



Full wwPDB EM Validation Report ⓘ

Jul 15, 2025 – 07:45 PM JST

PDB ID : 8X56 / pdb_00008x56
EMDB ID : EMD-38064
Title : BA.2.86 Spike Trimer with T356K mutation (1 RBD up)
Authors : Yue, C.; Liu, P.
Deposited on : 2023-11-16
Resolution : 3.93 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 : **FAILED**
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4-5-2 with Phenix2.0rc1
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : **FAILED**
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.44

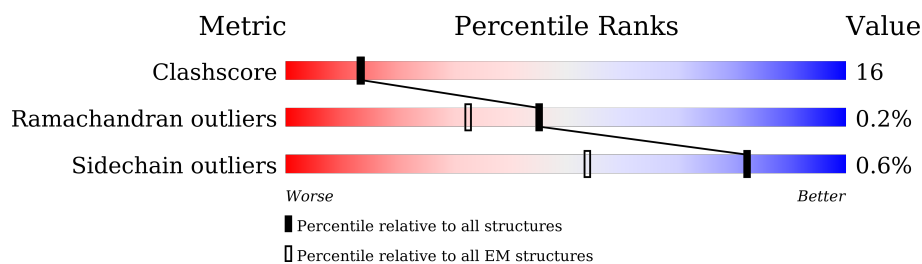
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.93 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$

Mol	Chain	Length	Quality of chain
1	A	1206	57% 30% 12%
1	B	1206	59% 29% 12%
1	C	1206	56% 31% 12%
2	D	2	50% 50%
2	E	2	100%
2	F	2	100%
2	G	2	100%
2	H	2	100%
2	I	2	100%

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Mol	Chain	Length	Quality of chain
2	J	2	 100%
2	K	2	 100%
2	L	2	 100%
2	M	2	 100%
2	N	2	 100%
2	O	2	 100%
2	P	2	 100%
2	Q	2	 100%
2	R	2	 100%

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 25749 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 Spike glycoprotein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1063	Total	C	N	O	S	0	0
			8318	5324	1384	1572	38		
1	B	1063	Total	C	N	O	S	0	0
			8318	5324	1384	1572	38		
1	C	1063	Total	C	N	O	S	0	0
			8318	5324	1384	1572	38		

There are 219 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-2	ALA	-	expression tag	UNP P0DTC2
A	-1	THR	-	expression tag	UNP P0DTC2
A	16	MET	-	insertion	UNP P0DTC2
A	17	PRO	ASN	conflict	UNP P0DTC2
A	19	PHE	THR	conflict	UNP P0DTC2
A	20	ASN	THR	conflict	UNP P0DTC2
A	21	LEU	ARG	conflict	UNP P0DTC2
A	22	ILE	THR	conflict	UNP P0DTC2
A	23	THR	GLN	conflict	UNP P0DTC2
A	24	THR	LEU	conflict	UNP P0DTC2
A	25	THR	PRO	conflict	UNP P0DTC2
A	26	GLN	PRO	conflict	UNP P0DTC2
A	27	SER	ALA	conflict	UNP P0DTC2
A	50	LEU	SER	conflict	UNP P0DTC2
A	?	-	HIS	deletion	UNP P0DTC2
A	?	-	VAL	deletion	UNP P0DTC2
A	127	PHE	VAL	conflict	UNP P0DTC2
A	143	ASP	GLY	variant	UNP P0DTC2
A	?	-	TYR	deletion	UNP P0DTC2
A	157	SER	PHE	conflict	UNP P0DTC2
A	158	GLY	ARG	conflict	UNP P0DTC2
A	?	-	ASN	deletion	UNP P0DTC2
A	212	ILE	LEU	variant	UNP P0DTC2
A	213	GLY	VAL	variant	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
A	216	PHE	LEU	conflict	UNP P0DTC2
A	245	ASN	HIS	conflict	UNP P0DTC2
A	264	ASP	ALA	conflict	UNP P0DTC2
A	332	VAL	ILE	conflict	UNP P0DTC2
A	339	HIS	GLY	variant	UNP P0DTC2
A	371	PHE	SER	conflict	UNP P0DTC2
A	373	PRO	SER	variant	UNP P0DTC2
A	375	PHE	SER	variant	UNP P0DTC2
A	376	ALA	THR	variant	UNP P0DTC2
A	403	LYS	ARG	conflict	UNP P0DTC2
A	405	ASN	ASP	variant	UNP P0DTC2
A	408	SER	ARG	variant	UNP P0DTC2
A	417	ASN	LYS	variant	UNP P0DTC2
A	440	LYS	ASN	variant	UNP P0DTC2
A	445	HIS	VAL	conflict	UNP P0DTC2
A	446	SER	GLY	variant	UNP P0DTC2
A	450	ASP	ASN	conflict	UNP P0DTC2
A	452	TRP	LEU	conflict	UNP P0DTC2
A	460	LYS	ASN	variant	UNP P0DTC2
A	477	ASN	SER	variant	UNP P0DTC2
A	478	LYS	THR	variant	UNP P0DTC2
A	481	LYS	ASN	conflict	UNP P0DTC2
A	?	-	VAL	deletion	UNP P0DTC2
A	484	LYS	GLU	variant	UNP P0DTC2
A	486	PRO	PHE	variant	UNP P0DTC2
A	498	ARG	GLN	variant	UNP P0DTC2
A	501	TYR	ASN	variant	UNP P0DTC2
A	505	HIS	TYR	variant	UNP P0DTC2
A	554	LYS	GLU	conflict	UNP P0DTC2
A	570	VAL	ALA	conflict	UNP P0DTC2
A	614	GLY	ASP	variant	UNP P0DTC2
A	621	SER	PRO	conflict	UNP P0DTC2
A	655	TYR	HIS	variant	UNP P0DTC2
A	679	LYS	ASN	variant	UNP P0DTC2
A	681	ARG	PRO	variant	UNP P0DTC2
A	683	ALA	ARG	conflict	UNP P0DTC2
A	685	ALA	ARG	conflict	UNP P0DTC2
A	764	LYS	ASN	variant	UNP P0DTC2
A	796	TYR	ASP	variant	UNP P0DTC2
A	817	PRO	PHE	conflict	UNP P0DTC2
A	892	PRO	ALA	conflict	UNP P0DTC2
A	899	PRO	ALA	conflict	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
A	939	PHE	SER	conflict	UNP P0DTC2
A	942	PRO	ALA	conflict	UNP P0DTC2
A	954	HIS	GLN	variant	UNP P0DTC2
A	969	LYS	ASN	variant	UNP P0DTC2
A	986	PRO	LYS	variant	UNP P0DTC2
A	987	PRO	VAL	variant	UNP P0DTC2
A	1143	LEU	PRO	conflict	UNP P0DTC2
B	-2	ALA	-	expression tag	UNP P0DTC2
B	-1	THR	-	expression tag	UNP P0DTC2
B	16	MET	-	insertion	UNP P0DTC2
B	17	PRO	ASN	conflict	UNP P0DTC2
B	19	PHE	THR	conflict	UNP P0DTC2
B	20	ASN	THR	conflict	UNP P0DTC2
B	21	LEU	ARG	conflict	UNP P0DTC2
B	22	ILE	THR	conflict	UNP P0DTC2
B	23	THR	GLN	conflict	UNP P0DTC2
B	24	THR	LEU	conflict	UNP P0DTC2
B	25	THR	PRO	conflict	UNP P0DTC2
B	26	GLN	PRO	conflict	UNP P0DTC2
B	27	SER	ALA	conflict	UNP P0DTC2
B	50	LEU	SER	conflict	UNP P0DTC2
B	?	-	HIS	deletion	UNP P0DTC2
B	?	-	VAL	deletion	UNP P0DTC2
B	127	PHE	VAL	conflict	UNP P0DTC2
B	143	ASP	GLY	variant	UNP P0DTC2
B	?	-	TYR	deletion	UNP P0DTC2
B	157	SER	PHE	conflict	UNP P0DTC2
B	158	GLY	ARG	conflict	UNP P0DTC2
B	?	-	ASN	deletion	UNP P0DTC2
B	212	ILE	LEU	variant	UNP P0DTC2
B	213	GLY	VAL	variant	UNP P0DTC2
B	216	PHE	LEU	conflict	UNP P0DTC2
B	245	ASN	HIS	conflict	UNP P0DTC2
B	264	ASP	ALA	conflict	UNP P0DTC2
B	332	VAL	ILE	conflict	UNP P0DTC2
B	339	HIS	GLY	variant	UNP P0DTC2
B	371	PHE	SER	conflict	UNP P0DTC2
B	373	PRO	SER	variant	UNP P0DTC2
B	375	PHE	SER	variant	UNP P0DTC2
B	376	ALA	THR	variant	UNP P0DTC2
B	403	LYS	ARG	conflict	UNP P0DTC2
B	405	ASN	ASP	variant	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
B	408	SER	ARG	variant	UNP P0DTC2
B	417	ASN	LYS	variant	UNP P0DTC2
B	440	LYS	ASN	variant	UNP P0DTC2
B	445	HIS	VAL	conflict	UNP P0DTC2
B	446	SER	GLY	variant	UNP P0DTC2
B	450	ASP	ASN	conflict	UNP P0DTC2
B	452	TRP	LEU	conflict	UNP P0DTC2
B	460	LYS	ASN	variant	UNP P0DTC2
B	477	ASN	SER	variant	UNP P0DTC2
B	478	LYS	THR	variant	UNP P0DTC2
B	481	LYS	ASN	conflict	UNP P0DTC2
B	?	-	VAL	deletion	UNP P0DTC2
B	484	LYS	GLU	variant	UNP P0DTC2
B	486	PRO	PHE	variant	UNP P0DTC2
B	498	ARG	GLN	variant	UNP P0DTC2
B	501	TYR	ASN	variant	UNP P0DTC2
B	505	HIS	TYR	variant	UNP P0DTC2
B	554	LYS	GLU	conflict	UNP P0DTC2
B	570	VAL	ALA	conflict	UNP P0DTC2
B	614	GLY	ASP	variant	UNP P0DTC2
B	621	SER	PRO	conflict	UNP P0DTC2
B	655	TYR	HIS	variant	UNP P0DTC2
B	679	LYS	ASN	variant	UNP P0DTC2
B	681	ARG	PRO	variant	UNP P0DTC2
B	683	ALA	ARG	conflict	UNP P0DTC2
B	685	ALA	ARG	conflict	UNP P0DTC2
B	764	LYS	ASN	variant	UNP P0DTC2
B	796	TYR	ASP	variant	UNP P0DTC2
B	817	PRO	PHE	conflict	UNP P0DTC2
B	892	PRO	ALA	conflict	UNP P0DTC2
B	899	PRO	ALA	conflict	UNP P0DTC2
B	939	PHE	SER	conflict	UNP P0DTC2
B	942	PRO	ALA	conflict	UNP P0DTC2
B	954	HIS	GLN	variant	UNP P0DTC2
B	969	LYS	ASN	variant	UNP P0DTC2
B	986	PRO	LYS	variant	UNP P0DTC2
B	987	PRO	VAL	variant	UNP P0DTC2
B	1143	LEU	PRO	conflict	UNP P0DTC2
C	-2	ALA	-	expression tag	UNP P0DTC2
C	-1	THR	-	expression tag	UNP P0DTC2
C	16	MET	-	insertion	UNP P0DTC2
C	17	PRO	ASN	conflict	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
C	19	PHE	THR	conflict	UNP P0DTC2
C	20	ASN	THR	conflict	UNP P0DTC2
C	21	LEU	ARG	conflict	UNP P0DTC2
C	22	ILE	THR	conflict	UNP P0DTC2
C	23	THR	GLN	conflict	UNP P0DTC2
C	24	THR	LEU	conflict	UNP P0DTC2
C	25	THR	PRO	conflict	UNP P0DTC2
C	26	GLN	PRO	conflict	UNP P0DTC2
C	27	SER	ALA	conflict	UNP P0DTC2
C	50	LEU	SER	conflict	UNP P0DTC2
C	?	-	HIS	deletion	UNP P0DTC2
C	?	-	VAL	deletion	UNP P0DTC2
C	127	PHE	VAL	conflict	UNP P0DTC2
C	143	ASP	GLY	variant	UNP P0DTC2
C	?	-	TYR	deletion	UNP P0DTC2
C	157	SER	PHE	conflict	UNP P0DTC2
C	158	GLY	ARG	conflict	UNP P0DTC2
C	?	-	ASN	deletion	UNP P0DTC2
C	212	ILE	LEU	variant	UNP P0DTC2
C	213	GLY	VAL	variant	UNP P0DTC2
C	216	PHE	LEU	conflict	UNP P0DTC2
C	245	ASN	HIS	conflict	UNP P0DTC2
C	264	ASP	ALA	conflict	UNP P0DTC2
C	332	VAL	ILE	conflict	UNP P0DTC2
C	339	HIS	GLY	variant	UNP P0DTC2
C	371	PHE	SER	conflict	UNP P0DTC2
C	373	PRO	SER	variant	UNP P0DTC2
C	375	PHE	SER	variant	UNP P0DTC2
C	376	ALA	THR	variant	UNP P0DTC2
C	403	LYS	ARG	conflict	UNP P0DTC2
C	405	ASN	ASP	variant	UNP P0DTC2
C	408	SER	ARG	variant	UNP P0DTC2
C	417	ASN	LYS	variant	UNP P0DTC2
C	440	LYS	ASN	variant	UNP P0DTC2
C	445	HIS	VAL	conflict	UNP P0DTC2
C	446	SER	GLY	variant	UNP P0DTC2
C	450	ASP	ASN	conflict	UNP P0DTC2
C	452	TRP	LEU	conflict	UNP P0DTC2
C	460	LYS	ASN	variant	UNP P0DTC2
C	477	ASN	SER	variant	UNP P0DTC2
C	478	LYS	THR	variant	UNP P0DTC2
C	481	LYS	ASN	conflict	UNP P0DTC2

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Chain	Residue	Modelled	Actual	Comment	Reference
C	?	-	VAL	deletion	UNP P0DTC2
C	484	LYS	GLU	variant	UNP P0DTC2
C	486	PRO	PHE	variant	UNP P0DTC2
C	498	ARG	GLN	variant	UNP P0DTC2
C	501	TYR	ASN	variant	UNP P0DTC2
C	505	HIS	TYR	variant	UNP P0DTC2
C	554	LYS	GLU	conflict	UNP P0DTC2
C	570	VAL	ALA	conflict	UNP P0DTC2
C	614	GLY	ASP	variant	UNP P0DTC2
C	621	SER	PRO	conflict	UNP P0DTC2
C	655	TYR	HIS	variant	UNP P0DTC2
C	679	LYS	ASN	variant	UNP P0DTC2
C	681	ARG	PRO	variant	UNP P0DTC2
C	683	ALA	ARG	conflict	UNP P0DTC2
C	685	ALA	ARG	conflict	UNP P0DTC2
C	764	LYS	ASN	variant	UNP P0DTC2
C	796	TYR	ASP	variant	UNP P0DTC2
C	817	PRO	PHE	conflict	UNP P0DTC2
C	892	PRO	ALA	conflict	UNP P0DTC2
C	899	PRO	ALA	conflict	UNP P0DTC2
C	939	PHE	SER	conflict	UNP P0DTC2
C	942	PRO	ALA	conflict	UNP P0DTC2
C	954	HIS	GLN	variant	UNP P0DTC2
C	969	LYS	ASN	variant	UNP P0DTC2
C	986	PRO	LYS	variant	UNP P0DTC2
C	987	PRO	VAL	variant	UNP P0DTC2
C	1143	LEU	PRO	conflict	UNP P0DTC2

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



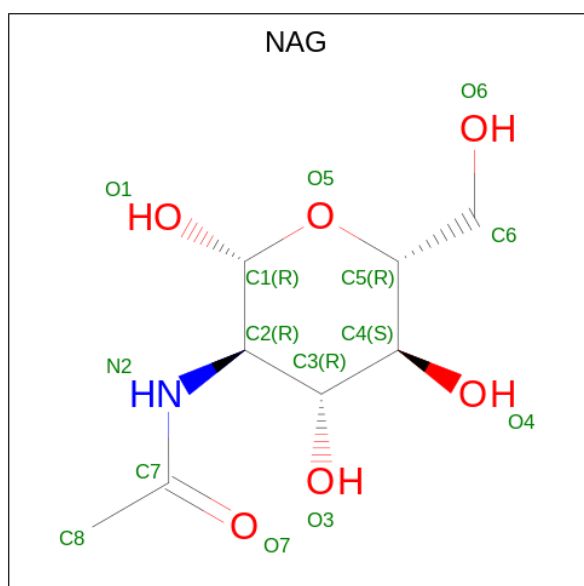
Mol	Chain	Residues	Atoms				AltConf	Trace
2	D	2	Total	C	N	O	0	0
			25	14	1	10		
2	E	2	Total	C	N	O	0	0
			25	14	1	10		
2	F	2	Total	C	N	O	0	0
			25	14	1	10		

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Mol	Chain	Residues	Atoms				AltConf	Trace
2	G	2	Total	C	N	O	0	0
			25	14	1	10		
2	H	2	Total	C	N	O	0	0
			25	14	1	10		
2	I	2	Total	C	N	O	0	0
			25	14	1	10		
2	J	2	Total	C	N	O	0	0
			25	14	1	10		
2	K	2	Total	C	N	O	0	0
			25	14	1	10		
2	L	2	Total	C	N	O	0	0
			25	14	1	10		
2	M	2	Total	C	N	O	0	0
			25	14	1	10		
2	N	2	Total	C	N	O	0	0
			25	14	1	10		
2	O	2	Total	C	N	O	0	0
			25	14	1	10		
2	P	2	Total	C	N	O	0	0
			25	14	1	10		
2	Q	2	Total	C	N	O	0	0
			25	14	1	10		
2	R	2	Total	C	N	O	0	0
			25	14	1	10		

- Molecule 3 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms				AltConf
3	A	1	Total	C	N	O	0
			14	8	1	5	
3	A	1	Total	C	N	O	0
			14	8	1	5	
3	A	1	Total	C	N	O	0
			14	8	1	5	
3	A	1	Total	C	N	O	0
			14	8	1	5	
3	A	1	Total	C	N	O	0
			14	8	1	5	
3	A	1	Total	C	N	O	0
			14	8	1	5	
3	A	1	Total	C	N	O	0
			14	8	1	5	
3	A	1	Total	C	N	O	0
			14	8	1	5	
3	B	1	Total	C	N	O	0
			14	8	1	5	
3	B	1	Total	C	N	O	0
			14	8	1	5	
3	B	1	Total	C	N	O	0
			14	8	1	5	
3	B	1	Total	C	N	O	0
			14	8	1	5	
3	B	1	Total	C	N	O	0
			14	8	1	5	
3	B	1	Total	C	N	O	0
			14	8	1	5	
3	B	1	Total	C	N	O	0
			14	8	1	5	
3	B	1	Total	C	N	O	0
			14	8	1	5	
3	C	1	Total	C	N	O	0
			14	8	1	5	
3	C	1	Total	C	N	O	0
			14	8	1	5	

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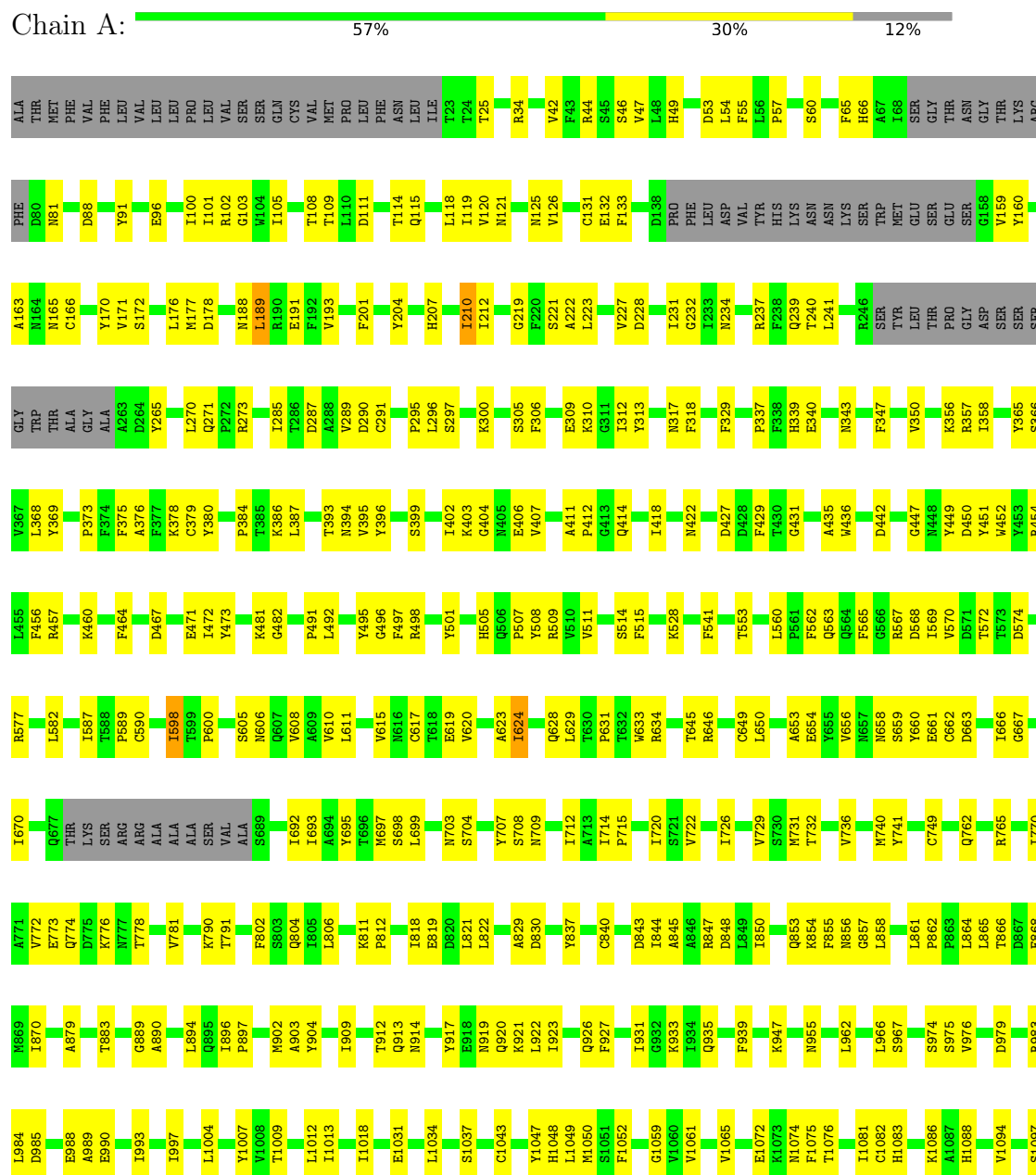
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Mol	Chain	Residues	Atoms				AltConf
3	C	1	Total	C	N	O	0
			14	8	1	5	
3	C	1	Total	C	N	O	0
			14	8	1	5	
3	C	1	Total	C	N	O	0
			14	8	1	5	
3	C	1	Total	C	N	O	0
			14	8	1	5	
3	C	1	Total	C	N	O	0
			14	8	1	5	
3	C	1	Total	C	N	O	0
			14	8	1	5	
3	C	1	Total	C	N	O	0
			14	8	1	5	

