Full wwPDB EM Validation Report ⓘ

Dec 22, 2025 – 06:38 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:

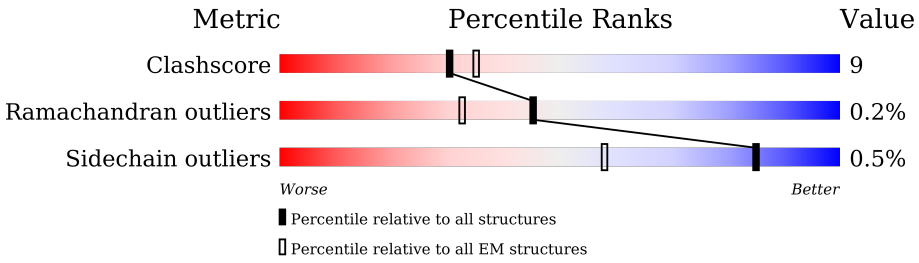
EMDB validation analysis	:	0.0.1.dev129
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.47

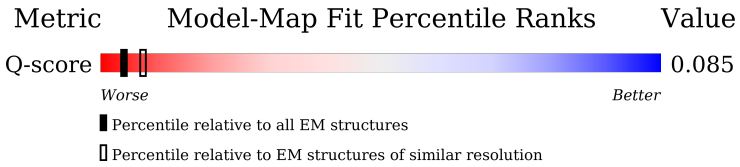
1 Overall quality at a glance

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

The reported resolution of this entry is 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	503 (6.30 - 7.30)

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

Mol	Chain	Length	Quality of chain
1	A	251	28% 72% 27%
1	a	251	69% 74% 25%
1	n	251	31% 71% 27%
2	B	281	40% 74% 25%

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Mol	Chain	Length	Quality of chain
2	b	281	66% 76% 24%
2	o	281	32% 74% 26%
3	C	278	41% 79% 21%
3	c	278	59% 79% 20%
3	p	278	35% 76% 24%
4	D	250	42% 76% 23%
4	d	250	61% 77% 23%
4	q	250	29% 77% 22%
5	E	1065	81% 18%
5	e	1065	17% 78% 21%
5	r	1065	77% 22%
6	F	1042	82% 17%
6	f	1042	8% 69% 29%
6	s	1042	13% 69% 30%
7	G	733	10% 79% 18%
7	g	733	26% 79% 18%
7	t	733	9% 75% 22%
8	H	921	9% 76% 23%
8	h	921	23% 77% 22%
8	u	921	8% 75% 24%
9	I	174	97% 99%
9	Q	174	97% 99%
9	i	174	97% 99%
10	J	168	44% 70% 29%
10	j	168	96% 73% 27%

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Mol	Chain	Length	Quality of chain
10	w	168	45% 66% 33%
11	K	149	100% 99%
11	k	149	100% 99%
11	x	149	98% 99%
12	L	610	93% 83% 14%
12	l	610	97% 85% 12%
12	y	610	93% 83% 14%
13	M	115	12% 64% 36%
13	m	115	80% 77% 23%
13	z	115	5% 68% 32%
14	N	28	18% 100%
14	O	28	79% 100%
14	P	28	7% 100%
15	0	7	86% 14%
15	AA	7	29% 86% 14%
15	R	7	57% 14% 29%
16	1	3	33% 67% 33%
16	2	3	67% 67% 33%
16	4	3	33% 100%
16	5	3	100%
16	6	3	100%
16	BA	3	33% 67%
16	CA	3	100% 67% 33%
16	EA	3	33% 100%
16	FA	3	100% 100%

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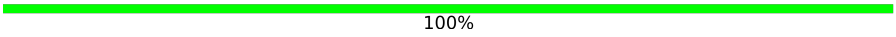
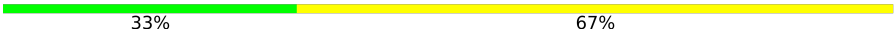
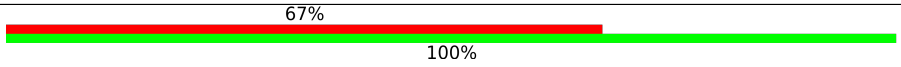
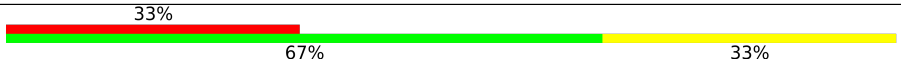
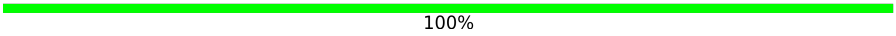
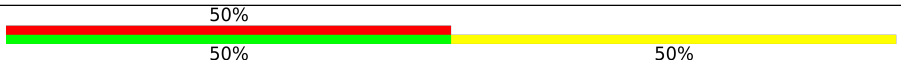
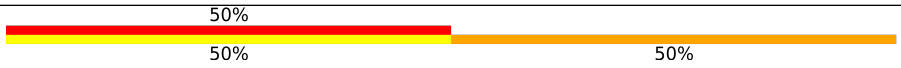
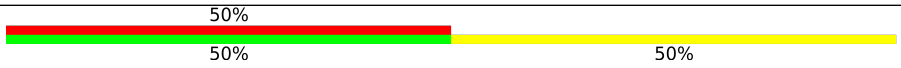
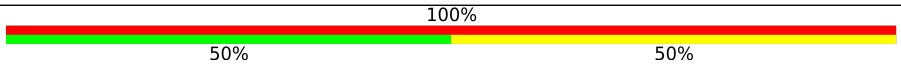
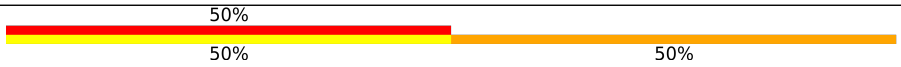
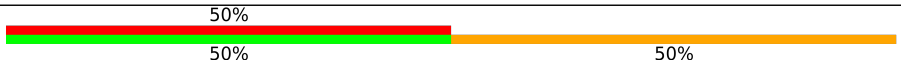
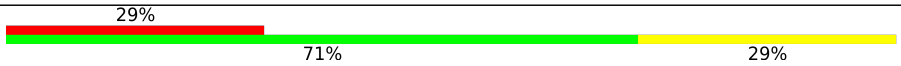
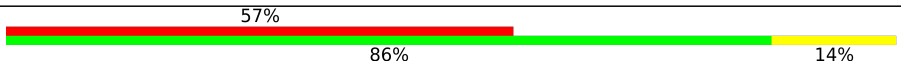
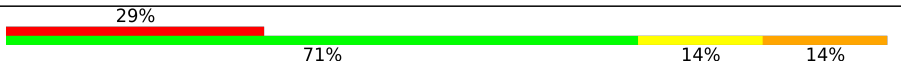
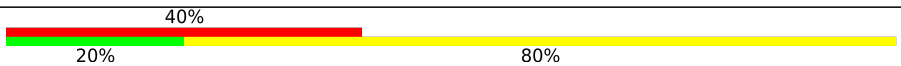
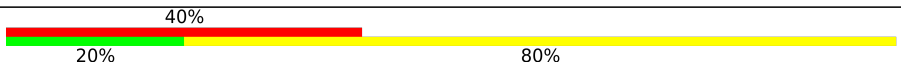
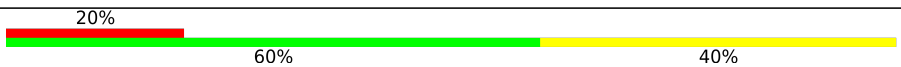
Mol	Chain	Length	Quality of chain
16	GA	3	
16	S	3	
16	T	3	
16	V	3	
16	W	3	
16	X	3	
17	3	2	
17	8	2	
17	DA	2	
17	IA	2	
17	U	2	
17	Z	2	
18	7	7	
18	HA	7	
18	Y	7	
19	9	5	
19	JA	5	
19	v	5	

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
1	A	251	Total	C	N	O	S	0	0
			2053	1383	313	346	11		
1	n	251	Total	C	N	O	S	0	0
			2053	1383	313	346	11		
1	a	251	Total	C	N	O	S	0	0
			2053	1383	313	346	11		

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

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

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

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

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

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

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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
8	h	916	Total	C	N	O	S	0	0
			7502	4865	1208	1389	40		

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

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

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

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

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

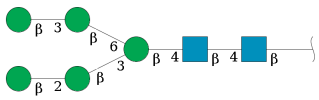
- Molecule 13 is a protein called Cation channel sperm-associated auxiliary subunit TMEM262.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	115	Total 936	C 619	N 156	O 150	S 11	0	0
13	z	115	Total 936	C 619	N 156	O 150	S 11	0	0
13	m	115	Total 936	C 619	N 156	O 150	S 11	0	0

- Molecule 14 is a protein called Unknown protein.

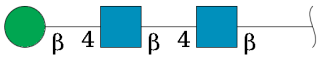
Mol	Chain	Residues	Atoms				AltConf	Trace
14	N	28	Total 140	C 84	N 28	O 28	0	0
14	P	28	Total 140	C 84	N 28	O 28	0	0
14	O	28	Total 140	C 84	N 28	O 28	0	0

- Molecule 15 is an oligosaccharide called 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.



Mol	Chain	Residues	Atoms				AltConf	Trace
15	R	7	Total 83	C 46	N 2	O 35	0	0
15	0	7	Total 83	C 46	N 2	O 35	0	0
15	AA	7	Total 83	C 46	N 2	O 35	0	0

- Molecule 16 is an oligosaccharide called 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
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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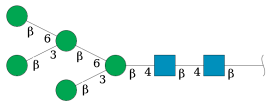
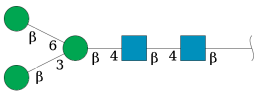
Mol	Chain	Residues	Atoms				AltConf	Trace
17	3	2	Total	C	N	O	0	0
			28	16	2	10		
17	8	2	Total	C	N	O	0	0
			28	16	2	10		
17	DA	2	Total	C	N	O	0	0
			28	16	2	10		
17	IA	2	Total	C	N	O	0	0
			28	16	2	10		

- 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.



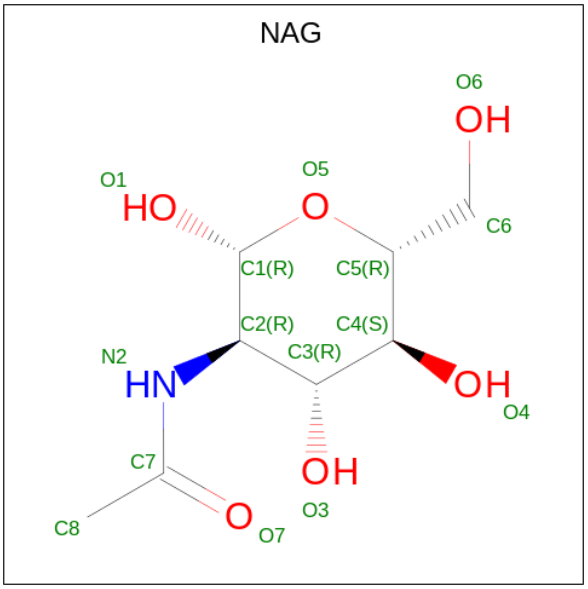
Mol	Chain	Residues	Atoms				AltConf	Trace
18	Y	7	Total	C	N	O	0	0
			83	46	2	35		
18	7	7	Total	C	N	O	0	0
			83	46	2	35		
18	HA	7	Total	C	N	O	0	0
			83	46	2	35		

- 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
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
20	E	1	Total	C	N	O	0
			14	8	1	5	
20	E	1	Total	C	N	O	0
			14	8	1	5	
20	E	1	Total	C	N	O	0
			14	8	1	5	
20	E	1	Total	C	N	O	0
			14	8	1	5	
20	E	1	Total	C	N	O	0
			14	8	1	5	
20	E	1	Total	C	N	O	0
			14	8	1	5	
20	F	1	Total	C	N	O	0
			14	8	1	5	
20	G	1	Total	C	N	O	0
			14	8	1	5	
20	G	1	Total	C	N	O	0
			14	8	1	5	
20	r	1	Total	C	N	O	0
			14	8	1	5	
20	r	1	Total	C	N	O	0
			14	8	1	5	
20	r	1	Total	C	N	O	0
			14	8	1	5	

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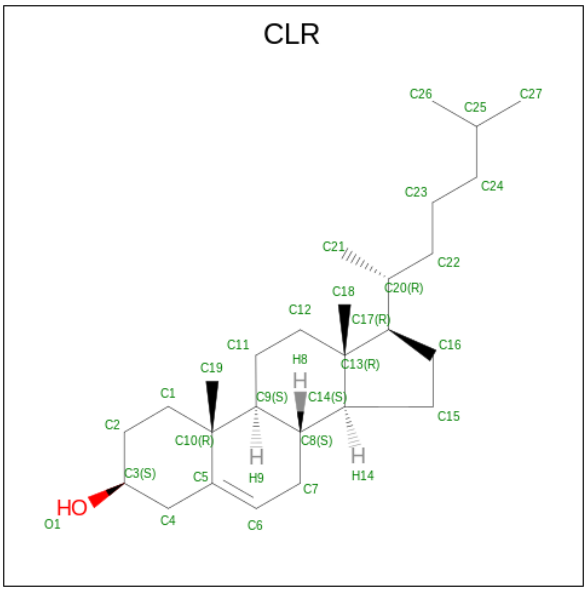
Mol	Chain	Residues	Atoms				AltConf
20	r	1	Total	C	N	O	0
			14	8	1	5	
20	r	1	Total	C	N	O	0
			14	8	1	5	
20	r	1	Total	C	N	O	0
			14	8	1	5	
20	f	1	Total	C	N	O	0
			14	8	1	5	
20	t	1	Total	C	N	O	0
			14	8	1	5	
20	t	1	Total	C	N	O	0
			14	8	1	5	
20	e	1	Total	C	N	O	0
			14	8	1	5	
20	e	1	Total	C	N	O	0
			14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

- Molecule 21 is CHOLESTEROL (CCD ID: CLR) (formula: $C_{27}H_{46}O$) (labeled as "Ligand of Interest" by depositor).

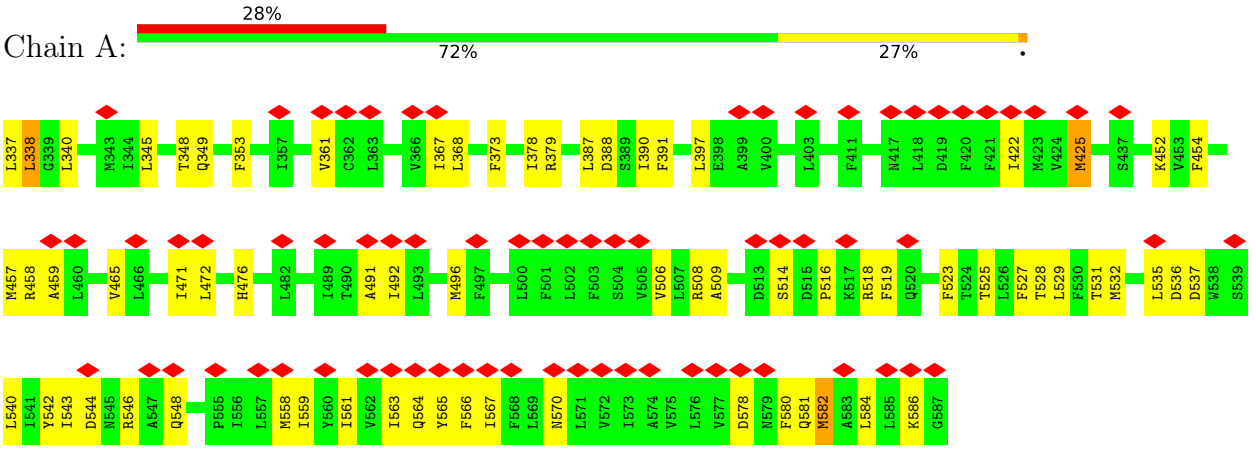


Mol	Chain	Residues	Atoms			AltConf
21	M	1	Total	C	O	0
			28	27	1	
21	z	1	Total	C	O	0
			28	27	1	
21	m	1	Total	C	O	0
			28	27	1	

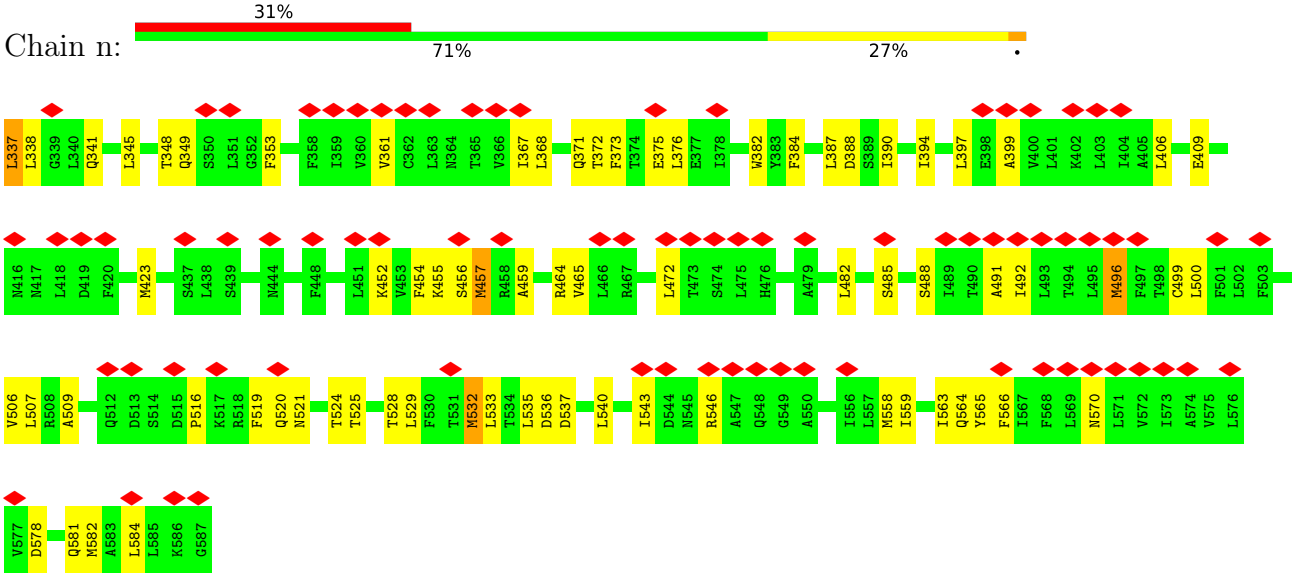
3 Residue-property plots (i)

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

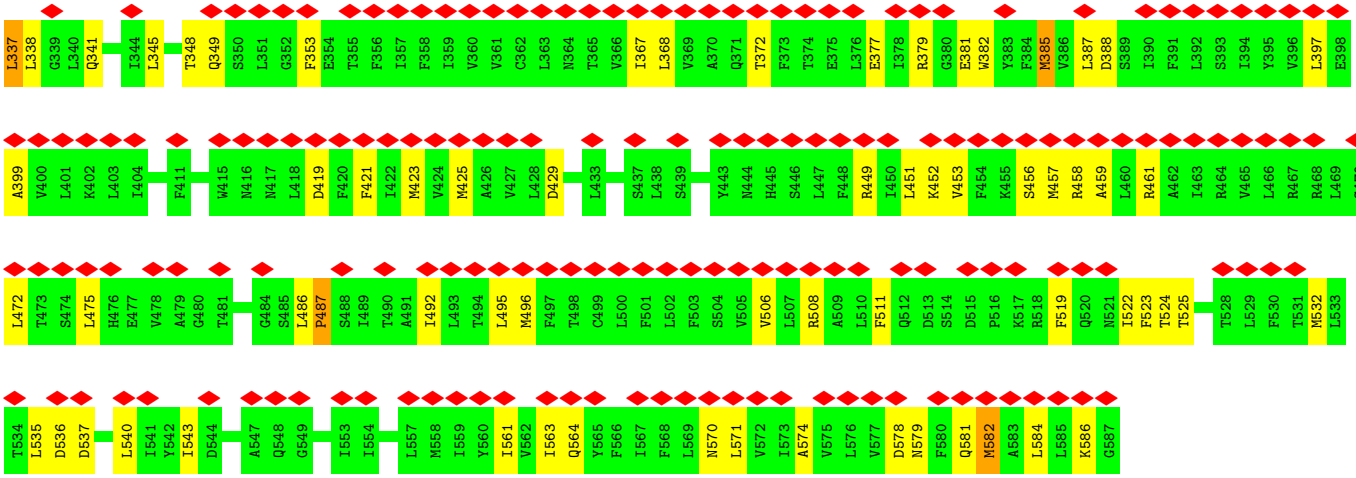
• Molecule 1: Cation channel sperm-associated protein 1



• Molecule 1: Cation channel sperm-associated protein 1

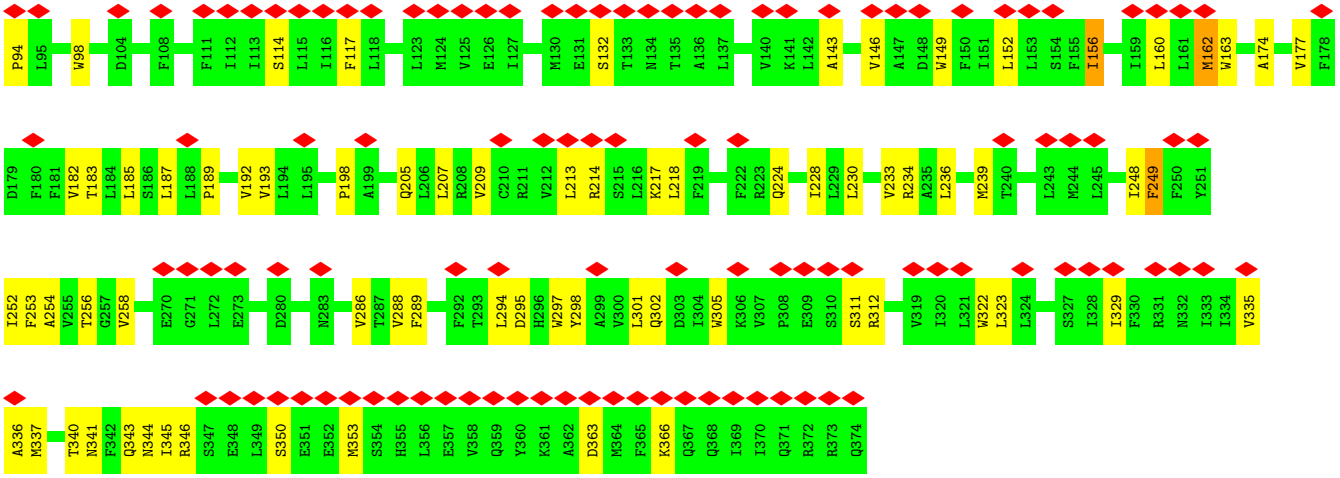


• Molecule 1: Cation channel sperm-associated protein 1



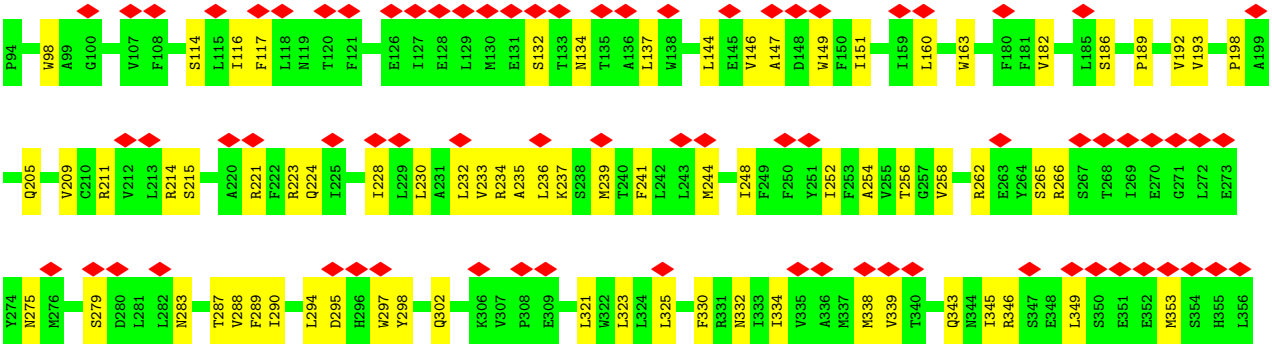
• Molecule 2: Cation channel sperm-associated protein 2

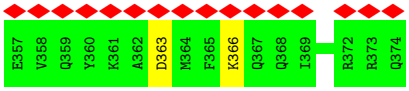
Chain B:



• Molecule 2: Cation channel sperm-associated protein 2

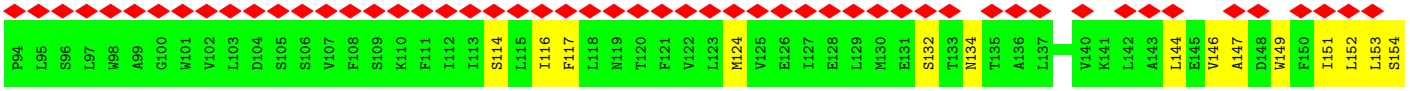
Chain o:

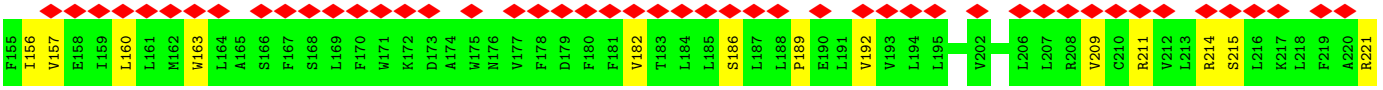


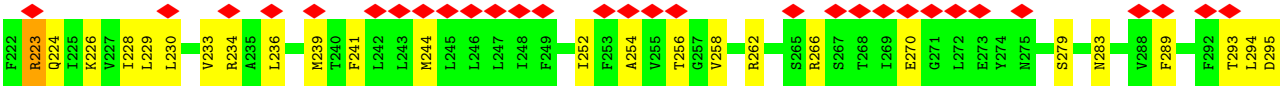


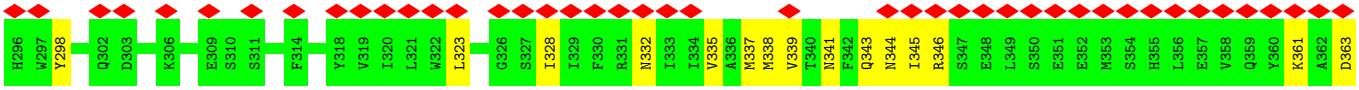
• Molecule 2: Cation channel sperm-associated protein 2

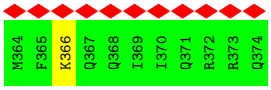
Chain b:





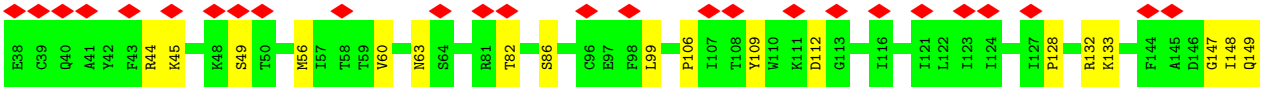


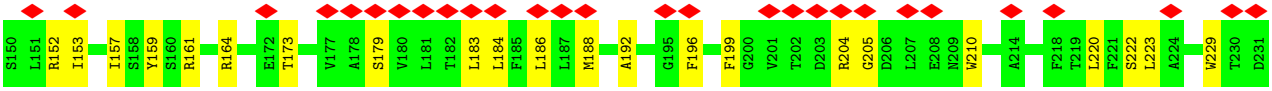


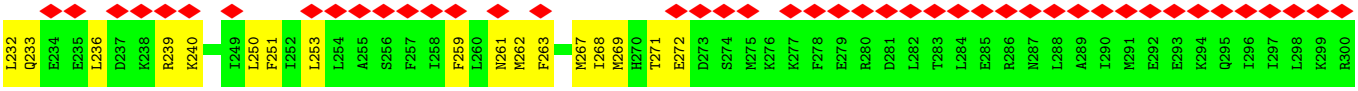


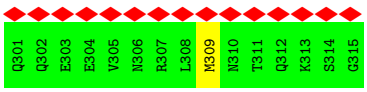
• Molecule 3: Cation channel sperm-associated protein 3

Chain C:



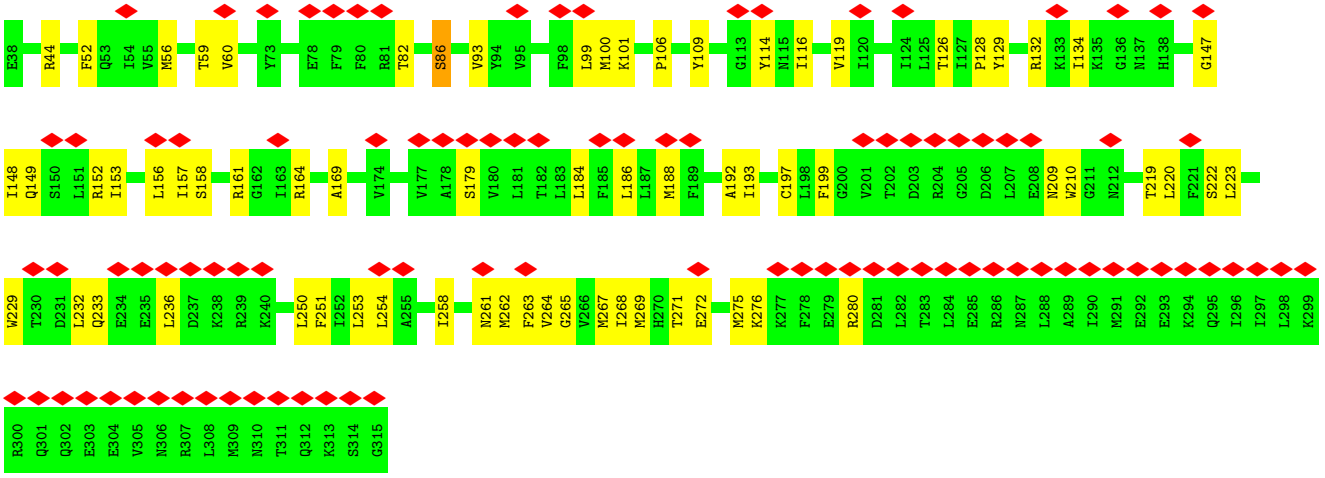






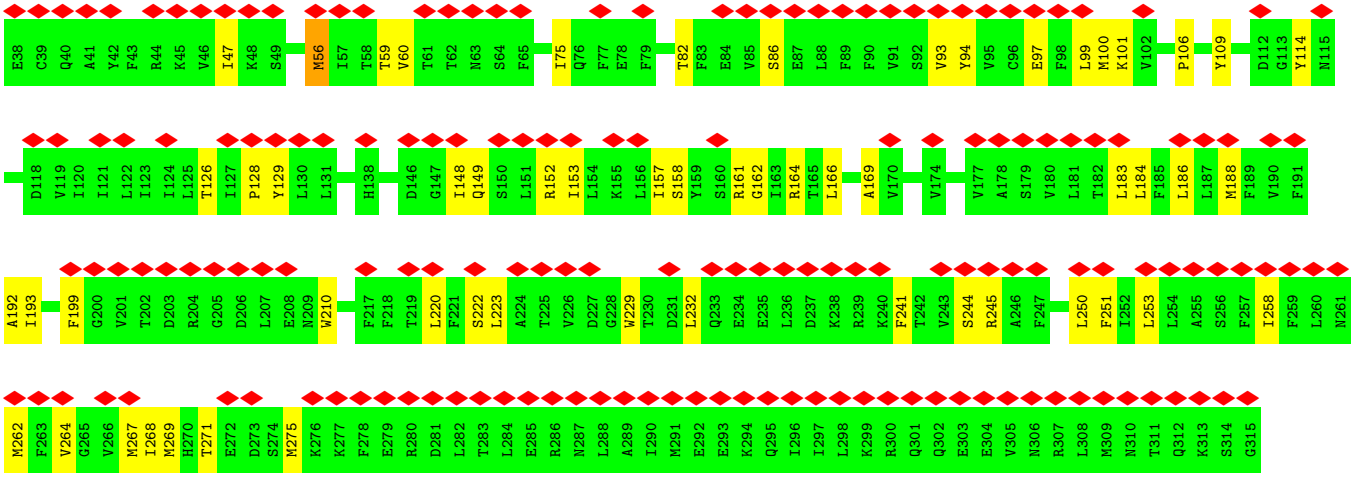
• Molecule 3: Cation channel sperm-associated protein 3

Chain p:



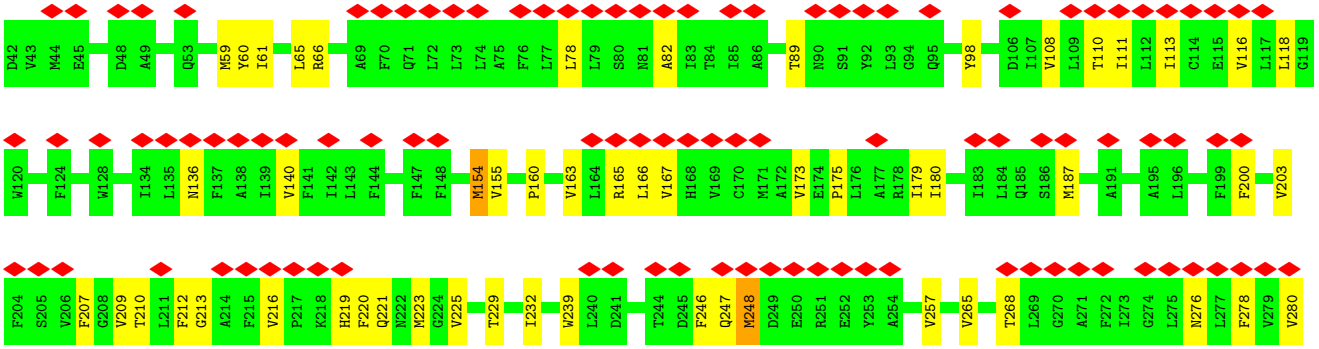
• Molecule 3: Cation channel sperm-associated protein 3

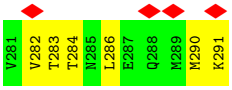
Chain c:



• Molecule 4: Cation channel sperm-associated protein 4

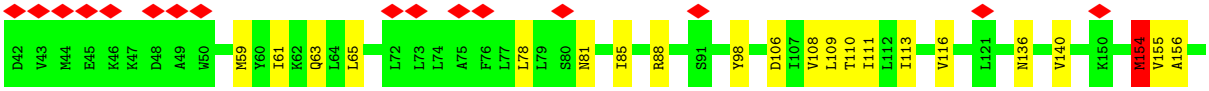
Chain D:

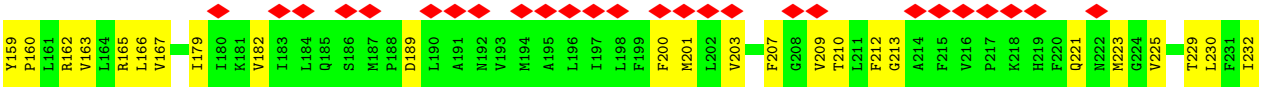


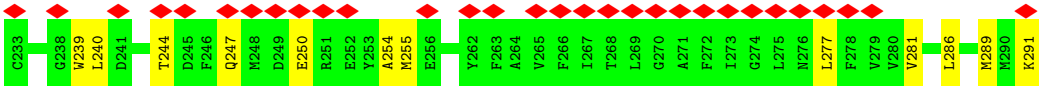


• Molecule 4: Cation channel sperm-associated protein 4

Chain q:

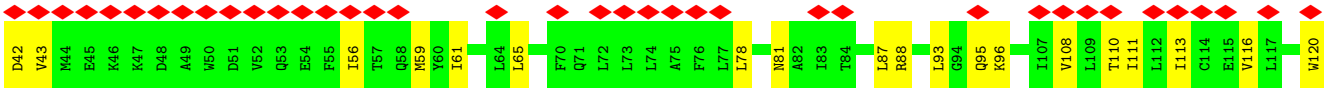


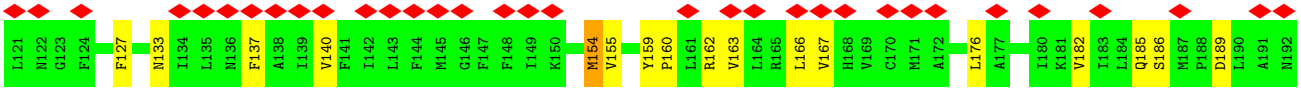


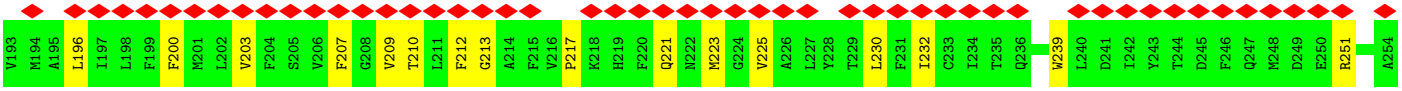


• Molecule 4: Cation channel sperm-associated protein 4

Chain d:

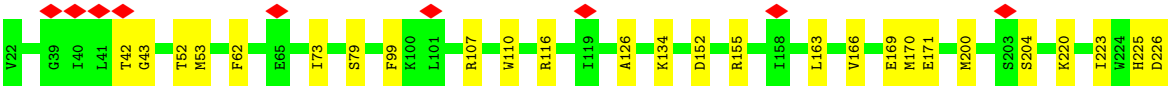


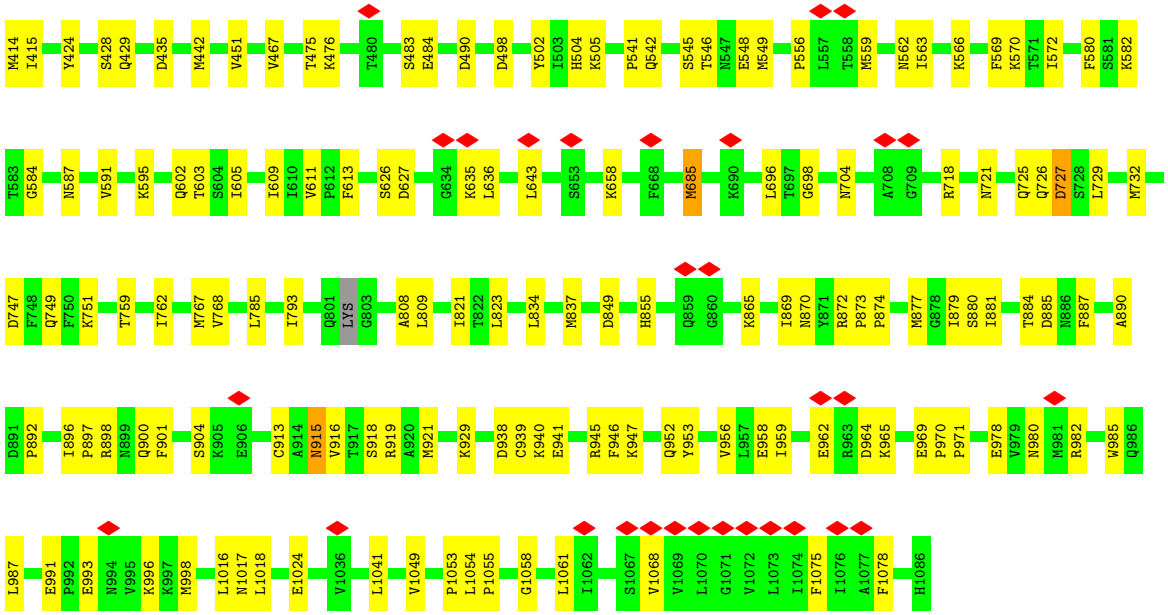




• Molecule 5: Cation channel sperm-associated auxiliary subunit beta

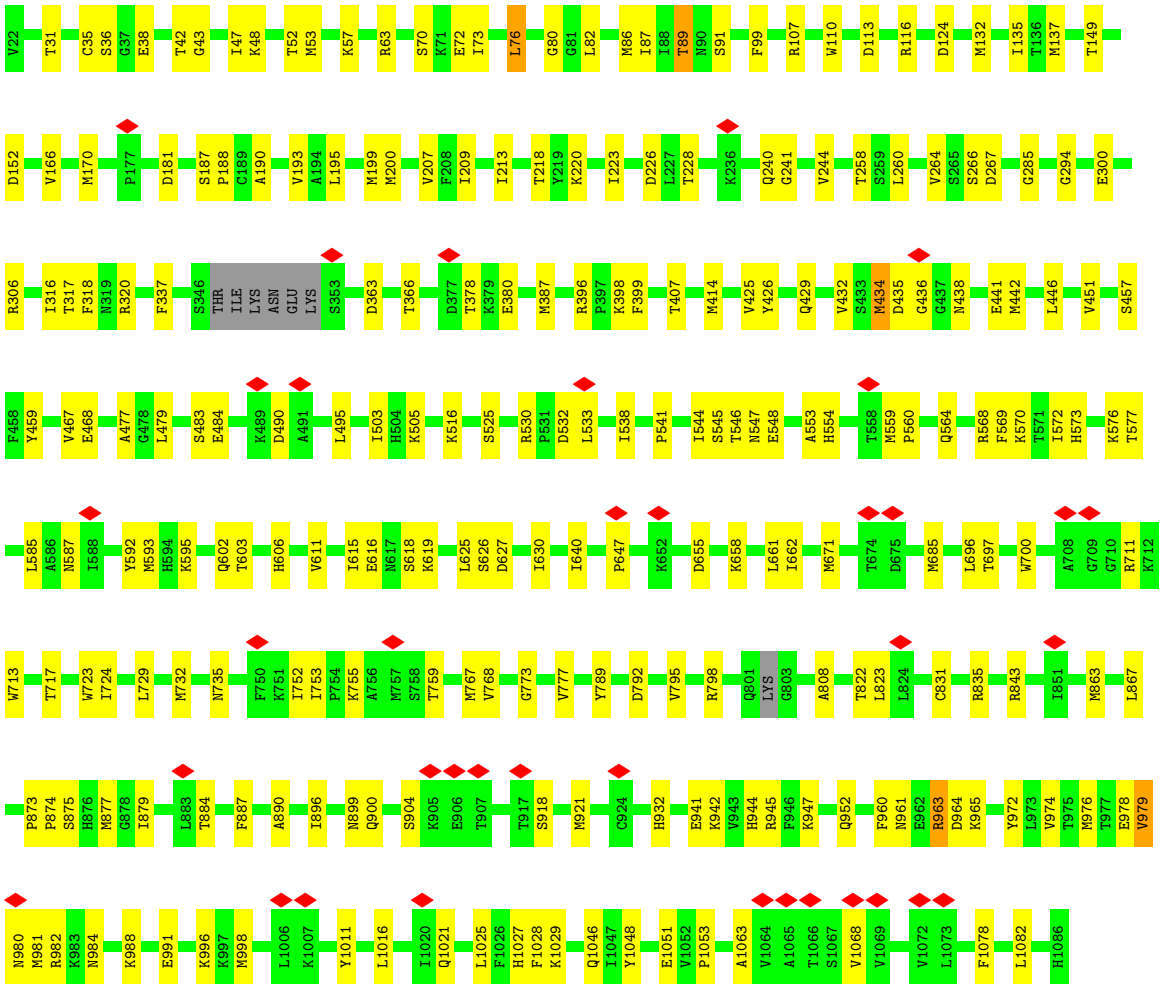
Chain E:





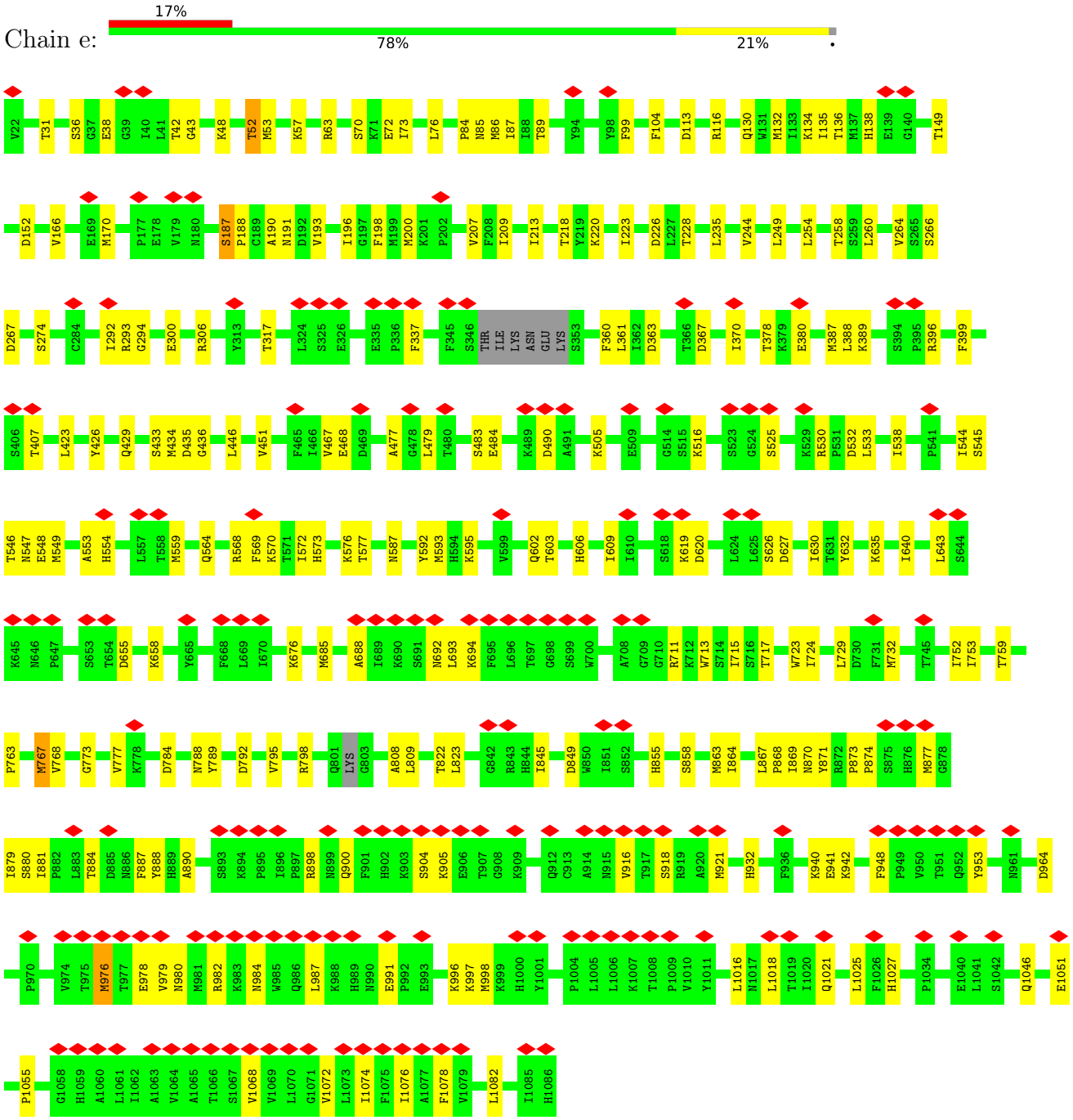
• Molecule 5: Cation channel sperm-associated auxiliary subunit beta

Chain r:



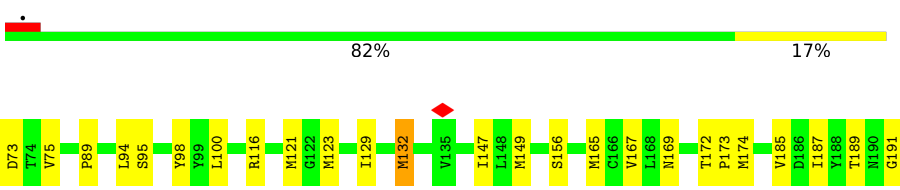
• Molecule 5: Cation channel sperm-associated auxiliary subunit beta

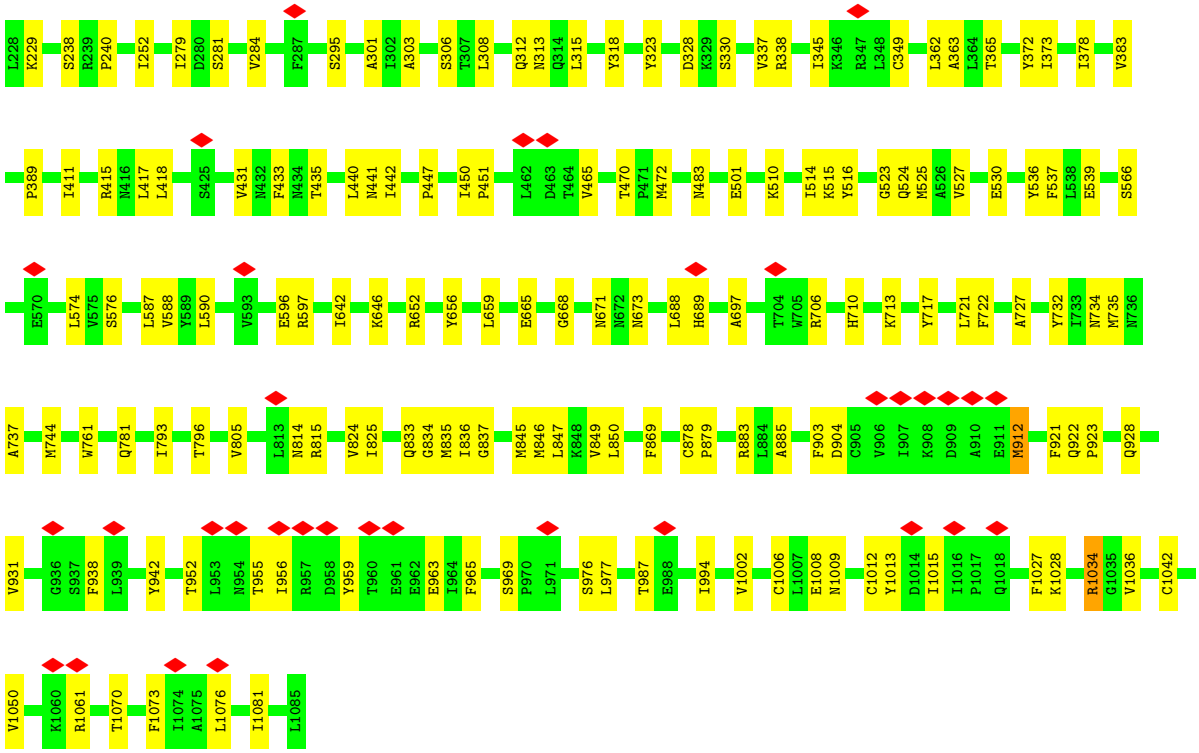
Chain e:



• Molecule 6: Cation channel sperm-associated auxiliary subunit gamma 2

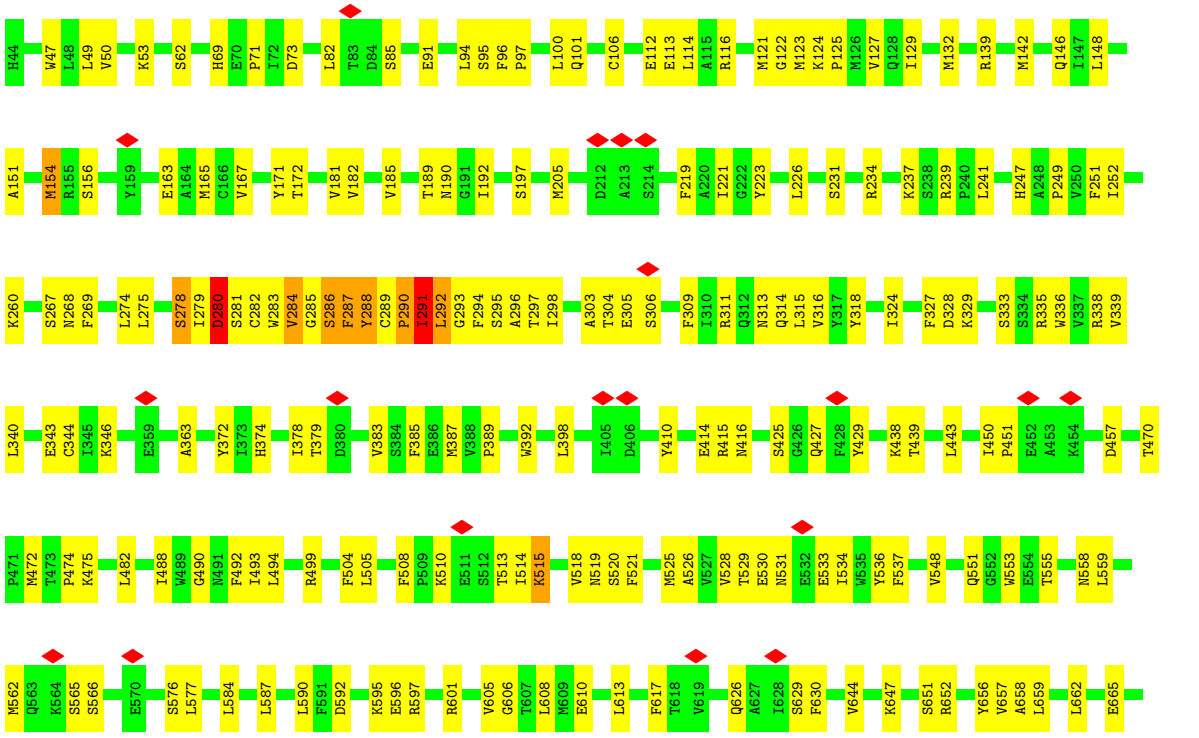
Chain F:

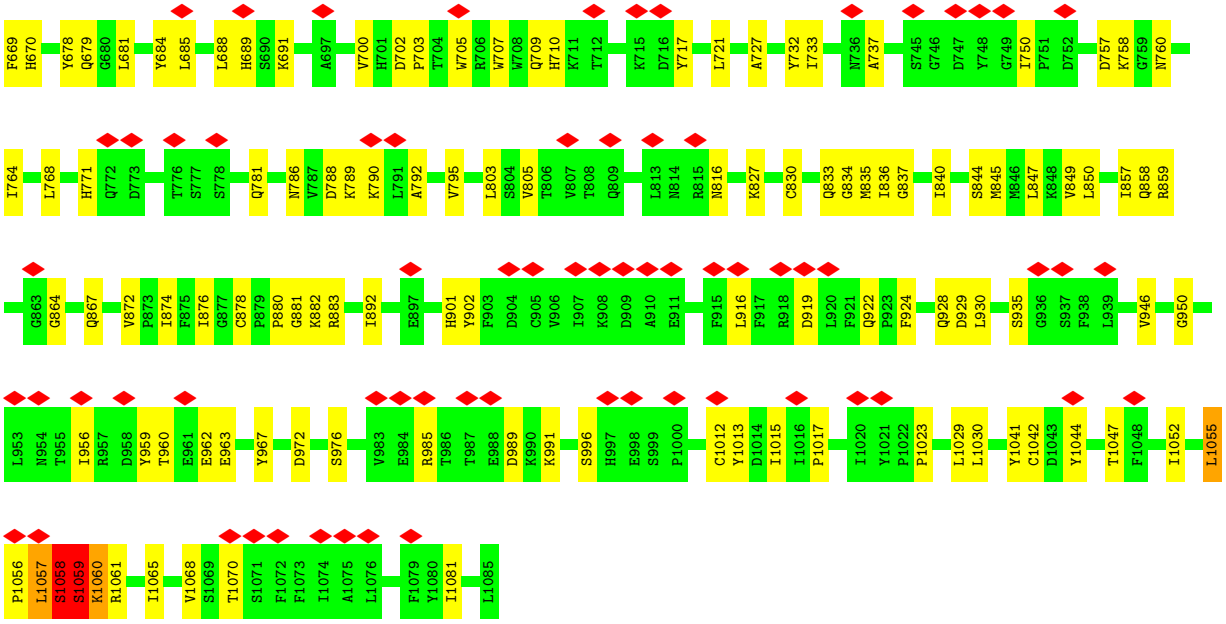




• Molecule 6: Cation channel sperm-associated auxiliary subunit gamma 2

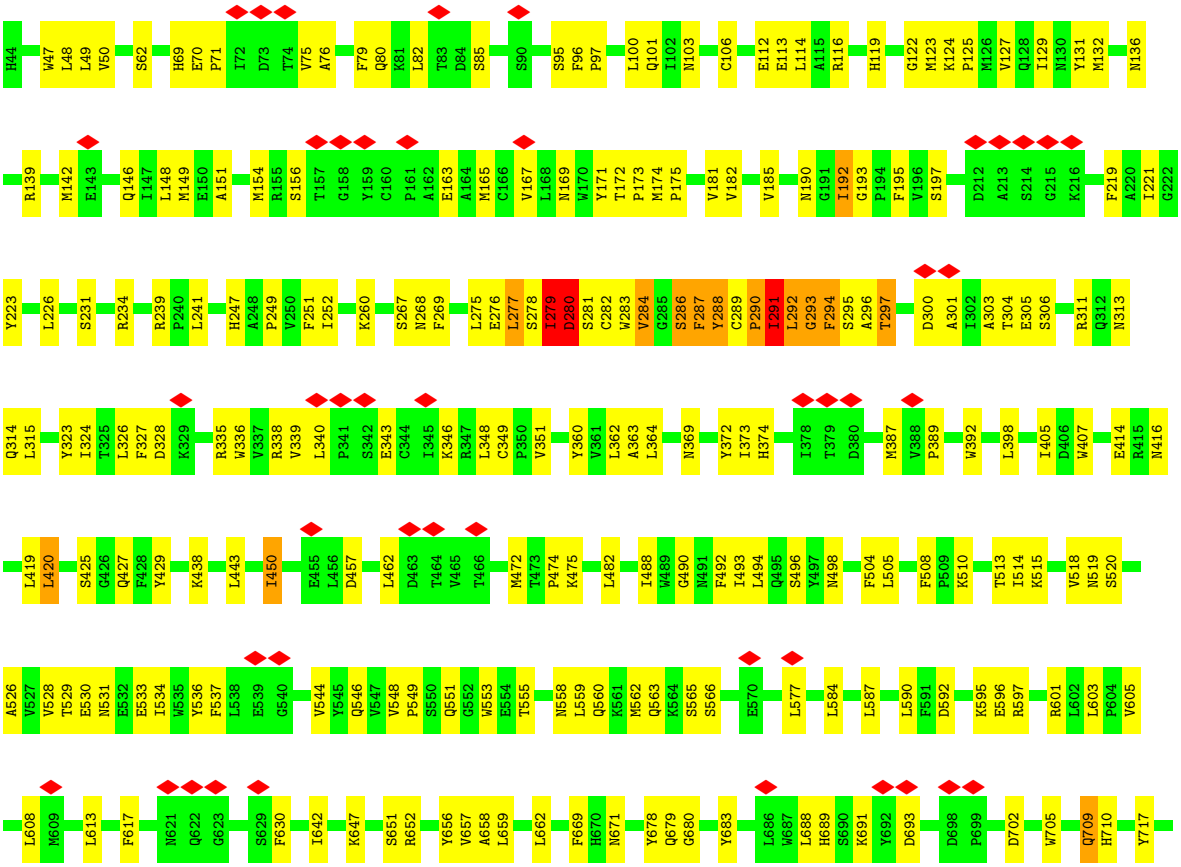
Chain f:

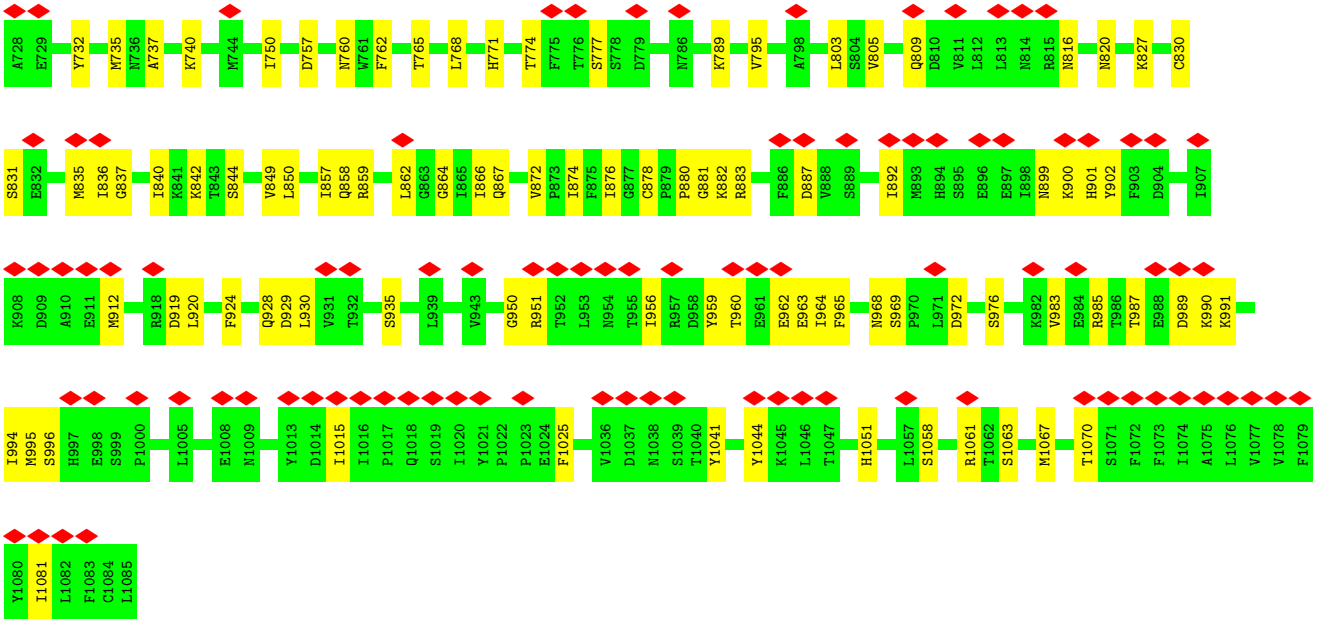




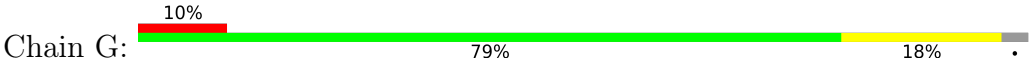
• Molecule 6: Cation channel sperm-associated auxiliary subunit gamma 2

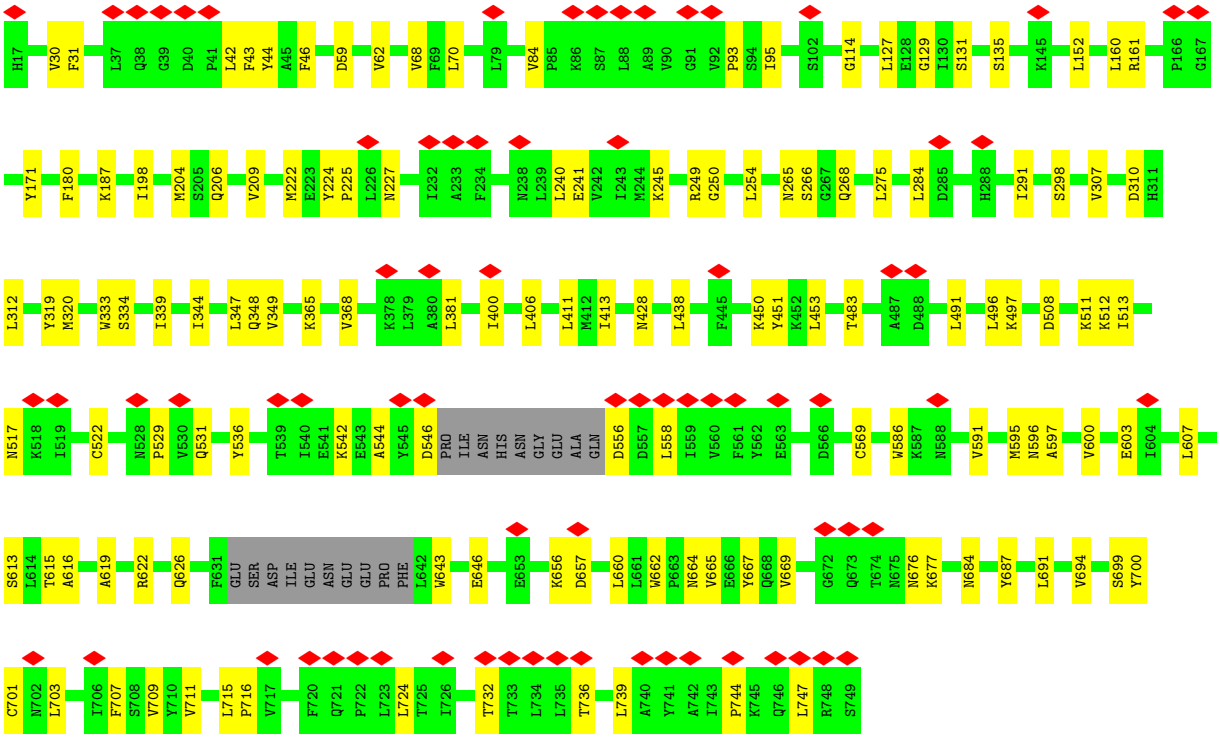
Chain s:



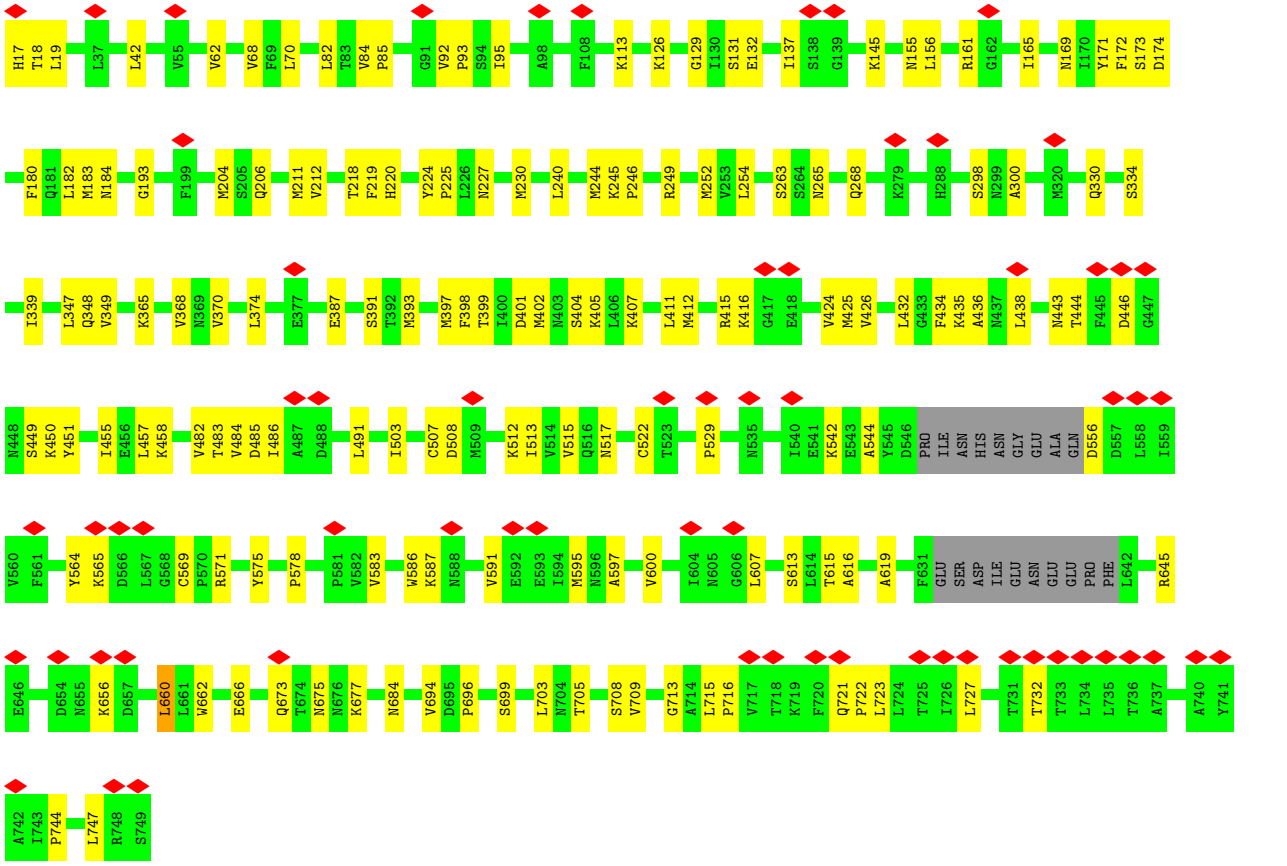


• Molecule 7: Cation channel sperm-associated auxiliary subunit delta



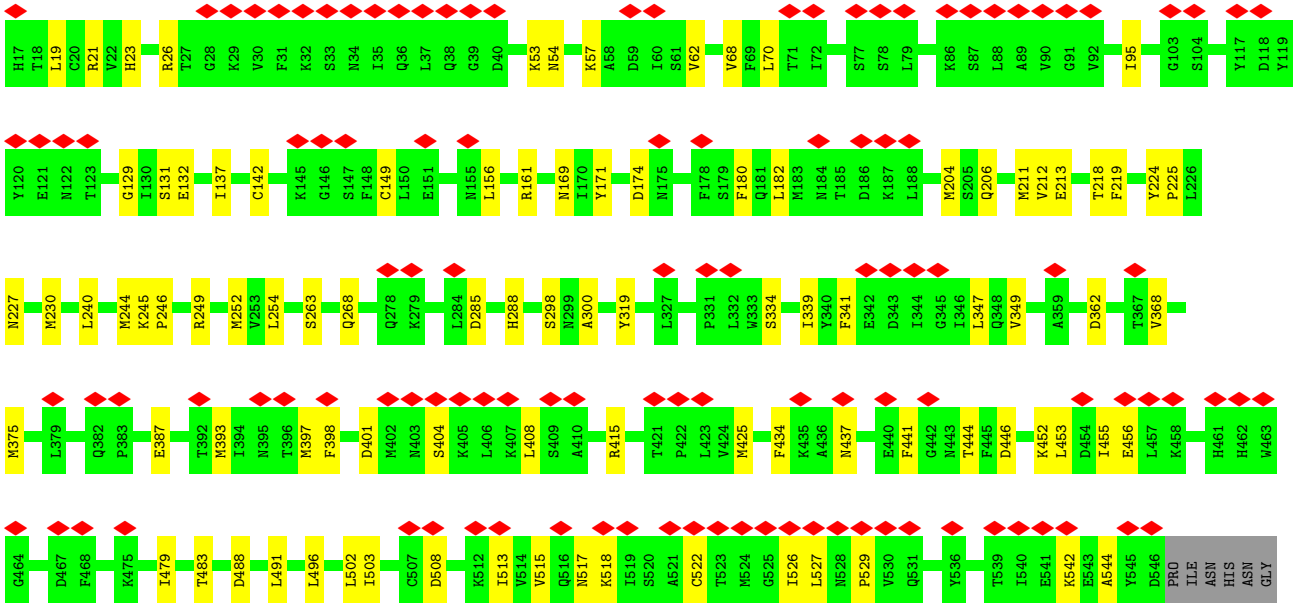


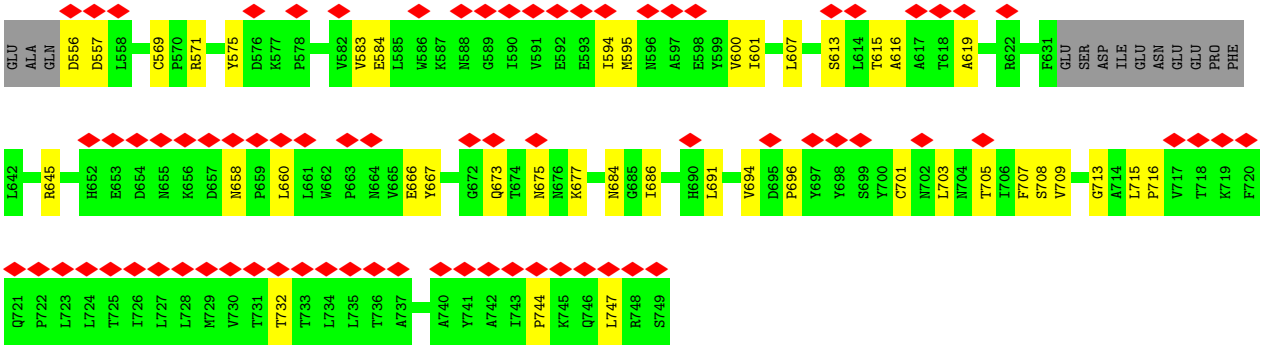
• Molecule 7: Cation channel sperm-associated auxiliary subunit delta



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

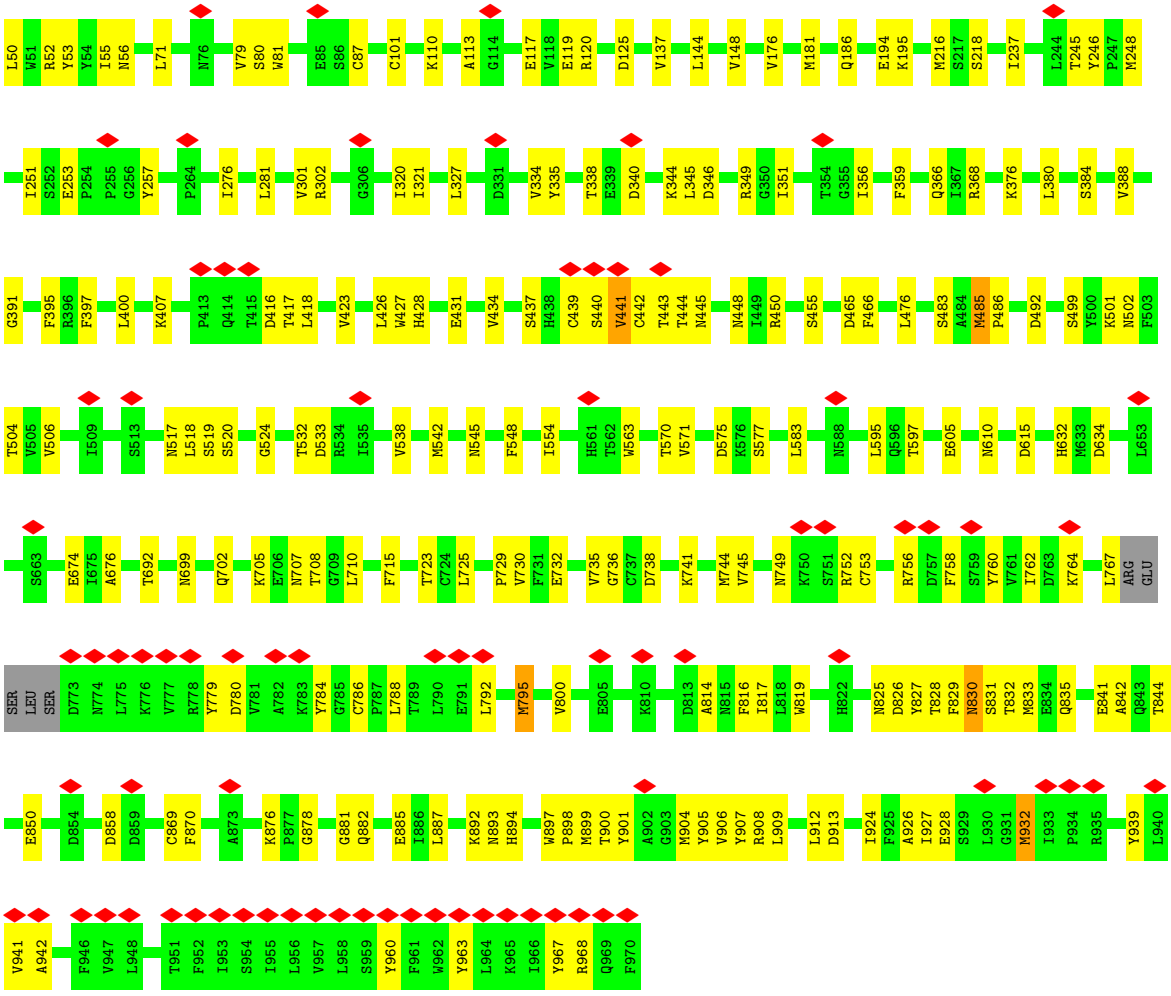
Chain g:





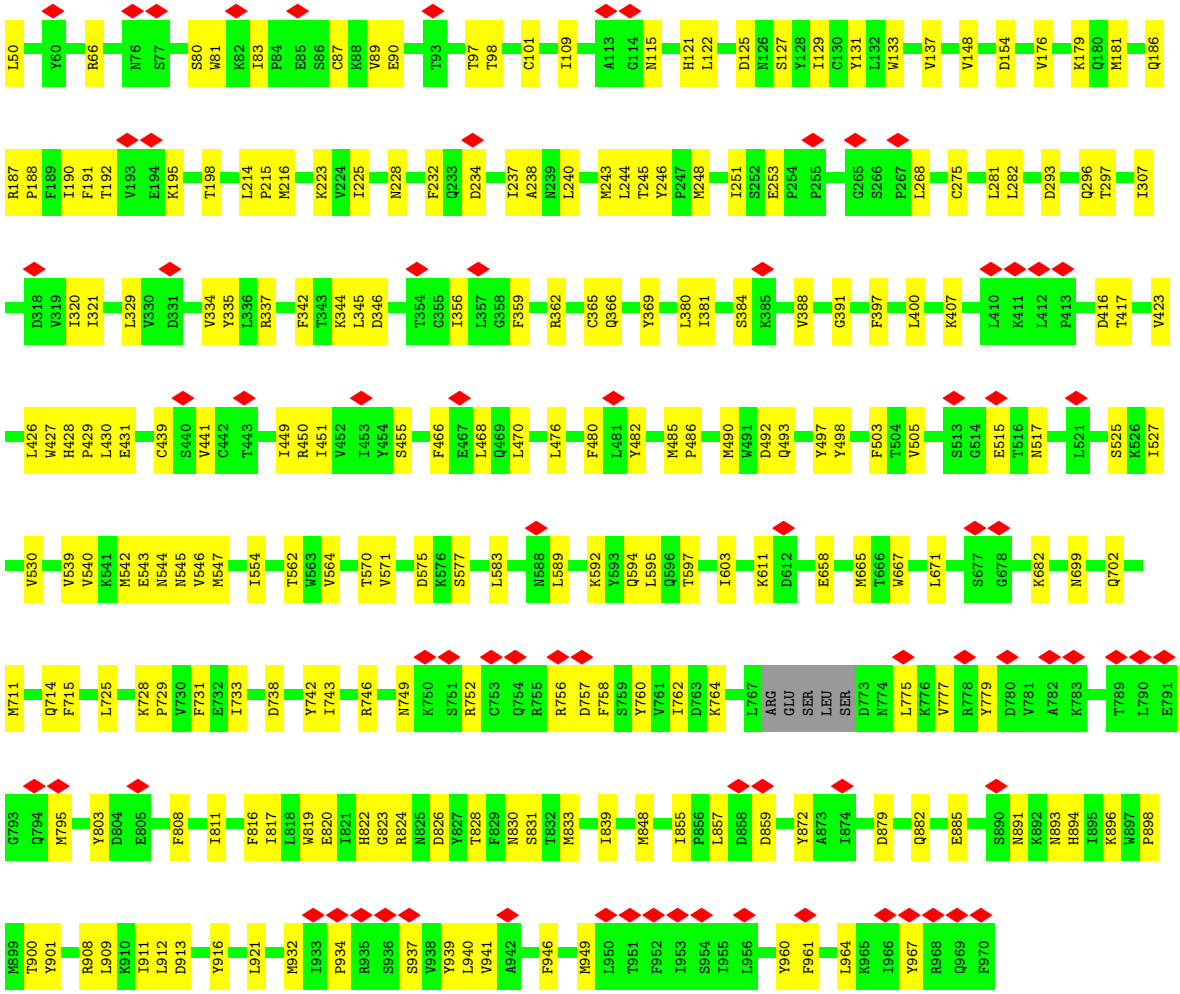
• Molecule 8: Cation channel sperm-associated auxiliary subunit epsilon

Chain H:



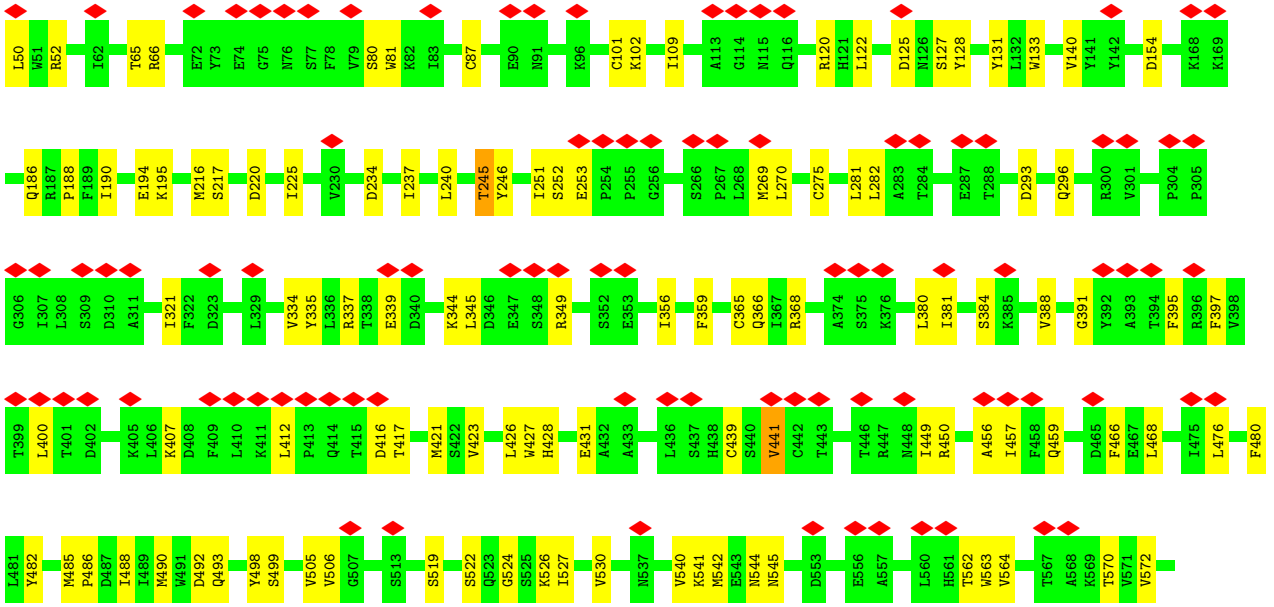
• Molecule 8: Cation channel sperm-associated auxiliary subunit epsilon

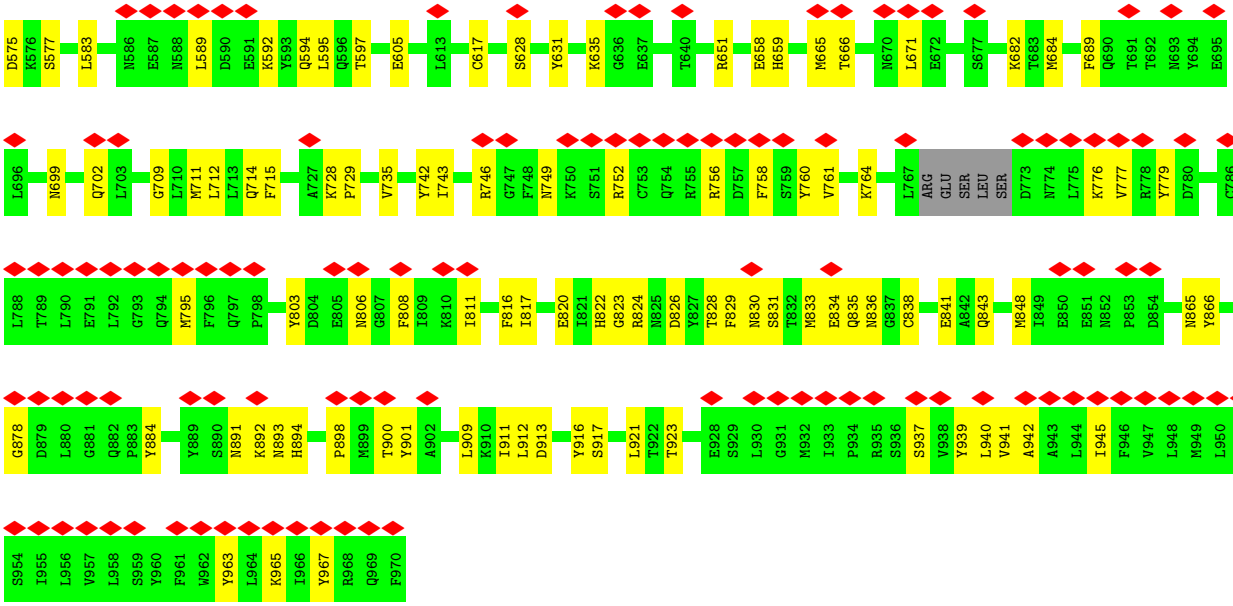
Chain u:



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

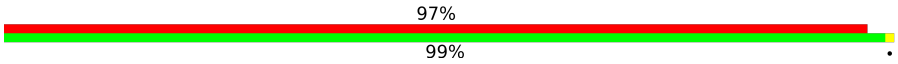
Chain h:

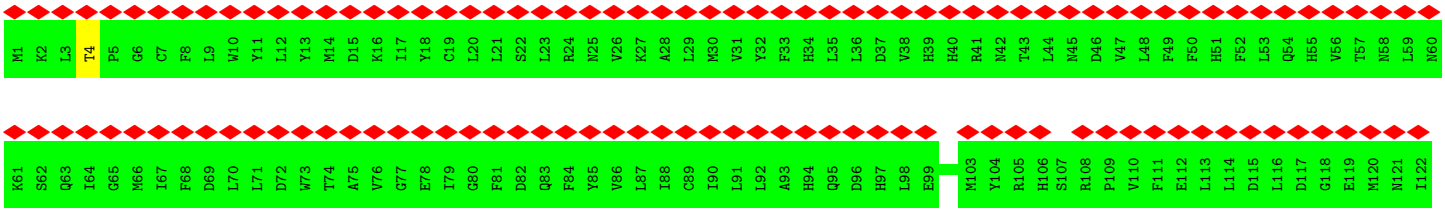




• Molecule 9: EF-hand calcium-binding domain-containing protein 9

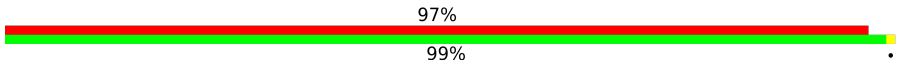
Chain I:





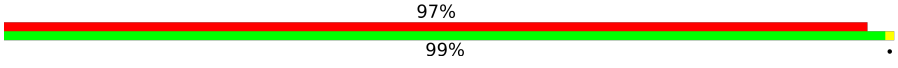
• Molecule 9: EF-hand calcium-binding domain-containing protein 9

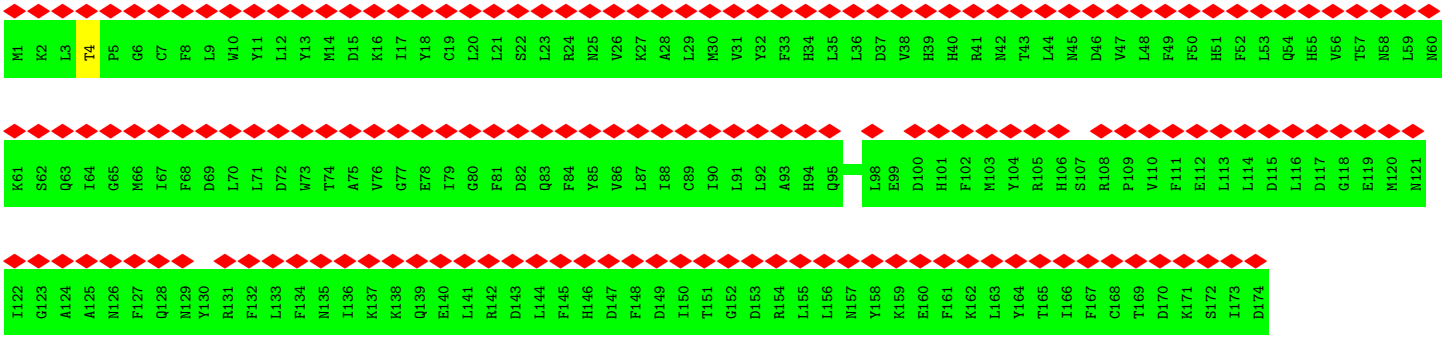
Chain i:



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

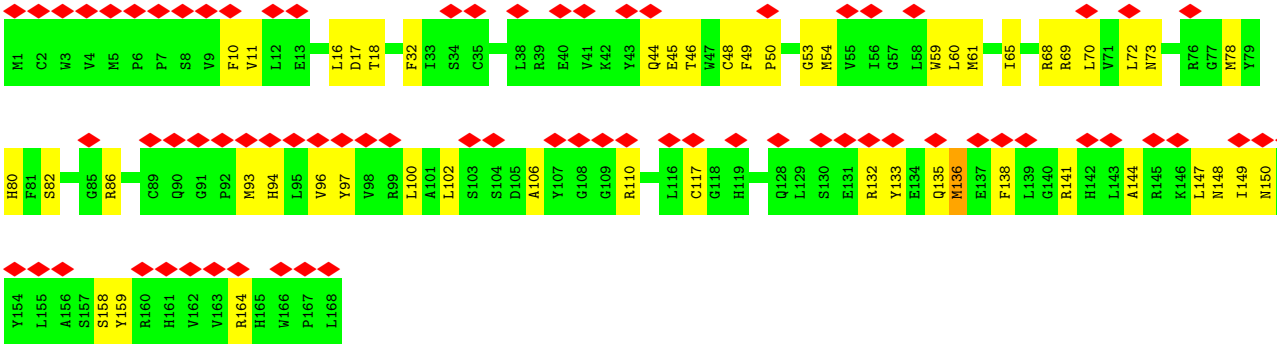
Chain Q:





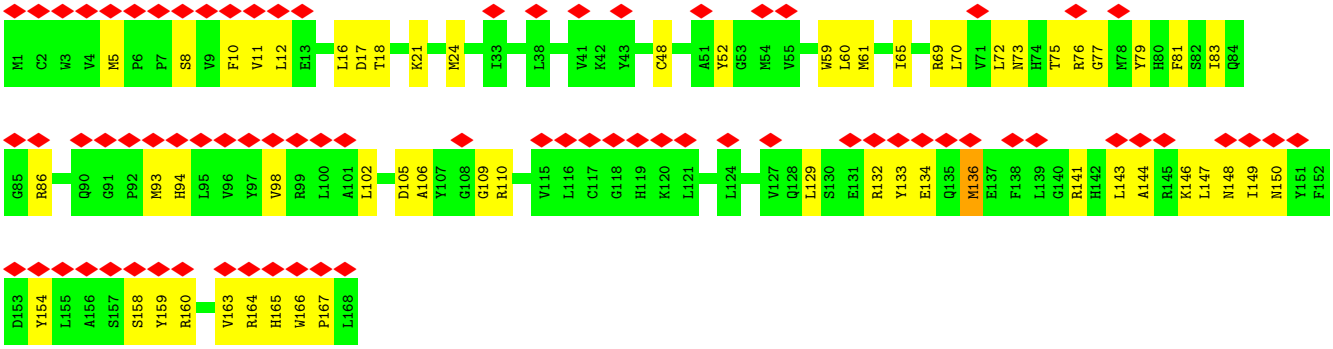
• Molecule 10: Cation channel sperm-associated auxiliary subunit TMEM249

Chain J:



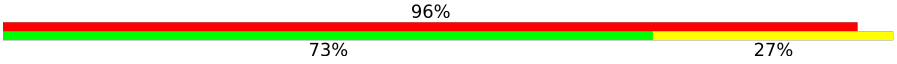
• Molecule 10: Cation channel sperm-associated auxiliary subunit TMEM249

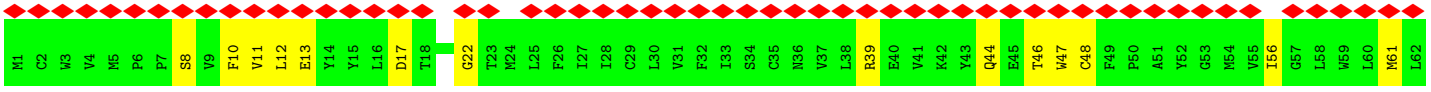
Chain w:



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

Chain j:





S63 S64 I65 P66 Q67 R68 R69 L70 V71 L72 N73 H74 T75 R76 G77 M78 Y79 H80 F81 S82 I83 Q84 G85 R86 T87 V88 C89 Q90 G91 P92 M93 H94 L95 V96 Y97 V98 R99 L100 A101 L102 S103 S104 D105 A106 Y107 G108 G109 R110 F111 F112 Q113 L114 V115 L116 C117 G118 H119 K120 L121 E122

P123 L124 V125 L126 V127 Q128 L129 S130 E131 R132 Y133 E134 Q135 M136 E137 F138 L139 G140 R141 H142 L143 A144 R145 K146 L147 N148 I149 N150 Y151 F152 D153 Y154 L155 A156 S157 S158 Y159 R160 H161 V162 V163 R164 H165 W166 P167 L168

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

Chain K:

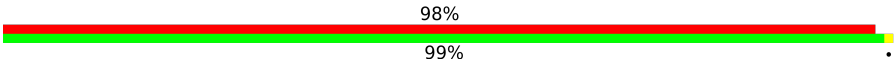
T38 A39 N40 V41 S42 V43 S44 D45 V46 C47 E48 D49 F50 D51 E52 E53 G54 K55 S56 V57 R58 N59 R60 I61 R62 K63 Y64 S65 Q66 T67 I68 S69 I70 R71 D72 S73 L74 N75 L76 E77 P78 E79 E80 I81 Q82 Q83 Q84 A85 R86 R87 E88 L89 E90 L91 C92 H93 G94 R95 S96 L97

E98 H99 G100 E101 D102 H103 E104 E105 S106 E107 T108 S109 L110 A111 S112 S113 T114 S115 E116 S117 L118 I119 F120 S121 L122 W123 K124 P125 H126 R127 T128 Y129 W130 T131 E132 Q133 Q134 N135 R136 L137 P138 L139 P140 L141 M142 E143 L144 M145 E146 T147 E148 V149 L150 D151 I152 L153 K154 K155 A156 L157

I158 T159 Y160 R161 S162 T163 I164 G165 R166 N167 H168 F169 M170 T171 K172 E173 L174 Q175 G176 Y177 I178 E179 G180 I181 R182 K183 R184 R185 N186

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

Chain x:



T38 A39 N40 V41 S42 V43 S44 D45 V46 C47 E48 D49 F50 D51 E52 E53 G54 K55 S56 V57 R58 N59 R60 I61 R62 K63 Y64 S65 Q66 T67 I68 S69 I70 R71 D72 S73 L74 N75 L76 E77 P78 E79 E80 I81 Q82 Q83 Q84 A85 R86 R87 E88 L89 E90 L91 C92 H93 G94 R95 S96 L97

E98 H99 G100 E101 D102 H103 E104 E105 S106 E107 T108 A111 S112 S113 T114 S115 E116 S117 L118 I119 F120 S121 L122 W123 K124 P125 H126 R127 T128 Y129 W130 T131 E132 Q133 Q134 N135 R136 L137 P138 L139 P140 L141 M142 E143 L144 M145 E146 T147 E148 V149 L150 D151 I152 L153 K154 K155 A156 L157 I158

T159 Y160 R161 S162 T163 I164 G165 R166 N167 H168 F169 M170 T171 K172 E173 L174 Q175 G176 Y177 I178 E179 G180 I181 R182 K183 R184 R185 N186

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

Chain k:

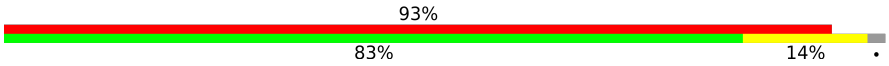
T38 A39 N40 V41 S42 V43 S44 D45 V46 C47 E48 D49 F50 D51 E52 E53 G54 K55 S56 V57 R58 N59 R60 I61 R62 K63 Y64 S65 Q66 T67 I68 S69 I70 R71 D72 S73 L74 N75 L76 E77 P78 E79 E80 I81 Q82 Q83 Q84 A85 R86 R87 E88 L89 E90 L91 C92 H93 G94 R95 S96 L97

E98 H99 G100 E101 D102 H103 E104 E105 S106 E107 T108 S109 L110 A111 S112 S113 T114 S115 E116 S117 L118 I119 F120 S121 L122 W123 K124 P125 H126 R127 T128 Y129 W130 T131 E132 Q133 Q134 N135 R136 L137 P138 L139 P140 L141 M142 E143 L144 M145 E146 T147 E148 V149 L150 D151 I152 L153 K154 K155 A156 L157

I158 T159 Y160 R161 S162 T163 I164 G165 R166 N167 H168 F169 M170 T171 K172 E173 L174 Q175 G176 Y177 I178 E179 G180 I181 R182 K183 R184 R185 N186

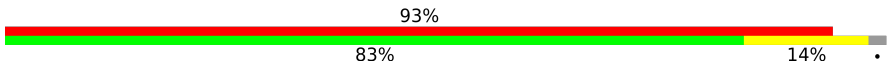
• Molecule 12: Solute carrier organic anion transporter family member 6C1

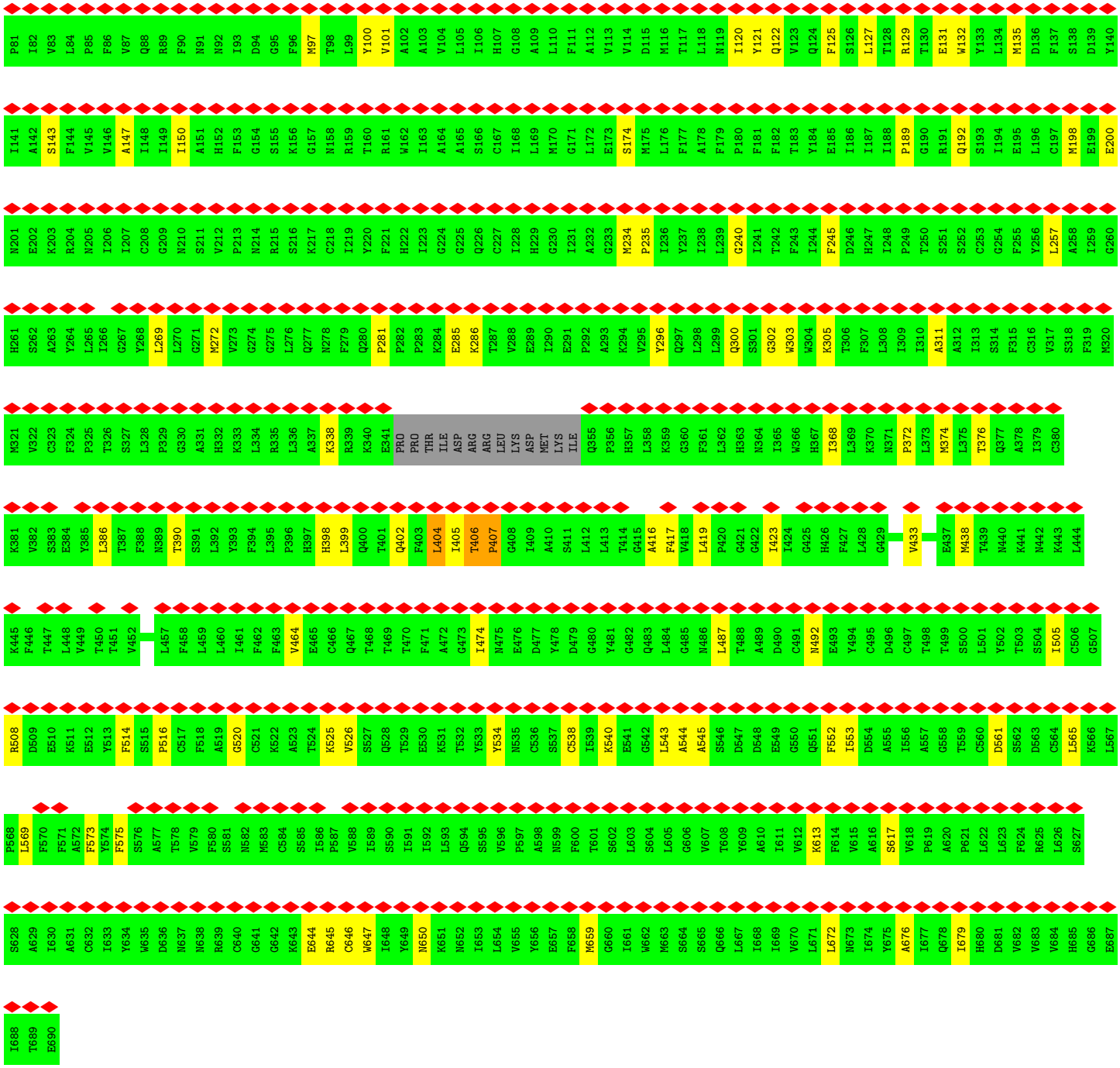
Chain L:



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

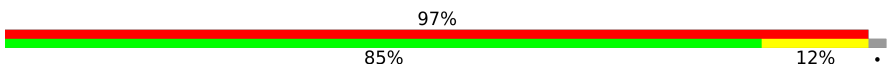
Chain y:

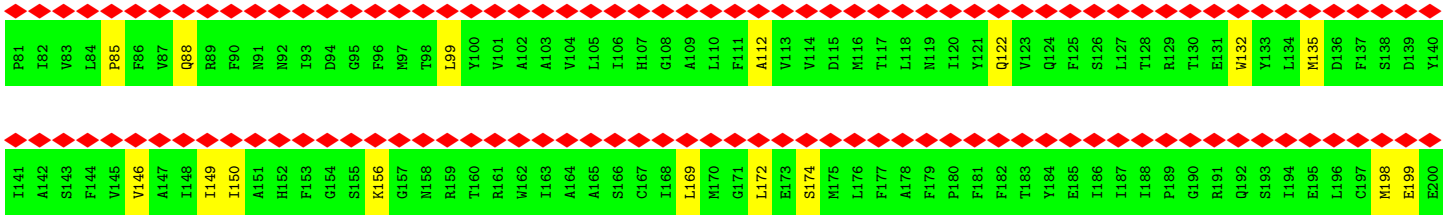


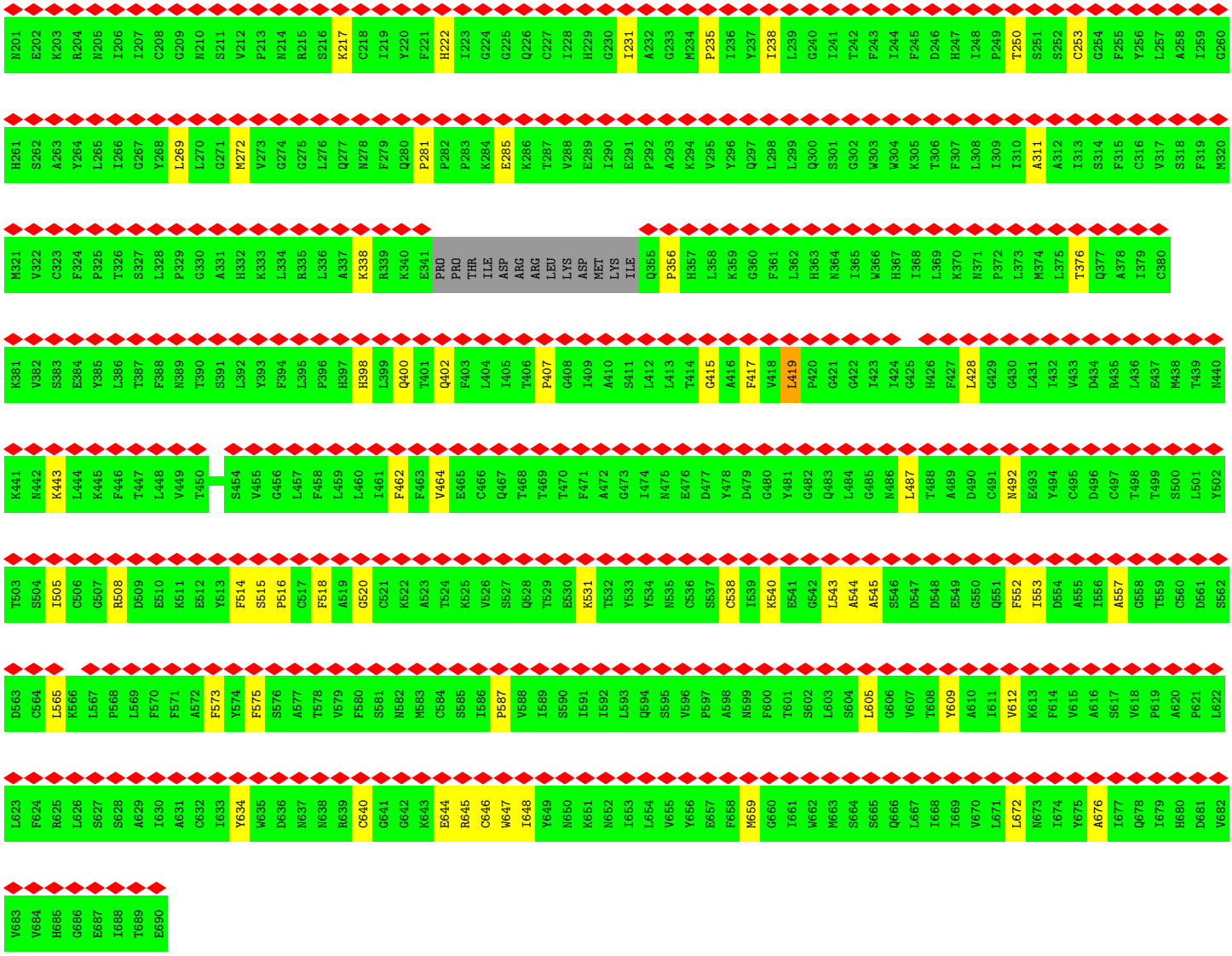


• Molecule 12: Solute carrier organic anion transporter family member 6C1

Chain l:

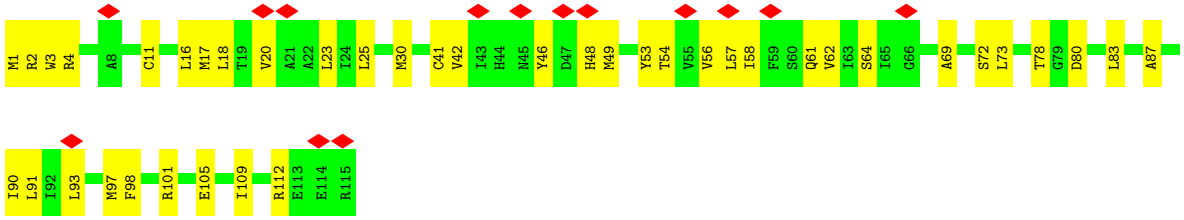






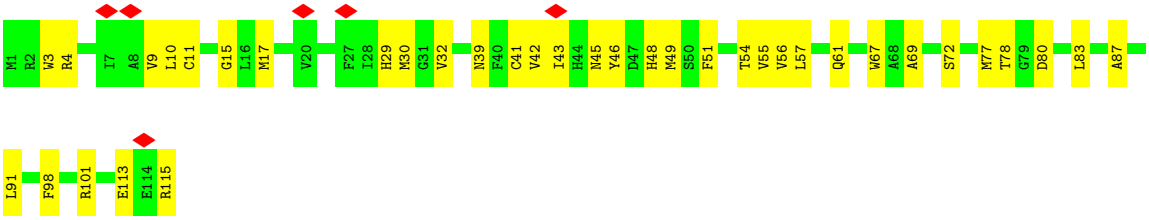
• Molecule 13: Cation channel sperm-associated auxiliary subunit TMEM262

Chain M:

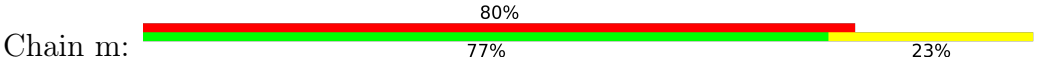


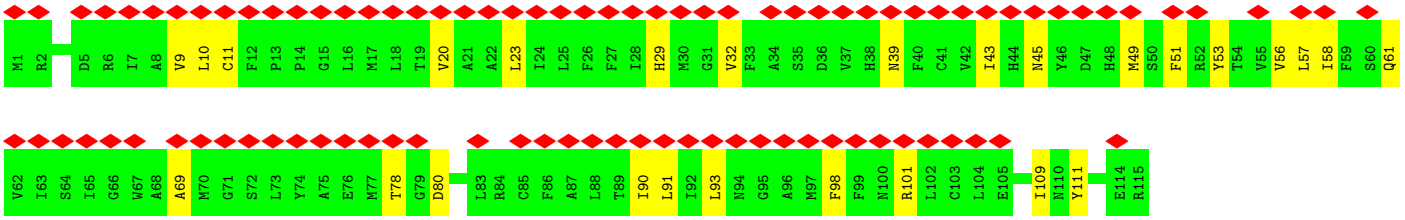
• Molecule 13: Cation channel sperm-associated auxiliary subunit TMEM262

Chain z:

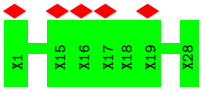


• Molecule 13: Cation channel sperm-associated auxiliary subunit TMEM262

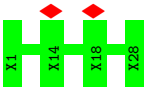




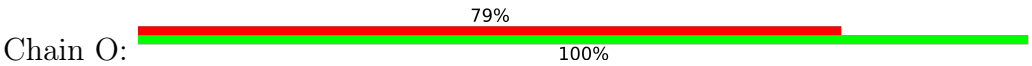
• Molecule 14: Unknown protein

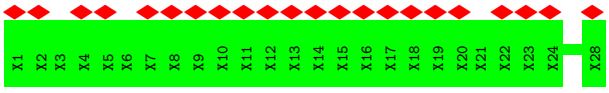


• Molecule 14: Unknown protein



• Molecule 14: Unknown protein





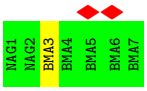
• Molecule 15: beta-D-mannopyranose-(1-2)-beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-3)-beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

• 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:

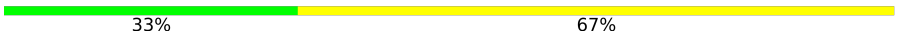
• Molecule 15: beta-D-mannopyranose-(1-2)-beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-3)-beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain AA:



• 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:



• 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:

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

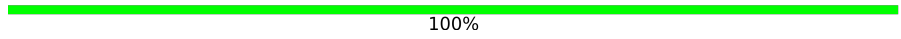
Chain V:

• 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:

• 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:



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

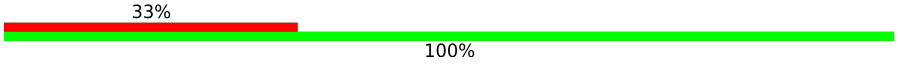
Chain 1:

• 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:

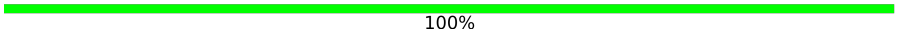
• Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 4:



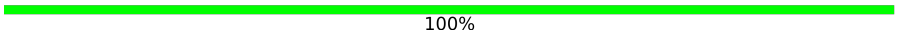
• Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 5:



• 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:



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

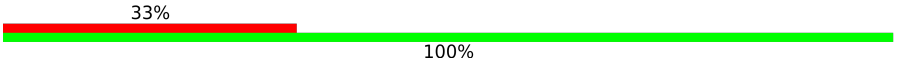
Chain BA:

• 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:

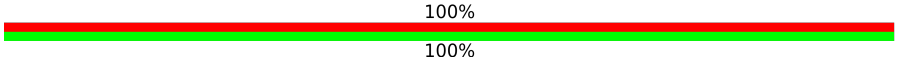
• Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain EA:



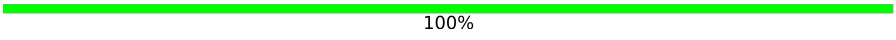
• Molecule 16: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain FA:



• 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:



• 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

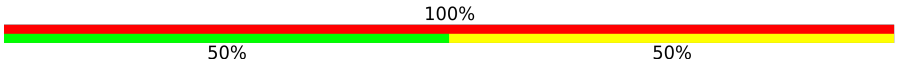
Chain 8:

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

Chain DA:

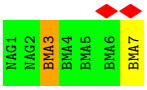
• Molecule 17: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain IA:



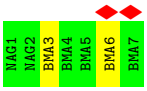
• Molecule 18: beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-6)-[beta-D-mannopyranose-(1-3)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain Y:



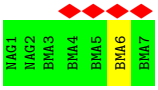
• Molecule 18: beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-6)-[beta-D-mannopyranose-(1-3)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 7:



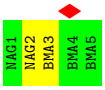
• Molecule 18: beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-6)-[beta-D-mannopyranose-(1-3)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain HA:



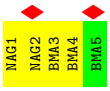
• Molecule 19: beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain v:



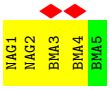
• Molecule 19: beta-D-mannopyranose-(1-3)-[beta-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain 9:



• 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:


NAG1
NAG2
BMA3
BMA4
BMA5

4 Experimental information (i)

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 ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.000	Depositor
Minimum map value	-0.376	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.047	Depositor
Recommended contour level	0.245	Depositor
Map size (Å)	652.2, 652.2, 652.2	wwPDB
Map dimensions	600, 600, 600	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.087, 1.087, 1.087	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: NAG, CLR, BMA

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(^{o})	Ideal(^{o})
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(^{o})	Ideal(^{o})
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(^{o})	Ideal(^{o})
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	15,5	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	17,7	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	8,16	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	8,16	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	8,18	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	8,17	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	8,19	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	15,5	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	17,7	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	8,16	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	8,16	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	8,18	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	8,17	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	8,19	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	15,5	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	17,7	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	8,16	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	8,16	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	8,18	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	8,17	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	8,19	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	15,5	-	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	17,7	-	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	8,16	-	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	8,16	-	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	8,18	-	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	8,17	-	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	8,19	-	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	15,5	-	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	17,7	-	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	8,16	-	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	8,16	-	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	8,18	-	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	8,17	-	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	8,19	-	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	15,5	-	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	17,7	-	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	8,16	-	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	8,16	-	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	8,18	-	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	8,17	-	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	8,19	-	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(^{o})	Ideal(^{o})
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
16	S	1	NAG	1	0
15	R	6	BMA	1	0
16	1	2	NAG	1	0
19	v	2	NAG	1	0
17	U	2	NAG	2	0
17	Z	1	NAG	1	0
18	Y	3	BMA	1	0
17	8	1	NAG	1	0
19	JA	1	NAG	1	0

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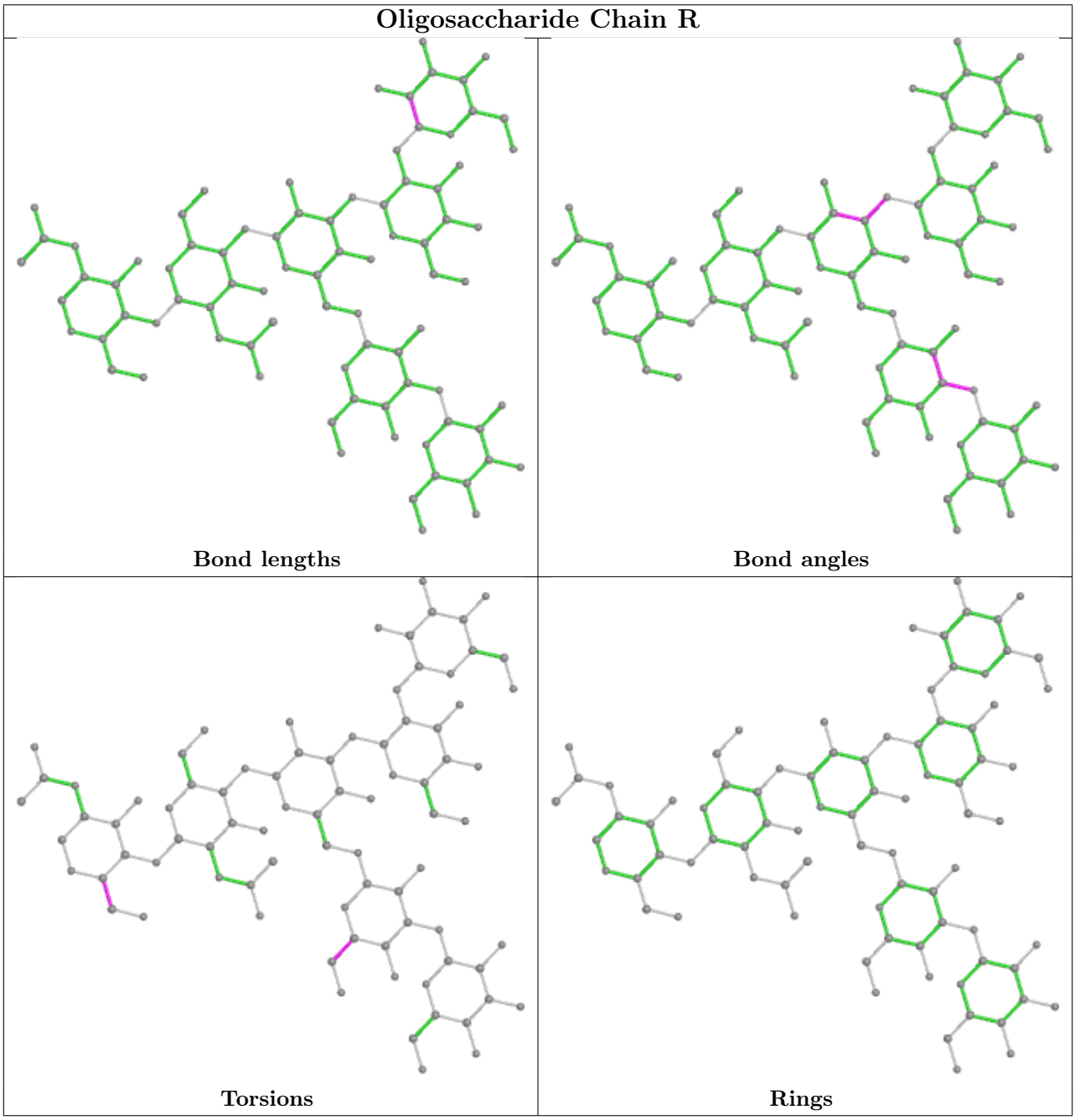
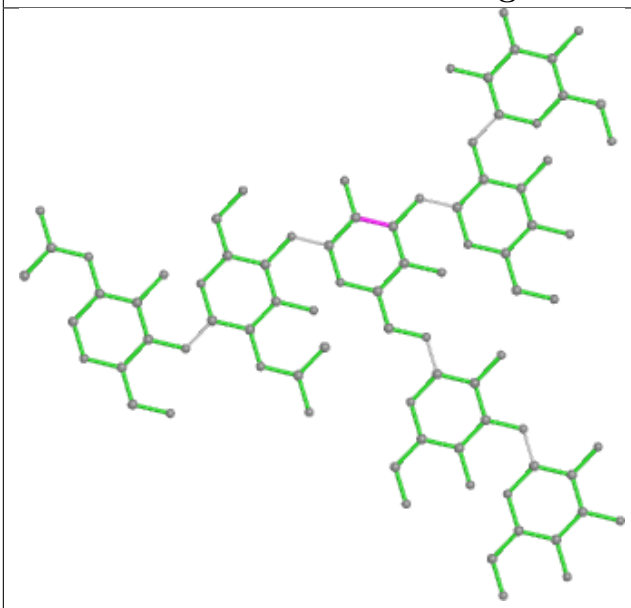
Mol	Chain	Res	Type	Clashes	Symm-Clashes
17	IA	1	NAG	2	0
16	BA	2	NAG	1	0
15	R	3	BMA	1	0
19	9	1	NAG	1	0
17	U	1	NAG	1	0

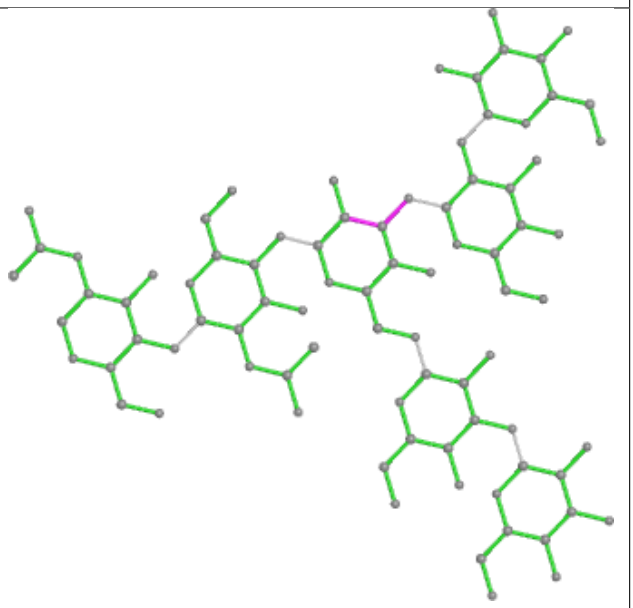
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.



