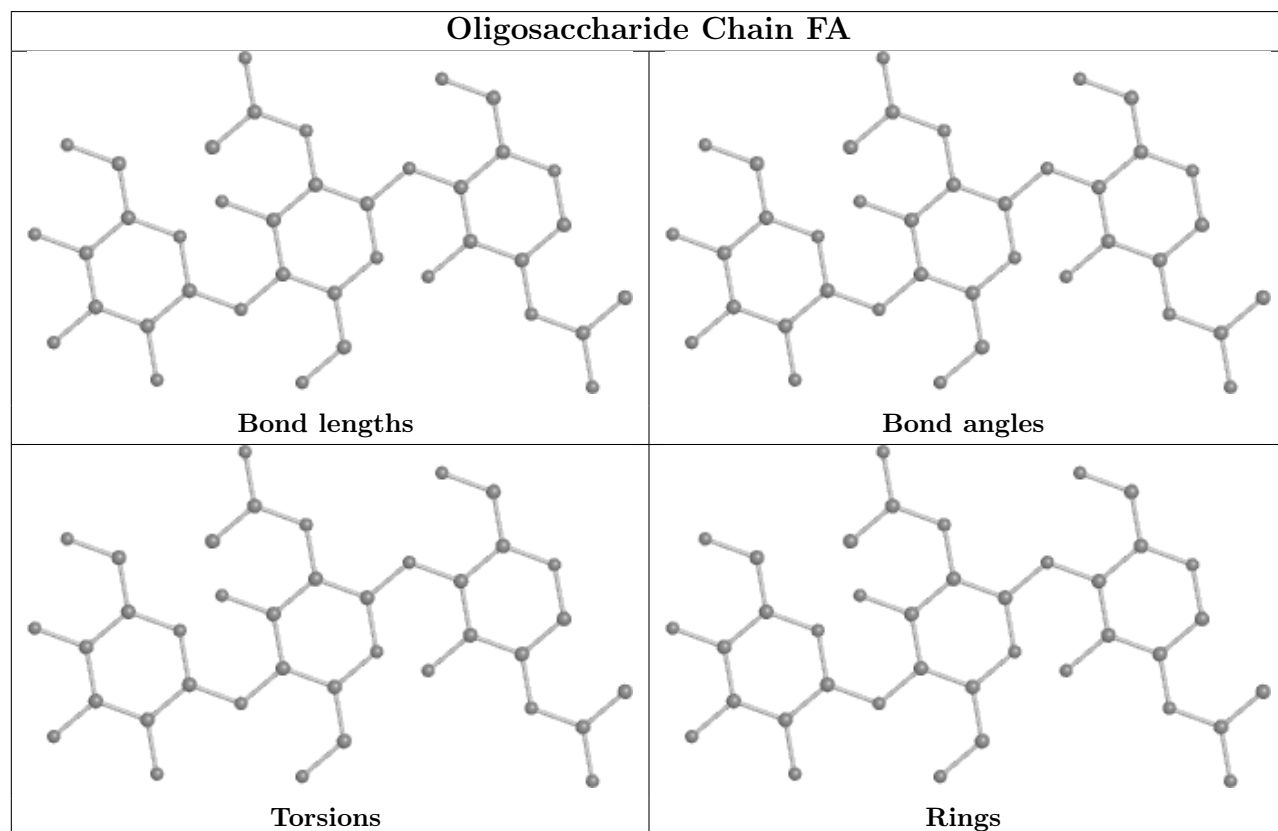
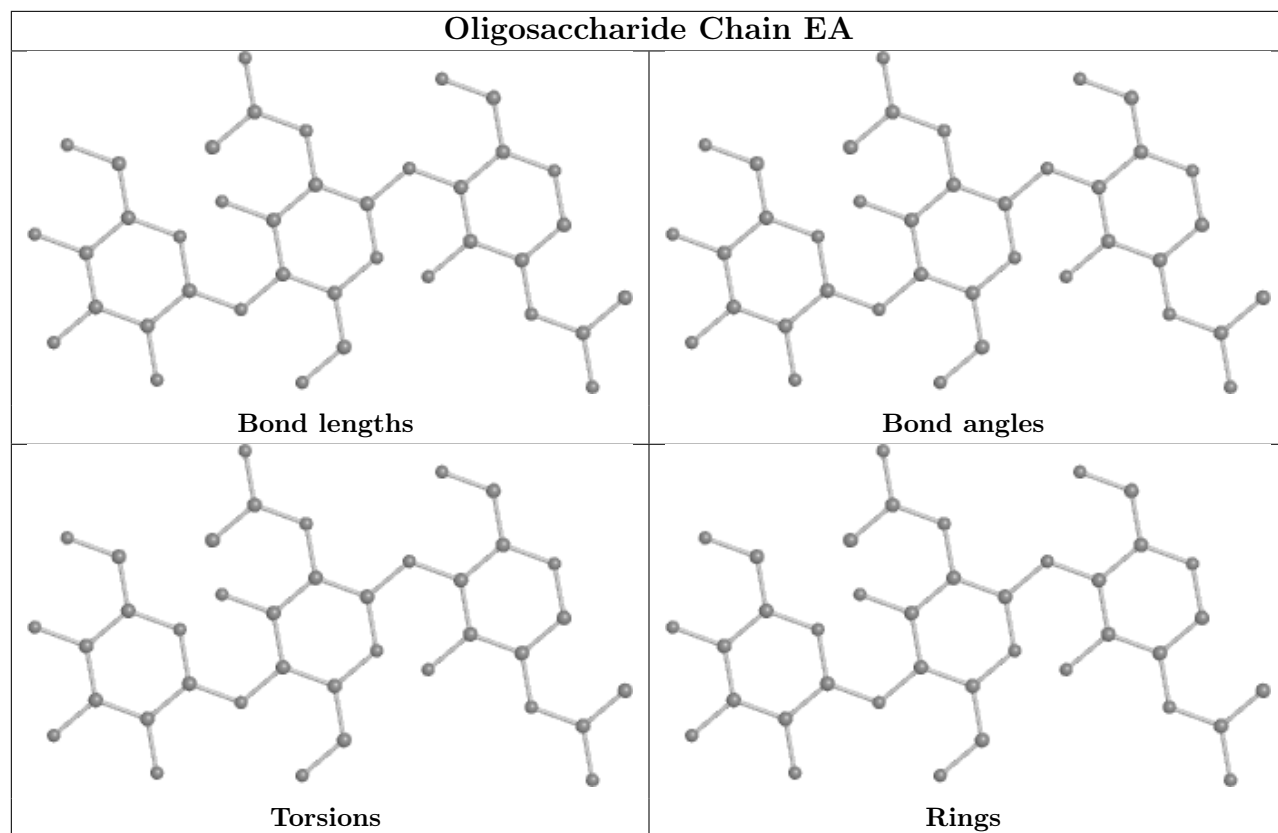