3 Residue-property plots

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

• Molecule 1: Spike glycoprotein

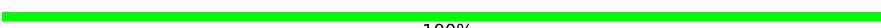


- Molecule 1: Spike glycoprotein



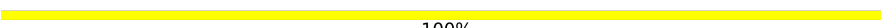
LEU GLN GLU GLU GLY LYS TYR GLN	T1136	Y1007	F906			G652	F559	K460	F338	TYR	TRP	ARG	ALA
	V1137	L1012	T912		C760	E653	L560	L461		LEU	MET	PHE	THR
		I1013	T912			E654		K462	V341	THR	GLU	D80	MET
		R1014	G914		L763	S659	Q563	P463		PRO	SER		PHE
		R1019	G915			E660	R567	F464	V350	GLY	GLU	F86	VAL
		G1046	E916		I770	E661	D568	E465		ASP	SER	M87	PHE
			Y917			E664	V570	D466	W353	SER	G158	D88	LEU
		L922	D774		D775	I664	D571	R355		SER	G159		VAL
			D776		D777	I666	T572	E471		GLY	C166	Y91	LEU
			D777			G667	T573	P486	I358	TRP	A93	F92	LEU
LEU GLU GLU ASP LYS TYR PHE LYS	Q926	P1053	Q926			I670	R577	P491		ALA	Y170	E96	VAL
	Q1054	Q1054	Q1054			A672	D578	Y495	F374	ALA	G173	I100	SER
	P1057	P1057	P1057			C671	P579	G496			P174	I101	GLN
	H1058	H1058	H1058			F802	L582	F497		Y266	F175	R102	CYS
		V1061				THR	L583	F377		G268	M177	G103	VAL
		ASN				THR	L584	Y501		V267	D178	W104	MET
		HIS				SER	L585	P384		G268	D178	I105	PRO
		A1070				ARC	L586			Y269	F106	G107	LEU
		THR				ARC	D586			L270	L189		PHE
		Q1071				ARC	L587				R190		ASN
LEU GLY GLY ASP ILE SER GLY ILE ASN ALA SER	E1072	E1072	L959			ALA	L588	G566	L387			S112	LEU
		F1075				ALA	T588	C566		R273	K195	K113	ILE
		T1076				ALA	P507	C391		L277	N196	T114	T23
		ASP				ALA	P589	Y508			I197	Q115	T24
		GLY				SER	C590	R509					T25
		I1081				VAL	S591			E280	Y200	S116	Q26
		C1082				VAL	S591			N281	F201	L117	Q26
		H1083				ALA	F592			W882	K202	L118	S27
						S689				G283	I203	I119	Y28
							I598					V120	
LEU GLU GLU ASP ASN SER	G971	H1088	G972			S698	A609	A520		D290	Y204		R34
			1973			E702	V610	G404		C291		T124	
								N405					
								E406			H207	N125	Y37
LEU GLU GLU ASP ASN VAL ASN GLN LYS GLU ILE ASP ARG LEU ASN VAL ALA LYS ASN LEU ASN SER LEU ILE ASN GLY THR GLY ASN LYS THR LYS THR GLY ASN ASN LYS THR													

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

Chain E:  100%

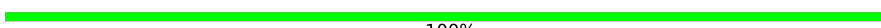


- Molecule 2: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain F:  100%

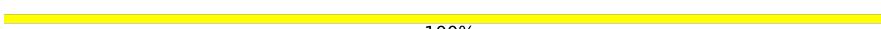


- Molecule 2: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain G:  100%

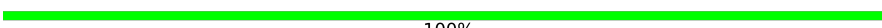


- Molecule 2: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain H:  100%

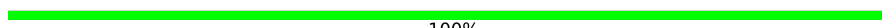


- Molecule 2: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain I:  100%

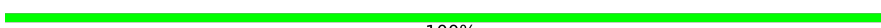


- Molecule 2: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain J:  100%

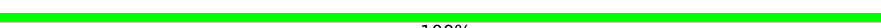


- Molecule 2: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain K:  100%



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

Chain L:  100%

MAG1
BM42

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

Chain M:  100%

MAG1
BM42

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

Chain N:  100%

MAG1
BM42

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

Chain O:  100%

MAG1
BM42

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

Chain P:  100%

MAG1
BM42

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

Chain Q:  100%

MAG1
BM42

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

Chain R:  100%

MAG1
BM42

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	22393	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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	0.17	0/8518	0.41	2/11592 (0.0%)
1	B	0.19	0/8518	0.43	1/11592 (0.0%)
1	C	0.21	0/8518	0.46	2/11592 (0.0%)
All	All	0.19	0/25554	0.43	5/34776 (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	C	0	2

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	1074	ASN	CA-C-N	-5.11	115.46	121.90
1	C	1074	ASN	C-N-CA	-5.11	115.46	121.90
1	B	387	LEU	N-CA-C	-5.10	108.81	114.62
1	A	1074	ASN	CA-C-N	-5.00	115.59	121.90
1	A	1074	ASN	C-N-CA	-5.00	115.59	121.90

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	237	ARG	Sidechain
1	C	617	CYS	Peptide

5.2 Too-close contacts ⓘ

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	8318	0	8110	284	0
1	B	8318	0	8109	275	0
1	C	8318	0	8111	304	0
2	D	25	0	22	1	0
2	E	25	0	22	0	0
2	F	25	0	22	2	0
2	G	25	0	22	0	0
2	H	25	0	22	0	0
2	I	25	0	22	0	0
2	J	25	0	22	0	0
2	K	25	0	22	0	0
2	L	25	0	22	0	0
2	M	25	0	22	0	0
2	N	25	0	22	0	0
2	O	25	0	22	0	0
2	P	25	0	22	0	0
2	Q	25	0	22	0	0
2	R	25	0	22	0	0
3	A	140	0	130	2	0
3	B	140	0	127	3	0
3	C	140	0	130	6	0
All	All	25749	0	25047	807	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 16.

