



# Full wwPDB X-ray Structure Validation Report ⓘ

Aug 23, 2023 – 01:10 PM EDT

PDB ID : 3CIY  
Title : Mouse Toll-like receptor 3 ectodomain complexed with double-stranded RNA  
Authors : Liu, L.; Botos, I.; Wang, Y.; Leonard, J.N.; Shiloach, J.; Segal, D.M.; Davies, D.R.  
Deposited on : 2008-03-12  
Resolution : 3.41 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

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:

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : 2.35  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.35

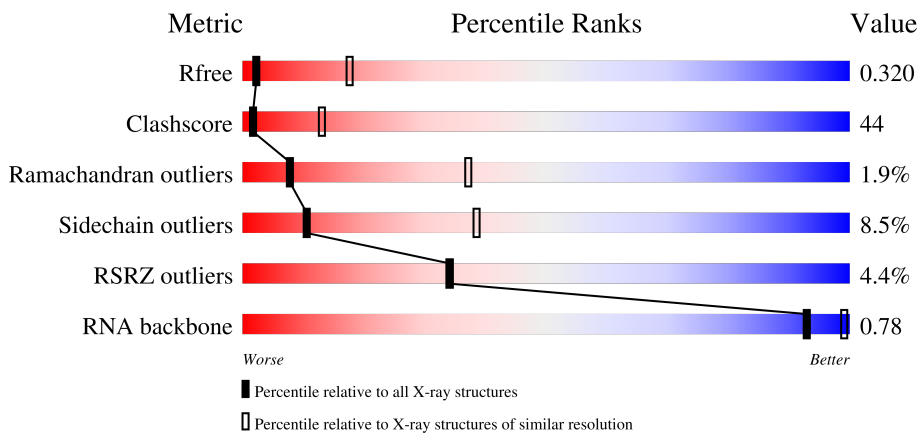
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.41 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.




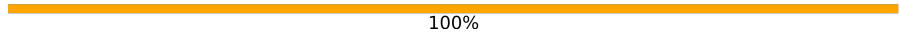
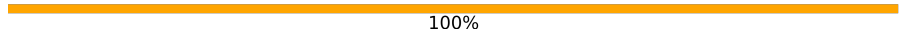


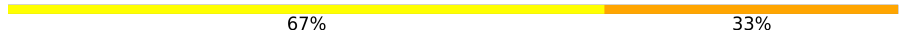
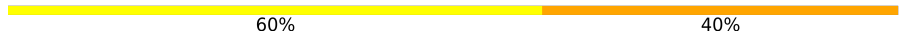
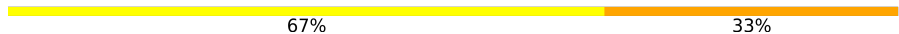



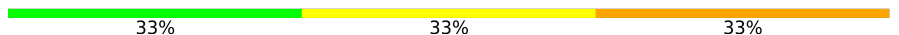
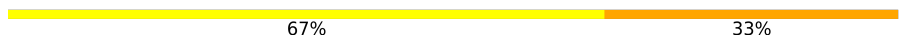

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	130704	1486 (3.50-3.34)
Clashscore	141614	1572 (3.50-3.34)
Ramachandran outliers	138981	1534 (3.50-3.34)
Sidechain outliers	138945	1535 (3.50-3.34)
RSRZ outliers	127900	1395 (3.50-3.34)
RNA backbone	3102	1012 (3.88-2.96)

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

Mol	Chain	Length	Quality of chain
1	C	46	48% (green), 52% (yellow)
2	D	46	37% (green), 63% (yellow)
3	A	697	4% (red), 35% (green), 54% (yellow), 5% (orange), 5% (grey)
3	B	697	5% (red), 34% (green), 56% (yellow), 6% (orange), 1% (grey)

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
4	E	2	
4	H	2	
4	L	2	
4	O	2	
5	F	3	
6	G	3	
7	I	5	
8	J	3	
8	Q	3	
9	K	2	
9	R	2	
10	M	3	
11	N	3	
12	P	5	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
12	NAG	P	1	X	-	-	-
13	NAG	A	724	X	-	-	-
4	NAG	L	1	-	-	-	X
4	NDG	L	2	-	-	-	X
7	NAG	I	1	X	-	-	-
7	MAN	I	4	-	-	-	X
8	NAG	J	1	X	-	-	-
8	NAG	Q	1	X	-	-	-
9	NAG	K	1	X	-	-	-
9	NAG	R	1	X	-	-	-
9	NAG	R	2	-	-	-	X

## 2 Entry composition i

There are 13 unique types of molecules in this entry. The entry contains 13194 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 RNA chain called 46-MER.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	C	46	978	439	176	318	45	0	0	0

- Molecule 2 is a RNA chain called 46-MER.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	D	46	968	435	166	322	45	0	0	0

- Molecule 3 is a protein called Toll-like receptor 3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	A	661	5310	3392	905	999	14	0	0	0
3	B	668	5360	3422	914	1010	14	0	0	0

There are 40 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	704	ASN	-	expression tag	UNP Q99MB1
A	705	LEU	-	expression tag	UNP Q99MB1
A	706	TYR	-	expression tag	UNP Q99MB1
A	707	PHE	-	expression tag	UNP Q99MB1
A	708	GLN	-	expression tag	UNP Q99MB1
A	709	GLY	-	expression tag	UNP Q99MB1
A	710	HIS	-	expression tag	UNP Q99MB1
A	711	HIS	-	expression tag	UNP Q99MB1
A	712	HIS	-	expression tag	UNP Q99MB1
A	713	HIS	-	expression tag	UNP Q99MB1
A	714	HIS	-	expression tag	UNP Q99MB1
A	715	HIS	-	expression tag	UNP Q99MB1

*Continued on next page...*

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
A	716	TRP	-	expression tag	UNP Q99MB1
A	717	SER	-	expression tag	UNP Q99MB1
A	718	HIS	-	expression tag	UNP Q99MB1
A	719	PRO	-	expression tag	UNP Q99MB1
A	720	GLN	-	expression tag	UNP Q99MB1
A	721	PHE	-	expression tag	UNP Q99MB1
A	722	GLU	-	expression tag	UNP Q99MB1
A	723	LYS	-	expression tag	UNP Q99MB1
B	704	ASN	-	expression tag	UNP Q99MB1
B	705	LEU	-	expression tag	UNP Q99MB1
B	706	TYR	-	expression tag	UNP Q99MB1
B	707	PHE	-	expression tag	UNP Q99MB1
B	708	GLN	-	expression tag	UNP Q99MB1
B	709	GLY	-	expression tag	UNP Q99MB1
B	710	HIS	-	expression tag	UNP Q99MB1
B	711	HIS	-	expression tag	UNP Q99MB1
B	712	HIS	-	expression tag	UNP Q99MB1
B	713	HIS	-	expression tag	UNP Q99MB1
B	714	HIS	-	expression tag	UNP Q99MB1
B	715	HIS	-	expression tag	UNP Q99MB1
B	716	TRP	-	expression tag	UNP Q99MB1
B	717	SER	-	expression tag	UNP Q99MB1
B	718	HIS	-	expression tag	UNP Q99MB1
B	719	PRO	-	expression tag	UNP Q99MB1
B	720	GLN	-	expression tag	UNP Q99MB1
B	721	PHE	-	expression tag	UNP Q99MB1
B	722	GLU	-	expression tag	UNP Q99MB1
B	723	LYS	-	expression tag	UNP Q99MB1

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



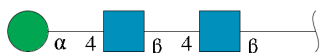
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
4	E	2	Total	C	N	O	0	0	0
			28	16	2	10			
4	H	2	Total	C	N	O	0	0	0
			28	16	2	10			

Continued on next page...

Continued from previous page...

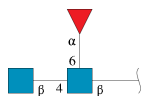
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
4	L	2	Total	C	N	O	0	0	0
			28	16	2	10			
4	O	2	Total	C	N	O	0	0	0
			28	16	2	10			

- Molecule 5 is an oligosaccharide called alpha-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



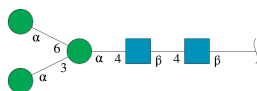
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
5	F	3	Total	C	N	O	0	0	0
			39	22	2	15			

- Molecule 6 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-[alpha-L-fucopyranose-(1-6)]2-acetamido-2-deoxy-beta-D-glucopyranose.



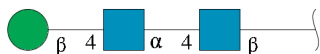
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
6	G	3	Total	C	N	O	0	0	0
			38	22	2	14			

- Molecule 7 is an oligosaccharide called alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
7	I	5	Total	C	N	O	0	0	0
			61	34	2	25			

- Molecule 8 is an oligosaccharide called beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-alpha-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
8	J	3	39	22	2	15	0	0	0
8	Q	3	39	22	2	15	0	0	0

- Molecule 9 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



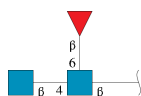
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
9	K	2	28	16	2	10	0	0	0
9	R	2	28	16	2	10	0	0	0

- Molecule 10 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.



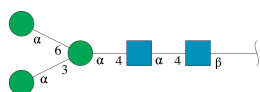
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
10	M	3	39	22	2	15	0	0	0

- Molecule 11 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-[beta-L-fucopyranose-(1-6)]2-acetamido-2-deoxy-beta-D-glucopyranose.



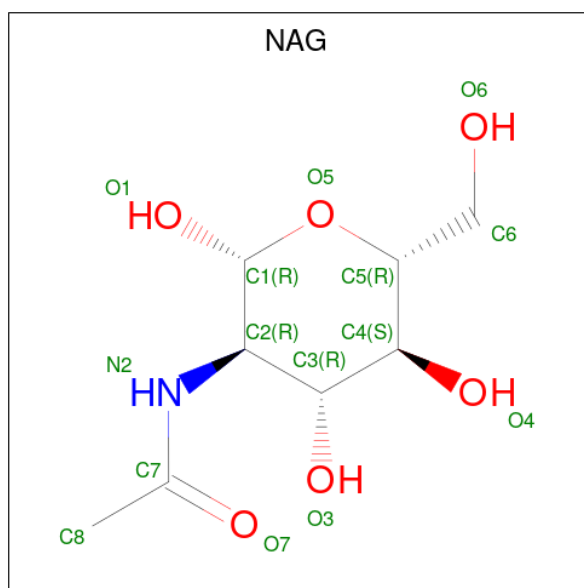
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
11	N	3	38	22	2	14	0	0	0

- Molecule 12 is an oligosaccharide called alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-alpha-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
12	P	5	61	34	2	25	0	0	0

- Molecule 13 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: C<sub>8</sub>H<sub>15</sub>NO<sub>6</sub>).



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

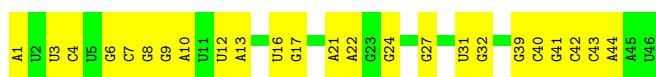


### 3 Residue-property plots

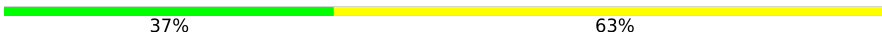
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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 dot above a residue indicates a poor fit to the electron density ( $RSRZ > 2$ ). 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.

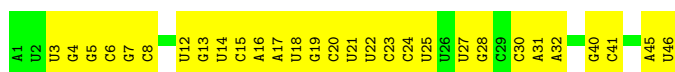
- Molecule 1: 46-MER

Chain C: 



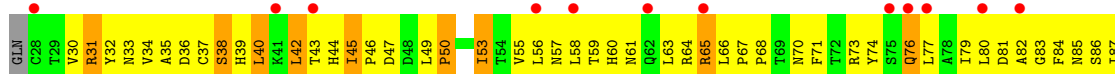
- Molecule 2: 46-MER

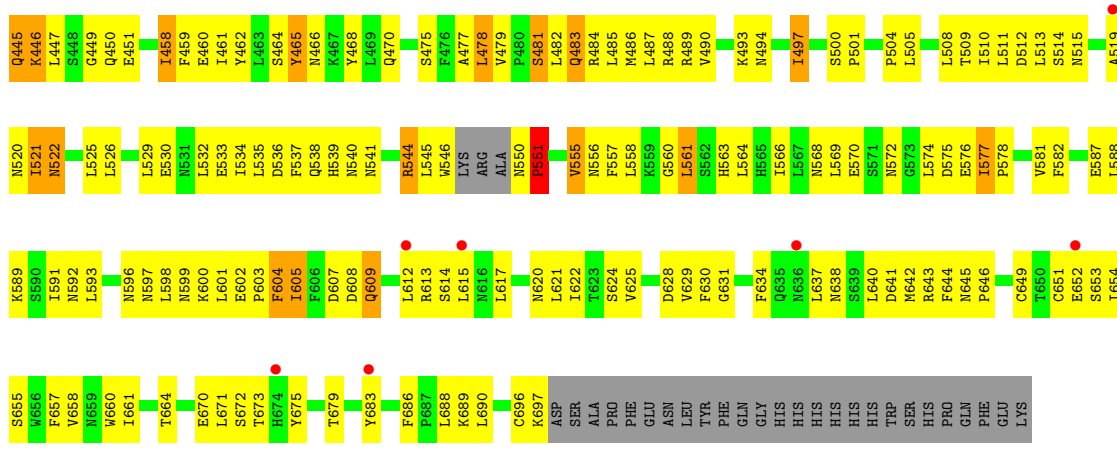
Chain D: 



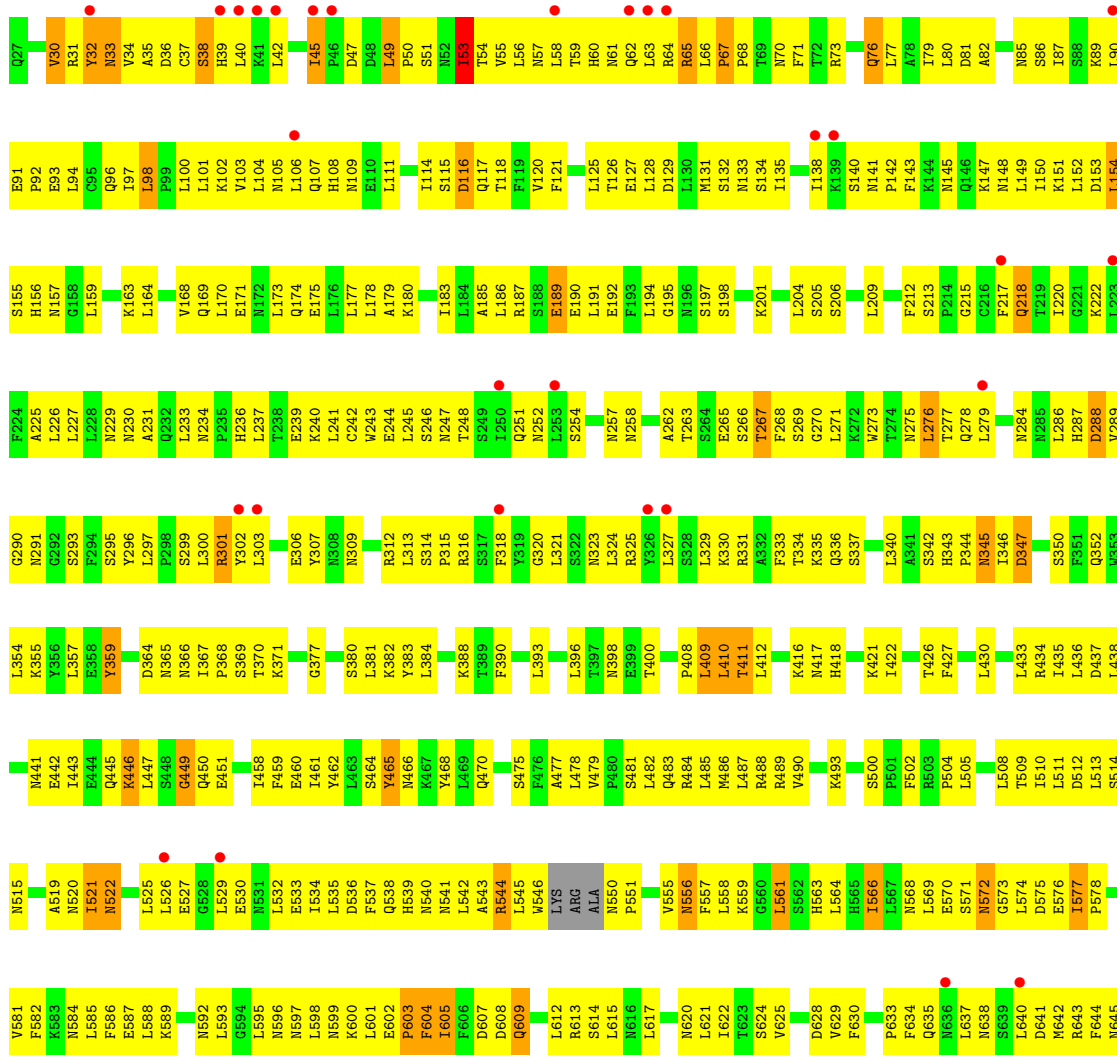
- Molecule 3: Toll-like receptor 3

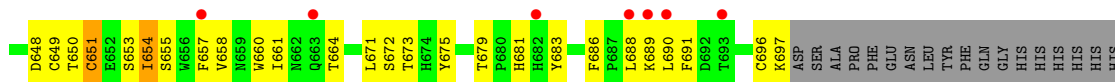
Chain A: 





• Molecule 3: Toll-like receptor 3





TRP  
SER  
HIS  
PRO  
GLN  
PHE  
GLU  
LYS

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

Chain E: 50% 50%

MAG1  
NDG2

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

Chain H: 100%

MAG1  
NDG2

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

Chain L: 100%

MAG1  
NDG2

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

Chain O: 50% 50%

MAG1  
NDG2

- Molecule 5: alpha-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain F: 33% 67%


MAG1  
MAG2  
MAN3

- Molecule 6: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-[alpha-L-fucopyranose-(1-6)]2-acetamido-2-deoxy-beta-D-glucopyranose

Chain G: 67% 33%

MAG1  
MAG2  
FUC3

- Molecule 7: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain I:  60% 40%

MAG1  
MAG2  
MAN3  
MAN4  
MAN5

- Molecule 8: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-alpha-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain J:  67% 33%

MAG1  
NDG2  
BMA3

- Molecule 8: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-alpha-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain Q:  33% 67%

MAG1  
NDG2  
BMA3

- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain K:  50% 50%

MAG1  
MAG2

- Molecule 9: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain R:  100%

MAG1  
MAG2

- Molecule 10: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain M:  33% 33% 33%

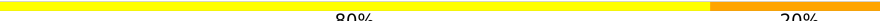
MAG1  
MAG2  
BMA3

- Molecule 11: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-[beta-L-fucopyranose-(1-6)]2-acetamido-2-deoxy-beta-D-glucopyranose

Chain N:  67% 33%

MAG1  
MAG2  
FUL3

- Molecule 12: alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-6)]alpha-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-alpha-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain P:  80% 20%

MAG1  
NDG2  
MAN3  
MAN4  
MAN5

## 4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	117.85Å 225.88Å 259.53Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	47.29 – 3.41 47.29 – 3.41	Depositor EDS
% Data completeness (in resolution range)	97.5 (47.29-3.41) 97.6 (47.29-3.41)	Depositor EDS
$R_{merge}$	0.11	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.00 (at 3.40Å)	Xtrriage
Refinement program	CNS 1.2	Depositor
R, $R_{free}$	0.288 , 0.333 0.307 , 0.320	Depositor DCC
$R_{free}$ test set	2355 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	119.7	Xtrriage
Anisotropy	0.124	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.27 , 65.2	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.41$ , $\langle L^2 \rangle = 0.24$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.90	EDS
Total number of atoms	13194	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	154.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.62% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

## 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: MAN, NAG, BMA, NDG, FUC, FUL

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	C	0.40	0/1094	0.70	0/1703
2	D	0.43	0/1080	0.70	0/1679
3	A	0.46	1/5421 (0.0%)	0.69	1/7360 (0.0%)
3	B	0.48	1/5472 (0.0%)	0.70	0/7431
All	All	0.46	2/13067 (0.0%)	0.70	1/18173 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	53	ILE	CA-CB	5.48	1.67	1.54
3	A	189	GLU	N-CA	5.34	1.57	1.46

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	560	GLY	N-CA-C	5.09	125.83	113.10

There are no chirality outliers.

There are no planarity outliers.

### 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	C	978	0	496	29	0

*Continued on next page...*

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	D	968	0	494	33	0
3	A	5310	0	5311	511	0
3	B	5360	0	5363	522	0
4	E	28	0	24	4	0
4	H	28	0	24	5	0
4	L	28	0	24	5	0
4	O	28	0	24	3	0
5	F	39	0	34	6	0
6	G	38	0	34	4	0
7	I	61	0	52	6	0
8	J	39	0	33	5	0
8	Q	39	0	33	6	0
9	K	28	0	25	3	0
9	R	28	0	25	2	0
10	M	39	0	34	3	0
11	N	38	0	34	1	0
12	P	61	0	51	1	0
13	A	28	0	26	2	0
13	B	28	0	26	1	0
All	All	13194	0	12167	1109	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 44.

All (1109) 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)
3:B:650:THR:O	3:B:654:ILE:HD12	1.41	1.21
3:A:605:ILE:HD11	3:A:629:VAL:HG13	1.19	1.13
3:B:450:GLN:HG3	8:Q:1:NAG:H62	1.29	1.12
3:A:536:ASP:HB3	3:A:538:GLN:HE22	1.20	1.06
3:B:108:HIS:HA	3:B:132:SER:HB2	1.32	1.06
3:A:108:HIS:HA	3:A:132:SER:HB2	1.32	1.06
3:A:277:THR:HG21	4:E:1:NAG:H82	1.37	1.05
3:A:56:LEU:HD11	3:A:58:LEU:HG	1.38	1.05
3:B:605:ILE:HD11	3:B:629:VAL:HG13	1.07	1.05
3:B:536:ASP:HB3	3:B:538:GLN:HE22	1.23	1.00
3:B:468:TYR:HE1	3:B:470:GLN:HB2	1.29	0.97
3:B:650:THR:O	3:B:654:ILE:CD1	2.13	0.97
3:B:605:ILE:HD13	3:B:605:ILE:H	1.31	0.95
3:B:68:PRO:HB2	3:B:93:GLU:HB2	1.48	0.95

Continued on next page...



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:33:ASN:HA	3:B:53:ILE:HB	1.47	0.94
3:A:521:ILE:HD11	3:A:525:LEU:HB3	1.50	0.94
3:A:468:TYR:HE1	3:A:470:GLN:HB2	1.33	0.94
3:A:545:LEU:HD12	3:A:555:VAL:HG21	1.48	0.93
3:A:68:PRO:HB2	3:A:93:GLU:HB2	1.52	0.92
3:B:605:ILE:CD1	3:B:629:VAL:HG13	1.97	0.92
3:B:56:LEU:HD11	3:B:58:LEU:HG	1.49	0.91
3:B:33:ASN:HD22	3:B:33:ASN:N	1.65	0.91
3:B:90:LEU:HD11	3:B:94:LEU:HD22	1.52	0.91
3:A:133:ASN:H	3:A:157:ASN:ND2	1.70	0.90
3:A:577:ILE:HD13	3:A:605:ILE:HG21	1.53	0.90
3:A:31:ARG:HE	3:A:31:ARG:HA	1.34	0.90
3:A:605:ILE:CD1	3:A:629:VAL:HG13	2.02	0.90
3:B:521:ILE:HD11	3:B:525:LEU:HB3	1.55	0.89
3:B:450:GLN:CG	8:Q:1:NAG:H62	2.02	0.88
3:A:396:LEU:HB2	3:A:422:ILE:HD12	1.55	0.88
3:A:575:ASP:HA	3:A:597:ASN:O	1.73	0.88
3:B:599:ASN:HB3	3:B:621:LEU:O	1.74	0.87
3:A:536:ASP:CB	3:A:538:GLN:HE22	1.87	0.87
3:B:577:ILE:HD13	3:B:605:ILE:HG21	1.57	0.87
3:B:40:LEU:HB2	3:B:61:ASN:HD21	1.40	0.86
3:A:550:ASN:CB	3:A:551:PRO:HD2	2.05	0.86
3:B:269:SER:HA	3:B:296:TYR:CD1	2.11	0.86
1:C:41:G:O2'	1:C:42:C:H5'	1.76	0.86
3:B:488:ARG:HG3	3:B:514:SER:OG	1.75	0.86
3:A:605:ILE:HD13	3:A:605:ILE:H	1.40	0.85
3:B:654:ILE:HD13	3:B:655:SER:N	1.90	0.85
3:B:33:ASN:HA	3:B:53:ILE:CB	2.06	0.85
3:B:575:ASP:HA	3:B:597:ASN:O	1.76	0.85
3:A:488:ARG:HG3	3:A:514:SER:OG	1.76	0.84
3:B:396:LEU:HD12	3:B:422:ILE:HG12	1.59	0.84
3:B:334:THR:HG22	3:B:344:PRO:HB3	1.59	0.84
3:B:55:VAL:HG22	3:B:79:ILE:HG12	1.58	0.83
3:B:80:LEU:HD21	3:B:104:LEU:HD12	1.60	0.83
3:A:300:LEU:HD23	3:A:324:LEU:HD13	1.59	0.83
3:B:654:ILE:O	3:B:658:VAL:HG23	1.78	0.83
3:A:90:LEU:HD11	3:A:94:LEU:HD22	1.59	0.83
3:A:234:ASN:HB3	3:A:237:LEU:HD13	1.60	0.83
3:B:133:ASN:H	3:B:157:ASN:ND2	1.75	0.83
3:A:55:VAL:HG22	3:A:79:ILE:HG12	1.58	0.83
3:A:141:ASN:HB3	3:A:169:GLN:HE22	1.43	0.83

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:114:ILE:HD11	3:A:118:THR:HB	1.61	0.83
3:B:536:ASP:CB	3:B:538:GLN:HE22	1.92	0.82
3:B:482:LEU:HB2	3:B:505:LEU:HD22	1.61	0.81
3:B:141:ASN:HB3	3:B:169:GLN:HE22	1.43	0.81
3:A:47:ASP:HB2	3:A:73:ARG:HD3	1.61	0.81
3:A:461:ILE:HD12	3:A:482:LEU:HD11	1.61	0.81
3:A:609:GLN:H	3:A:609:GLN:NE2	1.77	0.81
3:A:37:CYS:HB3	3:A:40:LEU:HD21	1.63	0.81
3:B:500:SER:HB2	3:B:525:LEU:HA	1.62	0.80
3:B:42:LEU:H	3:B:61:ASN:HD22	1.28	0.80
3:A:40:LEU:HD22	3:A:42:LEU:HD12	1.63	0.80
3:B:49:LEU:HD22	3:B:73:ARG:HH21	1.47	0.80
3:B:561:LEU:H	3:B:561:LEU:HD12	1.47	0.80
3:A:578:PRO:HG2	3:A:581:VAL:HG11	1.64	0.80
3:A:561:LEU:HD12	3:A:561:LEU:H	1.45	0.79
3:A:35:ALA:HB3	3:A:56:LEU:HA	1.65	0.79
3:B:578:PRO:HG2	3:B:581:VAL:HG11	1.62	0.79
3:B:279:LEU:HB3	3:B:300:LEU:HD11	1.63	0.79
3:B:543:ALA:HB2	3:B:573:GLY:HA3	1.64	0.79
3:B:234:ASN:HB3	3:B:237:LEU:HD13	1.65	0.78
3:B:49:LEU:HD13	3:B:73:ARG:HH22	1.48	0.78
3:A:269:SER:HA	3:A:296:TYR:CD1	2.18	0.78
3:B:300:LEU:HD23	3:B:324:LEU:HD13	1.66	0.78
3:A:56:LEU:CD1	3:A:58:LEU:HG	2.11	0.78
3:A:481:SER:HA	9:K:1:NAG:H83	1.65	0.78
3:A:80:LEU:HD21	3:A:104:LEU:HD12	1.64	0.78
3:B:268:PHE:HB3	3:B:271:LEU:HD23	1.66	0.78
3:B:49:LEU:HD13	3:B:73:ARG:NH2	2.00	0.77
3:B:367:ILE:HD12	3:B:367:ILE:H	1.49	0.77
3:A:63:LEU:HB2	3:A:85:ASN:HB3	1.67	0.77
3:A:133:ASN:H	3:A:157:ASN:HD21	1.32	0.77
3:B:398:ASN:ND2	4:O:1:NAG:H62	1.99	0.77
3:A:279:LEU:HB3	3:A:300:LEU:HD11	1.66	0.77
3:A:393:LEU:HD21	3:A:396:LEU:HD23	1.65	0.77
3:B:150:ILE:CG2	3:B:174:GLN:HB2	2.13	0.77
9:R:1:NAG:O3	9:R:2:NAG:H61	1.85	0.76
3:B:90:LEU:HD11	3:B:94:LEU:CD2	2.15	0.76
3:A:268:PHE:HB3	3:A:271:LEU:HD23	1.66	0.76
3:B:31:ARG:C	3:B:32:TYR:HD1	1.89	0.76
3:B:609:GLN:H	3:B:609:GLN:NE2	1.83	0.76
3:A:599:ASN:HB3	3:A:621:LEU:O	1.85	0.76