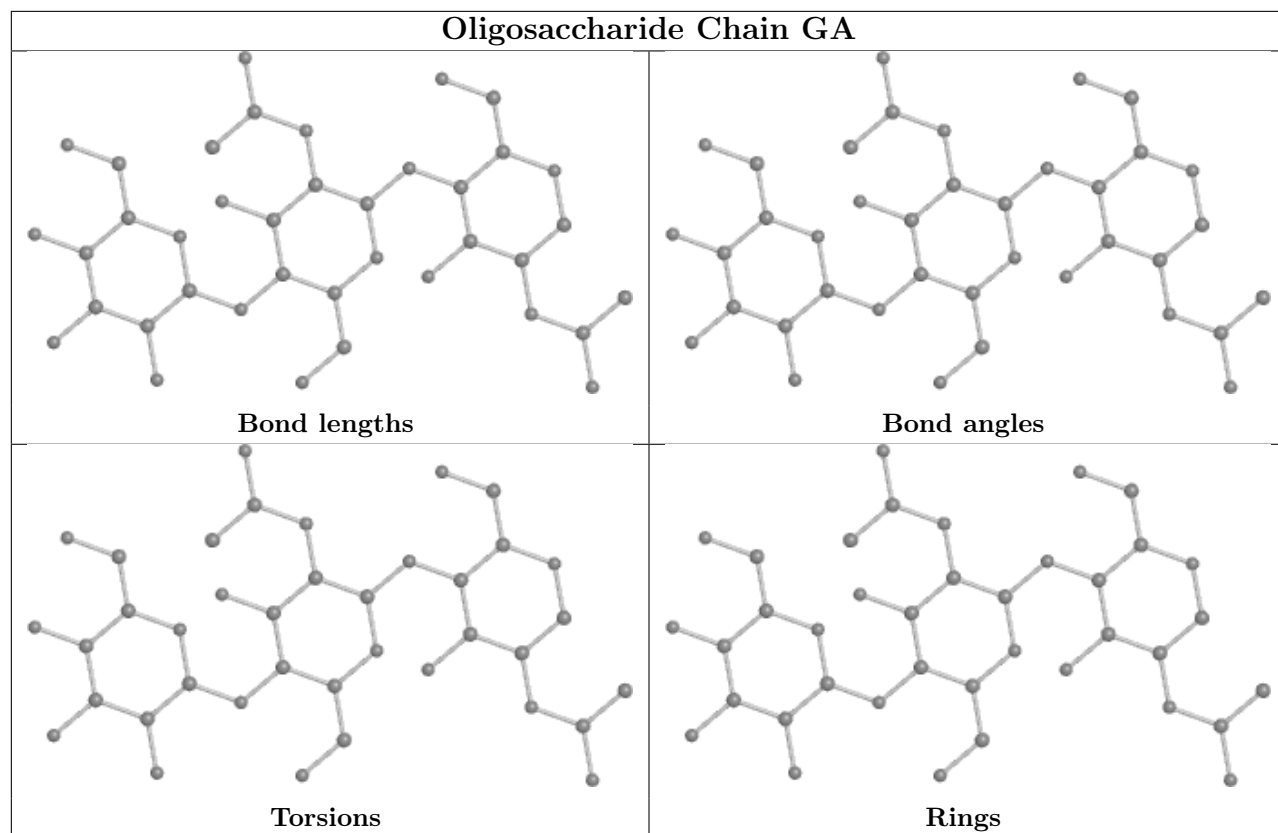


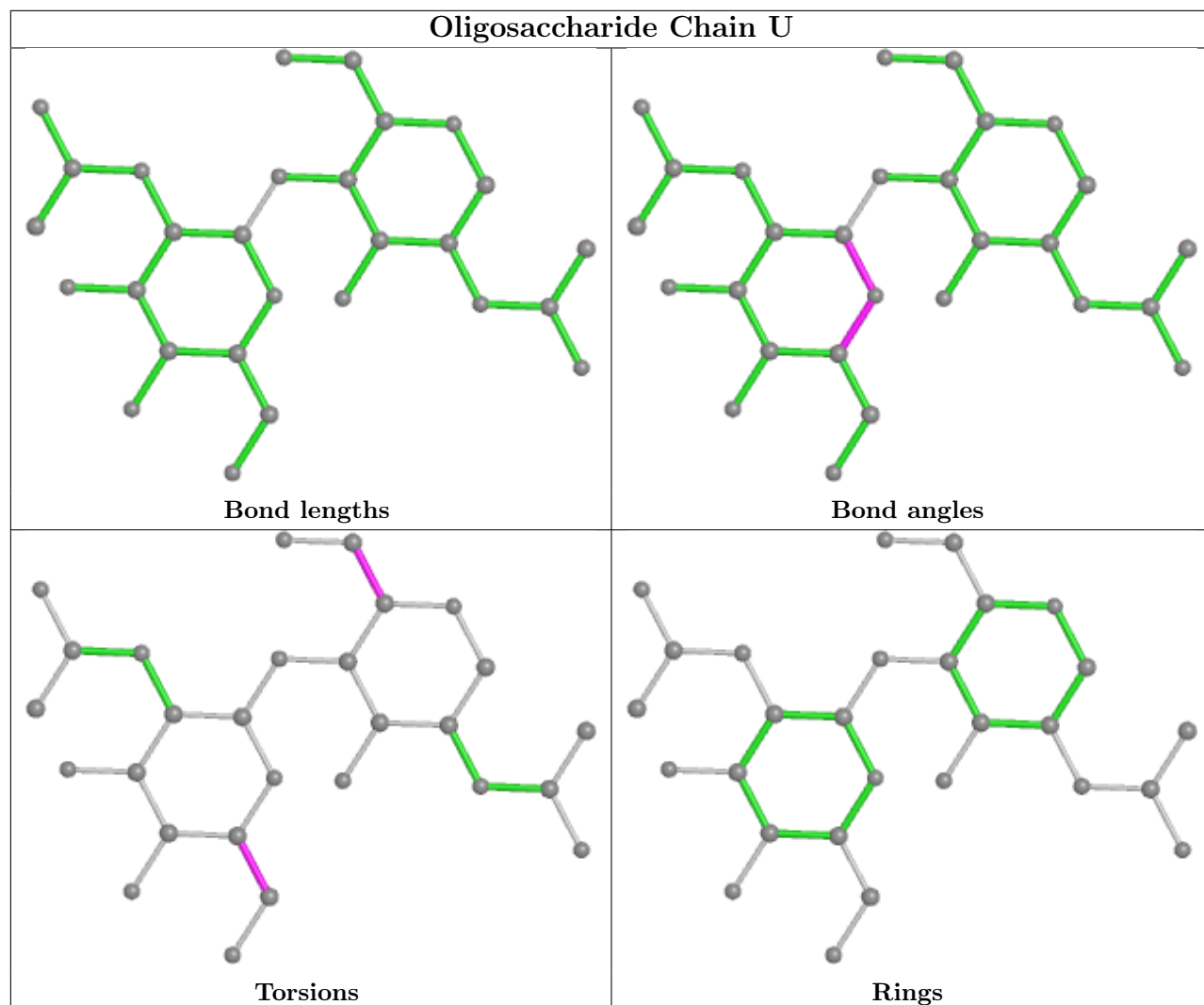


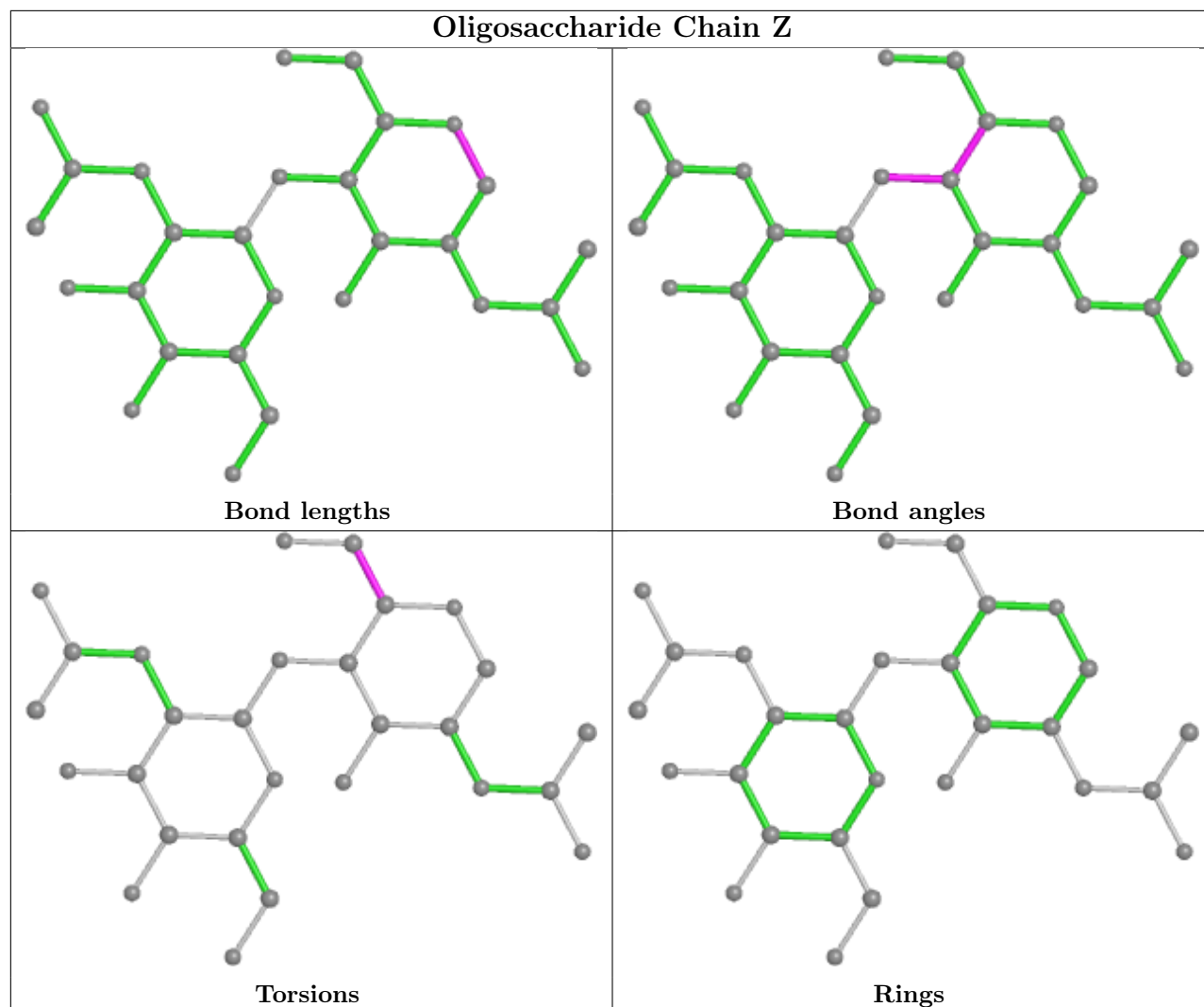


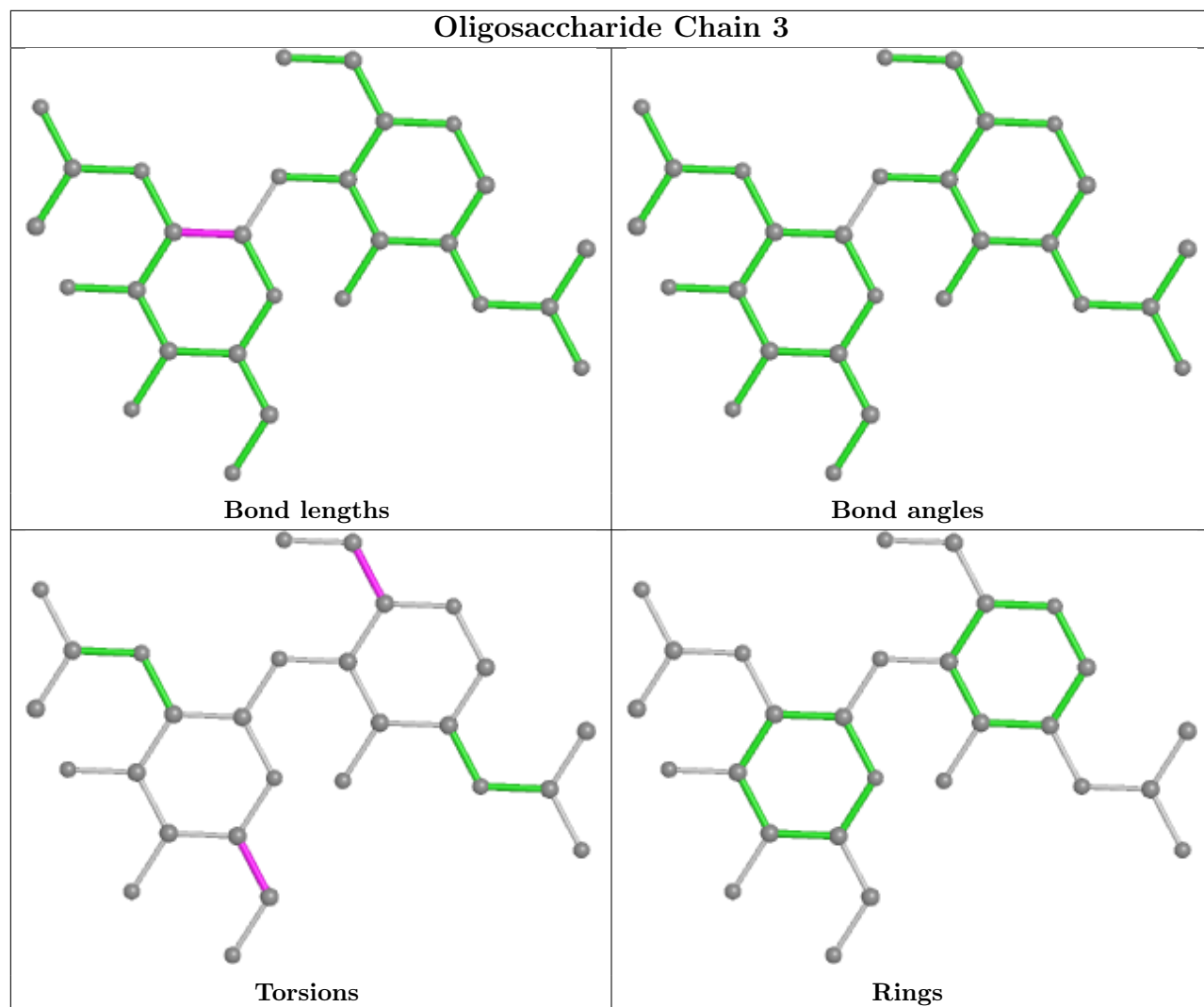


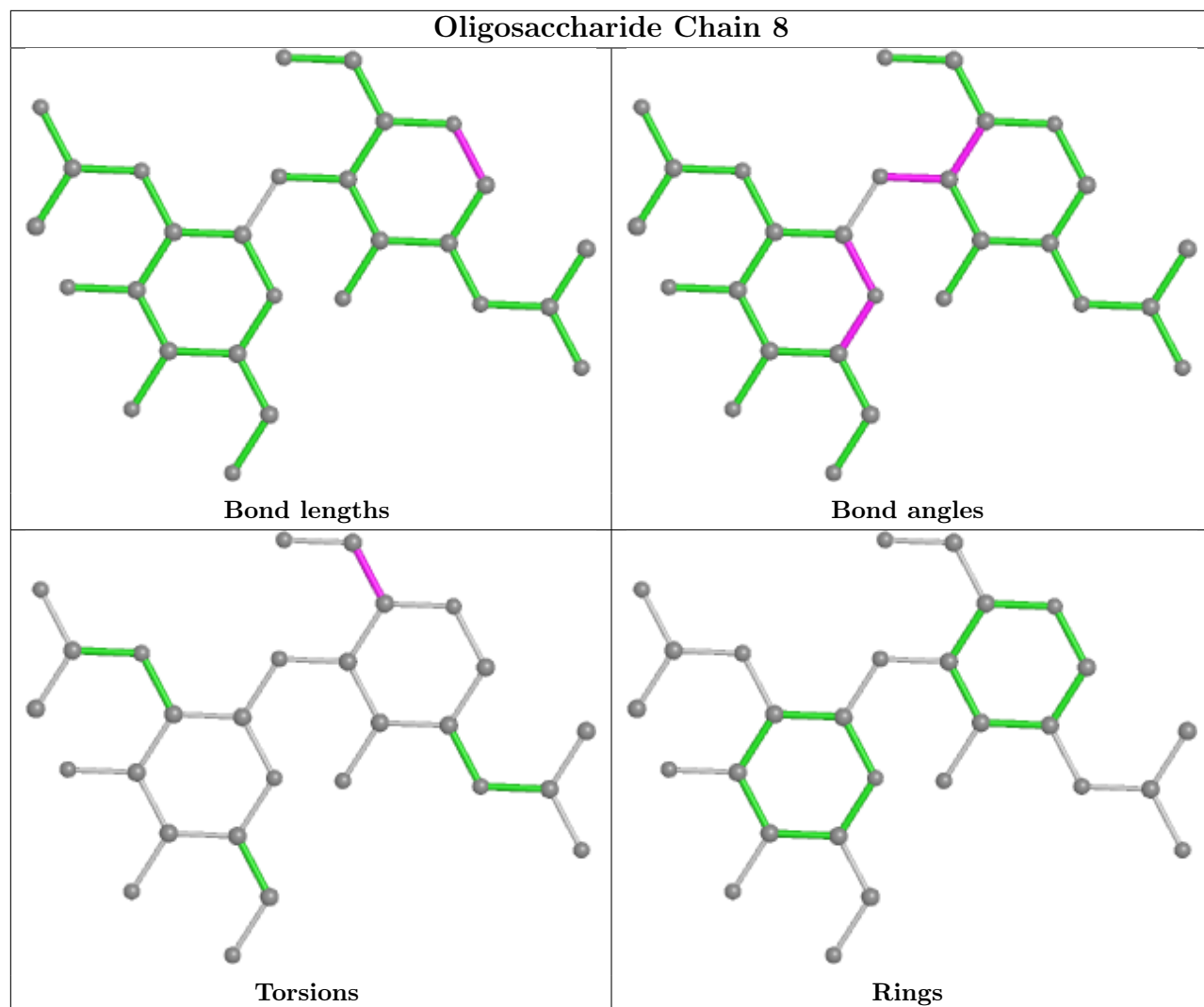


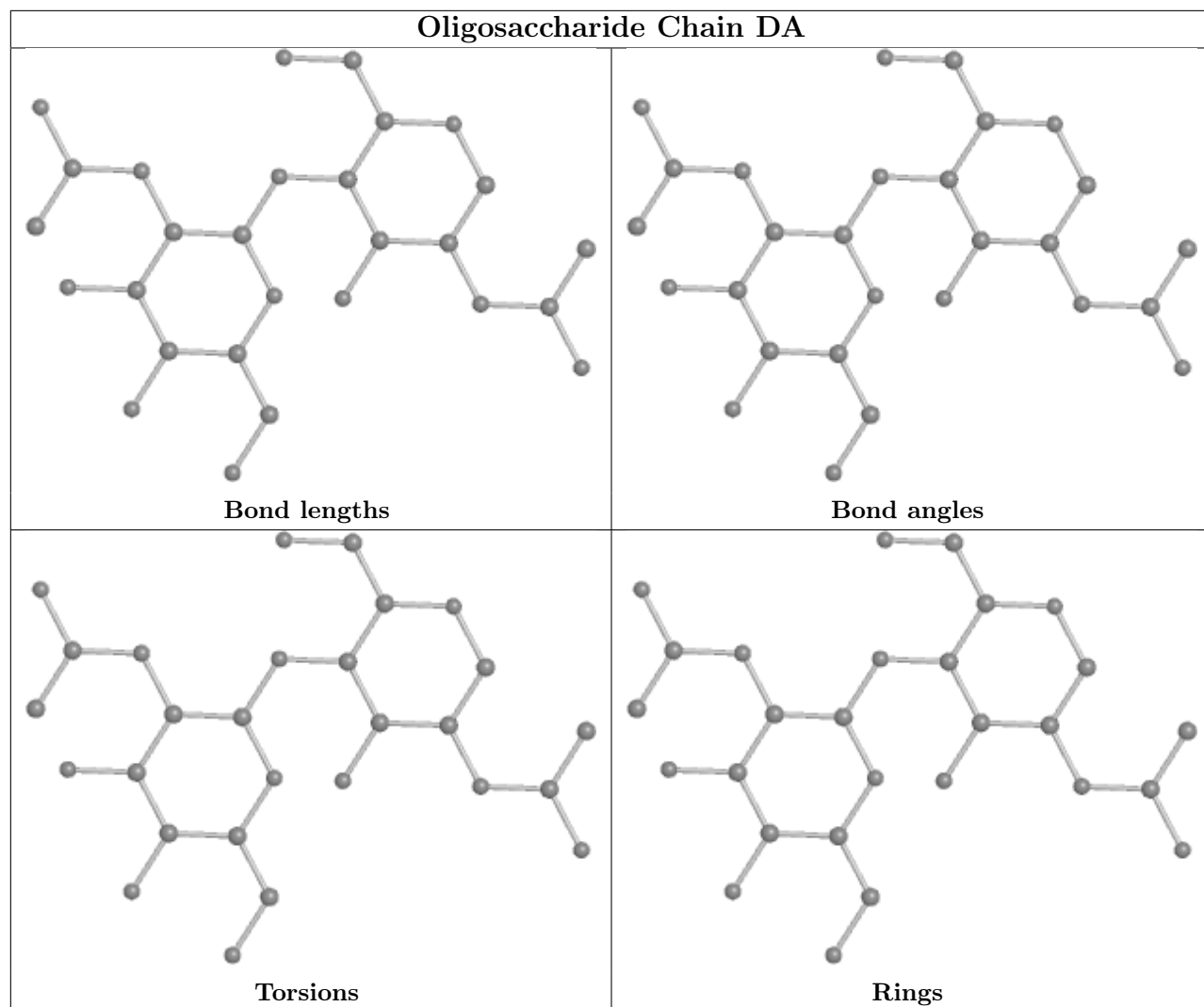


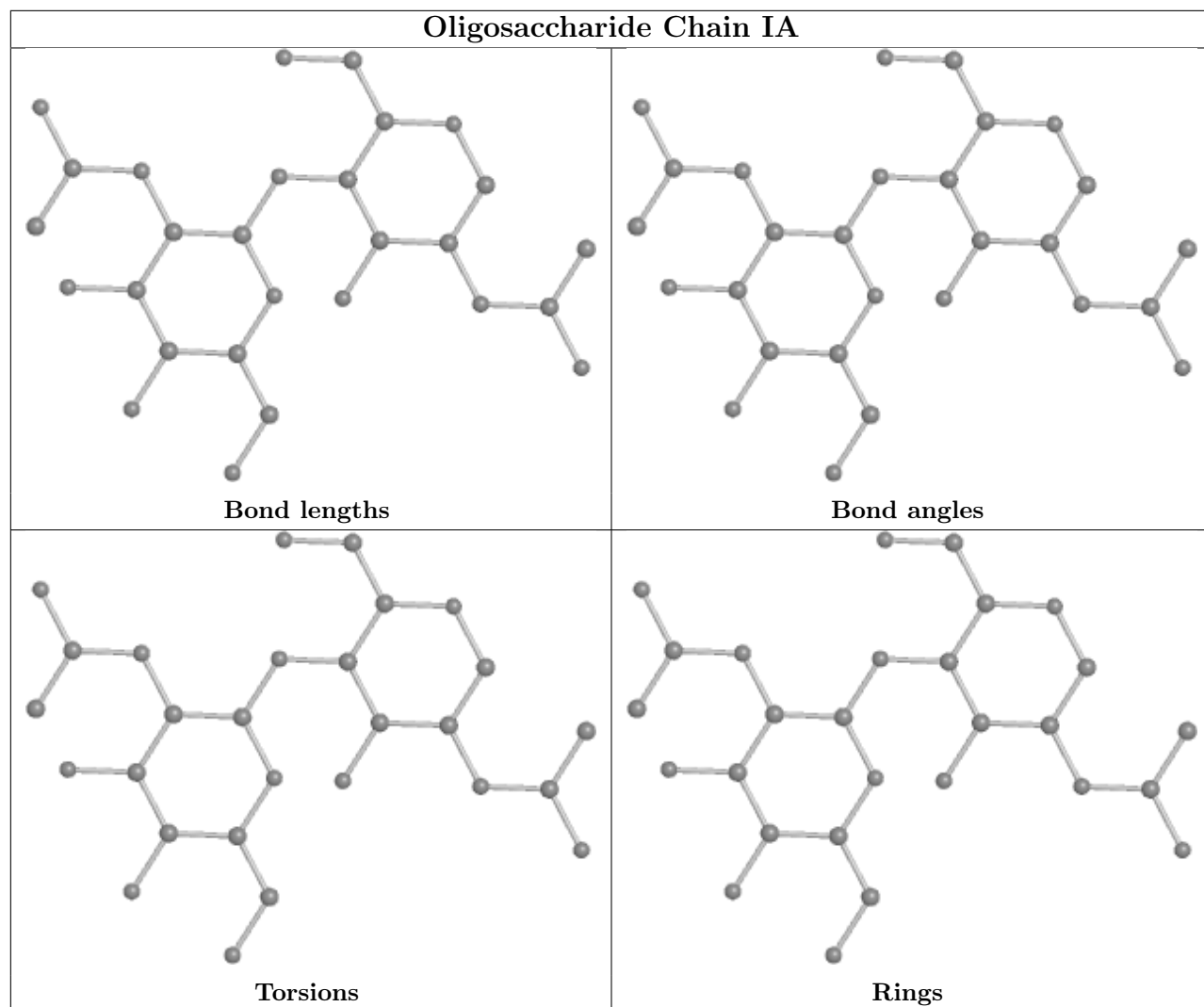


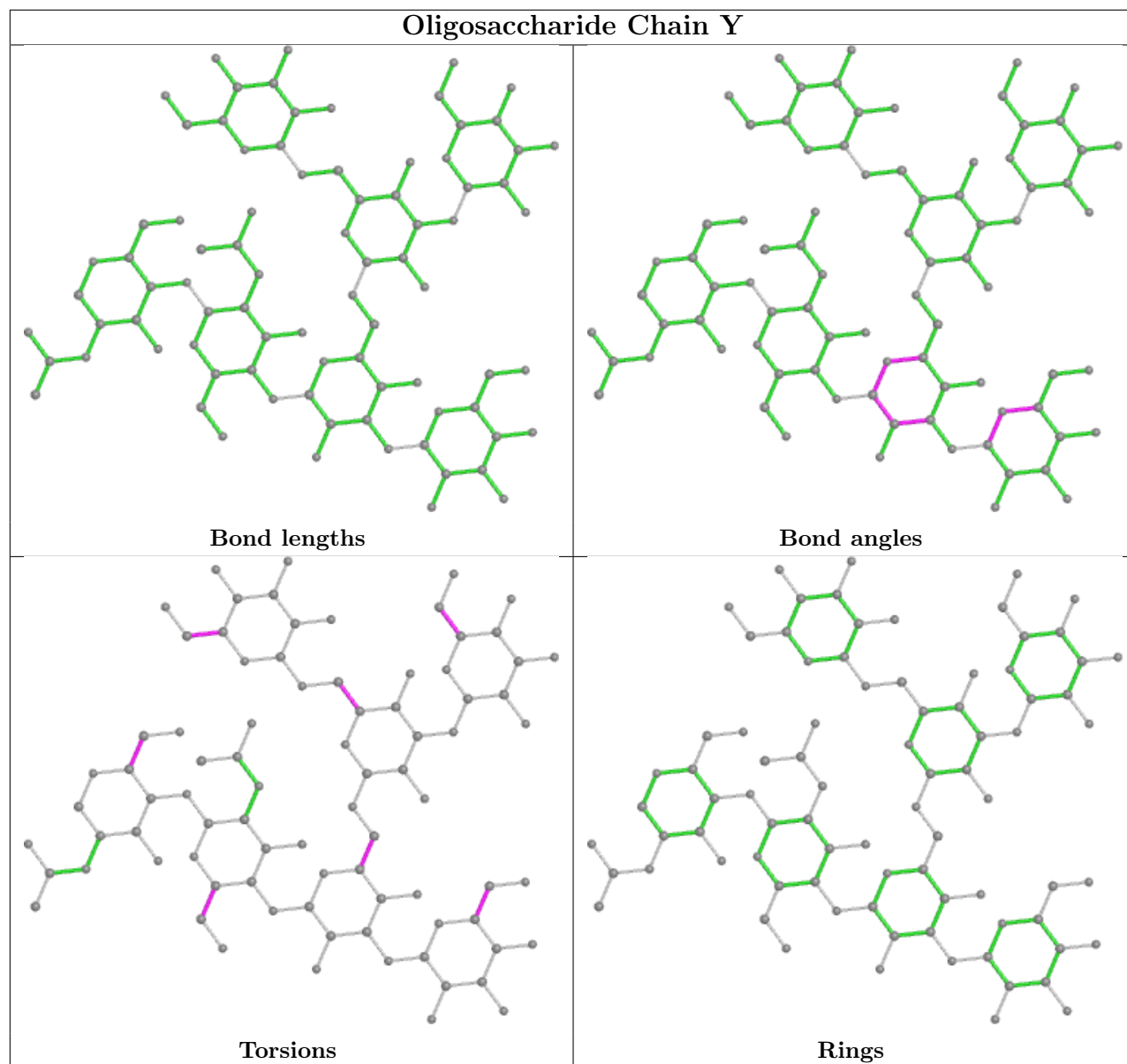


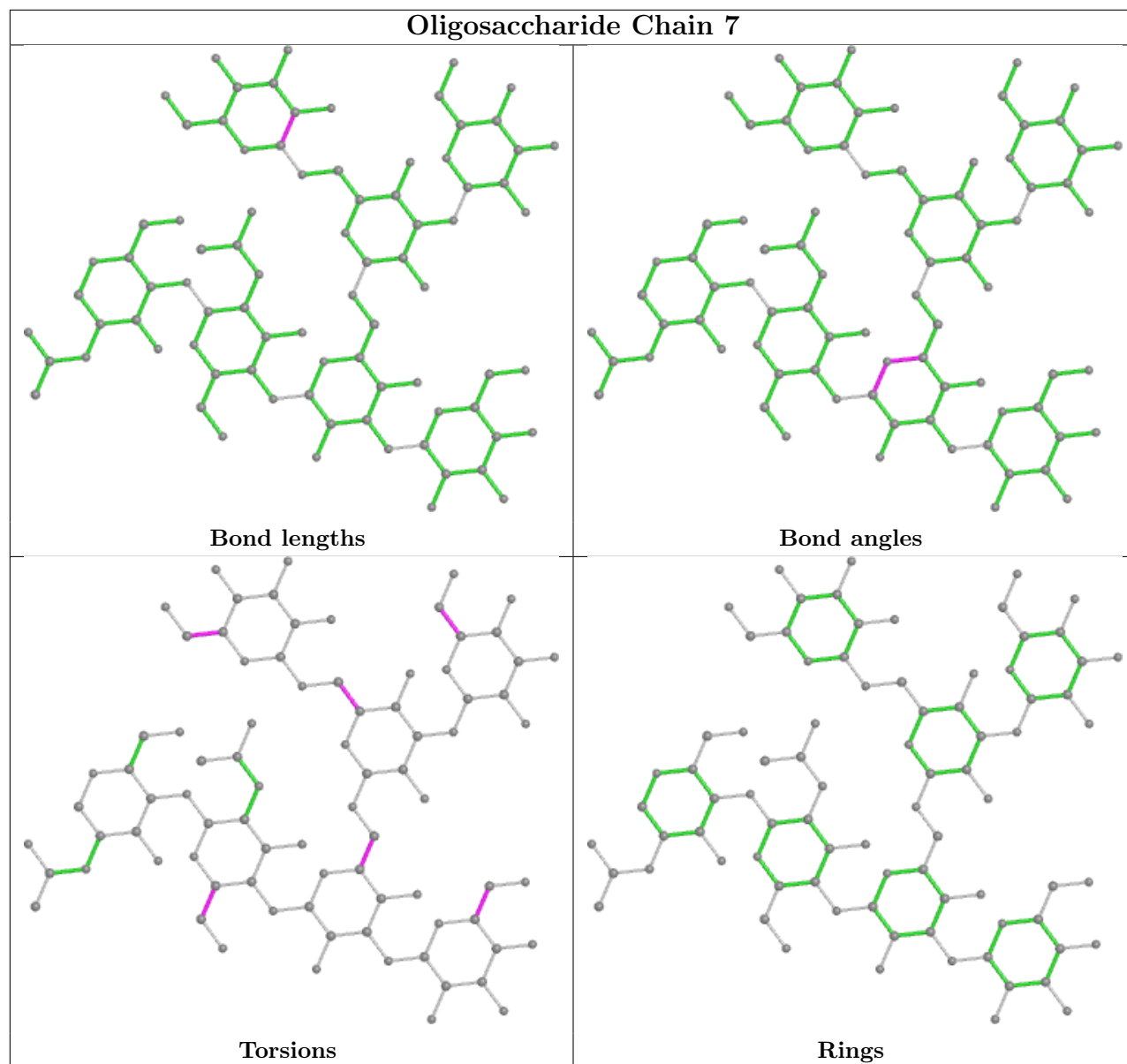


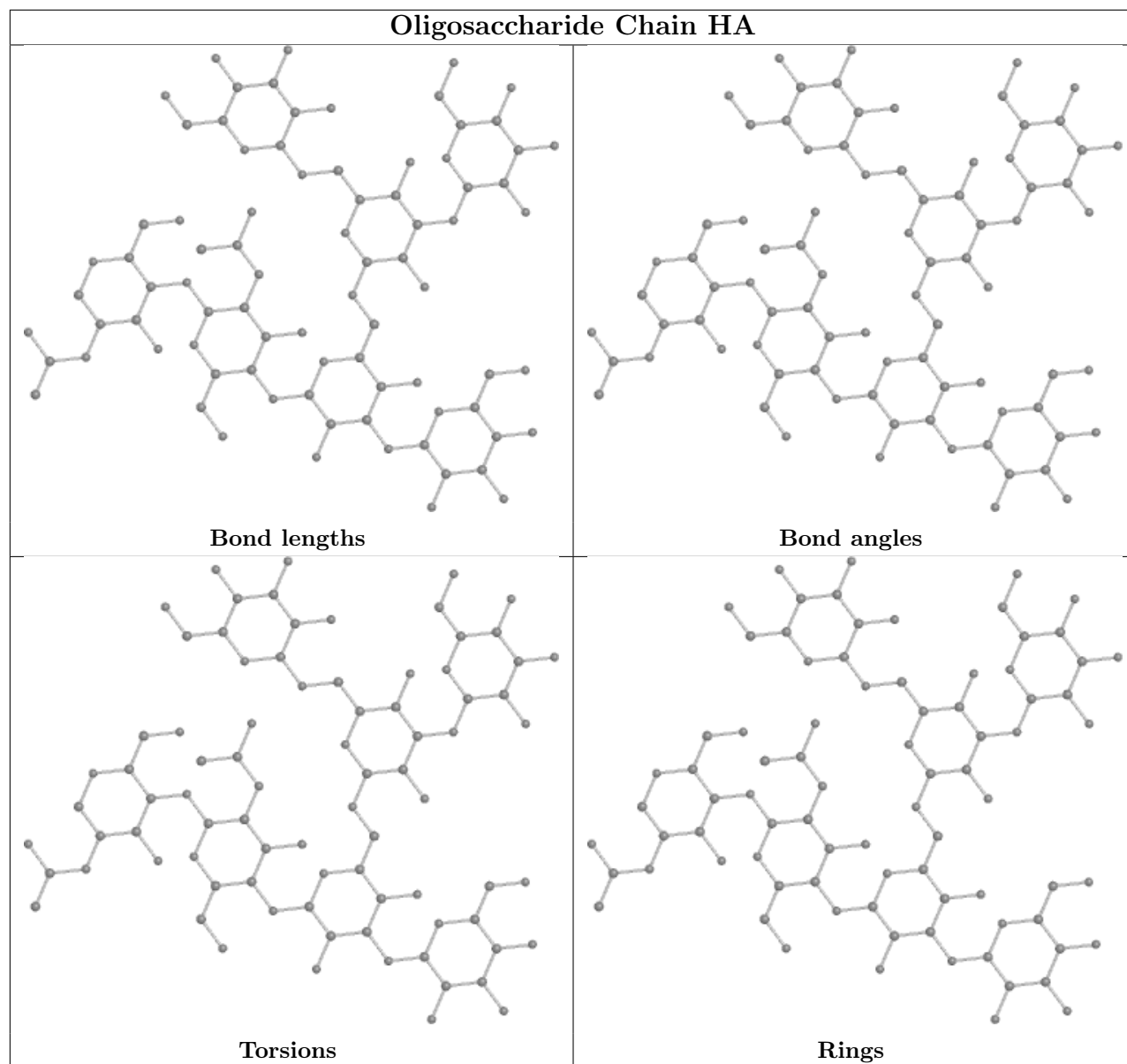


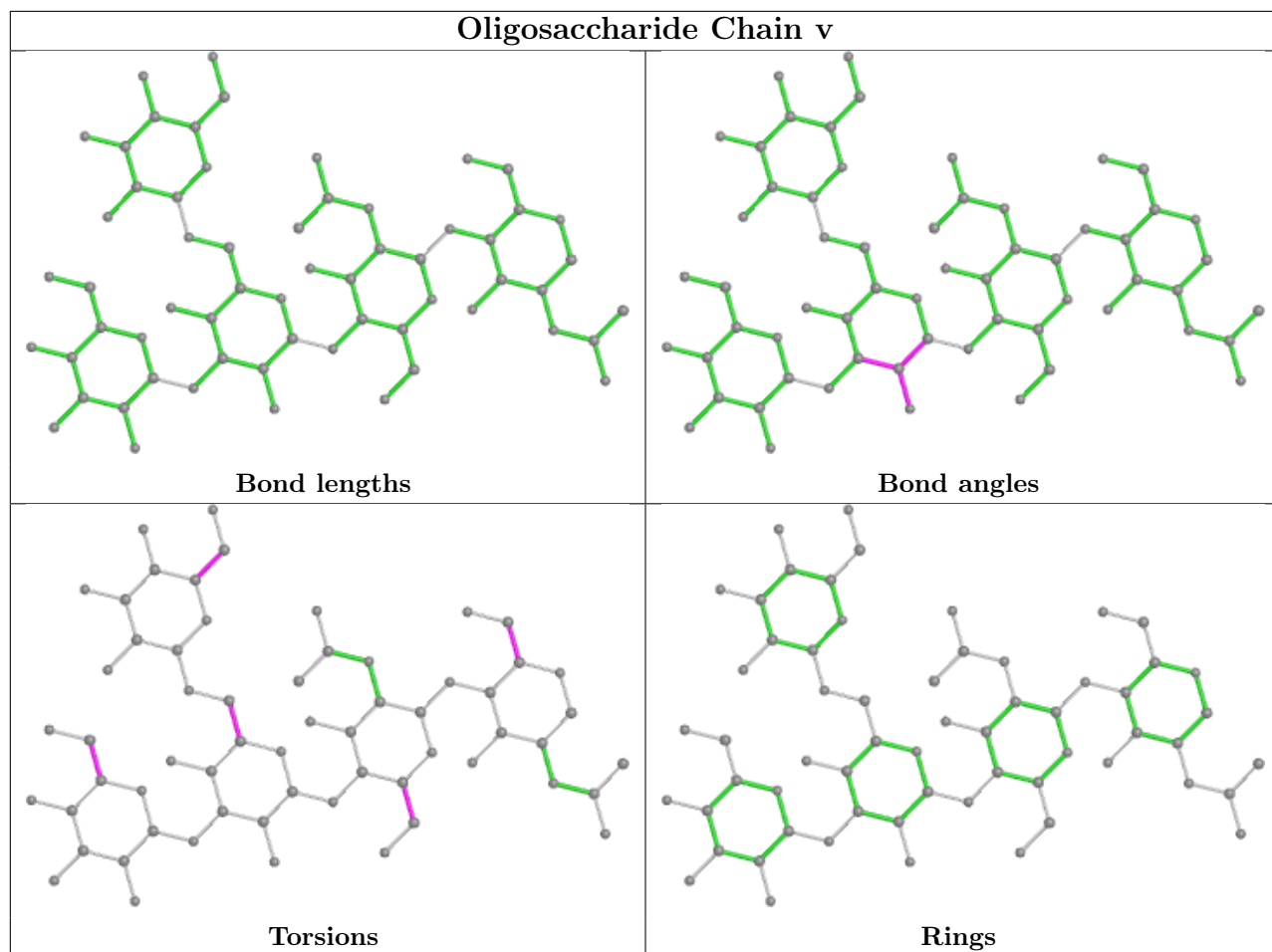


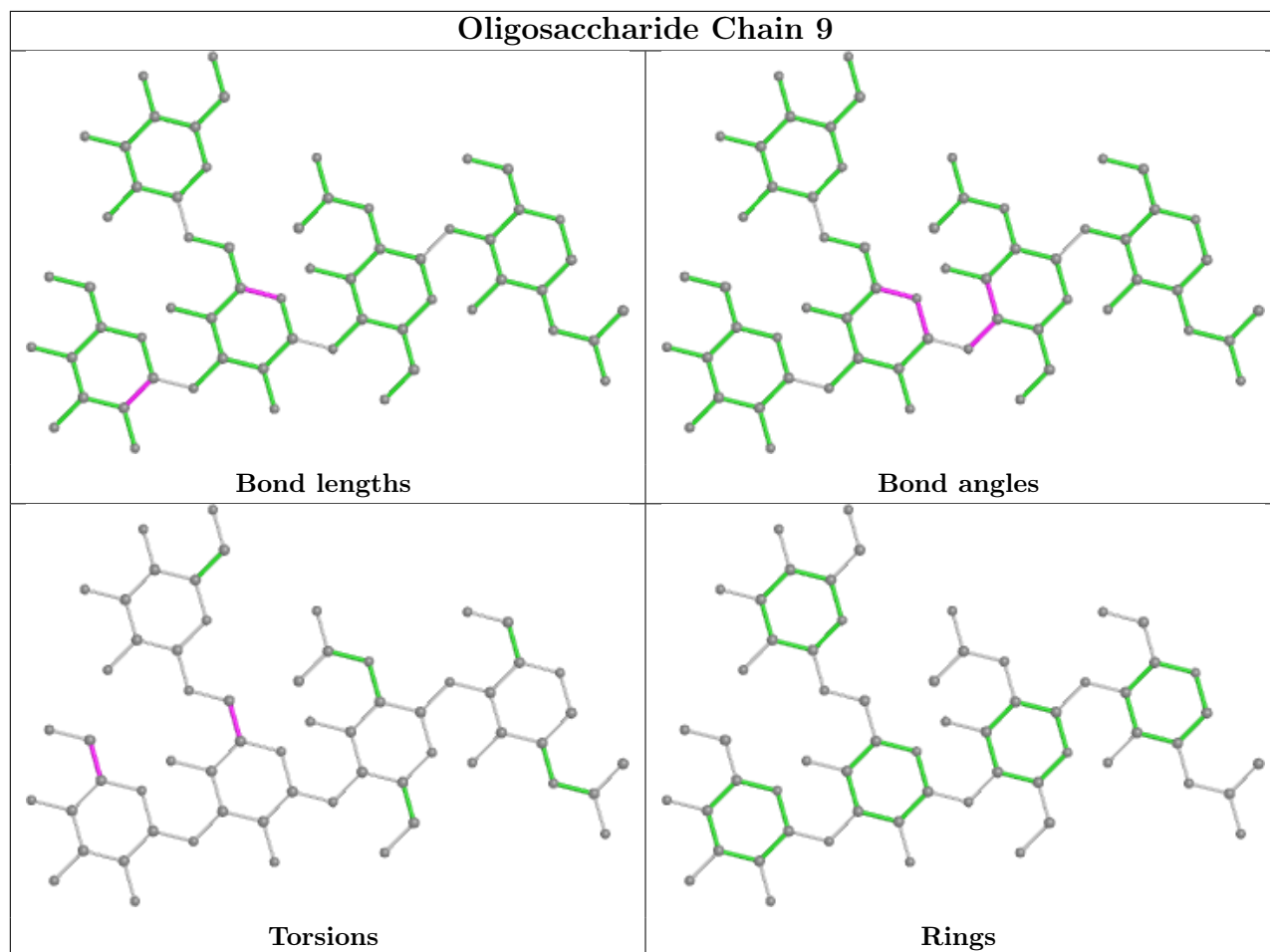


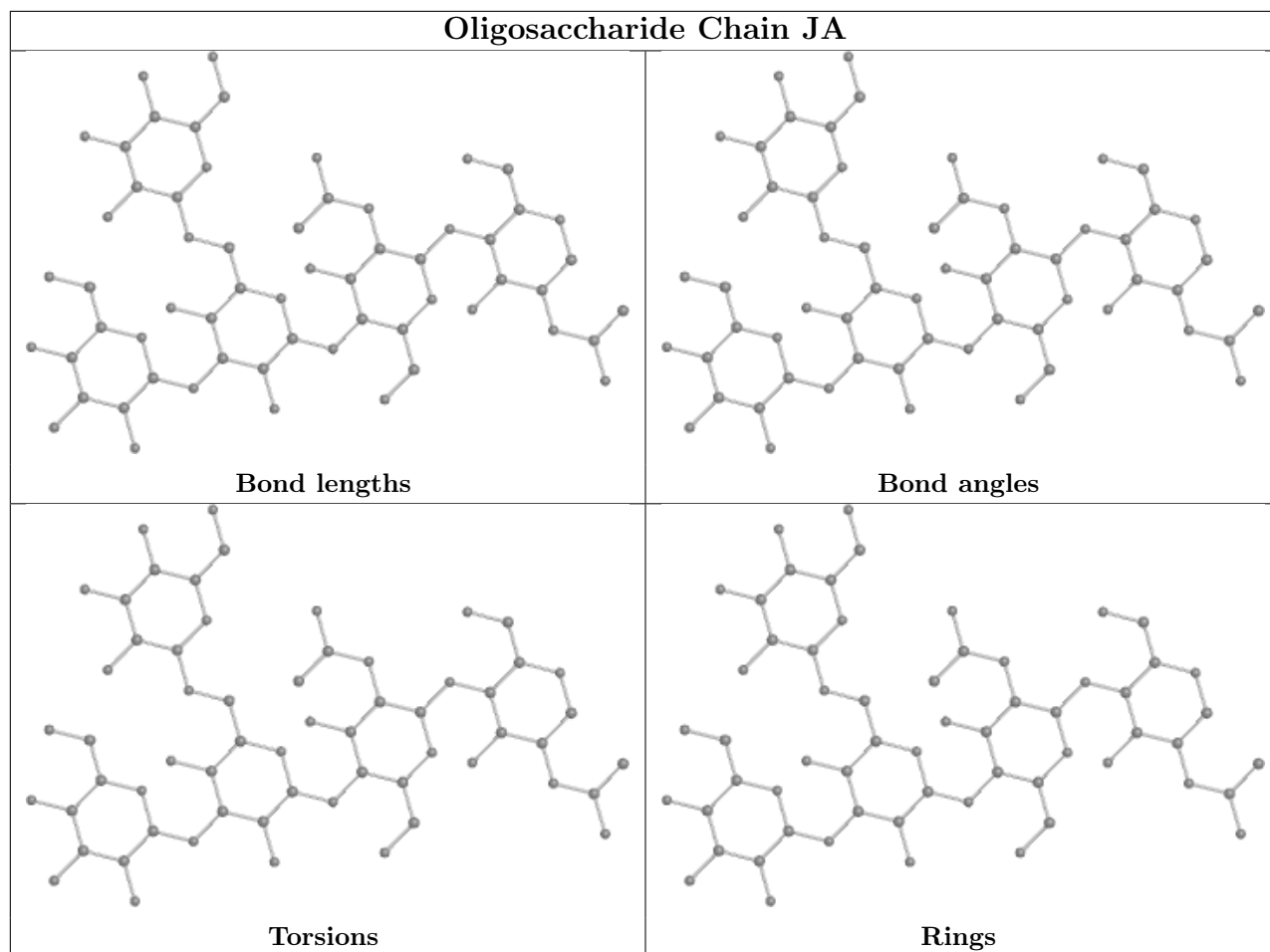












5.6 Ligand geometry [i](#)

30 ligands 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	$\# Z > 2$
20	NAG	r	1106	5	14,14,15	0.29	0	17,19,21	0.42	0
20	NAG	r	1101	5	14,14,15	0.22	0	17,19,21	0.45	0
20	NAG	t	802	7	14,14,15	0.46	0	17,19,21	0.49	0
21	CLR	z	201	-	31,31,31	0.40	0	48,48,48	0.71	0
20	NAG	E	1106	5	14,14,15	0.36	0	17,19,21	0.52	0
20	NAG	r	1104	5	14,14,15	0.29	0	17,19,21	0.45	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
21	CLR	M	201	-	31,31,31	0.42	0	48,48,48	0.87	2 (4%)
20	NAG	g	802	7	14,14,15	0.49	0	17,19,21	0.49	0
20	NAG	e	1103	5	14,14,15	0.29	0	17,19,21	0.43	0
20	NAG	e	1106	5	14,14,15	0.23	0	17,19,21	0.38	0
20	NAG	e	1101	5	14,14,15	0.27	0	17,19,21	0.49	0
20	NAG	r	1103	5	14,14,15	0.26	0	17,19,21	0.42	0
20	NAG	E	1104	5	14,14,15	0.24	0	17,19,21	0.46	0
20	NAG	g	801	7	14,14,15	0.35	0	17,19,21	0.47	0
20	NAG	E	1102	5	14,14,15	0.88	1 (7%)	17,19,21	0.87	1 (5%)
20	NAG	E	1103	5	14,14,15	0.34	0	17,19,21	0.51	0
20	NAG	e	1104	5	14,14,15	0.27	0	17,19,21	0.45	0
20	NAG	E	1105	5	14,14,15	0.21	0	17,19,21	0.42	0
21	CLR	m	201	-	31,31,31	0.38	0	48,48,48	0.56	0
20	NAG	G	801	7	14,14,15	0.33	0	17,19,21	0.50	0
20	NAG	r	1105	5	14,14,15	0.23	0	17,19,21	0.47	0
20	NAG	t	801	7	14,14,15	0.34	0	17,19,21	0.47	0
20	NAG	F	1101	6	14,14,15	0.27	0	17,19,21	0.42	0
20	NAG	r	1102	5	14,14,15	0.29	0	17,19,21	0.44	0