All (807) 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)
1:B:391:CYS:HA	1:B:525:CYS:HB2	1.54	0.89
1:A:896:ILE:HD13	1:B:712:ILE:HD13	1.53	0.89
1:A:629:LEU:HG	1:A:631:PRO:HD2	1.55	0.87
1:B:645:THR:HG22	1:B:647:ALA:H	1.40	0.87
1:B:532:ASN:OD1	1:B:533:LEU:N	2.06	0.86
1:A:659:SER:HB3	1:A:698:SER:HB3	1.58	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:917:TYR:HB3	1:B:1129:VAL:HG22	1.61	0.82
1:A:498:ARG:H	1:A:501:TYR:HE1	1.28	0.81
1:C:173:GLN:NE2	1:C:174:PRO:O	2.14	0.80
1:C:61:ASN:HB2	3:C:1302:NAG:N2	1.98	0.79
1:A:699:LEU:HB3	1:C:873:TYR:HE2	1.48	0.78
1:A:902:MET:HE1	1:A:1050:MET:HE1	1.64	0.78
1:B:40:ASP:OD1	1:B:41:LYS:N	2.16	0.78
1:B:106:PHE:HB2	1:B:117:LEU:HB3	1.64	0.78
1:C:212:ILE:HG21	1:C:217:PRO:HB3	1.65	0.78
1:A:109:THR:H	1:A:237:ARG:HD3	1.49	0.77
1:C:173:GLN:HE22	1:C:177:MET:HE3	1.48	0.77
1:B:659:SER:HB3	1:B:698:SER:HB3	1.65	0.77
1:A:976:VAL:HG12	1:A:979:ASP:H	1.49	0.77
1:B:788:ILE:HD11	1:C:699:LEU:HB2	1.64	0.77
1:B:61:ASN:HB2	3:B:1302:NAG:N2	2.00	0.76
1:A:857:GLY:H	1:B:592:PHE:HE1	1.32	0.76
1:B:462:LYS:HD2	1:B:465:GLU:HB2	1.69	0.74
1:C:103:GLY:HA3	1:C:120:VAL:HA	1.68	0.74
1:B:96:GLU:OE1	1:B:100:ILE:N	2.21	0.74
1:C:433:VAL:HG23	1:C:512:VAL:HG12	1.70	0.73
1:A:53:ASP:OD2	1:A:54:LEU:N	2.20	0.73
1:C:343:ASN:HB2	3:C:1309:NAG:H2	1.71	0.72
1:B:128:ILE:HD11	1:B:175:PHE:HZ	1.55	0.71
1:A:577:ARG:HD3	1:A:582:LEU:HD13	1.72	0.71
1:B:131:CYS:SG	1:B:132:GLU:N	2.63	0.71
1:B:977:LEU:HD21	1:B:1000:ARG:HH12	1.54	0.71
1:B:200:TYR:O	1:B:202:LYS:NZ	2.23	0.71
1:C:65:PHE:HB2	1:C:265:TYR:HB3	1.72	0.70
1:B:128:ILE:HB	1:B:170:TYR:HB3	1.72	0.70
1:C:53:ASP:OD1	1:C:195:LYS:NZ	2.24	0.70
1:A:896:ILE:HD12	1:A:897:PRO:HD2	1.73	0.70
1:A:866:THR:HG22	1:A:868:GLU:H	1.56	0.70
1:C:188:ASN:HB3	1:C:209:PRO:HB3	1.71	0.70
1:C:347:PHE:HD2	1:C:399:SER:HB2	1.57	0.69
1:A:108:THR:HG22	1:A:109:THR:HG23	1.74	0.69
1:A:707:TYR:HD1	1:C:792:PRO:HG2	1.56	0.69
1:A:317:ASN:ND2	1:C:737:ASP:OD2	2.26	0.69
1:A:802:PHE:HB3	1:A:806:LEU:HD23	1.74	0.69
1:C:442:ASP:OD1	1:C:509:ARG:NH2	2.26	0.69
1:B:201:PHE:HB2	1:B:231:ILE:HG12	1.75	0.68
1:A:178:ASP:HA	1:A:188:ASN:HD21	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:822:LEU:HD22	1:B:945:LEU:HD21	1.76	0.68
1:C:1029:MET:HE1	1:C:1053:PRO:HB3	1.75	0.68
1:A:1129:VAL:HG12	1:C:917:TYR:HB3	1.74	0.68
1:C:206:LYS:HB3	1:C:223:LEU:HD13	1.76	0.68
1:C:131:CYS:SG	1:C:132:GLU:N	2.68	0.67
1:C:783:ALA:HA	1:C:873:TYR:HE1	1.59	0.67
1:A:770:ILE:HD11	1:A:1012:LEU:HD23	1.76	0.67
1:B:726:ILE:HG12	1:B:1061:VAL:HG22	1.76	0.67
1:A:133:PHE:HB2	1:A:160:TYR:HB2	1.75	0.67
1:A:804:GLN:NE2	1:A:935:GLN:OE1	2.26	0.67
1:C:1038:LYS:HE3	1:C:1038:LYS:HA	1.77	0.67
1:C:37:TYR:OH	1:C:195:LYS:NZ	2.27	0.67
1:A:610:VAL:HG11	1:A:633:TRP:HH2	1.60	0.67
1:A:108:THR:HB	1:A:114:THR:HG21	1.76	0.66
1:A:131:CYS:SG	1:A:132:GLU:N	2.67	0.66
1:B:93:ALA:HB3	1:B:266:TYR:HB2	1.76	0.66
1:C:34:ARG:NH2	1:C:217:PRO:O	2.28	0.66
1:B:557:LYS:HB2	1:B:584:ILE:HD13	1.77	0.65
1:C:132:GLU:HB3	1:C:164:ASN:HD21	1.60	0.65
1:A:442:ASP:OD1	1:A:509:ARG:NH2	2.30	0.65
1:A:736:VAL:HG11	1:A:1004:LEU:HD11	1.78	0.65
1:A:890:ALA:HA	1:B:1046:GLY:HA2	1.78	0.65
1:B:330:PRO:HA	1:B:579:PRO:HB2	1.77	0.65
1:C:124:THR:OG1	3:C:1301:NAG:O7	2.14	0.65
1:C:290:ASP:OD1	1:C:291:CYS:N	2.29	0.65
1:B:486:PRO:O	1:B:487:ASN:ND2	2.30	0.64
1:C:360:ASN:H	1:C:523:THR:HB	1.62	0.64
1:A:347:PHE:HD2	1:A:399:SER:HB2	1.63	0.64
1:B:867:ASP:HA	1:B:870:ILE:HD12	1.80	0.64
1:A:115:GLN:NE2	1:A:165:ASN:O	2.29	0.64
1:A:722:VAL:HG22	1:A:1065:VAL:HG22	1.79	0.64
1:B:763:LEU:HD21	1:B:1005:GLN:HE22	1.62	0.64
1:C:96:GLU:OE1	1:C:100:ILE:N	2.30	0.64
1:B:321:GLN:NE2	1:B:630:THR:OG1	2.30	0.64
1:B:1076:THR:HB	1:B:1097:SER:HB3	1.77	0.64
1:C:769:GLY:O	1:C:773:GLU:HG3	1.97	0.64
1:A:454:ARG:NH1	1:A:467:ASP:O	2.29	0.64
1:B:978:ASN:O	1:C:547:THR:OG1	2.15	0.64
1:A:699:LEU:HD12	1:A:699:LEU:H	1.63	0.63
1:B:104:TRP:HB2	1:B:119:ILE:HD11	1.80	0.63
1:C:393:THR:HA	1:C:522:ALA:HA	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1076:THR:HB	1:A:1097:SER:HB3	1.80	0.63
1:B:195:LYS:HB3	1:B:202:LYS:HE2	1.79	0.63
1:C:460:LYS:HE3	1:C:460:LYS:HA	1.81	0.63
1:A:864:LEU:HA	1:B:667:GLY:HA2	1.80	0.62
1:C:804:GLN:NE2	1:C:935:GLN:OE1	2.32	0.62
1:A:447:GLY:HA2	1:A:498:ARG:HG3	1.81	0.62
1:B:629:LEU:HG	1:B:631:PRO:HD2	1.80	0.62
1:A:42:VAL:HG11	1:B:567:ARG:HH11	1.64	0.62
1:A:697:MET:HE3	1:A:697:MET:HA	1.80	0.62
1:B:760:CYS:HA	1:B:763:LEU:HG	1.79	0.62
1:B:1104:VAL:HG11	1:B:1119:ASN:HD22	1.64	0.62
1:A:44:ARG:HD3	1:A:47:VAL:HG11	1.82	0.62
1:C:441:LEU:HD13	1:C:509:ARG:HH12	1.65	0.62
1:C:731:MET:HE1	1:C:1014:ARG:HB3	1.82	0.62
1:B:34:ARG:NH2	1:B:219:GLY:O	2.32	0.62
1:C:451:TYR:HB2	1:C:495:TYR:HB3	1.80	0.62
1:C:1075:PHE:O	1:C:1076:THR:OG1	2.17	0.62
1:A:589:PRO:HG3	1:C:855:PHE:HA	1.81	0.62
1:C:86:PHE:HD1	1:C:238:PHE:HB2	1.65	0.62
1:C:104:TRP:HA	1:C:240:THR:HA	1.82	0.62
1:A:396:TYR:HB2	1:A:514:SER:HB3	1.82	0.61
1:A:773:GLU:HA	1:A:776:LYS:HE2	1.82	0.61
1:B:454:ARG:NH1	1:B:467:ASP:O	2.32	0.61
1:C:311:GLY:HA2	1:C:664:ILE:HD12	1.82	0.61
1:A:1075:PHE:O	1:A:1076:THR:OG1	2.18	0.61
1:C:303:LEU:HD11	1:C:308:VAL:HG12	1.83	0.61
1:A:590:CYS:O	1:C:837:TYR:OH	2.11	0.61
1:A:844:ILE:HG23	1:B:556:ASN:HB2	1.81	0.61
1:A:861:LEU:HD12	1:A:862:PRO:HD2	1.82	0.61
1:C:645:THR:HG23	1:C:647:ALA:H	1.65	0.61
1:C:61:ASN:HB2	3:C:1302:NAG:HN2	1.66	0.61
1:B:977:LEU:HA	1:B:980:ILE:HG22	1.82	0.60
1:B:37:TYR:OH	1:B:53:ASP:OD1	2.17	0.60
1:B:124:THR:OG1	3:B:1301:NAG:O7	2.19	0.60
1:B:552:LEU:HD13	1:B:585:LEU:HD13	1.83	0.60
1:C:102:ARG:HH12	1:C:176:LEU:HD12	1.66	0.60
1:A:34:ARG:NH2	1:A:219:GLY:O	2.35	0.60
1:A:662:CYS:HB2	1:A:697:MET:HE1	1.83	0.60
1:B:210:ILE:HG21	1:B:217:PRO:HG3	1.83	0.60
1:B:330:PRO:HB2	1:B:332:VAL:HG12	1.83	0.60
1:B:568:ASP:OD1	1:B:572:THR:OG1	2.19	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:912:THR:OG1	1:A:914:ASN:OD1	2.19	0.60
1:B:23:THR:N	1:B:80:ASP:OD1	2.34	0.60
1:C:521:PRO:HG3	1:C:564:GLN:HE21	1.65	0.60
1:A:617:CYS:HB2	1:A:620:VAL:HG12	1.83	0.60
1:B:369:TYR:HA	1:B:374:PHE:HZ	1.67	0.60
1:A:91:TYR:HD1	1:A:193:VAL:HG12	1.66	0.60
1:C:1009:THR:O	1:C:1013:ILE:HG12	2.01	0.60
1:A:712:ILE:HD13	1:A:1094:VAL:HG11	1.84	0.60
1:C:406:GLU:OE1	1:C:406:GLU:N	2.35	0.59
1:A:560:LEU:O	1:A:577:ARG:NH2	2.35	0.59
1:C:178:ASP:OD2	1:C:190:ARG:NH2	2.34	0.59
1:A:189:LEU:HD21	1:A:191:GLU:HG3	1.84	0.59
1:C:874:THR:HG21	1:C:1055:SER:HB3	1.84	0.59
1:A:456:PHE:HB3	1:A:473:TYR:HD2	1.68	0.59
1:A:565:PHE:HB2	1:C:42:VAL:HG22	1.83	0.59
1:A:729:VAL:HG12	1:A:781:VAL:HG21	1.85	0.59
1:B:393:THR:HG21	1:B:520:ALA:HB3	1.83	0.59
1:B:805:ILE:HD12	1:B:878:LEU:HD11	1.83	0.59
1:C:411:ALA:HB3	1:C:414:GLN:HG3	1.85	0.59
1:B:844:ILE:HG23	1:C:556:ASN:HB2	1.85	0.59
1:C:326:ILE:HG13	1:C:539:VAL:HG11	1.84	0.59
1:C:188:ASN:HA	1:C:209:PRO:HA	1.84	0.58
1:B:37:TYR:OH	1:B:195:LYS:NZ	2.30	0.58
1:B:735:SER:O	1:B:735:SER:OG	2.21	0.58
1:B:900:MET:SD	1:C:1077:THR:OG1	2.57	0.58
1:C:334:ASN:ND2	1:C:360:ASN:O	2.34	0.58
1:B:189:LEU:HD22	1:B:210:ILE:HD12	1.84	0.58
1:C:310:LYS:HG2	1:C:664:ILE:HD11	1.84	0.58
1:A:210:ILE:HG22	1:A:212:ILE:H	1.69	0.58
1:B:107:GLY:H	1:B:235:ILE:HG23	1.68	0.58
1:C:976:VAL:HG12	1:C:979:ASP:H	1.67	0.58
1:A:553:THR:HG21	1:C:841:LEU:HB2	1.84	0.58
1:B:396:TYR:HB2	1:B:514:SER:HB3	1.85	0.58
1:B:641:ASN:HB3	1:B:652:GLY:H	1.68	0.58
1:C:310:LYS:HG3	1:C:600:PRO:HA	1.86	0.58
1:C:767:LEU:HA	1:C:770:ILE:HG22	1.86	0.58
1:A:726:ILE:HG12	1:A:1061:VAL:HG22	1.86	0.58
1:A:619:GLU:OE1	1:A:619:GLU:N	2.37	0.58
1:C:749:CYS:SG	1:C:997:ILE:HD11	2.44	0.58
1:B:338:PHE:HE1	1:B:358:ILE:HD13	1.69	0.57
1:C:633:TRP:H	1:C:633:TRP:CD1	2.21	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:760:CYS:HA	1:C:763:LEU:HG	1.86	0.57
1:C:1083:HIS:HB2	1:C:1137:VAL:HG12	1.86	0.57
1:B:319:ARG:HB2	1:B:630:THR:OG1	2.04	0.57
1:C:809:PRO:O	1:C:814:LYS:NZ	2.36	0.57
1:C:350:VAL:HG22	1:C:422:ASN:HB3	1.87	0.57
1:A:337:PRO:HG2	1:A:358:ILE:HD12	1.86	0.57
1:A:983:ARG:HG3	1:A:984:LEU:HG	1.85	0.57
1:B:290:ASP:OD1	1:B:291:CYS:N	2.38	0.57
1:C:1093:GLY:H	1:C:1107:ARG:HH12	1.52	0.57
1:A:1009:THR:O	1:A:1013:ILE:HG12	2.05	0.57
1:C:83:VAL:HG21	1:C:237:ARG:HE	1.70	0.57
1:C:212:ILE:HG22	1:C:213:GLY:H	1.70	0.57
1:C:577:ARG:HA	1:C:584:ILE:HA	1.85	0.57
1:B:624:ILE:HG23	1:B:634:ARG:HD2	1.87	0.56
1:C:908:GLY:HA3	1:C:1036:GLN:HE22	1.69	0.56
1:A:811:LYS:HZ3	1:A:812:PRO:HD2	1.70	0.56
1:B:513:LEU:HB3	1:B:515:PHE:HE1	1.70	0.56
1:A:376:ALA:HB3	1:A:435:ALA:HB3	1.87	0.56
1:A:456:PHE:HB2	1:A:491:PRO:HA	1.86	0.56
1:C:457:ARG:NH1	1:C:467:ASP:OD2	2.38	0.56
1:C:577:ARG:HH21	1:C:582:LEU:HD22	1.71	0.56
1:C:669:GLY:HA2	1:C:697:MET:HE1	1.86	0.56
1:C:328:ARG:NH2	1:C:580:GLN:OE1	2.32	0.56
1:B:102:ARG:HE	1:B:241:LEU:HB3	1.69	0.56
1:B:200:TYR:HA	1:B:230:PRO:HA	1.87	0.56
1:A:356:LYS:NZ	1:A:357:ARG:O	2.38	0.56
1:A:984:LEU:HB2	1:A:989:ALA:HB2	1.88	0.56
1:C:393:THR:OG1	1:C:516:GLU:OE1	2.24	0.56
1:C:559:PHE:HB2	1:C:584:ILE:HD11	1.87	0.56
1:C:326:ILE:HD13	1:C:533:LEU:HA	1.87	0.56
1:A:1049:LEU:HB3	1:A:1050:MET:HE2	1.88	0.56
1:C:170:TYR:HE2	1:C:227:VAL:HG21	1.69	0.56
1:C:598:ILE:HB	1:C:609:ALA:HB3	1.88	0.56
1:A:729:VAL:HG22	1:A:1059:GLY:HA2	1.87	0.56
1:B:976:VAL:HG23	1:B:979:ASP:HB3	1.88	0.56
1:A:358:ILE:HB	1:A:395:VAL:HB	1.88	0.56
1:B:61:ASN:HB2	3:B:1302:NAG:HN2	1.68	0.56
1:A:118:LEU:C	1:A:119:ILE:HD13	2.32	0.55
1:B:178:ASP:OD1	1:B:178:ASP:N	2.39	0.55
1:C:30:ASN:HD21	1:C:59:PHE:HD1	1.54	0.55
1:A:853:GLN:HB3	1:A:858:LEU:HB3	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:577:ARG:HD3	1:B:582:LEU:HD13	1.87	0.55
1:A:365:TYR:HA	1:A:368:LEU:CD1	2.36	0.55
1:B:770:ILE:HD11	1:B:1012:LEU:HD23	1.88	0.55
1:B:917:TYR:HB3	1:C:1129:VAL:HG23	1.89	0.55
1:A:919:ASN:HB3	1:A:922:LEU:HD12	1.88	0.55
1:A:624:ILE:HG13	1:A:634:ARG:HD2	1.88	0.55
1:B:300:LYS:HE3	1:B:306:PHE:HA	1.88	0.55
1:A:412:PRO:HG3	1:A:429:PHE:HB3	1.89	0.55
1:B:666:ILE:HD12	1:B:670:ILE:HG22	1.89	0.55
1:B:1075:PHE:O	1:B:1076:THR:OG1	2.17	0.55
1:C:328:ARG:NH2	1:C:579:PRO:HB2	2.22	0.55
1:C:450:ASP:OD1	1:C:450:ASP:N	2.39	0.55
1:C:662:CYS:HB2	1:C:697:MET:HG3	1.90	0.54
1:C:567:ARG:NH1	1:C:571:ASP:OD1	2.40	0.54
1:A:343:ASN:HB3	3:A:1302:NAG:N2	2.22	0.54
1:A:569:ILE:O	1:C:964:LYS:NZ	2.41	0.54
1:B:103:GLY:HA3	1:B:120:VAL:HA	1.88	0.54
1:B:328:ARG:NH1	1:B:531:THR:O	2.40	0.54
1:C:454:ARG:NH1	1:C:467:ASP:O	2.40	0.54
1:C:750:SER:O	1:C:754:LEU:HG	2.08	0.54
1:B:977:LEU:O	1:B:981:LEU:HG	2.07	0.54
1:A:384:PRO:O	1:A:387:LEU:HG	2.08	0.54
1:C:741:TYR:HE1	1:C:966:LEU:HD11	1.72	0.54
1:A:309:GLU:O	1:A:313:TYR:OH	2.19	0.53
1:B:990:GLU:N	1:B:990:GLU:OE1	2.39	0.53
1:C:57:PRO:HB2	1:C:60:SER:HB3	1.90	0.53
1:C:666:ILE:HD12	1:C:671:CYS:HA	1.89	0.53
1:B:732:THR:OG1	1:B:955:ASN:OD1	2.26	0.53
1:B:866:THR:H	1:B:869:MET:HE3	1.73	0.53
1:B:973:ILE:HG22	1:B:983:ARG:HH22	1.73	0.53
1:C:307:THR:HA	1:C:602:THR:HG21	1.90	0.53
1:A:373:PRO:HD2	1:A:436:TRP:CD1	2.42	0.53
1:C:341:VAL:HG23	1:C:342:PHE:CD2	2.43	0.53
1:C:422:ASN:ND2	1:C:454:ARG:O	2.38	0.53
1:A:103:GLY:HA3	1:A:120:VAL:HA	1.91	0.53
1:A:570:VAL:HG21	1:C:852:ALA:HB1	1.91	0.53
1:A:631:PRO:O	1:A:634:ARG:NH1	2.27	0.53
1:B:557:LYS:HB2	1:B:584:ILE:HG21	1.91	0.53
1:B:442:ASP:OD1	1:B:509:ARG:NH2	2.41	0.53
1:C:353:TRP:CD1	1:C:353:TRP:H	2.27	0.53
1:C:439:ASN:O	1:C:443:SER:OG	2.17	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:699:LEU:HD21	1:C:869:MET:HB2	1.90	0.53
1:B:190:ARG:HD3	1:B:207:HIS:CE1	2.44	0.53
1:A:837:TYR:OH	1:B:590:CYS:O	2.25	0.53
1:B:360:ASN:H	1:B:523:THR:HG22	1.74	0.53
1:C:403:LYS:HG2	1:C:505:HIS:HA	1.90	0.53
1:C:1031:GLU:HG2	1:C:1037:SER:HB2	1.91	0.53
1:A:350:VAL:HG11	1:A:418:ILE:HD12	1.91	0.52
1:C:179:LEU:HD21	1:C:209:PRO:HG3	1.92	0.52
1:C:200:TYR:HA	1:C:230:PRO:HA	1.89	0.52
1:C:358:ILE:HD13	1:C:395:VAL:HG12	1.90	0.52
1:C:364:ASP:N	1:C:364:ASP:OD1	2.41	0.52
1:C:557:LYS:HB2	1:C:584:ILE:HG21	1.91	0.52
1:B:310:LYS:HG3	1:B:664:ILE:HD11	1.90	0.52
1:C:1098:ASN:CG	1:C:1101:HIS:H	2.17	0.52
1:B:44:ARG:HB3	1:B:47:VAL:HG11	1.90	0.52
1:B:176:LEU:H	1:B:176:LEU:HD23	1.74	0.52
1:A:909:ILE:HD13	1:A:1047:TYR:HB3	1.92	0.52
1:B:501:TYR:HB3	1:B:505:HIS:HB3	1.92	0.52
1:C:53:ASP:OD1	1:C:54:LEU:N	2.37	0.52
1:C:133:PHE:HA	1:C:162:SER:HB2	1.92	0.52
1:C:93:ALA:HB3	1:C:266:TYR:HB2	1.91	0.52
1:C:128:ILE:HD11	1:C:175:PHE:HZ	1.74	0.52
1:C:434:ILE:HD13	1:C:513:LEU:HD23	1.90	0.52
1:C:456:PHE:HB3	1:C:473:TYR:CD2	2.44	0.52
1:A:422:ASN:ND2	1:A:454:ARG:O	2.30	0.52
1:B:560:LEU:HD23	1:B:563:GLN:HE21	1.74	0.52
1:B:569:ILE:HD12	1:B:569:ILE:H	1.75	0.52
1:A:105:ILE:HG13	1:A:239:GLN:HB3	1.93	0.51
1:A:442:ASP:HB3	1:A:451:TYR:HE2	1.74	0.51
1:A:623:ALA:HA	1:A:628:GLN:HE21	1.74	0.51
1:A:818:ILE:O	1:A:822:LEU:HG	2.09	0.51
1:C:321:GLN:NE2	1:C:630:THR:OG1	2.41	0.51
1:B:295:PRO:HG3	1:B:633:TRP:HD1	1.75	0.51
1:A:699:LEU:HB3	1:C:873:TYR:CE2	2.38	0.51
1:B:1106:GLN:N	1:B:1106:GLN:OE1	2.43	0.51
1:C:456:PHE:HB3	1:C:473:TYR:HD2	1.76	0.51
1:A:132:GLU:N	1:A:166:CYS:SG	2.74	0.51
1:C:405:ASN:O	1:C:408:SER:OG	2.25	0.51
1:B:91:TYR:N	1:B:268:GLY:O	2.38	0.51
1:C:389:ASP:OD1	1:C:389:ASP:N	2.42	0.51
1:B:231:ILE:HG22	1:B:233:ILE:HG12	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:600:PRO:HD3	1:A:692:ILE:HD11	1.93	0.51
1:A:1116:THR:OG1	1:A:1118:ASP:OD1	2.29	0.51
1:A:65:PHE:HB2	1:A:265:TYR:HB2	1.92	0.51
1:A:159:VAL:HG11	1:A:241:LEU:HD11	1.93	0.51
1:A:126:VAL:HG22	1:A:172:SER:H	1.77	0.50
1:B:56:LEU:N	1:B:270:LEU:HD23	2.26	0.50
1:C:34:ARG:NH1	1:C:191:GLU:OE2	2.39	0.50
1:C:720:ILE:HD12	1:C:923:ILE:HD11	1.93	0.50
1:C:164:ASN:O	1:C:166:CYS:N	2.44	0.50
1:A:666:ILE:HB	1:A:670:ILE:O	2.11	0.50
1:B:914:ASN:ND2	1:B:1111:GLU:OE1	2.42	0.50
1:B:984:LEU:HB3	1:B:989:ALA:HB2	1.93	0.50
1:C:564:GLN:OE1	1:C:577:ARG:NH1	2.45	0.50
1:C:633:TRP:H	1:C:633:TRP:HD1	1.58	0.50
1:B:102:ARG:HG3	1:B:120:VAL:HG23	1.94	0.50
1:B:119:ILE:HG22	1:B:128:ILE:HG23	1.94	0.50
1:C:714:ILE:HD12	1:C:1096:VAL:HG21	1.92	0.50
1:B:197:ILE:HG22	1:B:202:LYS:HE3	1.92	0.50
1:B:210:ILE:HG22	1:B:212:ILE:H	1.76	0.50
1:A:791:THR:HG21	1:A:806:LEU:HD11	1.93	0.50
1:C:722:VAL:HG22	1:C:1065:VAL:HG22	1.94	0.50
1:A:25:THR:HG23	1:A:66:HIS:HB3	1.93	0.50
1:A:289:VAL:HG21	1:A:300:LYS:HE3	1.94	0.50
1:A:894:LEU:HD13	1:B:715:PRO:HD3	1.93	0.50
1:C:811:LYS:HD2	1:C:812:PRO:HD2	1.93	0.50
1:C:1115:ILE:HG22	1:C:1137:VAL:HG23	1.93	0.50
1:B:1092:GLU:OE1	1:B:1092:GLU:N	2.45	0.50
1:A:449:TYR:HA	1:A:496:GLY:HA2	1.93	0.49
1:A:848:ASP:OD1	1:A:848:ASP:N	2.41	0.49
1:B:439:ASN:O	1:B:443:SER:OG	2.28	0.49
1:C:57:PRO:HG3	1:C:273:ARG:HD2	1.94	0.49
1:A:34:ARG:HD2	1:A:191:GLU:OE2	2.12	0.49
1:A:160:TYR:HE2	1:A:163:ALA:HB2	1.75	0.49
1:B:666:ILE:HD11	1:B:672:ALA:HB2	1.94	0.49
1:B:843:ASP:O	1:B:845:ALA:N	2.45	0.49
1:B:959:LEU:O	1:B:963:VAL:HG23	2.12	0.49
1:B:971:GLY:O	1:B:995:ARG:NH1	2.45	0.49
1:C:417:ASN:O	1:C:422:ASN:ND2	2.45	0.49
1:C:912:THR:OG1	1:C:914:ASN:OD1	2.30	0.49
1:B:319:ARG:HH21	1:B:590:CYS:HB2	1.77	0.49
1:B:391:CYS:HA	1:B:525:CYS:CB	2.34	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:555:SER:HB3	1:C:584:ILE:HG22	1.93	0.49
1:C:631:PRO:HB3	1:C:633:TRP:NE1	2.28	0.49
1:A:471:GLU:HA	1:A:481:LYS:HZ1	1.77	0.49
1:B:57:PRO:HB2	1:B:60:SER:HB3	1.93	0.49
1:B:325:SER:HB2	1:B:540:ASN:HD22	1.78	0.49
1:B:979:ASP:OD1	1:B:983:ARG:NE	2.45	0.49
1:C:170:TYR:CE1	1:C:172:SER:HB3	2.47	0.49
1:C:367:VAL:O	1:C:371:PHE:HB2	2.12	0.49
1:C:636:TYR:HD1	1:C:637:SER:N	2.10	0.49
1:B:905:ARG:HD2	1:B:1049:LEU:O	2.12	0.49
1:A:927:PHE:HZ	1:A:1052:PHE:HE2	1.61	0.49
1:A:1075:PHE:HB3	1:A:1097:SER:O	2.11	0.49
1:B:403:LYS:HE3	1:B:495:TYR:HE1	1.77	0.49
1:B:873:TYR:CE2	1:C:699:LEU:HD13	2.47	0.49
1:B:1098:ASN:OD1	1:B:1099:GLY:N	2.46	0.49
1:A:840:CYS:HB2	1:B:588:THR:HG23	1.94	0.49
1:A:843:ASP:O	1:A:845:ALA:N	2.44	0.49
1:A:234:ASN:OD1	3:A:1310:NAG:N2	2.46	0.49
1:A:720:ILE:HG13	1:A:923:ILE:HG13	1.94	0.49
1:A:985:ASP:OD1	1:A:985:ASP:N	2.44	0.49
1:C:218:GLN:OE1	1:C:218:GLN:N	2.46	0.49
1:A:365:TYR:HA	1:A:368:LEU:HD12	1.93	0.49
1:C:817:PRO:O	1:C:821:LEU:HG	2.13	0.49
1:A:452:TRP:HB3	1:A:492:LEU:HD13	1.95	0.49
1:B:369:TYR:HA	1:B:374:PHE:CZ	2.46	0.49
1:C:404:GLY:HA2	1:C:508:TYR:HD2	1.78	0.49
1:B:28:TYR:HD2	1:B:61:ASN:HD21	1.61	0.48
1:B:912:THR:OG1	1:B:914:ASN:OD1	2.30	0.48
1:C:406:GLU:HG3	1:C:418:ILE:HD13	1.95	0.48
1:A:1098:ASN:CG	1:A:1101:HIS:H	2.21	0.48
1:A:1129:VAL:HG21	1:A:1132:ILE:HD12	1.95	0.48
1:B:1098:ASN:CG	1:B:1101:HIS:H	2.20	0.48
1:B:454:ARG:HH22	1:B:467:ASP:HB3	1.77	0.48
1:B:777:ASN:HD21	1:B:1019:ARG:HA	1.78	0.48
1:C:132:GLU:CB	1:C:164:ASN:HD21	2.27	0.48
1:C:396:TYR:HB2	1:C:514:SER:HB3	1.94	0.48
1:C:632:THR:HA	1:C:634:ARG:HH21	1.78	0.48
1:A:762:GLN:HA	1:A:765:ARG:NH1	2.29	0.48
1:B:355:ARG:HH12	1:B:464:PHE:HB3	1.79	0.48
1:B:749:CYS:SG	1:B:997:ILE:HD11	2.54	0.48
1:B:847:ARG:NE	1:C:574:ASP:OD1	2.35	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:843:ASP:O	1:C:845:ALA:N	2.45	0.48
1:A:732:THR:OG1	1:A:955:ASN:OD1	2.31	0.48
1:B:620:VAL:HA	1:B:623:ALA:HB3	1.95	0.48
1:C:81:ASN:ND2	1:C:240:THR:O	2.35	0.48
1:C:502:GLY:O	1:C:506:GLN:HG2	2.14	0.48
1:C:633:TRP:CD1	1:C:633:TRP:N	2.82	0.48
1:A:865:LEU:HB3	1:A:870:ILE:HD11	1.94	0.48
1:B:118:LEU:HD22	1:B:129:LYS:HD2	1.94	0.48
1:B:210:ILE:HD13	1:B:217:PRO:HG3	1.96	0.48
1:C:347:PHE:CD2	1:C:399:SER:HB2	2.43	0.48
1:C:559:PHE:H	1:C:584:ILE:HD11	1.77	0.48
1:C:779:GLN:O	1:C:783:ALA:HB3	2.14	0.48
1:A:34:ARG:NH1	1:A:221:SER:OG	2.47	0.48
1:A:598:ILE:HG12	1:A:666:ILE:HD11	1.96	0.48
1:A:1072:GLU:OE1	1:A:1072:GLU:N	2.46	0.48
1:B:320:VAL:N	1:B:591:SER:OG	2.31	0.48
1:B:742:ILE:HG22	1:B:997:ILE:HD12	1.94	0.48
1:C:1098:ASN:OD1	1:C:1099:GLY:N	2.46	0.48
1:A:403:LYS:HE3	1:A:495:TYR:CZ	2.49	0.48
1:A:562:PHE:CD1	1:A:562:PHE:C	2.92	0.48
1:B:280:ASN:OD1	1:B:281:GLU:N	2.47	0.48
1:B:299:THR:O	1:B:303:LEU:HG	2.14	0.48
1:C:117:LEU:HD12	1:C:118:LEU:N	2.29	0.48
1:C:447:GLY:HA2	1:C:498:ARG:HG2	1.95	0.48
1:C:638:THR:HG23	1:C:640:SER:H	1.78	0.48
1:A:312:ILE:HD12	1:A:666:ILE:HD13	1.95	0.48
1:A:857:GLY:N	1:B:592:PHE:HE1	2.08	0.48
1:A:922:LEU:O	1:A:926:GLN:HG2	2.14	0.48
1:C:95:THR:HB	1:C:189:LEU:HG	1.95	0.47