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:482:LEU:HB2	3:A:505:LEU:HD22	1.68	0.76
3:B:38:SER:C	3:B:40:LEU:HD13	2.06	0.75
3:B:127:GLU:HG3	3:B:151:LYS:HB2	1.67	0.75
3:B:393:LEU:HD21	3:B:396:LEU:HD23	1.68	0.75
3:A:500:SER:HB2	3:A:525:LEU:HA	1.67	0.75
3:A:367:ILE:HD12	3:A:367:ILE:H	1.51	0.75
3:B:287:HIS:HA	3:B:309:ASN:O	1.86	0.75
3:B:605:ILE:HD11	3:B:629:VAL:CG1	2.02	0.74
3:A:598:LEU:HB2	3:A:620:ASN:HD22	1.51	0.74
3:B:147:LYS:HE2	3:B:147:LYS:HA	1.68	0.74
3:B:651:CYS:HB3	3:B:655:SER:OG	1.88	0.74
3:A:42:LEU:HB2	3:A:61:ASN:HD22	1.53	0.74
3:A:120:VAL:HA	3:A:145:ASN:ND2	2.03	0.74
8:J:2:NDG:H4	8:J:3:BMA:O2	1.88	0.74
3:A:90:LEU:HD11	3:A:94:LEU:CD2	2.18	0.74
3:A:115:SER:O	3:A:118:THR:HG22	1.87	0.74
3:A:550:ASN:HB2	3:A:551:PRO:HD2	1.68	0.74
1:C:39:G:H2'	1:C:40:C:H6	1.51	0.74
3:A:104:LEU:HG	3:A:106:LEU:HD13	1.70	0.74
3:A:398:ASN:ND2	4:H:1:NAG:H61	2.03	0.74
3:B:578:PRO:HG2	3:B:581:VAL:CG1	2.17	0.73
3:A:49:LEU:HB3	3:A:50:PRO:HD2	1.70	0.73
3:B:605:ILE:H	3:B:605:ILE:CD1	1.99	0.73
3:A:521:ILE:HD11	3:A:525:LEU:CB	2.19	0.73
3:B:30:VAL:HA	3:B:35:ALA:HA	1.69	0.73
3:B:63:LEU:HB2	3:B:85:ASN:HB3	1.69	0.73
3:B:521:ILE:HD11	3:B:525:LEU:CB	2.18	0.73
3:A:127:GLU:HG3	3:A:151:LYS:HB2	1.70	0.73
3:B:265:GLU:HA	3:B:293:SER:HA	1.70	0.73
3:A:40:LEU:N	3:A:40:LEU:HD12	2.03	0.73
3:A:168:VAL:HG13	3:A:195:GLY:H	1.52	0.73
3:B:120:VAL:HA	3:B:145:ASN:ND2	2.02	0.73
3:B:66:LEU:HB3	3:B:94:LEU:HD21	1.70	0.72
3:B:56:LEU:CD1	3:B:58:LEU:HG	2.17	0.72
3:A:334:THR:HG22	3:A:335:LYS:H	1.54	0.72
3:A:396:LEU:HD12	3:A:422:ILE:CD1	2.19	0.72
3:A:419:ILE:CG2	3:A:422:ILE:HD11	2.19	0.72
3:A:446:LYS:HB3	3:A:470:GLN:HB3	1.71	0.72
3:A:620:ASN:HB2	3:A:645:ASN:HD21	1.54	0.72
2:D:21:U:O2	3:A:541:ASN:ND2	2.22	0.72
3:B:605:ILE:HD13	3:B:605:ILE:N	2.02	0.72

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:150:ILE:CG2	3:A:174:GLN:HB2	2.18	0.71
3:A:246:SER:O	3:A:248:THR:HG23	1.90	0.71
3:B:300:LEU:HD21	3:B:303:LEU:HB2	1.70	0.71
3:B:620:ASN:HB2	3:B:645:ASN:HD21	1.54	0.71
3:A:605:ILE:CD1	3:A:605:ILE:H	2.04	0.71
3:B:262:ALA:CB	3:B:288:ASP:HB2	2.21	0.71
3:A:287:HIS:HA	3:A:309:ASN:O	1.91	0.71
3:A:654:ILE:O	3:A:658:VAL:HG23	1.89	0.71
3:A:49:LEU:HB3	3:A:50:PRO:CD	2.21	0.71
3:A:243:TRP:CD1	3:A:270:GLY:HA2	2.26	0.71
3:B:243:TRP:CD1	3:B:270:GLY:HA2	2.26	0.71
3:B:104:LEU:HG	3:B:106:LEU:HD13	1.71	0.71
3:A:605:ILE:HD13	3:A:605:ILE:N	2.06	0.70
3:A:265:GLU:HA	3:A:293:SER:HA	1.73	0.70
4:E:1:NAG:H2	4:E:1:NAG:H61	1.73	0.70
3:B:168:VAL:HG13	3:B:195:GLY:H	1.55	0.70
3:B:660:TRP:O	3:B:664:THR:HG22	1.91	0.70
3:A:300:LEU:HD21	3:A:303:LEU:HB2	1.73	0.70
3:A:42:LEU:HB2	3:A:61:ASN:ND2	2.05	0.70
3:B:446:LYS:HB3	3:B:470:GLN:HB3	1.74	0.70
3:B:313:LEU:HD12	3:B:346:ILE:HG21	1.72	0.70
3:A:150:ILE:HD13	3:A:172:ASN:O	1.92	0.70
3:B:201:LYS:HA	3:B:225:ALA:HB3	1.72	0.70
3:A:66:LEU:HB3	3:A:94:LEU:HD21	1.72	0.69
3:A:526:LEU:HD23	3:A:529:LEU:HD12	1.73	0.69
3:B:33:ASN:N	3:B:33:ASN:ND2	2.37	0.69
3:A:535:LEU:HD11	3:A:537:PHE:CE2	2.27	0.69
3:A:550:ASN:HB3	3:A:551:PRO:HD2	1.73	0.69
3:A:622:ILE:H	3:A:645:ASN:HD22	1.37	0.69
3:A:421:LYS:C	3:A:422:ILE:HD13	2.12	0.69
3:A:511:LEU:HD23	3:A:512:ASP:N	2.08	0.69
9:K:1:NAG:O4	9:K:2:NAG:H61	1.93	0.69
3:A:430:LEU:HD23	3:A:433:LEU:HD22	1.75	0.68
3:A:557:PHE:HD2	3:A:558:LEU:HG	1.57	0.68
3:B:313:LEU:HB2	3:B:346:ILE:HG22	1.75	0.68
6:G:1:NAG:O3	6:G:2:NAG:H2	1.93	0.68
2:D:45:A:H2'	2:D:46:U:C6	2.28	0.68
3:B:38:SER:O	3:B:40:LEU:HD13	1.94	0.68
3:B:215:GLY:HA2	3:B:218:GLN:HG2	1.76	0.68
3:B:461:ILE:HD12	3:B:482:LEU:HD11	1.76	0.68
3:A:34:VAL:HG12	3:A:55:VAL:HB	1.76	0.68

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:93:GLU:O	3:B:97:ILE:HG12	1.94	0.68
3:B:526:LEU:HD23	3:B:529:LEU:HD12	1.76	0.68
3:A:68:PRO:O	3:A:97:ILE:HG13	1.94	0.68
3:B:295:SER:HA	3:B:320:GLY:HA3	1.74	0.68
3:A:150:ILE:HG23	3:A:174:GLN:HB2	1.74	0.67
3:A:93:GLU:O	3:A:97:ILE:HG12	1.93	0.67
3:B:68:PRO:HA	3:B:94:LEU:HG	1.76	0.67
3:B:133:ASN:H	3:B:157:ASN:HD21	1.41	0.67
3:A:201:LYS:HA	3:A:225:ALA:HB3	1.74	0.67
3:A:147:LYS:HA	3:A:147:LYS:HE2	1.75	0.67
3:B:34:VAL:HA	3:B:55:VAL:HB	1.74	0.67
3:B:116:ASP:HA	3:B:142:PRO:HA	1.77	0.67
3:B:150:ILE:HG23	3:B:174:GLN:HB2	1.73	0.67
3:B:542:LEU:H	3:B:572:ASN:ND2	1.92	0.67
3:B:546:TRP:HB3	3:B:578:PRO:HD3	1.77	0.67
3:B:49:LEU:HD22	3:B:73:ARG:NH2	2.09	0.67
3:B:598:LEU:HB2	3:B:620:ASN:HD22	1.60	0.67
3:B:34:VAL:HG23	3:B:34:VAL:O	1.94	0.67
3:B:607:ASP:N	3:B:609:GLN:HE22	1.92	0.67
3:A:536:ASP:HB3	3:A:538:GLN:NE2	2.02	0.66
3:B:68:PRO:O	3:B:97:ILE:HG13	1.95	0.66
3:A:313:LEU:HB2	3:A:346:ILE:HG22	1.77	0.66
3:A:578:PRO:HG2	3:A:581:VAL:CG1	2.25	0.66
3:B:68:PRO:CB	3:B:93:GLU:HB2	2.24	0.66
3:A:541:ASN:OD1	3:A:541:ASN:O	2.13	0.66
3:A:40:LEU:HD13	3:A:61:ASN:HD21	1.60	0.66
3:A:624:SER:HB3	3:A:653:SER:HB3	1.75	0.66
3:B:291:ASN:OD1	3:B:316:ARG:HB3	1.95	0.66
3:B:593:LEU:HB2	3:B:617:LEU:HD23	1.75	0.66
3:A:295:SER:HA	3:A:320:GLY:HA3	1.78	0.66
3:B:557:PHE:HD2	3:B:558:LEU:HG	1.61	0.66
3:B:622:ILE:H	3:B:645:ASN:HD22	1.44	0.66
3:A:275:ASN:HD21	5:F:1:NAG:C6	2.10	0.65
3:B:115:SER:O	3:B:118:THR:HG22	1.96	0.65
3:B:180:LYS:HA	3:B:206:SER:HB2	1.76	0.65
3:B:325:ARG:C	3:B:357:LEU:HD12	2.15	0.65
3:A:215:GLY:HA2	3:A:218:GLN:HG2	1.77	0.65
3:B:624:SER:HB3	3:B:653:SER:HB3	1.77	0.65
3:A:419:ILE:HG21	3:A:422:ILE:HD11	1.76	0.65
3:B:33:ASN:CA	3:B:53:ILE:HB	2.22	0.65
3:A:660:TRP:O	3:A:664:THR:HG22	1.95	0.65

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:275:ASN:ND2	10:M:1:NAG:H61	2.11	0.65
3:B:325:ARG:HA	3:B:357:LEU:HA	1.79	0.65
3:A:180:LYS:HA	3:A:206:SER:HB2	1.77	0.65
3:A:596:ASN:O	3:A:620:ASN:HA	1.96	0.65
3:A:607:ASP:N	3:A:609:GLN:HE22	1.94	0.65
3:A:568:ASN:O	3:A:569:LEU:HD12	1.96	0.65
3:B:187:ARG:O	3:B:191:LEU:HD23	1.97	0.65
3:A:511:LEU:HD21	3:A:513:LEU:HG	1.78	0.65
3:B:55:VAL:HG13	3:B:79:ILE:HG13	1.79	0.65
1:C:12:U:H2'	1:C:13:A:H8	1.61	0.65
3:A:468:TYR:OH	3:A:493:LYS:HD3	1.97	0.65
3:B:185:ALA:C	3:B:186:LEU:HD12	2.17	0.65
3:B:624:SER:HB3	3:B:653:SER:CB	2.27	0.65
3:A:68:PRO:CB	3:A:93:GLU:HB2	2.26	0.64
3:B:150:ILE:O	3:B:173:LEU:HD12	1.97	0.64
3:B:231:ALA:HB3	3:B:233:LEU:HD11	1.79	0.64
3:B:533:GLU:HB2	3:B:534:ILE:HD12	1.79	0.64
3:A:624:SER:HB3	3:A:653:SER:CB	2.27	0.64
3:B:94:LEU:HD12	3:B:94:LEU:H	1.62	0.64
3:B:596:ASN:O	3:B:620:ASN:HA	1.97	0.64
3:B:297:LEU:HD13	3:B:300:LEU:HD13	1.80	0.64
3:B:252:ASN:HD22	4:L:1:NAG:H61	1.60	0.64
3:A:94:LEU:HD12	3:A:94:LEU:H	1.62	0.64
3:B:545:LEU:O	3:B:546:TRP:HD1	1.80	0.64
3:A:68:PRO:HA	3:A:94:LEU:HG	1.79	0.64
3:A:187:ARG:O	3:A:191:LEU:HD23	1.98	0.64
3:B:654:ILE:HD11	3:B:691:PHE:CE1	2.33	0.64
3:A:107:GLN:HB2	3:A:131:MET:HB3	1.78	0.64
3:A:533:GLU:HA	3:A:564:LEU:HA	1.80	0.64
3:A:97:ILE:HB	3:A:98:LEU:HD22	1.79	0.64
3:B:483:GLN:O	3:B:508:LEU:HD12	1.98	0.64
3:A:55:VAL:HG13	3:A:79:ILE:HG13	1.78	0.63
3:B:45:ILE:HG23	3:B:45:ILE:O	1.96	0.63
3:A:484:ARG:HG2	3:A:510:ILE:HB	1.79	0.63
3:A:150:ILE:O	3:A:173:LEU:HD12	1.99	0.63
3:A:511:LEU:CD2	3:A:513:LEU:HG	2.28	0.63
4:H:1:NAG:H83	4:H:1:NAG:O3	1.97	0.63
3:B:102:LYS:O	3:B:125:LEU:HD12	1.98	0.63
1:C:27:G:H4'	3:A:519:ALA:HB1	1.81	0.63
3:A:194:LEU:HB3	3:A:197:SER:HB2	1.78	0.63
3:A:538:GLN:NE2	3:A:538:GLN:H	1.96	0.63

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:198:SER:OG	3:B:222:LYS:HB2	1.98	0.63
3:B:286:LEU:HD21	3:B:289:VAL:HG22	1.81	0.63
3:A:33:ASN:O	3:A:53:ILE:HB	1.99	0.63
3:B:53:ILE:O	3:B:76:GLN:HB3	1.98	0.63
3:B:541:ASN:OD1	3:B:541:ASN:O	2.15	0.63
3:A:42:LEU:H	3:A:61:ASN:HD22	1.47	0.63
3:A:59:THR:HG22	3:A:60:HIS:CD2	2.34	0.63
3:B:246:SER:O	3:B:248:THR:HG23	1.99	0.63
3:A:185:ALA:C	3:A:186:LEU:HD12	2.19	0.63
3:A:300:LEU:CD2	3:A:324:LEU:HD13	2.28	0.63
3:A:550:ASN:CB	3:A:551:PRO:CD	2.76	0.63
3:A:561:LEU:HD22	3:A:564:LEU:HD12	1.79	0.63
3:B:568:ASN:O	3:B:569:LEU:HD12	1.99	0.63
3:A:545:LEU:HD12	3:A:555:VAL:CG2	2.25	0.62
3:B:97:ILE:HB	3:B:98:LEU:HD22	1.81	0.62
3:A:231:ALA:HB3	3:A:233:LEU:HD11	1.79	0.62
3:B:443:ILE:H	3:B:466:ASN:HD22	1.45	0.62
3:B:500:SER:OG	3:B:525:LEU:HD12	1.98	0.62
3:B:696:CYS:O	3:B:697:LYS:HG2	1.99	0.62
3:A:577:ILE:HD11	3:A:601:LEU:CD1	2.29	0.62
3:A:607:ASP:H	3:A:609:GLN:HE22	1.46	0.62
3:B:138:ILE:HD12	3:B:159:LEU:HD11	1.79	0.62
3:A:143:PHE:C	3:A:145:ASN:H	1.99	0.62
3:A:535:LEU:HD11	3:A:537:PHE:HE2	1.62	0.62
3:B:68:PRO:HB2	3:B:93:GLU:CB	2.27	0.62
3:A:44:HIS:O	3:A:46:PRO:HD3	1.98	0.62
3:A:589:LYS:O	3:A:612:LEU:HD12	1.99	0.62
3:B:50:PRO:O	3:B:53:ILE:HD12	2.00	0.62
3:B:37:CYS:HB3	3:B:40:LEU:HD22	1.80	0.62
3:A:116:ASP:HA	3:A:142:PRO:HA	1.81	0.62
3:A:262:ALA:CB	3:A:288:ASP:HB2	2.30	0.62
3:A:458:ILE:HD11	3:A:461:ILE:HG13	1.81	0.62
3:B:509:THR:O	3:B:532:LEU:HD22	1.99	0.62
3:B:607:ASP:H	3:B:609:GLN:HE22	1.48	0.62
3:A:533:GLU:HB2	3:A:534:ILE:HD12	1.82	0.61
3:B:577:ILE:HD11	3:B:601:LEU:CD1	2.29	0.61
1:C:39:G:H2'	1:C:40:C:C6	2.33	0.61
3:A:32:TYR:HD1	3:A:32:TYR:H	1.46	0.61
3:B:194:LEU:HB3	3:B:197:SER:HB2	1.82	0.61
3:B:300:LEU:HD22	3:B:321:LEU:HD22	1.81	0.61
3:B:242:CYS:HA	3:B:245:LEU:HD12	1.81	0.61

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:325:ARG:HA	3:A:357:LEU:HA	1.81	0.61
3:A:612:LEU:HD21	3:A:615:LEU:HD13	1.83	0.61
3:B:262:ALA:HB1	3:B:288:ASP:HB2	1.82	0.61
3:B:570:GLU:HB2	3:B:592:ASN:ND2	2.15	0.61
3:A:114:ILE:HG12	3:A:118:THR:HG21	1.83	0.61
3:B:314:SER:HB2	3:B:315:PRO:HD2	1.82	0.61
3:B:37:CYS:HB3	3:B:40:LEU:CD2	2.30	0.61
3:A:521:ILE:HG13	3:A:525:LEU:HD22	1.82	0.61
3:B:484:ARG:HG2	3:B:510:ILE:HB	1.83	0.61
3:B:536:ASP:HB3	3:B:538:GLN:NE2	2.06	0.61
3:B:535:LEU:HD11	3:B:537:PHE:CE2	2.35	0.61
3:B:675:TYR:O	3:B:688:LEU:HB2	2.01	0.61
3:A:212:PHE:H	3:A:240:LYS:NZ	1.99	0.61
3:B:468:TYR:OH	3:B:493:LYS:HD3	2.01	0.61
3:B:561:LEU:HD22	3:B:564:LEU:HD12	1.82	0.61
3:B:153:ASP:HA	3:B:177:LEU:HB2	1.83	0.60
3:A:313:LEU:HD12	3:A:346:ILE:HG21	1.83	0.60
3:B:215:GLY:HA2	3:B:218:GLN:CG	2.30	0.60
3:A:242:CYS:HA	3:A:245:LEU:HD12	1.83	0.60
3:B:521:ILE:HG13	3:B:525:LEU:HD22	1.83	0.60
3:B:107:GLN:HB2	3:B:131:MET:HB3	1.83	0.60
3:B:279:LEU:CB	3:B:300:LEU:HD11	2.31	0.60
3:A:63:LEU:HB3	3:A:87:ILE:HD11	1.84	0.60
3:B:31:ARG:C	3:B:32:TYR:CD1	2.72	0.60
3:B:212:PHE:H	3:B:240:LYS:NZ	1.99	0.60
3:B:538:GLN:NE2	3:B:538:GLN:H	2.00	0.60
3:B:630:PHE:HB3	3:B:634:PHE:CE1	2.37	0.60
3:A:494:ASN:O	3:A:497:ILE:HD12	2.00	0.60
3:B:334:THR:O	3:B:344:PRO:HG3	2.00	0.60
3:A:675:TYR:O	3:A:688:LEU:HB2	2.02	0.60
3:B:535:LEU:HD11	3:B:537:PHE:HE2	1.67	0.60
2:D:23:C:OP1	3:A:539:HIS:HB3	2.01	0.60
3:A:68:PRO:HB2	3:A:93:GLU:CB	2.30	0.60
3:A:102:LYS:O	3:A:125:LEU:HD12	2.02	0.60
3:A:458:ILE:HD13	3:A:459:PHE:N	2.16	0.60
3:B:511:LEU:HD23	3:B:512:ASP:N	2.15	0.60
3:A:640:LEU:HG	3:A:641:ASP:N	2.17	0.60
3:B:36:ASP:HA	3:B:57:ASN:HB3	1.83	0.60
3:B:65:ARG:O	3:B:67:PRO:HD3	2.02	0.60
3:B:64:ARG:HG2	3:B:65:ARG:HD2	1.83	0.60
3:A:42:LEU:HD11	3:A:46:PRO:HG3	1.84	0.59

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:365:ASN:HB3	3:A:367:ILE:HD12	1.83	0.59
3:B:329:LEU:HD13	3:B:333:PHE:CZ	2.37	0.59
3:B:577:ILE:HD12	3:B:577:ILE:O	2.02	0.59
3:A:325:ARG:C	3:A:357:LEU:HD12	2.23	0.59
3:B:61:ASN:O	3:B:85:ASN:OD1	2.21	0.59
3:B:430:LEU:HD23	3:B:433:LEU:HD22	1.83	0.59
3:A:321:LEU:HD13	3:A:324:LEU:HD22	1.85	0.59
3:B:468:TYR:CE1	3:B:470:GLN:HB2	2.21	0.59
3:B:511:LEU:HD21	3:B:513:LEU:HG	1.83	0.59
3:B:640:LEU:HG	3:B:641:ASP:N	2.17	0.59
3:B:63:LEU:O	3:B:86:SER:O	2.19	0.59
1:C:16:U:H4'	7:I:5:MAN:O2	2.02	0.59
3:A:520:ASN:HB3	3:A:544:ARG:HH12	1.66	0.59
3:B:49:LEU:O	3:B:51:SER:N	2.34	0.59
3:B:252:ASN:ND2	4:L:1:NAG:H61	2.18	0.59
3:B:597:ASN:HA	3:B:621:LEU:HD13	1.85	0.59
1:C:12:U:H2'	1:C:13:A:C8	2.38	0.59
3:B:143:PHE:C	3:B:145:ASN:H	2.06	0.59
3:A:103:VAL:HG22	3:A:127:GLU:HB3	1.83	0.59
3:A:396:LEU:HD12	3:A:422:ILE:HD12	1.84	0.59
3:B:334:THR:CG2	3:B:344:PRO:HB3	2.32	0.59
3:A:458:ILE:HD13	3:A:458:ILE:C	2.23	0.59
3:B:178:LEU:O	3:B:204:LEU:HA	2.02	0.59
3:B:107:GLN:HA	3:B:131:MET:H	1.67	0.58
3:A:63:LEU:O	3:A:86:SER:O	2.20	0.58
3:A:488:ARG:O	3:A:490:VAL:HG13	2.04	0.58
3:A:599:ASN:OD1	3:A:600:LYS:HG3	2.04	0.58
3:A:314:SER:HB2	3:A:315:PRO:HD2	1.85	0.58
3:A:520:ASN:HB3	3:A:544:ARG:NH1	2.19	0.58
3:A:393:LEU:O	3:A:393:LEU:HD23	2.03	0.58
3:A:45:ILE:O	3:A:45:ILE:HG23	2.03	0.58
3:A:215:GLY:HA2	3:A:218:GLN:CG	2.33	0.58
3:A:509:THR:O	3:A:532:LEU:HD22	2.03	0.58
3:A:53:ILE:O	3:A:76:GLN:HB3	2.03	0.58
3:B:152:LEU:O	3:B:152:LEU:HD13	2.03	0.58
3:A:71:PHE:HE2	3:A:94:LEU:HD23	1.69	0.58
3:A:79:ILE:HB	3:A:103:VAL:HB	1.84	0.58
3:A:153:ASP:HA	3:A:177:LEU:HB2	1.85	0.58
3:B:34:VAL:HG12	3:B:55:VAL:HB	1.86	0.58
3:B:336:GLN:HG3	3:B:343:HIS:HB3	1.86	0.58
3:B:488:ARG:O	3:B:490:VAL:HG13	2.03	0.58

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:56:LEU:HD11	3:A:58:LEU:CG	2.25	0.58
3:A:315:PRO:HA	3:A:350:SER:HA	1.85	0.58
4:H:2:NDG:H2	4:H:2:NDG:H6C2	1.85	0.58
3:A:71:PHE:O	3:A:97:ILE:HG22	2.04	0.58
3:A:79:ILE:CG2	3:A:103:VAL:HB	2.34	0.58
3:A:396:LEU:CB	3:A:422:ILE:HD12	2.32	0.58
3:B:313:LEU:HD12	3:B:346:ILE:CG2	2.34	0.58
3:A:300:LEU:HD22	3:A:321:LEU:HD22	1.86	0.57
3:A:521:ILE:HD13	3:A:522:ASN:O	2.04	0.57
3:A:598:LEU:HB2	3:A:620:ASN:ND2	2.18	0.57
3:B:511:LEU:CD2	3:B:513:LEU:HG	2.34	0.57
3:A:306:GLU:HG2	3:A:330:LYS:HB3	1.86	0.57
3:A:640:LEU:HD21	3:A:642:MET:CE	2.34	0.57
3:B:459:PHE:CE1	3:B:483:GLN:HG3	2.39	0.57
3:A:297:LEU:HD13	3:A:300:LEU:HD13	1.87	0.57
3:B:315:PRO:HA	3:B:350:SER:HA	1.84	0.57
1:C:21:A:C1'	3:B:541:ASN:HB2	2.34	0.57
3:A:534:ILE:HG23	3:A:566:ILE:HG23	1.86	0.57
3:B:577:ILE:CD1	3:B:605:ILE:HG21	2.33	0.57
3:A:481:SER:HA	9:K:1:NAG:C8	2.34	0.57
3:B:329:LEU:HD13	3:B:333:PHE:HZ	1.70	0.57
3:A:80:LEU:HD23	3:A:80:LEU:H	1.69	0.57
3:A:107:GLN:HA	3:A:131:MET:H	1.69	0.57
3:B:520:ASN:HB3	3:B:544:ARG:NH1	2.20	0.57
3:A:306:GLU:HB3	3:A:307:TYR:HD1	1.70	0.57
3:B:79:ILE:HB	3:B:103:VAL:HB	1.85	0.57
3:B:114:ILE:HD11	3:B:118:THR:CB	2.35	0.57
3:B:520:ASN:HB3	3:B:544:ARG:HH12	1.69	0.57
3:B:108:HIS:H	3:B:132:SER:H	1.52	0.57
3:B:482:LEU:HB2	3:B:505:LEU:CD2	2.33	0.57
1:C:24:G:N2	2:D:24:C:C2	2.73	0.57
3:A:65:ARG:O	3:A:67:PRO:HD3	2.05	0.57
3:A:483:GLN:O	3:A:508:LEU:HD12	2.04	0.57
3:B:343:HIS:O	3:B:343:HIS:ND1	2.38	0.57
3:B:422:ILE:H	3:B:445:GLN:NE2	2.03	0.57
3:B:563:HIS:HA	3:B:587:GLU:OE2	2.05	0.57
3:A:109:ASN:O	3:A:132:SER:O	2.23	0.56
3:A:545:LEU:O	3:A:546:TRP:HD1	1.87	0.56
3:B:101:LEU:HD22	3:B:125:LEU:HD13	1.85	0.56
3:B:109:ASN:O	3:B:132:SER:O	2.23	0.56
3:A:108:HIS:H	3:A:132:SER:H	1.51	0.56