20	NAG	e	1102	5	14,14,15	1.49	1 (7%)	17,19,21	2.52	1 (5%)
20	NAG	s	1101	6	14,14,15	0.58	0	17,19,21	0.53	0
20	NAG	G	802	7	14,14,15	0.25	0	17,19,21	0.44	0
20	NAG	e	1105	5	14,14,15	0.24	0	17,19,21	0.47	0
20	NAG	f	1101	6	14,14,15	0.57	0	17,19,21	0.52	0
20	NAG	E	1101	5	14,14,15	0.18	0	17,19,21	0.49	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
20	NAG	r	1106	5	-	2/6/23/26	0/1/1/1
20	NAG	r	1101	5	-	2/6/23/26	0/1/1/1
20	NAG	t	802	7	-	2/6/23/26	0/1/1/1
21	CLR	z	201	-	-	4/10/68/68	0/4/4/4
20	NAG	E	1106	5	-	2/6/23/26	0/1/1/1
20	NAG	r	1104	5	-	0/6/23/26	0/1/1/1
21	CLR	M	201	-	-	5/10/68/68	0/4/4/4
20	NAG	g	802	7	-	2/6/23/26	0/1/1/1
20	NAG	e	1103	5	-	1/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
20	NAG	e	1106	5	-	2/6/23/26	0/1/1/1
20	NAG	e	1101	5	-	0/6/23/26	0/1/1/1
20	NAG	r	1103	5	-	1/6/23/26	0/1/1/1
20	NAG	E	1104	5	-	0/6/23/26	0/1/1/1
20	NAG	g	801	7	-	2/6/23/26	0/1/1/1
20	NAG	E	1102	5	-	2/6/23/26	0/1/1/1
20	NAG	E	1103	5	-	2/6/23/26	0/1/1/1
20	NAG	e	1104	5	-	0/6/23/26	0/1/1/1
20	NAG	E	1105	5	-	0/6/23/26	0/1/1/1
21	CLR	m	201	-	-	3/10/68/68	0/4/4/4
20	NAG	G	801	7	-	0/6/23/26	0/1/1/1
20	NAG	r	1105	5	-	0/6/23/26	0/1/1/1
20	NAG	t	801	7	-	2/6/23/26	0/1/1/1
20	NAG	F	1101	6	-	0/6/23/26	0/1/1/1
20	NAG	r	1102	5	-	2/6/23/26	0/1/1/1
20	NAG	e	1102	5	-	0/6/23/26	0/1/1/1
20	NAG	s	1101	6	-	0/6/23/26	0/1/1/1
20	NAG	G	802	7	-	2/6/23/26	0/1/1/1
20	NAG	e	1105	5	-	0/6/23/26	0/1/1/1
20	NAG	f	1101	6	-	0/6/23/26	0/1/1/1
20	NAG	E	1101	5	-	0/6/23/26	0/1/1/1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	e	1102	NAG	O5-C1	5.13	1.51	1.43
20	E	1102	NAG	O5-C1	2.66	1.48	1.43

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	e	1102	NAG	C1-O5-C5	10.12	125.91	112.19
20	E	1102	NAG	C1-O5-C5	3.32	116.69	112.19
21	M	201	CLR	O1-C3-C4	2.10	114.18	109.68
21	M	201	CLR	C16-C15-C14	-2.09	101.00	105.13

There are no chirality outliers.