1:C:418:ILE:H	1:C:418:ILE:HD12	1.79	0.47
1:C:570:VAL:O	1:C:570:VAL:HG23	2.14	0.47
1:C:716:THR:HG21	1:C:1073:LYS:HD3	1.96	0.47
1:C:962:LEU:HD22	1:C:1007:TYR:CG	2.49	0.47
1:C:220:PHE:HE2	1:C:285:ILE:HG22	1.77	0.47
1:C:726:ILE:HG23	1:C:1061:VAL:HG22	1.96	0.47
1:C:974:SER:OG	1:C:975:SER:N	2.45	0.47
1:C:1098:ASN:OD1	1:C:1101:HIS:N	2.36	0.47
1:C:1144:GLU:OE1	1:C:1144:GLU:N	2.47	0.47
1:A:889:GLY:HA3	1:A:1034:LEU:HD21	1.97	0.47
1:B:497:PHE:HA	1:B:501:TYR:HE2	1.79	0.47
1:B:1072:GLU:N	1:B:1072:GLU:OE1	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:33:THR:O	1:C:33:THR:OG1	2.29	0.47
1:A:329:PHE:HE2	1:A:528:LYS:HG3	1.79	0.47
1:A:904:TYR:HE1	1:B:1107:ARG:HD3	1.78	0.47
1:B:748:GLU:OE1	1:B:748:GLU:N	2.32	0.47
1:A:567:ARG:HD2	1:C:42:VAL:HG11	1.97	0.47
1:C:379:CYS:HB2	1:C:384:PRO:HD3	1.97	0.47
1:A:111:ASP:OD1	1:A:111:ASP:N	2.46	0.47
1:B:560:LEU:HB2	1:B:563:GLN:HG3	1.96	0.47
1:B:983:ARG:HD2	1:C:517:LEU:HD13	1.94	0.47
1:C:28:TYR:HD2	1:C:61:ASN:HD21	1.62	0.47
1:A:159:VAL:HG12	1:A:159:VAL:O	2.15	0.47
1:A:271:GLN:OE1	1:A:271:GLN:N	2.48	0.47
1:A:729:VAL:HG11	1:A:781:VAL:HG11	1.97	0.47
1:A:889:GLY:HA3	1:A:1034:LEU:HD11	1.96	0.47
1:A:993:ILE:O	1:A:997:ILE:HG12	2.15	0.47
1:B:118:LEU:HD21	1:B:120:VAL:HG12	1.97	0.47
1:B:422:ASN:ND2	1:B:454:ARG:O	2.29	0.47
1:B:880:GLY:O	1:B:884:SER:OG	2.28	0.47
1:B:1053:PRO:O	1:B:1054:GLN:NE2	2.41	0.47
1:C:188:ASN:HD21	1:C:190:ARG:HH21	1.63	0.47
1:C:586:ASP:OD1	1:C:587:ILE:N	2.47	0.47
1:C:783:ALA:HA	1:C:873:TYR:CE1	2.44	0.47
1:B:329:PHE:CG	1:B:528:LYS:HB3	2.50	0.47
1:A:667:GLY:HA2	1:C:864:LEU:HA	1.97	0.47
1:B:337:PRO:O	1:B:341:VAL:HG23	2.15	0.47
1:B:759:PHE:HZ	1:C:1002:GLN:HG3	1.78	0.47
1:B:993:ILE:O	1:B:997:ILE:HG12	2.14	0.47
1:C:363:ALA:HB1	1:C:365:TYR:CE1	2.49	0.47
1:C:501:TYR:HB3	1:C:505:HIS:HB2	1.96	0.47
1:C:631:PRO:O	1:C:634:ARG:NE	2.46	0.47
1:A:305:SER:OG	1:A:306:PHE:N	2.48	0.47
1:A:406:GLU:HG2	1:A:418:ILE:HG13	1.96	0.47
1:A:740:MET:HE1	1:B:319:ARG:CZ	2.45	0.47
1:A:741:TYR:CZ	1:A:966:LEU:HD21	2.50	0.47
1:B:404:GLY:HA2	1:B:508:TYR:HD2	1.80	0.47
1:B:731:MET:HE1	1:B:1014:ARG:HB3	1.97	0.47
1:A:1031:GLU:OE1	1:A:1037:SER:OG	2.26	0.46
1:B:990:GLU:HA	1:B:993:ILE:HG22	1.95	0.46
1:C:108:THR:C	1:C:110:LEU:H	2.23	0.46
1:A:204:TYR:C	1:A:223:LEU:HD11	2.40	0.46
1:A:985:ASP:OD1	1:A:988:GLU:HB3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:611:LEU:HD22	1:C:666:ILE:HG23	1.95	0.46
1:C:644:GLN:HA	1:C:649:CYS:HB2	1.98	0.46
1:A:411:ALA:HB3	1:A:414:GLN:HG3	1.95	0.46
1:B:856:ASN:ND2	1:B:966:LEU:HD13	2.29	0.46
1:B:894:LEU:HD13	1:C:715:PRO:HD3	1.98	0.46
1:B:985:ASP:OD2	1:C:383:SER:OG	2.30	0.46
1:C:324:GLU:HG2	1:C:539:VAL:HG22	1.95	0.46
1:C:384:PRO:HA	1:C:387:LEU:HD22	1.97	0.46
1:C:770:ILE:O	1:C:774:GLN:HG2	2.14	0.46
1:C:1081:ILE:O	1:C:1088:HIS:N	2.43	0.46
1:B:126:VAL:HG22	1:B:172:SER:H	1.79	0.46
1:B:201:PHE:N	1:B:229:LEU:O	2.48	0.46
1:B:417:ASN:HD22	1:B:455:LEU:HD23	1.80	0.46
1:C:305:SER:OG	1:C:306:PHE:N	2.48	0.46
1:A:57:PRO:O	1:A:60:SER:OG	2.29	0.46
1:C:1107:ARG:HH11	1:C:1107:ARG:HG3	1.79	0.46
1:A:366:SER:HA	1:A:369:TYR:HD1	1.79	0.46
1:A:570:VAL:HG23	1:A:572:THR:HG23	1.96	0.46
1:B:450:ASP:OD1	1:B:450:ASP:N	2.46	0.46
1:C:430:THR:O	1:C:430:THR:OG1	2.33	0.46
1:B:633:TRP:HE3	1:B:633:TRP:H	1.63	0.46
1:C:97:LYS:O	1:C:97:LYS:NZ	2.48	0.46
1:C:743:CYS:HB3	1:C:749:CYS:HB3	1.78	0.46
1:B:738:CYS:HB3	1:B:760:CYS:HB2	1.65	0.46
1:C:115:GLN:OE1	1:C:130:VAL:HG12	2.16	0.46
1:A:239:GLN:HE21	1:A:240:THR:H	1.62	0.46
1:A:365:TYR:CD2	1:A:368:LEU:HD13	2.51	0.46
1:B:712:ILE:HG13	1:B:714:ILE:HG13	1.97	0.46
1:A:617:CYS:HB2	1:A:620:VAL:CG1	2.46	0.45
1:A:904:TYR:CE1	1:B:1107:ARG:HD3	2.51	0.45
1:A:967:SER:O	1:A:967:SER:OG	2.32	0.45
1:B:113:LYS:HE2	1:B:113:LYS:HB3	1.72	0.45
1:B:981:LEU:HD12	1:B:982:SER:N	2.31	0.45
1:B:203:ILE:HB	1:B:227:VAL:HG22	1.96	0.45
1:B:722:VAL:HG12	1:B:934:ILE:HD12	1.97	0.45
1:A:189:LEU:HB2	1:A:210:ILE:HD11	1.99	0.45
1:A:598:ILE:HD11	1:A:650:LEU:HD11	1.98	0.45
1:A:791:THR:HG21	1:A:806:LEU:CD1	2.47	0.45
1:B:131:CYS:HB3	1:B:133:PHE:CE1	2.51	0.45
1:B:299:THR:O	1:B:302:THR:HG22	2.16	0.45
1:B:471:GLU:H	1:B:491:PRO:HG3	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:997:ILE:HG22	1:B:1001:LEU:HD23	1.98	0.45
1:C:878:LEU:O	1:C:882:ILE:HG23	2.15	0.45
1:A:339:HIS:CE1	1:A:340:GLU:HG3	2.50	0.45
1:A:847:ARG:HH21	1:B:572:THR:HB	1.82	0.45
1:A:962:LEU:HD22	1:A:1007:TYR:CG	2.51	0.45
1:A:1098:ASN:OD1	1:A:1099:GLY:N	2.49	0.45
1:B:406:GLU:N	1:B:406:GLU:OE1	2.48	0.45
1:B:420:ASP:O	1:B:461:LEU:N	2.50	0.45
1:C:126:VAL:HG13	1:C:174:PRO:HA	1.99	0.45
1:C:328:ARG:HH21	1:C:580:GLN:CD	2.23	0.45
1:C:900:MET:HE3	1:C:900:MET:HB3	1.87	0.45
1:A:287:ASP:HB3	1:A:306:PHE:CZ	2.52	0.45
1:B:43:PHE:CE1	1:B:283:GLY:HA3	2.52	0.45
1:B:777:ASN:ND2	1:B:1019:ARG:HA	2.32	0.45
1:B:906:PHE:CD2	1:B:916:LEU:HB2	2.52	0.45
1:C:437:ASN:OD1	1:C:439:ASN:ND2	2.49	0.45
1:C:1097:SER:HB3	1:C:1102:TRP:CD2	2.52	0.45
1:A:121:ASN:HD22	1:A:176:LEU:HD23	1.82	0.45
1:A:791:THR:HG22	1:A:879:ALA:HB2	1.96	0.45
1:C:393:THR:HG21	1:C:520:ALA:HB3	1.97	0.45
1:C:472:ILE:HG12	1:C:482:GLY:O	2.16	0.45
1:B:775:ASP:OD2	1:B:864:LEU:HB3	2.16	0.45
1:A:46:SER:O	1:A:46:SER:OG	2.34	0.45
1:A:81:ASN:OD1	1:A:239:GLN:NE2	2.50	0.45
1:A:436:TRP:HZ3	1:A:511:VAL:HG12	1.81	0.45
1:A:498:ARG:NE	1:A:501:TYR:OH	2.50	0.45
1:A:850:ILE:O	1:A:854:LYS:HG2	2.17	0.45
1:B:57:PRO:HG3	1:B:273:ARG:HD2	1.99	0.45
1:B:131:CYS:HB3	1:B:133:PHE:CZ	2.52	0.45
1:B:567:ARG:NE	1:B:571:ASP:OD2	2.50	0.45
1:C:481:LYS:HA	1:C:481:LYS:HD2	1.67	0.45
1:A:55:PHE:C	1:A:270:LEU:HD12	2.42	0.45
1:A:855:PHE:HE2	1:B:587:ILE:HG22	1.81	0.45
1:C:124:THR:O	1:C:174:PRO:HD3	2.17	0.45
1:C:210:ILE:C	1:C:212:ILE:HG13	2.42	0.45
1:C:358:ILE:HD12	1:C:358:ILE:N	2.32	0.45
1:A:96:GLU:OE1	1:A:100:ILE:N	2.44	0.45
1:A:765:ARG:NE	1:B:957:GLN:OE1	2.49	0.45
1:C:34:ARG:NH2	1:C:219:GLY:O	2.49	0.45
1:C:106:PHE:HE1	1:C:201:PHE:HZ	1.63	0.45
1:C:109:THR:H	1:C:237:ARG:HD3	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:101:ILE:C	1:A:102:ARG:HD2	2.42	0.44
1:A:231:ILE:HG23	1:A:232:GLY:H	1.81	0.44
1:A:386:LYS:HB3	1:A:386:LYS:HE2	1.61	0.44
1:A:654:GLU:HG3	1:A:693:ILE:HG22	1.98	0.44
1:A:790:LYS:HD3	1:B:702:GLU:OE2	2.17	0.44
1:B:900:MET:HE2	1:B:900:MET:HB3	1.77	0.44
1:B:931:ILE:O	1:B:934:ILE:HG22	2.17	0.44
1:A:234:ASN:N	1:A:234:ASN:HD22	2.14	0.44
1:A:774:GLN:O	1:A:778:THR:HG22	2.17	0.44
1:B:41:LYS:HG3	1:C:562:PHE:CE1	2.53	0.44
1:B:353:TRP:H	1:B:353:TRP:CD1	2.35	0.44
1:B:717:ASN:C	1:B:1070:ALA:HB3	2.42	0.44
1:C:453:TYR:CD1	1:C:495:TYR:HD1	2.35	0.44
1:C:1029:MET:HE2	1:C:1062:PHE:CZ	2.53	0.44
1:A:829:ALA:O	1:A:850:ILE:HD11	2.18	0.44
1:B:377:PHE:CE1	1:B:384:PRO:HB3	2.52	0.44
1:C:1072:GLU:N	1:C:1072:GLU:OE1	2.49	0.44
1:A:605:SER:OG	1:A:606:ASN:N	2.50	0.44
1:B:202:LYS:HB3	1:B:204:TYR:CE1	2.53	0.44
1:C:404:GLY:HA2	1:C:508:TYR:CD2	2.53	0.44
1:A:108:THR:O	1:A:109:THR:OG1	2.35	0.44
1:A:574:ASP:O	1:A:587:ILE:N	2.50	0.44
1:A:844:ILE:O	1:B:557:LYS:HD3	2.18	0.44
1:A:1115:ILE:HA	1:A:1119:ASN:HD21	1.82	0.44
1:C:128:ILE:HD11	1:C:175:PHE:CZ	2.53	0.44
1:C:290:ASP:O	1:C:297:SER:HB3	2.17	0.44
1:C:675:GLN:HG3	1:C:693:ILE:HD11	1.99	0.44
1:C:702:GLU:OE1	1:C:703:ASN:N	2.50	0.44
1:C:1106:GLN:OE1	1:C:1106:GLN:N	2.50	0.44
1:C:906:PHE:CD2	1:C:916:LEU:HB2	2.52	0.44
1:A:163:ALA:HA	1:A:166:CYS:SG	2.58	0.44
1:A:318:PHE:HZ	1:A:615:VAL:HG21	1.82	0.44
1:A:541:PHE:CZ	1:A:587:ILE:HD12	2.53	0.44
1:A:568:ASP:CG	1:A:569:ILE:N	2.75	0.44
1:B:826:VAL:HB	1:B:1057:PRO:HG2	1.99	0.44
1:C:1029:MET:SD	1:C:1033:VAL:HG21	2.58	0.44
1:A:170:TYR:CE1	1:A:227:VAL:HG21	2.53	0.44
1:A:497:PHE:CG	1:A:507:PRO:HG3	2.52	0.44
1:A:708:SER:OG	1:A:709:ASN:N	2.51	0.44
1:B:574:ASP:O	1:B:587:ILE:N	2.48	0.44
1:B:617:CYS:HB3	1:B:649:CYS:HB2	1.57	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:295:PRO:HG3	1:C:633:TRP:CE3	2.53	0.44
1:A:290:ASP:O	1:A:297:SER:HB2	2.18	0.44
1:A:375:PHE:CE2	1:A:407:VAL:HG11	2.53	0.44
1:B:557:LYS:HG3	1:B:559:PHE:CE1	2.53	0.44
1:B:922:LEU:O	1:B:926:GLN:HG3	2.18	0.44
1:C:134:GLN:HG3	1:C:135:PHE:H	1.82	0.44
1:B:529:LYS:HB2	1:B:529:LYS:HE2	1.74	0.43
1:B:1081:ILE:O	1:B:1088:HIS:N	2.42	0.43
1:C:136:CYS:SG	1:C:159:VAL:HA	2.58	0.43
1:C:326:ILE:HD11	1:C:534:VAL:HG23	2.00	0.43
1:A:821:LEU:HD13	1:A:939:PHE:HD2	1.82	0.43
1:A:1102:TRP:NE1	1:A:1133:VAL:HG11	2.33	0.43
1:B:229:LEU:H	1:B:229:LEU:HD23	1.83	0.43
1:B:1083:HIS:HB2	1:B:1137:VAL:HG13	2.00	0.43
1:A:290:ASP:OD1	1:A:291:CYS:N	2.51	0.43
1:A:1043:CYS:HB2	1:A:1048:HIS:CG	2.53	0.43
1:A:1107:ARG:HG2	1:A:1107:ARG:HH11	1.82	0.43
1:B:1083:HIS:ND1	1:B:1137:VAL:HG22	2.34	0.43
1:C:103:GLY:O	1:C:241:LEU:N	2.41	0.43
1:C:454:ARG:HG2	1:C:492:LEU:HB3	1.98	0.43
1:C:985:ASP:OD1	1:C:986:PRO:HD2	2.19	0.43
1:A:464:PHE:O	1:A:464:PHE:CG	2.71	0.43
1:A:620:VAL:HA	1:A:623:ALA:HB3	2.00	0.43
1:A:650:LEU:HD23	1:A:653:ALA:HB3	1.98	0.43
1:B:977:LEU:H	1:B:977:LEU:HD22	1.83	0.43
1:B:1083:HIS:CD2	1:B:1136:THR:HA	2.53	0.43
1:C:378:LYS:O	1:C:433:VAL:HG12	2.18	0.43
1:C:620:VAL:HA	1:C:623:ALA:HB3	1.99	0.43
1:A:714:ILE:HD11	1:A:1110:TYR:CD1	2.54	0.43
1:B:802:PHE:CD1	1:B:805:ILE:HD11	2.53	0.43
1:C:391:CYS:HB3	1:C:522:ALA:CB	2.48	0.43
1:C:984:LEU:HB3	1:C:989:ALA:HB2	2.01	0.43
1:A:393:THR:OG1	1:A:394:ASN:N	2.51	0.43
1:A:611:LEU:HD23	1:A:649:CYS:O	2.18	0.43
1:C:44:ARG:HB3	1:C:47:VAL:HG11	1.99	0.43
1:C:870:ILE:O	1:C:874:THR:HG23	2.18	0.43
1:C:993:ILE:O	1:C:997:ILE:HG12	2.18	0.43
1:A:54:LEU:HD11	1:A:88:ASP:HB3	1.99	0.43
1:A:611:LEU:HD11	1:A:666:ILE:HG23	2.00	0.43
1:A:660:TYR:HB2	1:A:695:TYR:CZ	2.54	0.43
1:A:772:VAL:O	1:A:776:LYS:HG3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:855:PHE:HD1	1:C:589:PRO:HG3	1.83	0.43
1:B:988:GLU:OE2	1:B:988:GLU:N	2.52	0.43
1:C:132:GLU:HB3	1:C:164:ASN:ND2	2.30	0.43
1:C:134:GLN:O	1:C:135:PHE:HB2	2.17	0.43
1:B:403:LYS:HE3	1:B:495:TYR:CE1	2.53	0.43
1:B:471:GLU:N	1:B:491:PRO:HG3	2.34	0.43
1:B:1127:ASP:OD2	1:B:1127:ASP:C	2.62	0.43
1:C:176:LEU:C	1:C:177:MET:HE2	2.44	0.43
1:C:975:SER:O	1:C:975:SER:OG	2.32	0.43
1:B:854:LYS:HA	1:B:854:LYS:HD2	1.87	0.43
1:B:855:PHE:HA	1:C:589:PRO:HG3	2.01	0.43
1:C:118:LEU:HD23	1:C:118:LEU:HA	1.86	0.43
1:A:974:SER:OG	1:A:975:SER:N	2.52	0.43
1:B:200:TYR:O	1:B:202:LYS:HG3	2.19	0.43
1:B:610:VAL:HB	1:B:651:ILE:HG22	2.01	0.43
1:A:375:PHE:HE2	1:A:407:VAL:HG11	1.83	0.42
1:A:402:ILE:HG13	1:A:403:LYS:H	1.83	0.42
1:A:460:LYS:HA	1:A:460:LYS:HD3	1.77	0.42
1:B:914:ASN:HD21	1:B:1111:GLU:CD	2.27	0.42
1:C:101:ILE:HG23	1:C:241:LEU:O	2.18	0.42
1:C:338:PHE:HA	1:C:341:VAL:HG22	2.01	0.42
1:A:427:ASP:OD1	1:A:427:ASP:N	2.53	0.42
1:A:854:LYS:HA	1:A:854:LYS:HD2	1.88	0.42
1:A:1083:HIS:CD2	1:A:1136:THR:HA	2.54	0.42
1:B:459:SER:OG	1:B:460:LYS:N	2.52	0.42
1:C:188:ASN:HA	1:C:209:PRO:CA	2.49	0.42
1:C:229:LEU:HD23	1:C:229:LEU:H	1.84	0.42
1:A:222:ALA:HB2	1:A:285:ILE:HB	2.02	0.42
1:A:904:TYR:HE1	1:B:1107:ARG:CD	2.32	0.42
1:A:990:GLU:HA	1:A:993:ILE:HG22	2.01	0.42
1:B:226:LEU:HG	1:B:227:VAL:HG13	2.01	0.42
1:B:295:PRO:HG3	1:B:633:TRP:CD1	2.54	0.42
1:B:796:TYR:CD2	3:C:1307:NAG:H5	2.54	0.42
1:C:905:ARG:HD2	1:C:1049:LEU:O	2.19	0.42
1:A:357:ARG:HA	1:A:357:ARG:NE	2.33	0.42
1:A:378:LYS:HD2	1:A:380:TYR:OH	2.20	0.42
1:A:749:CYS:SG	1:A:997:ILE:HD11	2.60	0.42
1:A:1082:CYS:HB2	1:A:1132:ILE:HD13	2.00	0.42
1:B:86:PHE:HD1	1:B:238:PHE:HB2	1.84	0.42
1:C:497:PHE:CG	1:C:507:PRO:HG3	2.55	0.42
1:A:1081:ILE:O	1:A:1088:HIS:N	2.46	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1107:ARG:HB3	1:A:1108:ASN:OD1	2.19	0.42
1:B:788:ILE:HG23	1:B:876:ALA:HB2	2.01	0.42
1:B:962:LEU:HD22	1:B:1007:TYR:CG	2.54	0.42
1:C:877:LEU:HD23	1:C:877:LEU:HA	1.84	0.42
1:A:804:GLN:OE1	2:F:1:NAG:O6	2.25	0.42
1:A:883:THR:OG1	1:B:705:VAL:HG11	2.20	0.42
1:B:231:ILE:CG2	1:B:233:ILE:HG12	2.49	0.42
1:B:643:PHE:O	1:B:649:CYS:HA	2.19	0.42
1:B:983:ARG:HG2	1:C:390:LEU:HD23	2.02	0.42
1:C:449:TYR:HA	1:C:496:GLY:HA2	2.02	0.42
1:C:1098:ASN:OD1	1:C:1100:THR:N	2.50	0.42
1:A:656:VAL:HG12	1:A:658:ASN:H	1.84	0.42
1:B:426:PRO:HD3	1:B:463:PRO:HB3	2.01	0.42
1:B:1075:PHE:HB3	1:B:1097:SER:O	2.20	0.42
1:B:1081:ILE:HG12	1:B:1095:PHE:CE2	2.55	0.42
1:B:1096:VAL:O	1:B:1103:PHE:N	2.47	0.42
1:C:735:SER:O	1:C:735:SER:OG	2.28	0.42
1:C:866:THR:OG1	1:C:869:MET:HG2	2.20	0.42
1:A:662:CYS:HB2	1:A:697:MET:CE	2.50	0.42
1:A:931:ILE:HD12	1:A:931:ILE:HA	1.81	0.42
1:A:1086:LYS:HE3	1:A:1086:LYS:HB2	1.85	0.42
1:B:411:ALA:HB3	1:B:414:GLN:HG3	2.01	0.42
1:B:1091:ARG:HB3	1:B:1092:GLU:OE1	2.20	0.42
1:C:388:ASN:O	1:C:527:PRO:HD2	2.19	0.42
1:C:456:PHE:HB2	1:C:491:PRO:HA	2.01	0.42
1:C:960:ASN:HA	1:C:963:VAL:HG22	2.01	0.42
1:A:47:VAL:HG13	1:A:49:HIS:H	1.85	0.42
1:A:57:PRO:HB2	1:A:60:SER:HB3	2.02	0.42
1:A:379:CYS:HB2	1:A:384:PRO:HD3	2.01	0.42
1:A:729:VAL:HG22	1:A:1059:GLY:CA	2.50	0.42
1:B:338:PHE:CE1	1:B:358:ILE:HD13	2.53	0.42
1:B:543:PHE:O	1:B:546:LEU:HG	2.20	0.42
1:B:598:ILE:HG13	1:B:609:ALA:HB3	2.01	0.42
1:C:276:LEU:HD12	1:C:304:LYS:HG2	2.02	0.42
1:C:343:ASN:OD1	1:C:343:ASN:N	2.53	0.42
1:C:359:SER:O	1:C:360:ASN:ND2	2.52	0.42
1:C:363:ALA:HB1	1:C:365:TYR:HE1	1.84	0.42
1:A:295:PRO:HG3	1:A:633:TRP:CZ3	2.54	0.42
1:A:310:LYS:HD2	1:A:663:ASP:OD2	2.20	0.42
1:A:645:THR:HG23	1:A:649:CYS:HA	2.01	0.42
1:A:903:ALA:HB1	1:A:913:GLN:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:920:GLN:HA	1:A:923:ILE:HG22	2.01	0.42
1:B:104:TRP:CD1	1:B:238:PHE:HE1	2.38	0.42
1:B:136:CYS:HB2	1:B:159:VAL:O	2.19	0.42
1:B:497:PHE:CG	1:B:507:PRO:HG3	2.54	0.42
1:C:87:ASN:OD1	1:C:87:ASN:N	2.53	0.42
1:C:396:TYR:HD1	1:C:396:TYR:HA	1.76	0.42
1:C:965:GLN:O	1:C:968:SER:OG	2.35	0.42
1:A:386:LYS:NZ	1:C:984:LEU:O	2.44	0.41
1:A:707:TYR:OH	1:C:796:TYR:O	2.37	0.41
1:B:41:LYS:N	1:B:41:LYS:HD3	2.35	0.41
1:B:550:GLY:HA3	1:B:588:THR:O	2.19	0.41
1:B:770:ILE:O	1:B:774:GLN:HG2	2.20	0.41
1:B:848:ASP:OD1	1:B:848:ASP:N	2.40	0.41
1:B:1013:ILE:HD13	1:B:1013:ILE:HA	1.80	0.41
1:B:1130:ILE:HD12	1:B:1131:GLY:H	1.84	0.41
1:C:38:TYR:CE2	1:C:224:GLU:HG3	2.55	0.41
1:A:472:ILE:HG12	1:A:482:GLY:O	2.19	0.41
1:B:966:LEU:O	1:B:966:LEU:HD23	2.20	0.41
1:C:25:THR:HG23	1:C:66:HIS:HB2	2.01	0.41
1:C:39:PRO:HG2	1:C:51:THR:HG21	2.02	0.41
1:C:210:ILE:HB	1:C:212:ILE:H	1.73	0.41
1:C:300:LYS:HD3	1:C:306:PHE:HA	2.02	0.41
1:C:588:THR:HG22	1:C:589:PRO:O	2.20	0.41
2:F:1:NAG:H62	2:F:2:BMA:H2	2.02	0.41
1:A:329:PHE:CE2	1:A:528:LYS:HG3	2.55	0.41
1:A:560:LEU:H	1:A:563:GLN:HG3	1.85	0.41
1:A:731:MET:HE2	1:A:1018:ILE:HG13	2.00	0.41
1:A:896:ILE:HD12	1:A:896:ILE:HA	1.87	0.41
1:B:106:PHE:HD1	1:B:235:ILE:HG21	1.86	0.41
1:B:984:LEU:C	1:C:386:LYS:HD2	2.45	0.41
1:C:25:THR:O	1:C:65:PHE:HA	2.20	0.41
1:C:366:SER:HA	1:C:369:TYR:CD1	2.56	0.41
1:A:715:PRO:HD3	1:C:894:LEU:HD13	2.02	0.41
1:B:24:THR:O	1:B:26:GLN:NE2	2.54	0.41
1:B:1001:LEU:O	1:B:1005:GLN:HG2	2.20	0.41
1:C:1114:ILE:HD13	1:C:1114:ILE:HA	1.94	0.41
1:A:404:GLY:HA2	1:A:508:TYR:CD2	2.56	0.41
1:B:115:GLN:OE1	1:B:130:VAL:HG12	2.19	0.41
1:B:350:VAL:HG22	1:B:422:ASN:HB3	2.02	0.41
1:C:37:TYR:HB3	1:C:223:LEU:HB2	2.03	0.41
1:C:117:LEU:HD11	1:C:119:ILE:HG12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:177:MET:HE3	1:A:207:HIS:ND1	2.36	0.41
1:A:366:SER:HA	1:A:369:TYR:CD1	2.54	0.41
1:A:819:GLU:H	1:A:819:GLU:HG3	1.67	0.41
1:C:439:ASN:OD1	1:C:507:PRO:HD2	2.20	0.41
1:C:920:GLN:HA	1:C:923:ILE:HG22	2.02	0.41
1:C:1043:CYS:HB2	1:C:1048:HIS:CG	2.56	0.41
1:A:933:LYS:HE2	1:A:933:LYS:HB2	1.82	0.41
1:B:417:ASN:ND2	1:B:455:LEU:HD23	2.36	0.41
1:B:654:GLU:OE2	1:B:654:GLU:N	2.53	0.41
1:C:346:ARG:HE	1:C:346:ARG:HA	1.86	0.41
1:C:784:GLN:HG3	1:C:1034:LEU:HD11	2.03	0.41
1:A:125:ASN:HD22	1:A:171:VAL:HG13	1.85	0.41
1:A:501:TYR:HB3	1:A:505:HIS:HB3	2.01	0.41
1:B:425:LEU:HD23	1:B:425:LEU:HA	1.94	0.41
1:C:950:ASP:C	1:C:950:ASP:OD1	2.63	0.41
1:A:47:VAL:HG23	1:B:569:ILE:HG13	2.03	0.41
1:A:271:GLN:O	1:A:273:ARG:HG3	2.21	0.41
1:A:431:GLY:HA2	1:A:515:PHE:CD2	2.56	0.41
1:A:646:ARG:HG2	1:C:833:PHE:HB2	2.02	0.41
1:A:830:ASP:CG	1:A:850:ILE:HD12	2.46	0.41
1:A:855:PHE:HB3	1:A:856:ASN:OD1	2.20	0.41
1:A:1098:ASN:OD1	1:A:1101:HIS:N	2.47	0.41
1:B:44:ARG:HB3	1:B:47:VAL:CG1	2.49	0.41
1:B:132:GLU:N	1:B:166:CYS:SG	2.78	0.41
1:B:461:LEU:HD23	1:B:461:LEU:HA	1.82	0.41
1:B:558:LYS:NZ	2:D:1:NAG:O5	2.42	0.41
1:B:904:TYR:CE2	1:C:1107:ARG:HG2	2.55	0.41
1:C:574:ASP:O	1:C:587:ILE:N	2.49	0.41
1:C:850:ILE:O	1:C:854:LYS:HG2	2.20	0.41
1:C:908:GLY:HA3	1:C:1036:GLN:NE2	2.34	0.41
1:A:947:LYS:HE2	1:A:947:LYS:HB2	1.80	0.41
1:B:112:SER:HB2	1:B:134:GLN:HA	2.02	0.41
1:B:661:GLU:OE2	1:B:661:GLU:N	2.41	0.41
1:B:716:THR:HA	1:B:1110:TYR:HB3	2.03	0.41
1:C:506:GLN:HA	1:C:507:PRO:HD3	1.94	0.41
1:A:404:GLY:HA2	1:A:508:TYR:HD2	1.87	0.40
1:A:661:GLU:OE1	1:A:661:GLU:N	2.36	0.40
1:B:124:THR:O	1:B:174:PRO:HD3	2.21	0.40
1:B:730:SER:O	1:B:1058:HIS:HB3	2.21	0.40
1:C:212:ILE:HG22	1:C:213:GLY:N	2.35	0.40
1:A:160:TYR:CE2	1:A:163:ALA:HB2	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:188:ASN:OD1	1:A:188:ASN:N	2.52	0.40
1:A:418:ILE:HG23	1:A:422:ASN:HB2	2.03	0.40
1:A:450:ASP:OD1	1:A:450:ASP:N	2.52	0.40
1:A:703:ASN:OD1	1:A:704:SER:N	2.54	0.40
1:C:56:LEU:HD12	1:C:57:PRO:HD2	2.02	0.40
1:C:99:ASN:HD21	1:C:102:ARG:HH11	1.68	0.40
1:C:159:VAL:HG12	1:C:159:VAL:O	2.22	0.40
1:C:570:VAL:O	1:C:572:THR:HG23	2.21	0.40
1:C:657:ASN:HB3	3:C:1306:NAG:O5	2.20	0.40
1:C:951:VAL:O	1:C:955:ASN:ND2	2.54	0.40
1:A:296:LEU:HB3	1:A:608:VAL:HG11	2.03	0.40
1:A:337:PRO:HA	1:A:339:HIS:CE1	2.56	0.40
1:A:457:ARG:NH1	1:A:467:ASP:OD2	2.47	0.40
1:B:358:ILE:HD12	1:B:395:VAL:HG12	2.04	0.40
1:C:1081:ILE:HG13	1:C:1095:PHE:CD2	2.56	0.40
1:A:201:PHE:O	1:A:228:ASP:HA	2.21	0.40
1:A:921:LYS:HD2	1:A:921:LYS:HA	1.95	0.40
1:B:210:ILE:H	1:B:210:ILE:HG13	1.69	0.40
1:B:981:LEU:HD12	1:B:982:SER:H	1.86	0.40
1:B:1097:SER:HB2	1:B:1102:TRP:CE3	2.56	0.40
1:C:191:GLU:HB2	1:C:223:LEU:HD11	2.03	0.40
1:C:617:CYS:HB2	1:C:620:VAL:HG22	2.02	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	1053/1206 (87%)	977 (93%)	75 (7%)	1 (0%)	48	81
1	B	1053/1206 (87%)	979 (93%)	73 (7%)	1 (0%)	48	81
1	C	1053/1206 (87%)	977 (93%)	72 (7%)	4 (0%)	30	65