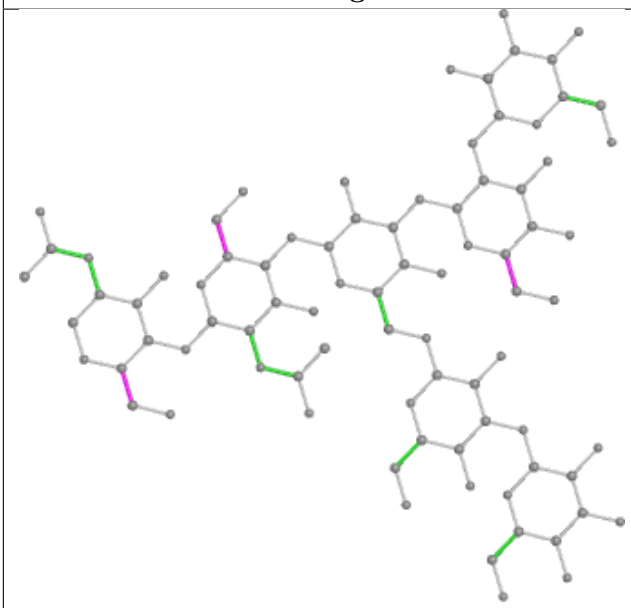
Oligosaccharide Chain 0



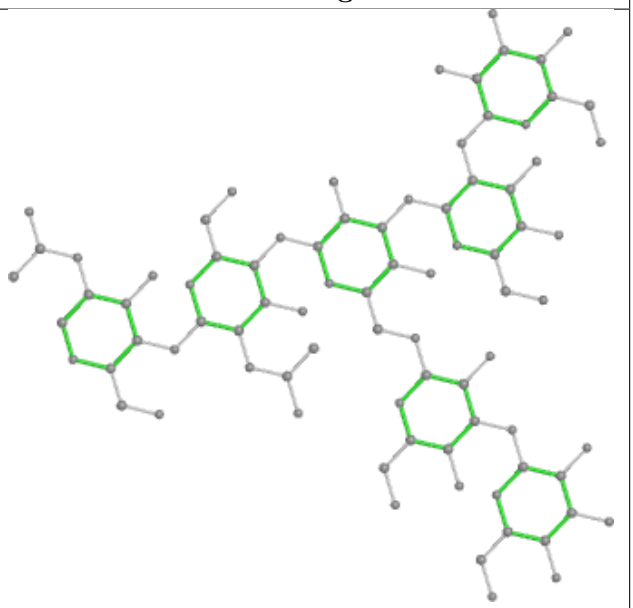
Bond lengths



Bond angles

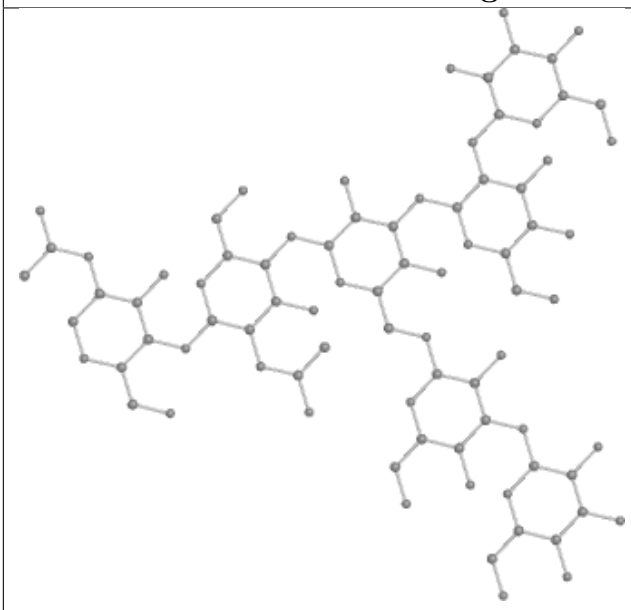


Torsions

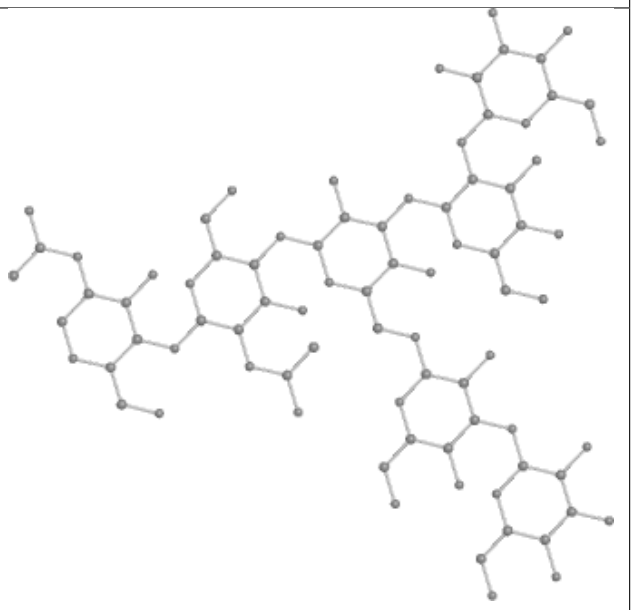


Rings

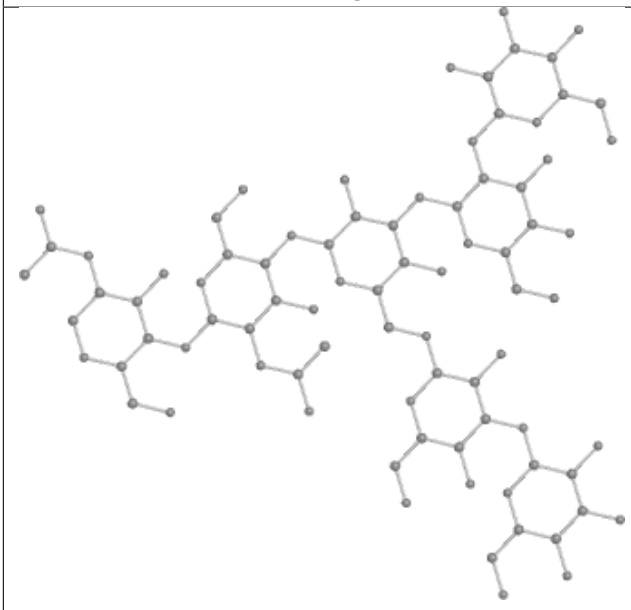
Oligosaccharide Chain AA



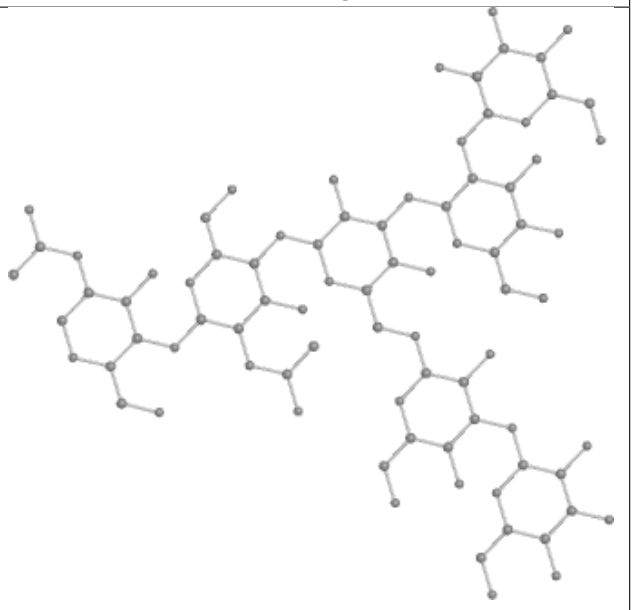
Bond lengths



Bond angles

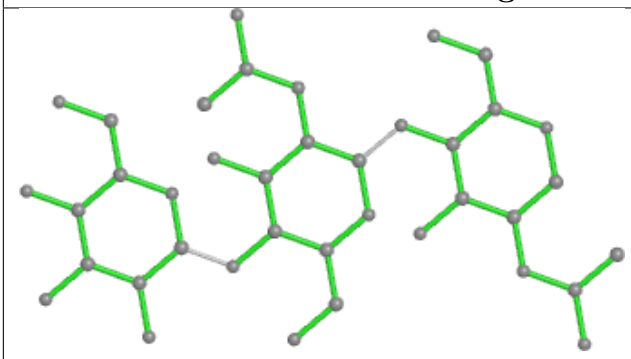


Torsions

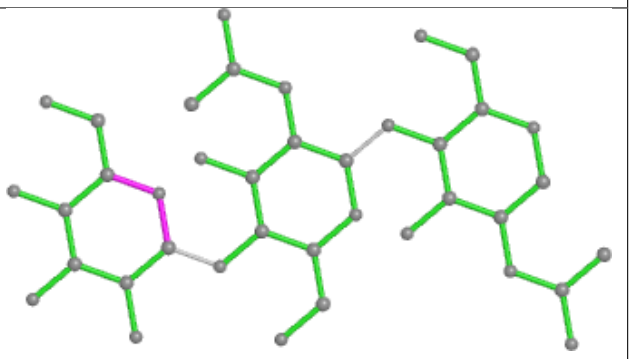


Rings

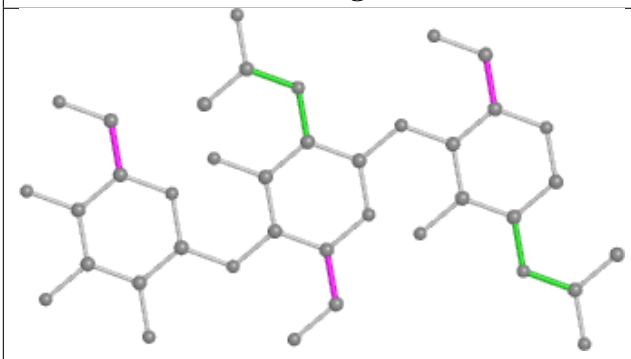
Oligosaccharide Chain S



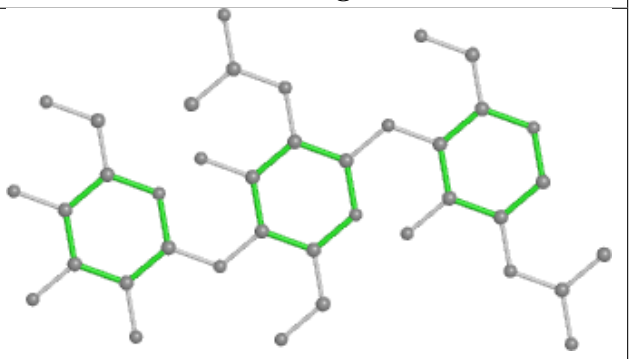
Bond lengths



Bond angles

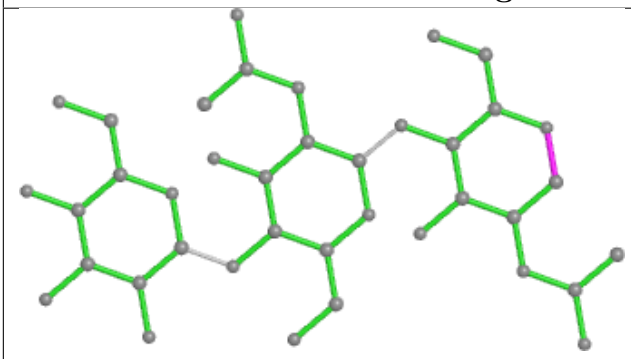


Torsions

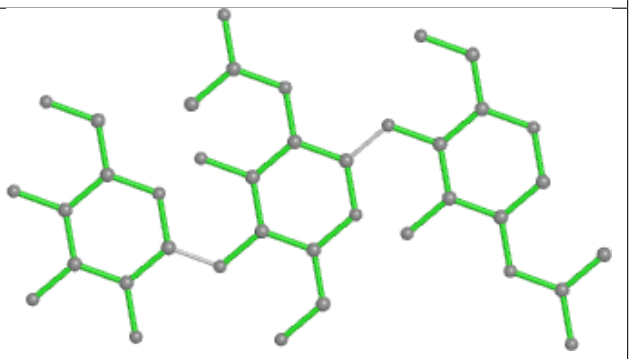


Rings

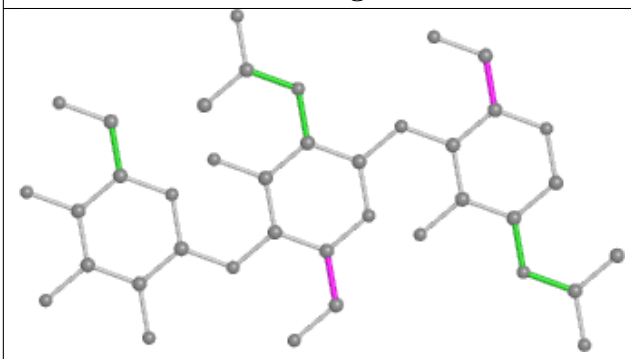
Oligosaccharide Chain T



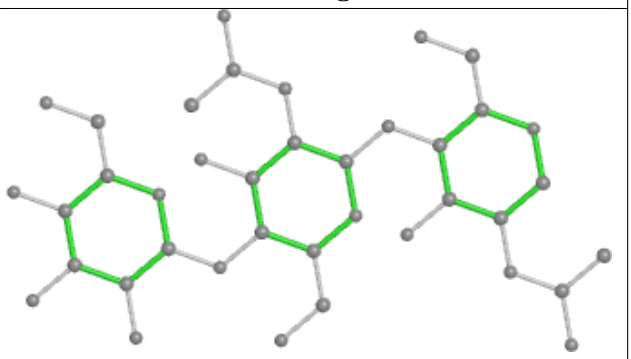
Bond lengths



Bond angles

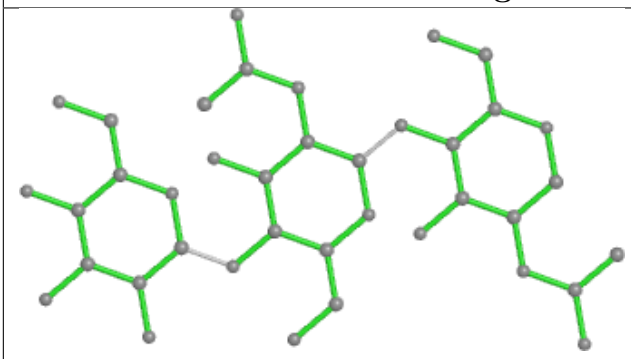


Torsions

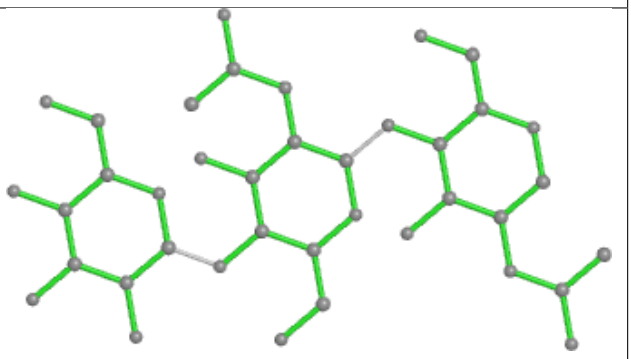


Rings

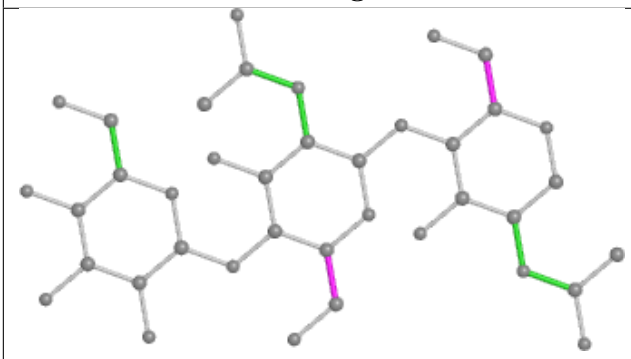
Oligosaccharide Chain V



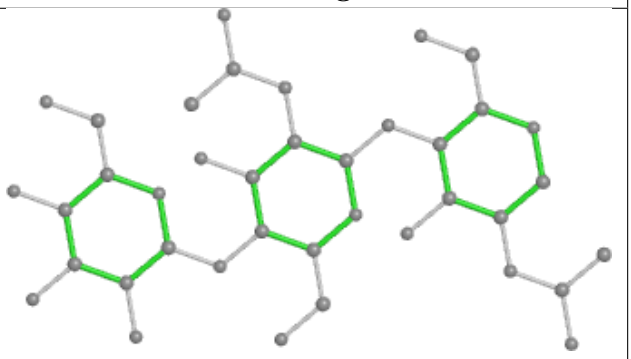
Bond lengths



Bond angles

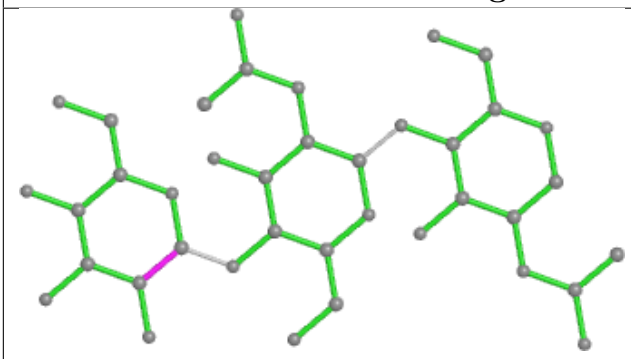


Torsions

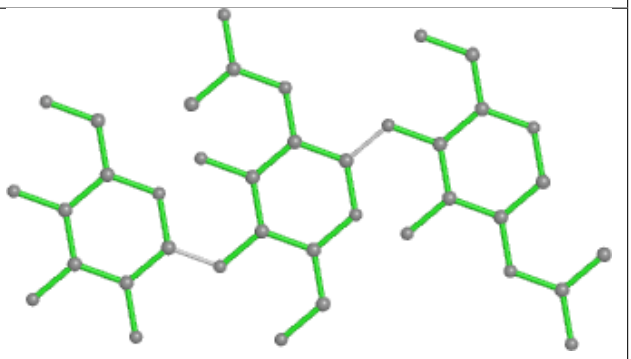


Rings

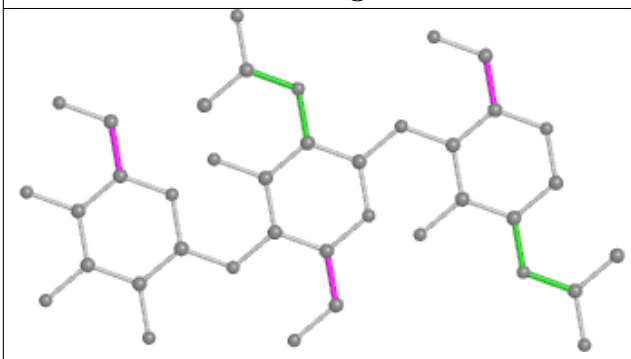
Oligosaccharide Chain W



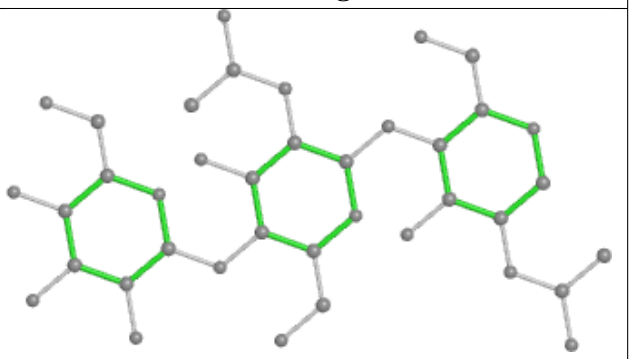
Bond lengths



Bond angles

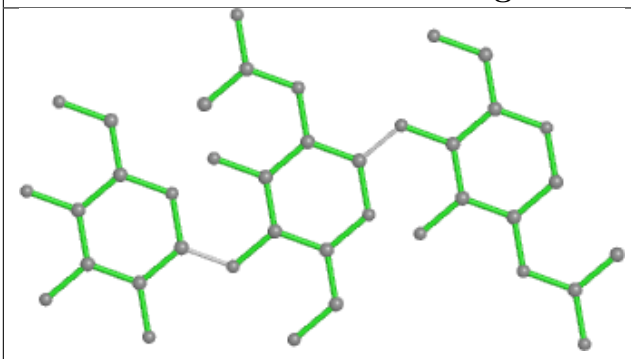


Torsions

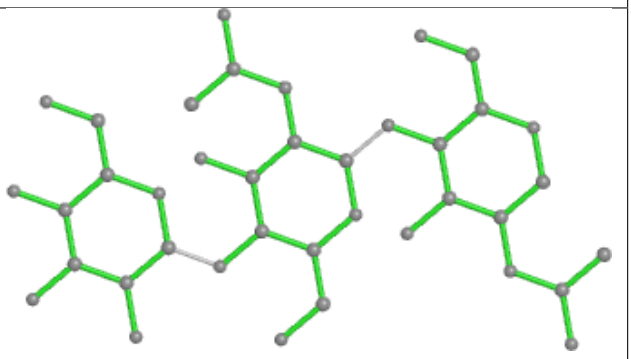


Rings

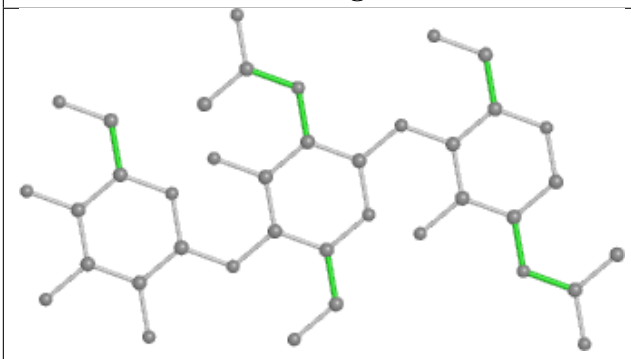
Oligosaccharide Chain X



Bond lengths



Bond angles



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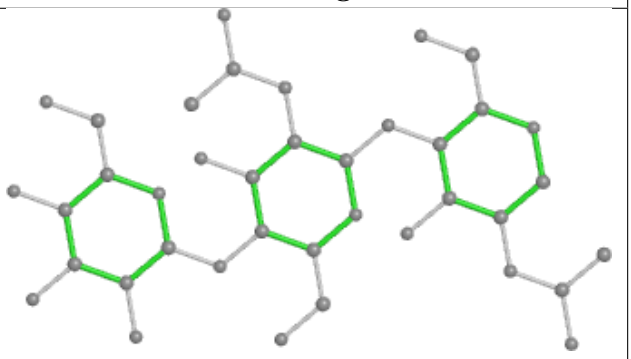
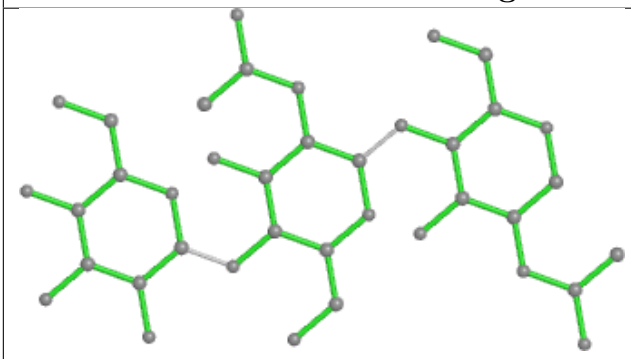
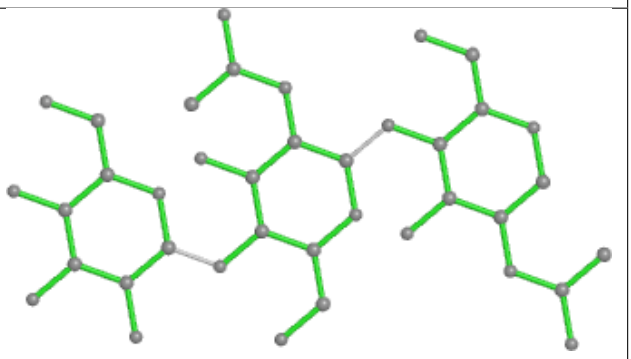


Rings

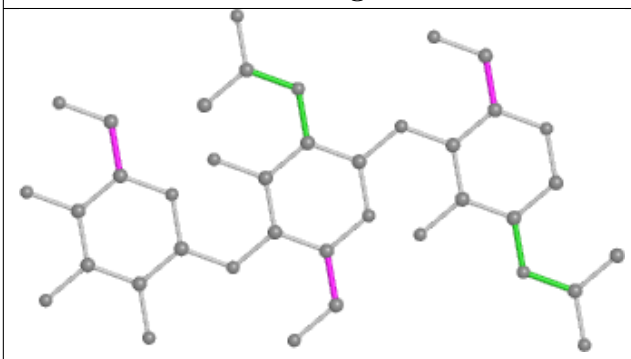
Oligosaccharide Chain 1



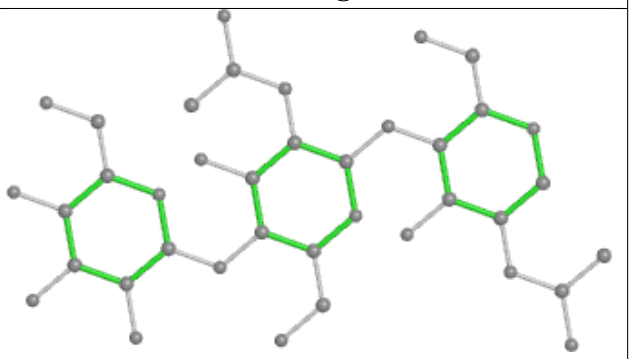
Bond lengths



Bond angles

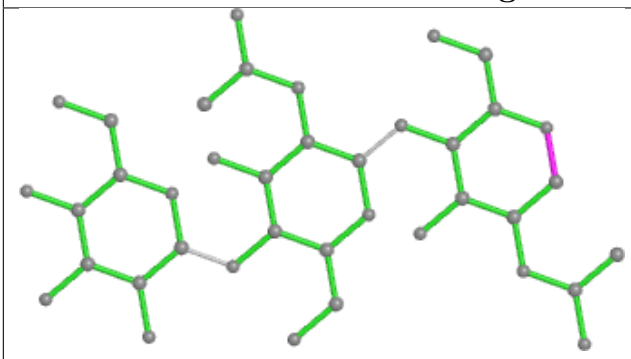


Torsions

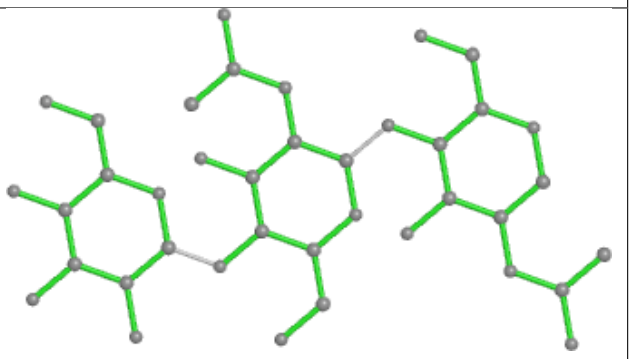


Rings

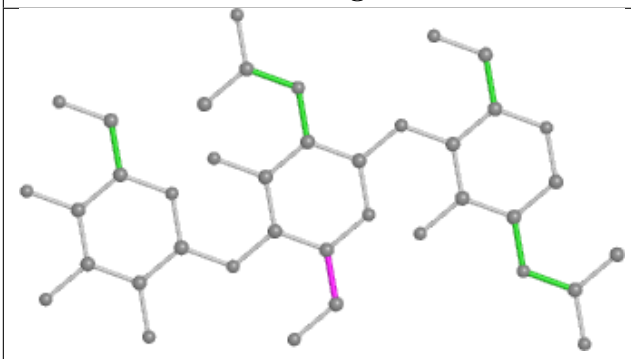
Oligosaccharide Chain 2



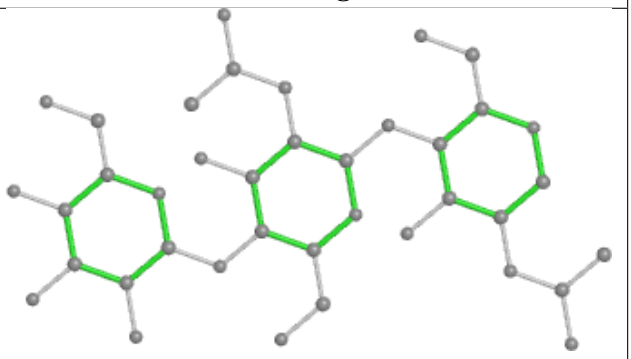
Bond lengths



Bond angles

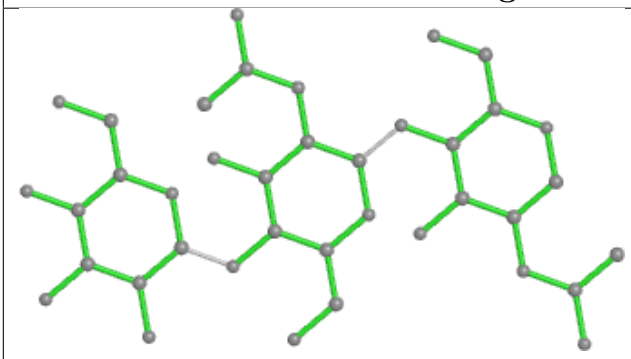


Torsions



Rings

Oligosaccharide Chain 4



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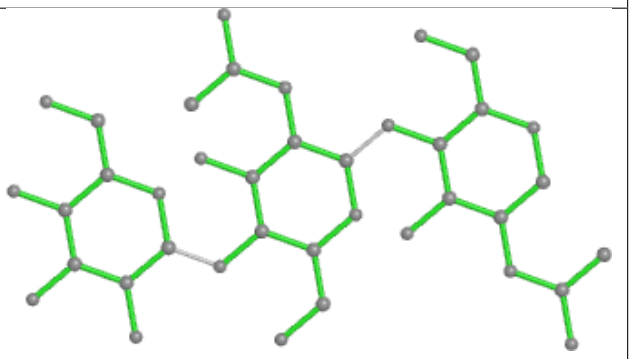
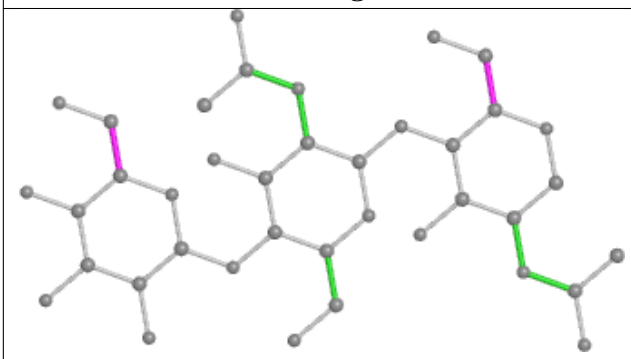


Bond angles



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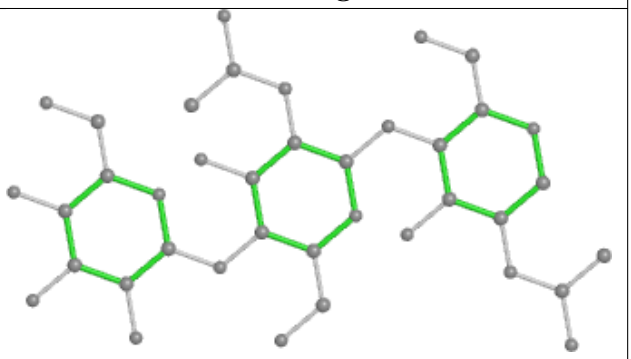
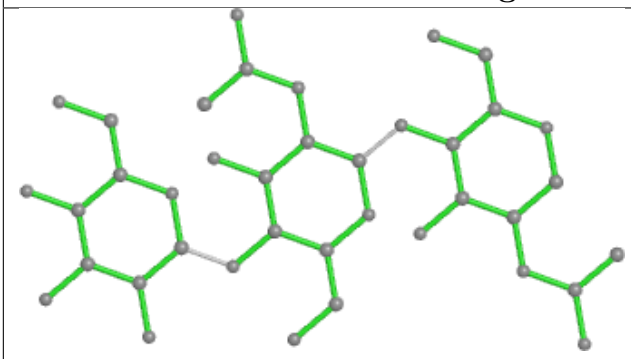


Rings

Oligosaccharide Chain 5



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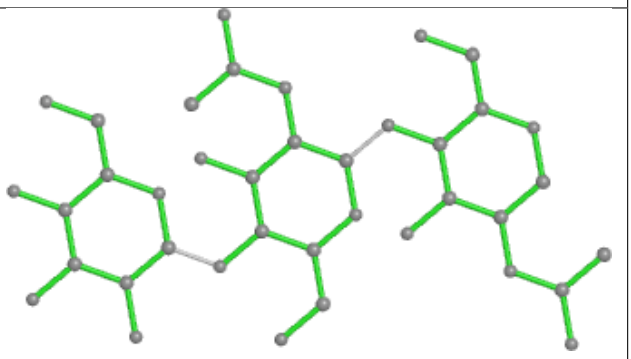
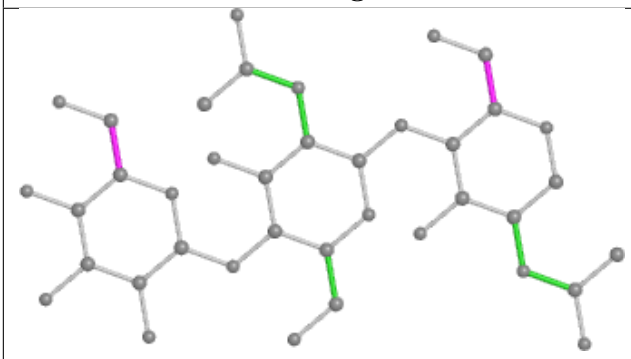


Bond angles



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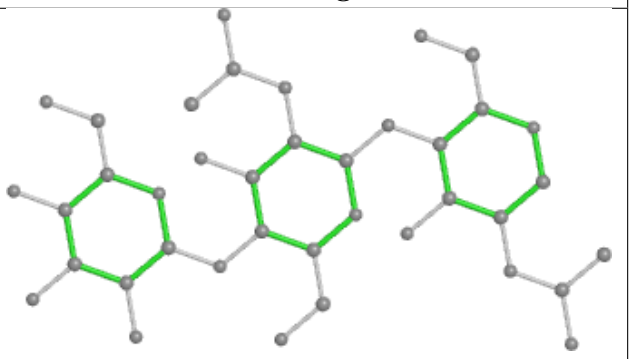
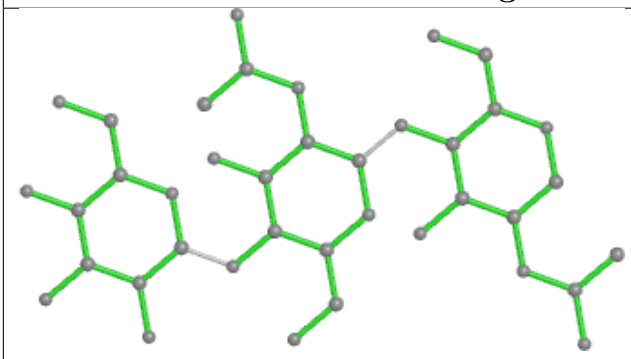


Rings

Oligosaccharide Chain 6



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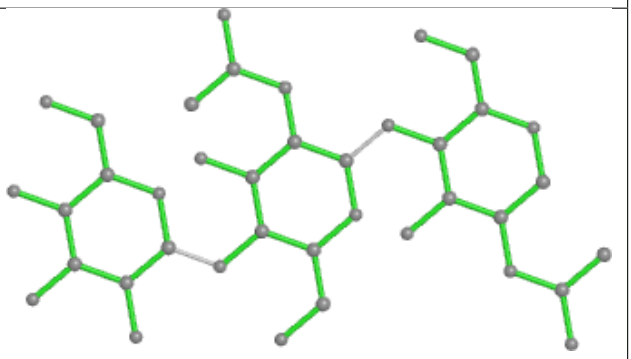
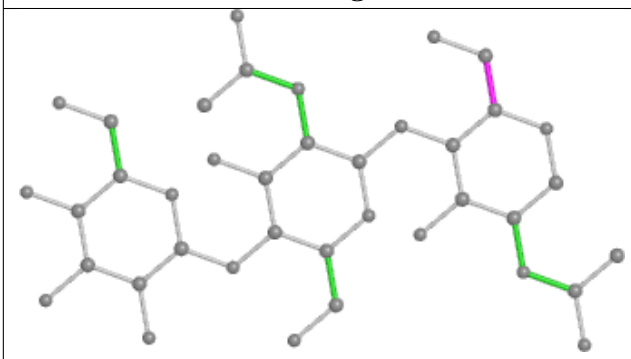


Bond angles



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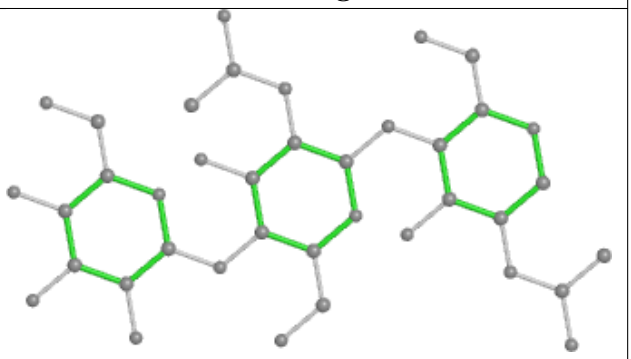
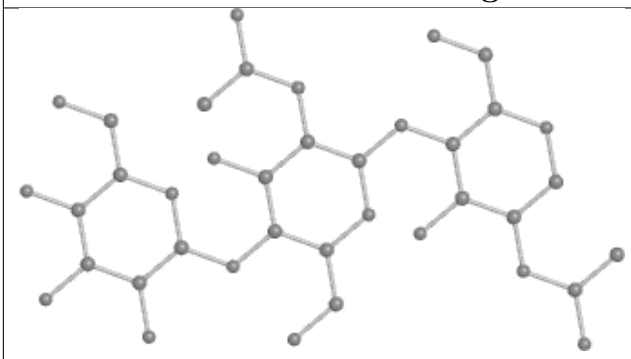
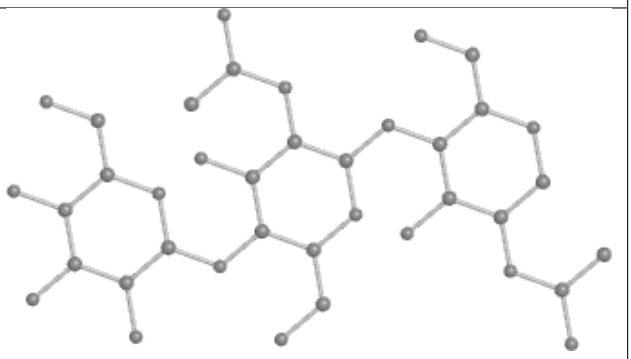


Rings

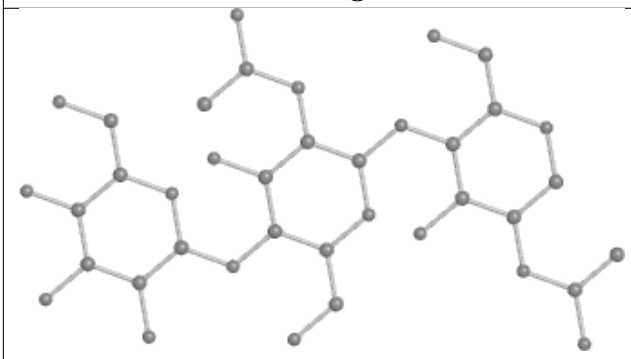
Oligosaccharide Chain BA



Bond lengths



Bond angles



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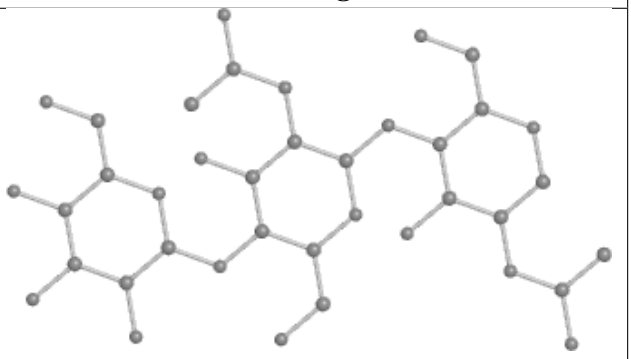
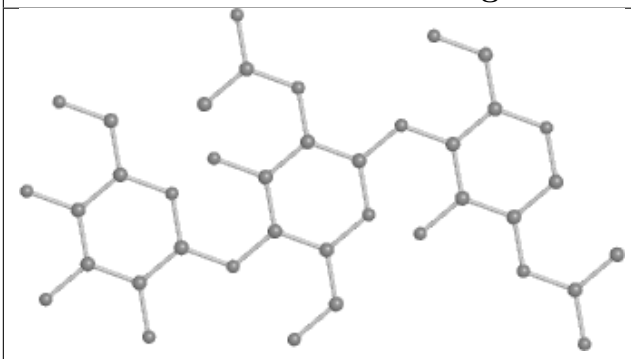


Rings

Oligosaccharide Chain CA



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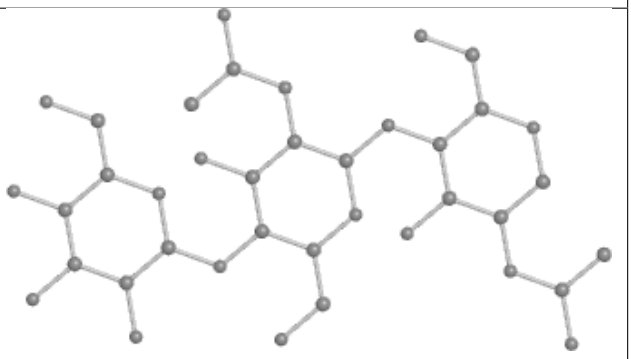
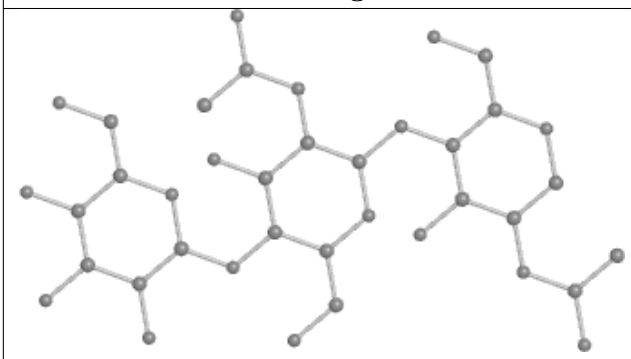


Bond angles



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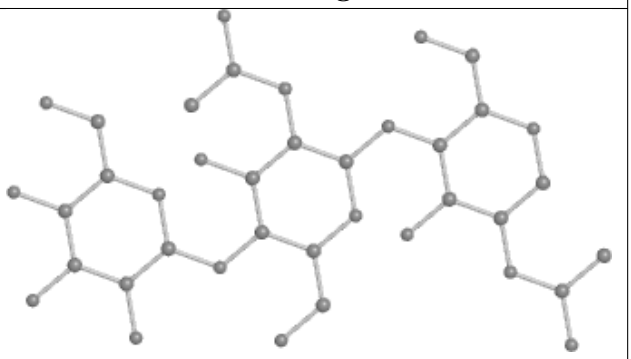
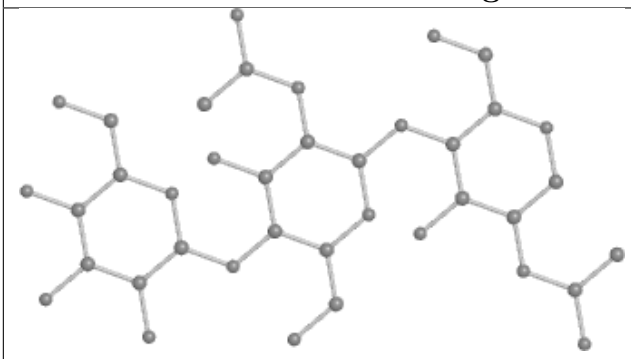
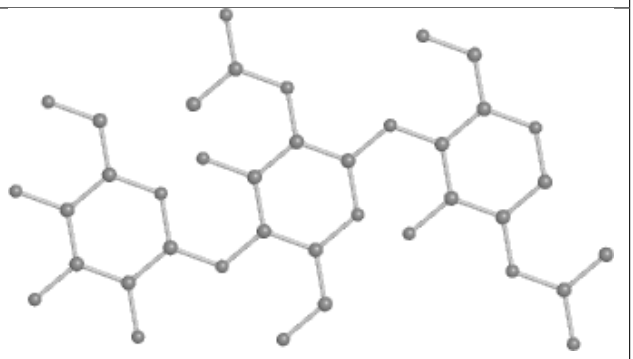


Rings

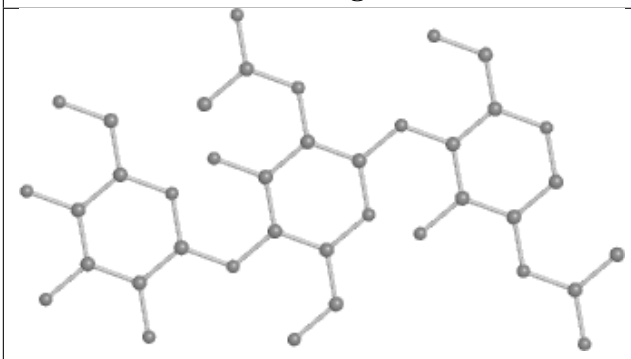
Oligosaccharide Chain EA



Bond lengths



Bond angles



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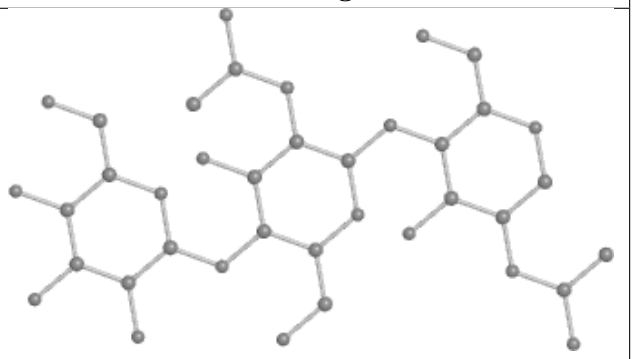
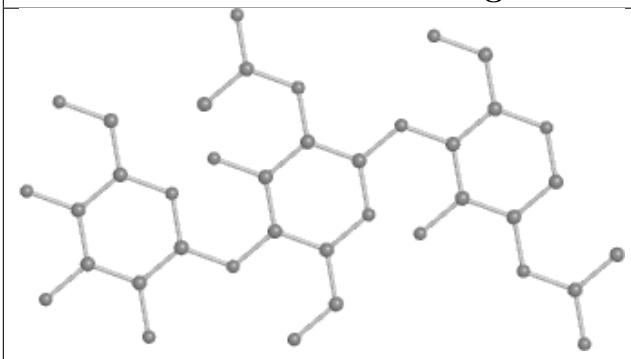


Rings

Oligosaccharide Chain FA



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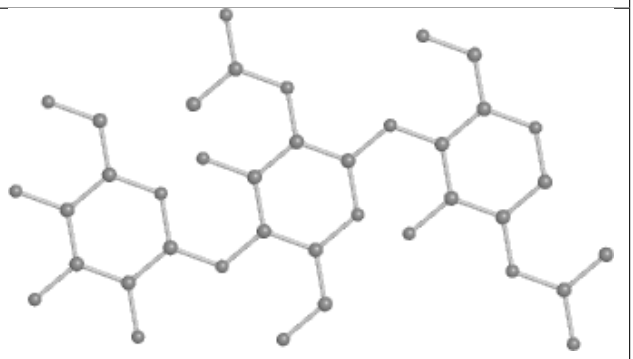
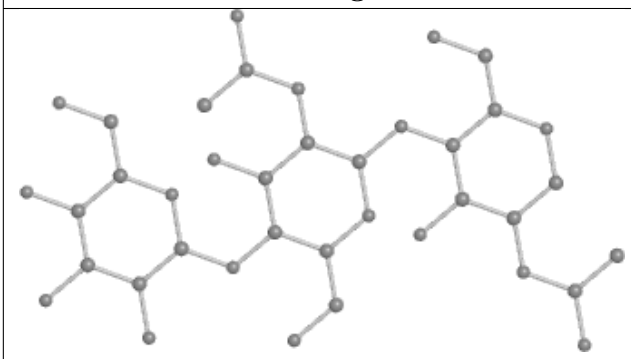


Bond angles



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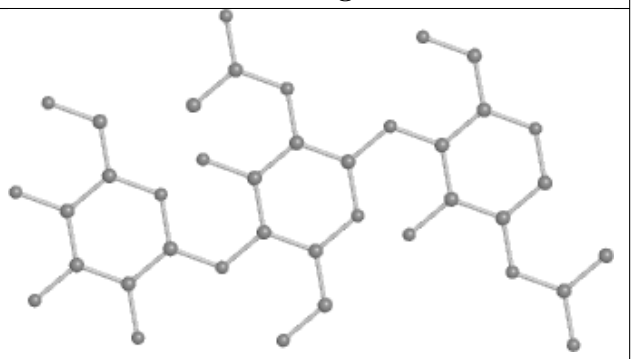
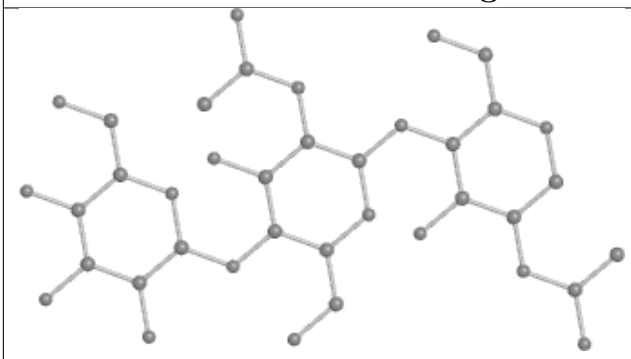


Rings

Oligosaccharide Chain GA



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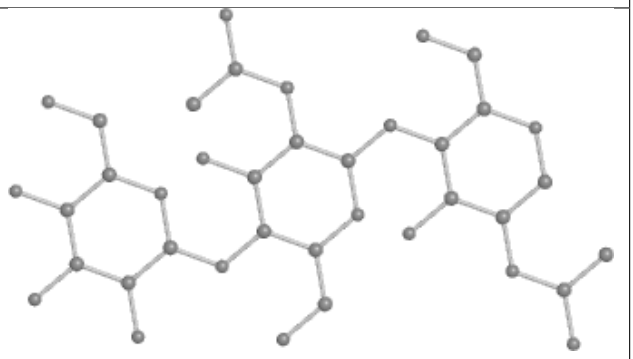
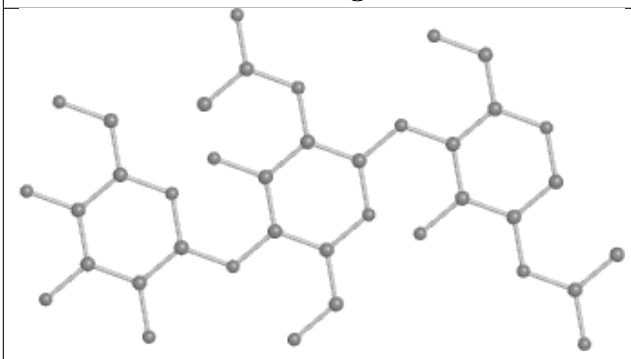
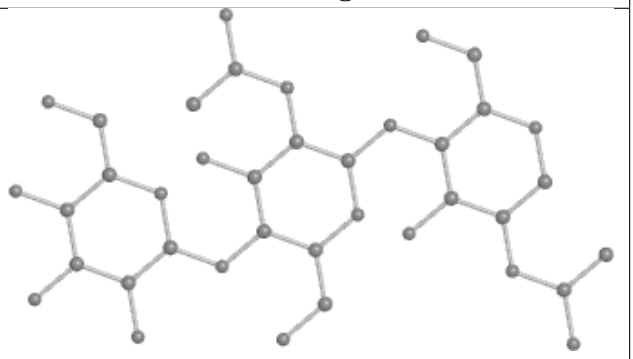


Bond angles

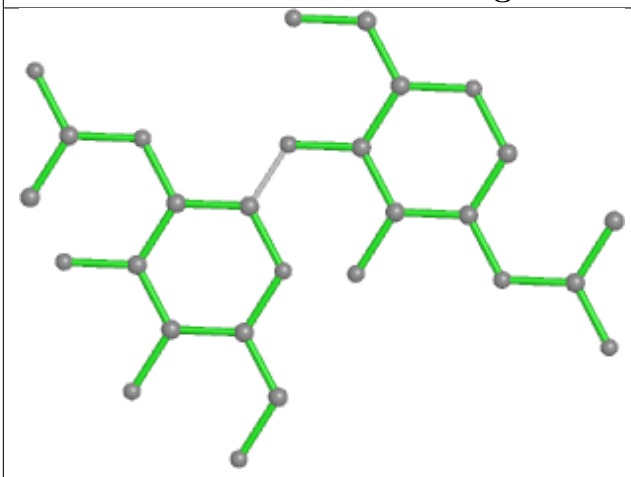


Torsions

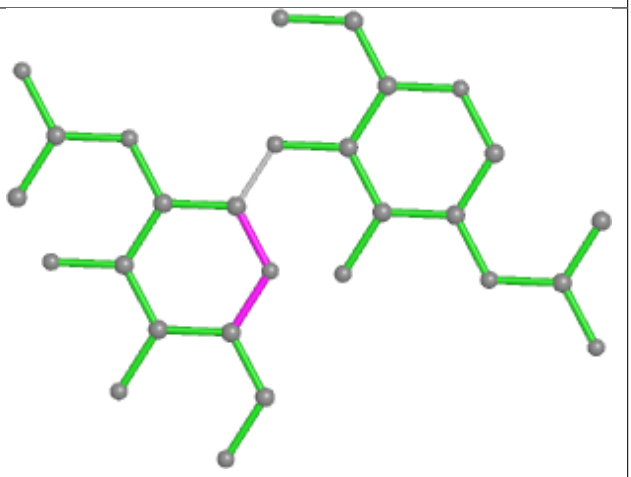


Rings

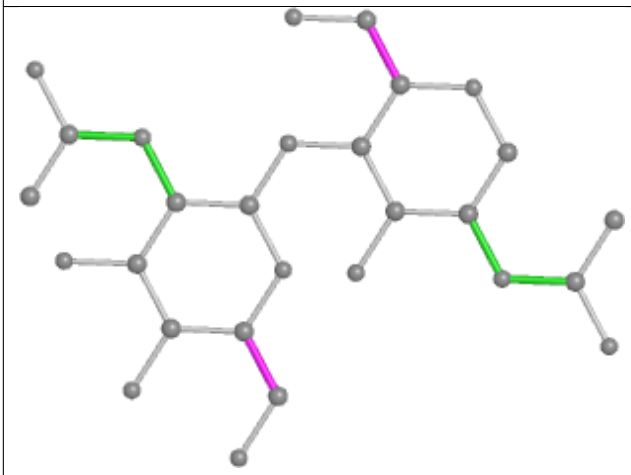
Oligosaccharide Chain U



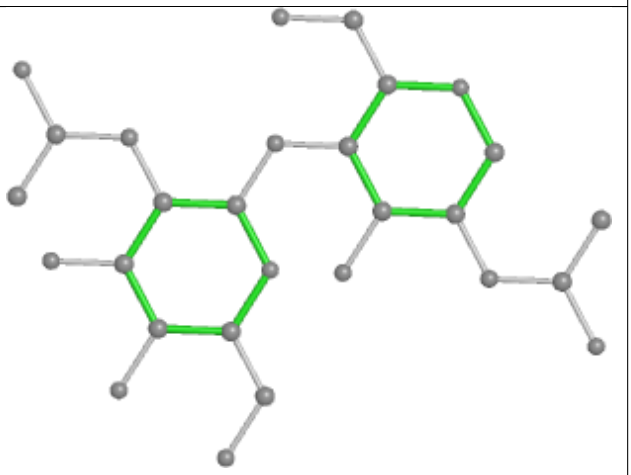
Bond lengths



Bond angles

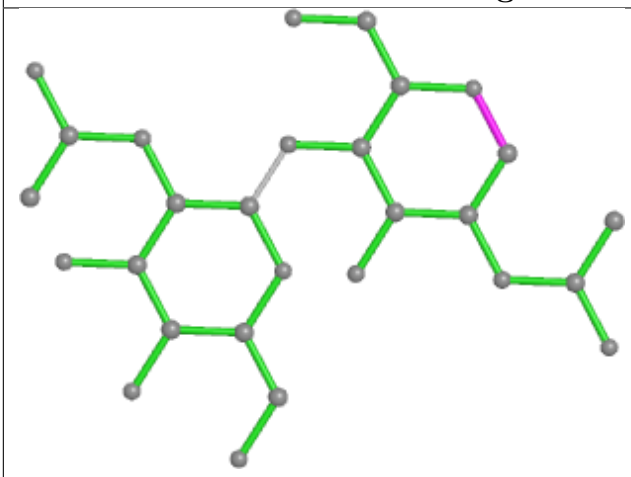


Torsions



Rings

Oligosaccharide Chain Z



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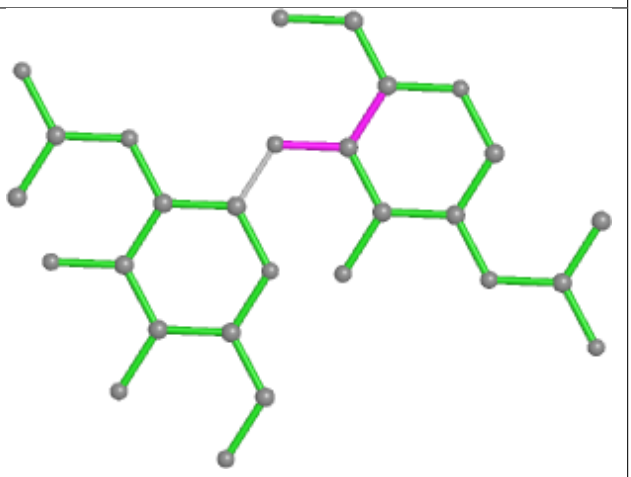
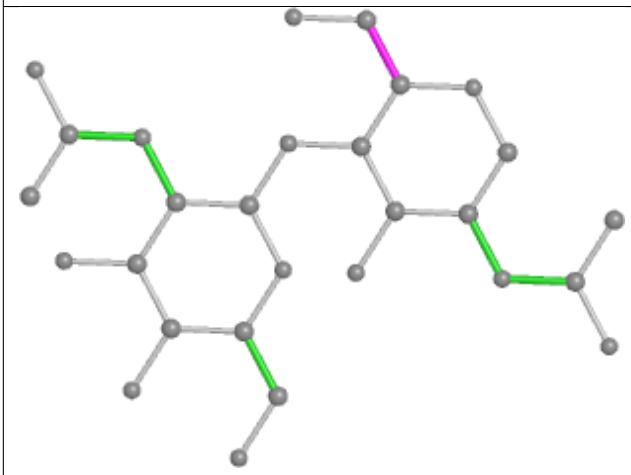
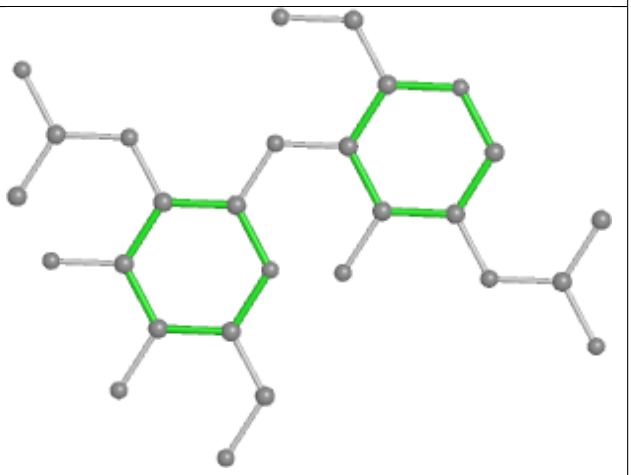