All (38) torsion outliers are listed below:

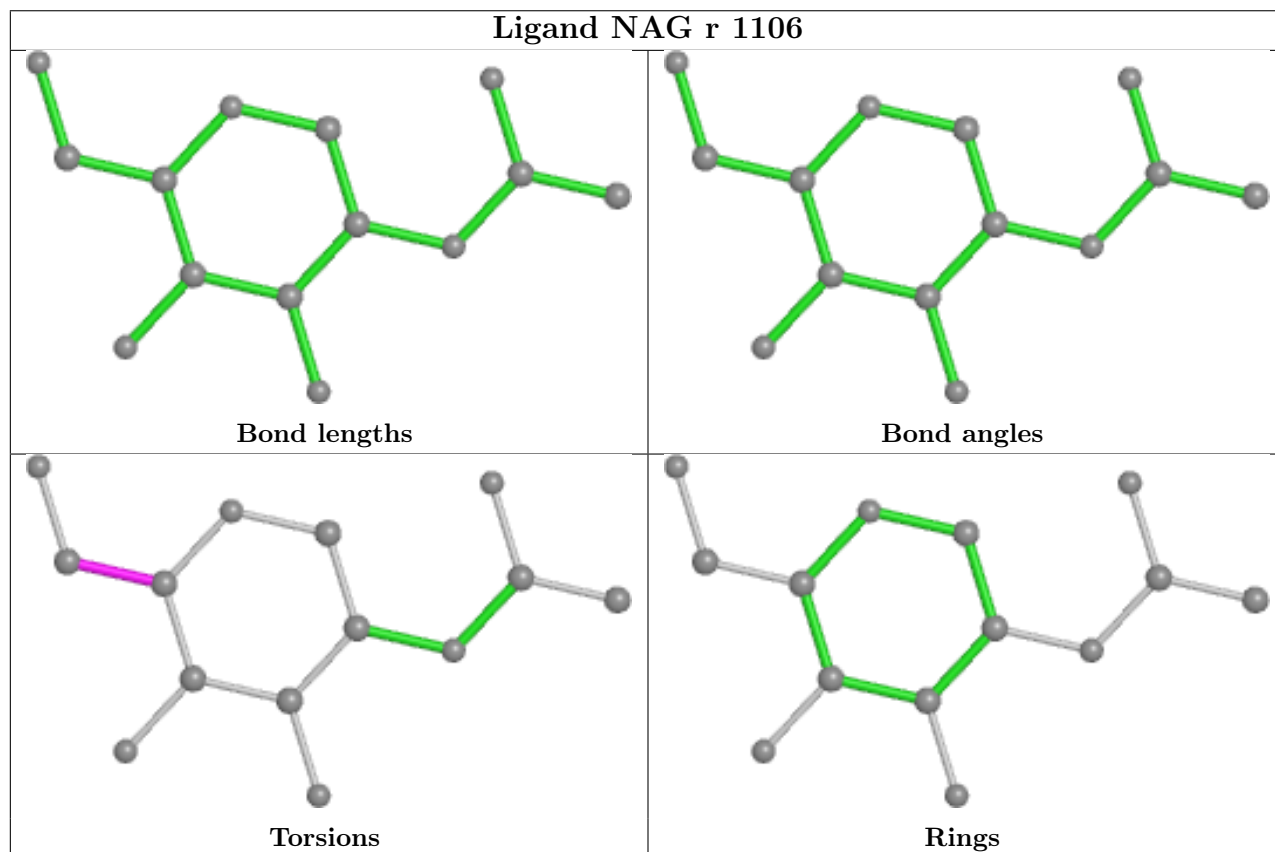
Mol	Chain	Res	Type	Atoms
20	E	1103	NAG	C4-C5-C6-O6
20	G	802	NAG	O5-C5-C6-O6
20	r	1106	NAG	O5-C5-C6-O6
20	E	1106	NAG	O5-C5-C6-O6
21	M	201	CLR	C17-C20-C22-C23
20	g	801	NAG	O5-C5-C6-O6
20	E	1106	NAG	C4-C5-C6-O6
20	E	1103	NAG	O5-C5-C6-O6
20	G	802	NAG	C4-C5-C6-O6
20	r	1106	NAG	C4-C5-C6-O6
20	g	802	NAG	C4-C5-C6-O6
21	M	201	CLR	C21-C20-C22-C23
20	t	801	NAG	O5-C5-C6-O6
20	e	1106	NAG	O5-C5-C6-O6
20	g	801	NAG	C4-C5-C6-O6
20	e	1106	NAG	C4-C5-C6-O6
20	t	801	NAG	C4-C5-C6-O6
21	m	201	CLR	C22-C23-C24-C25
21	M	201	CLR	C20-C22-C23-C24
20	g	802	NAG	O5-C5-C6-O6
21	M	201	CLR	C23-C24-C25-C27
20	E	1102	NAG	O5-C5-C6-O6
21	M	201	CLR	C23-C24-C25-C26
20	E	1102	NAG	C4-C5-C6-O6
20	r	1102	NAG	O5-C5-C6-O6
20	r	1103	NAG	O5-C5-C6-O6
20	e	1103	NAG	O5-C5-C6-O6
20	t	802	NAG	C4-C5-C6-O6
20	r	1101	NAG	C4-C5-C6-O6
21	z	201	CLR	C22-C23-C24-C25
20	t	802	NAG	O5-C5-C6-O6
21	z	201	CLR	C16-C17-C20-C22
21	z	201	CLR	C13-C17-C20-C21
20	r	1101	NAG	O5-C5-C6-O6
20	r	1102	NAG	C4-C5-C6-O6
21	m	201	CLR	C16-C17-C20-C22
21	m	201	CLR	C13-C17-C20-C21
21	z	201	CLR	C16-C17-C20-C21

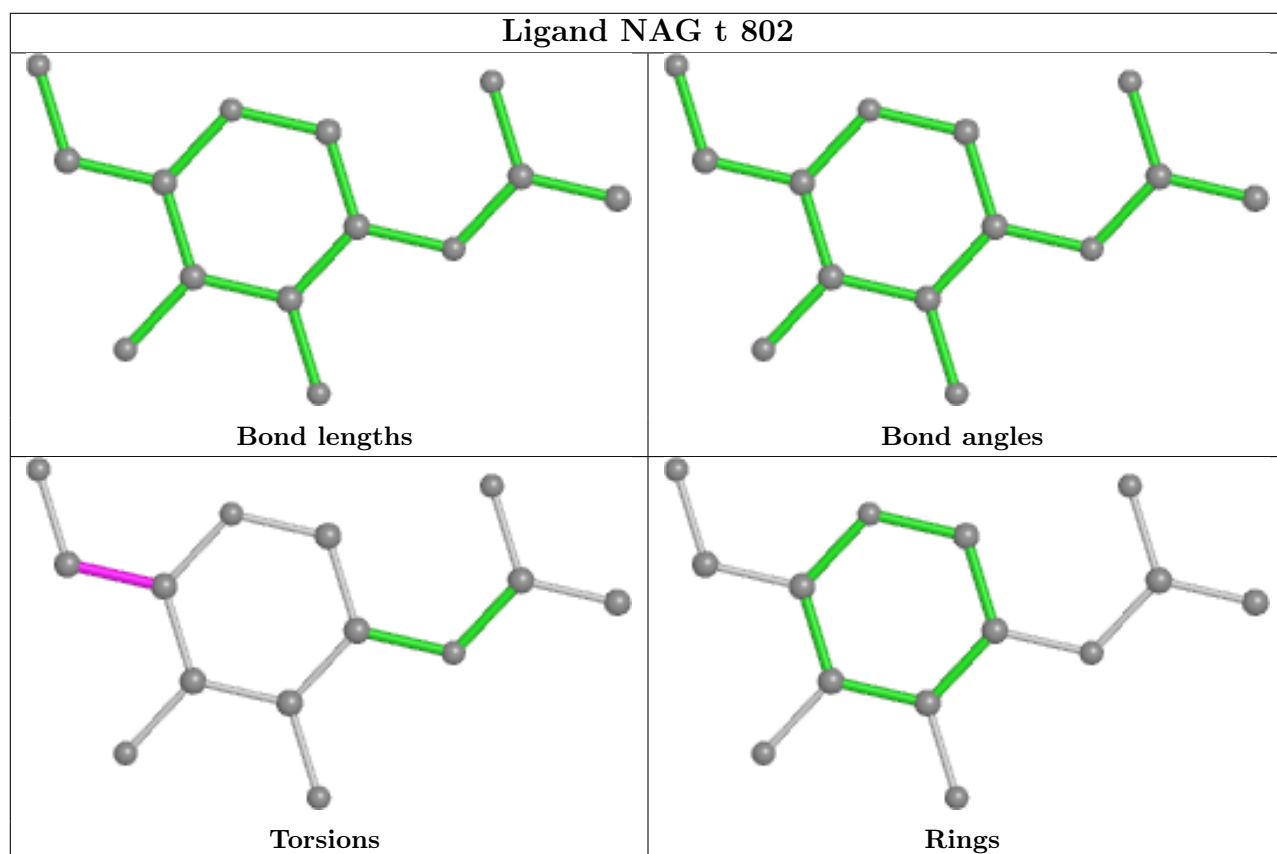
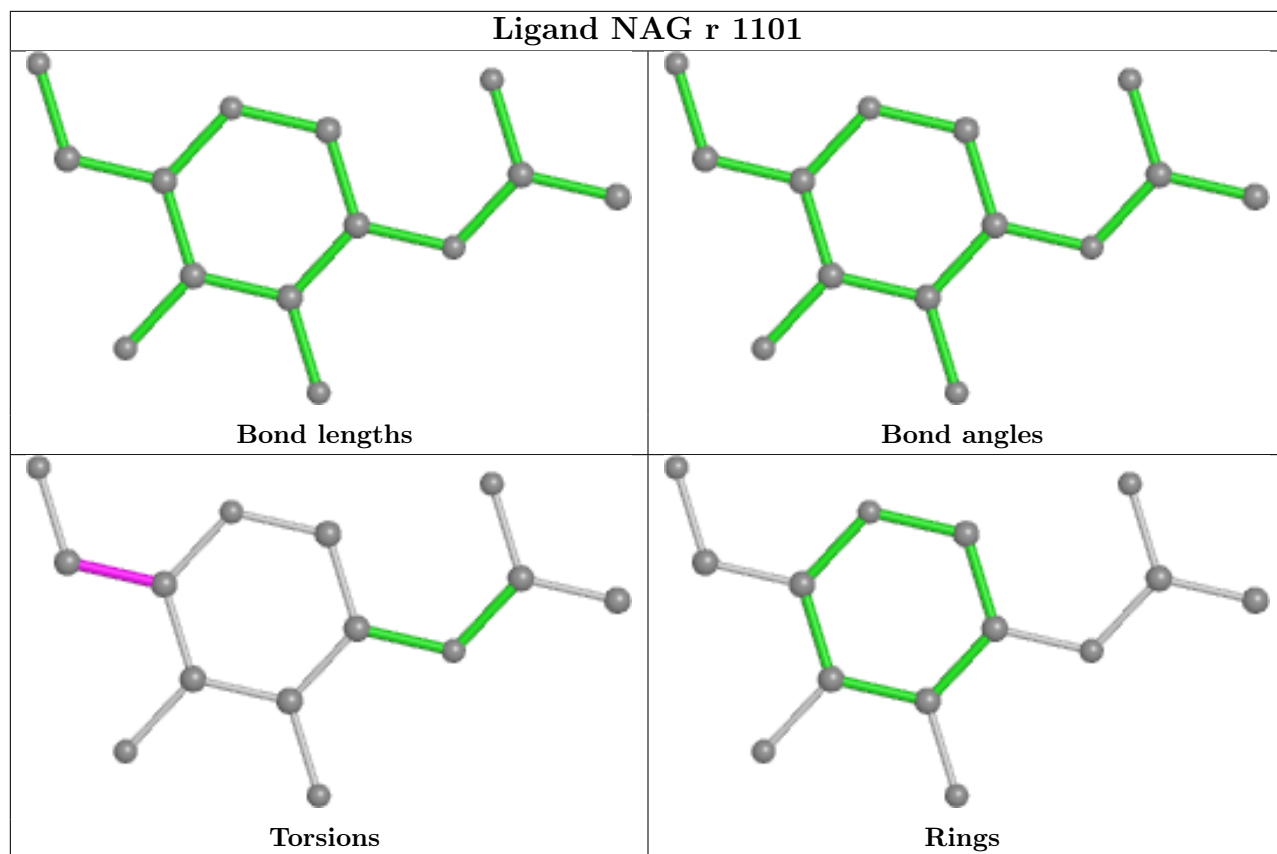
There are no ring outliers.

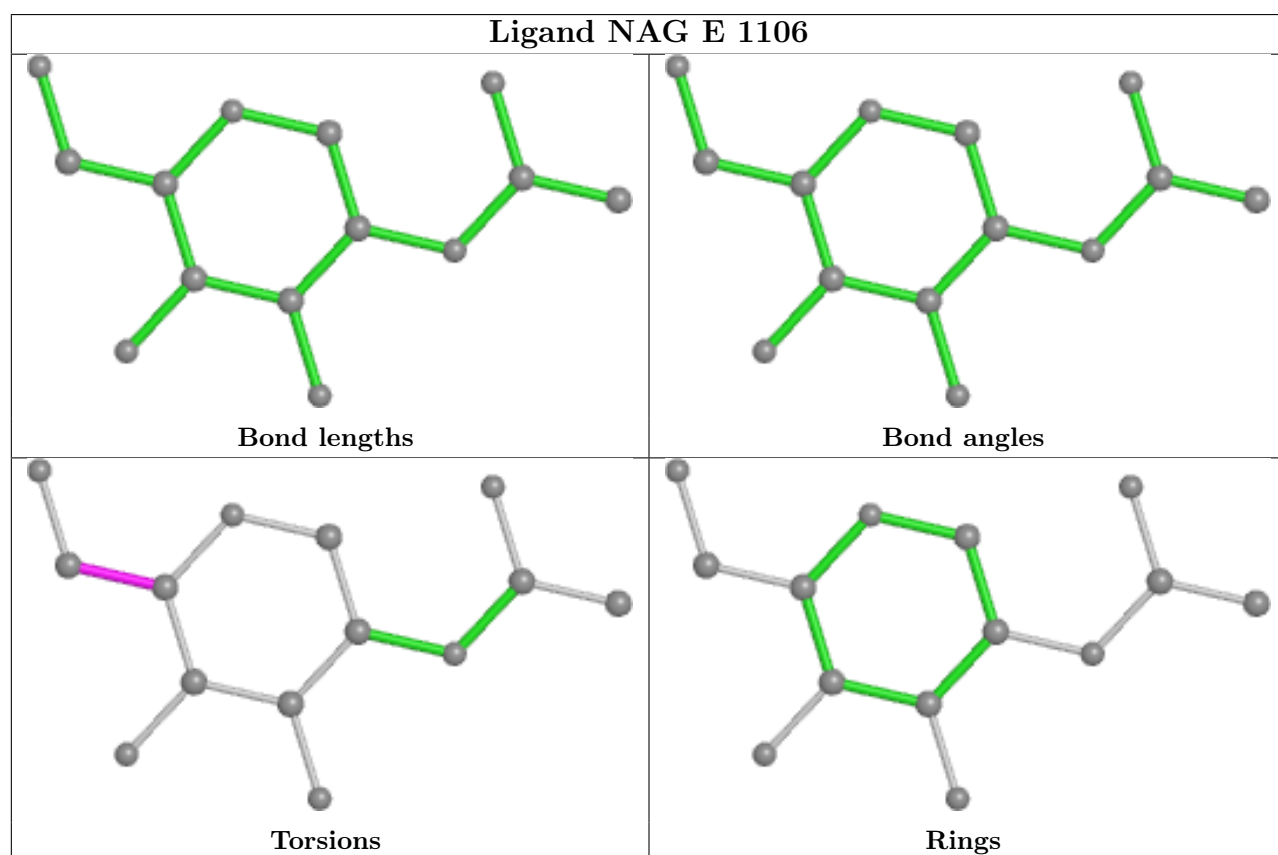
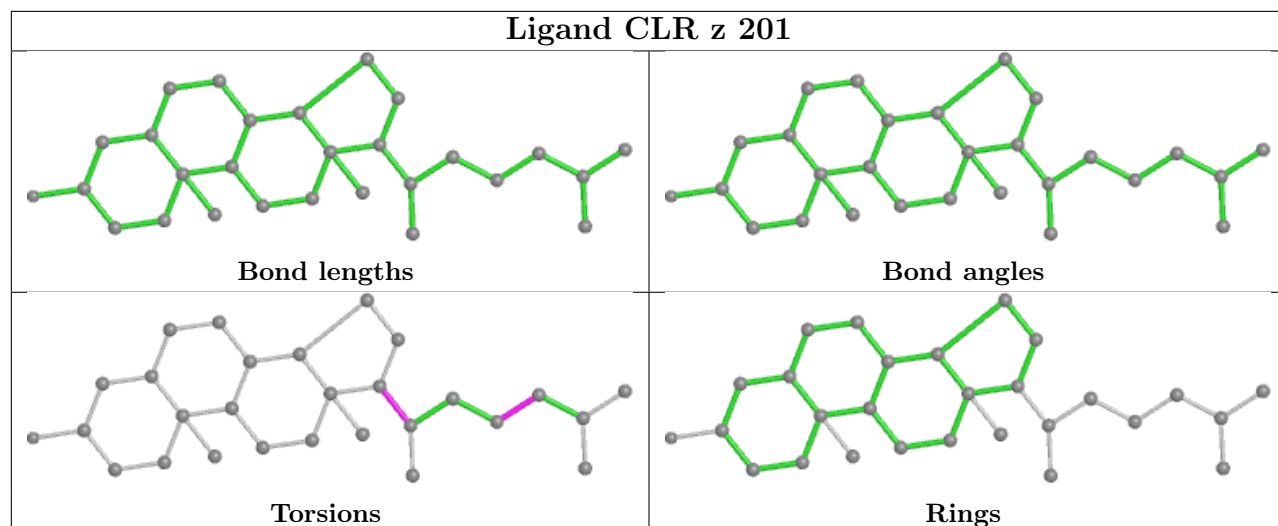
2 monomers are involved in 2 short contacts:

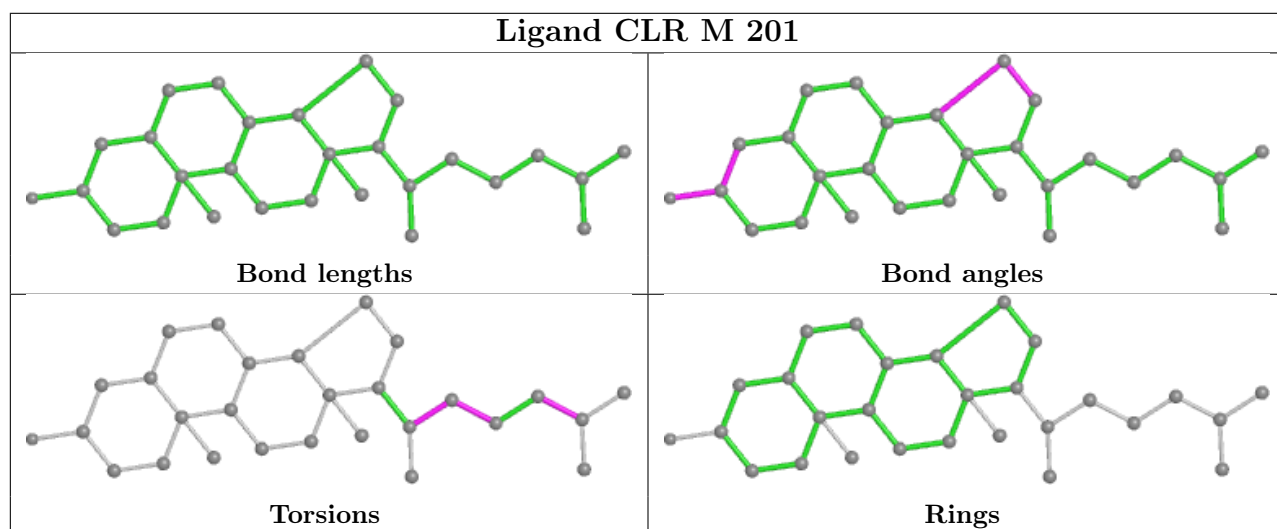
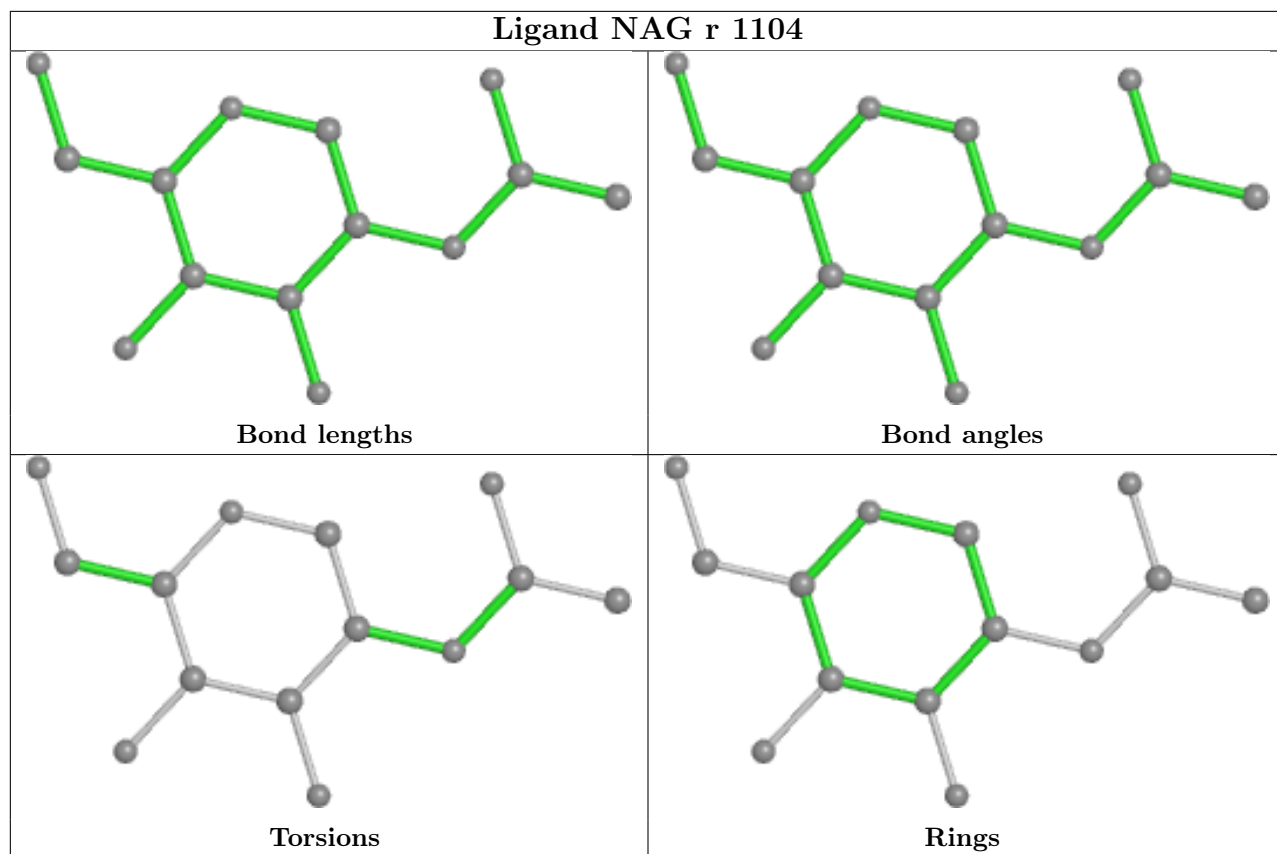
Mol	Chain	Res	Type	Clashes	Symm-Clashes
21	z	201	CLR	1	0
21	m	201	CLR	1	0