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	3159/3618 (87%)	2933 (93%)	220 (7%)	6 (0%)	45 75

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	210	ILE
1	C	212	ILE
1	C	210	ILE
1	C	135	PHE
1	B	534	VAL
1	C	209	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	925/1054 (88%)	922 (100%)	3 (0%)	91 91
1	B	925/1054 (88%)	919 (99%)	6 (1%)	84 87
1	C	925/1054 (88%)	918 (99%)	7 (1%)	79 84
All	All	2775/3162 (88%)	2759 (99%)	16 (1%)	82 87

All (16) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	189	LEU
1	A	598	ILE
1	A	624	ILE
1	B	61	ASN
1	B	88	ASP
1	B	277	LEU
1	B	302	THR
1	B	303	LEU
1	B	547	THR
1	C	61	ASN

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Mol	Chain	Res	Type
1	C	105	ILE
1	C	210	ILE
1	C	341	VAL
1	C	620	VAL
1	C	633	TRP
1	C	759	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (34) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	125	ASN
1	A	239	GLN
1	A	417	ASN
1	A	487	ASN
1	A	628	GLN
1	A	901	GLN
1	A	926	GLN
1	A	965	GLN
1	A	992	GLN
1	A	1135	ASN
1	B	207	HIS
1	B	321	GLN
1	B	360	ASN
1	B	370	ASN
1	B	388	ASN
1	B	556	ASN
1	B	607	GLN
1	B	913	GLN
1	B	949	GLN
1	B	1005	GLN
1	B	1011	GLN
1	B	1135	ASN
1	C	66	HIS
1	C	134	GLN
1	C	173	GLN
1	C	271	GLN
1	C	321	GLN
1	C	360	ASN
1	C	540	ASN
1	C	542	ASN
1	C	556	ASN
1	C	607	GLN

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Mol	Chain	Res	Type
1	C	1010	GLN
1	C	1036	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

30 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	$\# Z > 2$
2	NAG	D	1	2	14,14,15	0.22	0	17,19,21	0.40	0
2	BMA	D	2	2	11,11,12	0.57	0	15,15,17	0.75	0
2	NAG	E	1	1,2	14,14,15	0.19	0	17,19,21	0.41	0
2	BMA	E	2	2	11,11,12	0.60	0	15,15,17	0.78	0
2	NAG	F	1	1,2	14,14,15	0.25	0	17,19,21	0.43	0
2	BMA	F	2	2	11,11,12	0.62	0	15,15,17	0.71	0
2	NAG	G	1	1,2	14,14,15	0.25	0	17,19,21	0.41	0
2	BMA	G	2	2	11,11,12	0.58	0	15,15,17	0.72	0
2	NAG	H	1	1,2	14,14,15	1.04	1 (7%)	17,19,21	1.00	1 (5%)
2	BMA	H	2	2	11,11,12	0.55	0	15,15,17	1.12	1 (6%)
2	NAG	I	1	1,2	14,14,15	0.23	0	17,19,21	0.38	0
2	BMA	I	2	2	11,11,12	0.61	0	15,15,17	0.74	0
2	NAG	J	1	1,2	14,14,15	0.21	0	17,19,21	0.40	0
2	BMA	J	2	2	11,11,12	0.59	0	15,15,17	0.71	0
2	NAG	K	1	1,2	14,14,15	0.30	0	17,19,21	0.47	0
2	BMA	K	2	2	11,11,12	0.61	0	15,15,17	0.68	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	NAG	L	1	1,2	14,14,15	0.23	0	17,19,21	0.44	0
2	BMA	L	2	2	11,11,12	0.61	0	15,15,17	0.72	0
2	NAG	M	1	1,2	14,14,15	1.01	1 (7%)	17,19,21	0.99	1 (5%)
2	BMA	M	2	2	11,11,12	0.61	0	15,15,17	1.45	3 (20%)
2	NAG	N	1	1,2	14,14,15	0.27	0	17,19,21	0.38	0
2	BMA	N	2	2	11,11,12	0.57	0	15,15,17	0.70	0
2	NAG	O	1	1,2	14,14,15	0.23	0	17,19,21	0.43	0
2	BMA	O	2	2	11,11,12	0.62	0	15,15,17	0.71	0
2	NAG	P	1	1,2	14,14,15	0.26	0	17,19,21	0.44	0
2	BMA	P	2	2	11,11,12	0.64	0	15,15,17	0.67	0
2	NAG	Q	1	1,2	14,14,15	0.22	0	17,19,21	0.43	0
2	BMA	Q	2	2	11,11,12	0.60	0	15,15,17	0.74	0
2	NAG	R	1	1,2	14,14,15	1.15	1 (7%)	17,19,21	1.10	1 (5%)
2	BMA	R	2	2	11,11,12	0.62	0	15,15,17	1.33	3 (20%)

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
2	NAG	D	1	2	-	2/6/23/26	0/1/1/1
2	BMA	D	2	2	-	0/2/19/22	0/1/1/1
2	NAG	E	1	1,2	-	2/6/23/26	0/1/1/1
2	BMA	E	2	2	-	0/2/19/22	0/1/1/1
2	NAG	F	1	1,2	-	2/6/23/26	0/1/1/1
2	BMA	F	2	2	-	0/2/19/22	0/1/1/1
2	NAG	G	1	1,2	-	2/6/23/26	0/1/1/1
2	BMA	G	2	2	-	0/2/19/22	0/1/1/1
2	NAG	H	1	1,2	-	2/6/23/26	0/1/1/1
2	BMA	H	2	2	-	0/2/19/22	0/1/1/1
2	NAG	I	1	1,2	-	2/6/23/26	0/1/1/1
2	BMA	I	2	2	-	0/2/19/22	0/1/1/1
2	NAG	J	1	1,2	-	0/6/23/26	0/1/1/1
2	BMA	J	2	2	-	0/2/19/22	0/1/1/1
2	NAG	K	1	1,2	-	2/6/23/26	0/1/1/1
2	BMA	K	2	2	-	1/2/19/22	0/1/1/1
2	NAG	L	1	1,2	-	2/6/23/26	0/1/1/1
2	BMA	L	2	2	-	1/2/19/22	0/1/1/1
2	NAG	M	1	1,2	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	BMA	M	2	2	-	2/2/19/22	0/1/1/1
2	NAG	N	1	1,2	-	2/6/23/26	0/1/1/1
2	BMA	N	2	2	-	0/2/19/22	0/1/1/1
2	NAG	O	1	1,2	-	0/6/23/26	0/1/1/1
2	BMA	O	2	2	-	0/2/19/22	0/1/1/1
2	NAG	P	1	1,2	-	2/6/23/26	0/1/1/1
2	BMA	P	2	2	-	0/2/19/22	0/1/1/1
2	NAG	Q	1	1,2	-	0/6/23/26	0/1/1/1
2	BMA	Q	2	2	-	0/2/19/22	0/1/1/1
2	NAG	R	1	1,2	-	2/6/23/26	0/1/1/1
2	BMA	R	2	2	-	2/2/19/22	0/1/1/1

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	R	1	NAG	O5-C1	-4.01	1.37	1.43
2	H	1	NAG	O5-C1	-3.64	1.37	1.43
2	M	1	NAG	O5-C1	-3.54	1.38	1.43

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	M	2	BMA	C1-O5-C5	3.14	116.44	112.19
2	R	1	NAG	C3-C4-C5	3.00	115.59	110.24
2	R	2	BMA	C1-O5-C5	2.91	116.13	112.19
2	M	2	BMA	O5-C1-C2	2.65	114.86	110.77
2	H	1	NAG	C3-C4-C5	2.61	114.89	110.24
2	H	2	BMA	C1-O5-C5	2.57	115.68	112.19
2	M	1	NAG	C3-C4-C5	2.46	114.63	110.24
2	M	2	BMA	C1-C2-C3	2.45	112.68	109.67
2	R	2	BMA	O5-C1-C2	2.28	114.29	110.77
2	R	2	BMA	C1-C2-C3	2.23	112.41	109.67

There are no chirality outliers.