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1:A:N6	2:D:45:A:N6	2.52	0.56
3:A:250:ILE:HD13	3:A:250:ILE:C	2.26	0.56
3:A:564:LEU:C	3:A:564:LEU:HD23	2.26	0.56
3:A:597:ASN:HA	3:A:621:LEU:HD13	1.87	0.56
3:B:103:VAL:HG22	3:B:127:GLU:HB3	1.85	0.56
3:B:109:ASN:O	3:B:133:ASN:HA	2.06	0.56
3:B:126:THR:HA	3:B:149:LEU:HA	1.86	0.56
3:A:388:LYS:HA	3:A:416:LYS:O	2.06	0.56
3:A:511:LEU:HD23	3:A:511:LEU:C	2.25	0.56
3:B:388:LYS:HA	3:B:416:LYS:O	2.05	0.56
3:A:421:LYS:HG2	3:A:445:GLN:NE2	2.21	0.56
3:B:365:ASN:HB3	3:B:367:ILE:HD12	1.86	0.56
3:B:522:ASN:C	3:B:522:ASN:HD22	2.08	0.56
3:A:168:VAL:HG13	3:A:195:GLY:N	2.20	0.56
3:A:485:LEU:HG	3:A:487:LEU:CD2	2.36	0.56
3:A:178:LEU:O	3:A:204:LEU:HA	2.06	0.56
3:A:335:LYS:HZ2	3:A:335:LYS:N	2.03	0.56
3:B:233:LEU:HD13	3:B:258:ASN:OD1	2.04	0.56
3:B:306:GLU:HG2	3:B:330:LYS:HB3	1.87	0.56
3:B:570:GLU:HB2	3:B:592:ASN:HD21	1.70	0.56
3:A:126:THR:HA	3:A:148:ASN:O	2.06	0.56
3:A:443:ILE:H	3:A:466:ASN:HD22	1.53	0.56
3:A:500:SER:OG	3:A:525:LEU:HD12	2.06	0.56
3:A:140:SER:C	3:A:142:PRO:HD3	2.27	0.56
3:B:521:ILE:HD13	3:B:522:ASN:O	2.05	0.56
3:A:577:ILE:HD12	3:A:577:ILE:O	2.06	0.55
3:A:630:PHE:HB3	3:A:634:PHE:CE1	2.40	0.55
3:A:63:LEU:HB3	3:A:87:ILE:CD1	2.36	0.55
3:B:321:LEU:HD13	3:B:324:LEU:HD22	1.88	0.55
3:A:37:CYS:HB3	3:A:40:LEU:HD11	1.87	0.55
3:A:643:ARG:O	3:A:644:PHE:HB2	2.07	0.55
3:B:79:ILE:CG2	3:B:103:VAL:HB	2.36	0.55
3:B:589:LYS:O	3:B:612:LEU:HD12	2.06	0.55
3:A:550:ASN:HB3	3:A:551:PRO:CD	2.35	0.55
3:B:393:LEU:HD23	3:B:393:LEU:O	2.06	0.55
3:A:497:ILE:HD11	3:A:501:PRO:HD3	1.88	0.55
3:A:603:PRO:O	3:A:604:PHE:HB2	2.05	0.55
3:B:252:ASN:HD22	4:L:1:NAG:C6	2.19	0.55
3:B:577:ILE:HD11	3:B:601:LEU:HD12	1.86	0.55
3:B:276:LEU:O	3:B:300:LEU:HA	2.06	0.55
3:B:484:ARG:HG3	3:B:484:ARG:HH11	1.70	0.55

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:593:LEU:HB2	3:A:617:LEU:HD23	1.89	0.55
3:B:32:TYR:CD1	3:B:32:TYR:N	2.73	0.55
3:A:64:ARG:HG2	3:A:65:ARG:HD2	1.89	0.55
3:A:141:ASN:CB	3:A:169:GLN:HE22	2.16	0.55
3:A:696:CYS:O	3:A:697:LYS:HB3	2.07	0.55
3:B:275:ASN:ND2	10:M:1:NAG:C6	2.69	0.55
3:A:126:THR:HA	3:A:149:LEU:HA	1.89	0.54
3:B:114:ILE:HG12	3:B:118:THR:HG21	1.88	0.54
3:A:101:LEU:HD22	3:A:125:LEU:HD13	1.88	0.54
3:A:109:ASN:O	3:A:133:ASN:HA	2.06	0.54
3:A:313:LEU:HD13	3:A:318:PHE:HE1	1.72	0.54
3:A:334:THR:C	3:A:335:LYS:HD3	2.27	0.54
3:A:180:LYS:H	3:A:206:SER:HB2	1.72	0.54
3:A:538:GLN:HG3	3:A:568:ASN:OD1	2.07	0.54
3:B:131:MET:O	3:B:155:SER:O	2.24	0.54
3:B:239:GLU:HA	3:B:267:THR:O	2.07	0.54
3:A:233:LEU:HD13	3:A:258:ASN:OD1	2.07	0.54
3:B:33:ASN:O	3:B:55:VAL:N	2.39	0.54
3:B:486:MET:C	3:B:487:LEU:HD22	2.28	0.54
6:G:1:NAG:H5	6:G:3:FUC:O5	2.06	0.54
1:C:43:C:H2'	1:C:44:A:C8	2.43	0.54
3:A:187:ARG:HD3	3:A:189:GLU:OE1	2.07	0.54
3:A:462:TYR:HD1	3:A:486:MET:HG3	1.72	0.54
3:B:603:PRO:O	3:B:604:PHE:HB2	2.06	0.54
3:A:198:SER:OG	3:A:222:LYS:HB2	2.07	0.54
3:A:484:ARG:HG3	3:A:484:ARG:HH11	1.73	0.54
3:B:168:VAL:HG13	3:B:195:GLY:N	2.22	0.54
3:A:36:ASP:HA	3:A:57:ASN:HB3	1.90	0.54
3:A:449:GLY:HA2	3:A:475:SER:O	2.08	0.54
3:B:643:ARG:O	3:B:644:PHE:HB2	2.08	0.54
3:A:689:LYS:HG3	3:A:690:LEU:N	2.23	0.53
3:B:641:ASP:OD2	3:B:643:ARG:HG2	2.08	0.53
3:A:262:ALA:HB1	3:A:288:ASP:HB2	1.90	0.53
3:B:82:ALA:O	3:B:105:ASN:O	2.26	0.53
3:B:464:SER:O	3:B:465:TYR:HB2	2.08	0.53
3:B:126:THR:HA	3:B:148:ASN:O	2.07	0.53
3:B:443:ILE:N	3:B:466:ASN:HD22	2.06	0.53
3:A:80:LEU:HD21	3:A:104:LEU:HA	1.89	0.53
3:A:163:LYS:HB2	3:A:190:GLU:HB2	1.89	0.53
3:A:577:ILE:HD11	3:A:601:LEU:HD13	1.89	0.53
3:A:276:LEU:O	3:A:300:LEU:HA	2.08	0.53

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:609:GLN:NE2	3:A:609:GLN:N	2.54	0.53
3:B:68:PRO:HB3	3:B:94:LEU:CD1	2.38	0.53
3:B:212:PHE:CD2	3:B:241:LEU:HB2	2.43	0.53
3:B:295:SER:HA	3:B:320:GLY:CA	2.38	0.53
3:B:435:ILE:HG13	3:B:460:GLU:HG2	1.91	0.53
1:C:16:U:H2'	1:C:17:G:H8	1.72	0.53
3:A:180:LYS:HA	3:A:206:SER:CB	2.38	0.53
3:A:291:ASN:OD1	3:A:316:ARG:HB3	2.09	0.53
3:B:566:ILE:C	3:B:566:ILE:HD13	2.29	0.53
3:A:451:GLU:CD	3:A:451:GLU:H	2.10	0.53
3:A:615:LEU:HB3	3:A:640:LEU:HD12	1.90	0.53
3:B:80:LEU:H	3:B:80:LEU:HD23	1.74	0.53
3:A:279:LEU:CB	3:A:300:LEU:HD11	2.37	0.53
3:B:33:ASN:C	3:B:53:ILE:HB	2.29	0.53
3:B:59:THR:HG22	3:B:60:HIS:CD2	2.43	0.53
3:B:212:PHE:CE2	3:B:241:LEU:HB2	2.44	0.53
3:B:370:THR:OG1	3:B:400:THR:HG23	2.08	0.53
3:B:612:LEU:HD21	3:B:615:LEU:HD13	1.90	0.53
3:A:151:LYS:HG2	3:A:175:GLU:OE1	2.08	0.53
3:A:410:LEU:HD12	3:A:410:LEU:N	2.24	0.53
3:B:56:LEU:HD11	3:B:58:LEU:CG	2.32	0.53
3:B:163:LYS:HB2	3:B:190:GLU:HB2	1.91	0.53
3:A:436:LEU:HD21	3:A:438:LEU:HG	1.92	0.52
3:A:534:ILE:HG13	3:A:566:ILE:CG2	2.38	0.52
3:B:180:LYS:H	3:B:206:SER:HB2	1.74	0.52
3:B:485:LEU:HG	3:B:487:LEU:CD2	2.39	0.52
3:B:689:LYS:HG3	3:B:690:LEU:N	2.25	0.52
3:B:331:ARG:NH2	3:B:335:LYS:HE2	2.24	0.52
3:A:80:LEU:HD23	3:A:80:LEU:N	2.25	0.52
3:A:114:ILE:CG1	3:A:118:THR:HG21	2.39	0.52
3:B:73:ARG:HG3	3:B:73:ARG:HH11	1.75	0.52
3:B:205:SER:OG	3:B:229:ASN:HB2	2.09	0.52
3:B:421:LYS:HG2	3:B:445:GLN:NE2	2.24	0.52
3:B:449:GLY:H	3:B:475:SER:HA	1.75	0.52
3:B:654:ILE:HD13	3:B:654:ILE:C	2.28	0.52
3:A:534:ILE:HG13	3:A:566:ILE:HG22	1.92	0.52
3:B:511:LEU:HD23	3:B:511:LEU:C	2.29	0.52
3:A:61:ASN:O	3:A:85:ASN:OD1	2.28	0.52
3:A:234:ASN:CB	3:A:237:LEU:HD13	2.37	0.52
3:A:275:ASN:ND2	5:F:1:NAG:H61	2.24	0.52
3:B:40:LEU:HB2	3:B:61:ASN:ND2	2.19	0.52

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:I:1:NAG:C6	7:I:2:NAG:HN2	2.23	0.52
3:A:522:ASN:C	3:A:522:ASN:HD22	2.12	0.52
3:A:555:VAL:O	3:A:557:PHE:N	2.41	0.52
3:A:602:GLU:O	3:A:605:ILE:HG23	2.09	0.52
3:B:35:ALA:O	3:B:56:LEU:HA	2.10	0.52
3:A:582:PHE:HB3	3:A:609:GLN:OE1	2.10	0.52
3:B:534:ILE:HD12	3:B:534:ILE:N	2.25	0.52
1:C:22:A:H5'	3:B:539:HIS:HB3	1.92	0.52
3:A:422:ILE:H	3:A:445:GLN:NE2	2.07	0.52
3:A:458:ILE:CD1	3:A:461:ILE:HG13	2.39	0.52
3:B:502:PHE:CD2	3:B:525:LEU:HD11	2.45	0.52
3:B:71:PHE:O	3:B:97:ILE:HG22	2.10	0.51
3:A:40:LEU:N	3:A:40:LEU:CD1	2.72	0.51
3:B:39:HIS:HA	3:B:60:HIS:O	2.10	0.51
3:B:151:LYS:HG2	3:B:175:GLU:OE1	2.10	0.51
3:A:525:LEU:O	3:A:526:LEU:HB2	2.08	0.51
3:B:80:LEU:HD21	3:B:104:LEU:CD1	2.36	0.51
3:B:180:LYS:HA	3:B:206:SER:CB	2.40	0.51
3:B:241:LEU:HD12	3:B:241:LEU:O	2.10	0.51
3:B:336:GLN:N	3:B:366:ASN:OD1	2.43	0.51
3:B:477:ALA:HA	3:B:504:PRO:HG3	1.92	0.51
3:B:521:ILE:HD12	3:B:557:PHE:CE1	2.45	0.51
3:A:150:ILE:HD12	3:A:174:GLN:HE21	1.75	0.51
3:A:180:LYS:CA	3:A:206:SER:HB2	2.39	0.51
3:A:398:ASN:ND2	4:H:1:NAG:C6	2.71	0.51
3:B:180:LYS:CA	3:B:206:SER:HB2	2.39	0.51
3:B:534:ILE:HG13	3:B:566:ILE:CG2	2.40	0.51
3:A:550:ASN:O	3:A:551:PRO:C	2.49	0.51
3:B:337:SER:OG	3:B:342:SER:HB2	2.10	0.51
3:B:436:LEU:HD21	3:B:438:LEU:HG	1.92	0.51
3:B:654:ILE:HD12	3:B:654:ILE:H	1.76	0.51
3:A:32:TYR:O	3:A:33:ASN:HB3	2.10	0.51
3:A:53:ILE:HG12	3:A:77:LEU:HD23	1.92	0.51
3:B:92:PRO:HB3	3:B:117:GLN:O	2.10	0.51
3:B:588:LEU:C	3:B:588:LEU:HD23	2.31	0.51
3:A:105:ASN:HA	3:A:129:ASP:HB3	1.92	0.51
3:A:286:LEU:HD21	3:A:289:VAL:HG22	1.93	0.51
3:A:570:GLU:HB2	3:A:592:ASN:ND2	2.25	0.51
3:B:138:ILE:CD1	3:B:159:LEU:HD11	2.41	0.51
1:C:3:U:H2'	1:C:4:C:H6	1.76	0.51
1:C:16:U:H2'	1:C:17:G:C8	2.46	0.51

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:410:LEU:N	3:A:410:LEU:CD1	2.74	0.51
3:A:577:ILE:HD11	3:A:601:LEU:HD12	1.92	0.51
3:A:143:PHE:C	3:A:145:ASN:N	2.64	0.51
3:A:250:ILE:HD12	3:A:276:LEU:HD21	1.93	0.51
3:B:449:GLY:HA2	3:B:475:SER:O	2.11	0.51
3:B:526:LEU:HA	3:B:529:LEU:CD1	2.40	0.51
3:B:126:THR:HG22	3:B:148:ASN:HB3	1.92	0.50
3:A:275:ASN:ND2	5:F:1:NAG:C6	2.73	0.50
3:A:421:LYS:O	3:A:422:ILE:HD13	2.10	0.50
3:A:534:ILE:HD12	3:A:534:ILE:N	2.26	0.50
3:A:540:ASN:O	3:A:541:ASN:C	2.50	0.50
3:B:35:ALA:N	3:B:55:VAL:O	2.38	0.50
3:B:450:GLN:HG3	8:Q:1:NAG:C6	2.21	0.50
3:B:489:ARG:HA	3:B:515:ASN:O	2.11	0.50
3:B:671:LEU:HA	3:B:675:TYR:CD1	2.46	0.50
3:A:601:LEU:N	3:A:601:LEU:HD22	2.26	0.50
3:A:640:LEU:HD21	3:A:642:MET:HE3	1.92	0.50
3:A:641:ASP:OD2	3:A:643:ARG:HG2	2.11	0.50
3:A:489:ARG:HA	3:A:515:ASN:O	2.11	0.50
3:A:558:LEU:CA	3:A:561:LEU:HD11	2.41	0.50
1:C:16:U:H4'	7:I:5:MAN:O3	2.12	0.50
3:A:111:LEU:O	3:A:135:ILE:HG12	2.12	0.50
3:A:295:SER:HA	3:A:320:GLY:CA	2.41	0.50
3:A:331:ARG:HA	3:A:364:ASP:O	2.10	0.50
3:B:147:LYS:NZ	3:B:171:GLU:HG2	2.26	0.50
3:B:266:SER:HA	3:B:269:SER:HB3	1.93	0.50
3:B:521:ILE:HG21	3:B:557:PHE:HE1	1.76	0.50
2:D:7:G:H2'	2:D:8:C:H6	1.77	0.50
3:A:424:ASN:CG	8:J:1:NAG:N2	2.65	0.50
3:B:33:ASN:CB	3:B:53:ILE:HA	2.41	0.50
3:B:651:CYS:HB3	3:B:655:SER:HG	1.74	0.50
3:A:30:VAL:HG12	3:A:30:VAL:O	2.12	0.50
3:A:177:LEU:HD12	3:A:177:LEU:N	2.26	0.50
3:A:231:ALA:HB3	3:A:233:LEU:CD1	2.42	0.50
3:A:266:SER:HA	3:A:269:SER:HB3	1.93	0.50
3:A:393:LEU:HD21	3:A:396:LEU:CD2	2.38	0.50
3:A:468:TYR:CE1	3:A:470:GLN:HB2	2.26	0.50
3:B:306:GLU:HB3	3:B:307:TYR:HD1	1.74	0.50
3:B:510:ILE:HG12	3:B:534:ILE:HD13	1.93	0.50
3:A:92:PRO:HB3	3:A:117:GLN:O	2.12	0.50
3:A:131:MET:O	3:A:155:SER:O	2.28	0.50

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:87:ILE:HD12	3:B:109:ASN:ND2	2.26	0.50
3:B:111:LEU:O	3:B:135:ILE:HG12	2.11	0.50
3:B:239:GLU:HG3	3:B:266:SER:O	2.12	0.50
3:B:615:LEU:HB3	3:B:640:LEU:HD12	1.93	0.50
3:A:563:HIS:HA	3:A:587:GLU:OE2	2.12	0.49
3:B:359:TYR:C	3:B:359:TYR:CD2	2.85	0.49
3:B:599:ASN:OD1	3:B:600:LYS:HG3	2.12	0.49
3:A:152:LEU:HD13	3:A:152:LEU:O	2.12	0.49
3:A:526:LEU:HD23	3:A:529:LEU:CD1	2.39	0.49
3:B:300:LEU:CD2	3:B:324:LEU:HD13	2.37	0.49
3:B:324:LEU:HD21	3:B:327:LEU:HD13	1.93	0.49
3:B:557:PHE:CD2	3:B:558:LEU:HG	2.45	0.49
3:B:500:SER:CB	3:B:525:LEU:HA	2.37	0.49
3:B:564:LEU:C	3:B:564:LEU:HD23	2.33	0.49
13:B:724:NAG:O3	13:B:724:NAG:H83	2.11	0.49
3:A:147:LYS:NZ	3:A:171:GLU:HG2	2.27	0.49
3:A:437:ASP:OD2	3:A:462:TYR:HD2	1.94	0.49
3:B:231:ALA:HB3	3:B:233:LEU:CD1	2.43	0.49
3:B:258:ASN:HB2	3:B:284:ASN:OD1	2.12	0.49
3:B:269:SER:HA	3:B:296:TYR:CE1	2.47	0.49
1:C:8:G:H2'	1:C:9:G:H8	1.77	0.49
3:A:47:ASP:OD1	3:A:47:ASP:O	2.31	0.49
3:A:417:ASN:O	3:A:418:HIS:HB2	2.11	0.49
3:A:477:ALA:HA	3:A:504:PRO:HG3	1.94	0.49
3:B:138:ILE:HD13	3:B:164:LEU:CD2	2.42	0.49
3:B:177:LEU:N	3:B:177:LEU:HD12	2.28	0.49
3:B:234:ASN:ND2	3:B:236:HIS:H	2.09	0.49
3:B:484:ARG:HG3	3:B:484:ARG:NH1	2.26	0.49
3:B:532:LEU:HD11	3:B:535:LEU:HB2	1.94	0.49
1:C:7:C:OP1	3:A:39:HIS:HB3	2.12	0.49
3:B:114:ILE:HD11	3:B:118:THR:OG1	2.12	0.49
3:B:187:ARG:HA	3:B:213:SER:HB3	1.95	0.49
3:A:66:LEU:O	3:A:68:PRO:HD3	2.13	0.49
3:A:67:PRO:HB2	3:A:70:ASN:HB2	1.95	0.49
3:B:45:ILE:O	3:B:45:ILE:CG2	2.61	0.49
3:B:140:SER:C	3:B:142:PRO:HD3	2.33	0.49
3:B:412:LEU:HD22	3:B:430:LEU:HD21	1.93	0.49
3:B:451:GLU:CD	3:B:451:GLU:H	2.13	0.49
3:B:141:ASN:CB	3:B:169:GLN:HE22	2.20	0.49
3:B:577:ILE:HD11	3:B:601:LEU:HD13	1.95	0.49
4:O:1:NAG:H3	4:O:2:NDG:O5	2.12	0.49

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:94:LEU:O	3:A:98:LEU:HD23	2.12	0.49
3:A:189:GLU:O	3:A:192:GLU:HG2	2.13	0.49
3:B:53:ILE:HG12	3:B:77:LEU:HD23	1.94	0.49
3:B:80:LEU:HD21	3:B:104:LEU:HA	1.95	0.49
3:B:252:ASN:ND2	4:L:1:NAG:C6	2.76	0.49
3:B:526:LEU:HA	3:B:529:LEU:HD11	1.94	0.49
3:B:331:ARG:HA	3:B:364:ASP:O	2.11	0.49
3:B:383:TYR:HD2	3:B:411:THR:OG1	1.96	0.49
3:A:443:ILE:N	3:A:466:ASN:HD22	2.11	0.48
3:A:464:SER:O	3:A:465:TYR:HB2	2.12	0.48
3:A:484:ARG:HG3	3:A:484:ARG:NH1	2.28	0.48
3:A:537:PHE:CZ	3:A:557:PHE:HZ	2.31	0.48
3:B:251:GLN:O	3:B:276:LEU:HD13	2.12	0.48
3:B:437:ASP:OD2	3:B:462:TYR:HD2	1.96	0.48
3:B:526:LEU:HD23	3:B:529:LEU:CD1	2.41	0.48
3:B:649:CYS:HB2	3:B:683:TYR:HB3	1.94	0.48
3:A:334:THR:O	3:A:335:LYS:HD3	2.13	0.48
3:B:77:LEU:O	3:B:100:LEU:O	2.31	0.48
3:B:243:TRP:CD1	3:B:270:GLY:CA	2.96	0.48
3:A:77:LEU:O	3:A:100:LEU:O	2.32	0.48
3:B:114:ILE:CD1	3:B:118:THR:HG21	2.42	0.48
1:C:43:C:H2'	1:C:44:A:H8	1.79	0.48
3:A:37:CYS:HB3	3:A:40:LEU:CD2	2.40	0.48
3:A:486:MET:C	3:A:487:LEU:HD22	2.33	0.48
3:B:187:ARG:HG3	3:B:187:ARG:HH11	1.78	0.48
3:A:226:LEU:HD12	3:A:227:LEU:H	1.78	0.48
3:A:239:GLU:HA	3:A:267:THR:O	2.13	0.48
3:B:179:ALA:HB1	3:B:205:SER:HB2	1.95	0.48
3:B:190:GLU:HG3	3:B:191:LEU:HD22	1.95	0.48
3:B:578:PRO:CG	3:B:581:VAL:HG11	2.40	0.48
2:D:5:G:H2'	2:D:6:C:O4'	2.12	0.48
3:A:53:ILE:HG12	3:A:77:LEU:CD2	2.44	0.48
3:A:79:ILE:CB	3:A:103:VAL:HB	2.43	0.48
3:B:105:ASN:O	3:B:106:LEU:HD12	2.13	0.48
1:C:31:U:H2'	1:C:32:G:C8	2.48	0.48
3:A:150:ILE:HD12	3:A:174:GLN:NE2	2.28	0.48
3:B:169:GLN:HG3	3:B:170:LEU:CD2	2.43	0.48
3:B:390:PHE:CD2	3:B:393:LEU:HD13	2.49	0.48
4:E:1:NAG:H61	4:E:1:NAG:C2	2.42	0.48
3:A:73:ARG:HG3	3:A:73:ARG:HH11	1.78	0.48
3:A:297:LEU:C	3:A:299:SER:H	2.16	0.48

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:53:ILE:HG12	3:B:77:LEU:CD2	2.44	0.48
3:B:68:PRO:HB3	3:B:94:LEU:HD12	1.96	0.48
3:B:331:ARG:HH22	3:B:335:LYS:CE	2.26	0.48
3:B:640:LEU:HD21	3:B:642:MET:CE	2.44	0.48
3:B:31:ARG:HA	3:B:31:ARG:HD3	1.72	0.48
3:B:393:LEU:HD21	3:B:396:LEU:CD2	2.42	0.48
3:B:542:LEU:H	3:B:572:ASN:HD22	1.60	0.48
3:A:169:GLN:HG3	3:A:170:LEU:CD2	2.44	0.48
3:A:243:TRP:CD1	3:A:270:GLY:CA	2.95	0.48
3:B:550:ASN:N	3:B:551:PRO:CD	2.77	0.48
3:A:187:ARG:HA	3:A:213:SER:HB3	1.95	0.47
3:A:196:ASN:HD22	13:A:1961:NAG:H4	1.79	0.47
3:A:359:TYR:C	3:A:359:TYR:CD2	2.88	0.47
3:A:396:LEU:HB3	3:A:426:THR:HG21	1.96	0.47
3:A:459:PHE:CE1	3:A:483:GLN:HG3	2.48	0.47
2:D:13:G:O2'	2:D:14:U:H5'	2.13	0.47
3:A:250:ILE:HD13	3:A:251:GLN:N	2.29	0.47
3:A:306:GLU:HB3	3:A:307:TYR:CD1	2.47	0.47
3:A:447:LEU:HD23	3:A:451:GLU:HG3	1.96	0.47
3:A:479:VAL:HG23	3:A:479:VAL:O	2.15	0.47
3:A:510:ILE:HG12	3:A:534:ILE:HD13	1.96	0.47
3:A:530:GLU:HG3	3:A:530:GLU:O	2.13	0.47
3:B:558:LEU:CA	3:B:561:LEU:HD11	2.44	0.47
3:A:234:ASN:ND2	3:A:236:HIS:H	2.13	0.47
3:B:441:ASN:O	3:B:466:ASN:HA	2.14	0.47
3:B:534:ILE:HG23	3:B:566:ILE:HG23	1.96	0.47
2:D:6:C:N3	2:D:7:G:N7	2.61	0.47
3:A:217:PHE:HB2	3:A:244:GLU:O	2.14	0.47
3:A:500:SER:CB	3:A:525:LEU:HA	2.43	0.47
1:C:21:A:O4'	3:B:541:ASN:HB2	2.13	0.47
3:A:446:LYS:HD3	3:A:470:GLN:NE2	2.29	0.47
3:A:570:GLU:HB2	3:A:592:ASN:HD21	1.80	0.47
3:B:593:LEU:HB2	3:B:617:LEU:CD2	2.45	0.47
3:A:59:THR:HG22	3:A:60:HIS:CG	2.50	0.47
3:A:347:ASP:HA	3:A:371:LYS:NZ	2.29	0.47
3:B:459:PHE:CE2	3:B:484:ARG:NH1	2.83	0.47
3:A:68:PRO:HB3	3:A:94:LEU:CD1	2.45	0.47
3:A:126:THR:HG22	3:A:148:ASN:HB3	1.96	0.47
3:A:205:SER:OG	3:A:229:ASN:HB2	2.14	0.47
3:A:227:LEU:HD23	3:A:254:SER:HB3	1.97	0.47
3:A:561:LEU:HB2	3:A:564:LEU:HB2	1.97	0.47