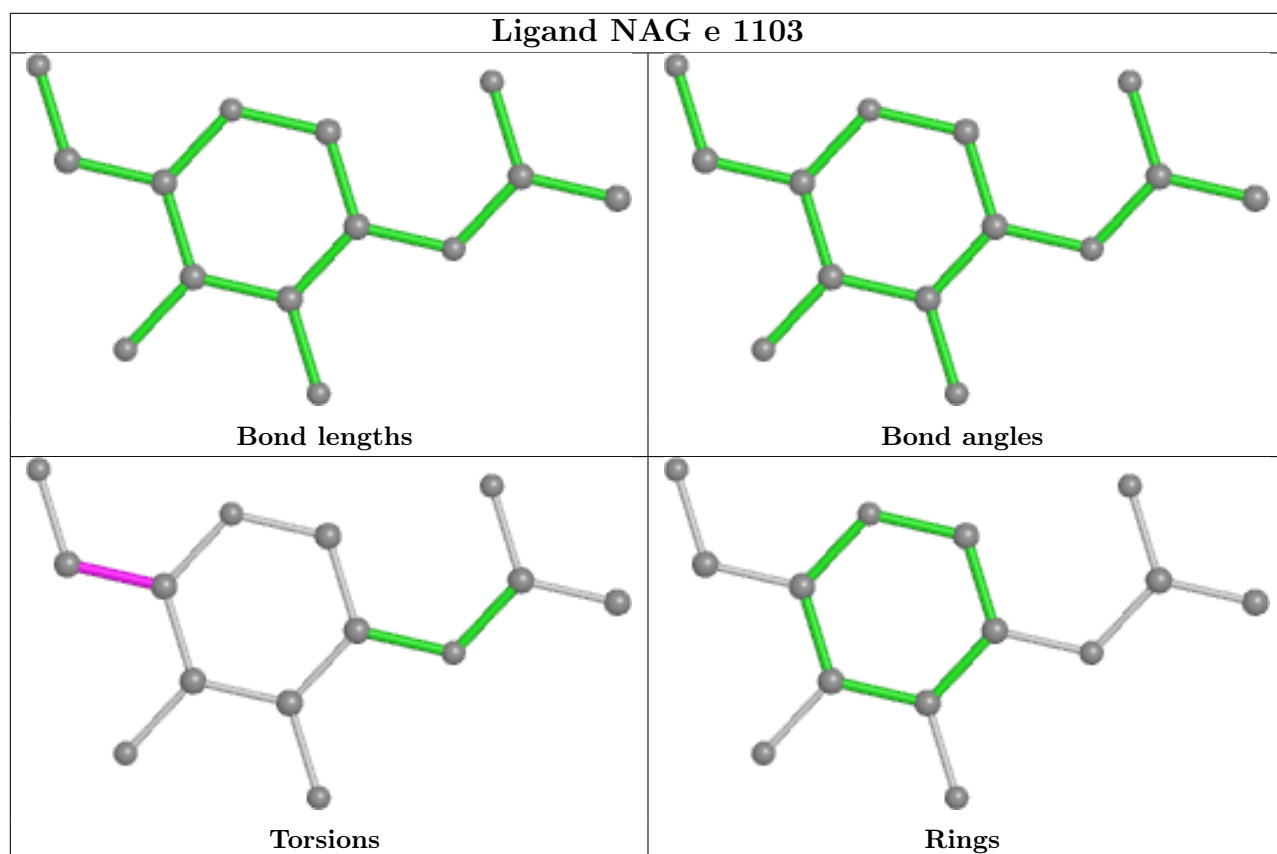
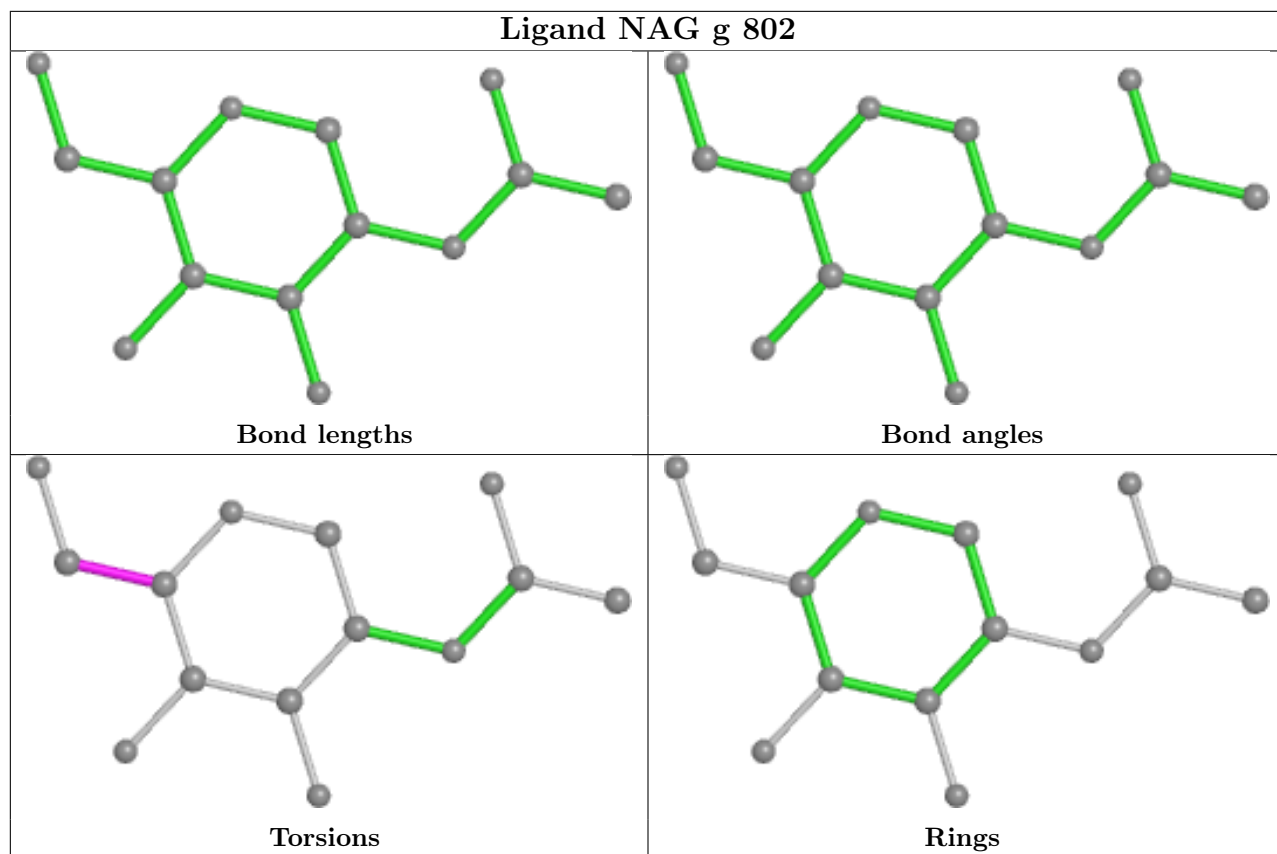
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

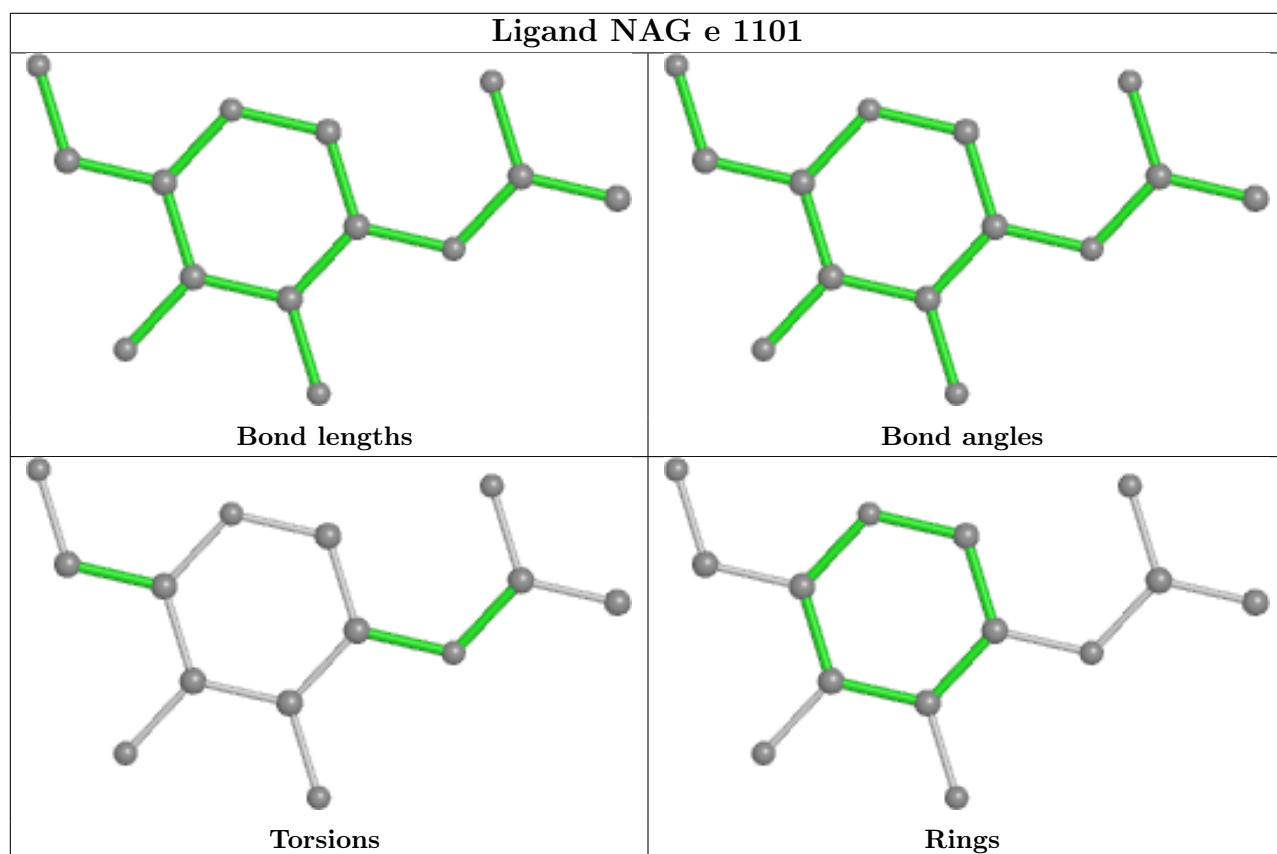
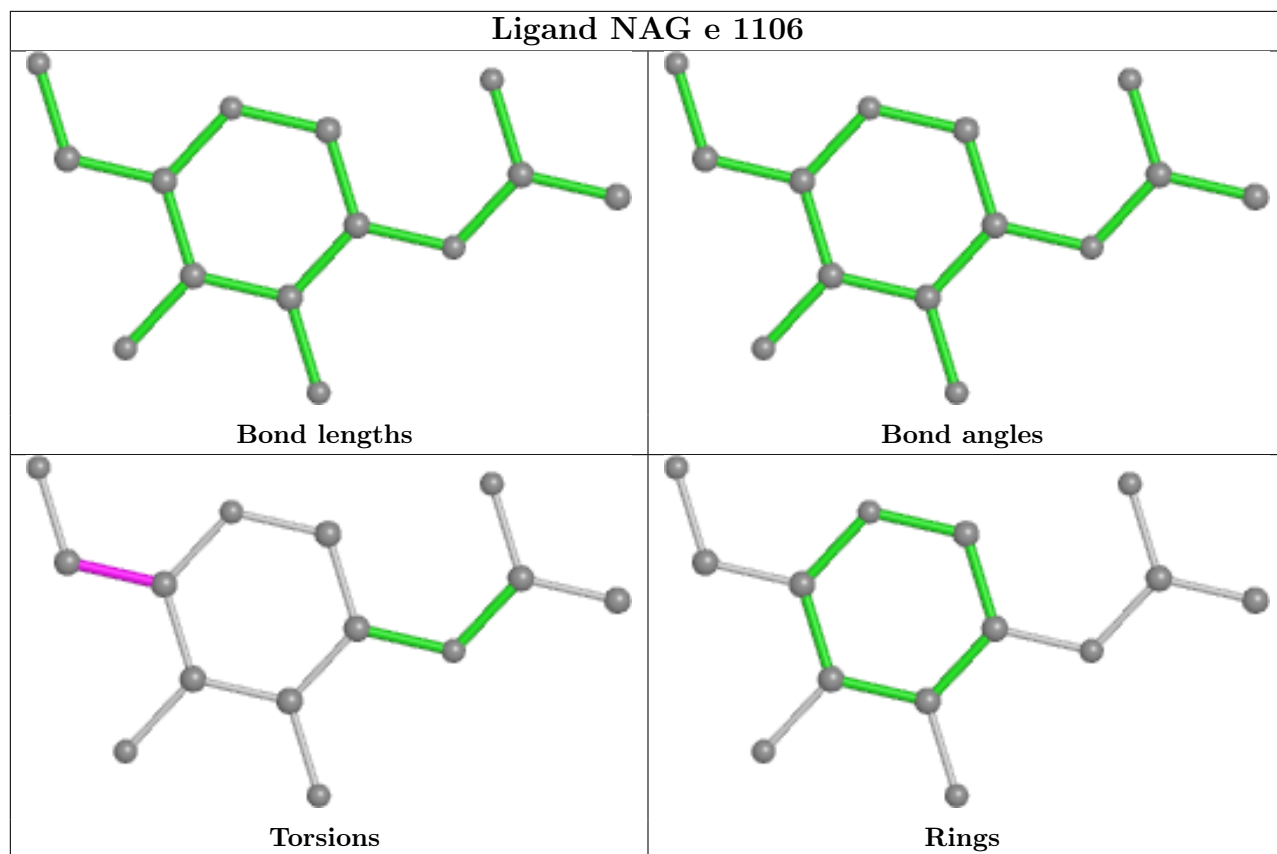


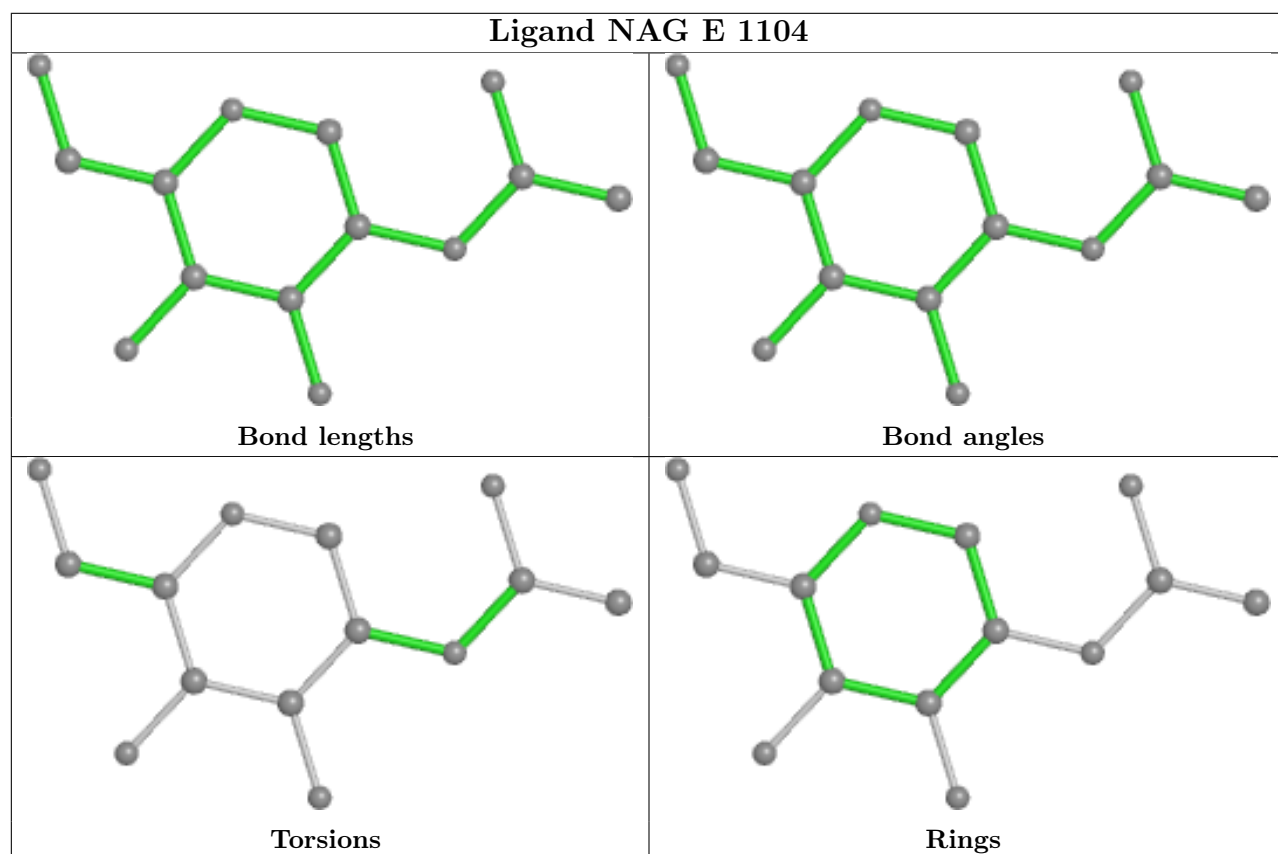
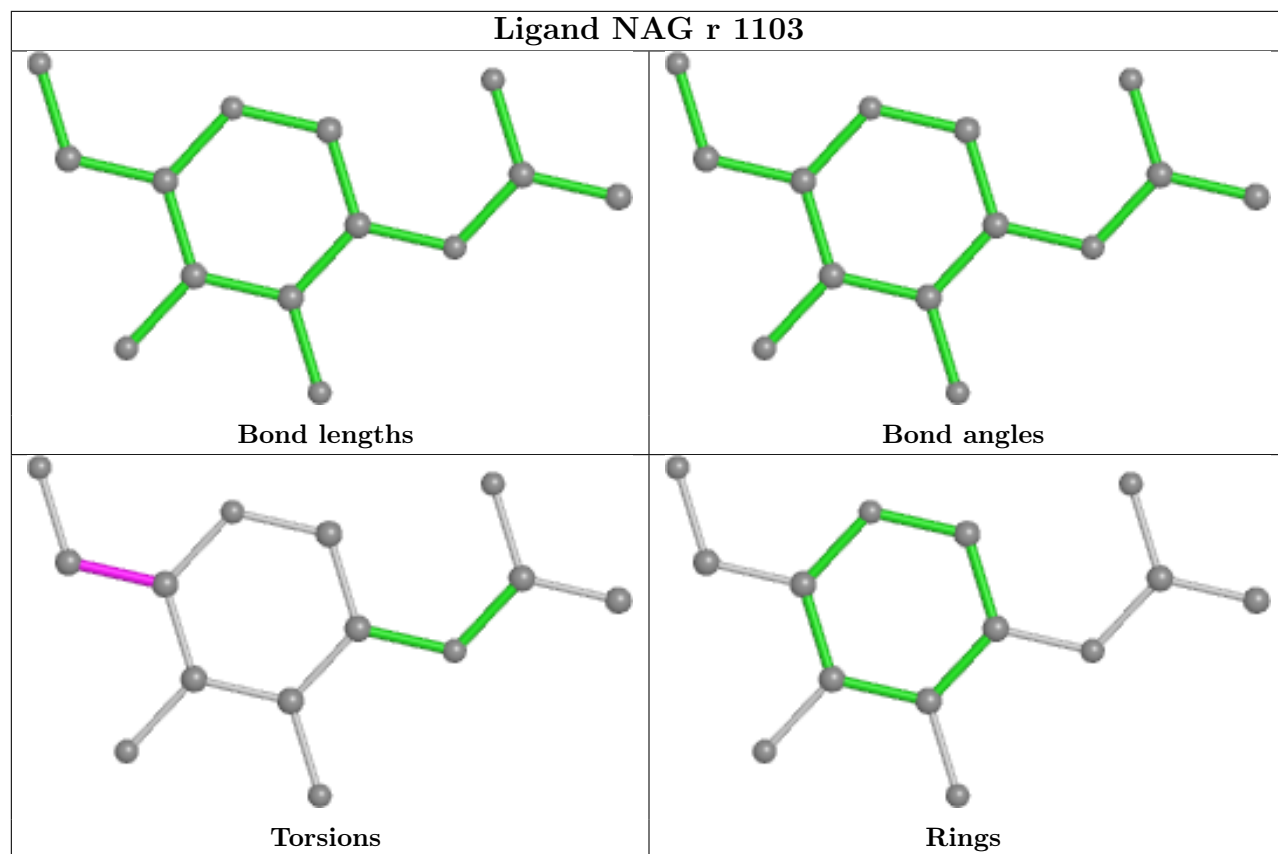