Bond angles

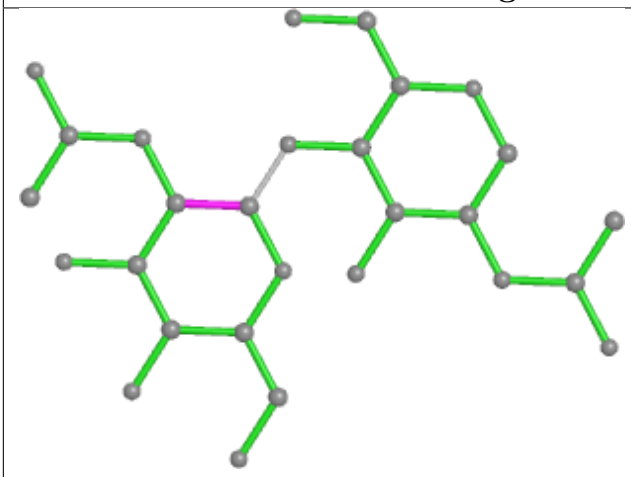


Torsions

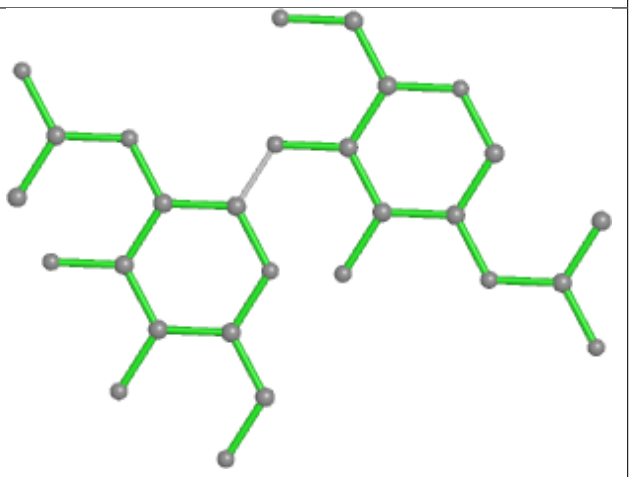


Rings

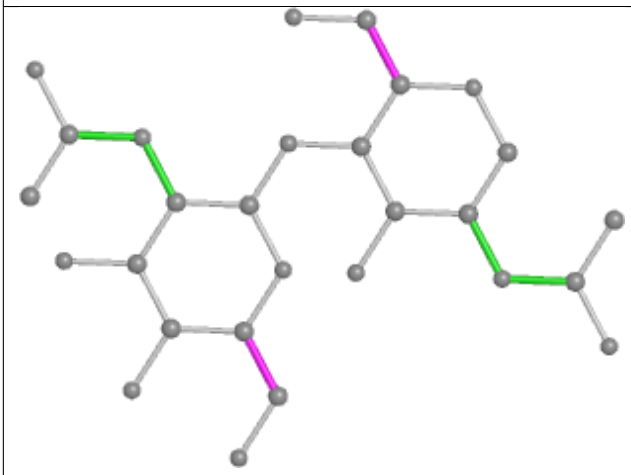
Oligosaccharide Chain 3



Bond lengths



Bond angles



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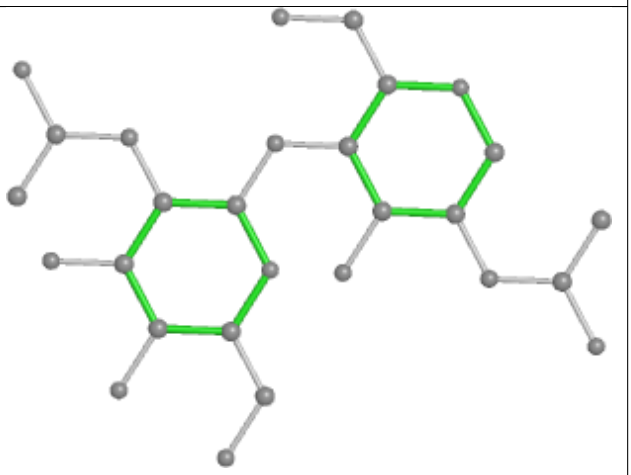
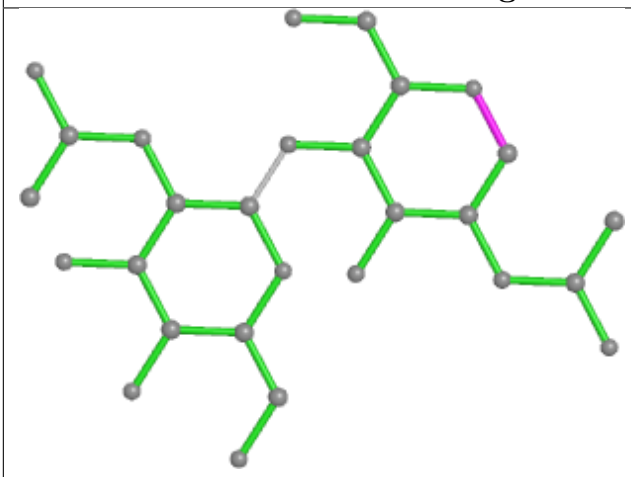
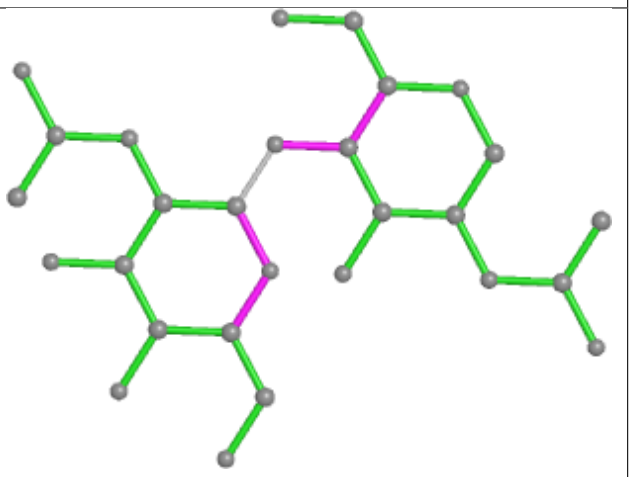


Rings

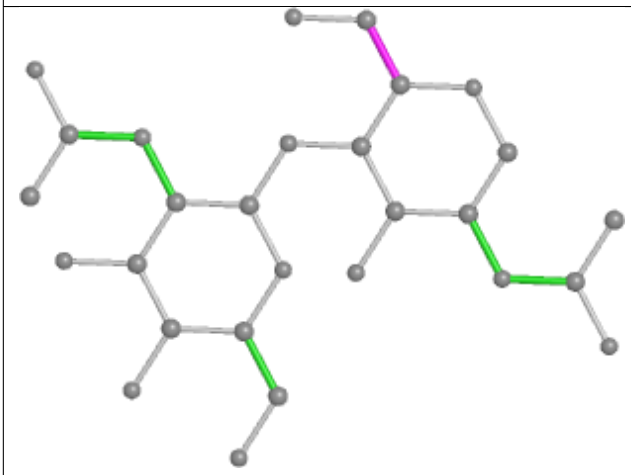
Oligosaccharide Chain 8



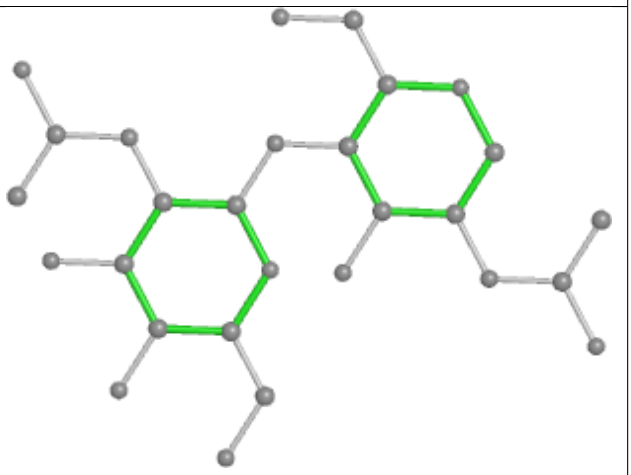
Bond lengths



Bond angles

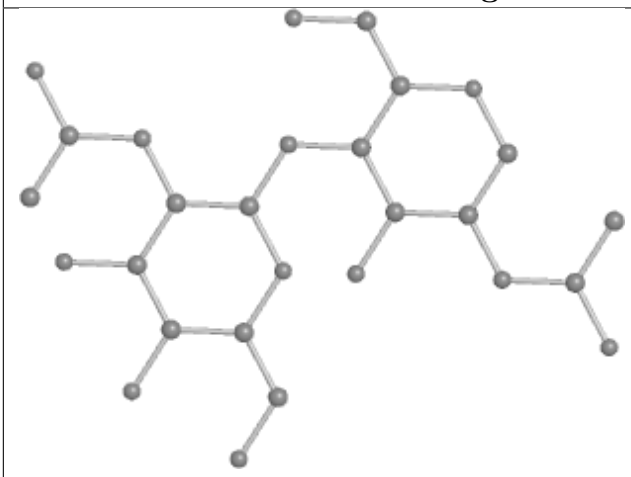


Torsions

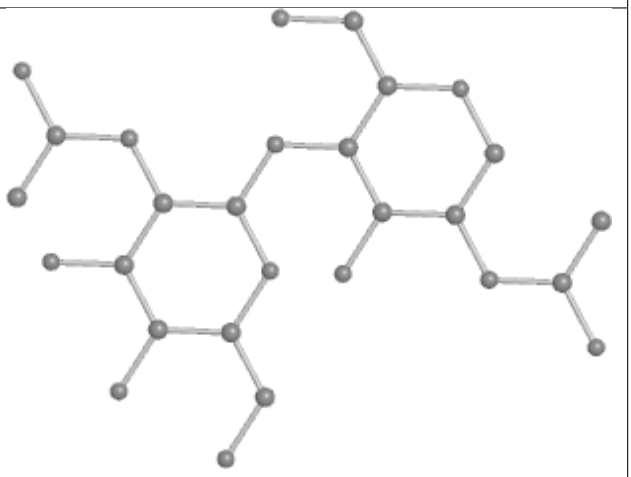


Rings

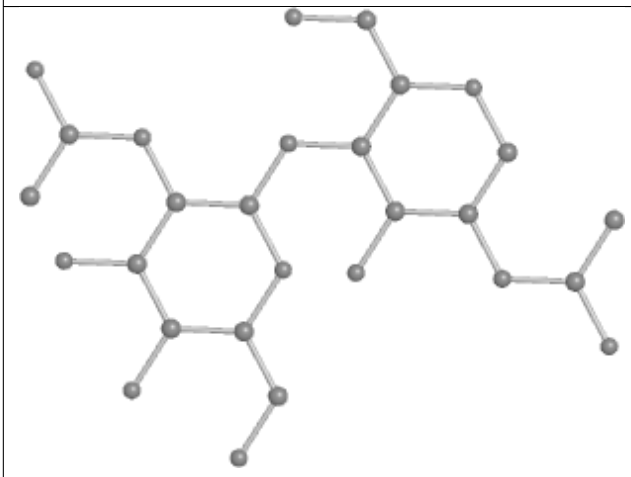
Oligosaccharide Chain DA



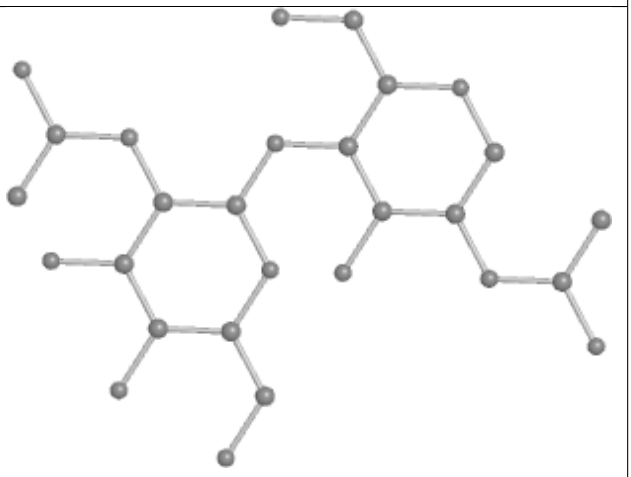
Bond lengths



Bond angles

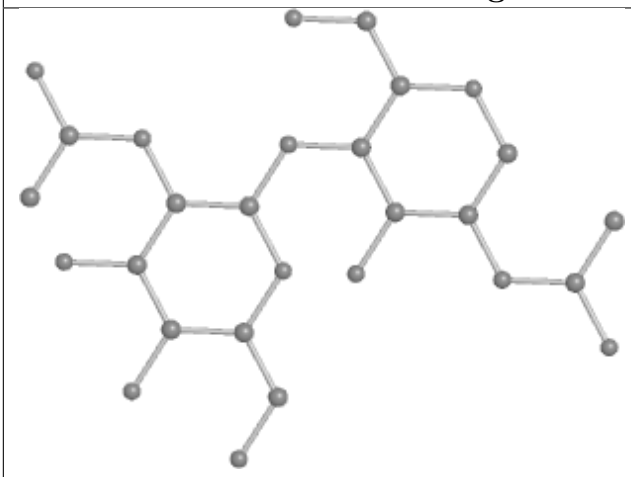


Torsions

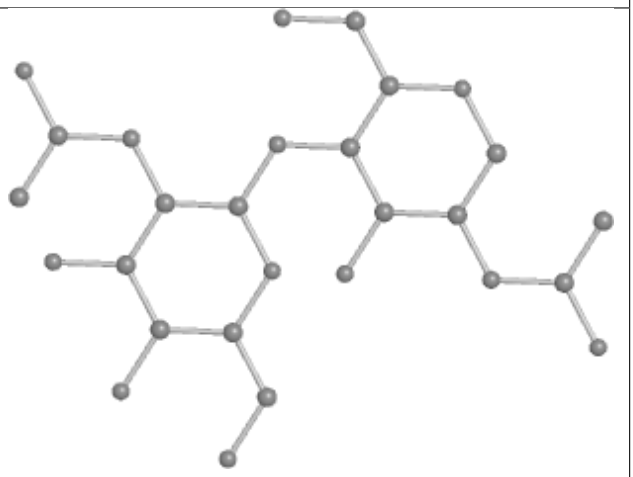


Rings

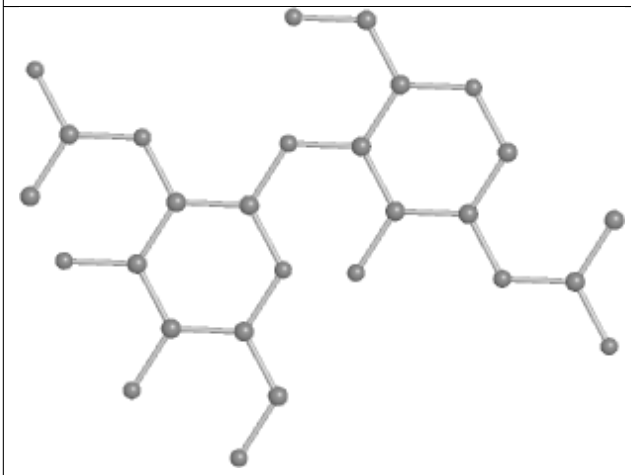
Oligosaccharide Chain IA



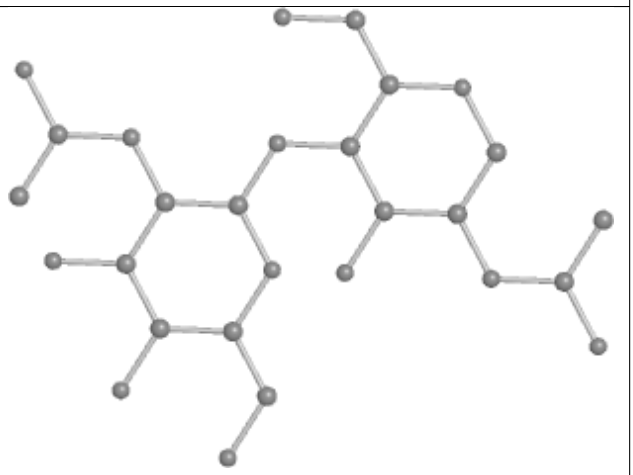
Bond lengths



Bond angles

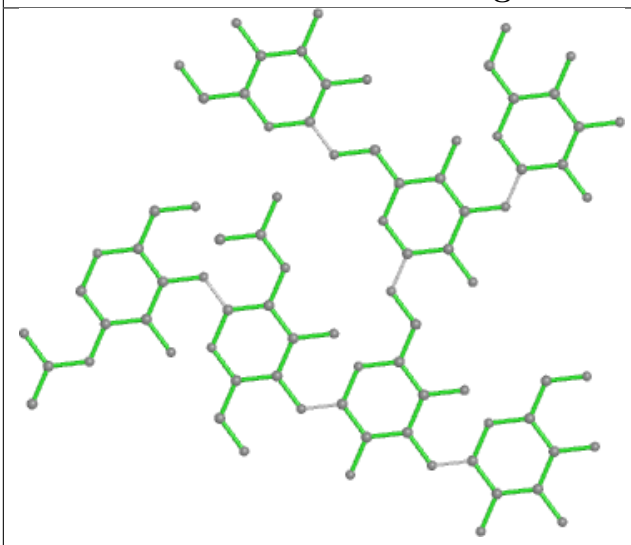


Torsions

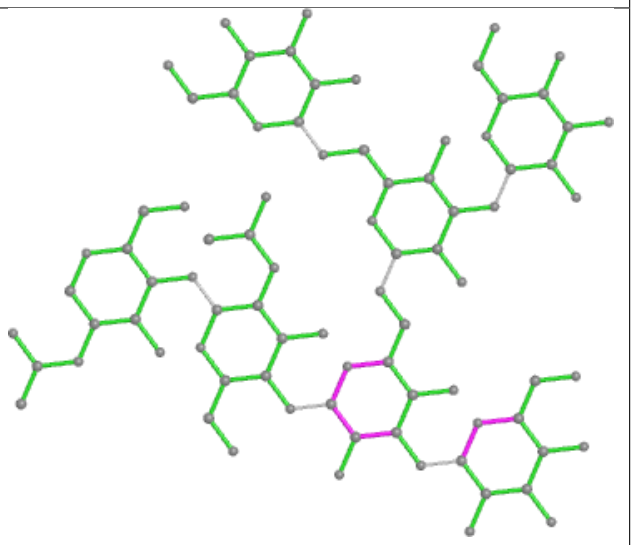


Rings

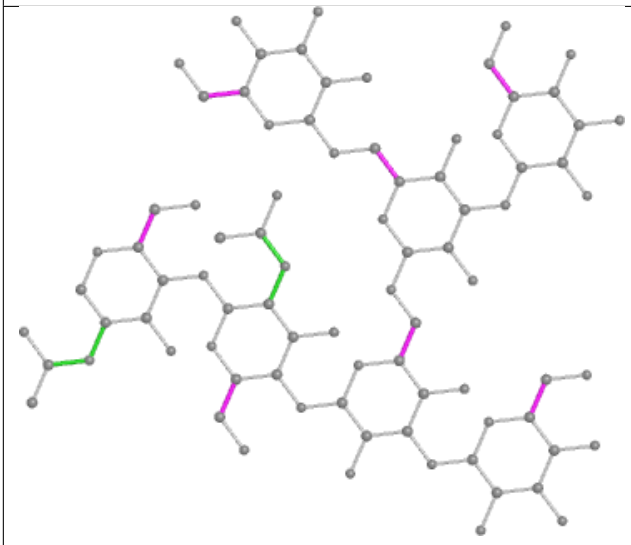
Oligosaccharide Chain Y



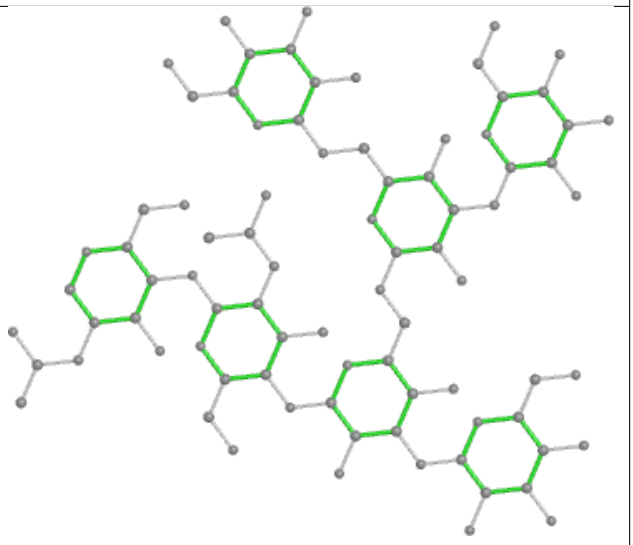
Bond lengths



Bond angles

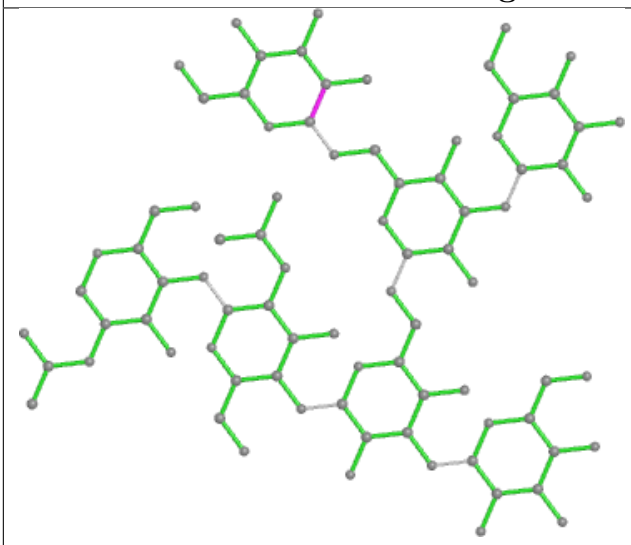


Torsions

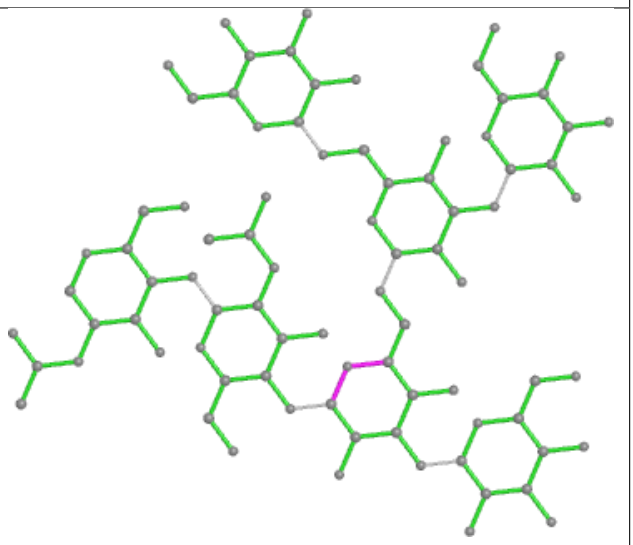


Rings

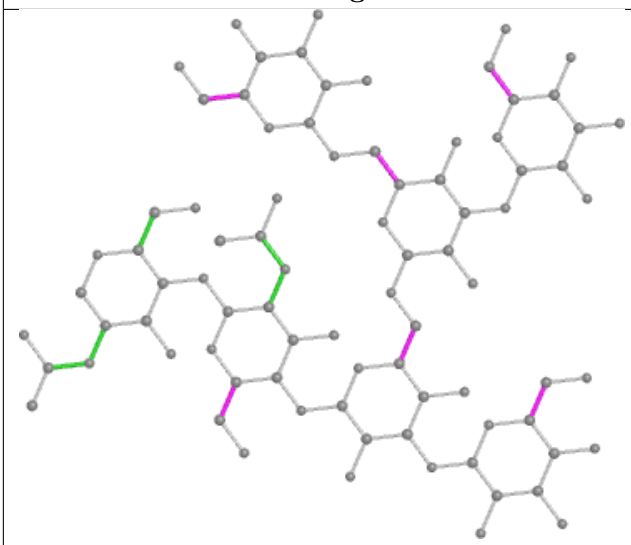
Oligosaccharide Chain 7



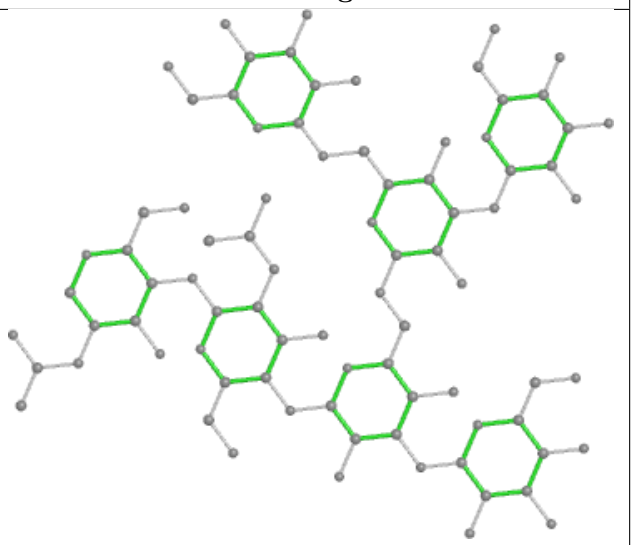
Bond lengths



Bond angles

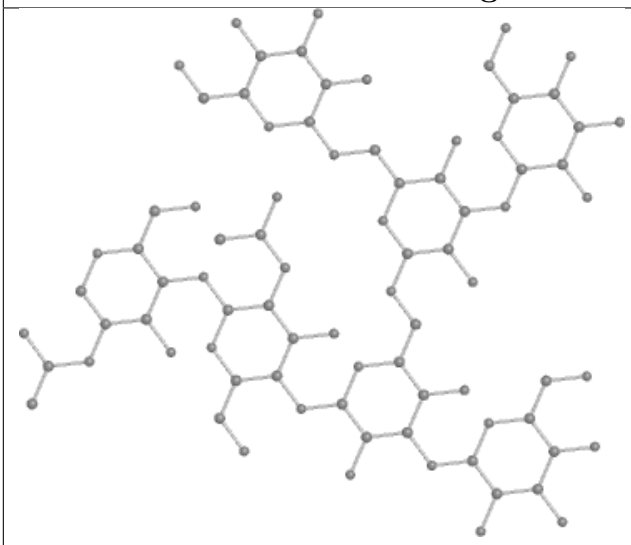


Torsions

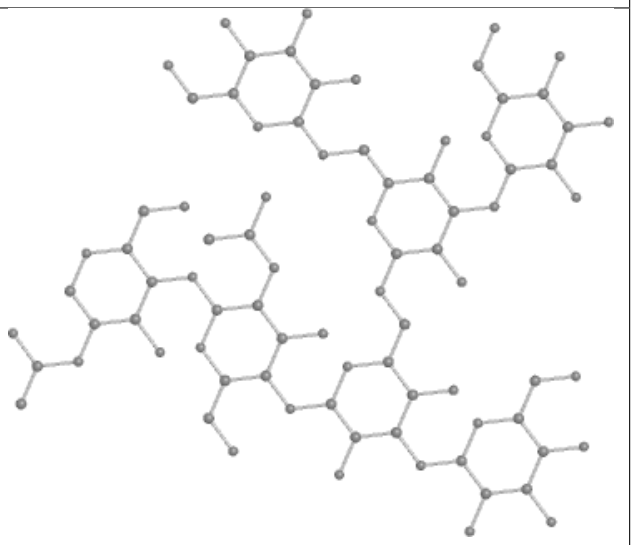


Rings

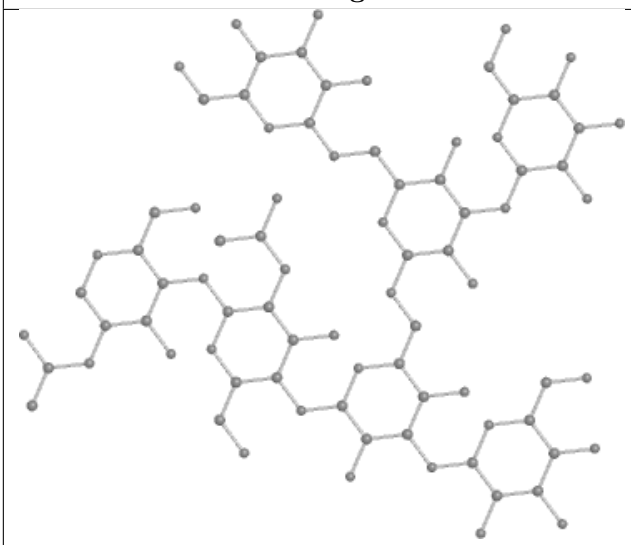
Oligosaccharide Chain HA



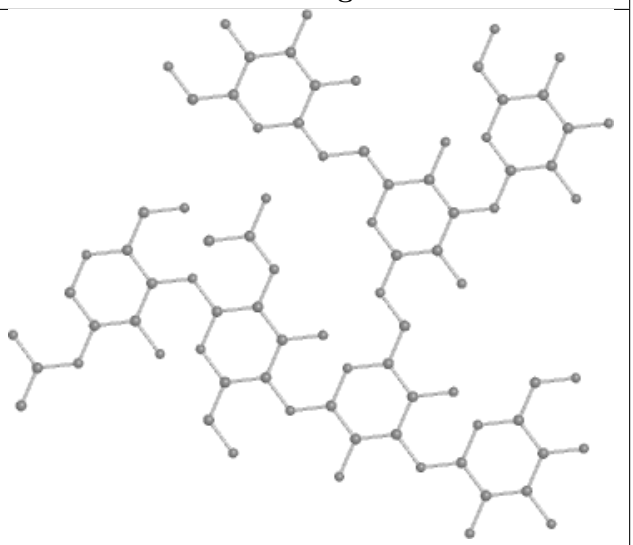
Bond lengths



Bond angles

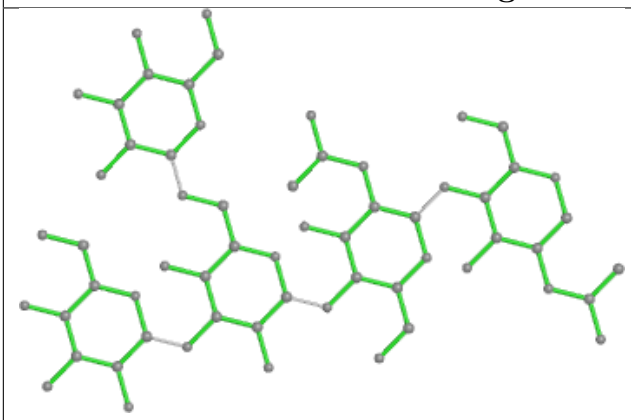


Torsions

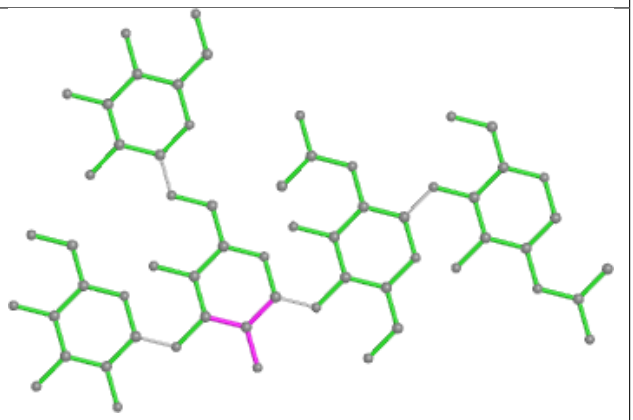


Rings

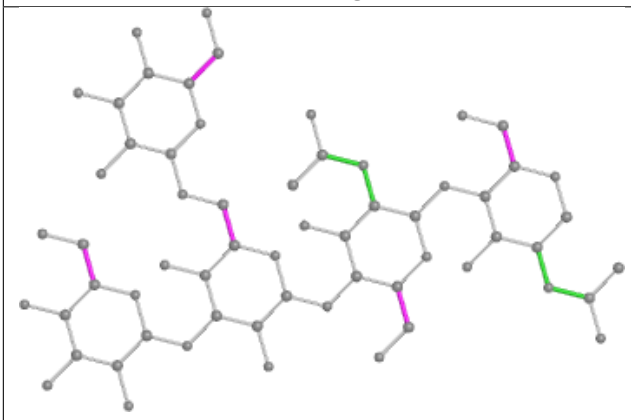
Oligosaccharide Chain v



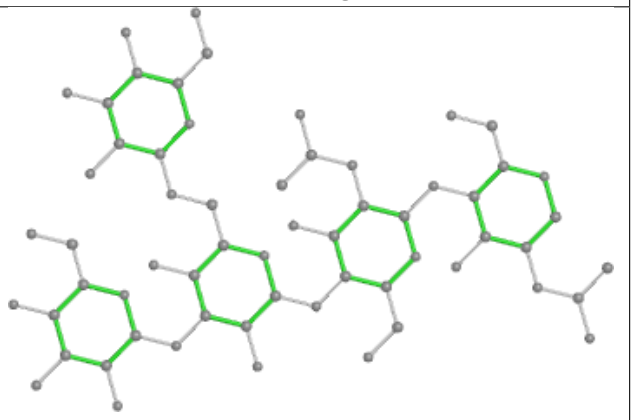
Bond lengths



Bond angles

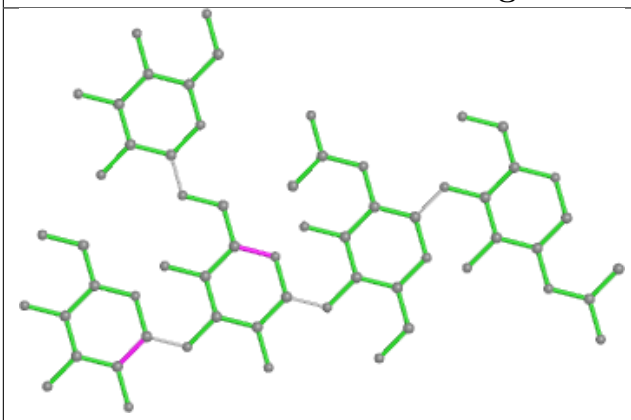


Torsions

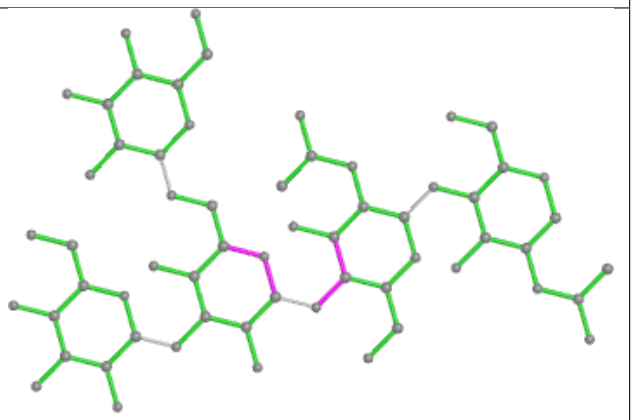


Rings

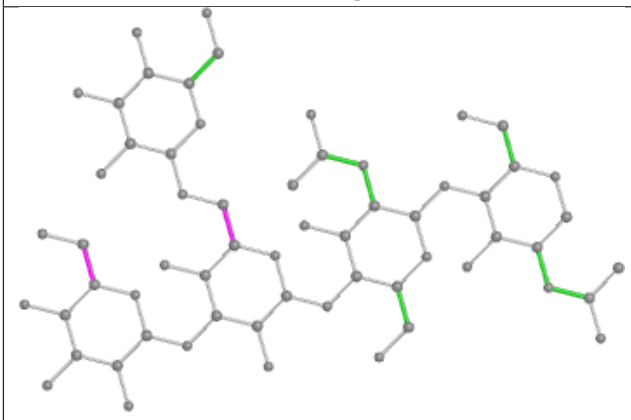
Oligosaccharide Chain 9



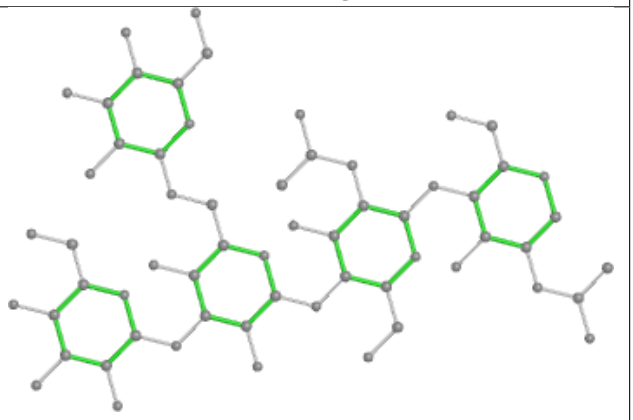
Bond lengths



Bond angles

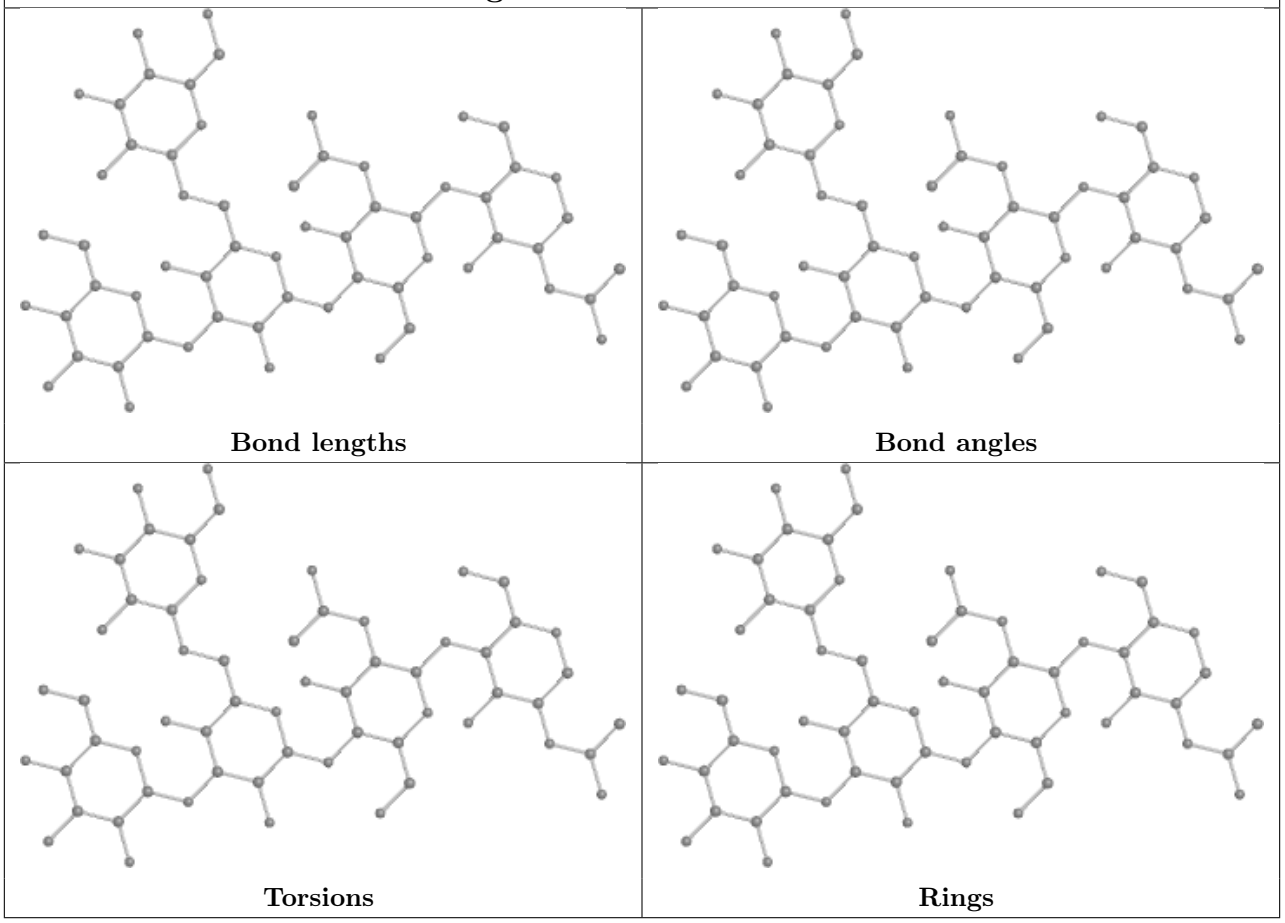


Torsions



Rings

Oligosaccharide Chain JA



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	E	1105	5	14,14,15	0.21	0	17,19,21	0.42	0
20	NAG	E	1102	5	14,14,15	0.88	1 (7%)	17,19,21	0.87	1 (5%)
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	0.27	0	17,19,21	0.42	0
20	NAG	G	801	7	14,14,15	0.33	0	17,19,21	0.50	0
20	NAG	t	801	7	14,14,15	0.34	0	17,19,21	0.47	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
20	NAG	e	1103	5	14,14,15	0.29	0	17,19,21	0.43	0
20	NAG	G	802	7	14,14,15	0.25	0	17,19,21	0.44	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	E	1104	5	14,14,15	0.24	0	17,19,21	0.46	0
20	NAG	e	1104	5	14,14,15	0.27	0	17,19,21	0.45	0
20	NAG	E	1103	5	14,14,15	0.34	0	17,19,21	0.51	0
20	NAG	r	1103	5	14,14,15	0.26	0	17,19,21	0.42	0
20	NAG	E	1101	5	14,14,15	0.18	0	17,19,21	0.49	0
20	NAG	r	1105	5	14,14,15	0.23	0	17,19,21	0.47	0
20	NAG	e	1106	5	14,14,15	0.23	0	17,19,21	0.38	0
20	NAG	f	1101	6	14,14,15	0.57	0	17,19,21	0.52	0
20	NAG	g	802	7	14,14,15	0.49	0	17,19,21	0.49	0
20	NAG	g	801	7	14,14,15	0.35	0	17,19,21	0.47	0
21	CLR	M	201	-	31,31,31	0.42	0	48,48,48	0.87	2 (4%)
20	NAG	r	1101	5	14,14,15	0.22	0	17,19,21	0.45	0
20	NAG	r	1106	5	14,14,15	0.29	0	17,19,21	0.42	0
20	NAG	t	802	7	14,14,15	0.46	0	17,19,21	0.49	0
20	NAG	r	1102	5	14,14,15	0.29	0	17,19,21	0.44	0
20	NAG	s	1101	6	14,14,15	0.58	0	17,19,21	0.53	0
20	NAG	e	1102	5	14,14,15	1.49	1 (7%)	17,19,21	2.52	1 (5%)
21	CLR	m	201	-	31,31,31	0.38	0	48,48,48	0.56	0
20	NAG	e	1101	5	14,14,15	0.27	0	17,19,21	0.49	0
20	NAG	r	1104	5	14,14,15	0.29	0	17,19,21	0.45	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
20	NAG	E	1105	5	-	0/6/23/26	0/1/1/1
20	NAG	E	1102	5	-	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	G	801	7	-	0/6/23/26	0/1/1/1
20	NAG	t	801	7	-	2/6/23/26	0/1/1/1
20	NAG	e	1103	5	-	1/6/23/26	0/1/1/1
20	NAG	G	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

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

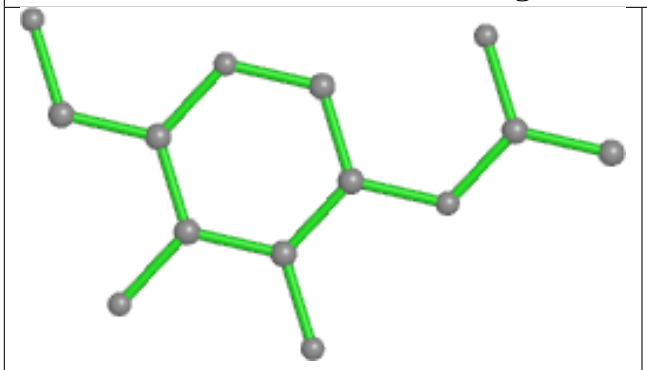
There are no ring outliers.