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:80:LEU:HD23	3:B:80:LEU:N	2.30	0.47
3:B:485:LEU:HG	3:B:487:LEU:HD21	1.97	0.47
1:C:22:A:OP1	3:B:539:HIS:HB3	2.15	0.47
2:D:28:G:H4'	3:B:519:ALA:HB1	1.97	0.47
3:A:82:ALA:O	3:A:105:ASN:O	2.33	0.47
3:B:105:ASN:HA	3:B:129:ASP:HB3	1.96	0.47
3:A:42:LEU:HD23	3:A:43:THR:H	1.80	0.47
3:A:206:SER:HA	3:A:230:ASN:O	2.15	0.47
3:A:239:GLU:HG3	3:A:266:SER:O	2.15	0.47
3:A:324:LEU:HD21	3:A:327:LEU:HD13	1.96	0.47
3:A:640:LEU:HD21	3:A:642:MET:HE2	1.97	0.47
3:B:226:LEU:HD12	3:B:227:LEU:H	1.79	0.47
3:B:417:ASN:O	3:B:418:HIS:HB2	2.14	0.47
3:A:180:LYS:N	3:A:206:SER:HB2	2.30	0.47
3:A:671:LEU:HA	3:A:675:TYR:CD1	2.50	0.47
3:B:383:TYR:HD2	3:B:411:THR:HG1	1.63	0.47
3:B:654:ILE:CD1	3:B:655:SER:N	2.73	0.47
3:A:190:GLU:HG3	3:A:191:LEU:HD22	1.95	0.46
3:A:365:ASN:HB3	3:A:367:ILE:CD1	2.45	0.46
3:A:603:PRO:O	3:A:604:PHE:CB	2.63	0.46
3:B:67:PRO:HB2	3:B:70:ASN:HB2	1.97	0.46
3:B:92:PRO:HG2	3:B:117:GLN:HB3	1.97	0.46
3:B:357:LEU:O	3:B:380:SER:HB2	2.15	0.46
2:D:20:C:O2'	2:D:21:U:H5'	2.14	0.46
3:A:53:ILE:HD11	3:A:74:TYR:CD2	2.50	0.46
3:A:412:LEU:HD22	3:A:430:LEU:HD21	1.97	0.46
3:A:458:ILE:HD12	3:A:482:LEU:HD21	1.98	0.46
3:B:217:PHE:HB2	3:B:244:GLU:O	2.16	0.46
8:J:1:NAG:O3	8:J:1:NAG:C7	2.62	0.46
3:A:67:PRO:HB3	13:A:724:NAG:H82	1.97	0.46
3:A:80:LEU:CD2	3:A:104:LEU:HA	2.45	0.46
3:A:92:PRO:HG2	3:A:117:GLN:HB3	1.97	0.46
3:A:275:ASN:HD21	5:F:1:NAG:H61	1.78	0.46
3:A:309:ASN:OD1	3:A:334:THR:HG23	2.15	0.46
3:A:557:PHE:CD2	3:A:558:LEU:HG	2.46	0.46
3:A:696:CYS:O	3:A:697:LYS:CB	2.63	0.46
3:B:79:ILE:CB	3:B:103:VAL:HB	2.45	0.46
3:B:313:LEU:CB	3:B:346:ILE:HG22	2.43	0.46
3:B:410:LEU:N	3:B:410:LEU:HD12	2.31	0.46
6:G:1:NAG:O3	6:G:1:NAG:H83	2.16	0.46
1:C:41:G:C2'	1:C:42:C:H5'	2.44	0.46

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:80:LEU:HD21	3:A:104:LEU:CD1	2.39	0.46
3:A:31:ARG:HE	3:A:31:ARG:CA	2.15	0.46
3:A:40:LEU:HD13	3:A:61:ASN:ND2	2.29	0.46
1:C:3:U:H2'	1:C:4:C:C6	2.50	0.46
2:D:24:C:H2'	2:D:25:U:H6	1.81	0.46
3:A:179:ALA:HB1	3:A:205:SER:HB2	1.98	0.46
3:A:301:ARG:O	3:A:324:LEU:HD12	2.16	0.46
3:B:169:GLN:HG3	3:B:170:LEU:HD23	1.97	0.46
3:B:347:ASP:HA	3:B:371:LYS:NZ	2.31	0.46
3:B:409:LEU:O	3:B:433:LEU:HA	2.16	0.46
8:Q:1:NAG:O4	8:Q:2:NDG:H8C1	2.15	0.46
1:C:6:G:O2'	1:C:7:C:H5'	2.16	0.46
3:B:212:PHE:H	3:B:240:LYS:HZ2	1.64	0.46
2:D:18:U:H2'	2:D:19:G:C8	2.51	0.46
3:A:105:ASN:O	3:A:106:LEU:HD12	2.16	0.46
3:A:382:LYS:HA	3:A:408:PRO:O	2.15	0.46
3:A:651:CYS:HA	3:A:655:SER:OG	2.15	0.46
3:B:297:LEU:C	3:B:299:SER:H	2.18	0.46
3:B:409:LEU:C	3:B:410:LEU:HD12	2.37	0.46
3:B:525:LEU:O	3:B:526:LEU:HB2	2.15	0.46
3:A:277:THR:HG21	4:E:1:NAG:C8	2.25	0.46
3:A:357:LEU:O	3:A:380:SER:HB2	2.15	0.46
3:A:532:LEU:HD11	3:A:535:LEU:HB2	1.98	0.46
3:A:73:ARG:HG3	3:A:73:ARG:NH1	2.31	0.46
3:A:458:ILE:HD12	3:A:482:LEU:CD2	2.46	0.46
3:A:521:ILE:CD1	3:A:522:ASN:O	2.64	0.46
3:B:227:LEU:HD23	3:B:254:SER:HB3	1.97	0.46
2:D:31:A:O2'	2:D:32:A:H5'	2.15	0.45
3:B:154:LEU:O	3:B:178:LEU:HD23	2.16	0.45
3:B:180:LYS:N	3:B:206:SER:HB2	2.31	0.45
3:B:183:ILE:O	3:B:209:LEU:HD23	2.16	0.45
3:B:462:TYR:HD1	3:B:486:MET:HG3	1.81	0.45
3:B:534:ILE:HG13	3:B:566:ILE:HG22	1.97	0.45
3:B:540:ASN:O	3:B:541:ASN:C	2.54	0.45
3:B:73:ARG:HG3	3:B:73:ARG:NH1	2.31	0.45
3:B:277:THR:HG22	3:B:278:GLN:N	2.31	0.45
3:B:484:ARG:HG2	3:B:510:ILE:HD12	1.97	0.45
3:B:545:LEU:HD12	3:B:555:VAL:HG21	1.99	0.45
3:B:47:ASP:O	3:B:73:ARG:HD3	2.17	0.45
3:B:306:GLU:HB3	3:B:307:TYR:CD1	2.51	0.45
3:B:366:ASN:O	3:B:367:ILE:C	2.53	0.45

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:410:LEU:N	3:B:410:LEU:CD1	2.79	0.45
3:B:578:PRO:HG2	3:B:581:VAL:HG13	1.98	0.45
2:D:7:G:H2'	2:D:8:C:C6	2.51	0.45
3:A:114:ILE:HD11	3:A:118:THR:CB	2.40	0.45
3:A:183:ILE:O	3:A:209:LEU:HD23	2.17	0.45
3:A:301:ARG:C	3:A:324:LEU:HD12	2.37	0.45
3:A:577:ILE:CD1	3:A:605:ILE:HG21	2.35	0.45
3:A:614:SER:HA	3:A:637:LEU:HD11	1.98	0.45
3:B:49:LEU:HA	3:B:73:ARG:NH2	2.31	0.45
3:B:543:ALA:HB2	3:B:573:GLY:CA	2.42	0.45
3:B:561:LEU:HB2	3:B:564:LEU:HB2	1.97	0.45
3:A:558:LEU:C	3:A:561:LEU:HD11	2.36	0.45
3:A:568:ASN:C	3:A:569:LEU:HD12	2.36	0.45
2:D:22:U:H2'	2:D:23:C:C6	2.51	0.45
3:A:79:ILE:HG22	3:A:103:VAL:HB	1.99	0.45
3:A:201:LYS:NZ	3:A:227:LEU:HD11	2.32	0.45
3:A:263:THR:HG23	3:A:286:LEU:HD11	1.98	0.45
3:A:497:ILE:HD13	3:A:497:ILE:N	2.32	0.45
3:B:106:LEU:HD23	3:B:111:LEU:HD11	1.98	0.45
3:B:187:ARG:HD3	3:B:189:GLU:OE1	2.17	0.45
3:B:239:GLU:HG3	3:B:267:THR:HA	1.98	0.45
3:B:302:TYR:CE2	4:L:2:NDG:H8C3	2.52	0.45
3:B:352:GLN:HA	3:B:377:GLY:HA3	1.98	0.45
3:B:396:LEU:HB3	3:B:426:THR:HG21	1.97	0.45
8:Q:2:NDG:H4	8:Q:3:BMA:O2	2.16	0.45
3:A:34:VAL:HG12	3:A:55:VAL:CB	2.45	0.45
3:A:526:LEU:HA	3:A:529:LEU:HD11	1.97	0.45
3:A:532:LEU:C	3:A:532:LEU:HD13	2.37	0.45
3:B:530:GLU:O	3:B:530:GLU:HG3	2.16	0.45
3:A:37:CYS:CB	3:A:40:LEU:HD11	2.47	0.45
3:A:154:LEU:O	3:A:178:LEU:HD23	2.17	0.45
3:A:444:GLU:O	3:A:444:GLU:HG2	2.16	0.45
3:A:449:GLY:H	3:A:475:SER:HA	1.81	0.45
3:A:497:ILE:CD1	3:A:497:ILE:H	2.29	0.45
3:B:71:PHE:HE2	3:B:94:LEU:HD23	1.81	0.45
3:B:434:ARG:O	3:B:459:PHE:N	2.46	0.45
3:B:614:SER:HA	3:B:637:LEU:HD11	1.98	0.45
1:C:9:G:O2'	1:C:10:A:H5'	2.16	0.45
2:D:7:G:O2'	2:D:8:C:H5'	2.16	0.45
2:D:15:C:H2'	2:D:16:A:H8	1.82	0.45
3:A:409:LEU:O	3:A:433:LEU:HA	2.17	0.45

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:625:VAL:HB	3:A:657:PHE:HB2	1.97	0.45
10:M:1:NAG:H83	10:M:1:NAG:H3	1.99	0.45
3:A:212:PHE:CE2	3:A:241:LEU:HB2	2.53	0.45
3:A:526:LEU:HA	3:A:529:LEU:CD1	2.46	0.45
3:B:150:ILE:HG23	3:B:174:GLN:CB	2.44	0.45
2:D:18:U:H2'	2:D:19:G:H8	1.82	0.44
3:A:212:PHE:CD2	3:A:241:LEU:HB2	2.53	0.44
3:B:263:THR:HG23	3:B:286:LEU:HD11	2.00	0.44
2:D:17:A:C6	2:D:18:U:C4	3.05	0.44
3:A:461:ILE:HG22	3:A:461:ILE:O	2.16	0.44
2:D:30:C:H2'	2:D:31:A:H8	1.82	0.44
3:A:169:GLN:HG3	3:A:170:LEU:HD23	1.99	0.44
3:A:390:PHE:CD2	3:A:393:LEU:HD13	2.52	0.44
3:B:321:LEU:O	3:B:354:LEU:HD23	2.17	0.44
3:B:434:ARG:O	3:B:458:ILE:HD12	2.17	0.44
3:B:601:LEU:N	3:B:601:LEU:HD22	2.32	0.44
3:A:140:SER:OG	3:A:141:ASN:N	2.50	0.44
3:A:212:PHE:H	3:A:240:LYS:HZ2	1.64	0.44
3:A:313:LEU:HD12	3:A:346:ILE:CG2	2.46	0.44
3:A:383:TYR:HD2	3:A:411:THR:OG1	2.00	0.44
3:B:301:ARG:O	3:B:324:LEU:HD12	2.16	0.44
11:N:2:NAG:O7	11:N:3:FUL:H63	2.17	0.44
2:D:23:C:H2'	2:D:24:C:C6	2.52	0.44
3:A:56:LEU:HD13	3:A:56:LEU:C	2.38	0.44
3:A:241:LEU:O	3:A:241:LEU:HD12	2.17	0.44
3:A:409:LEU:C	3:A:410:LEU:HD12	2.38	0.44
3:B:217:PHE:HD1	3:B:220:ILE:HD12	1.82	0.44
3:B:603:PRO:O	3:B:604:PHE:CB	2.65	0.44
5:F:1:NAG:H4	5:F:2:NAG:N2	2.32	0.44
2:D:23:C:H5''	3:A:539:HIS:HB3	1.99	0.44
3:A:40:LEU:CD1	3:A:61:ASN:HD21	2.28	0.44
3:B:384:LEU:O	3:B:412:LEU:HA	2.17	0.44
3:B:609:GLN:NE2	3:B:609:GLN:N	2.59	0.44
3:A:80:LEU:HD23	3:A:103:VAL:O	2.17	0.44
3:A:422:ILE:HD13	3:A:422:ILE:N	2.30	0.44
3:A:497:ILE:HD13	3:A:497:ILE:H	1.83	0.44
3:B:114:ILE:CG1	3:B:118:THR:HG21	2.47	0.44
3:A:194:LEU:HD12	3:A:220:ILE:HD12	1.99	0.44
3:A:313:LEU:CB	3:A:346:ILE:HG22	2.47	0.44
3:A:613:ARG:C	3:A:637:LEU:HD12	2.38	0.44
9:R:2:NAG:O3	9:R:2:NAG:H83	2.17	0.44

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:21:A:HI'	3:B:541:ASN:HB2	1.99	0.44
3:A:31:ARG:HA	3:A:31:ARG:NE	2.17	0.44
3:A:588:LEU:C	3:A:588:LEU:HD23	2.38	0.44
3:A:649:CYS:HB2	3:A:683:TYR:HB3	1.99	0.44
3:B:345:ASN:HD21	3:B:371:LYS:HZ1	1.66	0.44
3:A:126:THR:HG22	3:A:148:ASN:O	2.18	0.43
3:B:33:ASN:HA	3:B:53:ILE:CG2	2.48	0.43
3:B:212:PHE:H	3:B:240:LYS:HZ1	1.66	0.43
3:A:625:VAL:HG11	3:A:657:PHE:CD1	2.53	0.43
3:B:80:LEU:CD2	3:B:104:LEU:HA	2.48	0.43
3:A:482:LEU:HB2	3:A:505:LEU:CD2	2.41	0.43
3:A:605:ILE:HD11	3:A:629:VAL:CG1	2.14	0.43
3:B:55:VAL:HG12	3:B:56:LEU:N	2.34	0.43
3:B:135:ILE:N	3:B:157:ASN:O	2.51	0.43
3:B:331:ARG:NH2	3:B:335:LYS:CE	2.81	0.43
3:B:599:ASN:O	3:B:601:LEU:HD22	2.18	0.43
3:A:194:LEU:HD12	3:A:220:ILE:CD1	2.48	0.43
3:A:419:ILE:HG22	3:A:422:ILE:HD11	2.00	0.43
3:B:33:ASN:O	3:B:54:THR:N	2.39	0.43
3:B:50:PRO:O	3:B:53:ILE:HG23	2.18	0.43
3:B:301:ARG:C	3:B:324:LEU:HD12	2.39	0.43
3:B:333:PHE:CD2	3:B:367:ILE:HD11	2.53	0.43
3:B:359:TYR:HD2	3:B:359:TYR:O	2.01	0.43
3:B:602:GLU:O	3:B:603:PRO:C	2.55	0.43
3:A:39:HIS:C	3:A:40:LEU:HD12	2.39	0.43
3:A:485:LEU:HG	3:A:487:LEU:HD21	2.00	0.43
3:B:233:LEU:HD12	3:B:233:LEU:N	2.32	0.43
2:D:24:C:O2'	2:D:25:U:H5'	2.19	0.43
3:A:42:LEU:HD22	3:A:44:HIS:O	2.19	0.43
3:A:114:ILE:HG13	3:A:115:SER:N	2.34	0.43
3:A:187:ARG:C	3:A:189:GLU:H	2.21	0.43
3:A:187:ARG:HG3	3:A:187:ARG:HH11	1.83	0.43
3:B:313:LEU:HD13	3:B:318:PHE:HE1	1.83	0.43
3:B:555:VAL:O	3:B:557:PHE:N	2.42	0.43
3:B:558:LEU:C	3:B:561:LEU:HD11	2.39	0.43
7:I:1:NAG:H62	7:I:2:NAG:HN2	1.83	0.43
3:A:366:ASN:O	3:A:367:ILE:C	2.56	0.43
3:B:262:ALA:HB2	3:B:288:ASP:HB2	1.98	0.43
3:B:571:SER:HA	3:B:595:LEU:O	2.19	0.43
3:B:651:CYS:HA	3:B:655:SER:OG	2.19	0.43
2:D:14:U:O2'	2:D:15:C:H5'	2.18	0.43

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:134:SER:HB2	3:A:136:HIS:CE1	2.53	0.43
3:A:450:GLN:HG3	8:J:1:NAG:H5	1.99	0.43
3:B:143:PHE:C	3:B:145:ASN:N	2.69	0.43
3:B:187:ARG:C	3:B:189:GLU:H	2.22	0.43
3:B:230:ASN:HA	3:B:257:ASN:O	2.19	0.43
3:B:263:THR:HG23	3:B:286:LEU:CD1	2.49	0.43
3:B:345:ASN:ND2	3:B:371:LYS:NZ	2.67	0.43
3:B:410:LEU:O	3:B:433:LEU:HD12	2.19	0.43
2:D:40:G:H2'	2:D:41:C:C6	2.54	0.43
3:A:45:ILE:O	3:A:45:ILE:CG2	2.64	0.43
3:A:652:GLU:OE1	3:B:681:HIS:HB3	2.19	0.43
3:B:59:THR:HG22	3:B:60:HIS:CG	2.54	0.43
3:B:582:PHE:HA	3:B:585:LEU:HD12	2.01	0.43
3:B:602:GLU:O	3:B:605:ILE:HG23	2.19	0.43
3:B:613:ARG:C	3:B:637:LEU:HD12	2.40	0.43
8:Q:1:NAG:H5	8:Q:2:NDG:H8C1	2.00	0.43
3:A:90:LEU:HG	3:A:94:LEU:HD13	2.00	0.42
3:A:544:ARG:H	3:A:544:ARG:HG3	1.51	0.42
3:A:575:ASP:OD2	3:A:576:GLU:N	2.52	0.42
3:B:527:GLU:HG3	3:B:559:LYS:NZ	2.33	0.42
3:B:630:PHE:O	3:B:634:PHE:CD1	2.72	0.42
3:B:651:CYS:O	3:B:655:SER:HB2	2.18	0.42
2:D:3:U:H2'	2:D:4:G:O4'	2.19	0.42
3:A:441:ASN:O	3:A:466:ASN:HA	2.19	0.42
3:B:126:THR:HG22	3:B:148:ASN:O	2.18	0.42
3:B:382:LYS:HA	3:B:408:PRO:O	2.19	0.42
7:I:1:NAG:H61	7:I:2:NAG:HN2	1.83	0.42
3:A:133:ASN:O	3:A:134:SER:C	2.57	0.42
3:A:536:ASP:CA	3:A:538:GLN:HE22	2.32	0.42
3:A:599:ASN:OD1	3:A:600:LYS:N	2.52	0.42
3:B:66:LEU:O	3:B:68:PRO:HD3	2.19	0.42
3:B:365:ASN:HB3	3:B:367:ILE:CD1	2.48	0.42
3:B:575:ASP:OD2	3:B:576:GLU:N	2.53	0.42
3:A:384:LEU:O	3:A:412:LEU:HA	2.20	0.42
3:B:42:LEU:O	3:B:62:GLN:O	2.37	0.42
3:B:169:GLN:O	3:B:170:LEU:HB2	2.20	0.42
3:B:661:ILE:CG2	3:B:671:LEU:HD21	2.49	0.42
2:D:27:U:H2'	2:D:28:G:C8	2.55	0.42
3:A:53:ILE:HD11	3:A:74:TYR:HD2	1.85	0.42
3:A:396:LEU:CG	3:A:422:ILE:HD12	2.50	0.42
3:A:497:ILE:CD1	3:A:501:PRO:HD3	2.49	0.42

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:535:LEU:HD11	3:A:537:PHE:CD2	2.53	0.42
3:B:234:ASN:HD22	3:B:236:HIS:H	1.67	0.42
5:F:1:NAG:H4	5:F:2:NAG:HN2	1.85	0.42
3:A:609:GLN:H	3:A:609:GLN:HE21	1.61	0.42
3:B:201:LYS:NZ	3:B:227:LEU:HD11	2.34	0.42
3:B:206:SER:HA	3:B:230:ASN:O	2.20	0.42
3:B:243:TRP:O	3:B:246:SER:HB2	2.20	0.42
3:B:382:LYS:HB2	3:B:410:LEU:HD13	2.00	0.42
3:B:427:PHE:CZ	3:B:436:LEU:HD11	2.55	0.42
3:B:449:GLY:N	3:B:475:SER:HA	2.34	0.42
3:B:479:VAL:HG23	3:B:479:VAL:O	2.20	0.42
3:B:502:PHE:CE2	3:B:525:LEU:HD11	2.54	0.42
3:B:537:PHE:CZ	3:B:557:PHE:HZ	2.38	0.42
3:A:598:LEU:O	3:A:622:ILE:HG12	2.20	0.42
3:B:91:GLU:HB3	3:B:93:GLU:HG2	2.02	0.42
3:A:169:GLN:O	3:A:170:LEU:HB2	2.20	0.42
3:A:643:ARG:NH1	3:A:670:GLU:OE1	2.53	0.42
3:B:96:GLN:HB3	3:B:121:PHE:CG	2.55	0.42
3:A:116:ASP:O	3:A:120:VAL:HG23	2.19	0.42
3:A:246:SER:O	3:A:248:THR:N	2.53	0.42
3:A:370:THR:OG1	3:A:400:THR:HG23	2.20	0.42
1:C:16:U:C4'	7:I:5:MAN:O3	2.67	0.42
3:A:106:LEU:HD23	3:A:111:LEU:HD11	2.01	0.41
3:A:140:SER:O	3:A:142:PRO:HD3	2.19	0.41
3:A:382:LYS:HB2	3:A:410:LEU:HD13	2.02	0.41
3:A:599:ASN:O	3:A:601:LEU:HD22	2.20	0.41
3:A:643:ARG:HG3	3:A:644:PHE:CD2	2.55	0.41
3:B:297:LEU:HB3	3:B:300:LEU:HB2	2.01	0.41
3:B:433:LEU:HD21	3:B:436:LEU:HB2	2.01	0.41
3:B:575:ASP:OD2	3:B:575:ASP:C	2.59	0.41
4:H:2:NDG:H6C2	4:H:2:NDG:C2	2.50	0.41
3:A:38:SER:O	3:A:60:HIS:HB2	2.20	0.41
3:B:116:ASP:CA	3:B:142:PRO:HA	2.48	0.41
3:B:598:LEU:HB2	3:B:620:ASN:ND2	2.30	0.41
3:A:177:LEU:N	3:A:177:LEU:CD1	2.83	0.41
3:A:239:GLU:HG3	3:A:267:THR:HA	2.02	0.41
3:A:436:LEU:HD23	3:A:436:LEU:C	2.40	0.41
3:A:689:LYS:CG	3:A:690:LEU:N	2.83	0.41
3:B:67:PRO:HA	3:B:68:PRO:HD2	1.91	0.41
3:B:128:LEU:N	3:B:149:LEU:HD11	2.36	0.41
3:B:658:VAL:O	3:B:661:ILE:HB	2.20	0.41

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:2:NAG:H3	6:G:2:NAG:H82	2.01	0.41
3:B:133:ASN:O	3:B:134:SER:C	2.57	0.41
3:B:234:ASN:CB	3:B:237:LEU:HD13	2.42	0.41
2:D:17:A:H4'	12:P:5:MAN:H62	2.03	0.41
3:A:246:SER:C	3:A:248:THR:N	2.74	0.41
3:A:478:LEU:HD23	3:A:478:LEU:O	2.20	0.41
3:A:546:TRP:HB3	3:A:578:PRO:HD3	2.02	0.41
3:A:645:ASN:HA	3:A:646:PRO:HD3	1.90	0.41
3:B:584:ASN:HA	3:B:586:PHE:CE2	2.55	0.41
2:D:12:U:H2'	2:D:13:G:H8	1.85	0.41
3:B:33:ASN:HB3	3:B:53:ILE:HA	2.03	0.41
3:B:612:LEU:HD23	3:B:633:PRO:HB2	2.03	0.41
3:B:654:ILE:CD1	3:B:654:ILE:C	2.89	0.41
3:A:234:ASN:HD22	3:A:236:HIS:H	1.69	0.41
3:B:521:ILE:CD1	3:B:522:ASN:O	2.68	0.41
3:A:435:ILE:HG12	3:A:460:GLU:HG2	2.03	0.41
3:A:620:ASN:HB2	3:A:645:ASN:ND2	2.29	0.41
3:B:39:HIS:O	3:B:40:LEU:HD12	2.20	0.41
3:B:147:LYS:HZ2	3:B:171:GLU:HG2	1.85	0.41
3:B:337:SER:HB3	3:B:340:LEU:HB2	2.01	0.41
3:B:369:SER:OG	3:B:370:THR:N	2.54	0.41
1:C:31:U:H2'	1:C:32:G:H8	1.86	0.41
2:D:20:C:H2'	2:D:21:U:H6	1.86	0.41
3:A:37:CYS:C	3:A:40:LEU:HD11	2.41	0.41
3:A:68:PRO:HB3	3:A:94:LEU:HD12	2.03	0.41
3:A:83:GLY:O	3:A:84:PHE:HB2	2.20	0.41
3:A:389:THR:O	3:A:389:THR:HG22	2.20	0.41
3:A:602:GLU:OE2	3:A:602:GLU:HA	2.19	0.41
3:A:661:ILE:CG2	3:A:671:LEU:HD21	2.50	0.41
3:B:37:CYS:HB2	3:B:57:ASN:O	2.20	0.41
3:B:233:LEU:CD1	3:B:233:LEU:N	2.83	0.41
3:B:486:MET:O	3:B:487:LEU:HD22	2.20	0.41
3:B:625:VAL:HB	3:B:657:PHE:HB2	2.03	0.41
8:J:1:NAG:O3	8:J:2:NDG:C1	2.69	0.41
2:D:30:C:H2'	2:D:31:A:C8	2.55	0.41
3:B:40:LEU:CB	3:B:61:ASN:HD21	2.21	0.41
3:B:79:ILE:HG22	3:B:103:VAL:HB	2.03	0.41
3:B:96:GLN:HB3	3:B:121:PHE:CD2	2.56	0.41
3:B:131:MET:O	3:B:156:HIS:HB3	2.21	0.41
3:B:582:PHE:HB3	3:B:609:GLN:OE1	2.21	0.41
3:B:620:ASN:HB3	3:B:621:LEU:H	1.76	0.41

*Continued on next page...*

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:263:THR:HG23	3:A:286:LEU:CD1	2.50	0.40
3:A:294:PHE:C	3:A:296:TYR:N	2.74	0.40
3:A:309:ASN:OD1	3:A:334:THR:HA	2.21	0.40
3:B:92:PRO:HG3	3:B:117:GLN:C	2.41	0.40
3:B:140:SER:OG	3:B:141:ASN:N	2.50	0.40
3:B:189:GLU:O	3:B:192:GLU:HG2	2.21	0.40
3:B:331:ARG:HH22	3:B:335:LYS:HD3	1.86	0.40
3:B:521:ILE:HD12	3:B:557:PHE:HE1	1.86	0.40
2:D:19:G:H2'	2:D:20:C:C6	2.55	0.40
3:A:168:VAL:HG11	3:A:195:GLY:HA3	2.02	0.40
3:A:212:PHE:H	3:A:240:LYS:HZ1	1.67	0.40
3:A:493:LYS:O	3:A:494:ASN:HB2	2.21	0.40
3:B:66:LEU:HD23	3:B:66:LEU:HA	1.92	0.40
3:B:94:LEU:O	3:B:98:LEU:HD23	2.21	0.40
3:B:187:ARG:HB2	3:B:190:GLU:HG2	2.03	0.40
3:B:447:LEU:HD23	3:B:451:GLU:HG3	2.02	0.40
3:A:197:SER:O	3:A:221:GLY:HA3	2.21	0.40
3:A:230:ASN:HA	3:A:257:ASN:O	2.21	0.40
3:A:396:LEU:CD1	3:A:422:ILE:HD12	2.50	0.40
3:A:564:LEU:O	3:A:588:LEU:HA	2.21	0.40
3:B:187:ARG:C	3:B:189:GLU:N	2.75	0.40
4:O:1:NAG:H3	4:O:1:NAG:H83	2.03	0.40
3:A:410:LEU:O	3:A:433:LEU:HD12	2.22	0.40
3:A:458:ILE:C	3:A:458:ILE:CD1	2.88	0.40
3:B:422:ILE:CD1	3:B:438:LEU:HD13	2.52	0.40
3:B:648:ASP:O	3:B:654:ILE:HG23	2.22	0.40
3:A:297:LEU:HB3	3:A:300:LEU:HB2	2.03	0.40
3:A:591:ILE:HB	3:A:615:LEU:HD12	2.01	0.40
3:B:114:ILE:HD11	3:B:118:THR:HG21	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 X-ray entries followed by that with respect to entries of similar resolution.