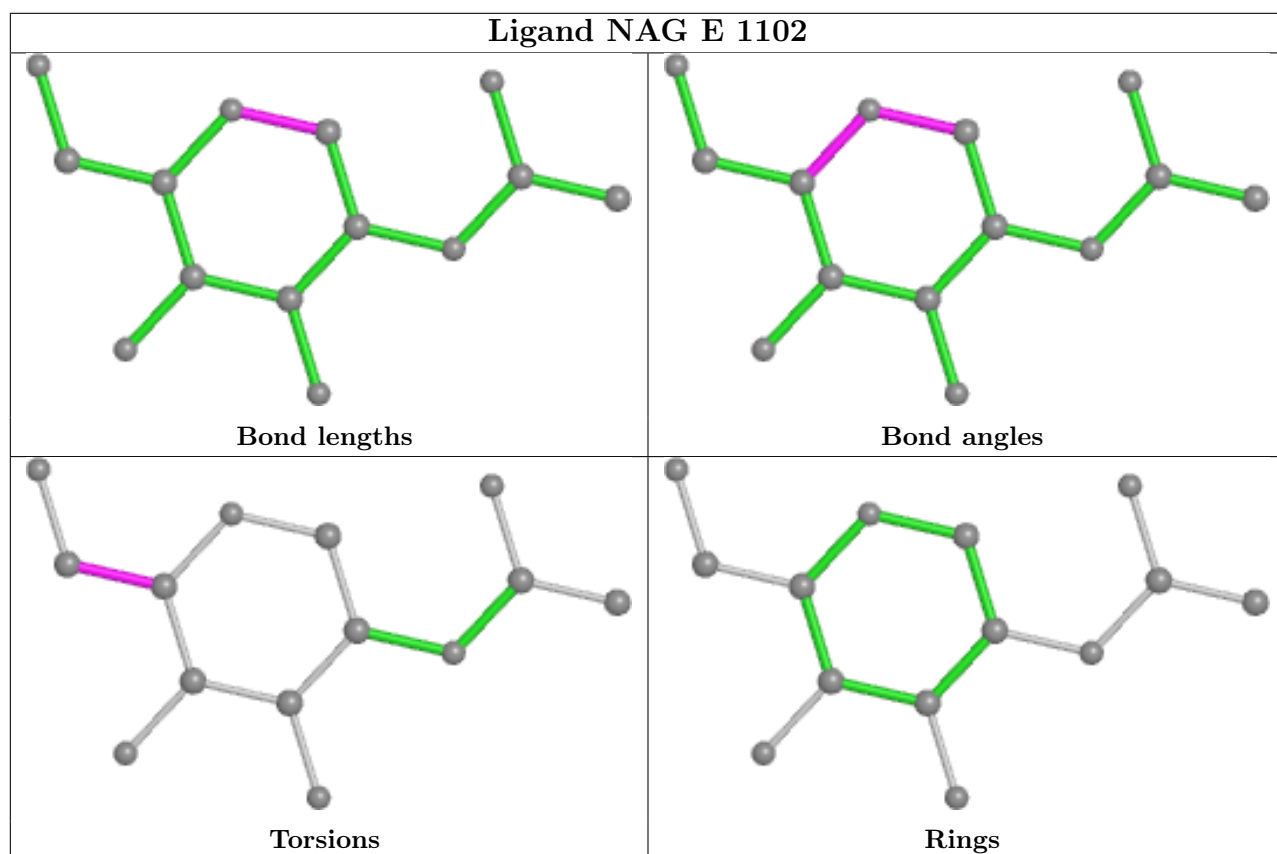
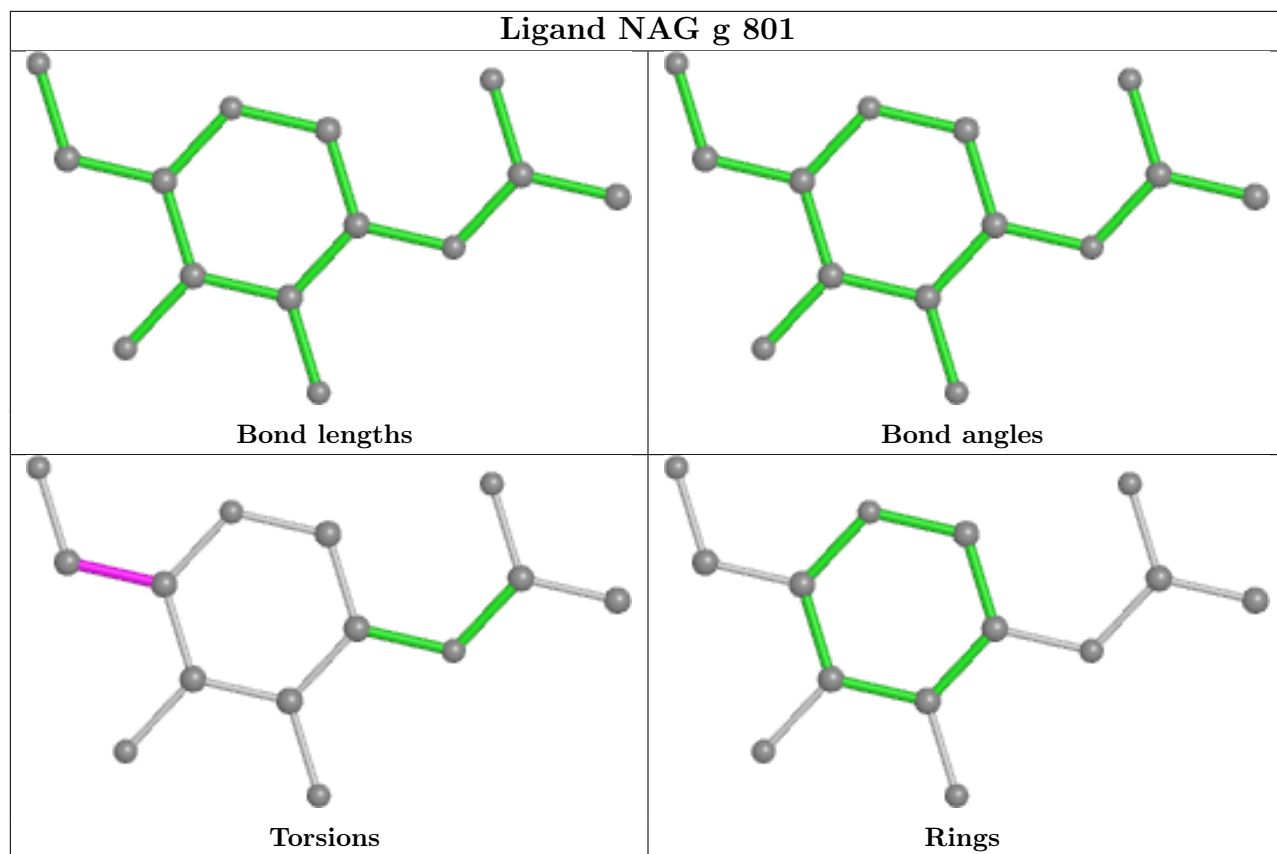


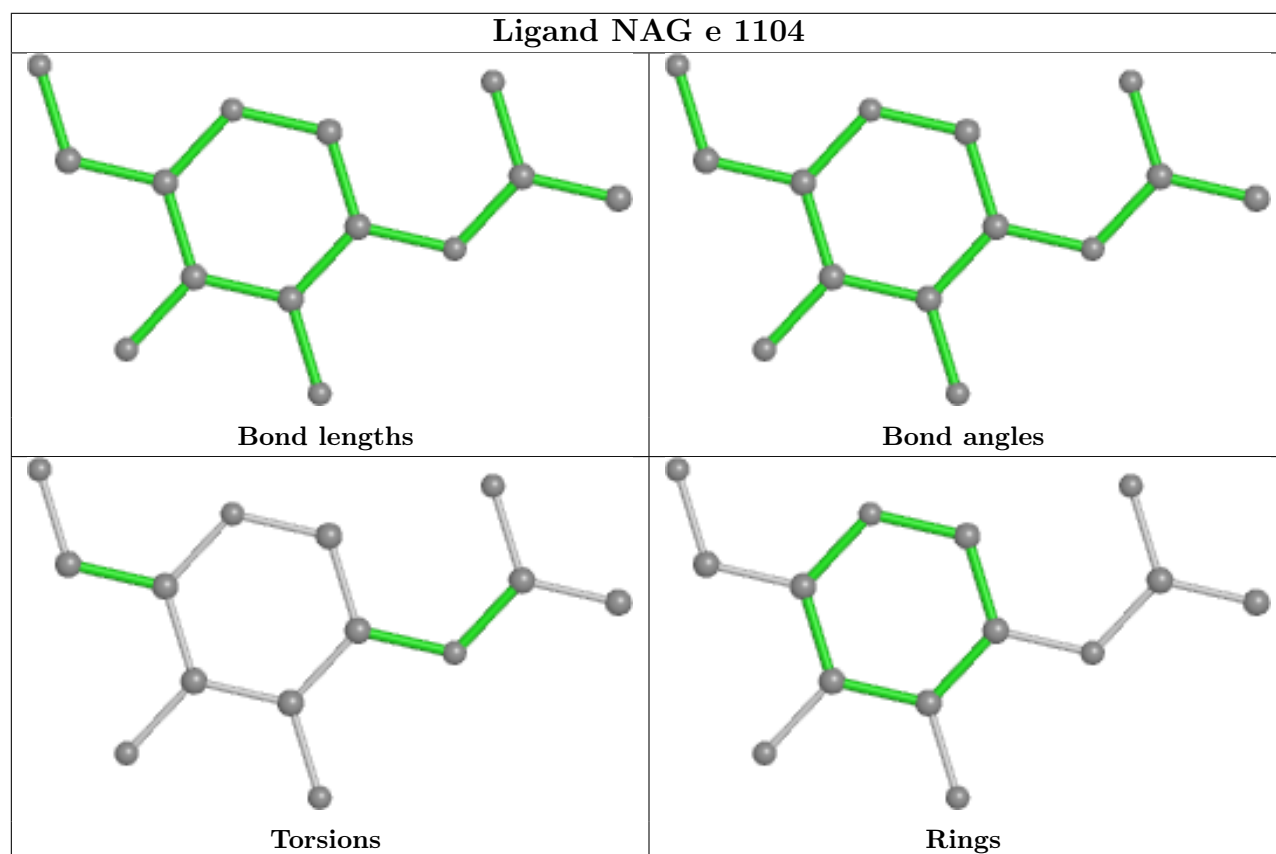
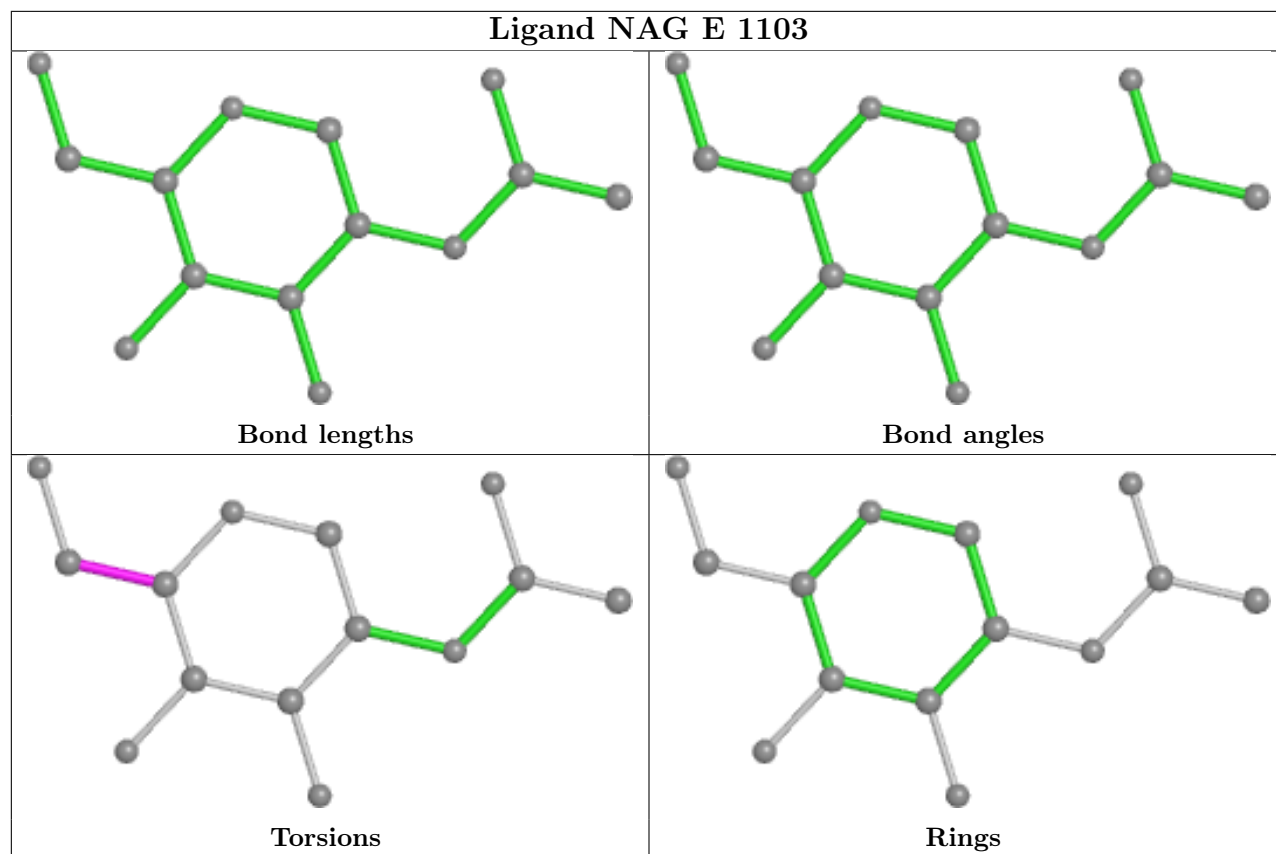


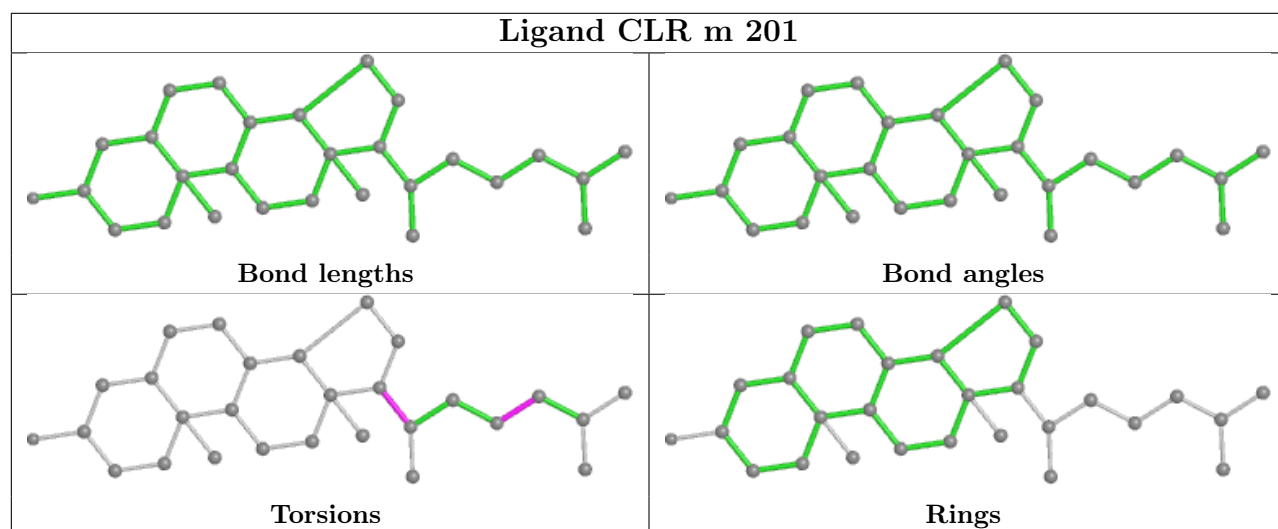
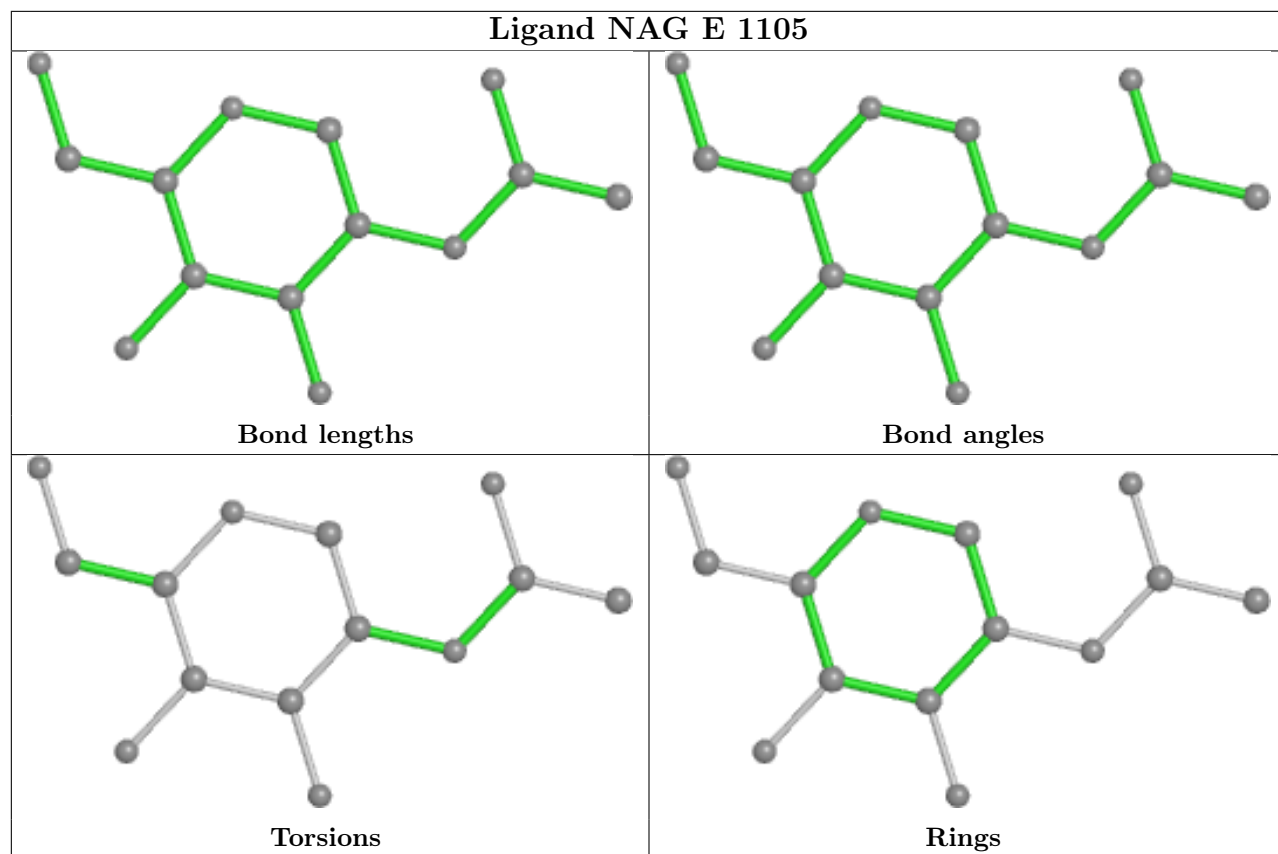