All (30) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	M	1	NAG	O5-C5-C6-O6
2	R	1	NAG	O5-C5-C6-O6
2	K	1	NAG	O5-C5-C6-O6

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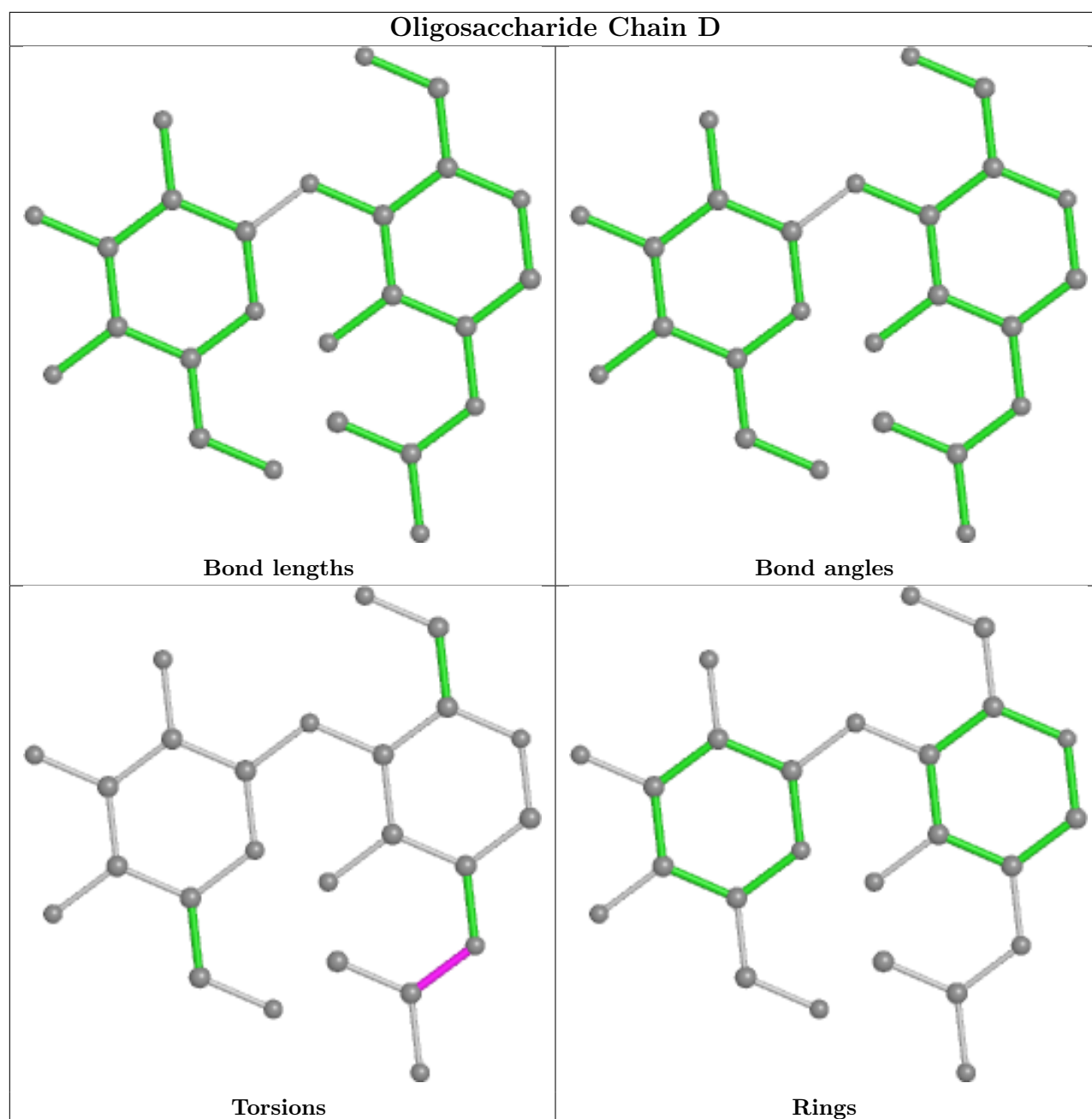
Mol	Chain	Res	Type	Atoms
2	P	1	NAG	O5-C5-C6-O6
2	R	1	NAG	C4-C5-C6-O6
2	F	1	NAG	O5-C5-C6-O6
2	G	1	NAG	O5-C5-C6-O6
2	H	1	NAG	O5-C5-C6-O6
2	M	1	NAG	C4-C5-C6-O6
2	M	2	BMA	O5-C5-C6-O6
2	D	1	NAG	C8-C7-N2-C2
2	D	1	NAG	O7-C7-N2-C2
2	I	1	NAG	C8-C7-N2-C2
2	I	1	NAG	O7-C7-N2-C2
2	N	1	NAG	C8-C7-N2-C2
2	N	1	NAG	O7-C7-N2-C2
2	G	1	NAG	C4-C5-C6-O6
2	M	2	BMA	C4-C5-C6-O6
2	E	1	NAG	O5-C5-C6-O6
2	F	1	NAG	C4-C5-C6-O6
2	H	1	NAG	C4-C5-C6-O6
2	L	1	NAG	O5-C5-C6-O6
2	P	1	NAG	C4-C5-C6-O6
2	R	2	BMA	O5-C5-C6-O6
2	K	1	NAG	C4-C5-C6-O6
2	E	1	NAG	C4-C5-C6-O6
2	R	2	BMA	C4-C5-C6-O6
2	L	1	NAG	C4-C5-C6-O6
2	K	2	BMA	O5-C5-C6-O6
2	L	2	BMA	O5-C5-C6-O6

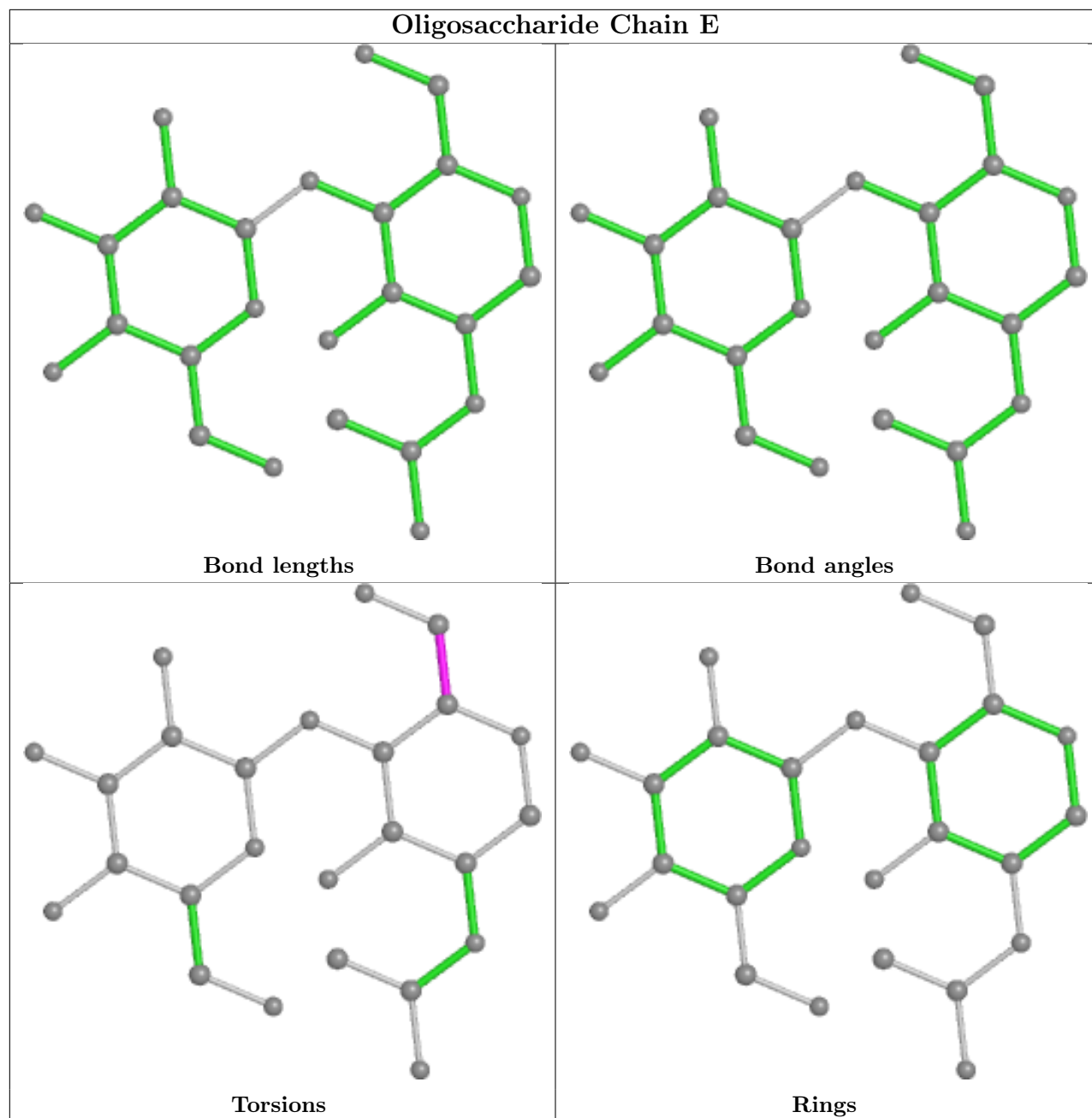
There are no ring outliers.

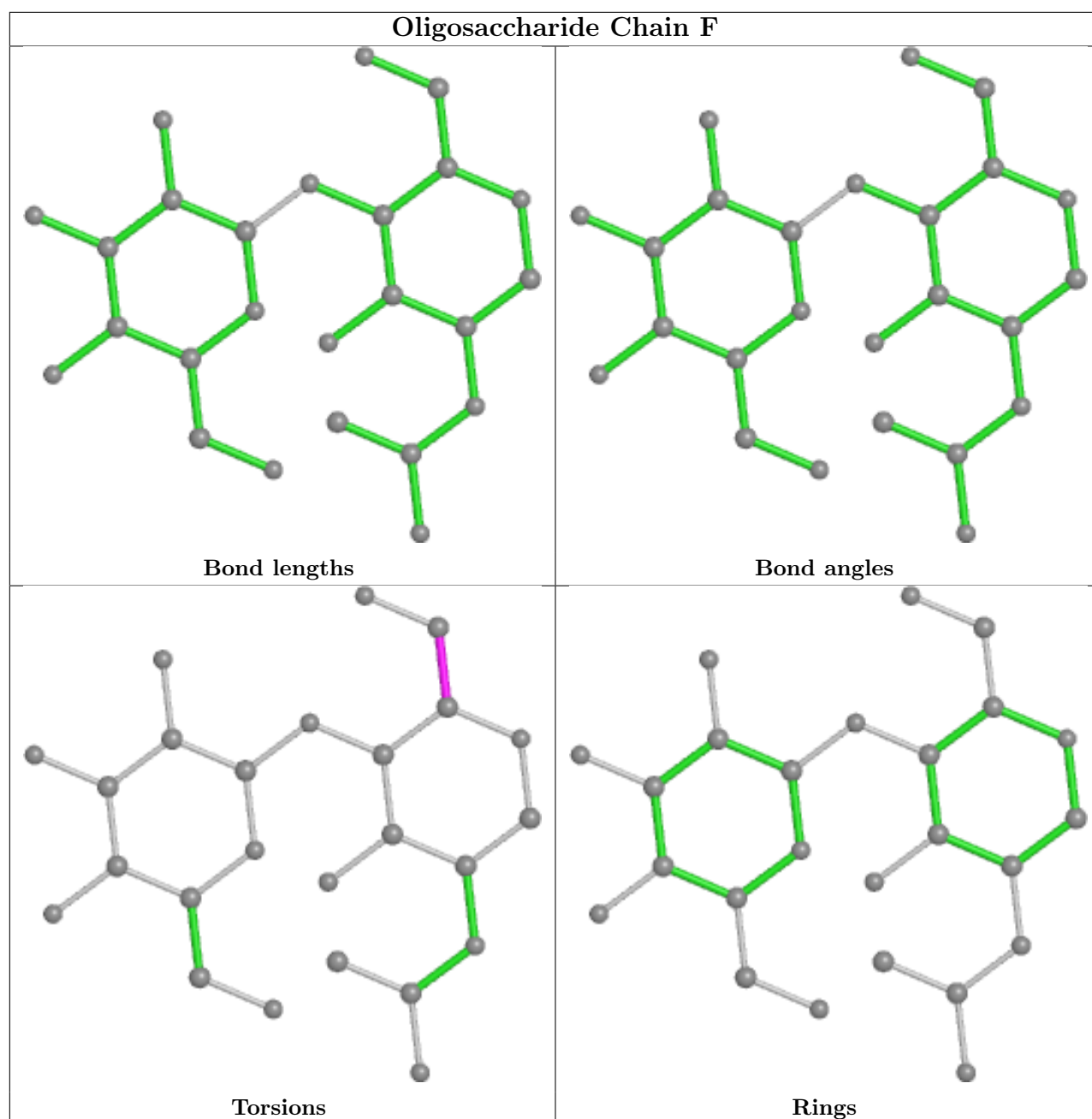
3 monomers are involved in 3 short contacts:

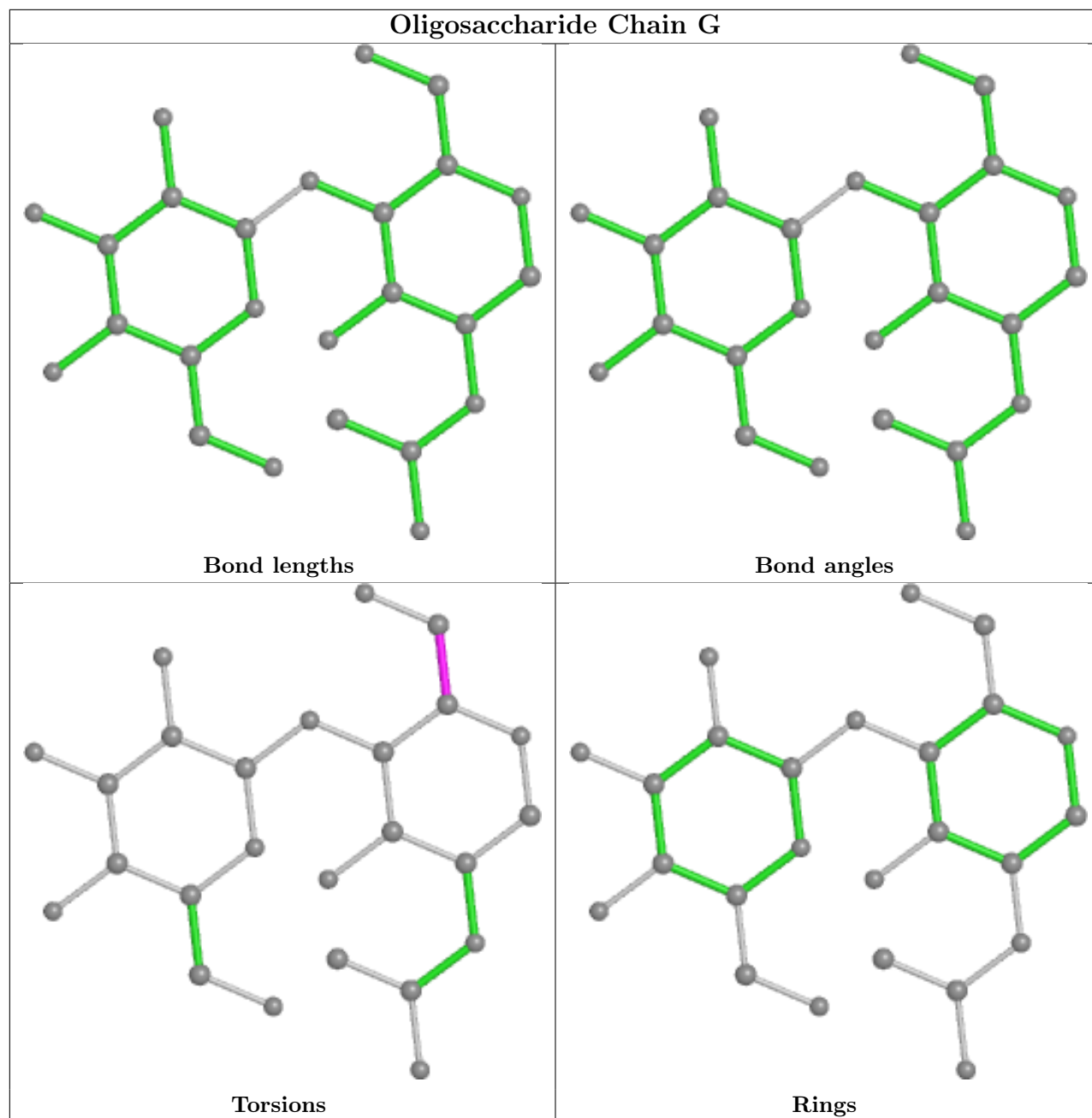
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	1	NAG	1	0
2	F	2	BMA	1	0
2	F	1	NAG	2	0

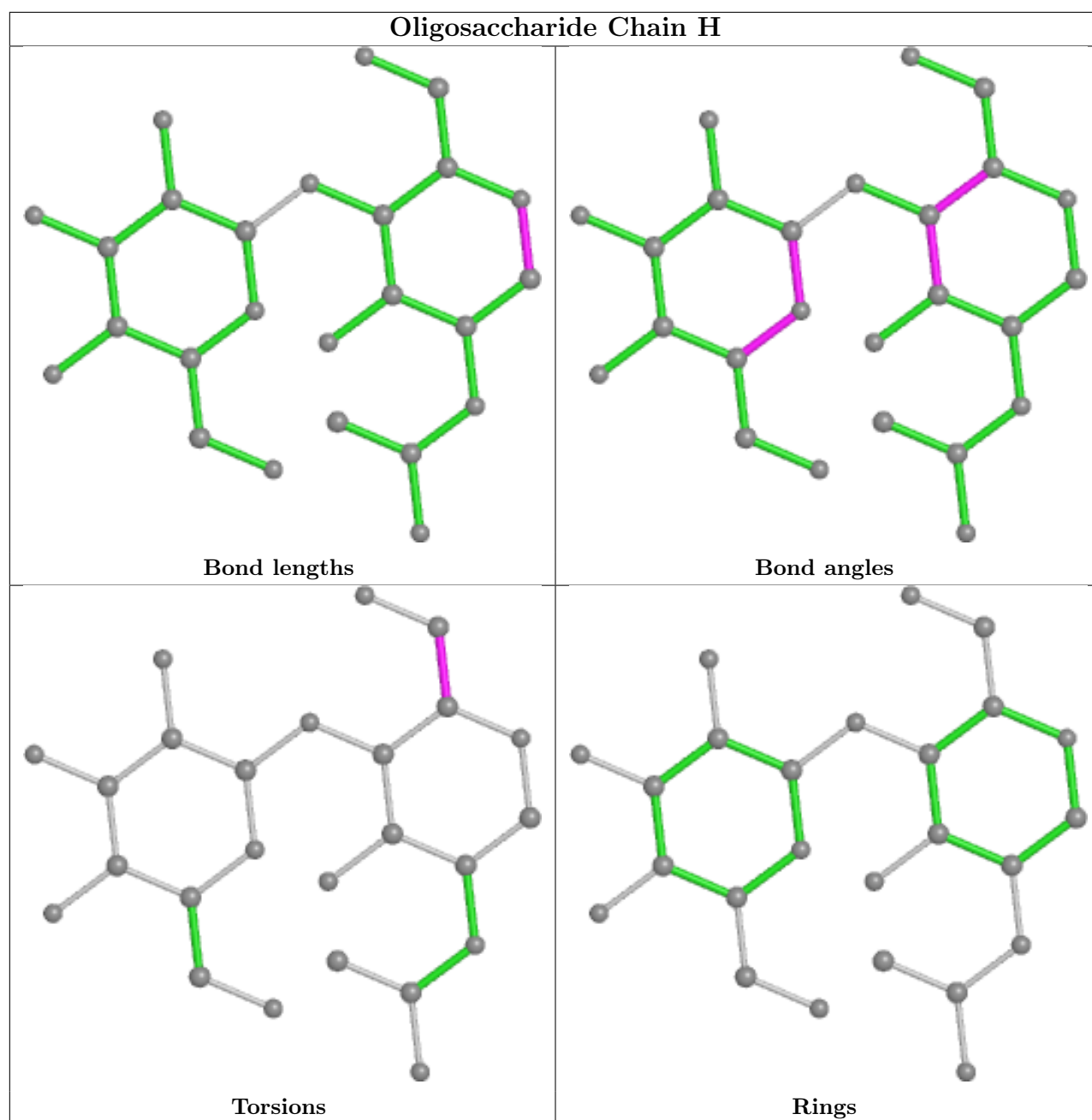
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