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	
3	A	655/697 (94%)	527 (80%)	117 (18%)	11 (2%)	9	40
3	B	664/697 (95%)	537 (81%)	113 (17%)	14 (2%)	7	35
All	All	1319/1394 (95%)	1064 (81%)	230 (17%)	25 (2%)	8	37

All (25) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	551	PRO
3	A	247	ASN
3	A	290	GLY
3	A	38	SER
3	A	267	THR
3	A	465	TYR
3	A	556	ASN
3	B	38	SER
3	B	247	ASN
3	B	465	TYR
3	B	556	ASN
3	B	604	PHE
3	A	555	VAL
3	A	604	PHE
3	B	30	VAL
3	B	49	LEU
3	B	267	THR
3	B	635	GLN
3	B	603	PRO
3	A	368	PRO
3	B	290	GLY
3	B	67	PRO
3	B	368	PRO
3	A	631	GLY
3	B	449	GLY

### 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 X-ray entries followed by that with respect to entries of similar resolution.

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	
3	A	619/651 (95%)	564 (91%)	55 (9%)	9	37
3	B	625/651 (96%)	574 (92%)	51 (8%)	11	40
All	All	1244/1302 (96%)	1138 (92%)	106 (8%)	10	38

All (106) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	31	ARG
3	A	40	LEU
3	A	42	LEU
3	A	45	ILE
3	A	50	PRO
3	A	53	ILE
3	A	65	ARG
3	A	76	GLN
3	A	81	ASP
3	A	89	LYS
3	A	116	ASP
3	A	154	LEU
3	A	189	GLU
3	A	218	GLN
3	A	250	ILE
3	A	273	TRP
3	A	276	LEU
3	A	312	ARG
3	A	323	ASN
3	A	335	LYS
3	A	345	ASN
3	A	347	ASP
3	A	355	LYS
3	A	359	TYR
3	A	381	LEU
3	A	394	GLN
3	A	407	SER
3	A	409	LEU
3	A	410	LEU
3	A	411	THR
3	A	442	GLU
3	A	445	GLN
3	A	446	LYS
3	A	458	ILE
3	A	478	LEU

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	A	481	SER
3	A	483	GLN
3	A	497	ILE
3	A	521	ILE
3	A	522	ASN
3	A	544	ARG
3	A	551	PRO
3	A	561	LEU
3	A	572	ASN
3	A	574	LEU
3	A	577	ILE
3	A	605	ILE
3	A	608	ASP
3	A	609	GLN
3	A	628	ASP
3	A	638	ASN
3	A	672	SER
3	A	673	THR
3	A	679	THR
3	A	686	PHE
3	B	32	TYR
3	B	33	ASN
3	B	45	ILE
3	B	53	ILE
3	B	65	ARG
3	B	76	GLN
3	B	81	ASP
3	B	89	LYS
3	B	98	LEU
3	B	116	ASP
3	B	154	LEU
3	B	189	GLU
3	B	218	GLN
3	B	273	TRP
3	B	276	LEU
3	B	288	ASP
3	B	301	ARG
3	B	312	ARG
3	B	323	ASN
3	B	345	ASN
3	B	347	ASP
3	B	355	LYS

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	B	359	TYR
3	B	381	LEU
3	B	409	LEU
3	B	410	LEU
3	B	411	THR
3	B	442	GLU
3	B	446	LYS
3	B	478	LEU
3	B	481	SER
3	B	521	ILE
3	B	522	ASN
3	B	544	ARG
3	B	556	ASN
3	B	561	LEU
3	B	566	ILE
3	B	572	ASN
3	B	574	LEU
3	B	577	ILE
3	B	605	ILE
3	B	608	ASP
3	B	609	GLN
3	B	628	ASP
3	B	638	ASN
3	B	651	CYS
3	B	654	ILE
3	B	672	SER
3	B	673	THR
3	B	679	THR
3	B	686	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (65) such sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	A	61	ASN
3	A	76	GLN
3	A	85	ASN
3	A	108	HIS
3	A	113	GLN
3	A	145	ASN
3	A	157	ASN
3	A	169	GLN
3	A	174	GLN

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	A	218	GLN
3	A	230	ASN
3	A	234	ASN
3	A	345	ASN
3	A	445	GLN
3	A	450	GLN
3	A	466	ASN
3	A	470	GLN
3	A	483	GLN
3	A	494	ASN
3	A	517	ASN
3	A	522	ASN
3	A	538	GLN
3	A	541	ASN
3	A	556	ASN
3	A	572	ASN
3	A	609	GLN
3	A	620	ASN
3	A	638	ASN
3	A	645	ASN
3	A	674	HIS
3	B	33	ASN
3	B	61	ASN
3	B	76	GLN
3	B	85	ASN
3	B	107	GLN
3	B	108	HIS
3	B	113	GLN
3	B	145	ASN
3	B	146	GLN
3	B	157	ASN
3	B	169	GLN
3	B	218	GLN
3	B	230	ASN
3	B	234	ASN
3	B	336	GLN
3	B	345	ASN
3	B	445	GLN
3	B	450	GLN
3	B	466	ASN
3	B	470	GLN
3	B	483	GLN

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Res	Type
3	B	494	ASN
3	B	517	ASN
3	B	522	ASN
3	B	538	GLN
3	B	539	HIS
3	B	541	ASN
3	B	556	ASN
3	B	572	ASN
3	B	609	GLN
3	B	618	GLN
3	B	620	ASN
3	B	638	ASN
3	B	645	ASN
3	B	674	HIS

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	C	45/46 (97%)	0	0
2	D	45/46 (97%)	0	0
All	All	90/92 (97%)	0	0

There are no RNA backbone outliers to report.

There are no RNA pucker outliers to report.

## 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](#)

40 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
4	NAG	E	1	4,3	14,14,15	1.00	1 (7%)	17,19,21	0.88	0
4	NDG	E	2	4	14,14,15	0.92	1 (7%)	17,19,21	0.89	1 (5%)
5	NAG	F	1	5,3	14,14,15	0.88	0	17,19,21	1.01	1 (5%)
5	NAG	F	2	5	14,14,15	0.82	1 (7%)	17,19,21	0.66	0
5	MAN	F	3	5	11,11,12	0.89	0	15,15,17	0.80	1 (6%)
6	NAG	G	1	6,3	14,14,15	0.92	0	17,19,21	0.84	0
6	NAG	G	2	6	14,14,15	0.89	1 (7%)	17,19,21	0.57	0
6	FUC	G	3	6	10,10,11	0.82	0	14,14,16	0.52	0
4	NAG	H	1	4,3	14,14,15	1.09	1 (7%)	17,19,21	0.84	0
4	NDG	H	2	4	14,14,15	0.99	1 (7%)	17,19,21	0.88	1 (5%)
7	NAG	I	1	7,3	14,14,15	0.52	0	17,19,21	1.18	2 (11%)
7	NAG	I	2	7	14,14,15	0.77	0	17,19,21	0.81	0
7	MAN	I	3	7	11,11,12	1.14	1 (9%)	15,15,17	0.89	0
7	MAN	I	4	7	11,11,12	0.90	0	15,15,17	0.78	1 (6%)
7	MAN	I	5	7	11,11,12	0.91	0	15,15,17	1.10	1 (6%)
8	NAG	J	1	8,3	14,14,15	0.99	1 (7%)	17,19,21	0.84	0
8	NDG	J	2	8	14,14,15	0.82	0	17,19,21	0.73	0
8	BMA	J	3	8	11,11,12	0.71	0	15,15,17	0.40	0
9	NAG	K	1	9,3	14,14,15	0.56	0	17,19,21	1.06	2 (11%)
9	NAG	K	2	9	14,14,15	0.82	0	17,19,21	0.87	0
4	NAG	L	1	4,3	14,14,15	1.09	1 (7%)	17,19,21	1.22	1 (5%)
4	NDG	L	2	4	14,14,15	1.03	1 (7%)	17,19,21	0.84	0
10	NAG	M	1	10,3	14,14,15	1.07	0	17,19,21	1.23	2 (11%)
10	NAG	M	2	10	14,14,15	0.82	0	17,19,21	0.56	0
10	BMA	M	3	10	11,11,12	0.96	0	15,15,17	0.91	1 (6%)
11	NAG	N	1	11,3	14,14,15	0.96	1 (7%)	17,19,21	0.75	0
11	NAG	N	2	11	14,14,15	0.92	0	17,19,21	1.01	1 (5%)
11	FUL	N	3	11	10,10,11	0.72	0	14,14,16	0.66	0
4	NAG	O	1	4,3	14,14,15	0.80	0	17,19,21	0.78	0
4	NDG	O	2	4	14,14,15	0.91	0	17,19,21	0.91	1 (5%)
12	NAG	P	1	12,3	14,14,15	0.72	0	17,19,21	1.03	1 (5%)
12	NDG	P	2	12	14,14,15	1.10	0	17,19,21	1.16	2 (11%)
12	MAN	P	3	12	11,11,12	1.27	2 (18%)	15,15,17	1.05	1 (6%)
12	MAN	P	4	12	11,11,12	0.86	0	15,15,17	0.83	1 (6%)
12	MAN	P	5	12	11,11,12	0.87	0	15,15,17	1.09	2 (13%)
8	NAG	Q	1	8,3	14,14,15	0.97	0	17,19,21	0.87	1 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
8	NDG	Q	2	8	14,14,15	1.08	1 (7%)	17,19,21	0.70	0
8	BMA	Q	3	8	11,11,12	0.91	0	15,15,17	0.35	0
9	NAG	R	1	9,3	14,14,15	1.28	1 (7%)	17,19,21	0.80	0
9	NAG	R	2	9	14,14,15	1.16	2 (14%)	17,19,21	1.15	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
4	NAG	E	1	4,3	-	4/6/23/26	0/1/1/1
4	NDG	E	2	4	-	4/6/23/26	0/1/1/1
5	NAG	F	1	5,3	-	4/6/23/26	0/1/1/1
5	NAG	F	2	5	-	4/6/23/26	0/1/1/1
5	MAN	F	3	5	-	2/2/19/22	1/1/1/1
6	NAG	G	1	6,3	-	4/6/23/26	0/1/1/1
6	NAG	G	2	6	-	5/6/23/26	0/1/1/1
6	FUC	G	3	6	-	-	0/1/1/1
4	NAG	H	1	4,3	-	5/6/23/26	0/1/1/1
4	NDG	H	2	4	-	5/6/23/26	0/1/1/1
7	NAG	I	1	7,3	1/1/5/7	4/6/23/26	0/1/1/1
7	NAG	I	2	7	-	4/6/23/26	0/1/1/1
7	MAN	I	3	7	-	2/2/19/22	0/1/1/1
7	MAN	I	4	7	-	2/2/19/22	0/1/1/1
7	MAN	I	5	7	-	2/2/19/22	0/1/1/1
8	NAG	J	1	8,3	1/1/5/7	3/6/23/26	0/1/1/1
8	NDG	J	2	8	-	2/6/23/26	0/1/1/1
8	BMA	J	3	8	-	2/2/19/22	0/1/1/1
9	NAG	K	1	9,3	1/1/5/7	2/6/23/26	0/1/1/1
9	NAG	K	2	9	-	4/6/23/26	0/1/1/1
4	NAG	L	1	4,3	-	4/6/23/26	0/1/1/1
4	NDG	L	2	4	-	2/6/23/26	0/1/1/1
10	NAG	M	1	10,3	-	6/6/23/26	0/1/1/1
10	NAG	M	2	10	-	4/6/23/26	0/1/1/1
10	BMA	M	3	10	-	2/2/19/22	0/1/1/1

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
11	NAG	N	1	11,3	-	2/6/23/26	0/1/1/1
11	NAG	N	2	11	-	3/6/23/26	0/1/1/1
11	FUL	N	3	11	-	-	0/1/1/1
4	NAG	O	1	4,3	-	5/6/23/26	0/1/1/1
4	NDG	O	2	4	-	4/6/23/26	0/1/1/1
12	NAG	P	1	12,3	1/1/5/7	2/6/23/26	0/1/1/1
12	NDG	P	2	12	-	4/6/23/26	0/1/1/1
12	MAN	P	3	12	-	2/2/19/22	0/1/1/1
12	MAN	P	4	12	-	2/2/19/22	1/1/1/1
12	MAN	P	5	12	-	1/2/19/22	0/1/1/1
8	NAG	Q	1	8,3	1/1/5/7	6/6/23/26	0/1/1/1
8	NDG	Q	2	8	-	3/6/23/26	0/1/1/1
8	BMA	Q	3	8	-	2/2/19/22	0/1/1/1
9	NAG	R	1	9,3	1/1/5/7	2/6/23/26	0/1/1/1
9	NAG	R	2	9	-	6/6/23/26	0/1/1/1

All (17) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	R	2	NAG	C1-C2	2.95	1.56	1.52
8	J	1	NAG	C1-C2	2.89	1.56	1.52
4	H	1	NAG	C1-C2	2.77	1.56	1.52
11	N	1	NAG	C1-C2	2.71	1.56	1.52
7	I	3	MAN	C2-C3	2.57	1.56	1.52
9	R	1	NAG	C1-C2	2.54	1.56	1.52
4	L	2	NDG	C1-C2	2.52	1.56	1.52
8	Q	2	NDG	C1-C2	2.47	1.56	1.52
4	L	1	NAG	C1-C2	2.40	1.55	1.52
12	P	3	MAN	C2-C3	2.34	1.56	1.52
6	G	2	NAG	C1-C2	2.19	1.55	1.52
4	E	2	NDG	C1-C2	2.18	1.55	1.52
4	H	2	NDG	C1-C2	2.14	1.55	1.52
4	E	1	NAG	C1-C2	2.08	1.55	1.52
12	P	3	MAN	C1-C2	2.07	1.56	1.52
9	R	2	NAG	O5-C5	2.04	1.47	1.43
5	F	2	NAG	C1-C2	2.00	1.55	1.52

All (25) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	I	5	MAN	C1-O5-C5	3.49	116.92	112.19
9	R	2	NAG	C1-O5-C5	3.47	116.89	112.19
12	P	3	MAN	C1-C2-C3	3.31	113.74	109.67
10	M	1	NAG	C3-C4-C5	3.28	116.09	110.24
12	P	1	NAG	C2-N2-C7	-3.17	118.38	122.90
11	N	2	NAG	C4-C3-C2	3.09	115.54	111.02
7	I	1	NAG	C4-C3-C2	-3.02	106.60	111.02
12	P	2	NDG	C2-N2-C7	-2.99	118.65	122.90
12	P	5	MAN	C1-C2-C3	2.97	113.32	109.67
10	M	3	BMA	C1-C2-C3	2.80	113.11	109.67
4	O	2	NDG	C1-O5-C5	2.77	115.95	112.19
12	P	2	NDG	C4-C3-C2	-2.76	106.98	111.02
9	K	1	NAG	C4-C3-C2	-2.75	106.99	111.02
4	L	1	NAG	C4-C3-C2	2.64	114.89	111.02
7	I	1	NAG	C2-N2-C7	-2.63	119.15	122.90
4	H	2	NDG	C1-O5-C5	2.48	115.55	112.19
12	P	5	MAN	C1-O5-C5	2.47	115.53	112.19
9	K	1	NAG	C2-N2-C7	-2.45	119.41	122.90
12	P	4	MAN	C1-O5-C5	2.40	115.44	112.19
8	Q	1	NAG	C2-N2-C7	-2.38	119.51	122.90
5	F	1	NAG	C3-C4-C5	2.32	114.38	110.24
10	M	1	NAG	C4-C3-C2	2.29	114.37	111.02
5	F	3	MAN	C1-O5-C5	2.21	115.19	112.19
7	I	4	MAN	C1-O5-C5	2.17	115.14	112.19
4	E	2	NDG	C1-O5-C5	2.02	114.93	112.19

All (6) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
7	I	1	NAG	C1
8	J	1	NAG	C1
8	Q	1	NAG	C1
9	K	1	NAG	C1
9	R	1	NAG	C1
12	P	1	NAG	C1

All (126) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	E	1	NAG	C3-C2-N2-C7
4	E	1	NAG	C8-C7-N2-C2
4	E	1	NAG	O7-C7-N2-C2
4	E	2	NDG	C8-C7-N2-C2

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
4	E	2	NDG	O7-C7-N2-C2
4	H	1	NAG	C8-C7-N2-C2
4	H	1	NAG	O7-C7-N2-C2
4	H	2	NDG	C3-C2-N2-C7
4	H	2	NDG	C8-C7-N2-C2
4	H	2	NDG	O7-C7-N2-C2
4	L	1	NAG	C8-C7-N2-C2
4	L	1	NAG	O7-C7-N2-C2
4	L	2	NDG	C8-C7-N2-C2
4	L	2	NDG	O7-C7-N2-C2
4	O	1	NAG	C8-C7-N2-C2
4	O	1	NAG	O7-C7-N2-C2
4	O	2	NDG	C8-C7-N2-C2
4	O	2	NDG	O7-C7-N2-C2
5	F	1	NAG	C8-C7-N2-C2
5	F	1	NAG	O7-C7-N2-C2
5	F	2	NAG	C8-C7-N2-C2
5	F	2	NAG	O7-C7-N2-C2
6	G	1	NAG	C8-C7-N2-C2
6	G	1	NAG	O7-C7-N2-C2
6	G	2	NAG	C8-C7-N2-C2
6	G	2	NAG	O7-C7-N2-C2
7	I	1	NAG	C8-C7-N2-C2
7	I	1	NAG	O7-C7-N2-C2
7	I	2	NAG	C3-C2-N2-C7
7	I	2	NAG	C8-C7-N2-C2
7	I	2	NAG	O7-C7-N2-C2
8	J	1	NAG	C3-C2-N2-C7
8	J	1	NAG	C8-C7-N2-C2
8	J	1	NAG	O7-C7-N2-C2
8	J	2	NDG	C8-C7-N2-C2
8	J	2	NDG	O7-C7-N2-C2
8	Q	1	NAG	C8-C7-N2-C2
8	Q	1	NAG	O7-C7-N2-C2
8	Q	2	NDG	C3-C2-N2-C7
8	Q	2	NDG	C8-C7-N2-C2
8	Q	2	NDG	O7-C7-N2-C2
9	K	1	NAG	C8-C7-N2-C2
9	K	1	NAG	O7-C7-N2-C2
9	K	2	NAG	C8-C7-N2-C2
9	K	2	NAG	O7-C7-N2-C2
9	R	2	NAG	C8-C7-N2-C2

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
9	R	2	NAG	O7-C7-N2-C2
10	M	1	NAG	C8-C7-N2-C2
10	M	1	NAG	O7-C7-N2-C2
10	M	2	NAG	C8-C7-N2-C2
10	M	2	NAG	O7-C7-N2-C2
11	N	1	NAG	C8-C7-N2-C2
11	N	1	NAG	O7-C7-N2-C2
12	P	1	NAG	C8-C7-N2-C2
12	P	1	NAG	O7-C7-N2-C2
12	P	2	NDG	O7-C7-N2-C2
12	P	2	NDG	C8-C7-N2-C2
7	I	4	MAN	C4-C5-C6-O6
8	Q	1	NAG	C4-C5-C6-O6
10	M	2	NAG	O5-C5-C6-O6
9	R	2	NAG	O5-C5-C6-O6
5	F	1	NAG	O5-C5-C6-O6
8	Q	1	NAG	O5-C5-C6-O6
12	P	4	MAN	O5-C5-C6-O6
7	I	1	NAG	O5-C5-C6-O6
9	K	2	NAG	C4-C5-C6-O6
6	G	2	NAG	O5-C5-C6-O6
9	K	2	NAG	O5-C5-C6-O6
10	M	1	NAG	O5-C5-C6-O6
6	G	1	NAG	C4-C5-C6-O6
12	P	4	MAN	C4-C5-C6-O6
5	F	3	MAN	O5-C5-C6-O6
6	G	1	NAG	O5-C5-C6-O6
10	M	1	NAG	C4-C5-C6-O6
4	L	1	NAG	O5-C5-C6-O6
7	I	4	MAN	O5-C5-C6-O6
10	M	2	NAG	C4-C5-C6-O6
4	O	2	NDG	O5-C5-C6-O6
5	F	2	NAG	O5-C5-C6-O6
4	H	1	NAG	C4-C5-C6-O6
7	I	1	NAG	C4-C5-C6-O6
4	O	1	NAG	C1-C2-N2-C7
10	M	1	NAG	C1-C2-N2-C7
4	L	1	NAG	C4-C5-C6-O6
5	F	1	NAG	C4-C5-C6-O6
5	F	2	NAG	C4-C5-C6-O6
12	P	3	MAN	C4-C5-C6-O6
5	F	3	MAN	C4-C5-C6-O6

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
7	I	3	MAN	C4-C5-C6-O6
9	R	2	NAG	C4-C5-C6-O6
4	O	2	NDG	C4-C5-C6-O6
4	E	2	NDG	C4-C5-C6-O6
4	H	1	NAG	O5-C5-C6-O6
10	M	3	BMA	C4-C5-C6-O6
7	I	5	MAN	O5-C5-C6-O6
8	Q	3	BMA	O5-C5-C6-O6
9	R	1	NAG	O5-C5-C6-O6
4	O	1	NAG	O5-C5-C6-O6
8	J	3	BMA	O5-C5-C6-O6
12	P	2	NDG	O5-C5-C6-O6
9	R	2	NAG	C1-C2-N2-C7
11	N	2	NAG	C8-C7-N2-C2
7	I	3	MAN	O5-C5-C6-O6
10	M	3	BMA	O5-C5-C6-O6
12	P	3	MAN	O5-C5-C6-O6
6	G	2	NAG	C4-C5-C6-O6
8	Q	1	NAG	C1-C2-N2-C7
11	N	2	NAG	O7-C7-N2-C2
4	E	2	NDG	O5-C5-C6-O6
4	H	2	NDG	O5-C5-C6-O6
12	P	5	MAN	O5-C5-C6-O6
4	O	1	NAG	C3-C2-N2-C7
6	G	2	NAG	C1-C2-N2-C7
7	I	2	NAG	C1-C2-N2-C7
8	J	3	BMA	C4-C5-C6-O6
8	Q	1	NAG	C3-C2-N2-C7
9	R	2	NAG	C3-C2-N2-C7
10	M	1	NAG	C3-C2-N2-C7
4	E	1	NAG	O5-C5-C6-O6
4	H	2	NDG	C1-C2-N2-C7
4	H	1	NAG	C1-C2-N2-C7
9	R	1	NAG	C4-C5-C6-O6
12	P	2	NDG	C4-C5-C6-O6
8	Q	3	BMA	C4-C5-C6-O6
11	N	2	NAG	C4-C5-C6-O6
7	I	5	MAN	C4-C5-C6-O6

All (2) ring outliers are listed below:

*Continued on next page...*



*Continued from previous page...*

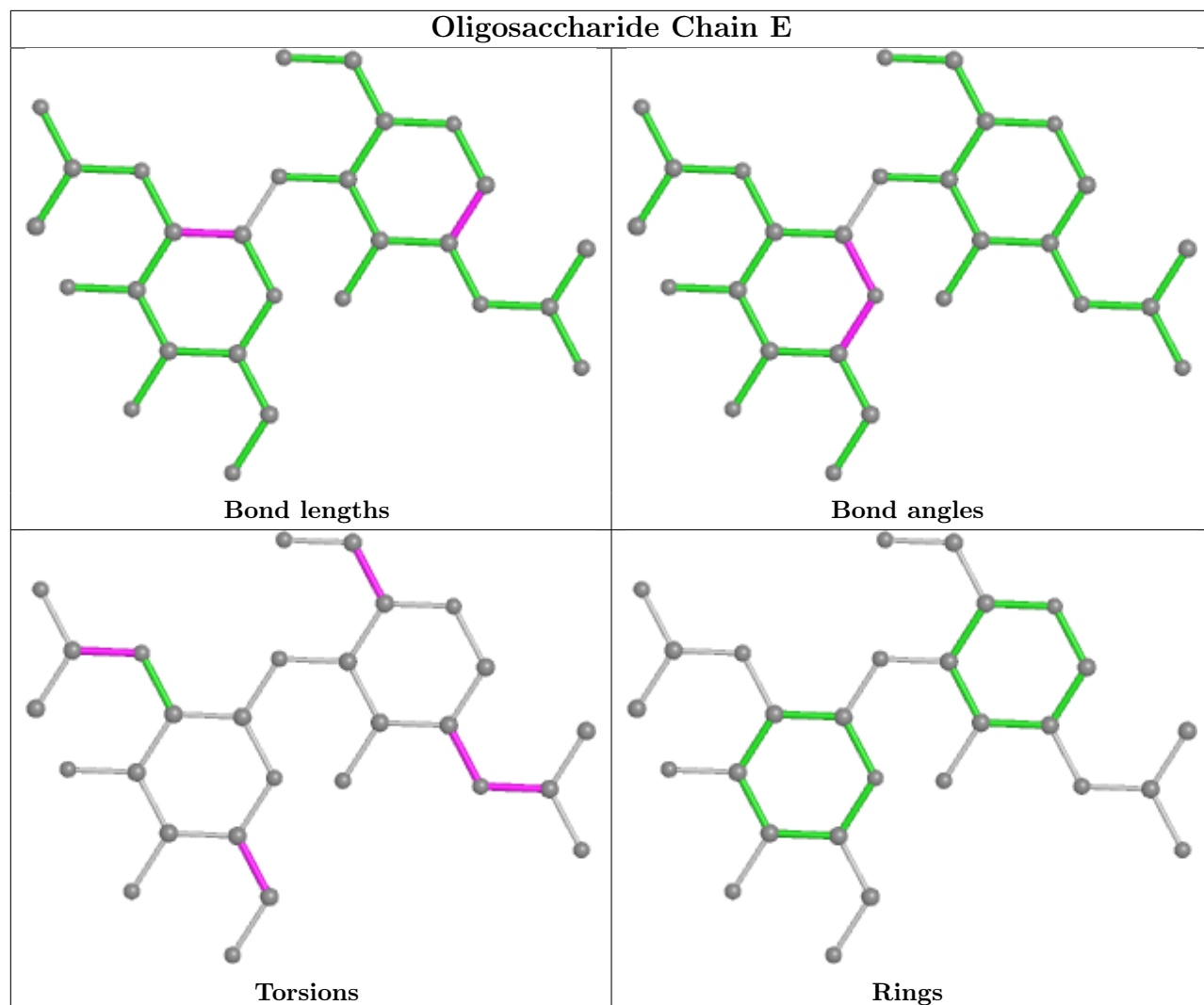
Mol	Chain	Res	Type	Atoms
-----	-------	-----	------	-------

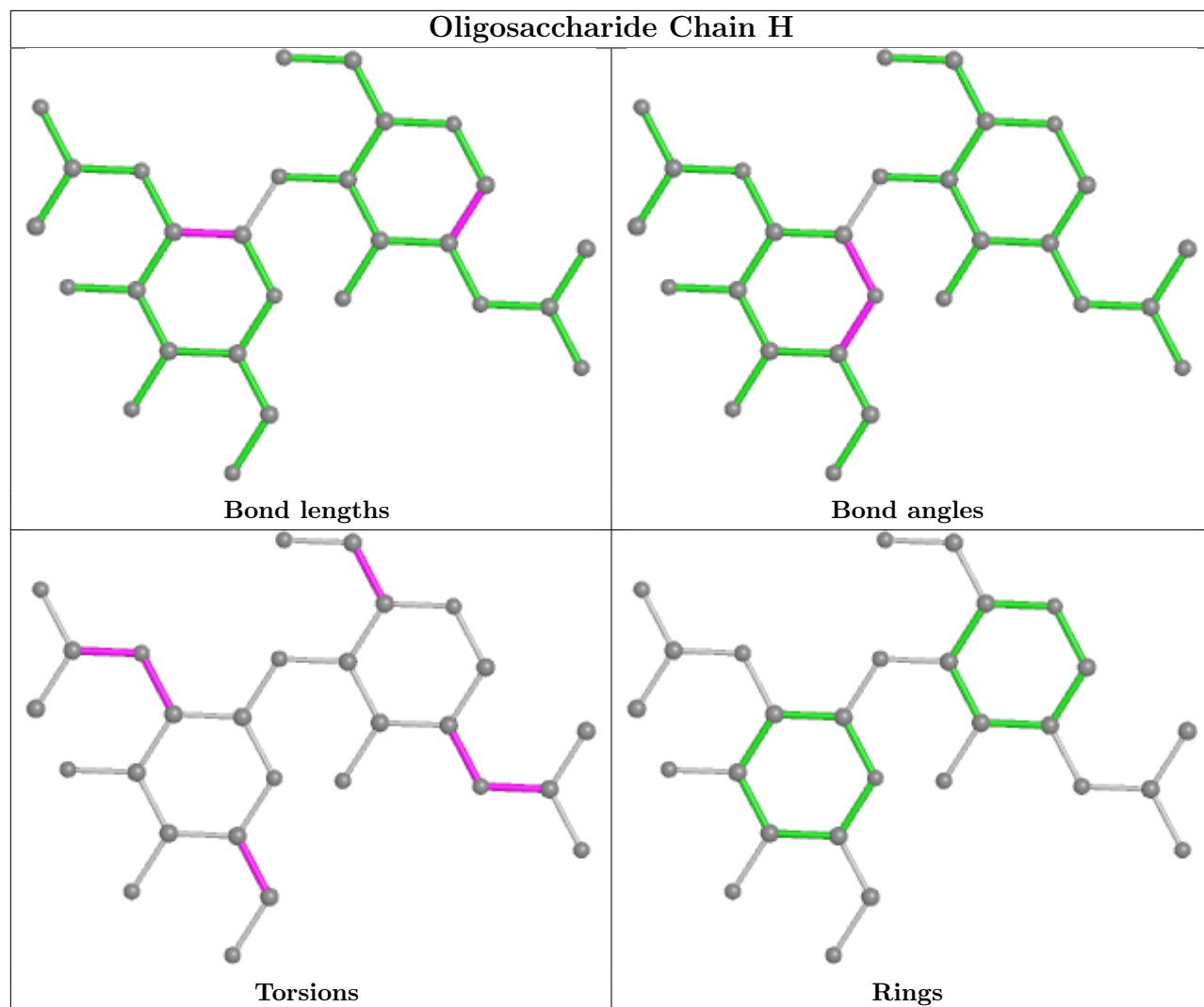
Mol	Chain	Res	Type	Atoms
5	F	3	MAN	C1-C2-C3-C4-C5-O5
12	P	4	MAN	C1-C2-C3-C4-C5-O5

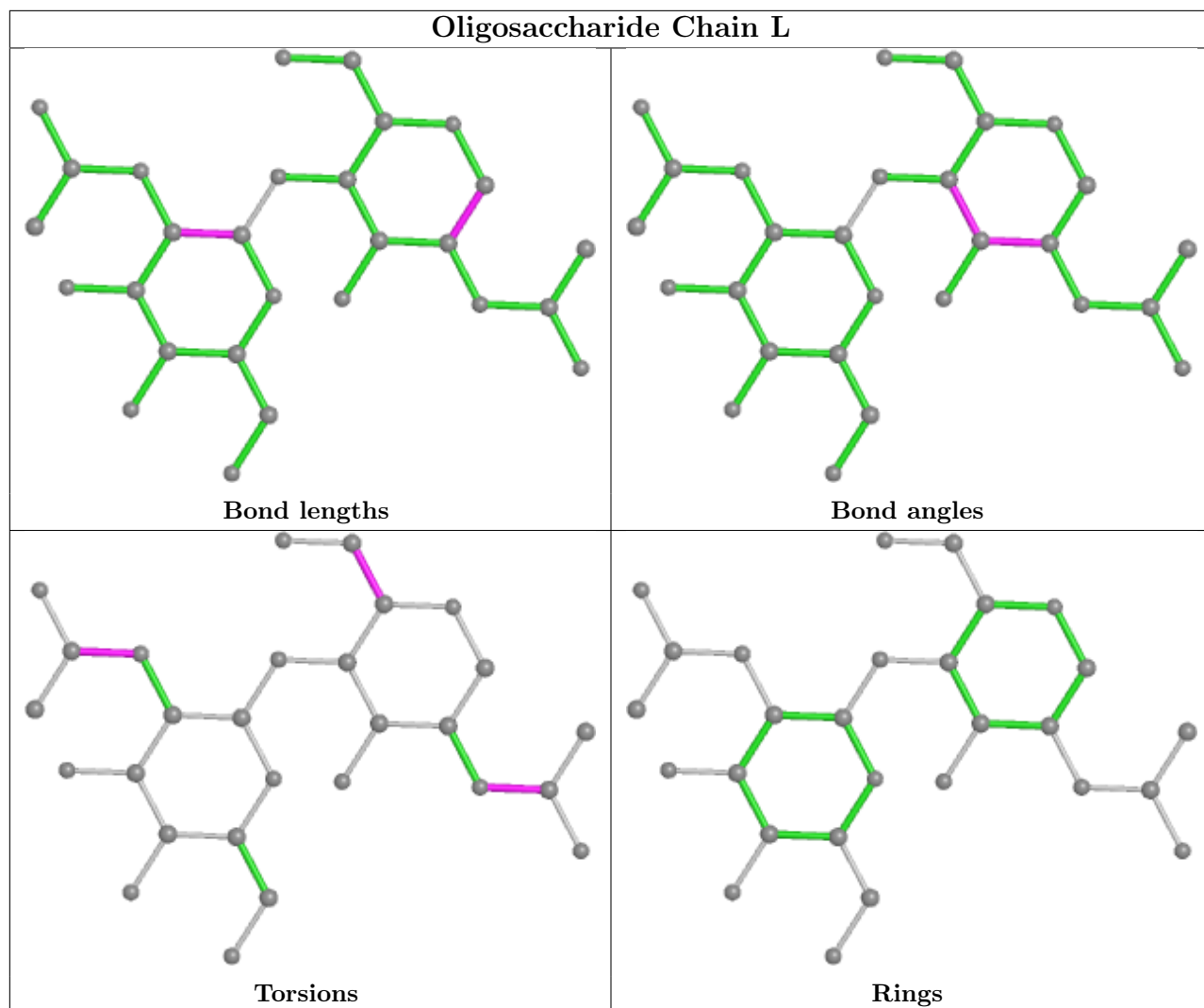
29 monomers are involved in 54 short contacts:

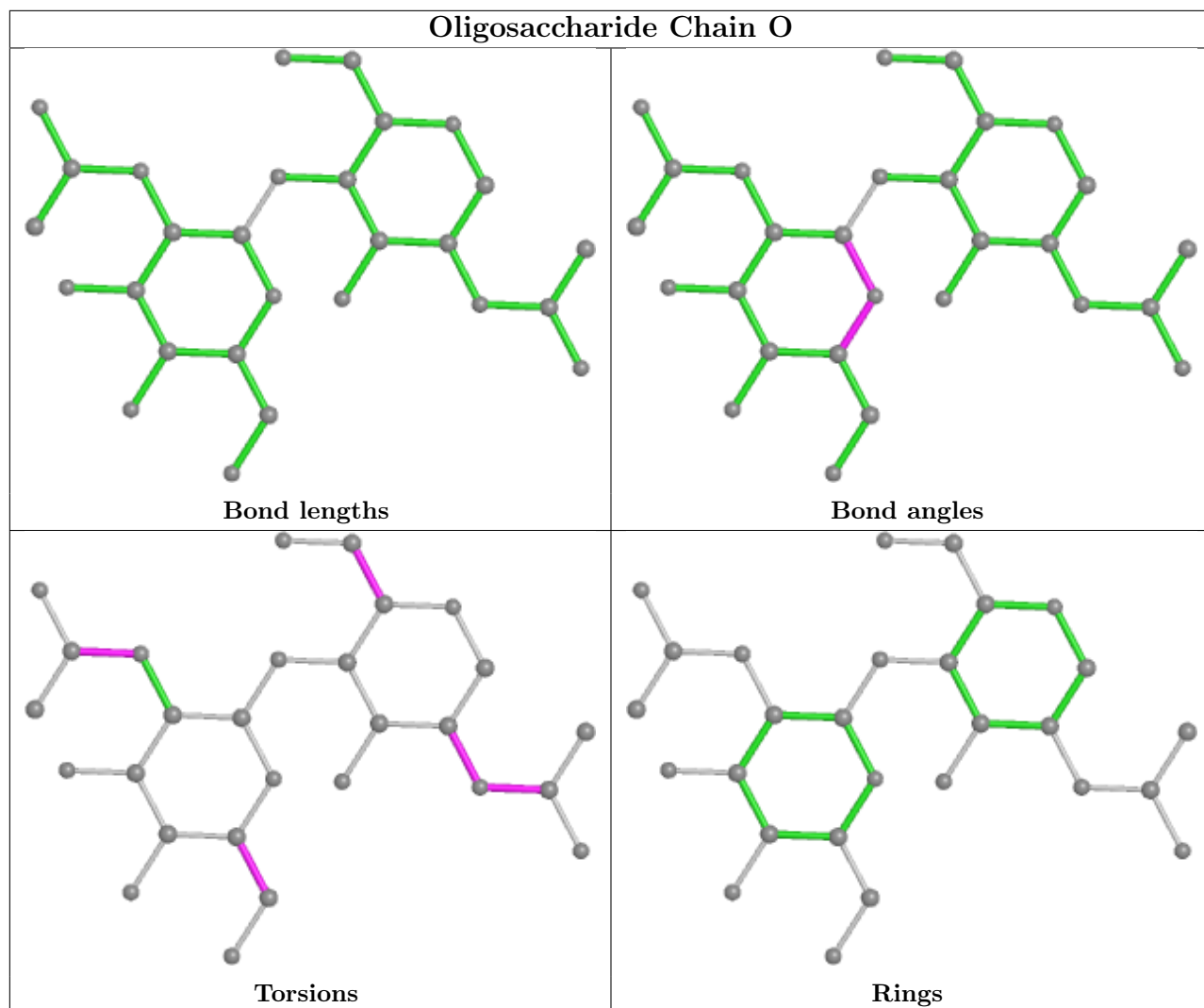
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	F	2	NAG	2	0
8	Q	3	BMA	1	0
5	F	1	NAG	6	0
8	J	2	NDG	2	0
4	H	1	NAG	3	0
9	K	2	NAG	1	0
6	G	2	NAG	2	0
4	H	2	NDG	2	0
7	I	1	NAG	3	0
4	L	2	NDG	1	0
4	E	1	NAG	4	0
11	N	3	FUL	1	0
9	R	1	NAG	1	0
8	J	3	BMA	1	0
8	J	1	NAG	4	0
4	O	1	NAG	3	0
4	O	2	NDG	1	0
6	G	3	FUC	1	0
10	M	1	NAG	3	0
9	K	1	NAG	3	0
8	Q	2	NDG	3	0
12	P	5	MAN	1	0
8	Q	1	NAG	5	0
7	I	2	NAG	3	0
6	G	1	NAG	3	0
4	L	1	NAG	4	0
7	I	5	MAN	3	0
11	N	2	NAG	1	0
9	R	2	NAG	2	0

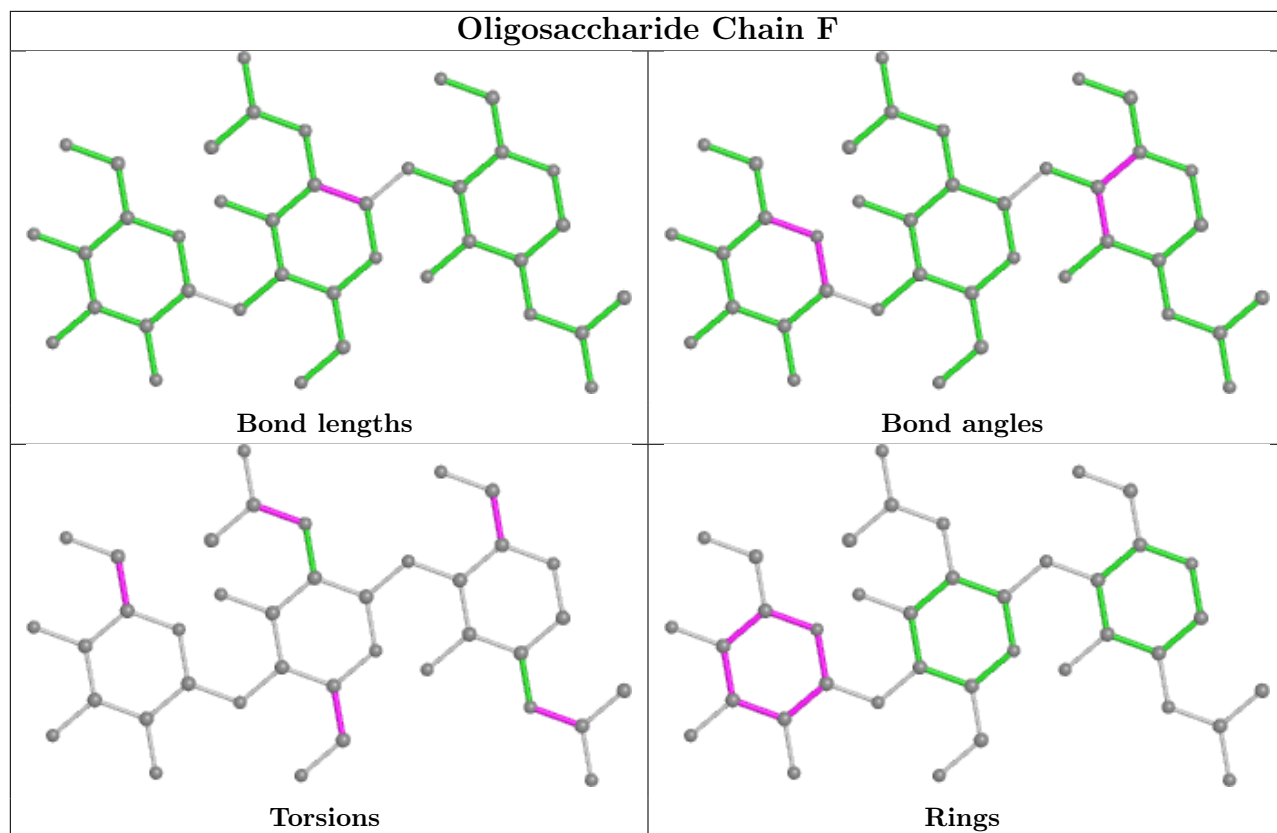
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