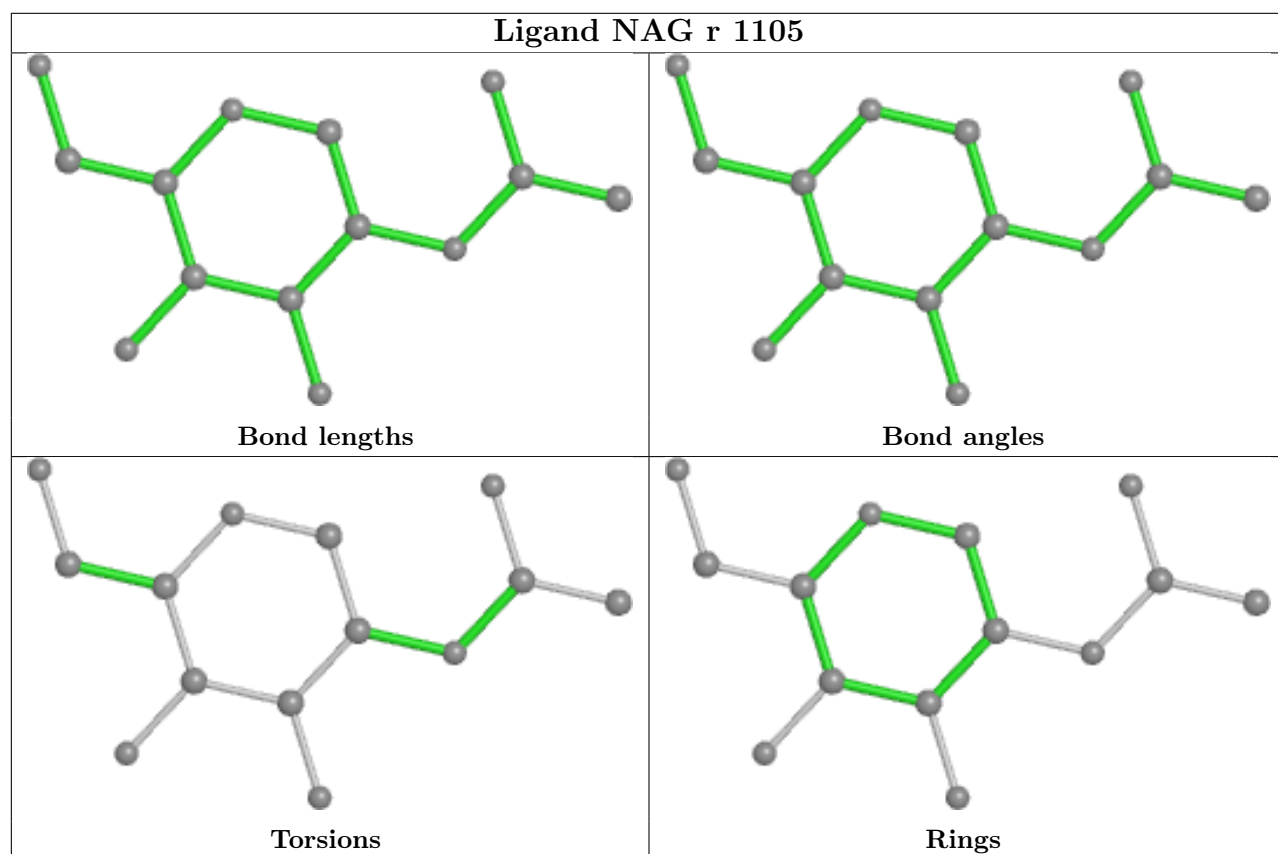
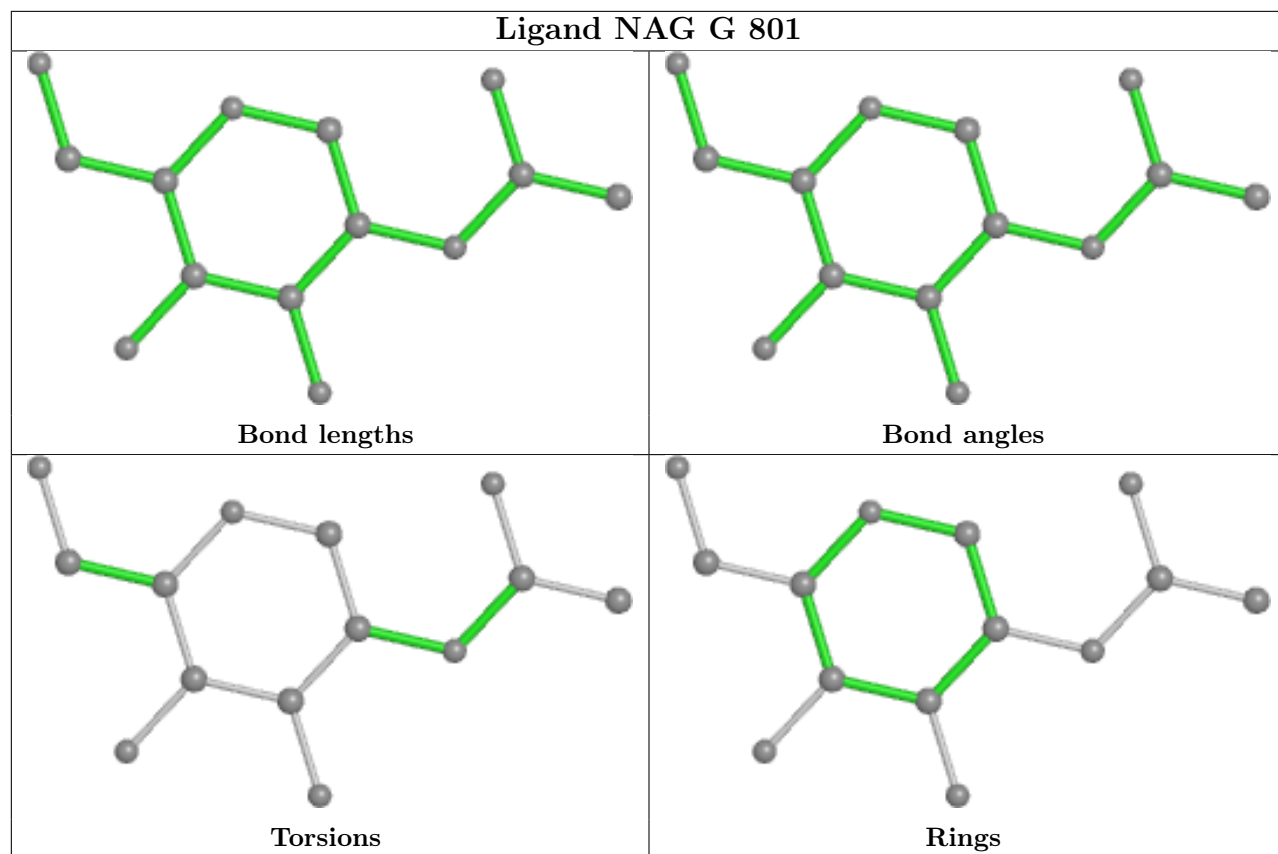


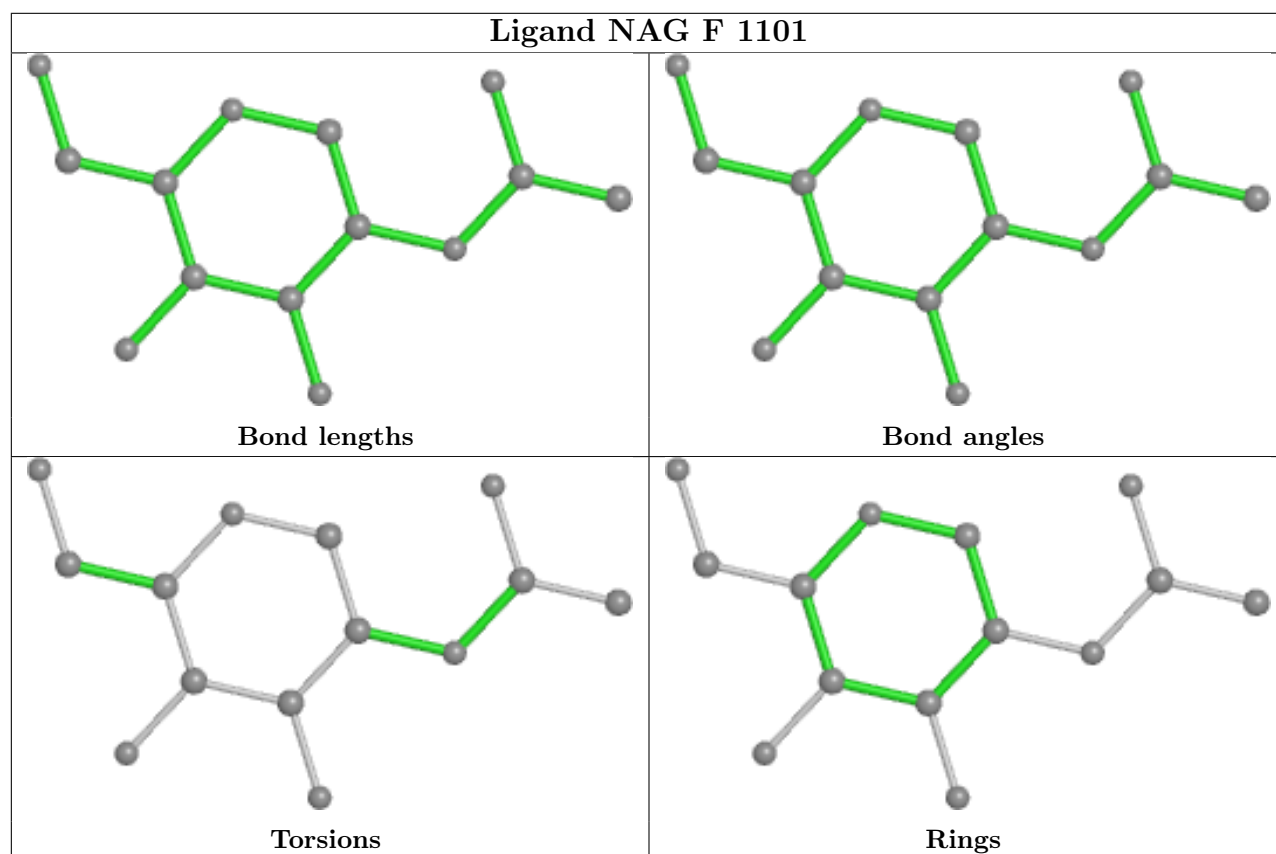
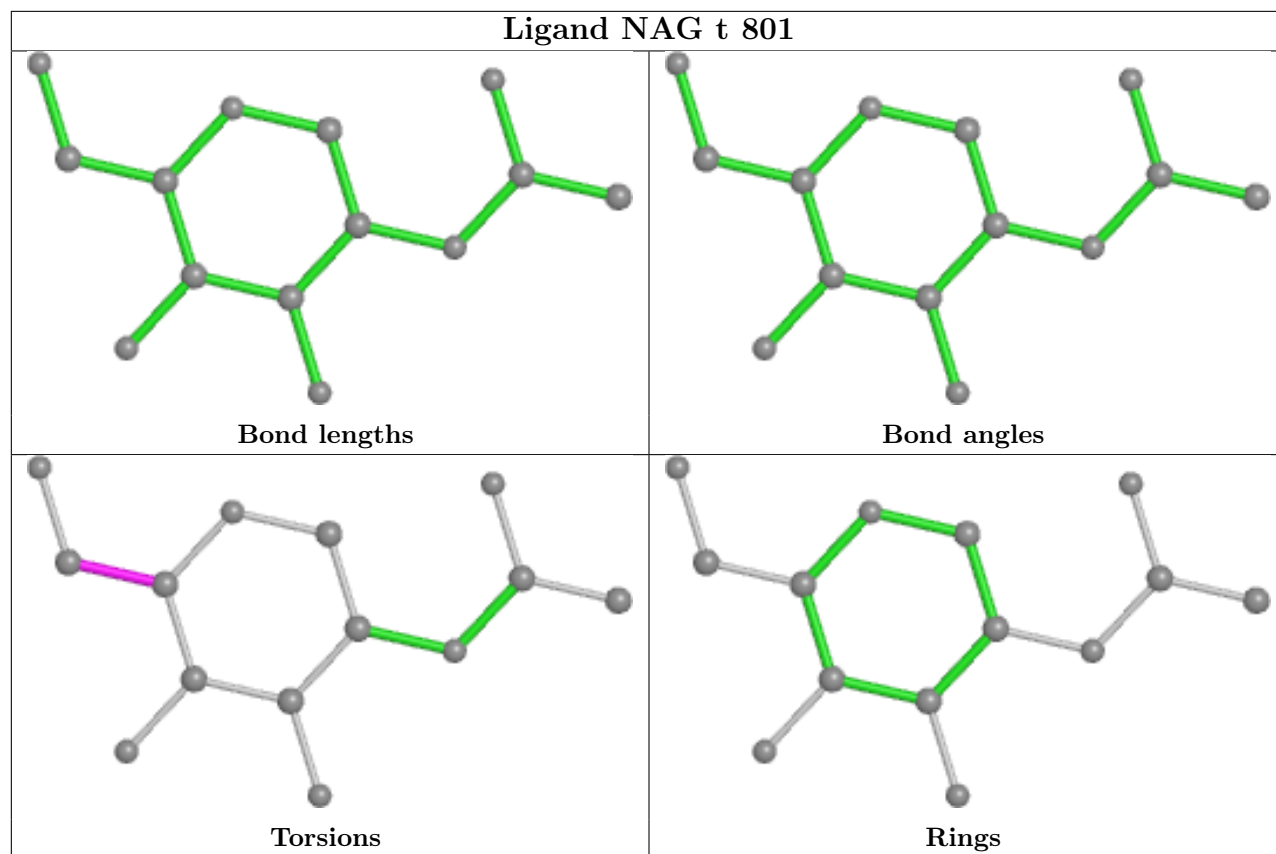


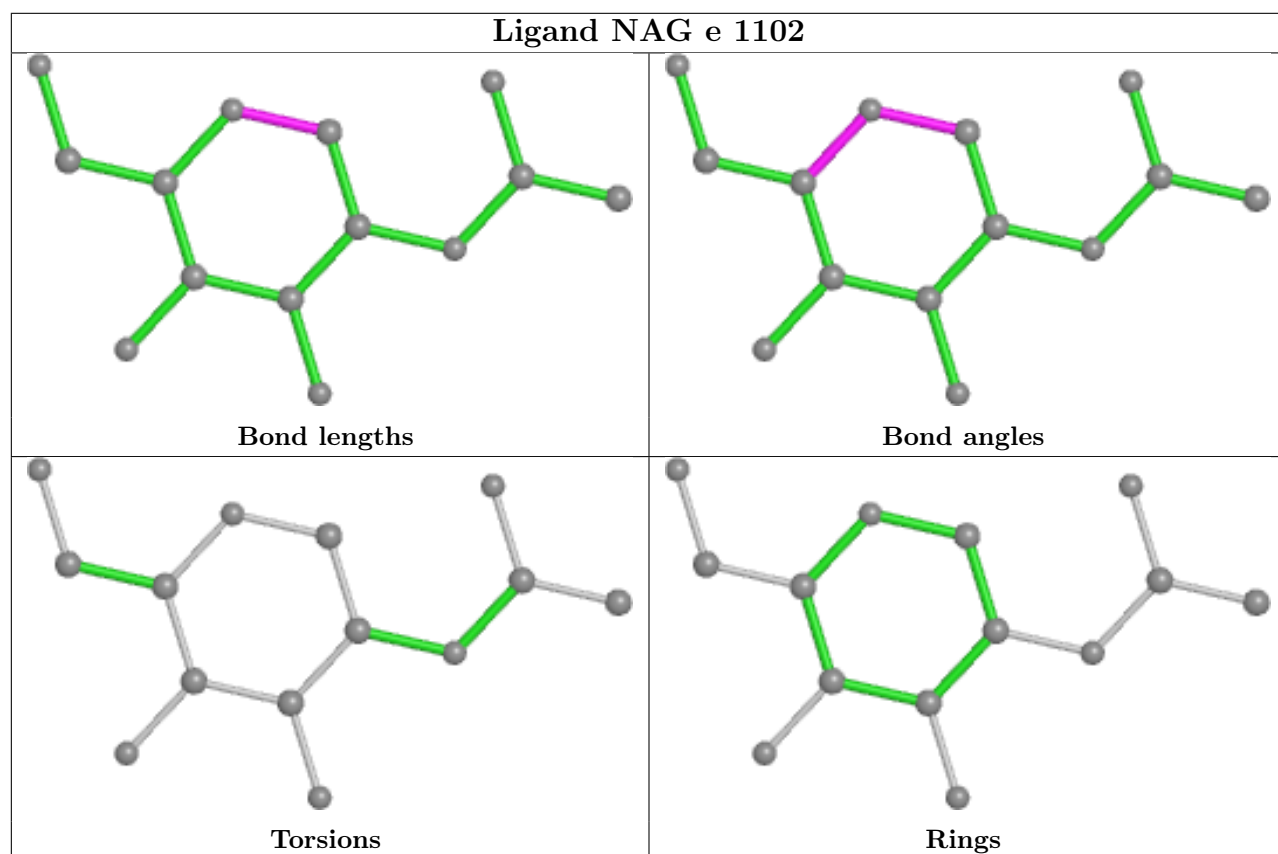
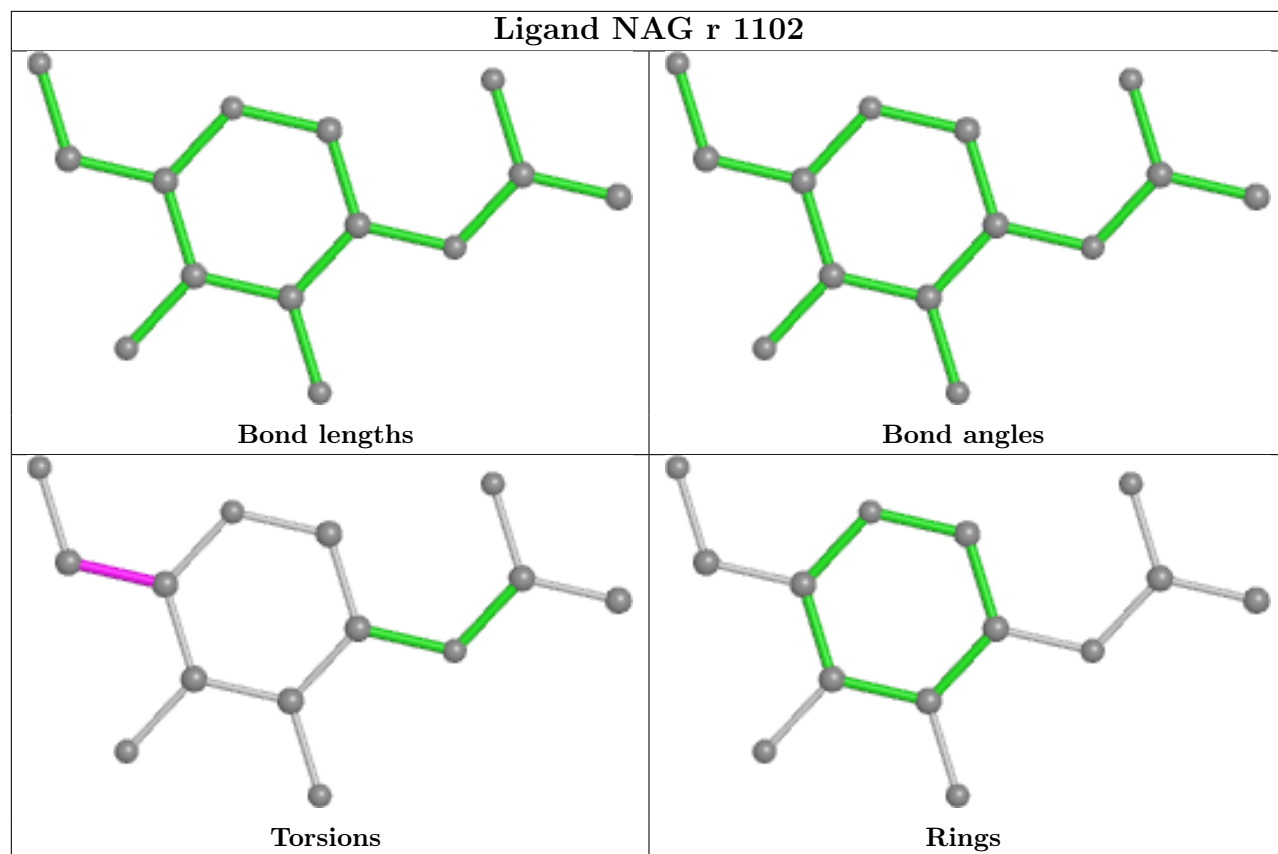