2 monomers are involved in 2 short contacts:

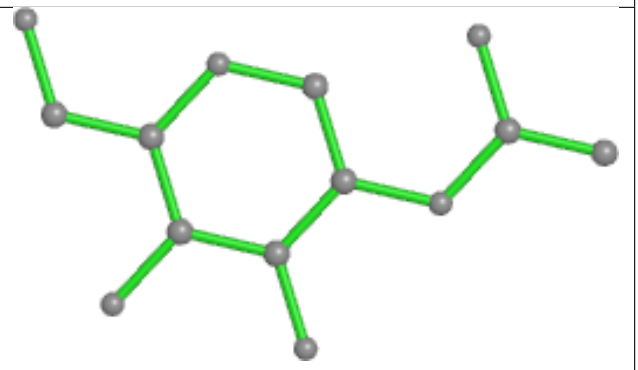
Mol	Chain	Res	Type	Clashes	Symm-Clashes
21	z	201	CLR	1	0
21	m	201	CLR	1	0

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 then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

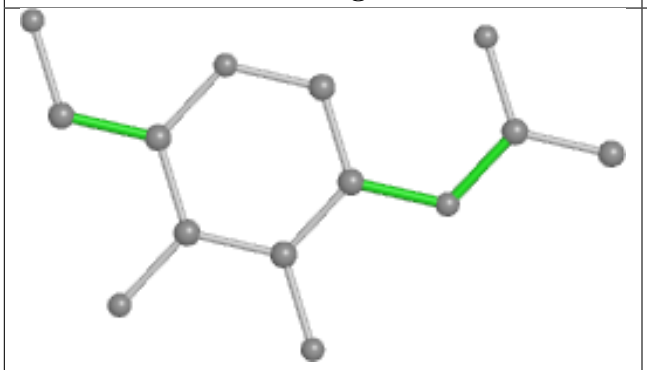
Ligand NAG E 1105



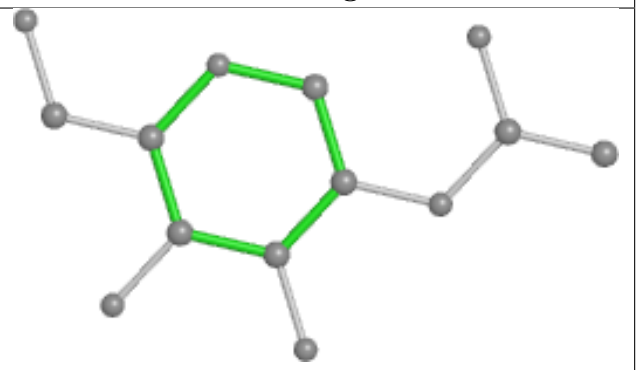
Bond lengths



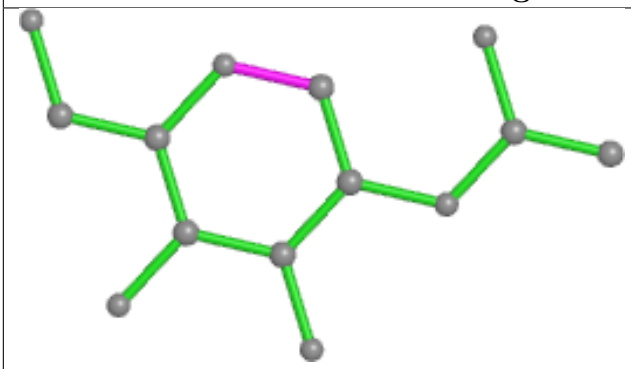
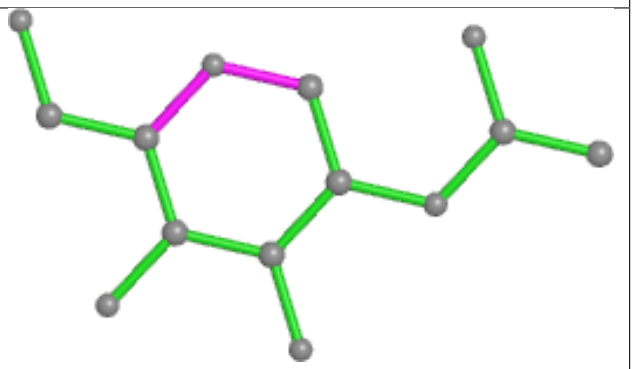
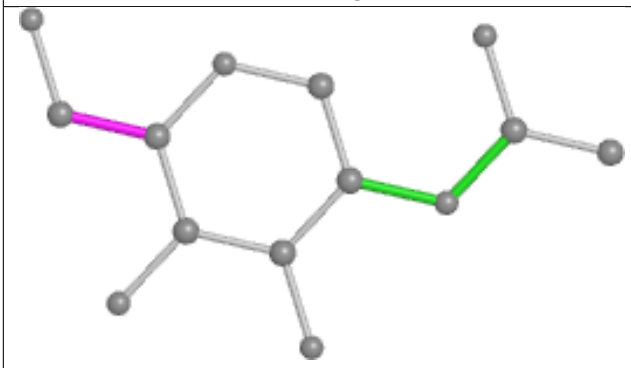
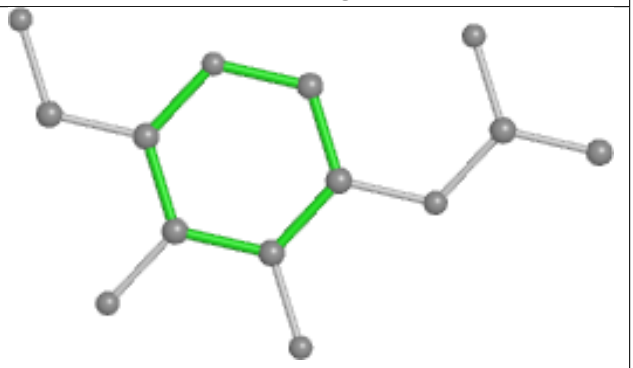
Bond angles

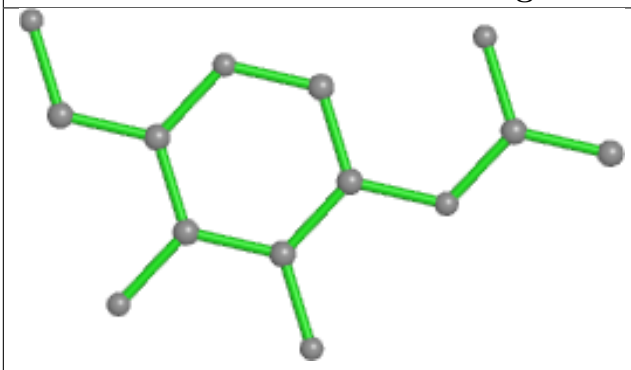
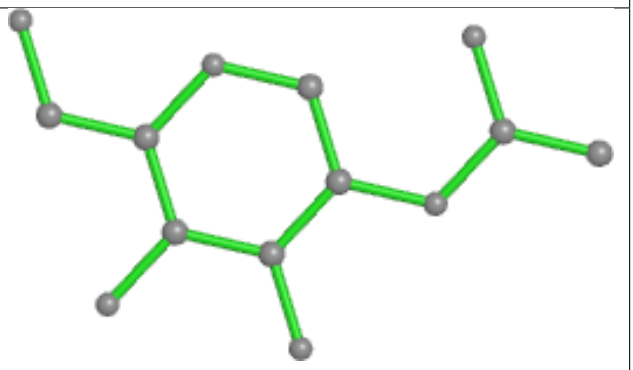
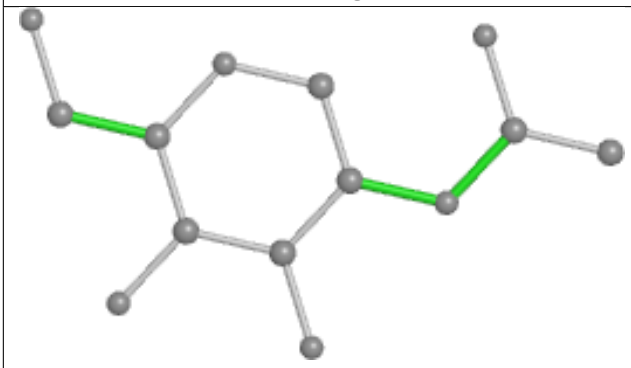
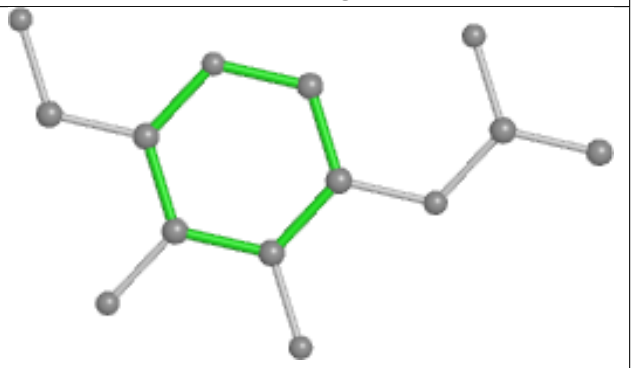


Torsions

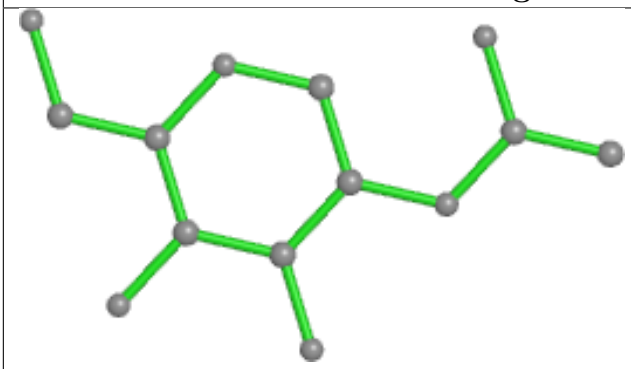


Rings

Ligand NAG E 1102	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand NAG e 1105	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand NAG F 1101



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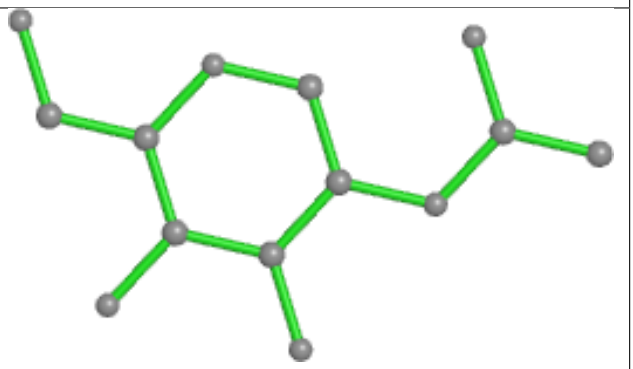

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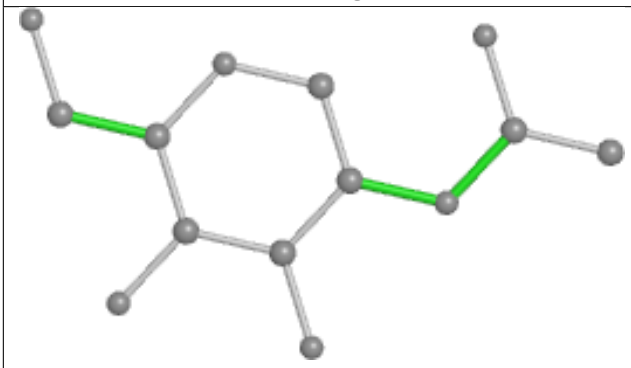

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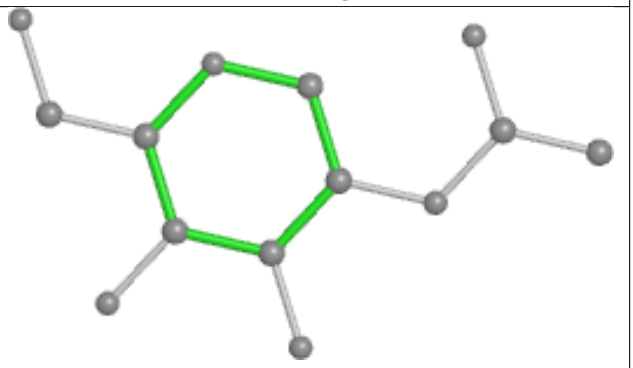
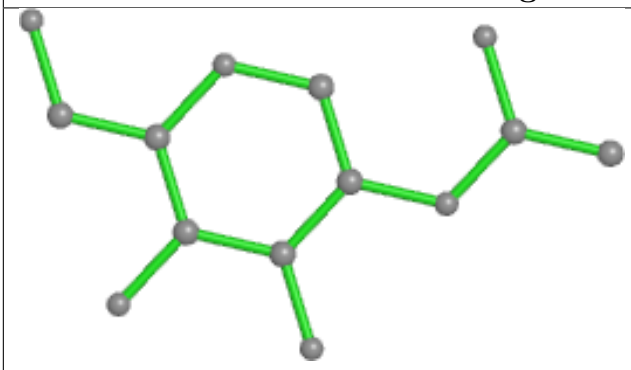


Rings

Ligand NAG G 801



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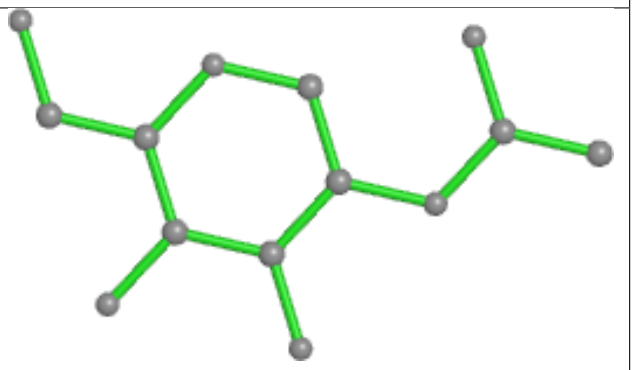

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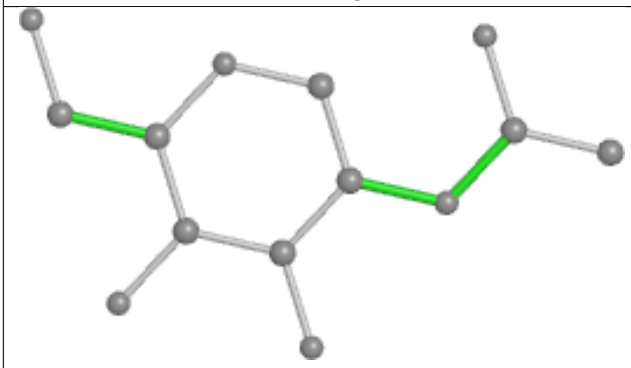

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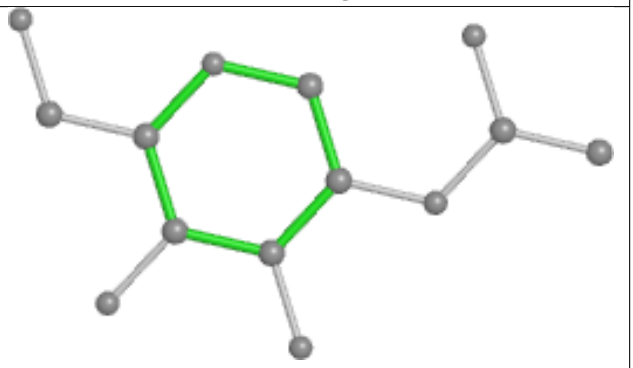
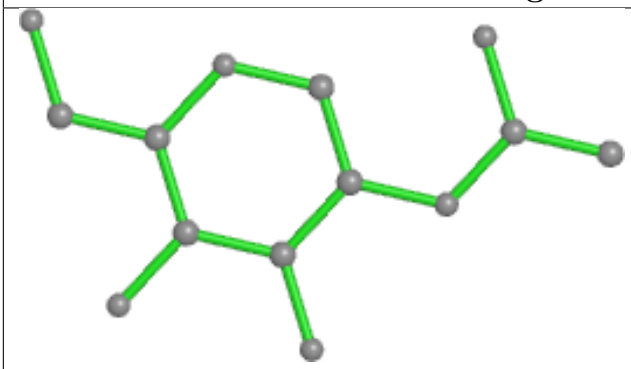


Rings

Ligand NAG t 801



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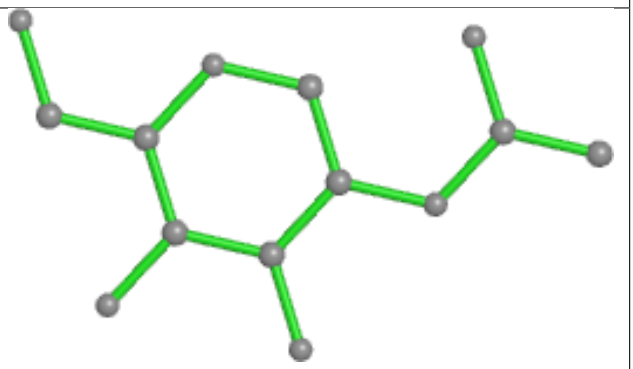

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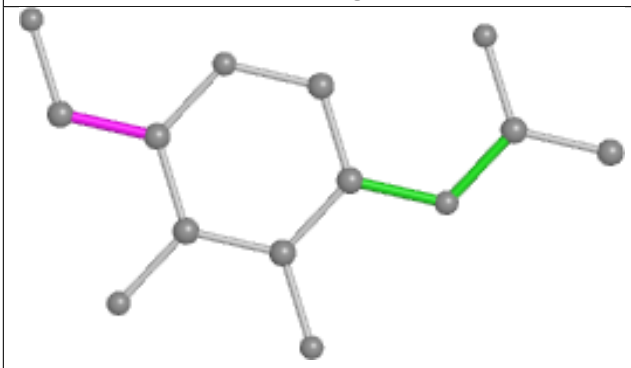

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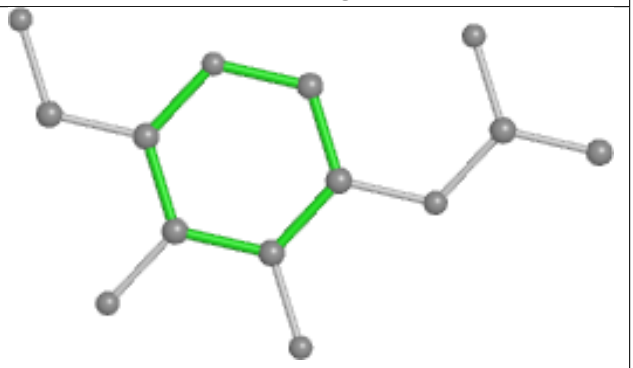
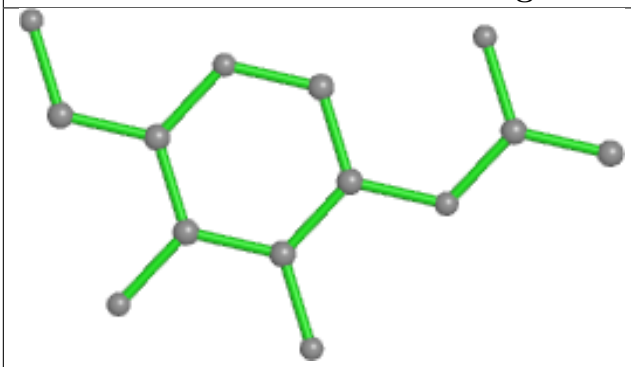


Rings

Ligand NAG e 1103



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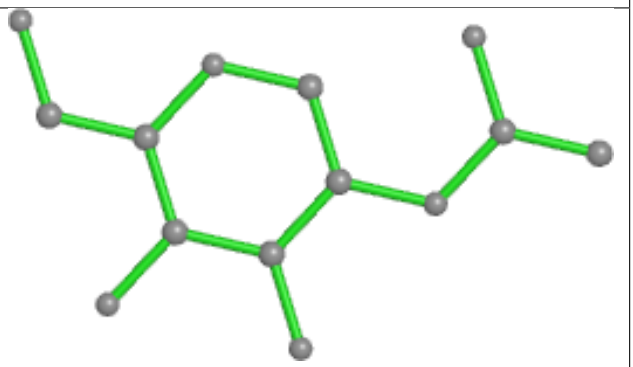

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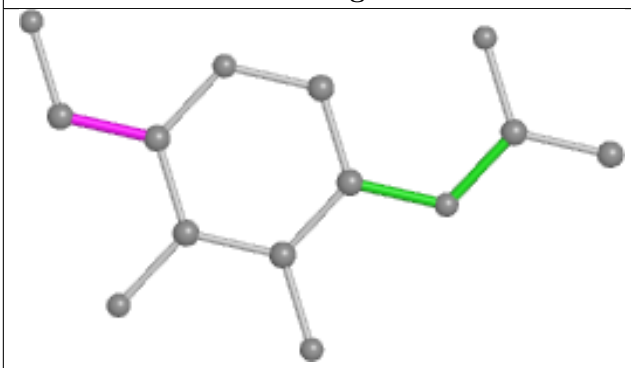

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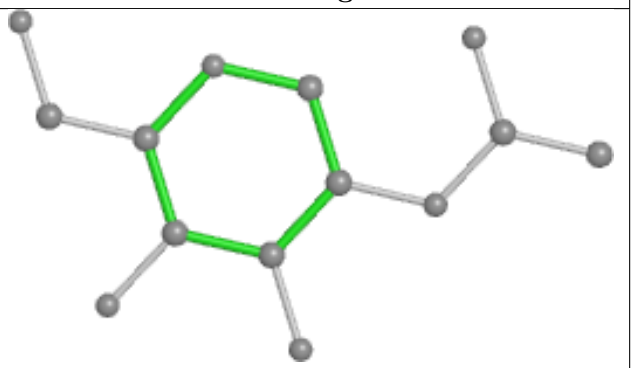
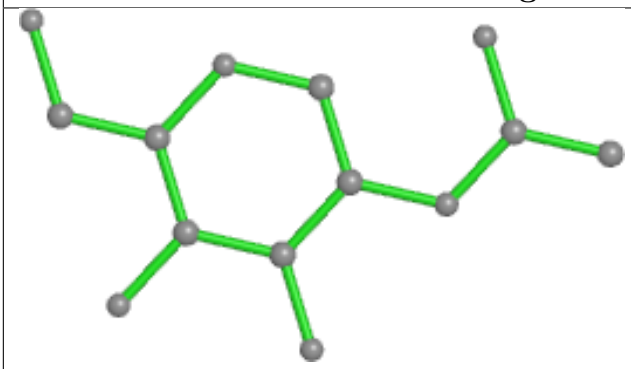


Rings

Ligand NAG G 802



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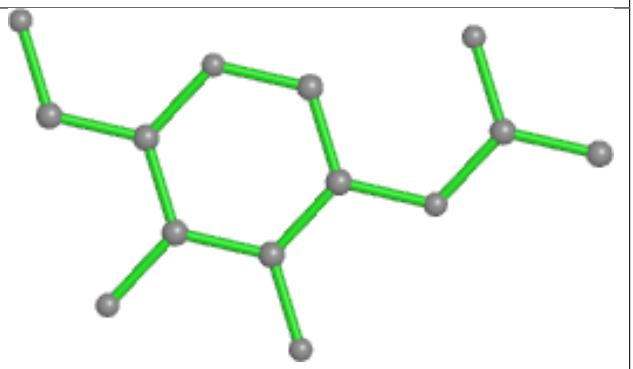

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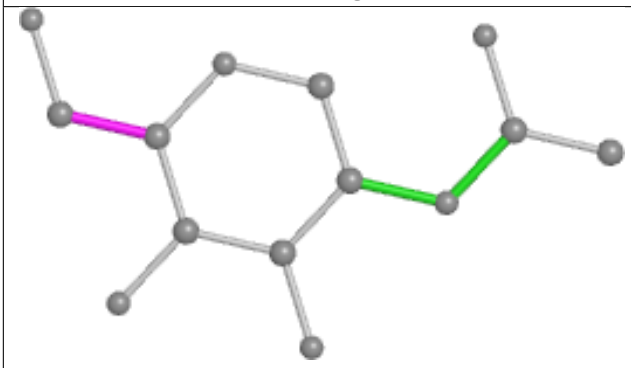

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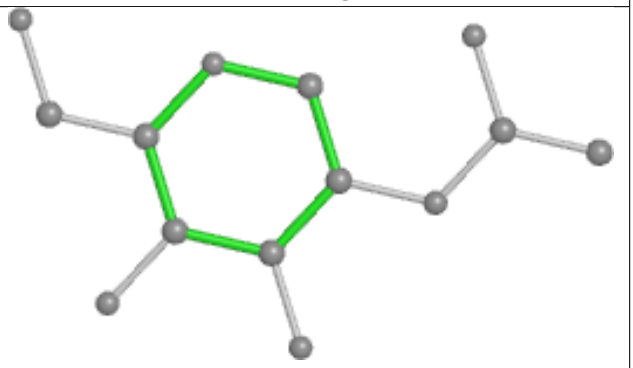
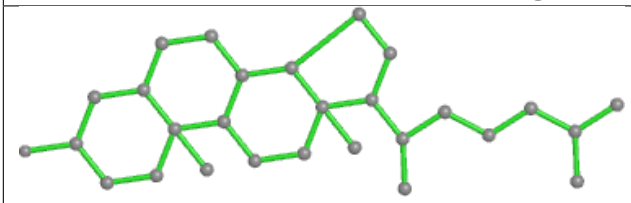


Rings

Ligand CLR z 201



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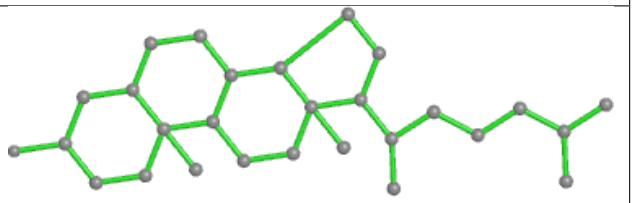

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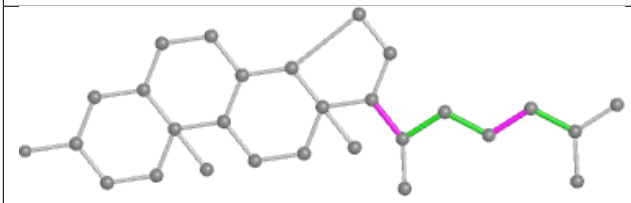

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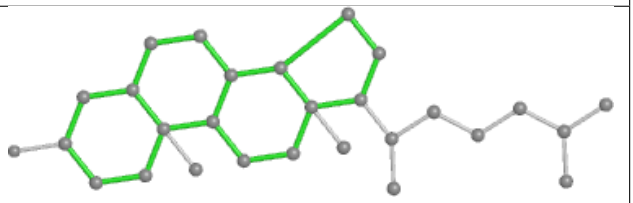
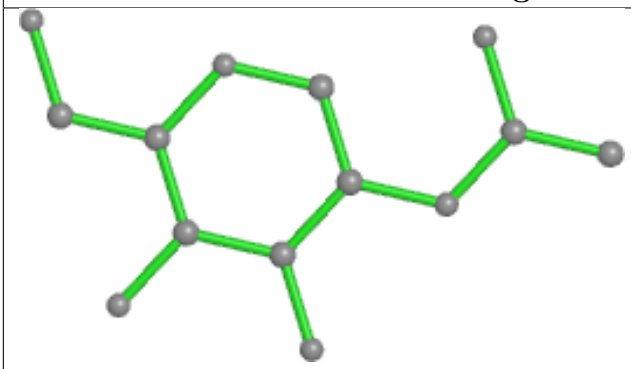


Rings

Ligand NAG E 1106



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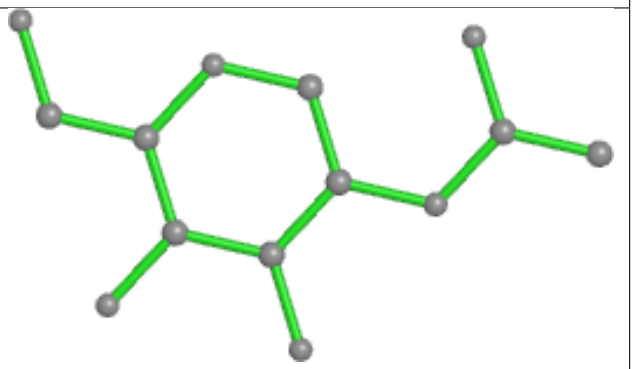
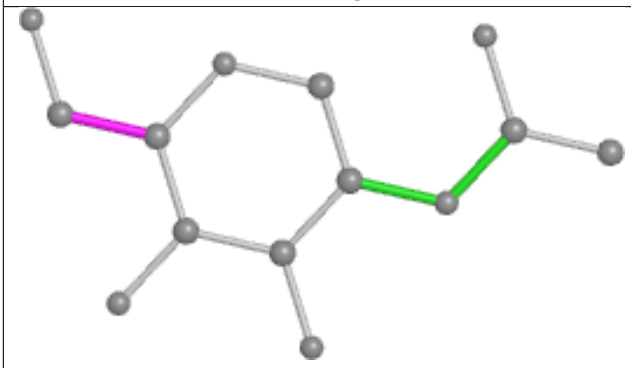


Bond angles



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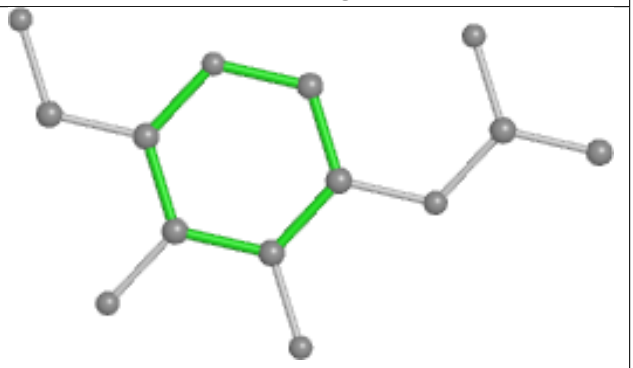
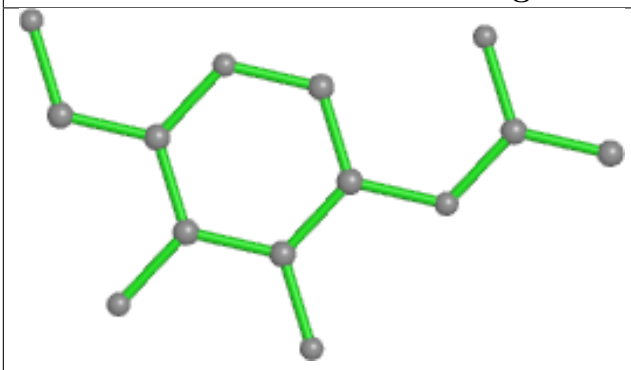


Rings

Ligand NAG E 1104



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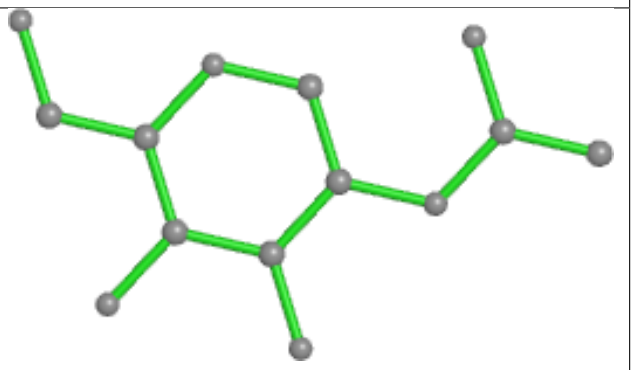

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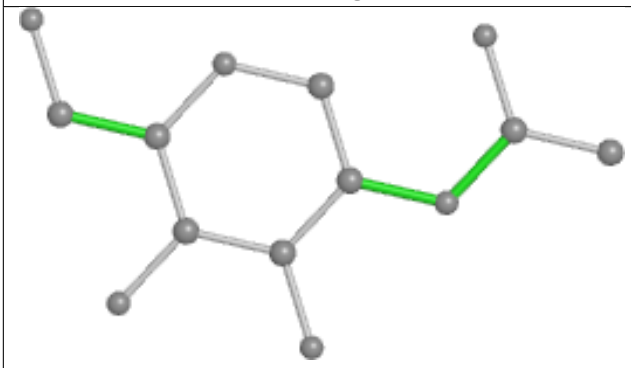

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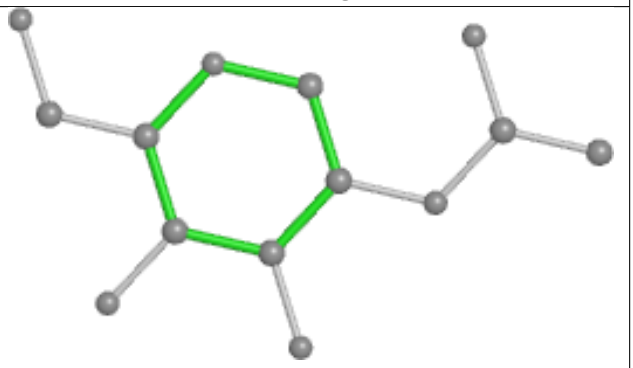
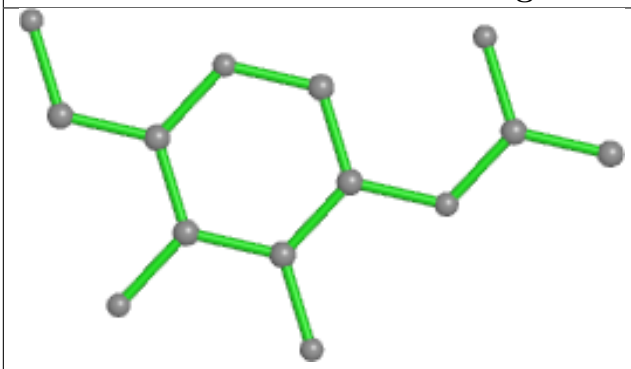


Rings

Ligand NAG e 1104



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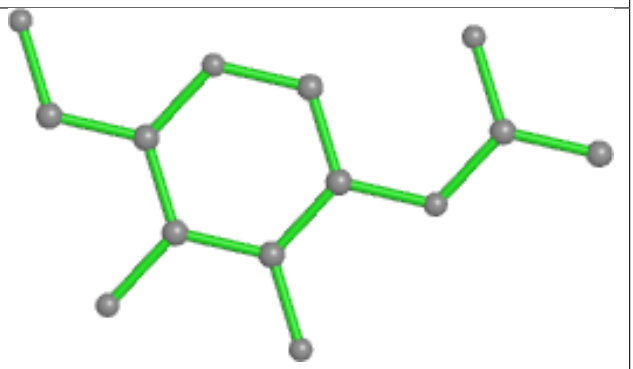

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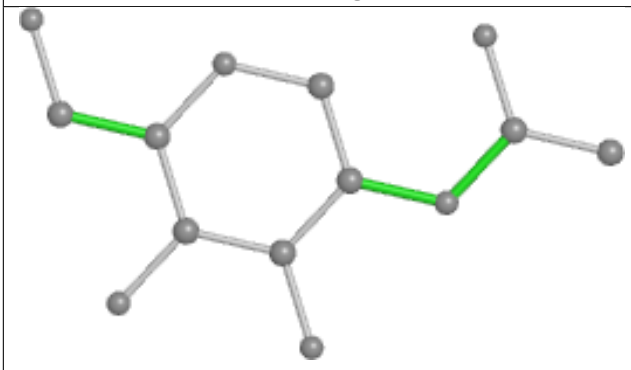

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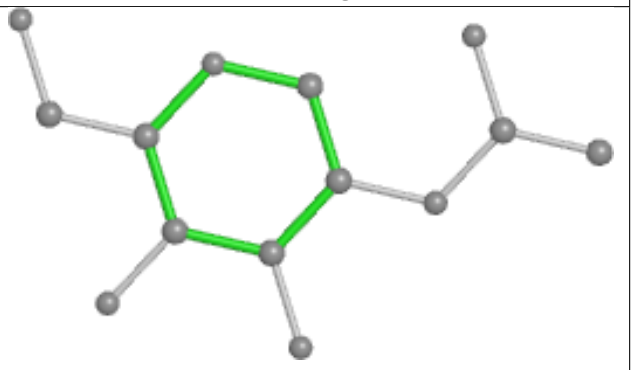
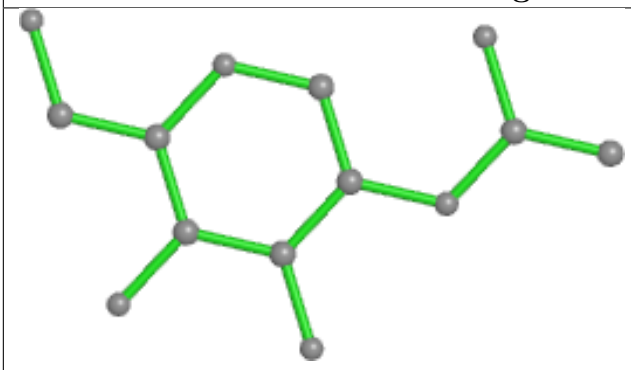
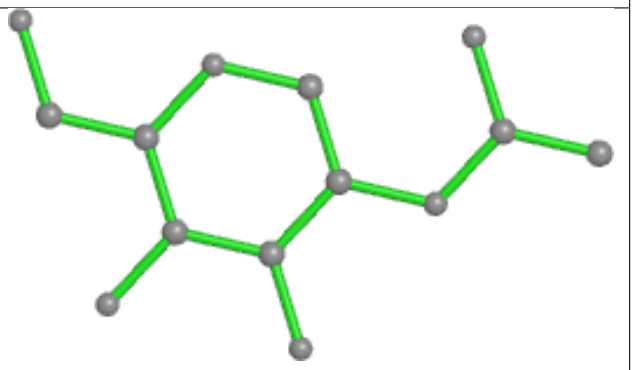


Rings

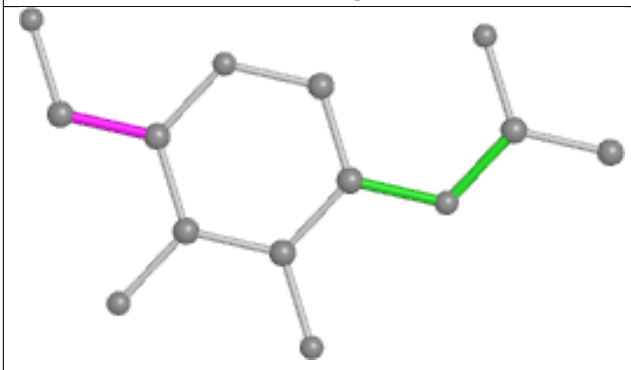
Ligand NAG E 1103



Bond lengths



Bond angles



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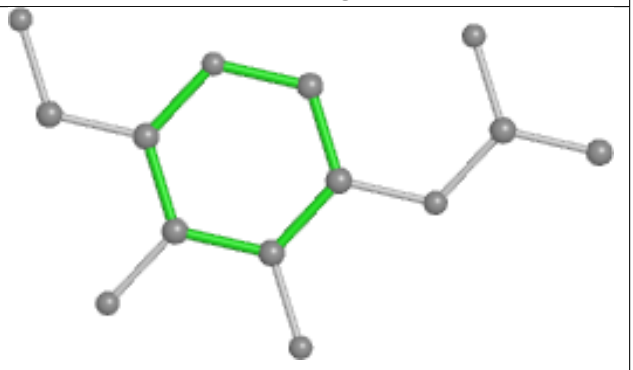
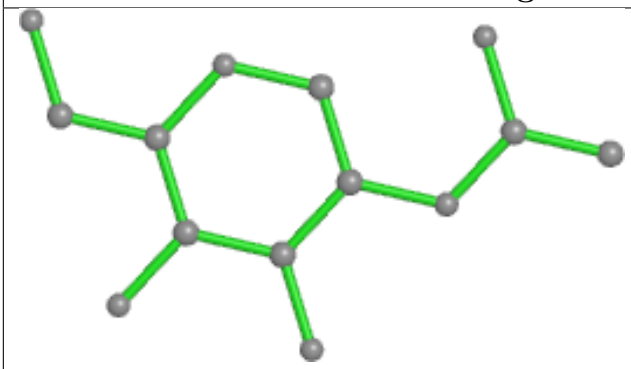


Rings

Ligand NAG r 1103



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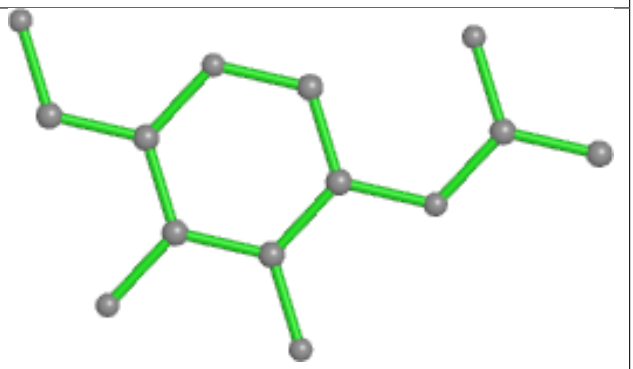

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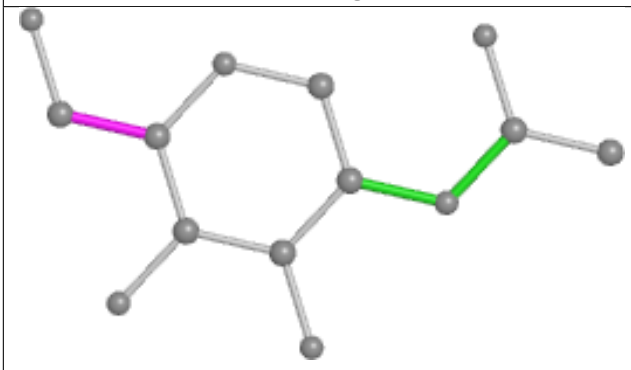

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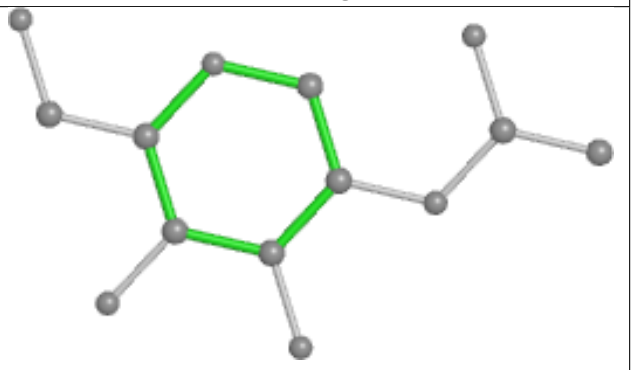
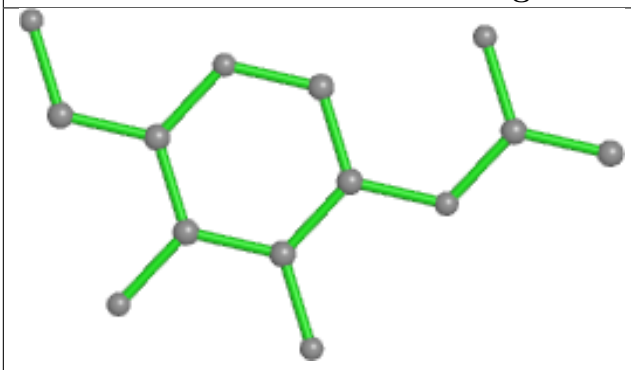