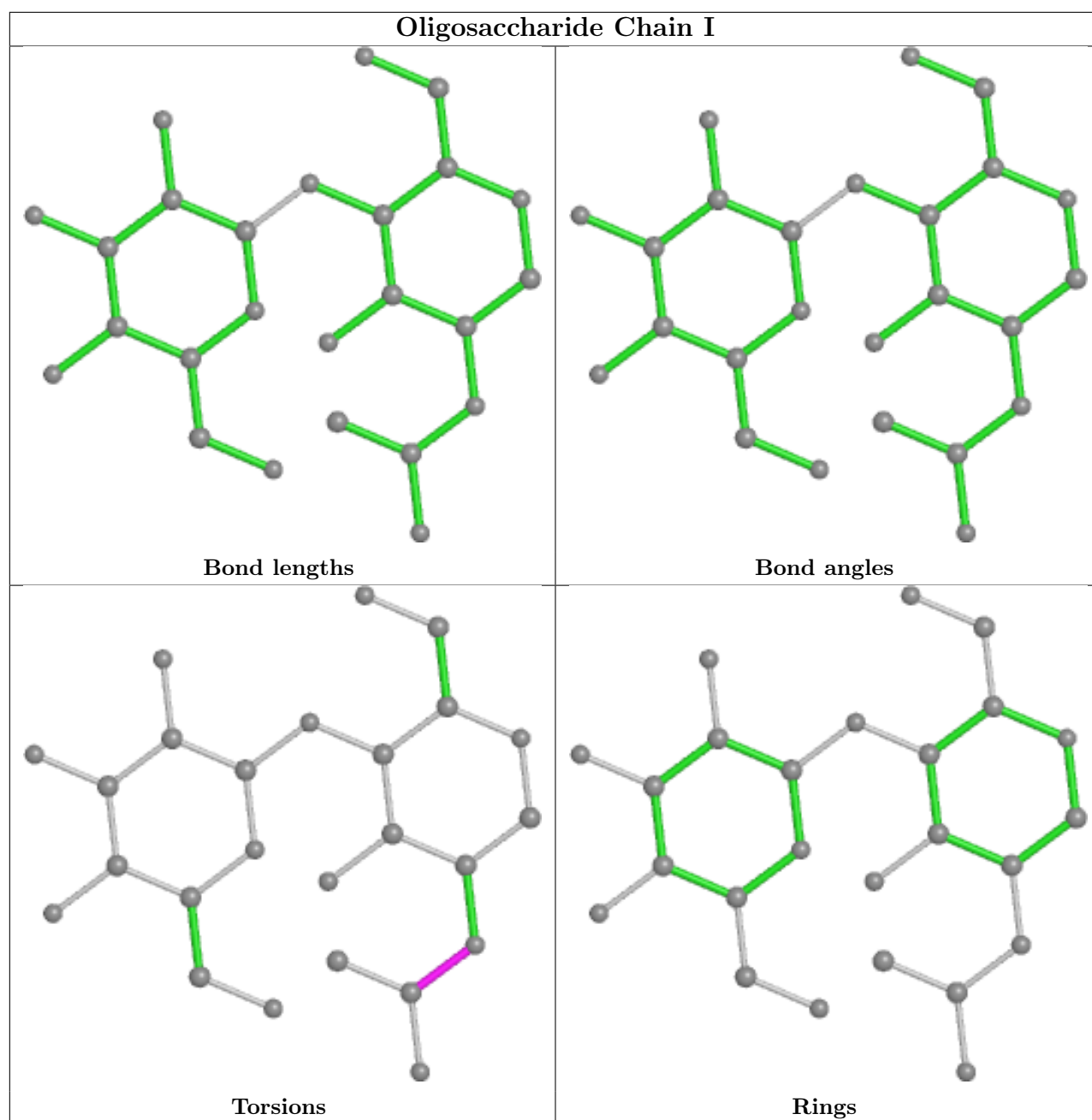


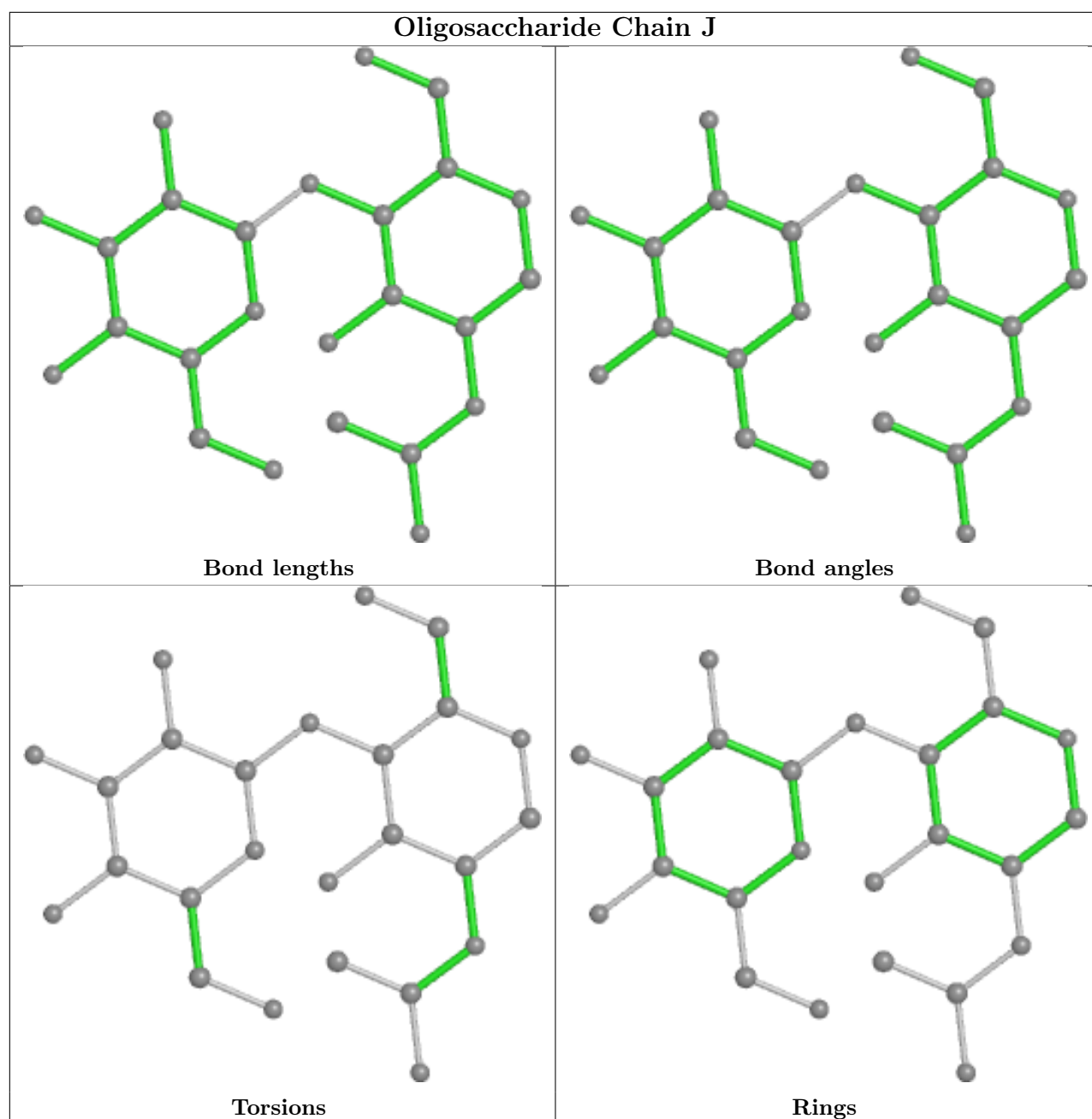


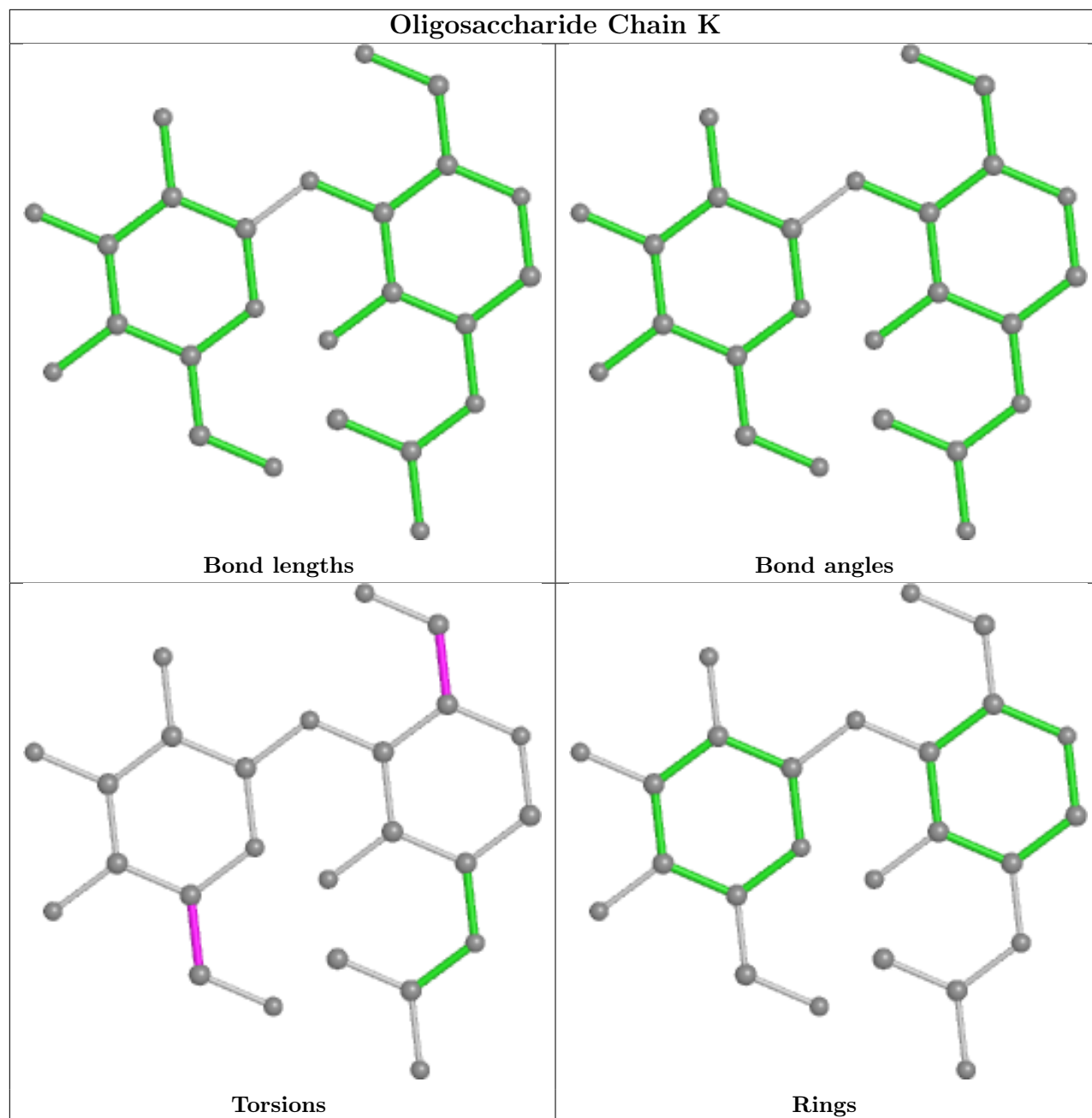


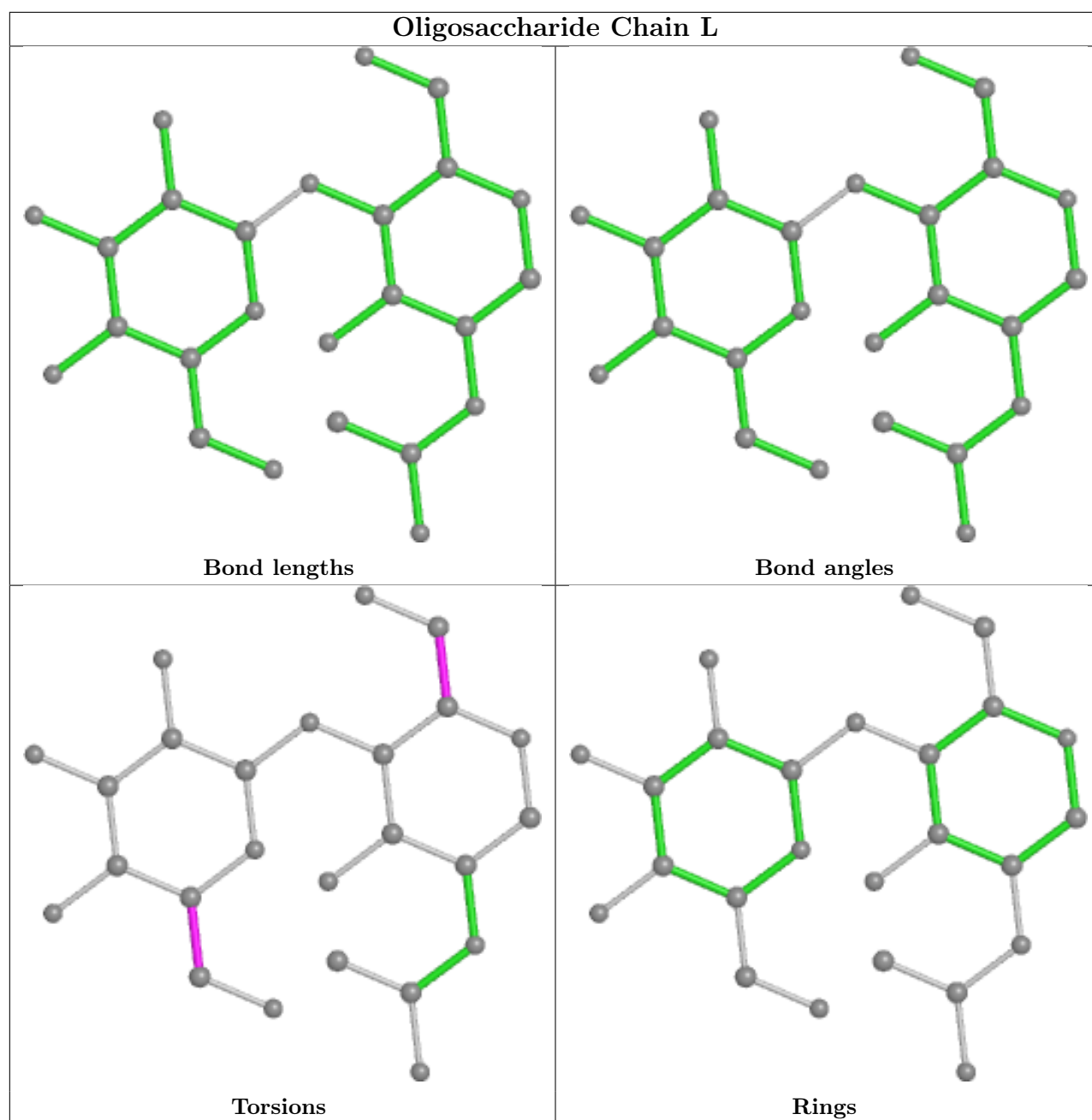


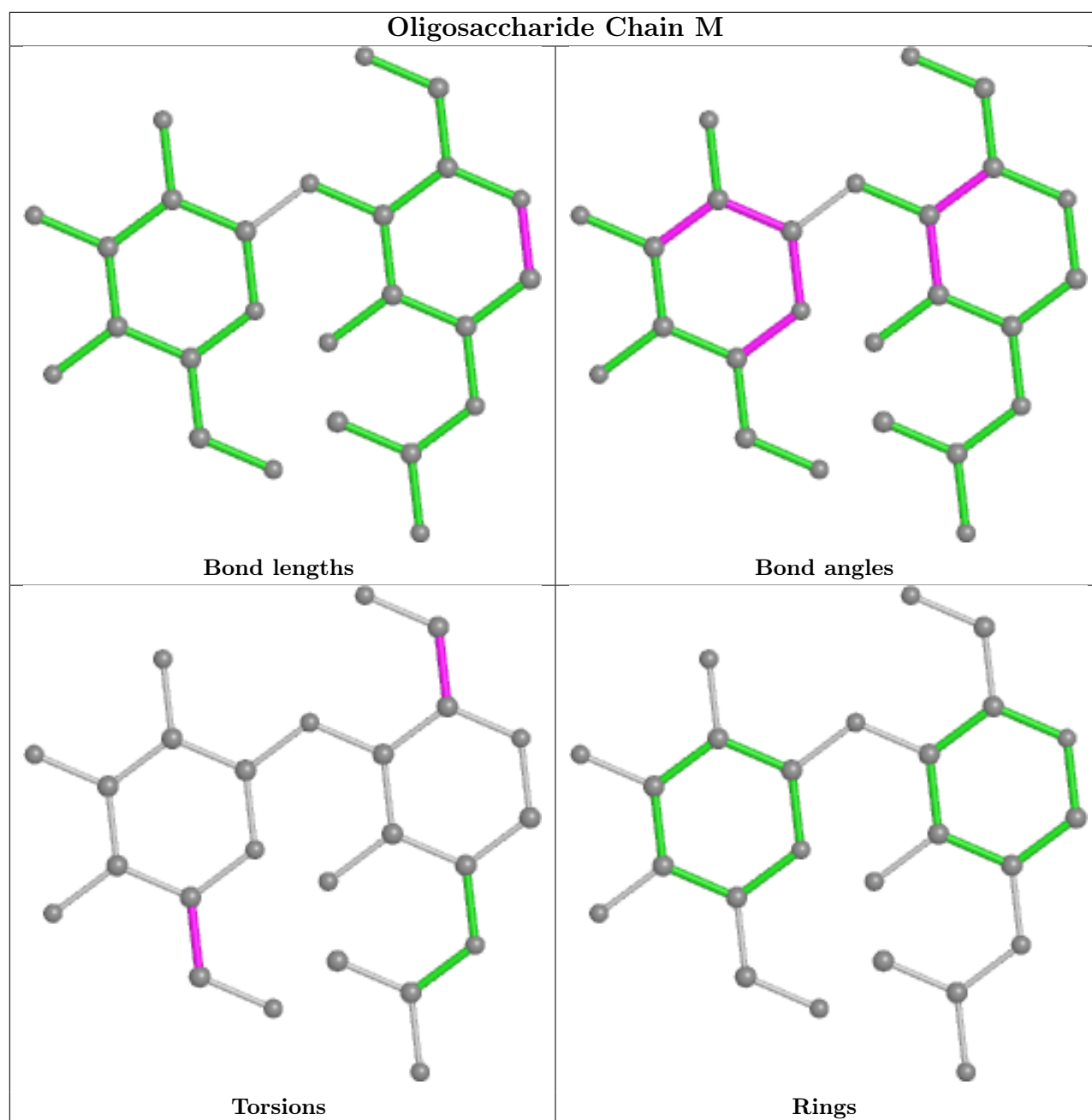


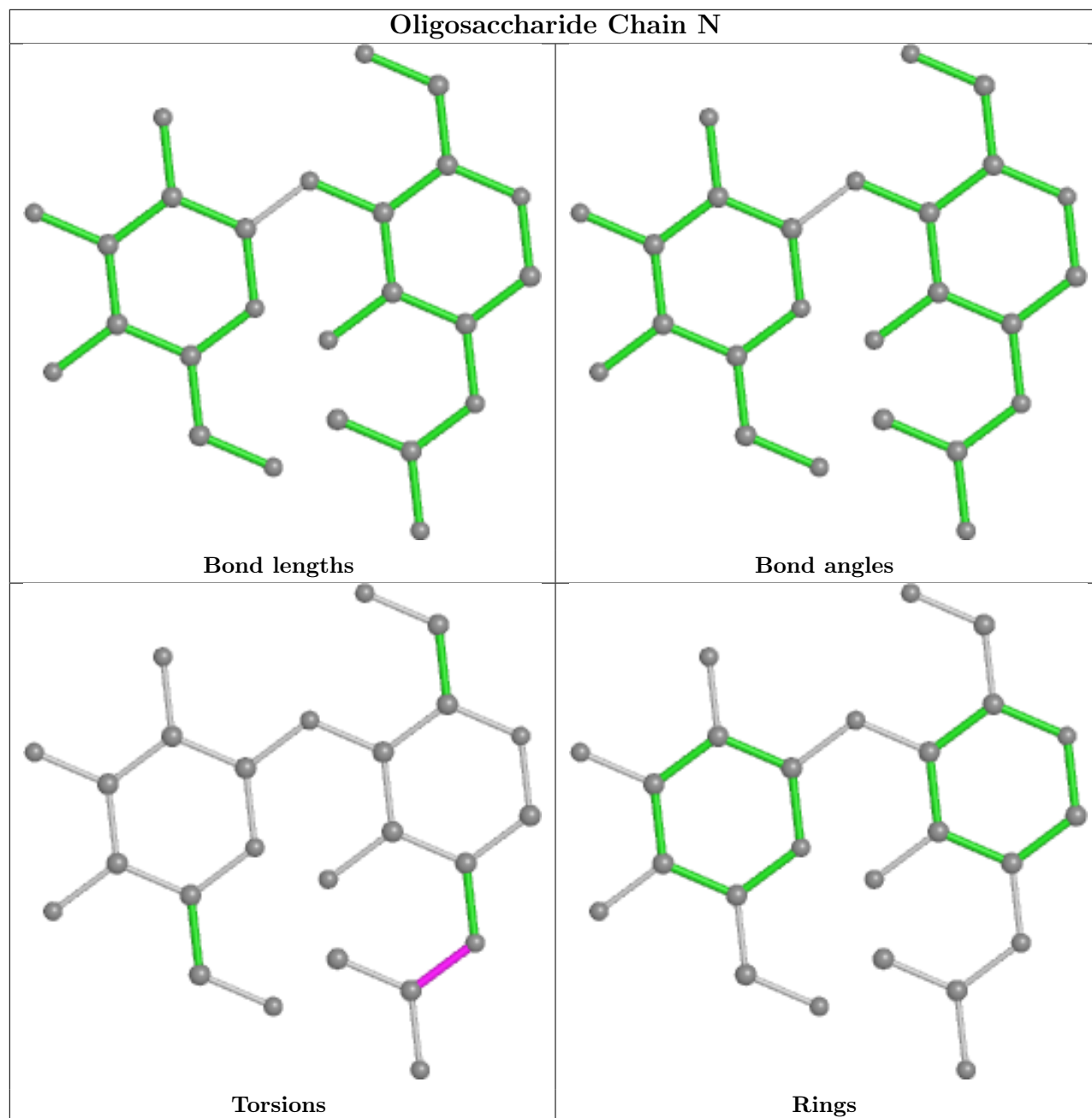


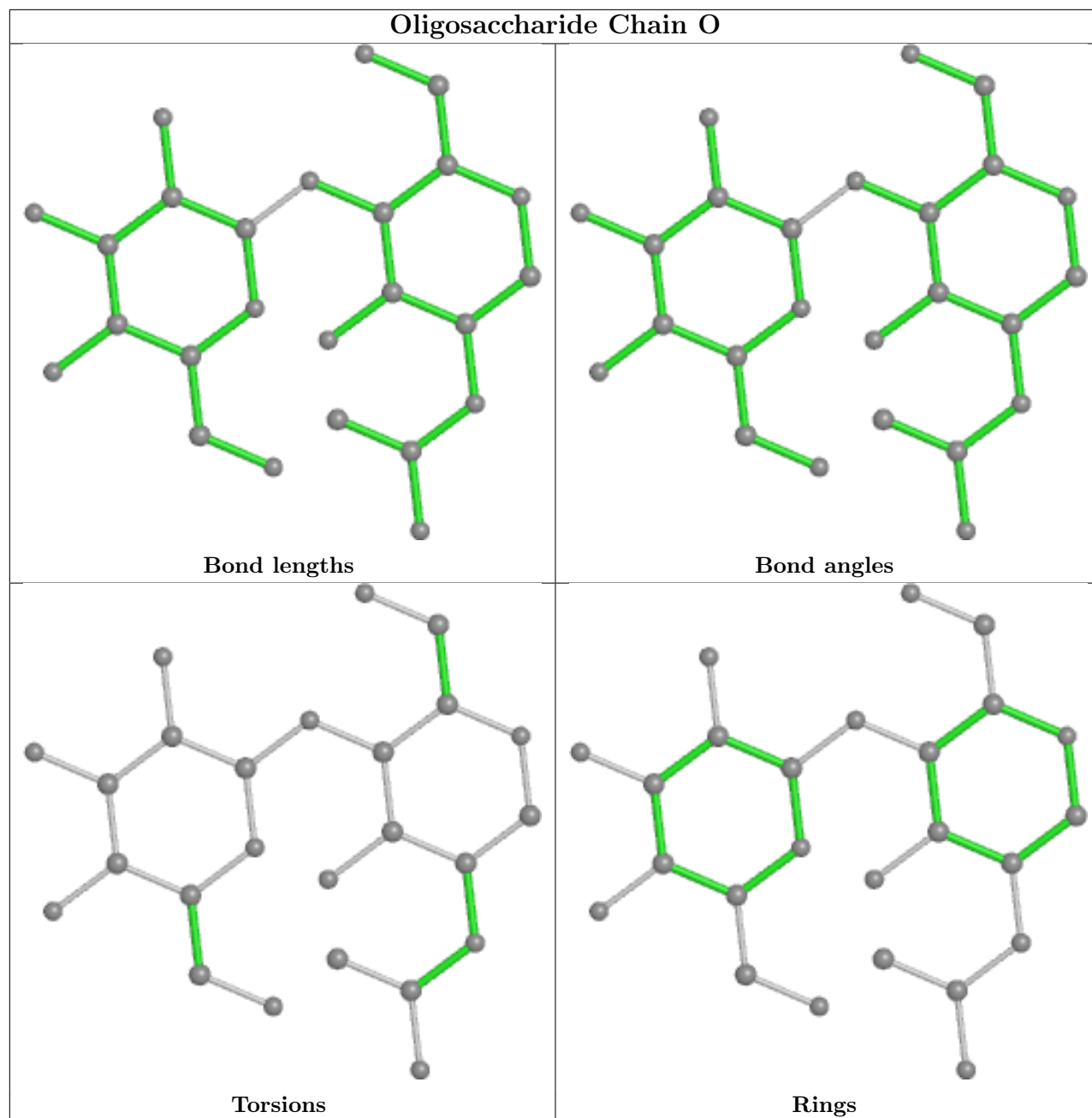


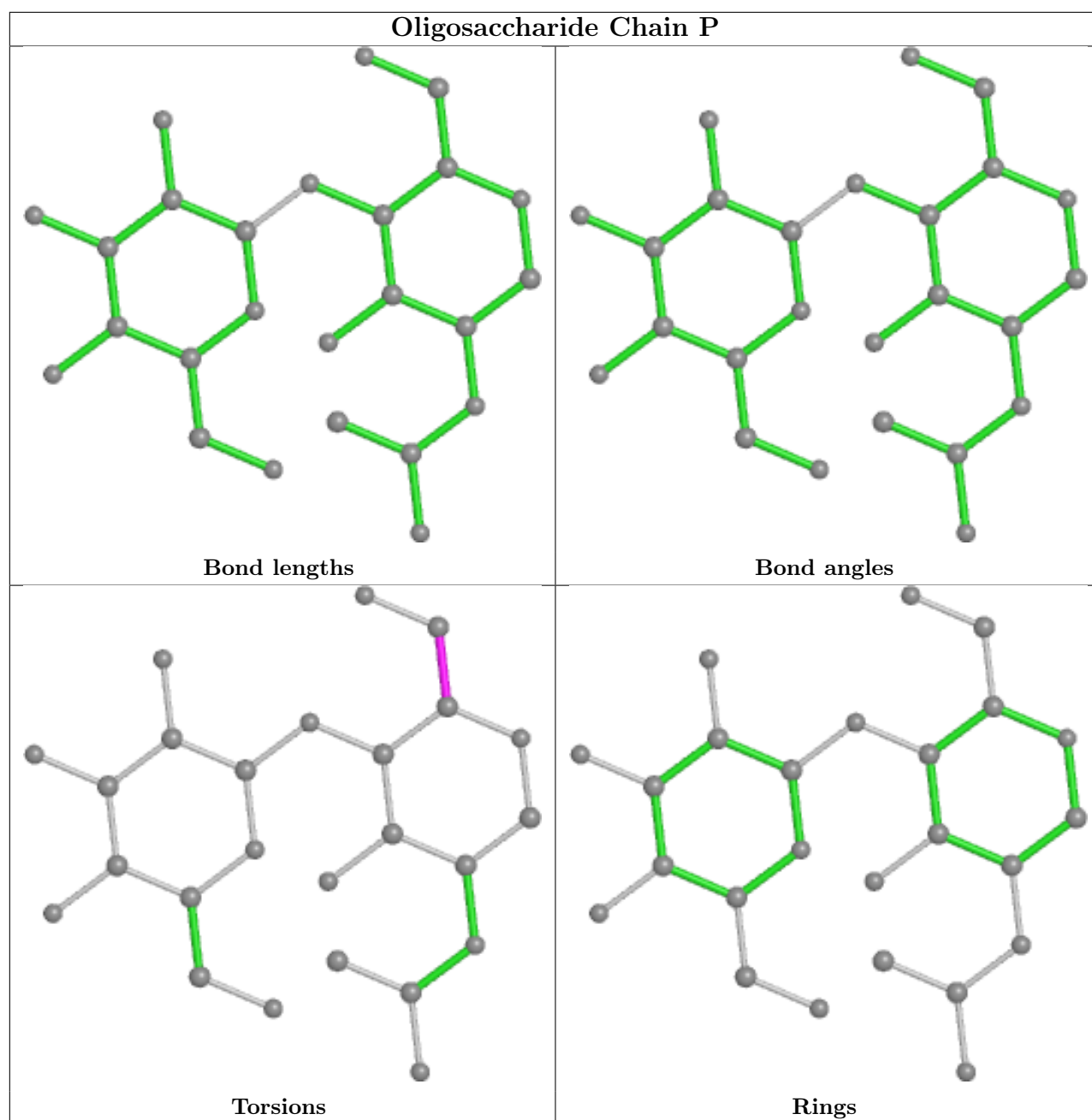


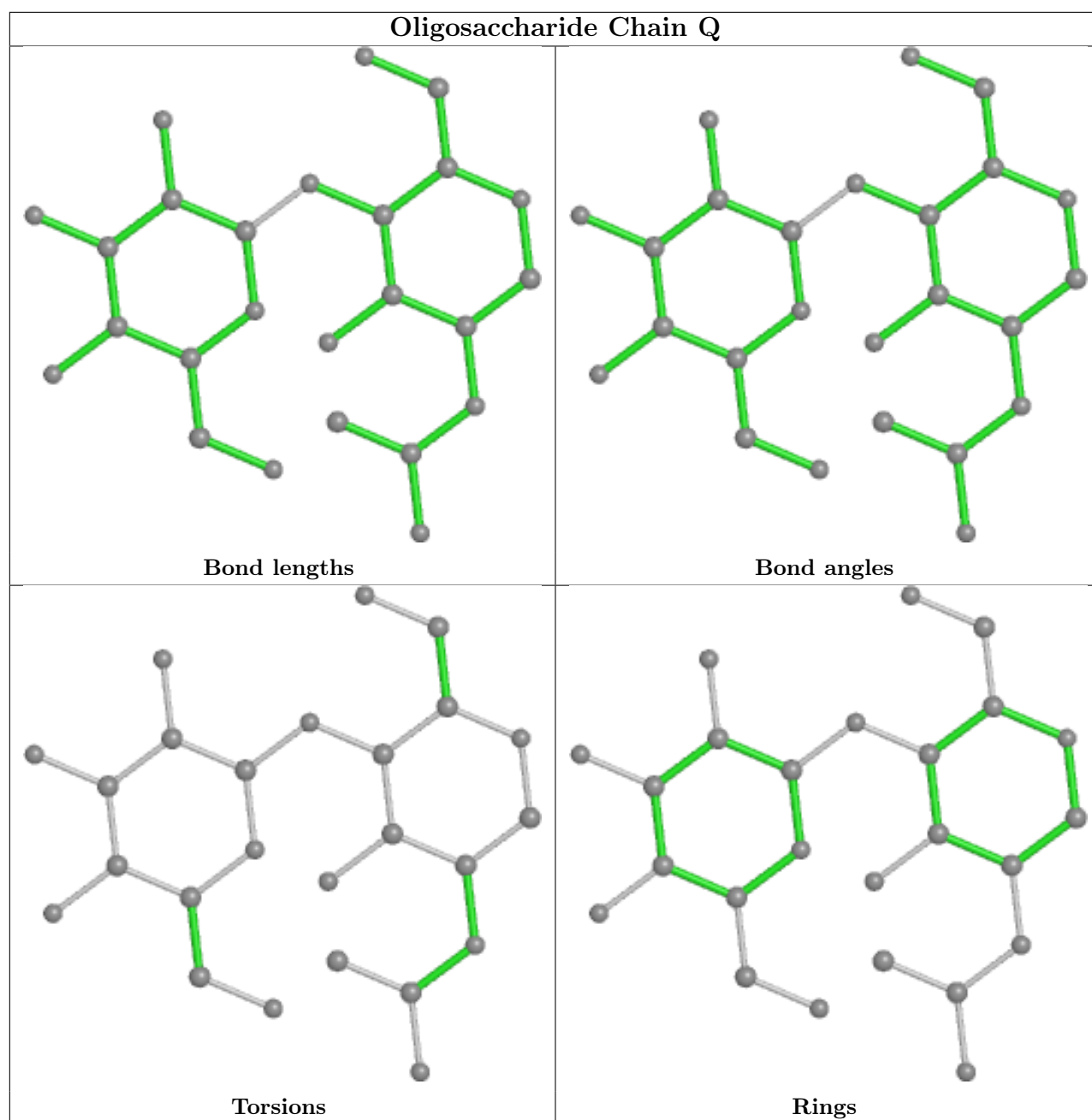


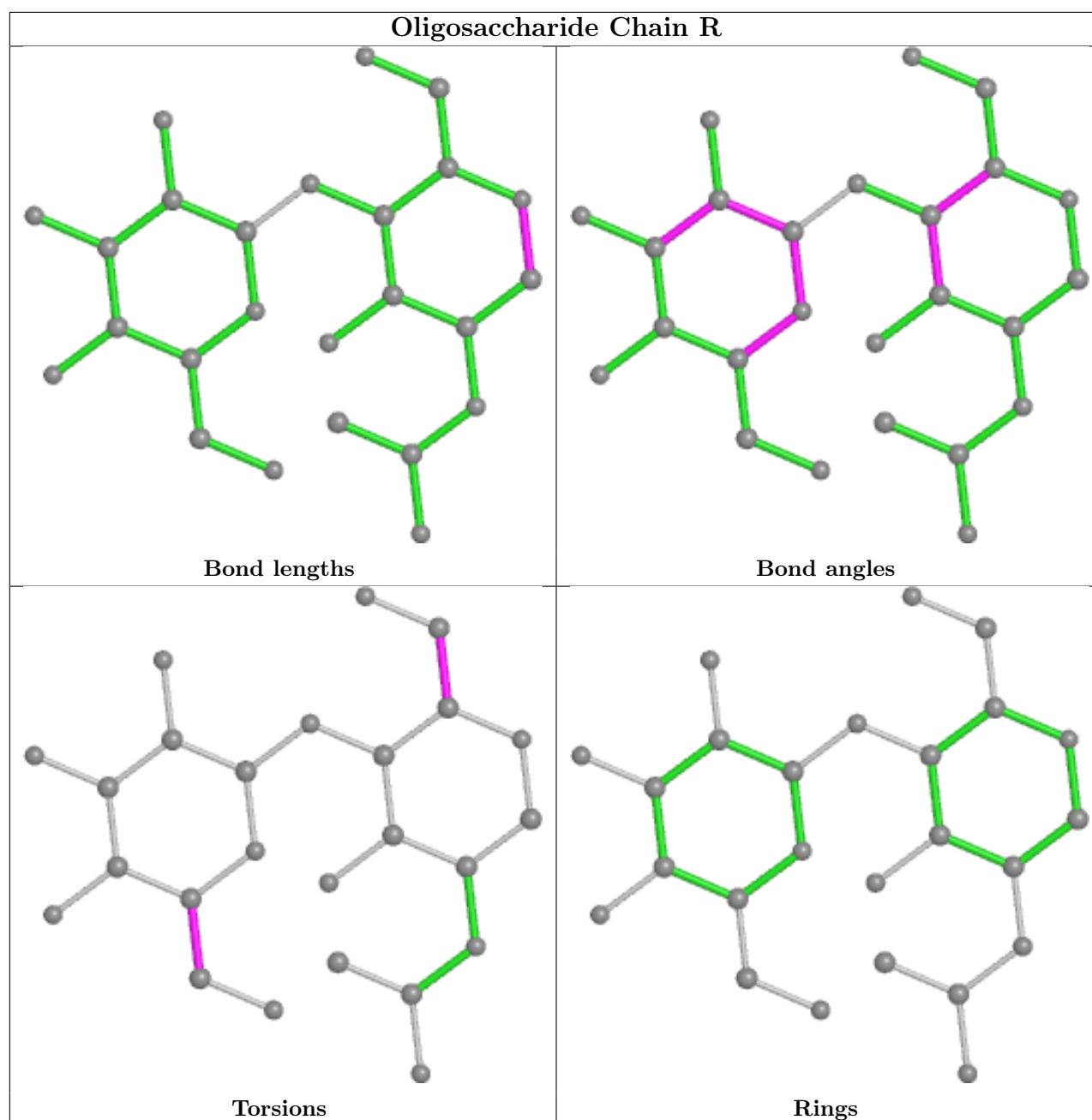












5.6 Ligand geometry [i](#)

30 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	NAG	C	1310	1	14,14,15	0.43	0	17,19,21	0.44	0
3	NAG	C	1302	1	14,14,15	0.69	1 (7%)	17,19,21	0.69	1 (5%)
3	NAG	C	1303	1	14,14,15	0.34	0	17,19,21	0.54	0
3	NAG	A	1307	1	14,14,15	0.23	0	17,19,21	0.50	0
3	NAG	A	1308	1	14,14,15	0.65	1 (7%)	17,19,21	0.93	2 (11%)
3	NAG	C	1305	1	14,14,15	0.31	0	17,19,21	1.37	1 (5%)
3	NAG	B	1308	1	14,14,15	0.22	0	17,19,21	0.42	0
3	NAG	C	1309	1	14,14,15	1.06	1 (7%)	17,19,21	0.94	1 (5%)
3	NAG	A	1301	1	14,14,15	0.19	0	17,19,21	0.41	0
3	NAG	B	1303	1	14,14,15	0.42	0	17,19,21	0.64	1 (5%)
3	NAG	A	1309	1	14,14,15	0.24	0	17,19,21	0.45	0
3	NAG	B	1305	1	14,14,15	0.20	0	17,19,21	0.42	0
3	NAG	C	1301	1	14,14,15	0.22	0	17,19,21	0.58	0
3	NAG	B	1302	1	14,14,15	0.72	1 (7%)	17,19,21	0.72	1 (5%)
3	NAG	A	1303	1	14,14,15	0.23	0	17,19,21	0.44	0
3	NAG	B	1306	1	14,14,15	0.31	0	17,19,21	1.38	1 (5%)
3	NAG	C	1306	1	14,14,15	0.36	0	17,19,21	0.43	0
3	NAG	B	1304	1	14,14,15	0.24	0	17,19,21	0.43	0
3	NAG	A	1305	1	14,14,15	0.33	0	17,19,21	0.40	0
3	NAG	B	1310	1	14,14,15	0.28	0	17,19,21	0.45	0
3	NAG	B	1307	1	14,14,15	0.35	0	17,19,21	0.38	0
3	NAG	B	1301	1	14,14,15	0.28	0	17,19,21	0.60	0
3	NAG	A	1302	1	14,14,15	0.52	0	17,19,21	0.60	0
3	NAG	A	1306	1	14,14,15	0.19	0	17,19,21	0.41	0
3	NAG	C	1308	1	14,14,15	0.26	0	17,19,21	0.54	0
3	NAG	B	1309	1	14,14,15	0.26	0	17,19,21	0.59	1 (5%)
3	NAG	C	1307	1	14,14,15	0.20	0	17,19,21	0.40	0
3	NAG	A	1310	1	14,14,15	0.33	0	17,19,21	0.44	0
3	NAG	C	1304	1	14,14,15	0.25	0	17,19,21	0.36	0
3	NAG	A	1304	1	14,14,15	0.33	0	17,19,21	1.36	1 (5%)

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
3	NAG	C	1310	1	-	4/6/23/26	0/1/1/1
3	NAG	C	1302	1	-	2/6/23/26	0/1/1/1
3	NAG	C	1303	1	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	NAG	A	1307	1	-	4/6/23/26	0/1/1/1
3	NAG	A	1308	1	-	4/6/23/26	0/1/1/1
3	NAG	C	1305	1	-	0/6/23/26	0/1/1/1
3	NAG	B	1308	1	-	2/6/23/26	0/1/1/1
3	NAG	C	1309	1	-	1/6/23/26	0/1/1/1
3	NAG	A	1301	1	-	2/6/23/26	0/1/1/1
3	NAG	B	1303	1	-	2/6/23/26	0/1/1/1
3	NAG	A	1309	1	-	3/6/23/26	0/1/1/1
3	NAG	B	1305	1	-	2/6/23/26	0/1/1/1
3	NAG	C	1301	1	-	2/6/23/26	0/1/1/1
3	NAG	B	1302	1	-	2/6/23/26	0/1/1/1
3	NAG	A	1303	1	-	2/6/23/26	0/1/1/1
3	NAG	B	1306	1	-	0/6/23/26	0/1/1/1
3	NAG	C	1306	1	-	1/6/23/26	0/1/1/1
3	NAG	B	1304	1	-	2/6/23/26	0/1/1/1
3	NAG	A	1305	1	-	0/6/23/26	0/1/1/1
3	NAG	B	1310	1	-	0/6/23/26	0/1/1/1
3	NAG	B	1307	1	-	0/6/23/26	0/1/1/1