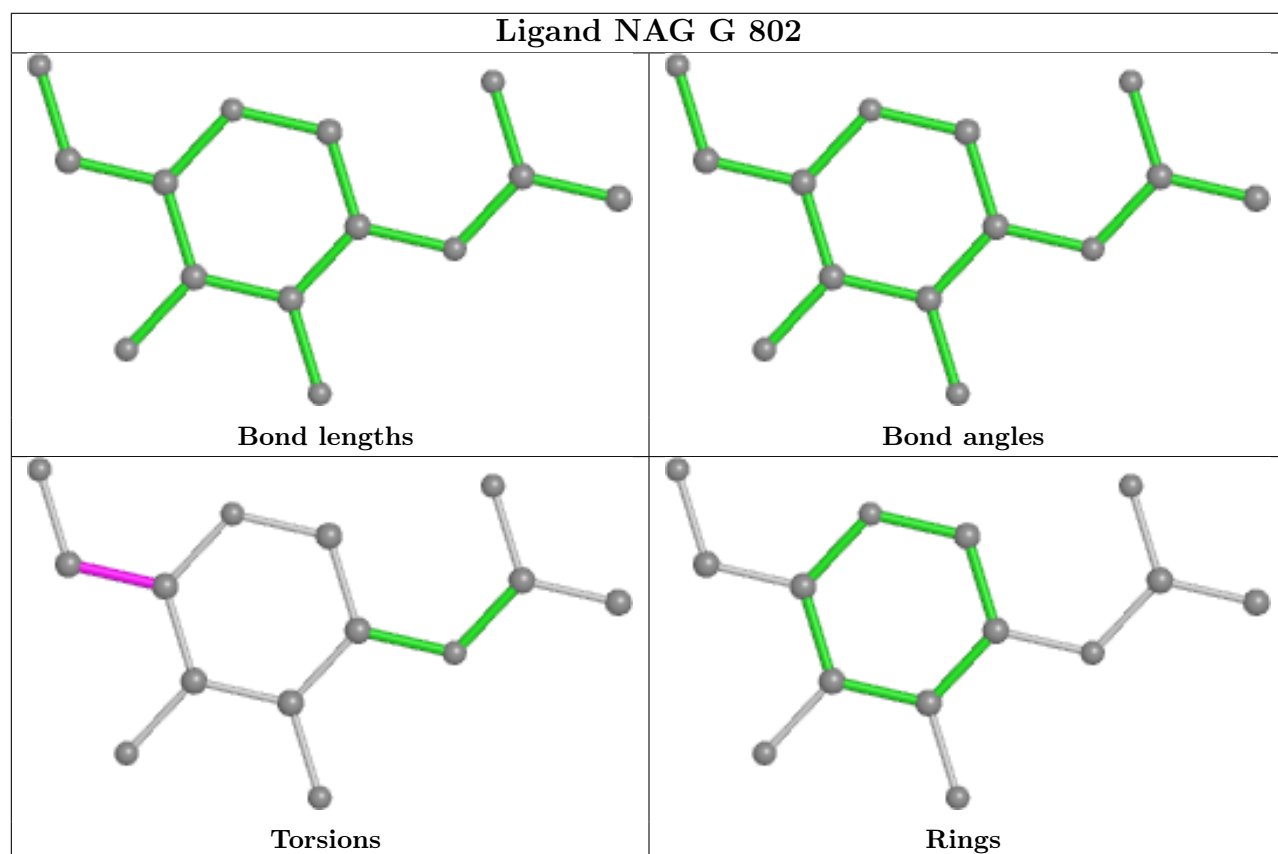
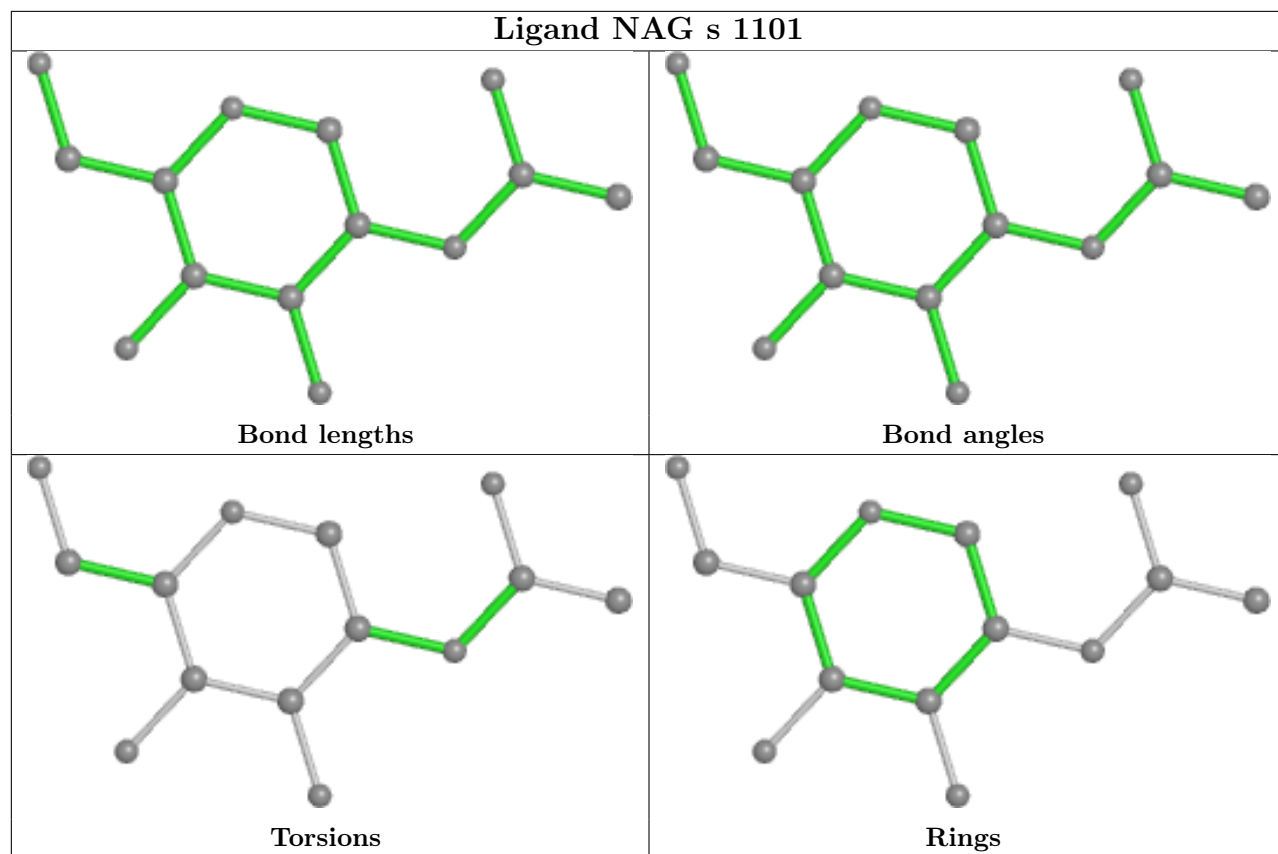


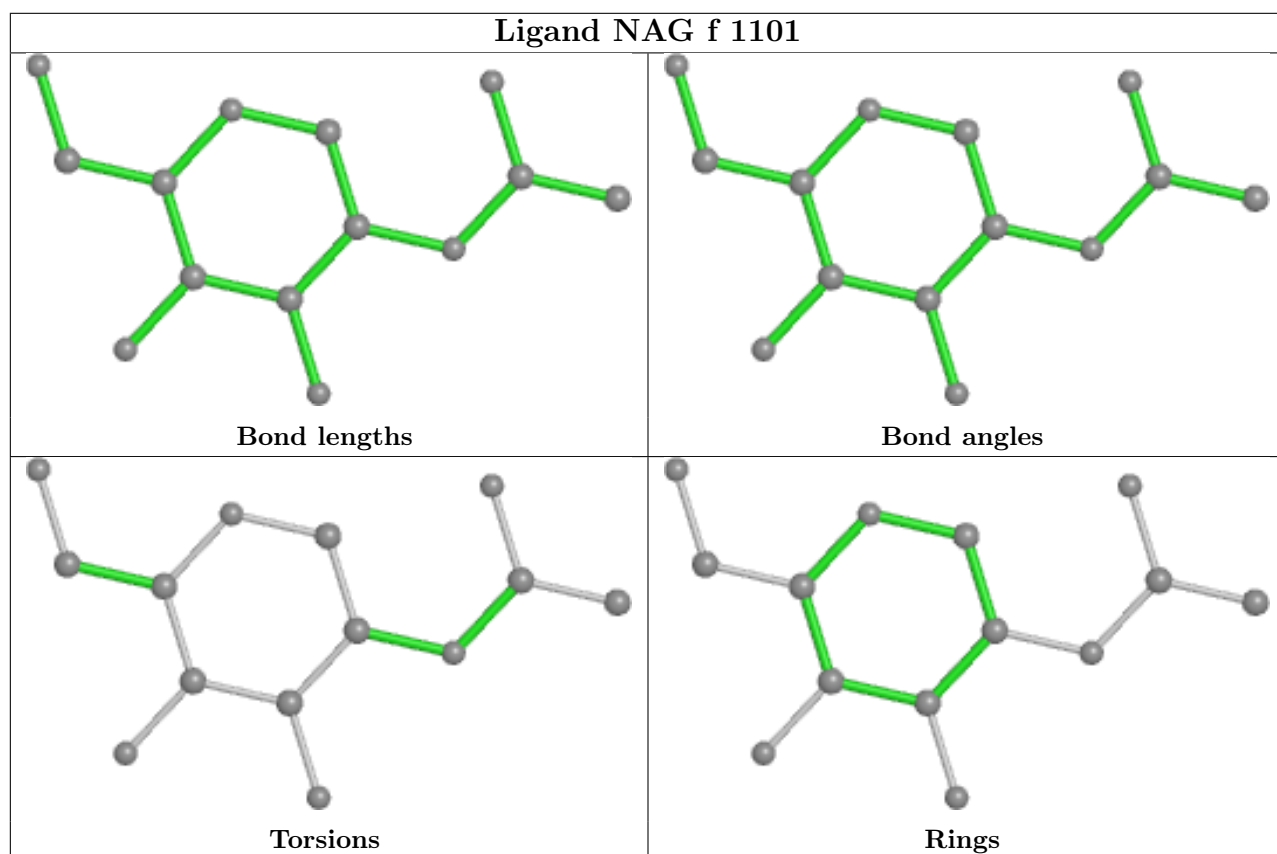
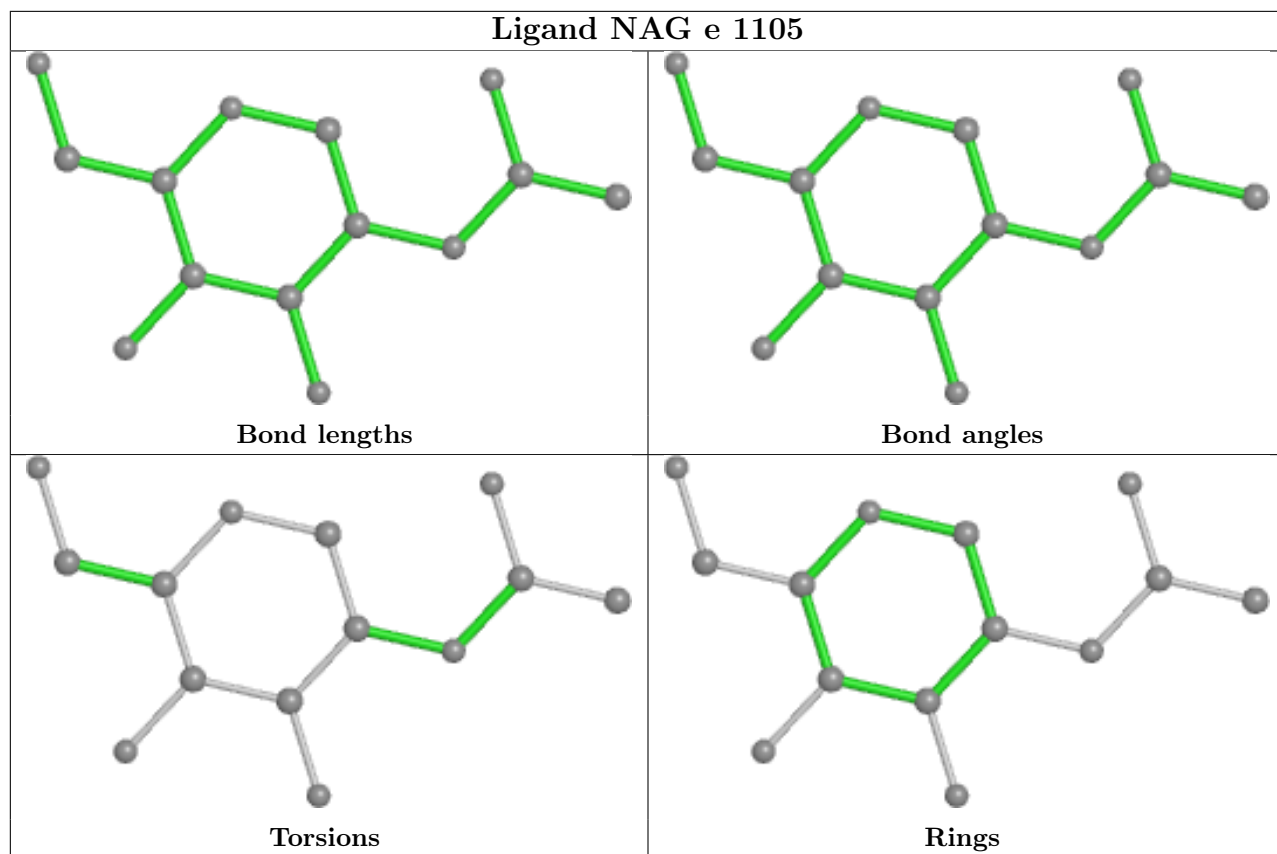


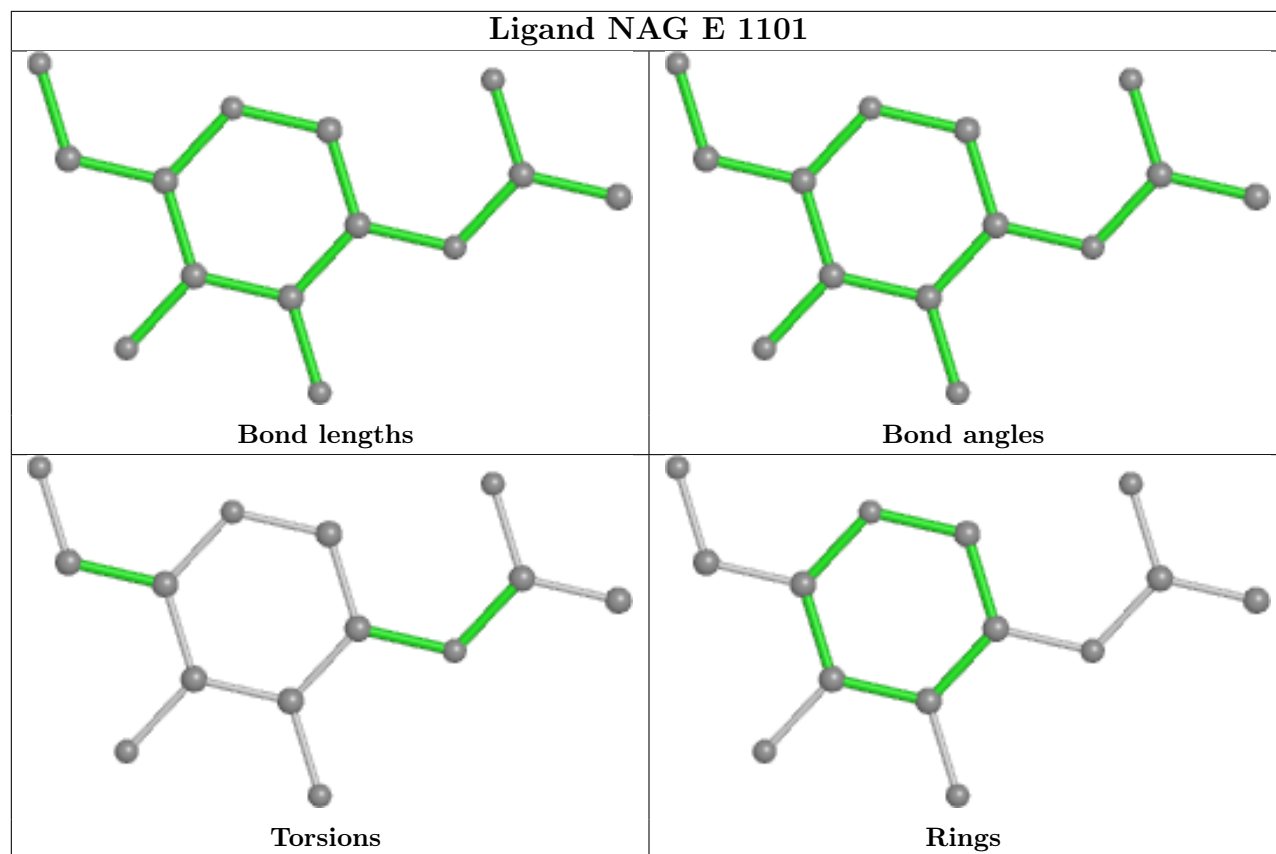












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Map visualisation

This section contains visualisations of the EMDB entry EMD-64028. These allow visual inspection of the internal detail of the map and identification of artifacts.

Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

This section was not generated.

6.2 Central slices

This section was not generated.

6.3 Largest variance slices

This section was not generated.

6.4 Orthogonal standard-deviation projections (False-color)

This section was not generated.

6.5 Orthogonal surface views

This section was not generated.

6.6 Mask visualisation

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

7 Map analysis

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

7.1 Map-value distribution

This section was not generated.

7.2 Volume estimate versus contour level

This section was not generated.

7.3 Rotationally averaged power spectrum

This section was not generated. The rotationally averaged power spectrum had issues being displayed.

8 Fourier-Shell correlation

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

9 Map-model fit

This section was not generated.