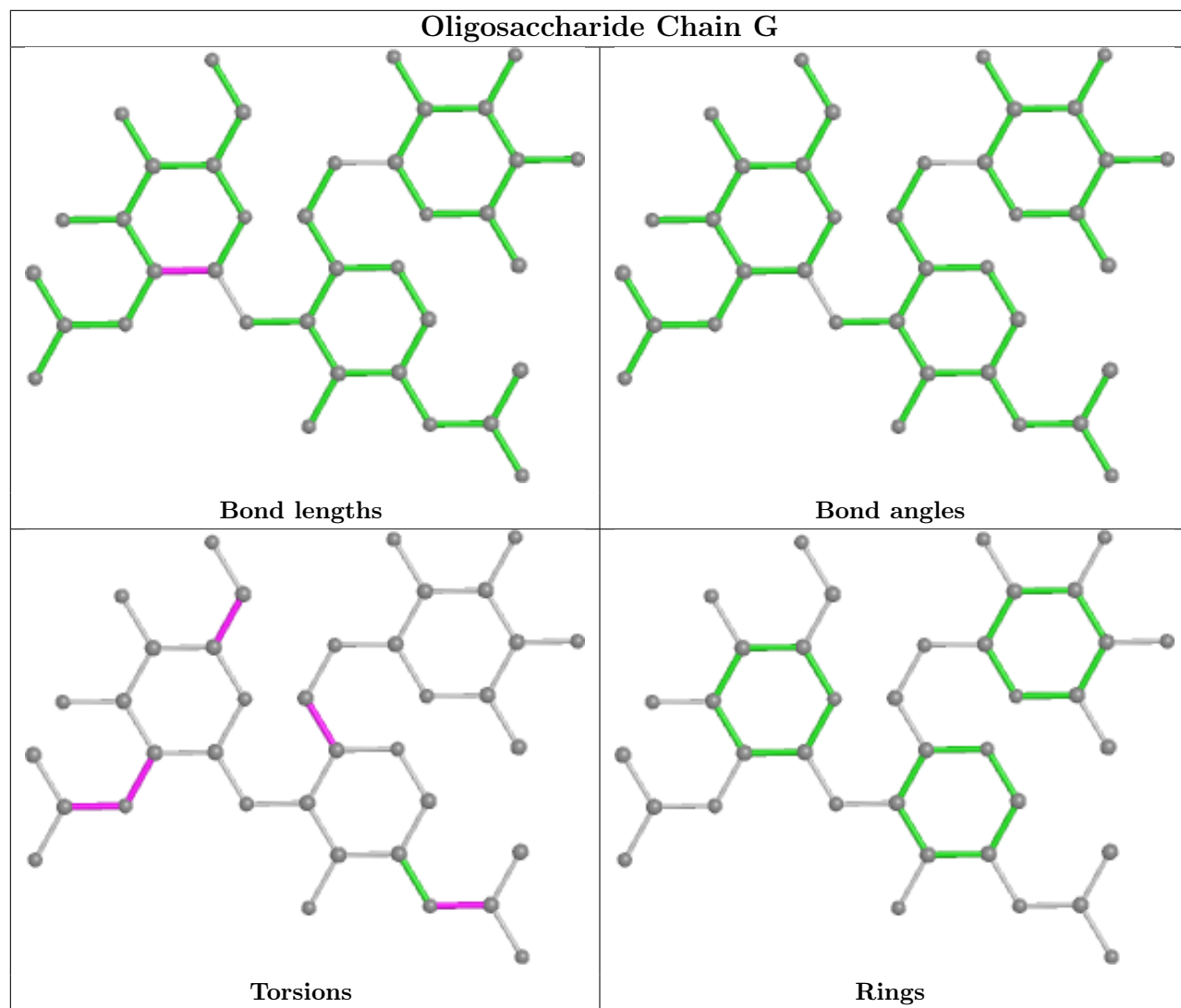


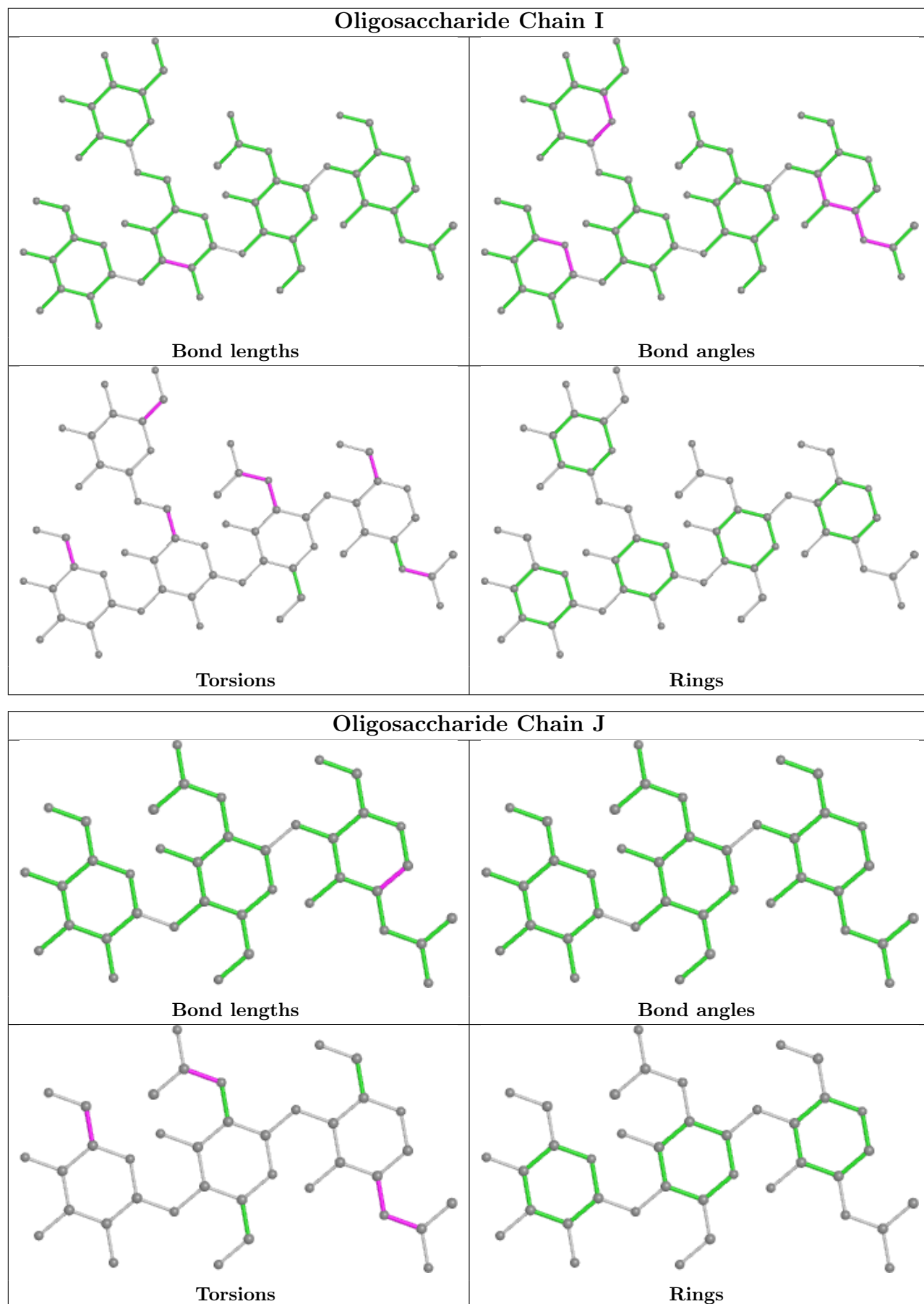




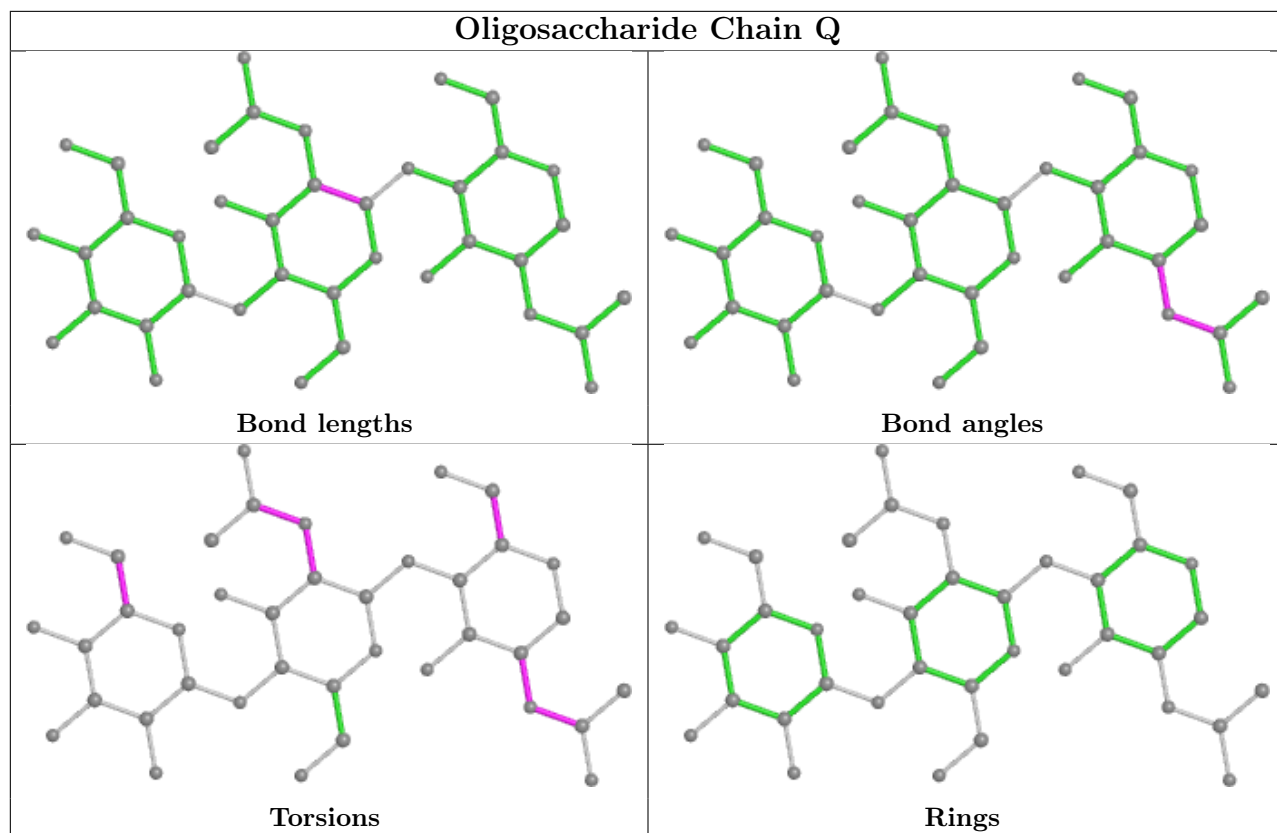


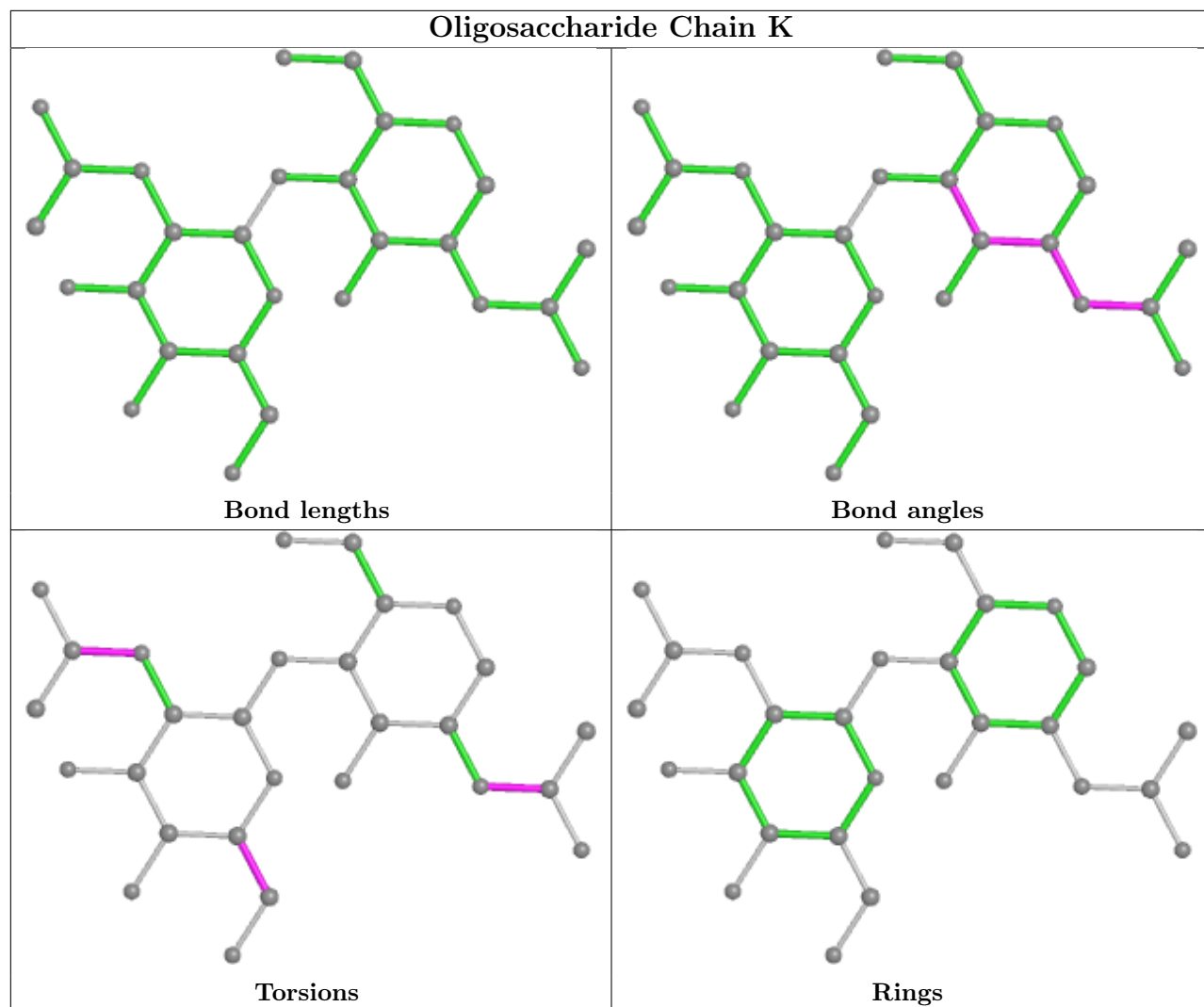


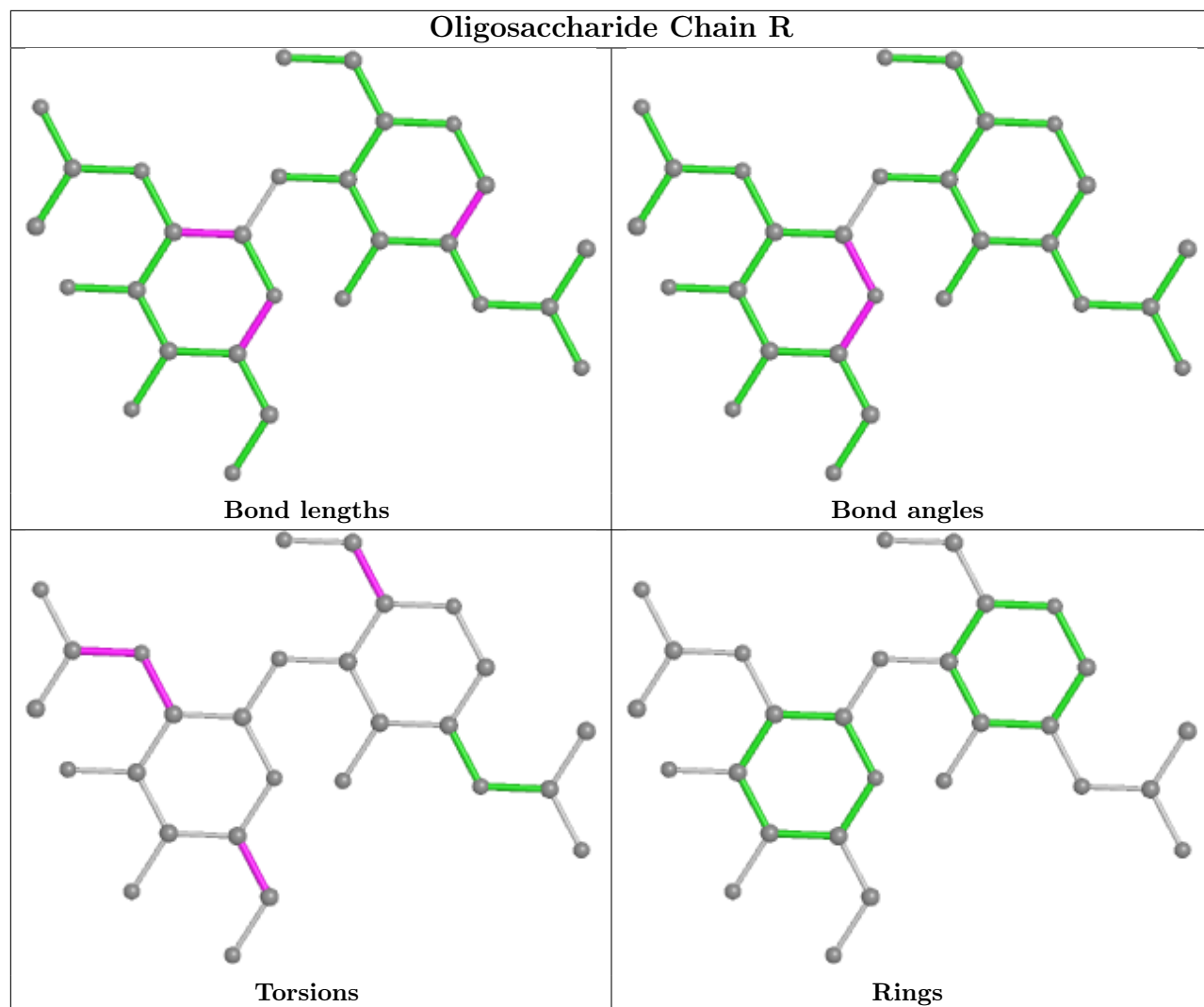


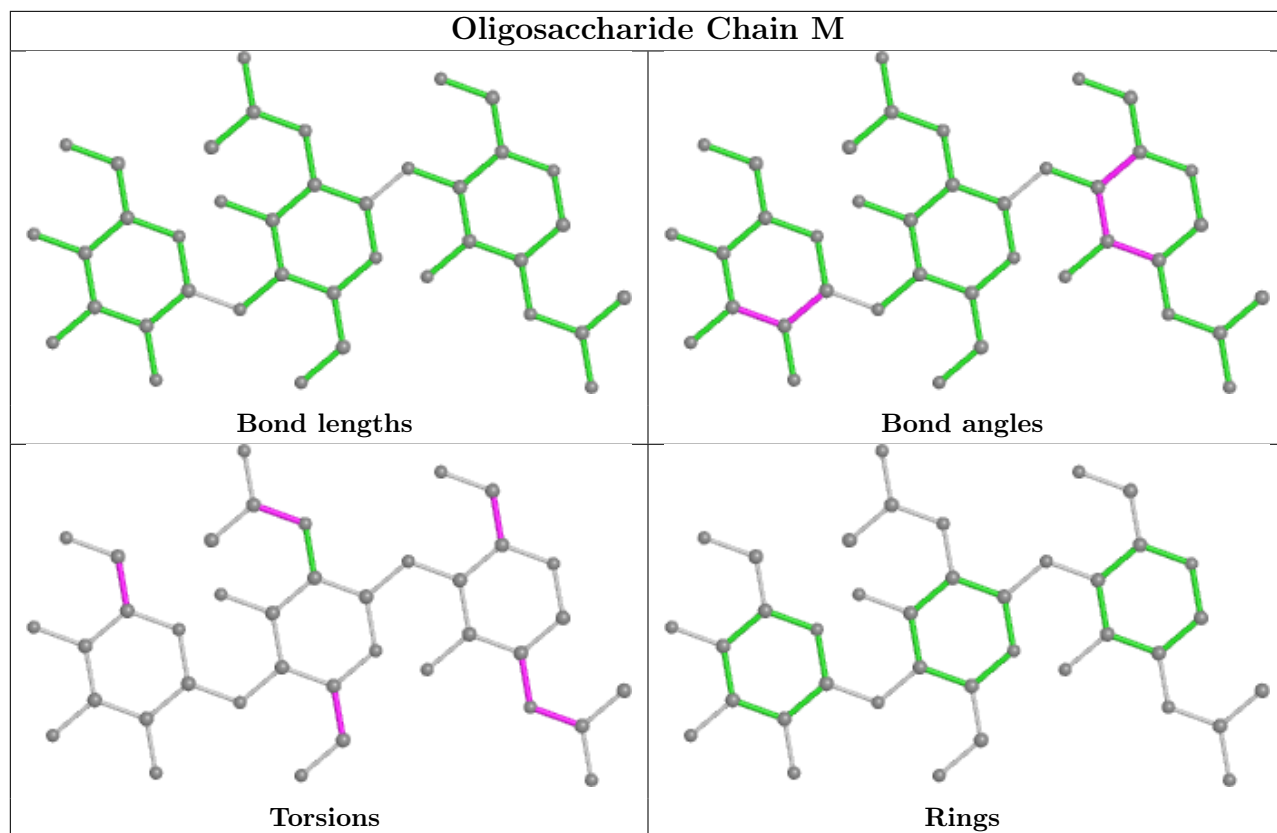


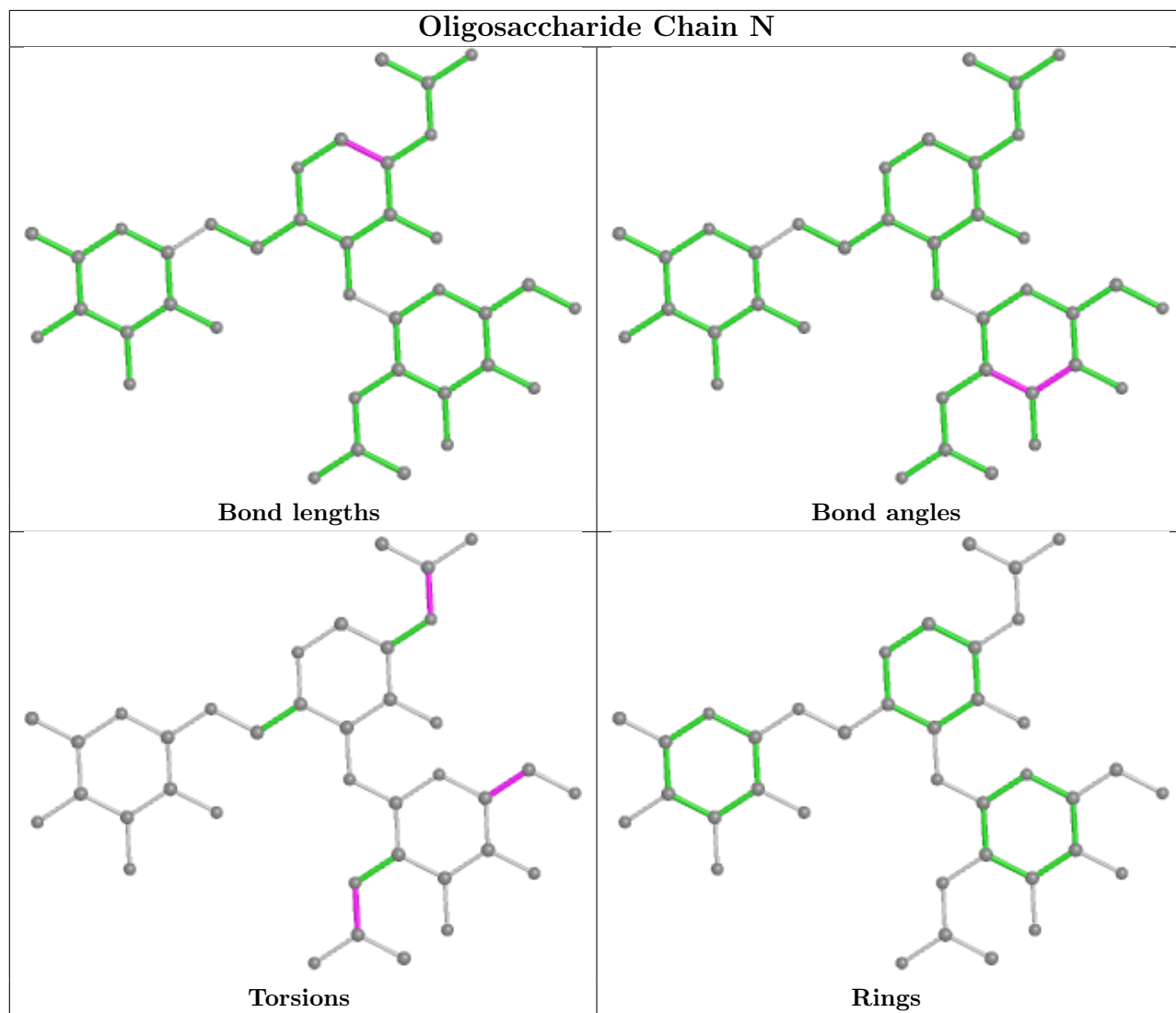


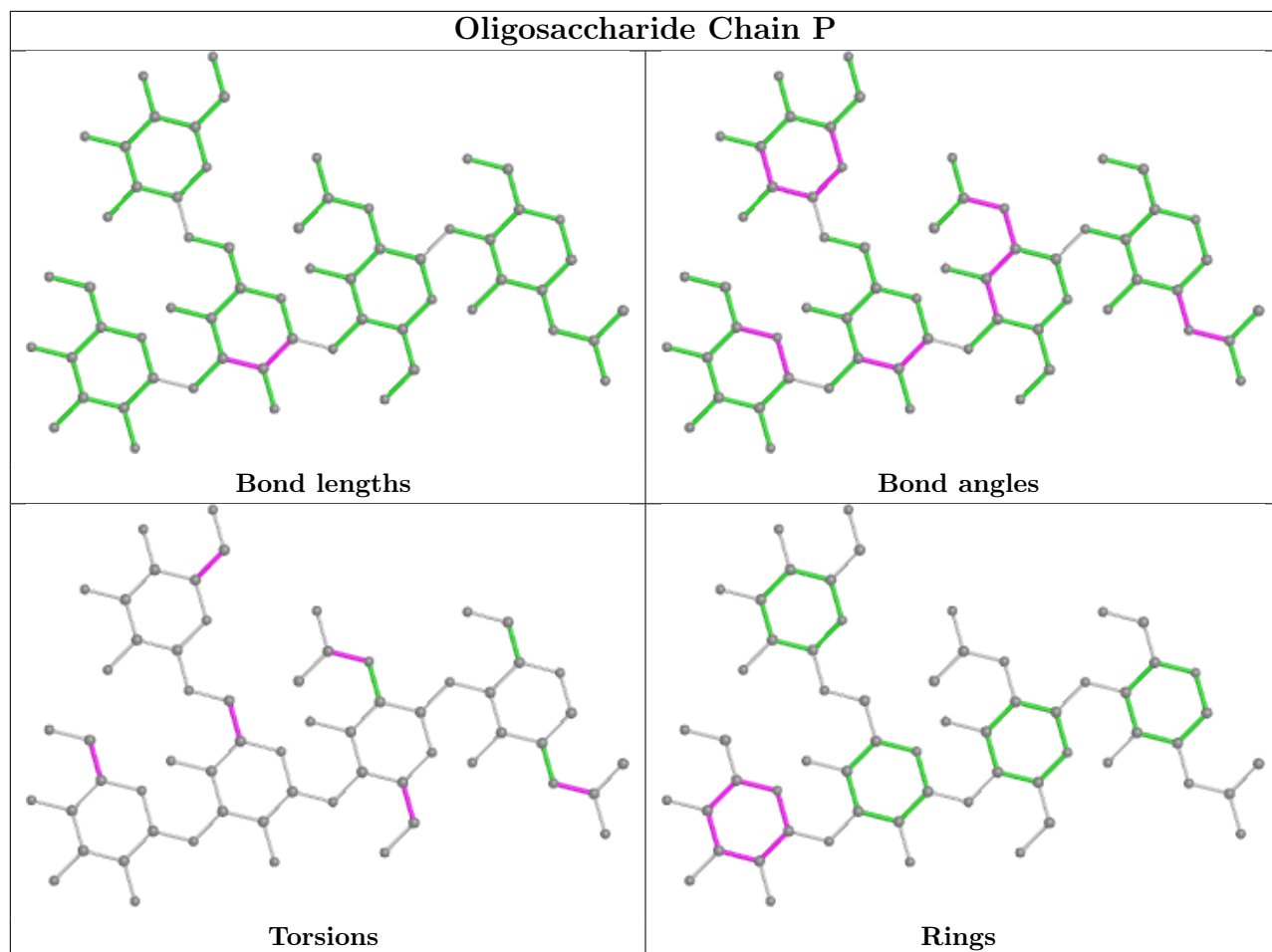












## 5.6 Ligand geometry [i](#)

4 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$
13	NAG	A	1961	3	14,14,15	1.00	0	17,19,21	0.93	1 (5%)
13	NAG	B	1961	3	14,14,15	1.19	1 (7%)	17,19,21	0.83	1 (5%)
13	NAG	B	724	3	14,14,15	0.83	1 (7%)	17,19,21	0.62	0
13	NAG	A	724	3	14,14,15	0.88	1 (7%)	17,19,21	0.81	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
13	NAG	A	1961	3	-	2/6/23/26	0/1/1/1
13	NAG	B	1961	3	-	4/6/23/26	0/1/1/1
13	NAG	B	724	3	-	5/6/23/26	0/1/1/1
13	NAG	A	724	3	1/1/5/7	4/6/23/26	0/1/1/1

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
13	B	1961	NAG	C1-C2	3.30	1.57	1.52
13	B	724	NAG	C1-C2	2.28	1.55	1.52
13	A	724	NAG	C1-C2	2.14	1.55	1.52

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	A	1961	NAG	C1-O5-C5	2.71	115.87	112.19
13	B	1961	NAG	C1-O5-C5	2.30	115.31	112.19

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
13	A	724	NAG	C1

All (15) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
13	A	724	NAG	C8-C7-N2-C2
13	A	724	NAG	O7-C7-N2-C2
13	A	1961	NAG	C8-C7-N2-C2
13	A	1961	NAG	O7-C7-N2-C2
13	B	724	NAG	C8-C7-N2-C2
13	B	724	NAG	O7-C7-N2-C2
13	B	1961	NAG	C8-C7-N2-C2
13	B	1961	NAG	O7-C7-N2-C2
13	B	1961	NAG	O5-C5-C6-O6
13	A	724	NAG	O5-C5-C6-O6
13	A	724	NAG	C4-C5-C6-O6

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
13	B	1961	NAG	C4-C5-C6-O6
13	B	724	NAG	C1-C2-N2-C7
13	B	724	NAG	O5-C5-C6-O6
13	B	724	NAG	C3-C2-N2-C7

There are no ring outliers.

3 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
13	A	1961	NAG	1	0
13	B	724	NAG	1	0
13	A	724	NAG	1	0

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.



## 6 Fit of model and data

### 6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	C	46/46 (100%)	0.22	0 <span style="border: 1px solid blue; padding: 2px;">100</span> <span style="border: 1px solid blue; padding: 2px;">100</span>	167, 194, 197, 197	0
2	D	46/46 (100%)	0.19	0 <span style="border: 1px solid blue; padding: 2px;">100</span> <span style="border: 1px solid blue; padding: 2px;">100</span>	164, 193, 197, 197	0
3	A	661/697 (94%)	0.33	26 (3%) <span style="border: 1px solid red; padding: 2px;">39</span> <span style="border: 1px solid red; padding: 2px;">39</span>	108, 144, 182, 191	0
3	B	668/697 (95%)	0.30	36 (5%) <span style="border: 1px solid red; padding: 2px;">25</span> <span style="border: 1px solid red; padding: 2px;">27</span>	109, 144, 179, 189	0
All	All	1421/1486 (95%)	0.31	62 (4%) <span style="border: 1px solid red; padding: 2px;">34</span> <span style="border: 1px solid red; padding: 2px;">34</span>	108, 145, 188, 197	0

All (62) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	A	62	GLN	6.8
3	B	663	GLN	5.9
3	B	302	TYR	5.2
3	A	41	LYS	4.3
3	B	42	LEU	4.1
3	B	217	PHE	3.9
3	B	223	LEU	3.8
3	A	138	ILE	3.7
3	A	56	LEU	3.5
3	B	636	ASN	3.4
3	B	41	LYS	3.4
3	A	683	TYR	3.4
3	B	62	GLN	3.2
3	B	688	LEU	3.1
3	B	139	LYS	3.1
3	B	640	LEU	3.1
3	B	46	PRO	3.0
3	B	45	ILE	3.0
3	B	138	ILE	2.9
3	A	80	LEU	2.8
3	B	326	TYR	2.8

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
3	B	693	THR	2.8
3	B	689	LYS	2.8
3	A	82	ALA	2.7
3	B	327	LEU	2.7
3	A	75	SER	2.7
3	B	682	HIS	2.7
3	A	28	CYS	2.7
3	A	344	PRO	2.7
3	A	519	ALA	2.7
3	A	199	LEU	2.6
3	A	674	HIS	2.6
3	B	318	PHE	2.6
3	B	279	LEU	2.5
3	A	636	ASN	2.4
3	B	39	HIS	2.4
3	A	58	LEU	2.4
3	A	76	GLN	2.3
3	B	106	LEU	2.3
3	A	65	ARG	2.3
3	A	321	LEU	2.3
3	B	58	LEU	2.3
3	A	43	THR	2.3
3	A	652	GLU	2.2
3	B	63	LEU	2.2
3	B	32	TYR	2.2
3	A	612	LEU	2.2
3	A	77	LEU	2.2
3	B	40	LEU	2.2
3	B	657	PHE	2.2
3	B	526	LEU	2.2
3	B	250	ILE	2.2
3	B	690	LEU	2.1
3	B	529	LEU	2.1
3	B	64	ARG	2.1
3	A	188	SER	2.1
3	B	90	LEU	2.1
3	A	223	LEU	2.1
3	B	253	LEU	2.1
3	A	106	LEU	2.0
3	A	615	LEU	2.0
3	B	303	LEU	2.0