3	NAG	B	1301	1	-	2/6/23/26	0/1/1/1
3	NAG	A	1302	1	-	2/6/23/26	0/1/1/1
3	NAG	A	1306	1	-	0/6/23/26	0/1/1/1
3	NAG	C	1308	1	-	4/6/23/26	0/1/1/1
3	NAG	B	1309	1	-	4/6/23/26	0/1/1/1
3	NAG	C	1307	1	-	2/6/23/26	0/1/1/1
3	NAG	A	1310	1	-	2/6/23/26	0/1/1/1
3	NAG	C	1304	1	-	1/6/23/26	0/1/1/1
3	NAG	A	1304	1	-	0/6/23/26	0/1/1/1

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	1309	NAG	C1-C2	3.48	1.57	1.52
3	B	1302	NAG	C1-C2	2.38	1.55	1.52
3	C	1302	NAG	C1-C2	2.33	1.55	1.52
3	A	1308	NAG	O5-C1	-2.17	1.40	1.43

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	B	1306	NAG	C1-O5-C5	5.05	119.04	112.19
3	C	1305	NAG	C1-O5-C5	5.00	118.97	112.19
3	A	1304	NAG	C1-O5-C5	4.98	118.95	112.19
3	B	1302	NAG	C1-O5-C5	2.56	115.65	112.19
3	C	1302	NAG	C1-O5-C5	2.40	115.45	112.19
3	A	1308	NAG	C1-O5-C5	2.39	115.44	112.19
3	A	1308	NAG	C3-C4-C5	2.24	114.23	110.24
3	C	1309	NAG	C1-O5-C5	2.19	115.16	112.19
3	B	1303	NAG	C1-O5-C5	2.18	115.14	112.19
3	B	1309	NAG	C1-O5-C5	2.01	114.92	112.19

There are no chirality outliers.

All (54) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	C	1303	NAG	C4-C5-C6-O6
3	C	1307	NAG	O5-C5-C6-O6
3	A	1307	NAG	C4-C5-C6-O6
3	C	1303	NAG	O5-C5-C6-O6
3	C	1308	NAG	C4-C5-C6-O6
3	C	1310	NAG	C4-C5-C6-O6
3	A	1308	NAG	O5-C5-C6-O6
3	B	1308	NAG	O5-C5-C6-O6
3	A	1302	NAG	O5-C5-C6-O6
3	A	1310	NAG	O5-C5-C6-O6
3	B	1309	NAG	O5-C5-C6-O6
3	B	1305	NAG	C4-C5-C6-O6
3	B	1304	NAG	O5-C5-C6-O6
3	C	1307	NAG	C4-C5-C6-O6
3	A	1307	NAG	O5-C5-C6-O6
3	C	1308	NAG	O5-C5-C6-O6
3	B	1309	NAG	C4-C5-C6-O6
3	C	1310	NAG	O5-C5-C6-O6
3	B	1308	NAG	C4-C5-C6-O6
3	A	1308	NAG	C4-C5-C6-O6
3	B	1304	NAG	C4-C5-C6-O6
3	A	1301	NAG	C8-C7-N2-C2
3	A	1301	NAG	O7-C7-N2-C2
3	A	1307	NAG	C8-C7-N2-C2
3	A	1307	NAG	O7-C7-N2-C2
3	A	1308	NAG	C8-C7-N2-C2
3	A	1308	NAG	O7-C7-N2-C2
3	A	1309	NAG	C8-C7-N2-C2

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Mol	Chain	Res	Type	Atoms
3	A	1309	NAG	O7-C7-N2-C2
3	B	1303	NAG	C8-C7-N2-C2
3	B	1303	NAG	O7-C7-N2-C2
3	B	1309	NAG	C8-C7-N2-C2
3	B	1309	NAG	O7-C7-N2-C2
3	C	1308	NAG	C8-C7-N2-C2
3	C	1308	NAG	O7-C7-N2-C2
3	C	1310	NAG	C8-C7-N2-C2
3	C	1310	NAG	O7-C7-N2-C2
3	C	1302	NAG	O5-C5-C6-O6
3	A	1310	NAG	C4-C5-C6-O6
3	B	1305	NAG	O5-C5-C6-O6
3	C	1302	NAG	C4-C5-C6-O6
3	B	1302	NAG	O5-C5-C6-O6
3	A	1302	NAG	C4-C5-C6-O6
3	A	1303	NAG	C4-C5-C6-O6
3	B	1302	NAG	C4-C5-C6-O6
3	A	1303	NAG	O5-C5-C6-O6
3	C	1304	NAG	O5-C5-C6-O6
3	B	1301	NAG	O5-C5-C6-O6
3	C	1301	NAG	O5-C5-C6-O6
3	C	1306	NAG	O5-C5-C6-O6
3	B	1301	NAG	C3-C2-N2-C7
3	C	1301	NAG	C3-C2-N2-C7
3	C	1309	NAG	C4-C5-C6-O6
3	A	1309	NAG	C4-C5-C6-O6

There are no ring outliers.

9 monomers are involved in 11 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	1302	NAG	2	0
3	C	1309	NAG	1	0
3	C	1301	NAG	1	0
3	B	1302	NAG	2	0
3	C	1306	NAG	1	0
3	B	1301	NAG	1	0
3	A	1302	NAG	1	0
3	C	1307	NAG	1	0
3	A	1310	NAG	1	0

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.