Rings

Ligand NAG E 1101



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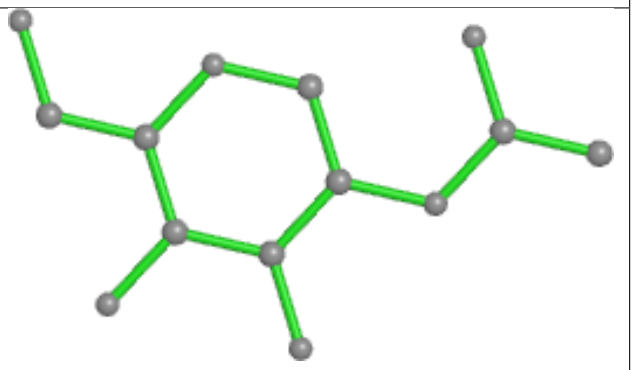

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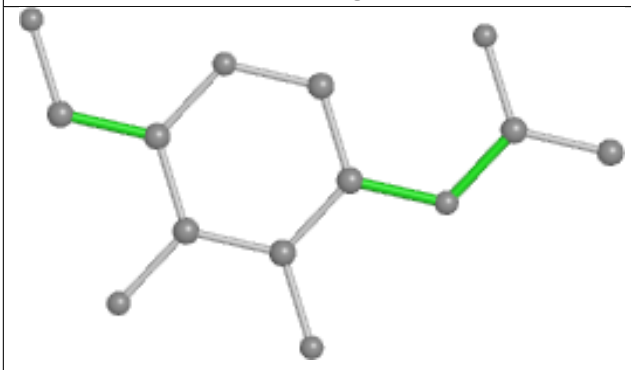

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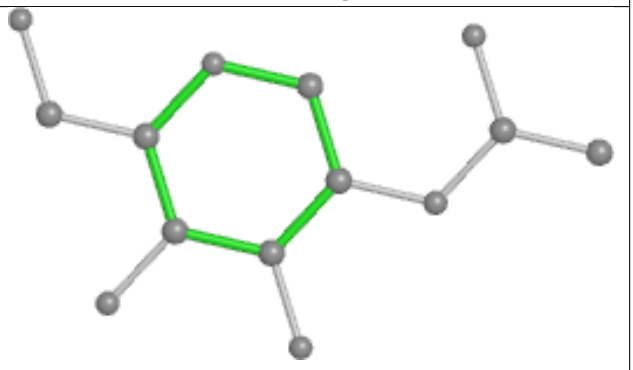
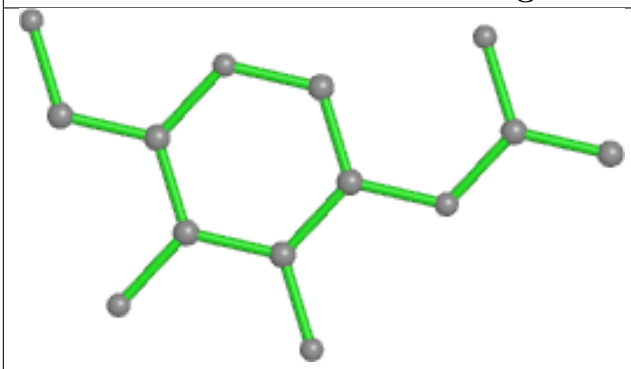
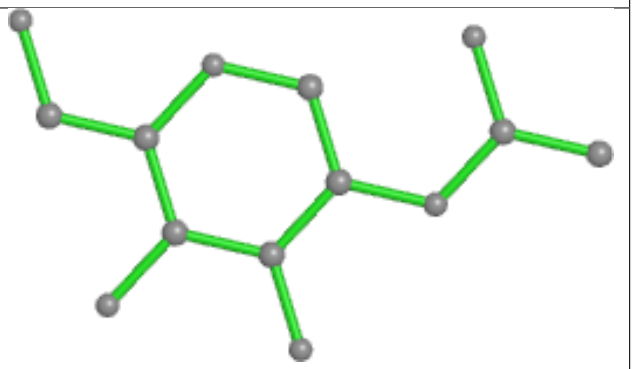


Rings

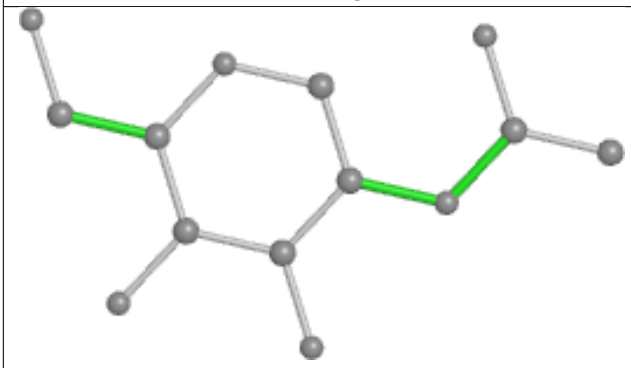
Ligand NAG r 1105



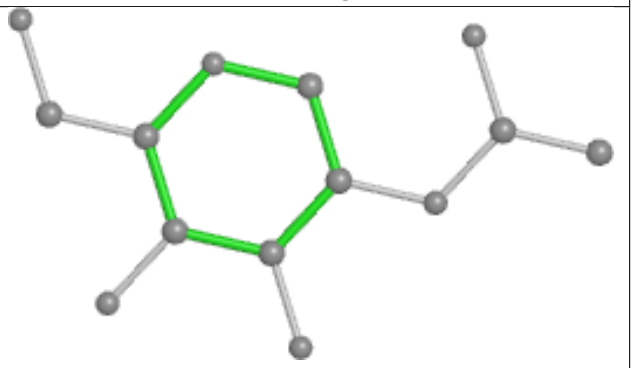
Bond lengths



Bond angles

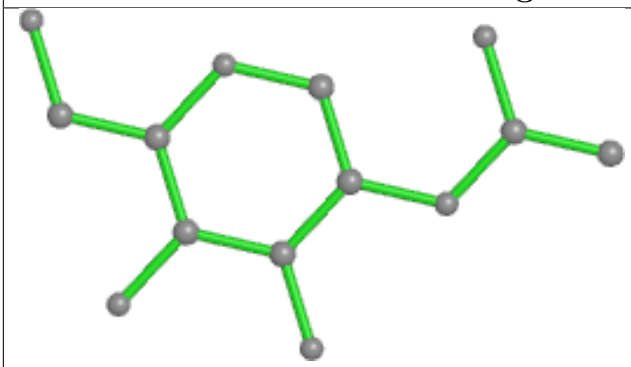


Torsions



Rings

Ligand NAG e 1106



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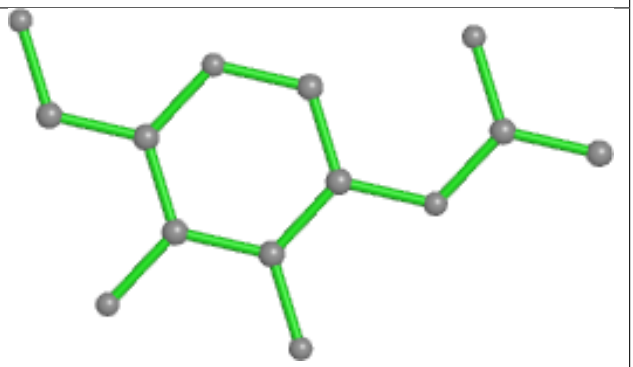
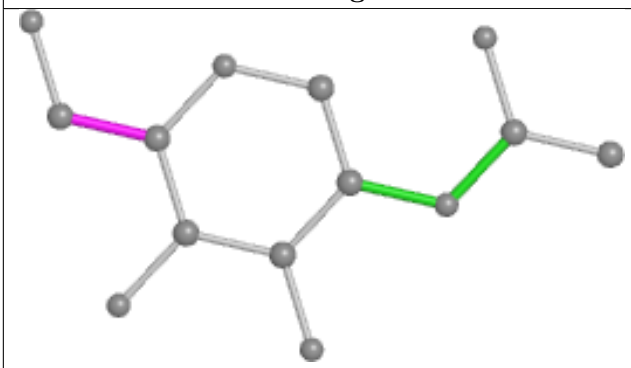


Bond angles



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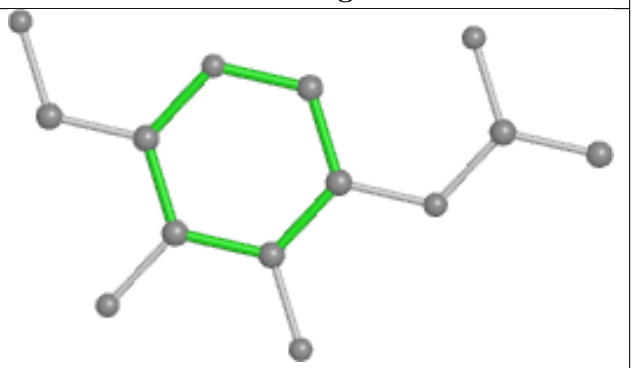
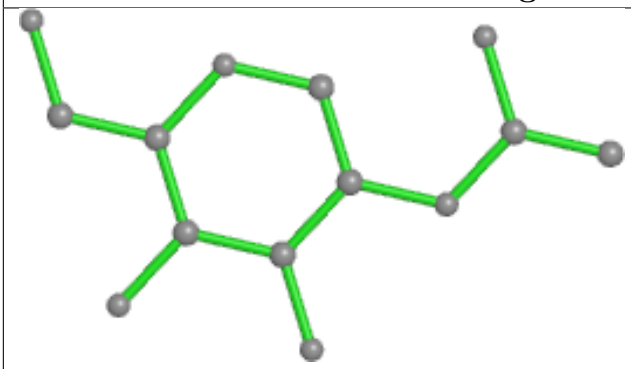
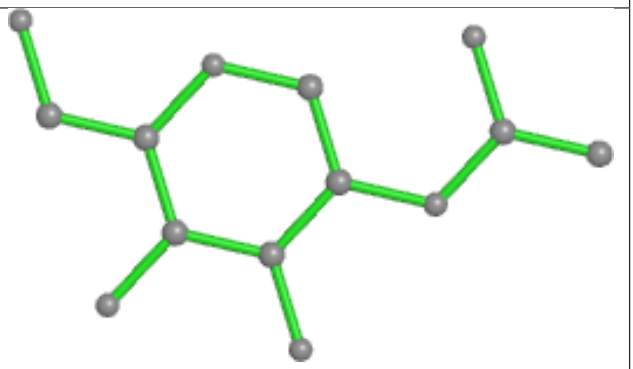


Rings

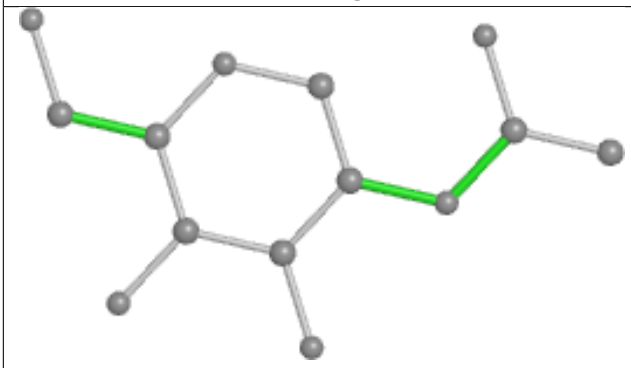
Ligand NAG f 1101



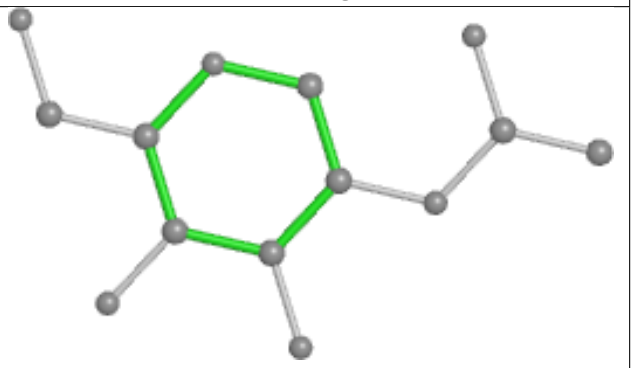
Bond lengths



Bond angles

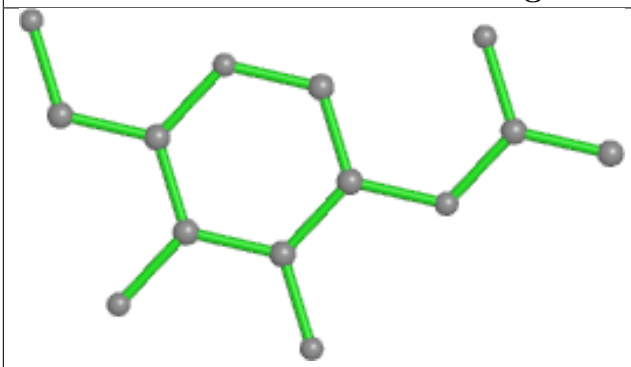


Torsions

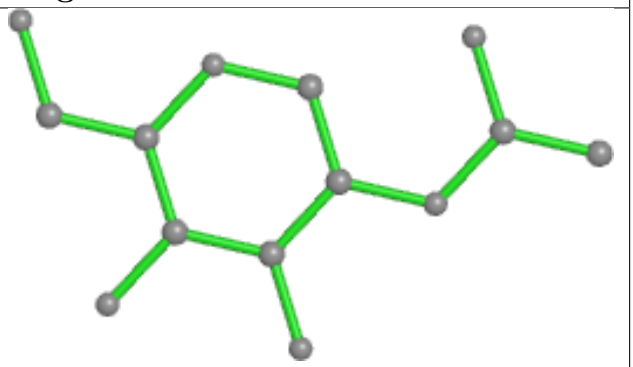


Rings

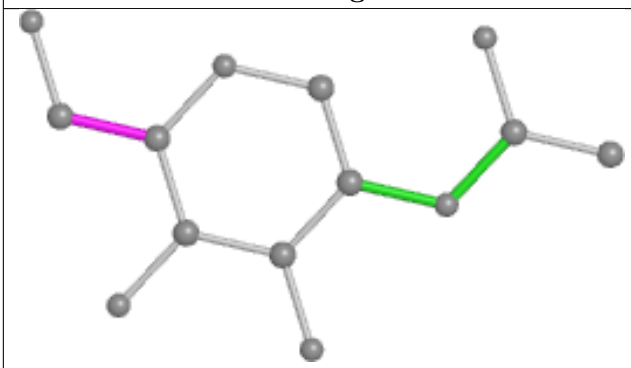
Ligand NAG g 802



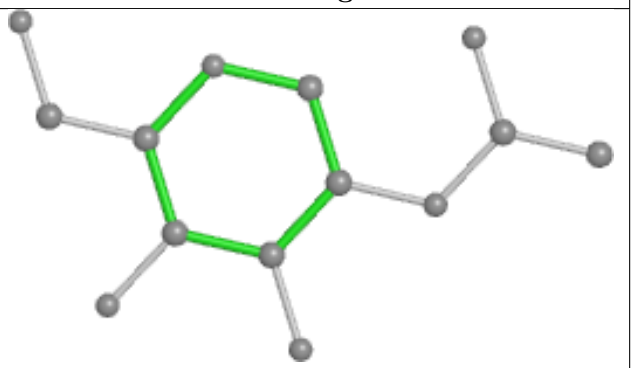
Bond lengths



Bond angles

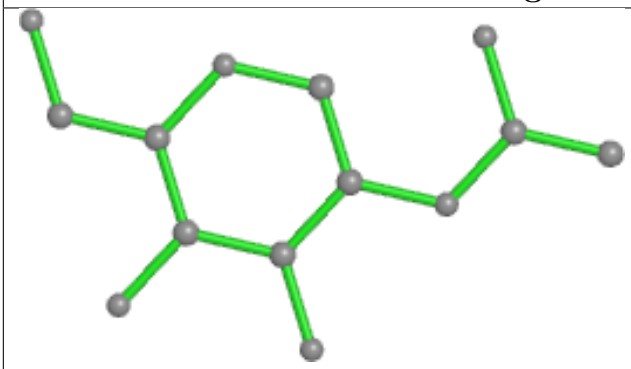


Torsions

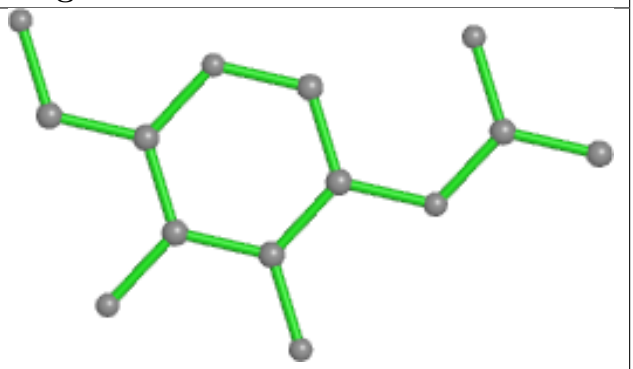


Rings

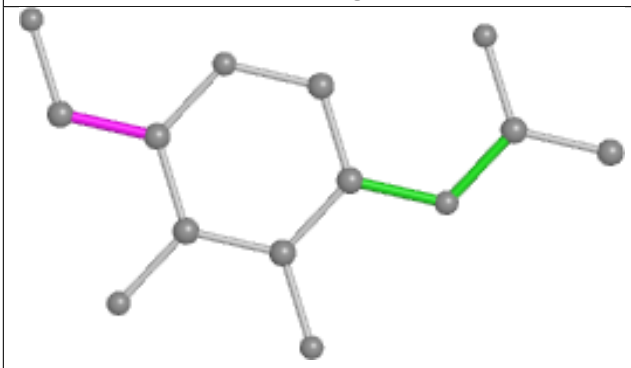
Ligand NAG g 801



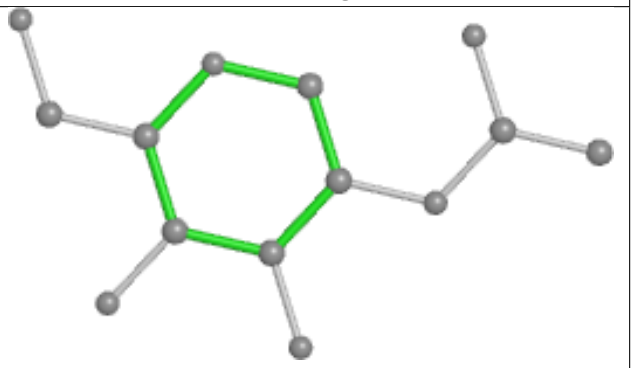
Bond lengths



Bond angles

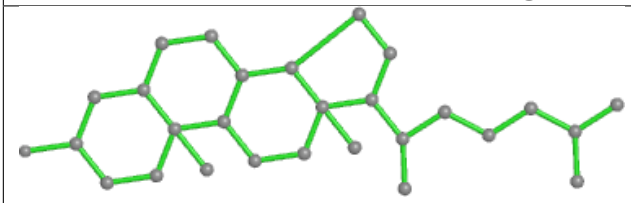


Torsions

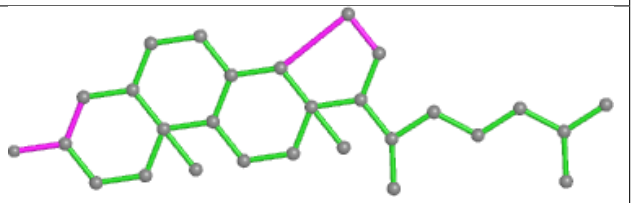


Rings

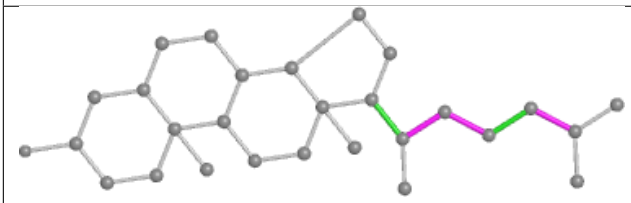
Ligand CLR M 201



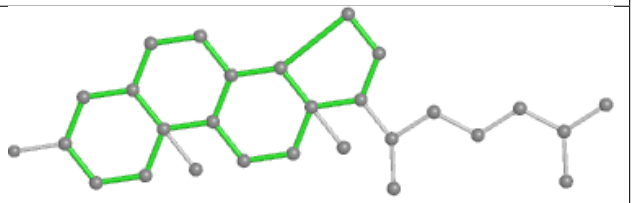
Bond lengths



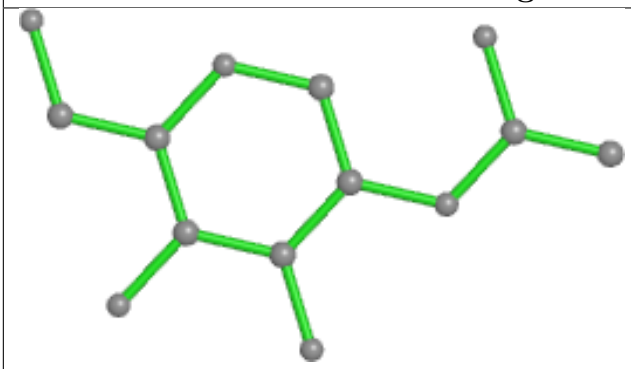
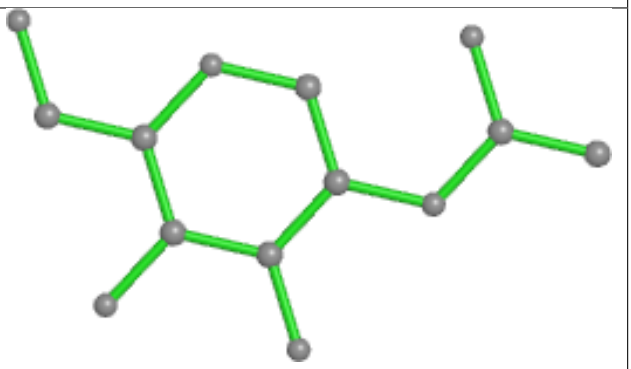
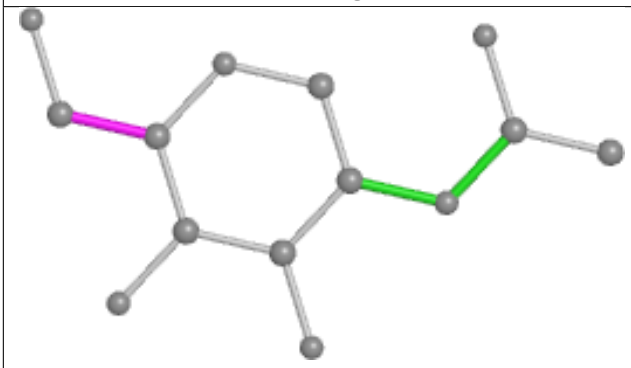
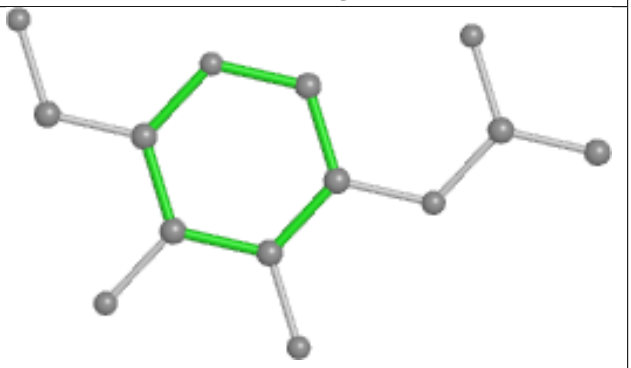
Bond angles

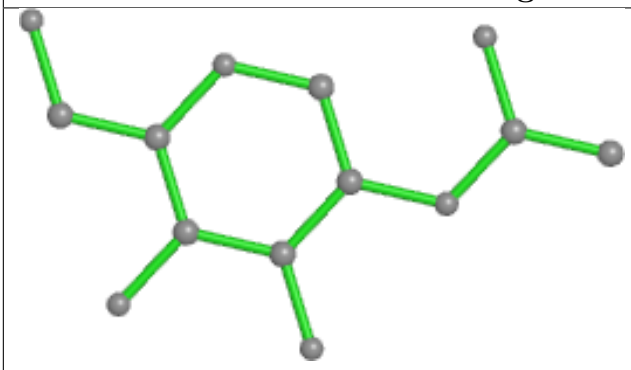
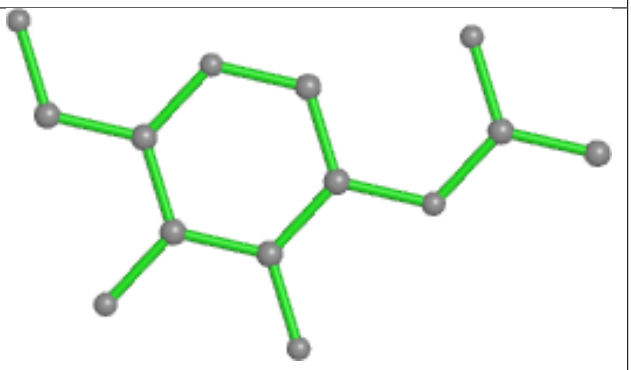
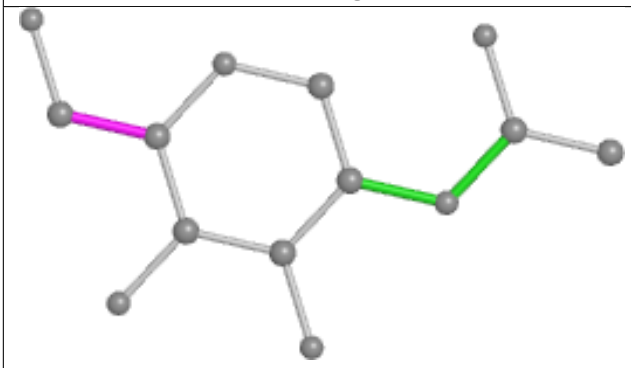
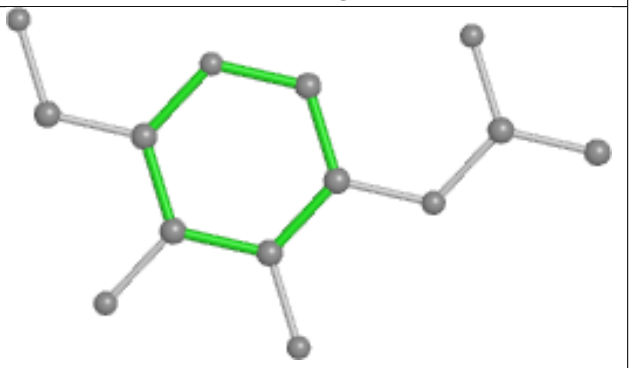


Torsions

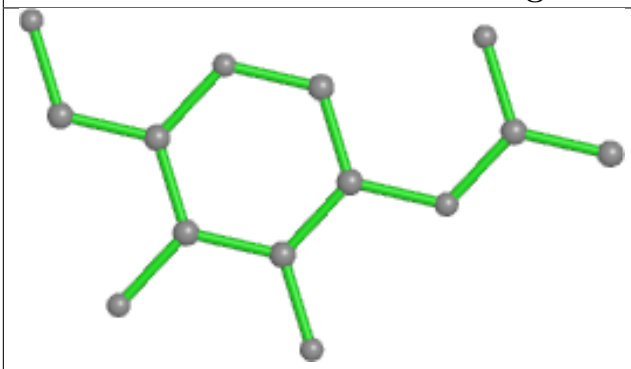


Rings

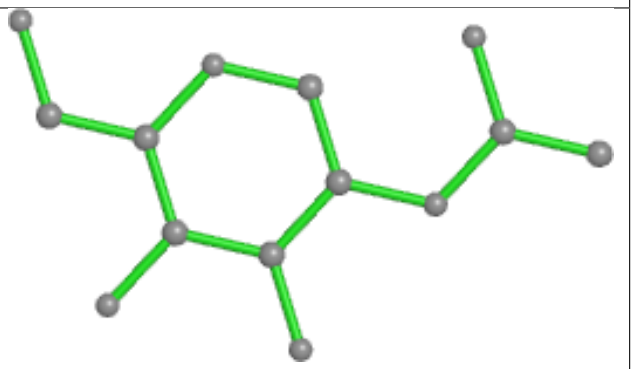
Ligand NAG r 1101	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand NAG r 1106	
 Bond lengths	 Bond angles
 Torsions	 Rings

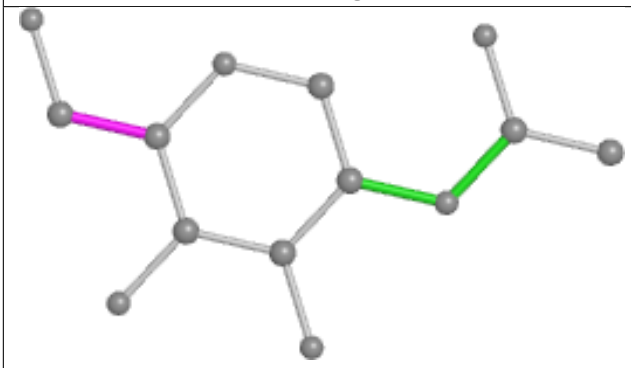
Ligand NAG t 802



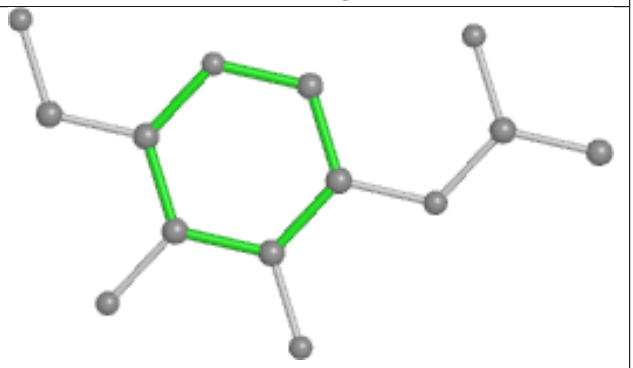
Bond lengths



Bond angles

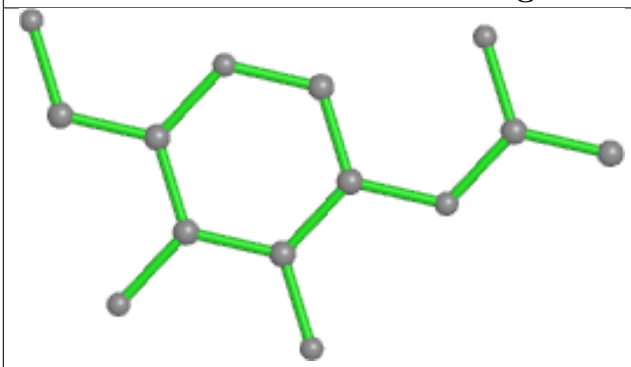


Torsions

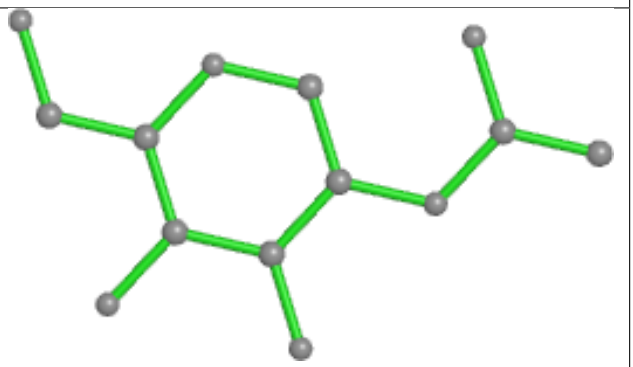


Rings

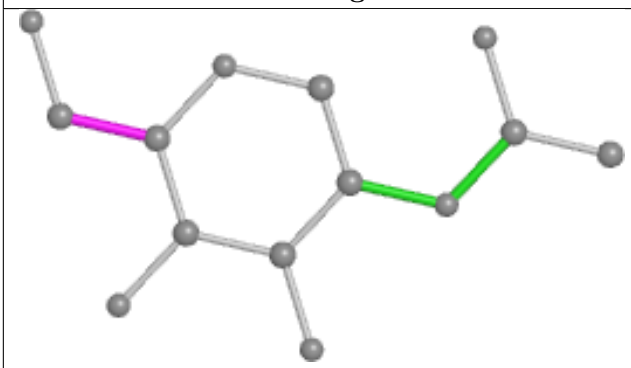
Ligand NAG r 1102



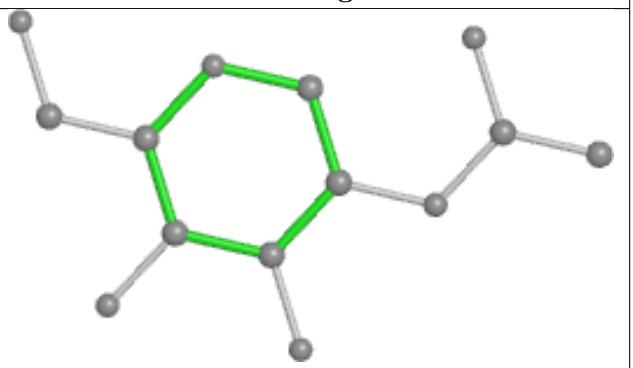
Bond lengths



Bond angles

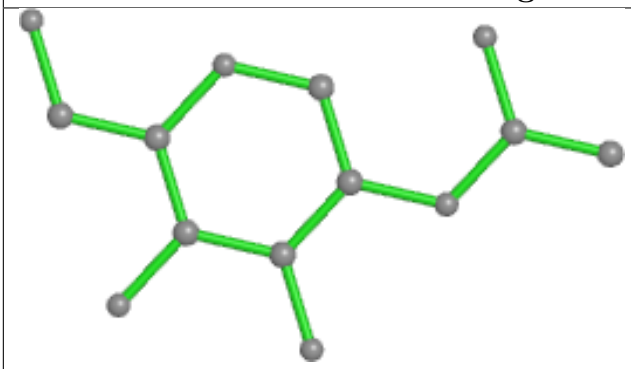


Torsions

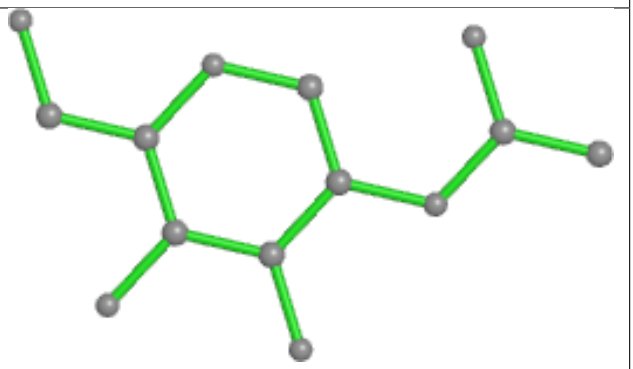


Rings

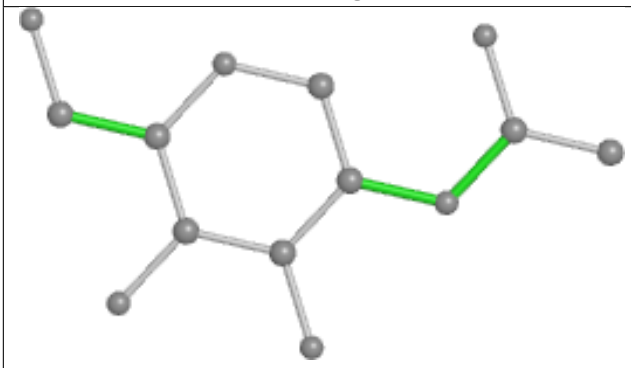
Ligand NAG s 1101



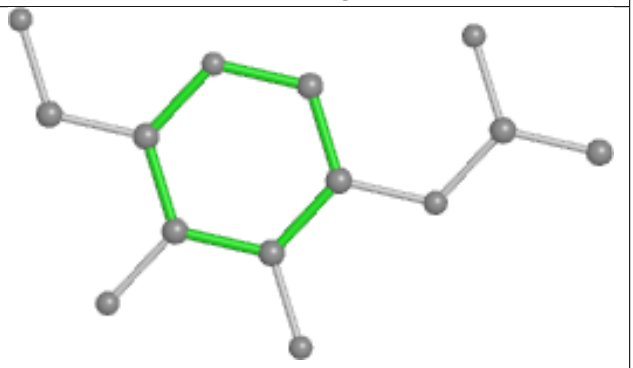
Bond lengths



Bond angles

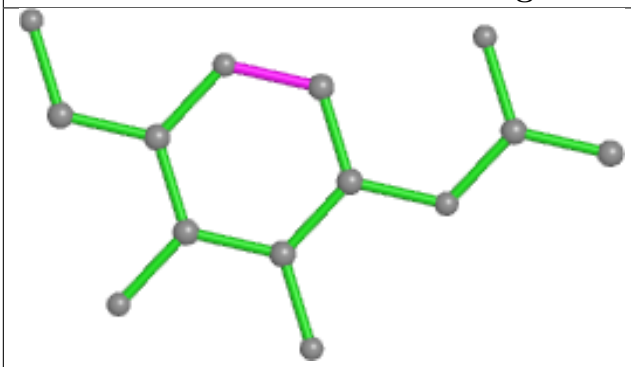


Torsions

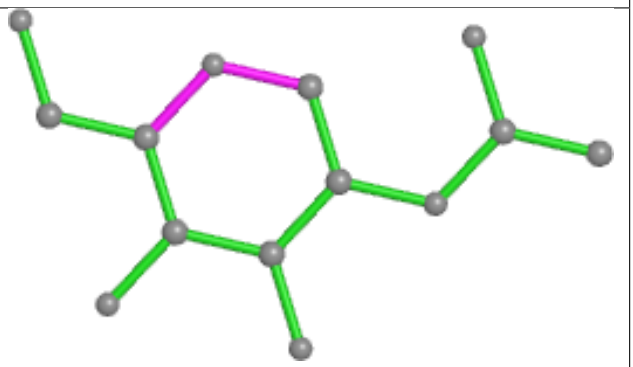


Rings

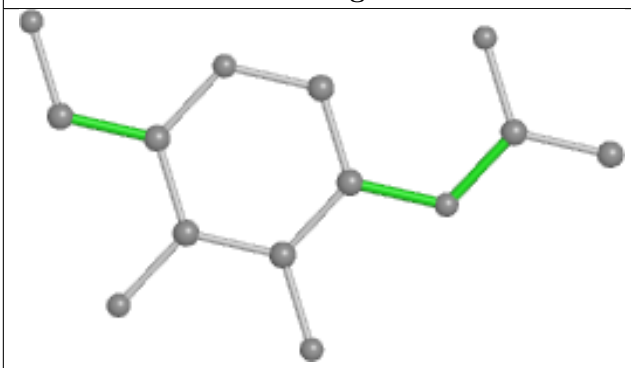
Ligand NAG e 1102



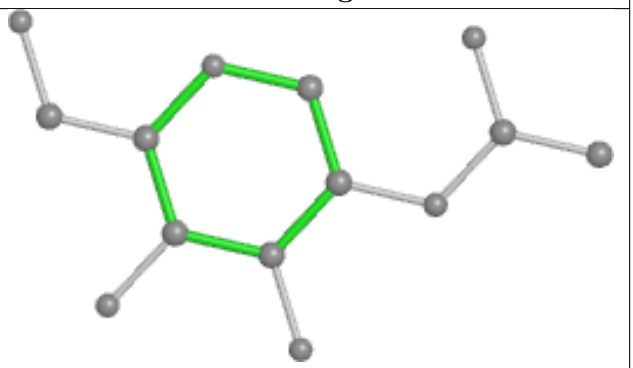
Bond lengths



Bond angles

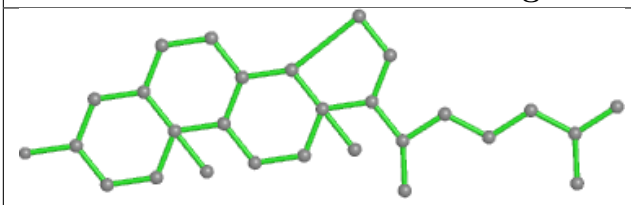


Torsions

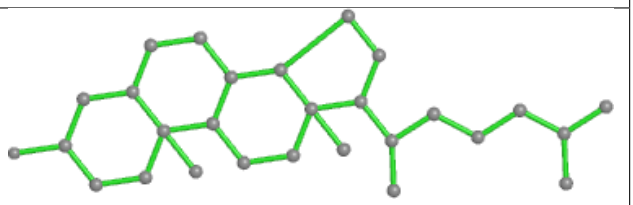


Rings

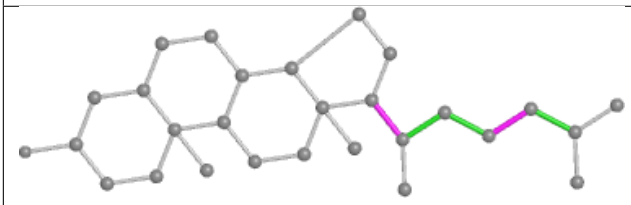
Ligand CLR m 201



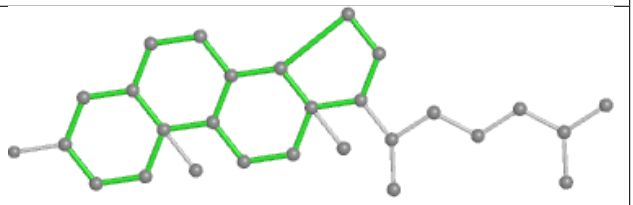
Bond lengths



Bond angles

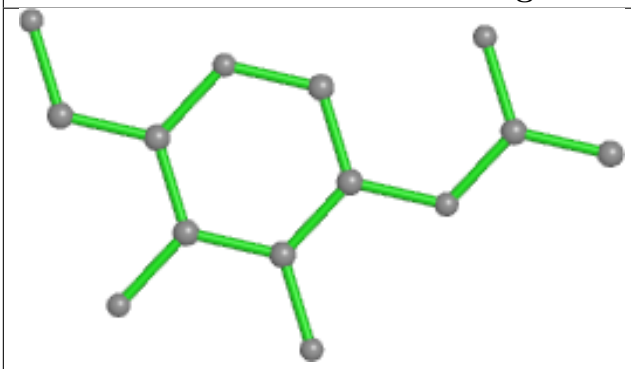


Torsions

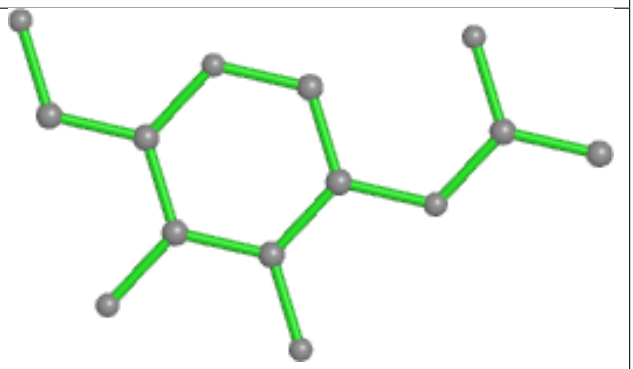


Rings

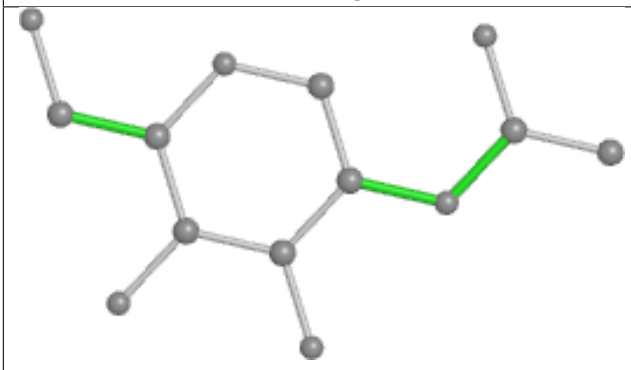
Ligand NAG e 1101



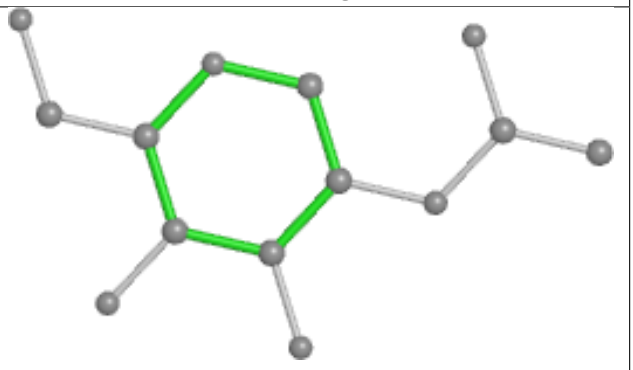
Bond lengths



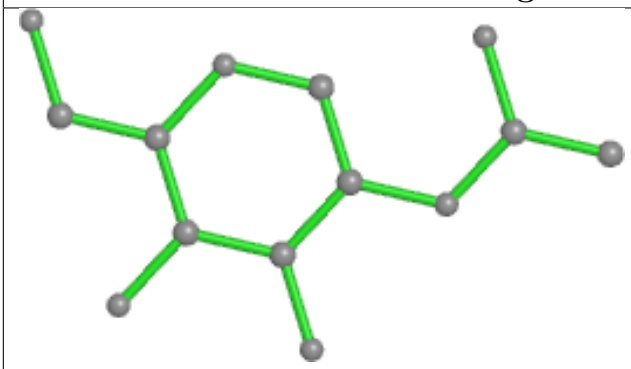
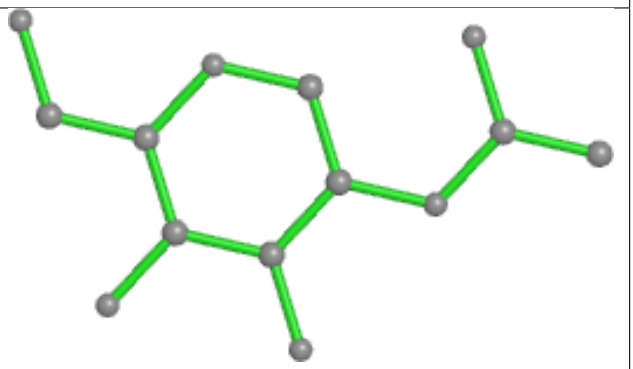
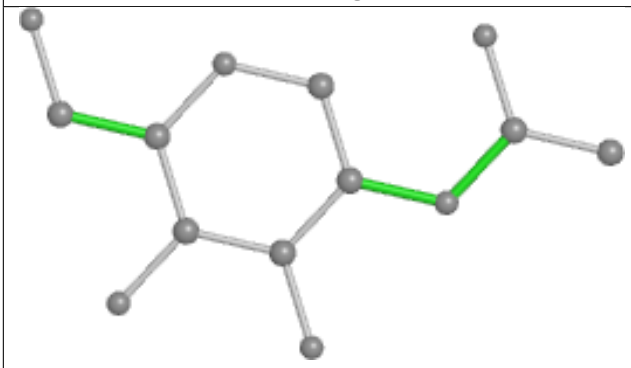
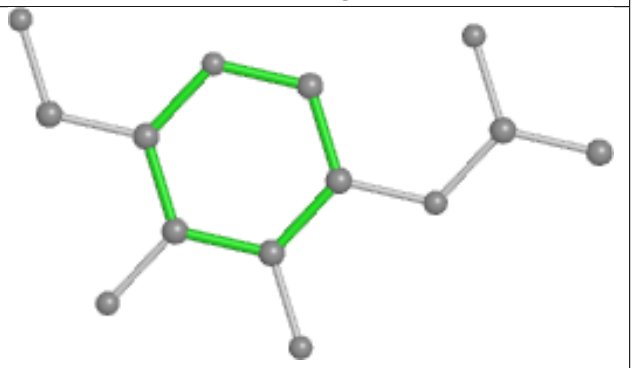
Bond angles



Torsions



Rings

Ligand NAG r 1104	
 Bond lengths	 Bond angles
 Torsions	 Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

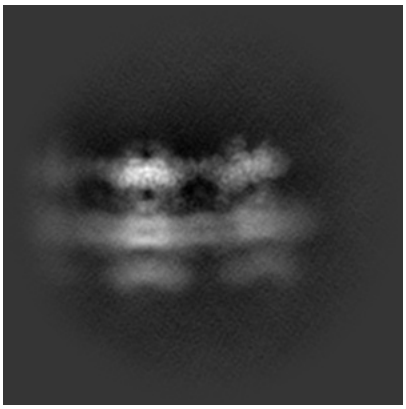
6 Map visualisation

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

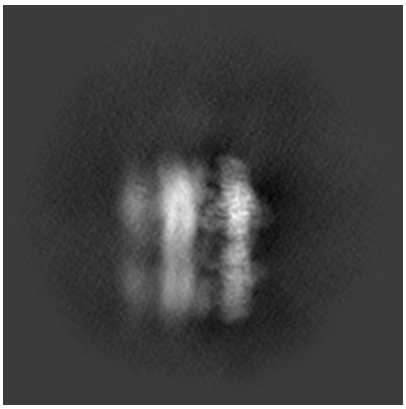
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

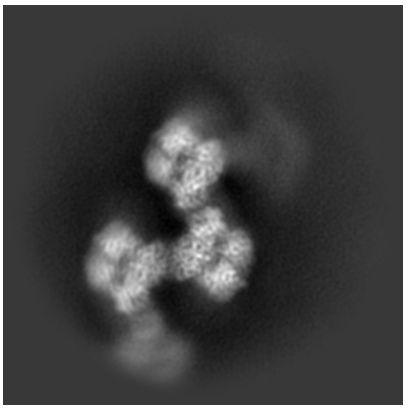
6.1.1 Primary map



X

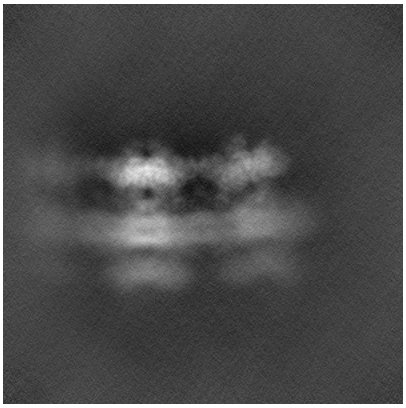


Y

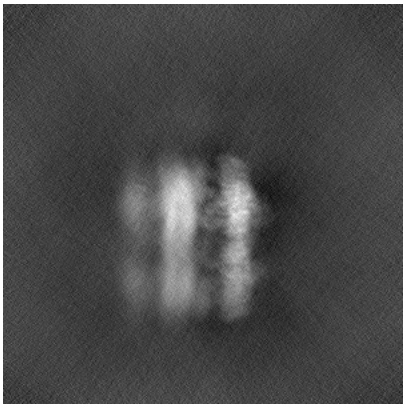


Z

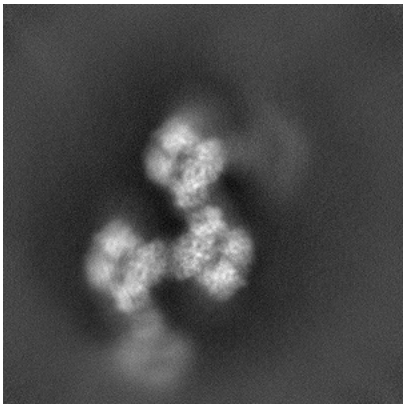
6.1.2 Raw map



X



Y

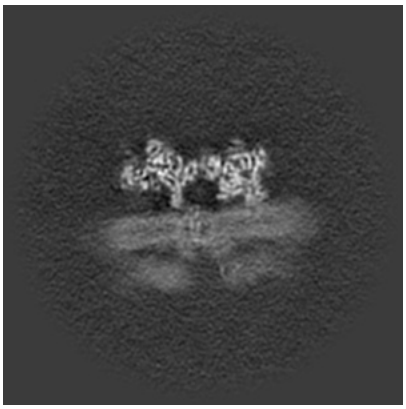


Z

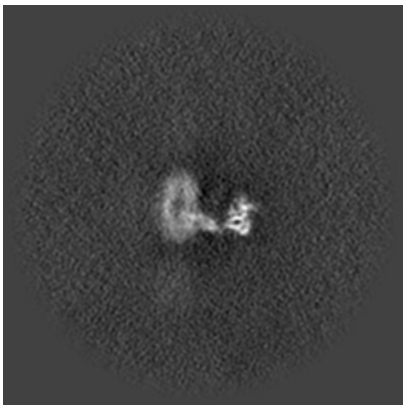
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

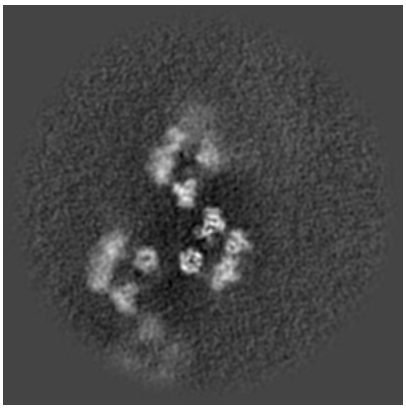
6.2.1 Primary map



X Index: 300

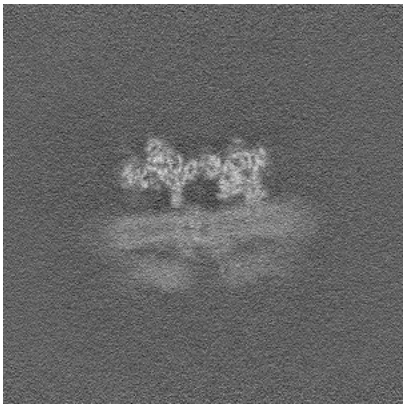


Y Index: 300

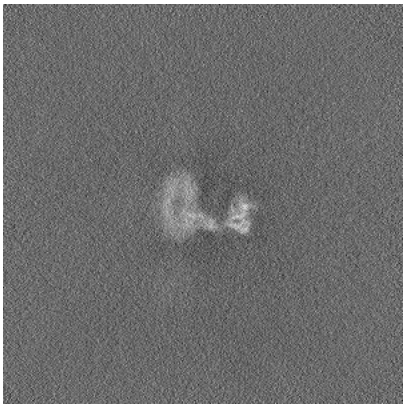


Z Index: 300

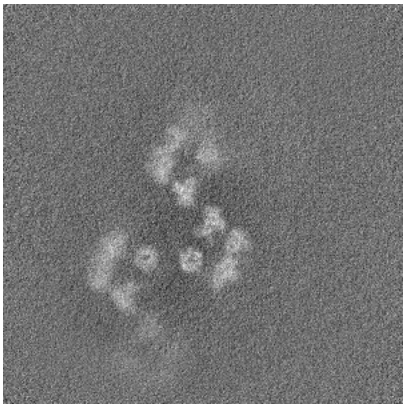
6.2.2 Raw map



X Index: 300



Y Index: 300

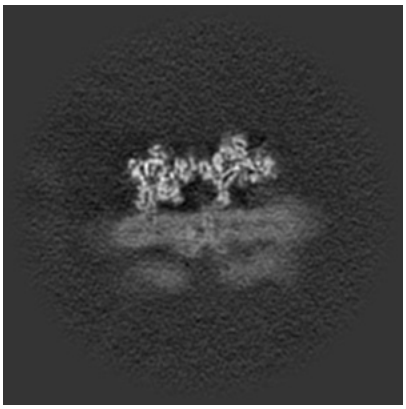


Z Index: 300

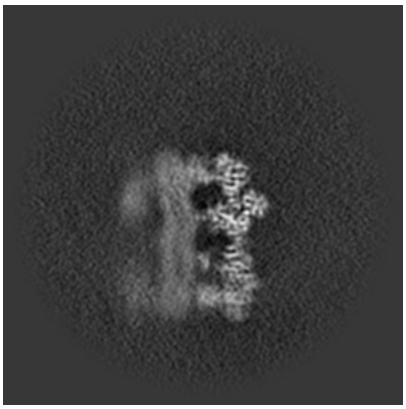
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

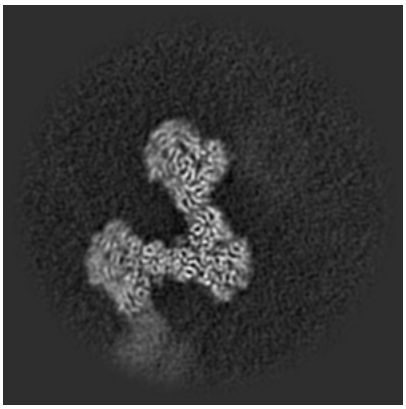
6.3.1 Primary map



X Index: 287

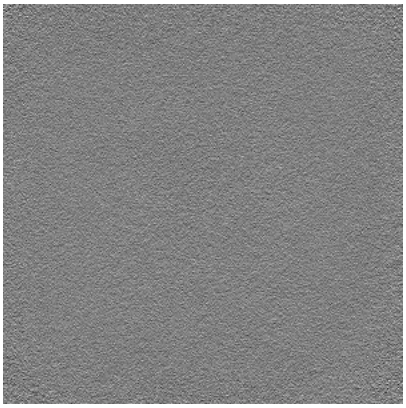


Y Index: 231

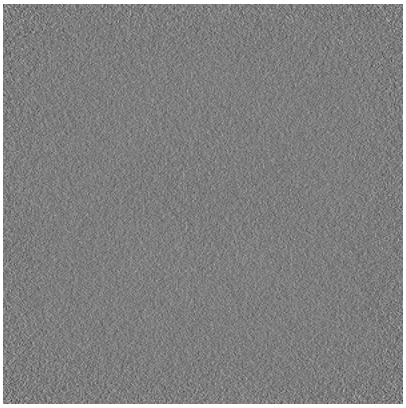


Z Index: 352

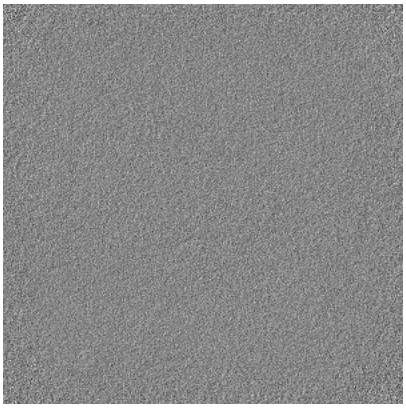
6.3.2 Raw map



X Index: 0



Y Index: 0

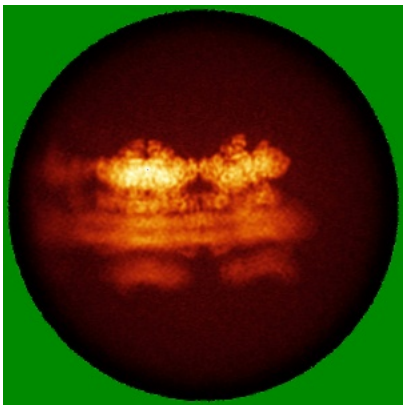


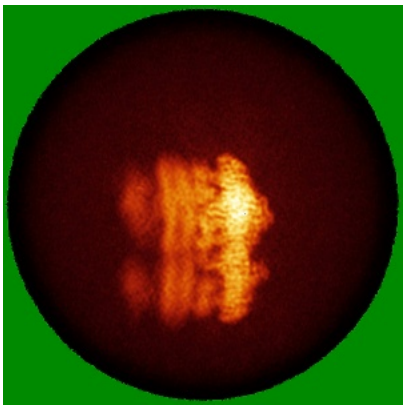
Z Index: 599

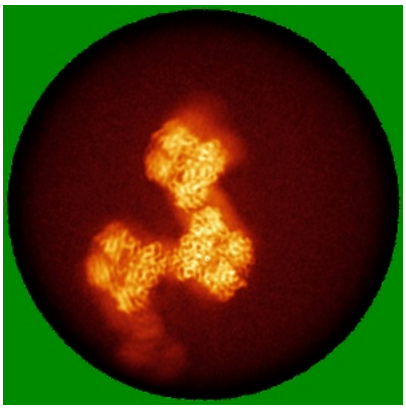
The images above show the largest variance slices of the map in three orthogonal directions.

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

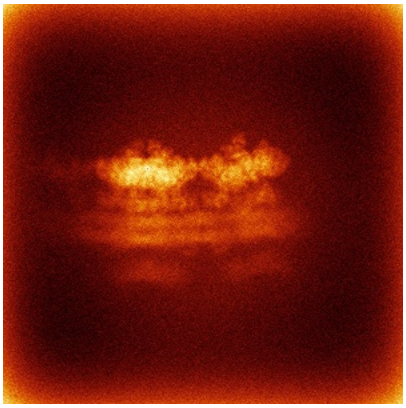
6.4.1 Primary map

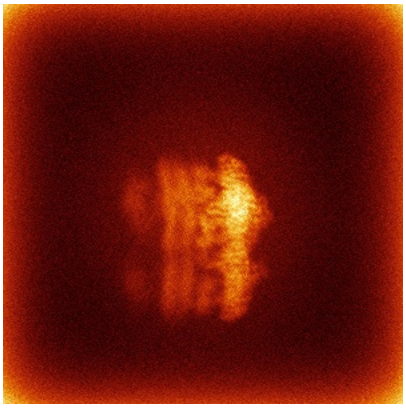

X

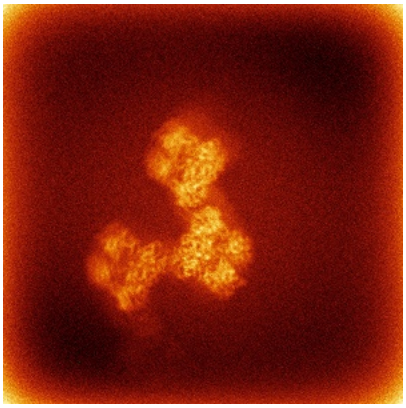

Y


Z

6.4.2 Raw map


X


Y


Z

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

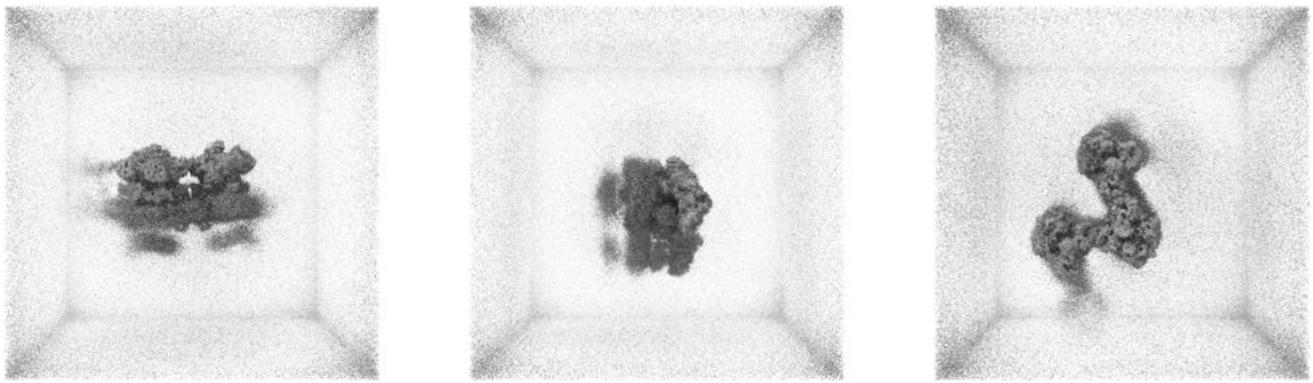
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.245. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

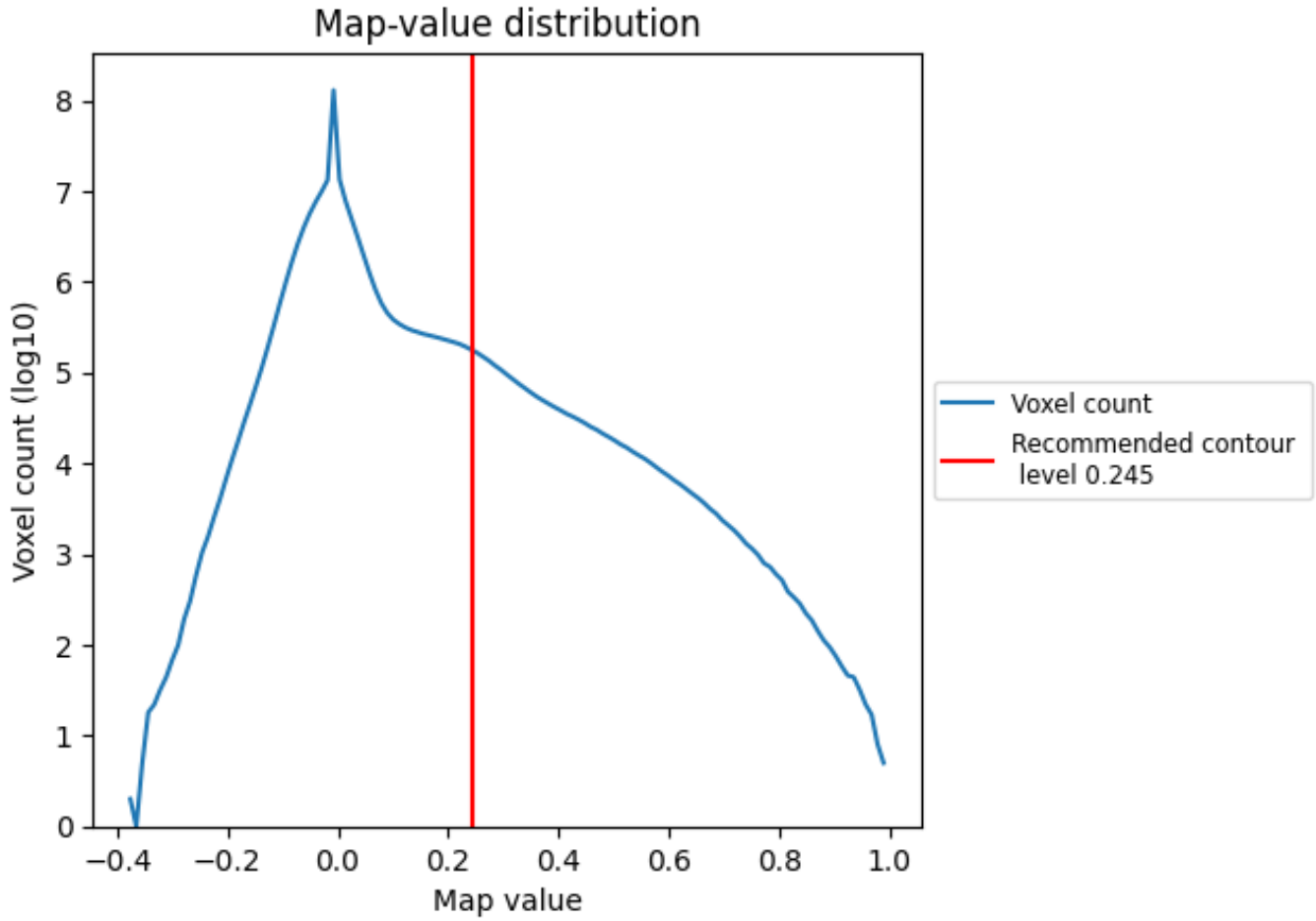
6.6 Mask visualisation (i)

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

7 Map analysis

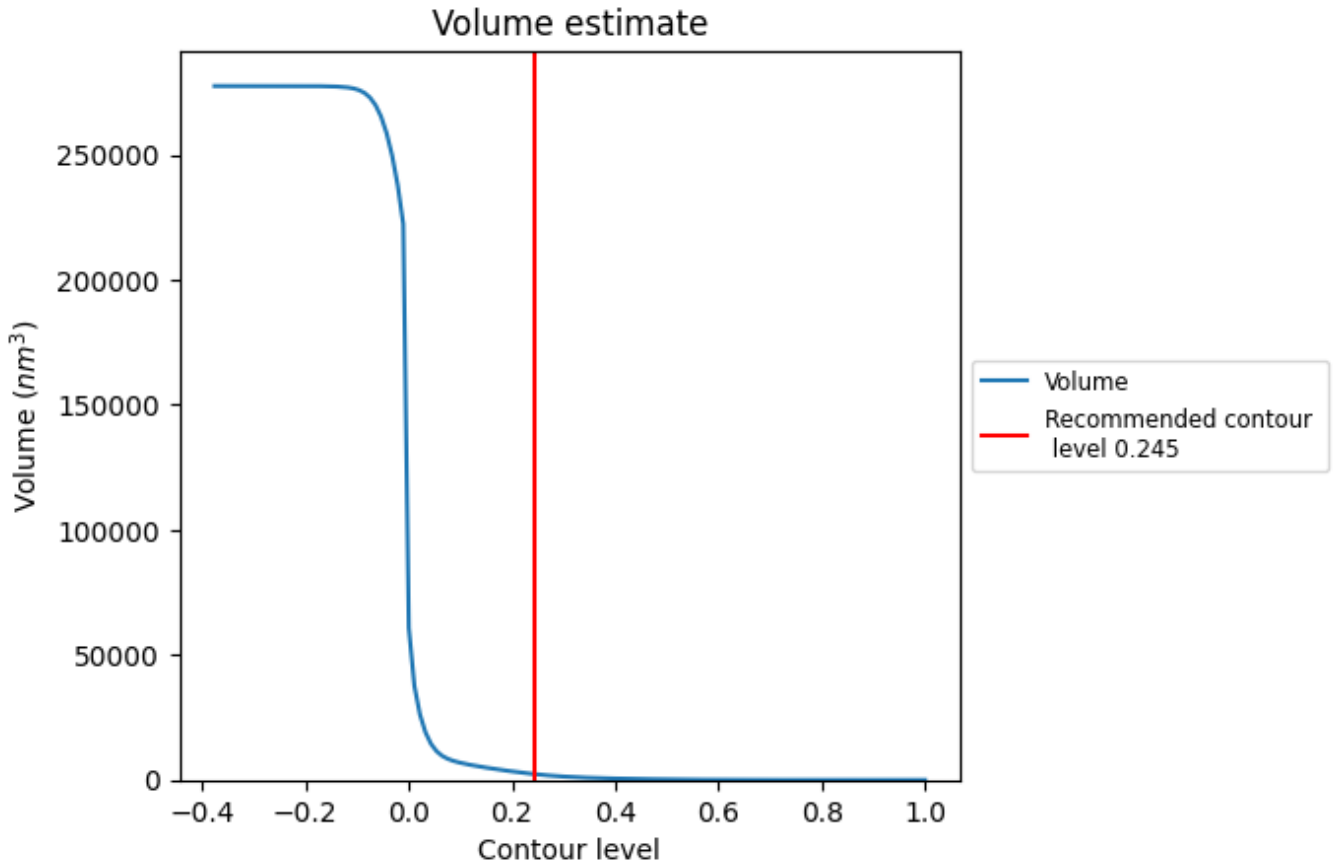
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

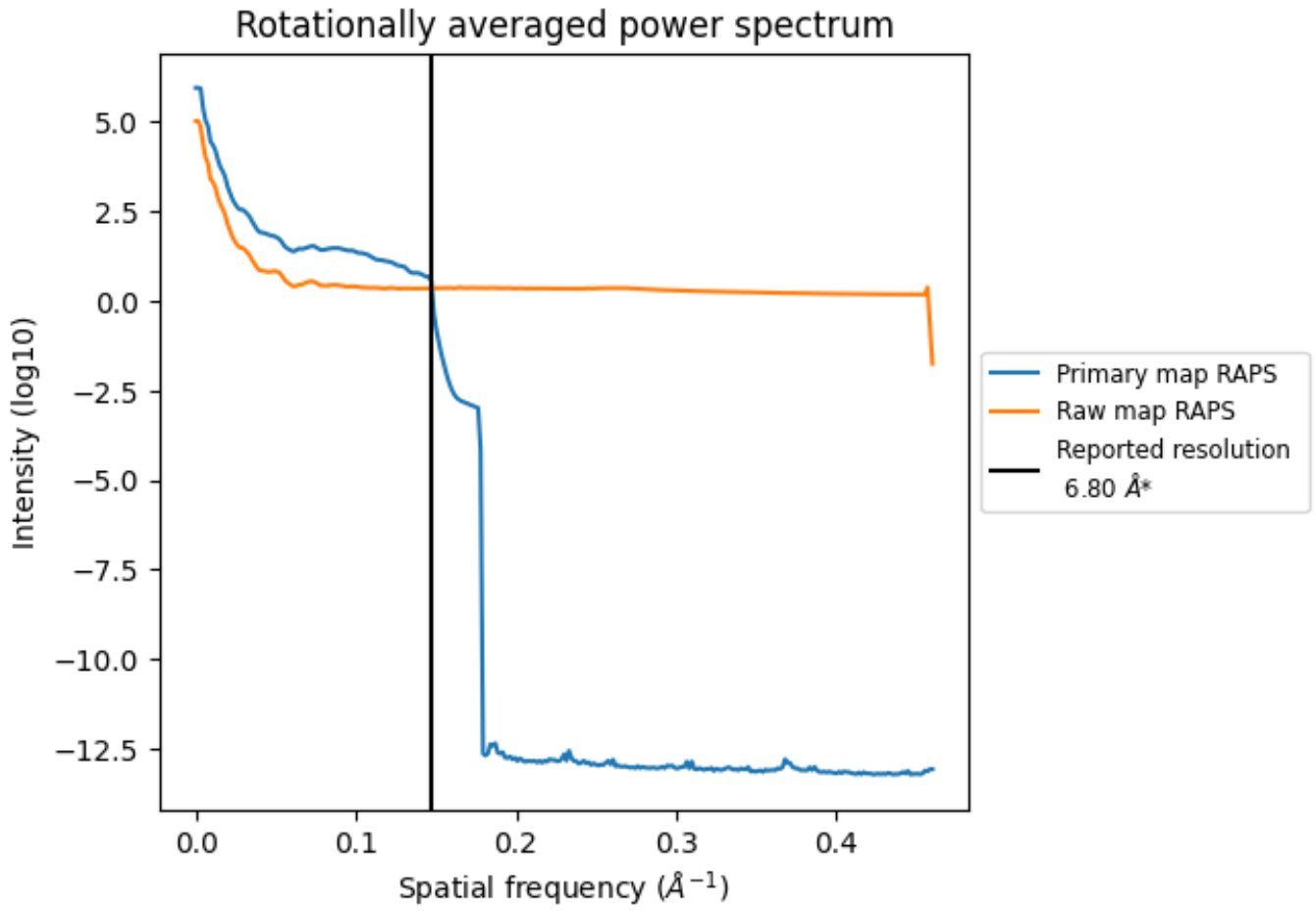
7.2 Volume estimate



The volume at the recommended contour level is 2309 nm^3; this corresponds to an approximate mass of 2086 kDa.

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

7.3 Rotationally averaged power spectrum (i)

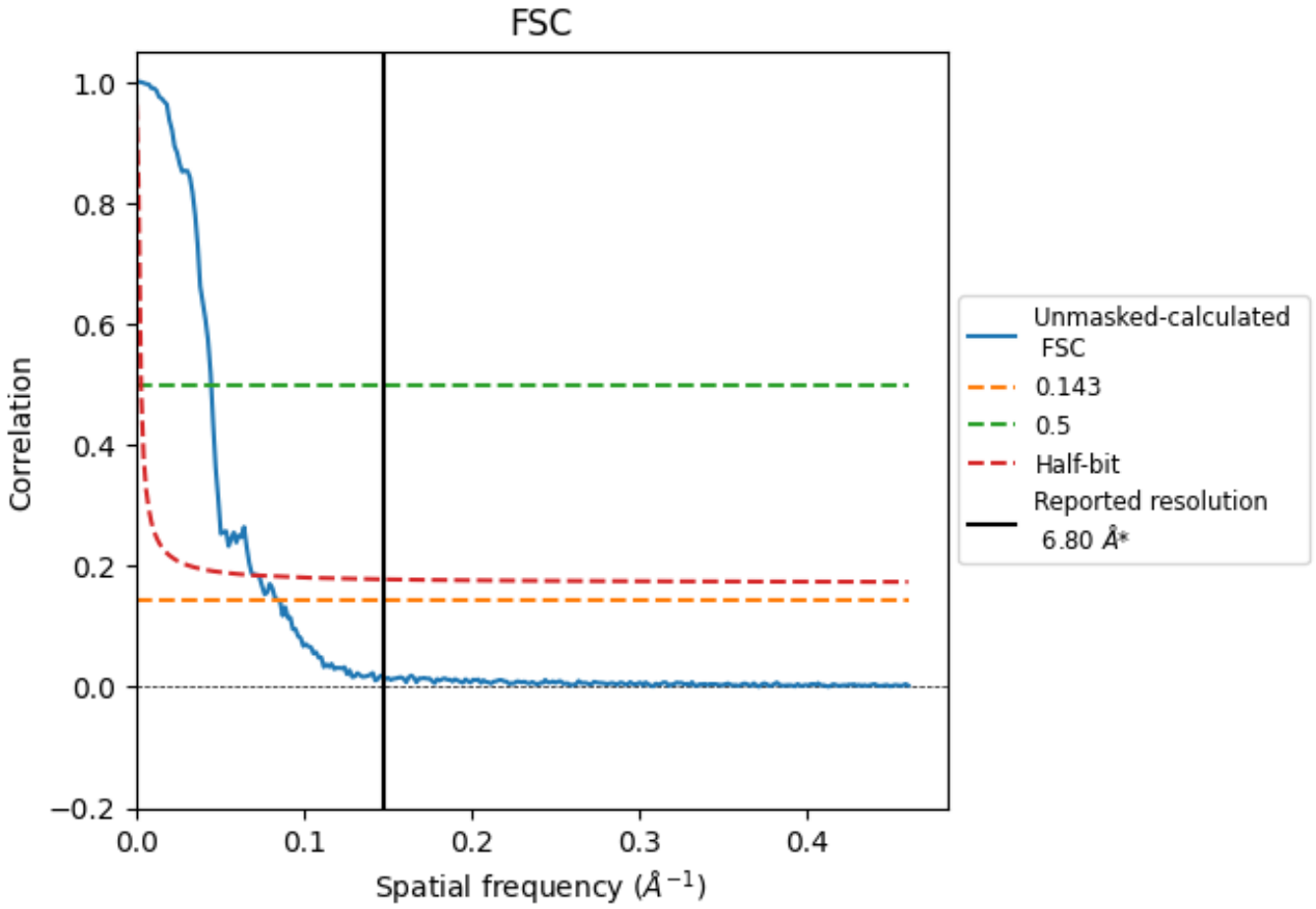


*Reported resolution corresponds to spatial frequency of 0.147 Å^{-1}

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.147 Å^{-1}

8.2 Resolution estimates (i)

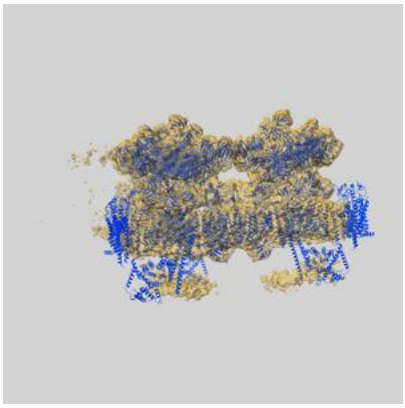
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	6.80	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	11.78	22.32	13.79

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 11.78 differs from the reported value 6.8 by more than 10 %

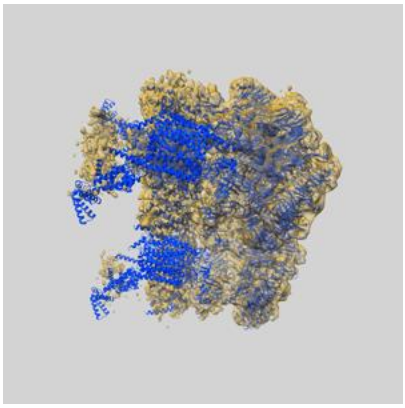
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-64028 and PDB model 9UBX. Per-residue inclusion information can be found in section 3 on page 17.

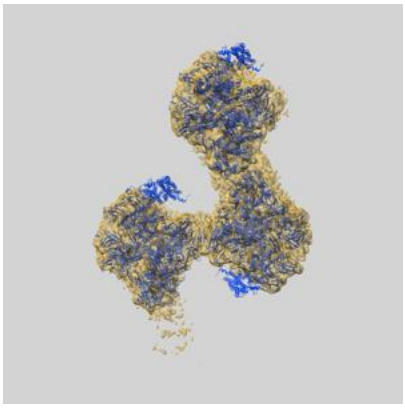
9.1 Map-model overlay



X



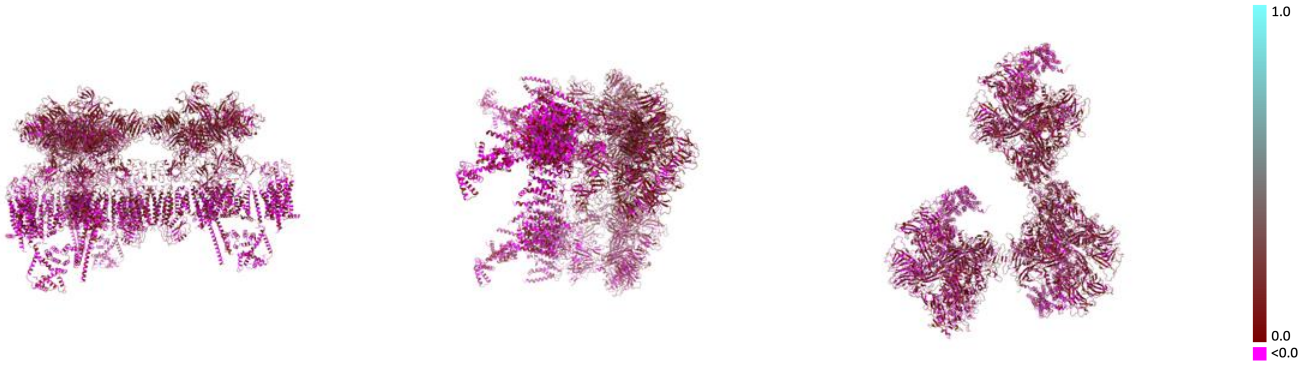
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.245 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

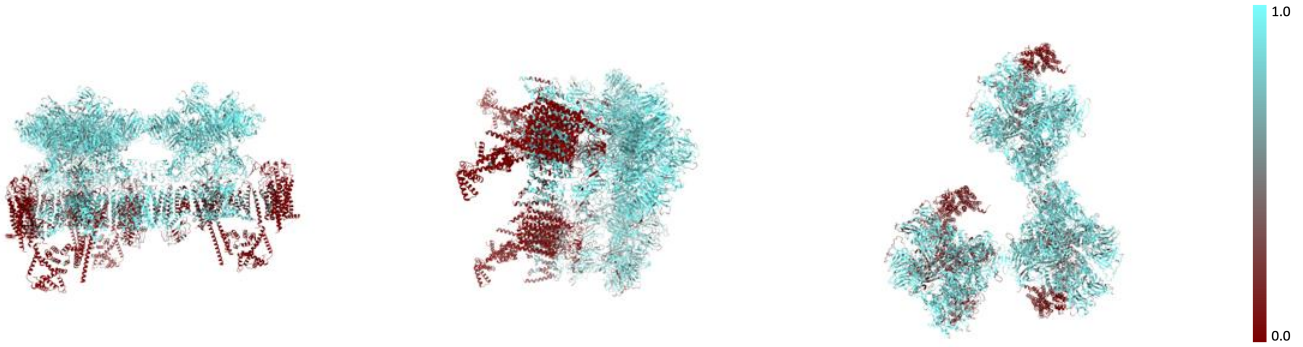
9.2 Q-score mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

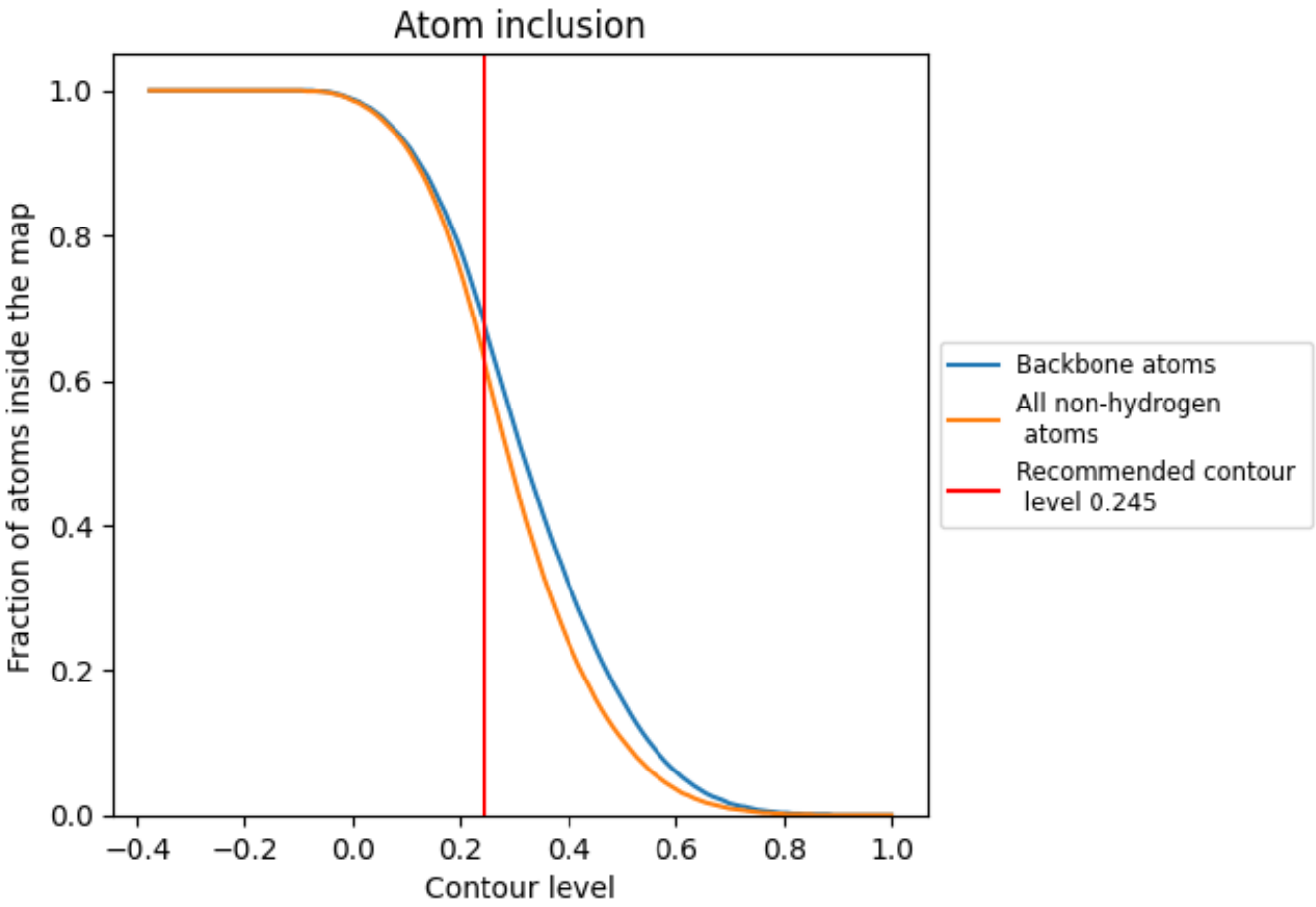
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.245).

9.4 Atom inclusion (i)



At the recommended contour level, 68% of all backbone atoms, 63% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.245) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6260	0.0850
0	0.8430	0.1000
1	0.7180	0.1810
2	0.3590	-0.0370
3	0.6430	0.1290
4	0.4100	0.0940
5	0.7690	0.0740
6	0.7180	0.0380
7	0.5420	0.2150
8	0.5710	0.1510
9	0.3930	0.1070
A	0.6480	0.0480
AA	0.7110	0.0370
B	0.5300	0.0430
BA	0.7180	0.2270
C	0.5340	0.0250
CA	0.0260	-0.0510
D	0.4930	0.0630
DA	0.4290	0.1440
E	0.8640	0.1390
EA	0.4100	-0.0300
F	0.8790	0.1310
FA	0.0260	-0.0190
G	0.8080	0.1060
GA	0.6150	0.1540
H	0.8350	0.1090
HA	0.4700	0.2130
I	0.0430	0.0180
IA	0.0360	0.0840
J	0.4970	0.0680
JA	0.5080	0.0980
K	0.0030	-0.0020
L	0.0500	0.0180
M	0.7660	0.0900
N	0.7640	0.0950

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Continued from previous page...

Chain	Atom inclusion	Q-score
O	0.2360	0.0340
P	0.9290	0.1270
Q	0.0450	-0.0090
R	0.9160	0.1630
S	0.9230	0.1790
T	0.8970	0.2060
U	0.4290	0.1290
V	0.3850	0.0240
W	0.5380	0.1940
X	0.9490	0.2130
Y	0.6870	0.1980
Z	0.6790	0.0650
a	0.2860	0.0330
b	0.3040	0.0160
c	0.3600	0.0230
d	0.3630	0.0320
e	0.7540	0.0870
f	0.8100	0.1340
g	0.6760	0.0650
h	0.7030	0.0680
i	0.0360	-0.0130
j	0.0490	0.0060
k	0.0010	0.0300
l	0.0110	0.0120
m	0.2060	0.0190
n	0.6200	0.0730
o	0.6200	0.0590
p	0.6000	0.0690
q	0.6330	0.0660
r	0.8620	0.1400
s	0.7570	0.1270
t	0.8030	0.1250
u	0.8230	0.1160
v	0.6560	0.1210
w	0.4930	0.0840
x	0.0160	0.0170
y	0.0420	0.0060
z	0.8200	0.0850