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

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

## 6.3 Carbohydrates [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

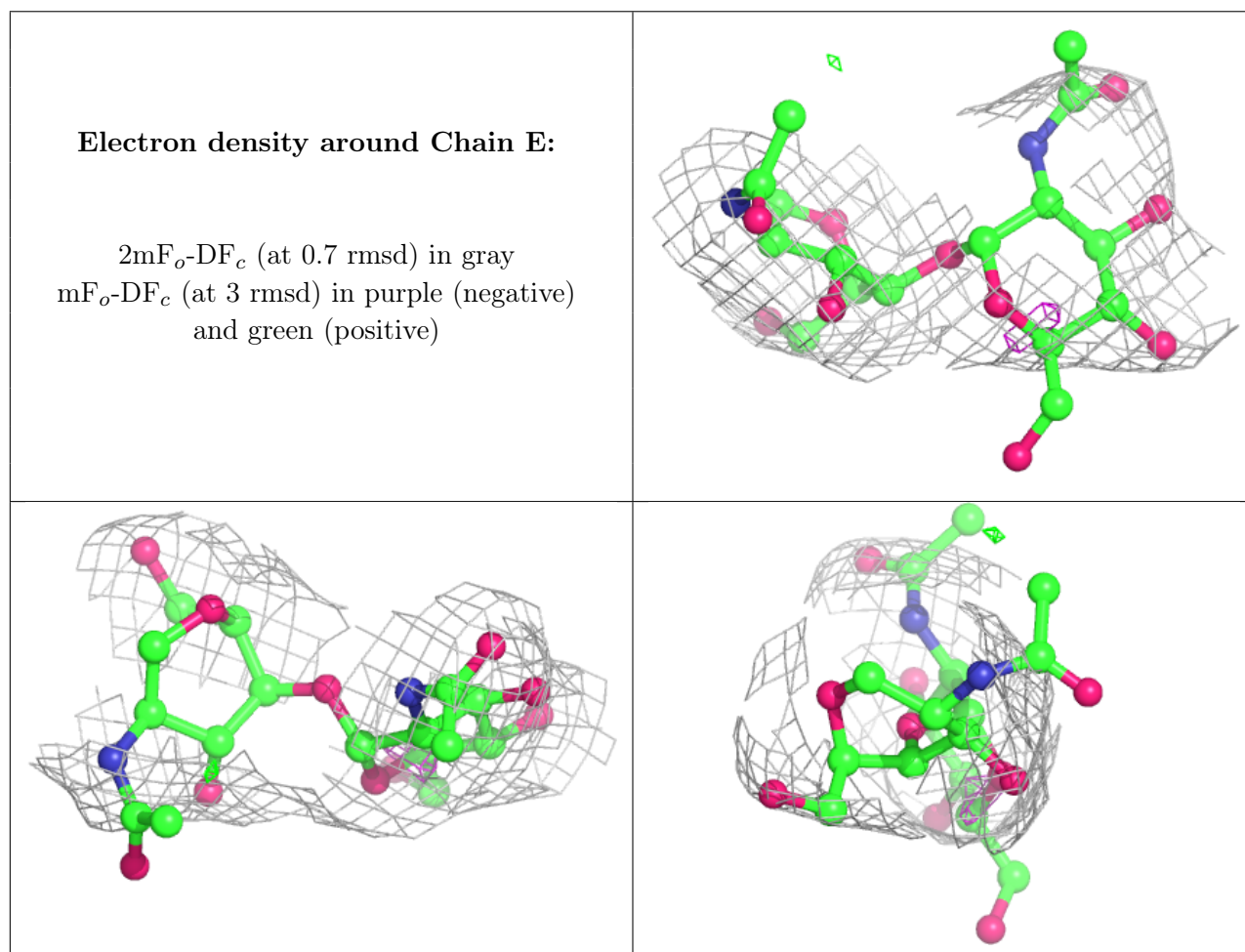
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
7	MAN	I	5	11/12	0.55	0.23	186,187,187,188	0
12	MAN	P	3	11/12	0.62	0.29	180,182,186,187	0
9	NAG	R	2	14/15	0.63	0.43	197,197,197,197	0
7	MAN	I	4	11/12	0.64	0.49	188,190,191,192	0
12	MAN	P	5	11/12	0.65	0.32	185,187,187,188	0
8	BMA	J	3	11/12	0.66	0.23	186,187,187,187	0
8	BMA	Q	3	11/12	0.68	0.25	190,191,192,192	0
4	NAG	L	1	14/15	0.74	0.42	173,177,179,183	0
12	MAN	P	4	11/12	0.75	0.28	188,189,190,190	0
4	NDG	L	2	14/15	0.76	1.02	186,188,188,188	0
6	FUC	G	3	10/11	0.77	0.32	189,190,191,191	0
6	NAG	G	1	14/15	0.78	0.20	172,176,178,178	0
4	NDG	E	2	14/15	0.79	0.29	181,182,182,183	0
10	BMA	M	3	11/12	0.82	0.37	191,193,193,194	0
8	NDG	J	2	14/15	0.82	0.43	180,182,184,186	0
9	NAG	K	2	14/15	0.82	0.23	170,172,174,174	0
4	NDG	H	2	14/15	0.82	0.30	184,185,187,188	0
8	NAG	Q	1	14/15	0.84	0.18	168,171,174,177	0
11	FUL	N	3	10/11	0.85	0.23	191,192,192,192	0
11	NAG	N	1	14/15	0.85	0.24	169,171,173,176	0
6	NAG	G	2	14/15	0.86	0.20	179,180,180,180	0
4	NDG	O	2	14/15	0.86	0.24	172,175,177,177	0
7	MAN	I	3	11/12	0.87	0.24	177,180,185,185	0
8	NAG	J	1	14/15	0.87	0.17	169,173,174,176	0
5	MAN	F	3	11/12	0.88	0.15	192,195,196,197	0
9	NAG	R	1	14/15	0.88	0.34	160,162,163,163	0
12	NDG	P	2	14/15	0.88	0.19	158,165,169,175	0
7	NAG	I	2	14/15	0.90	0.22	159,162,167,172	0
4	NAG	E	1	14/15	0.90	0.17	171,175,177,179	0
11	NAG	N	2	14/15	0.90	0.38	176,179,180,180	0
10	NAG	M	2	14/15	0.90	0.21	183,184,188,190	0
10	NAG	M	1	14/15	0.91	0.23	173,176,179,182	0

*Continued on next page...*

Continued from previous page...

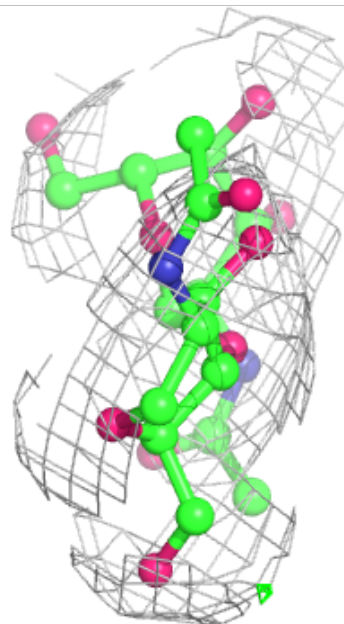
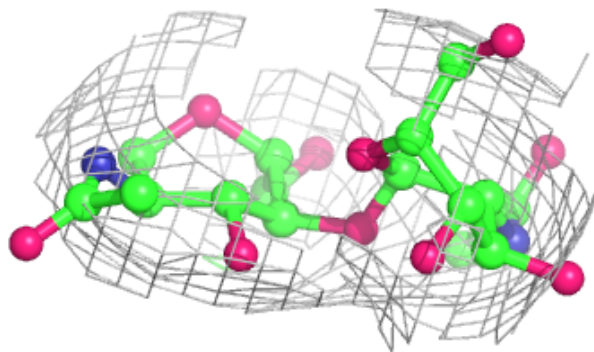
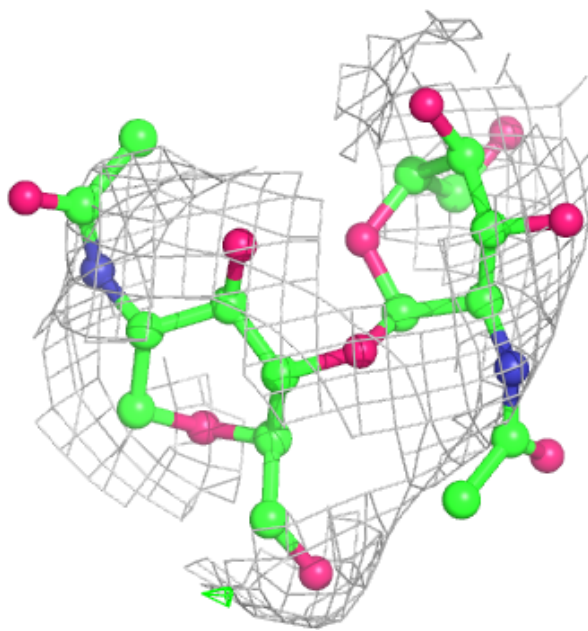
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
5	NAG	F	1	14/15	0.91	0.27	167,172,176,180	0
8	NDG	Q	2	14/15	0.91	0.22	177,181,184,188	0
12	NAG	P	1	14/15	0.91	0.24	141,144,149,155	0
4	NAG	H	1	14/15	0.93	0.22	168,171,176,180	0
5	NAG	F	2	14/15	0.93	0.26	183,185,188,191	0
4	NAG	O	1	14/15	0.94	0.14	163,167,168,171	0
9	NAG	K	1	14/15	0.94	0.15	160,164,165,168	0
7	NAG	I	1	14/15	0.97	0.23	140,145,147,152	0

The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.



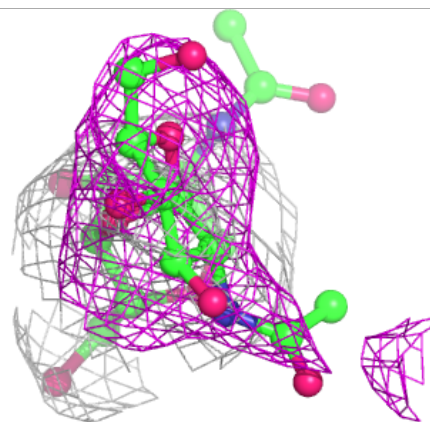
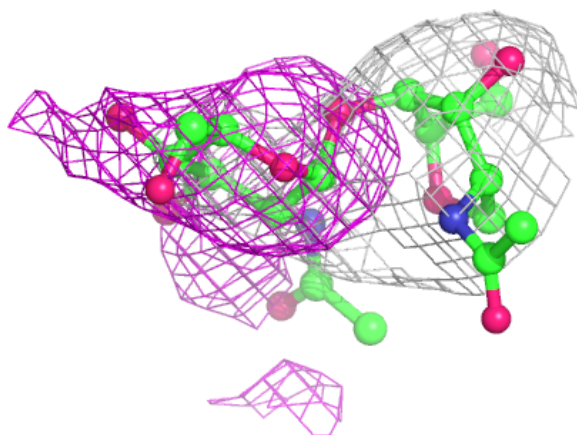
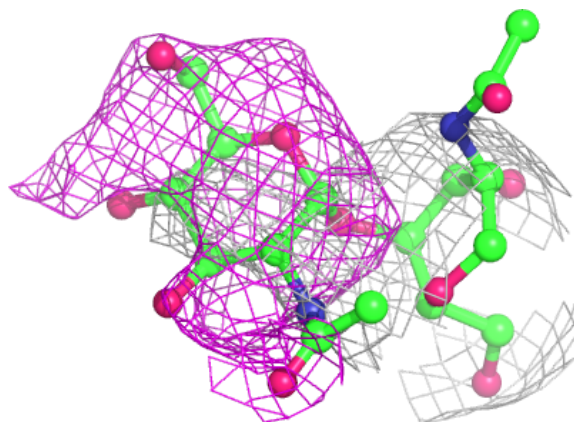
**Electron density around Chain H:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



**Electron density around Chain L:**

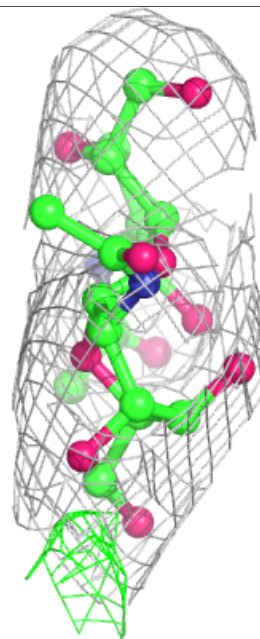
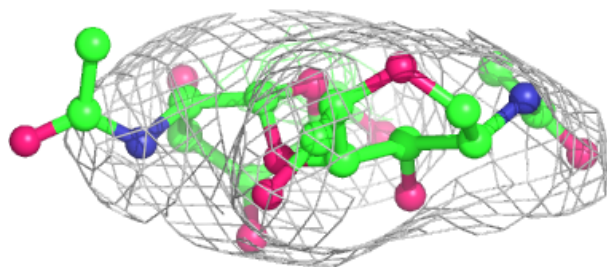
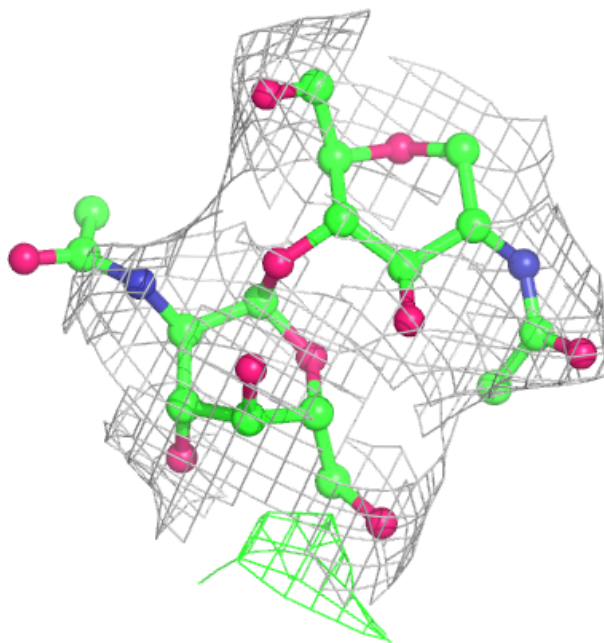
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





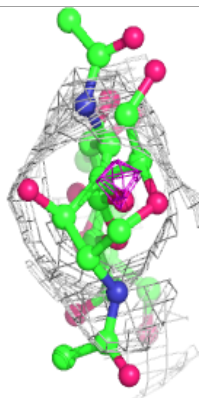
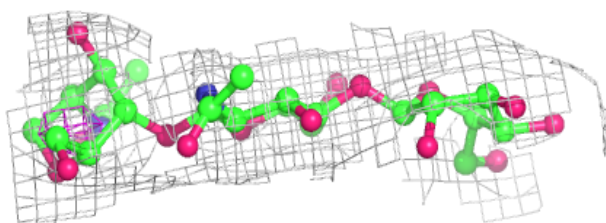
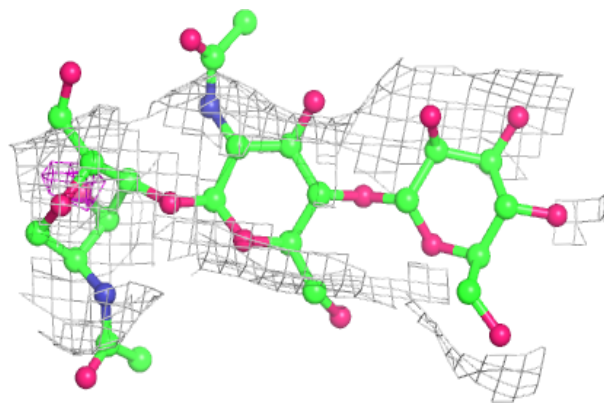
**Electron density around Chain O:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



**Electron density around Chain F:**

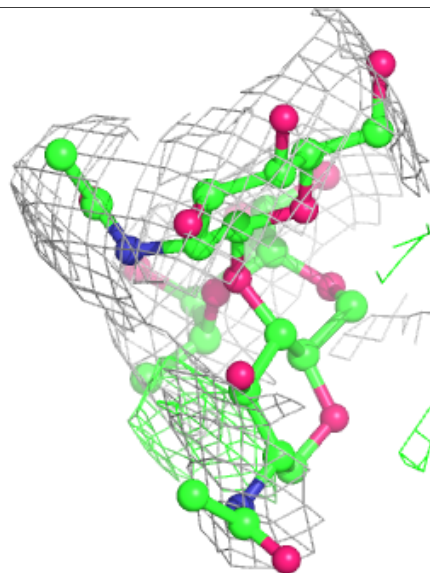
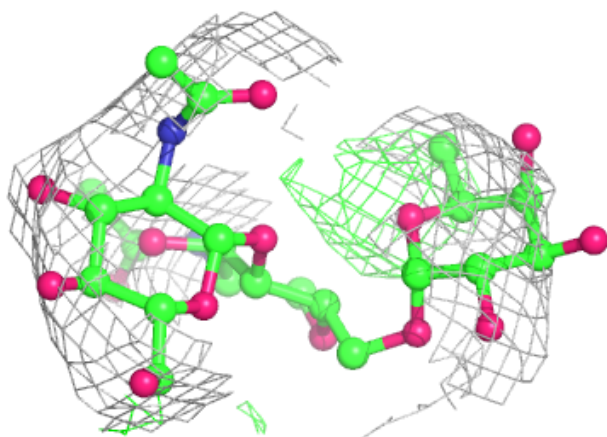
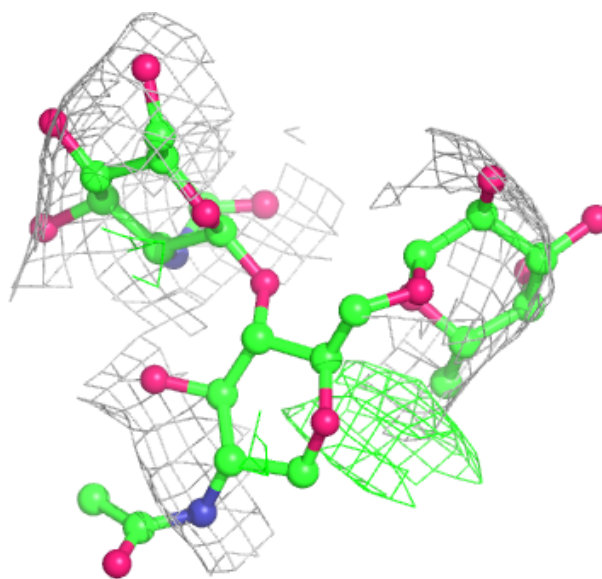
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





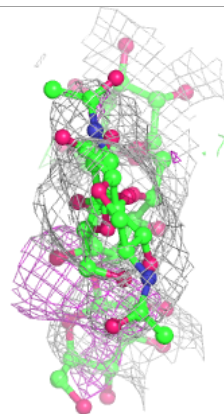
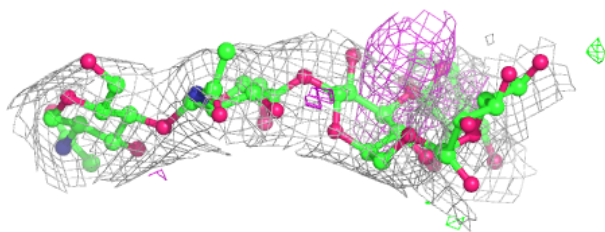
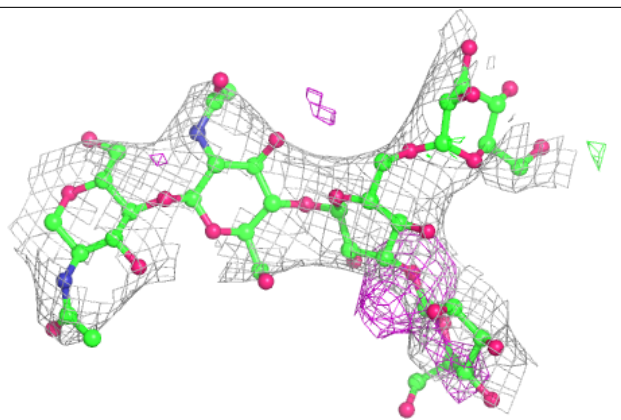
**Electron density around Chain G:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

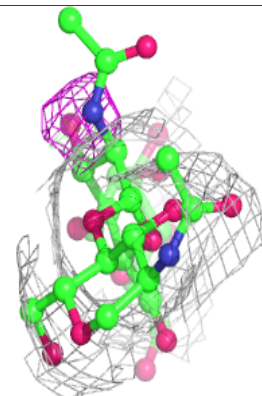
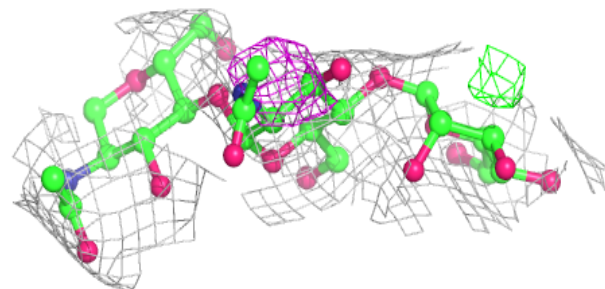
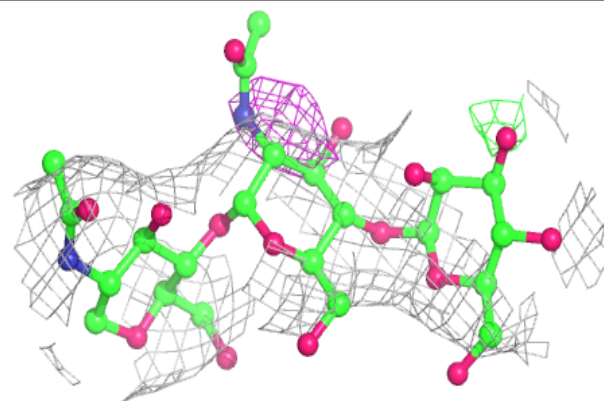


**Electron density around Chain I:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

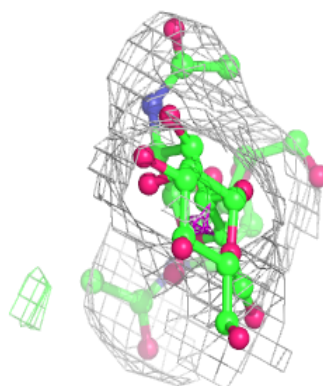
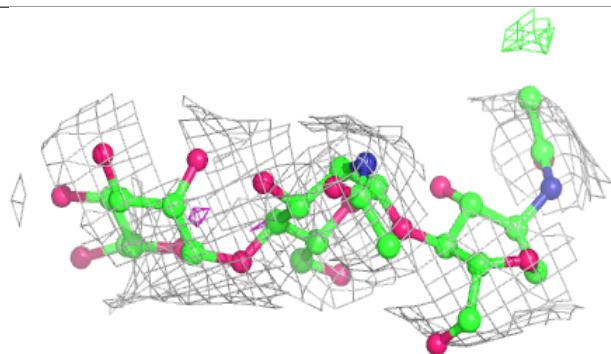
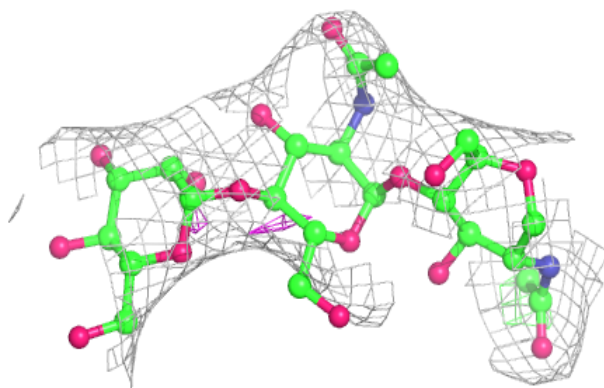
**Electron density around Chain J:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

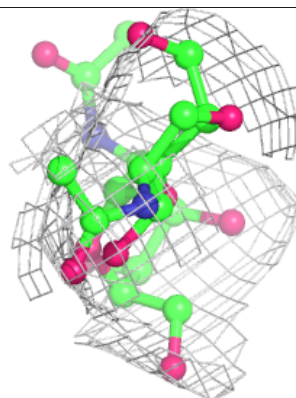
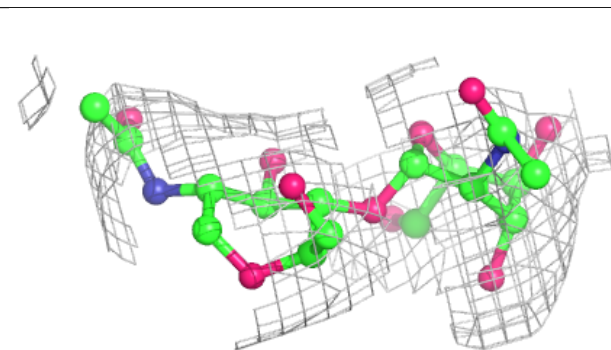
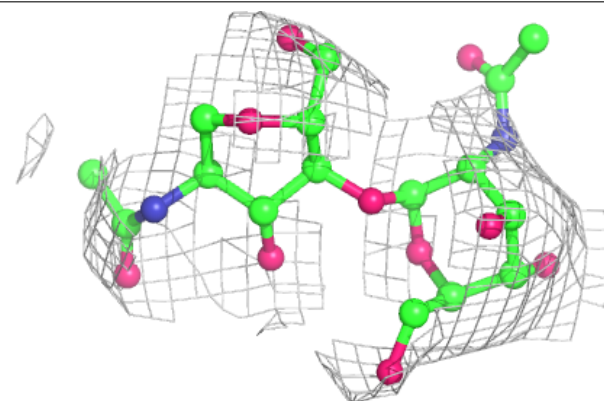


**Electron density around Chain Q:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

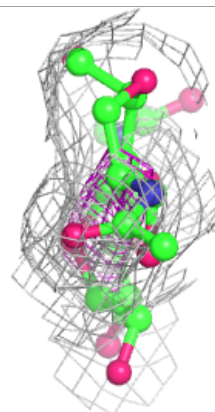
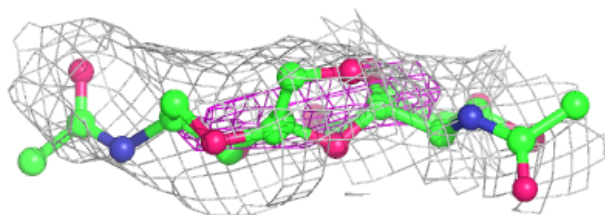
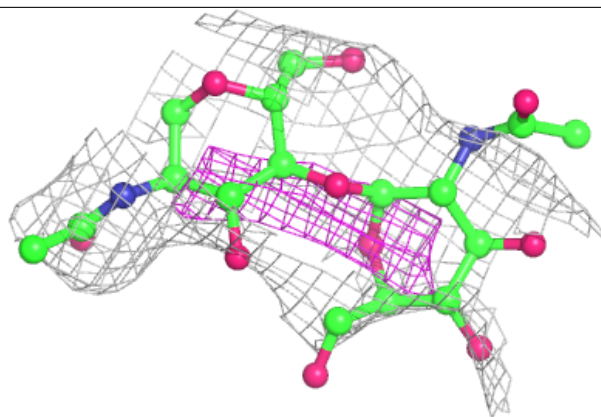
**Electron density around Chain K:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

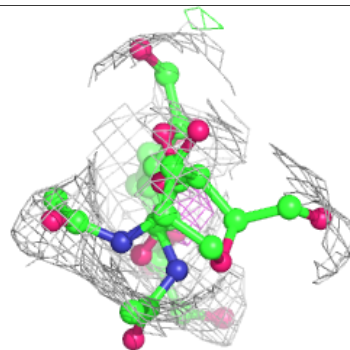
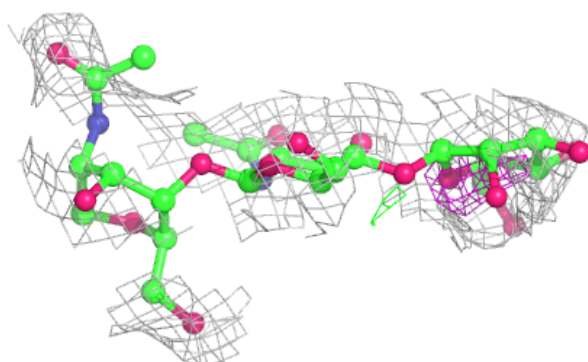
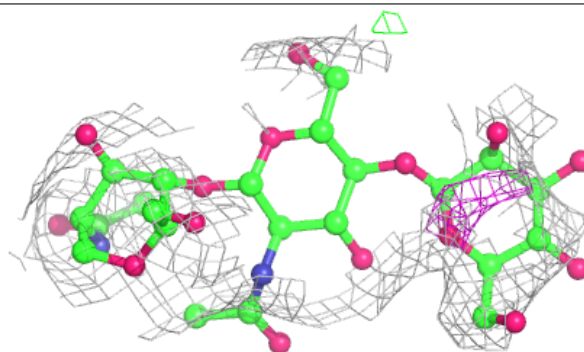


**Electron density around Chain R:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

**Electron density around Chain M:**

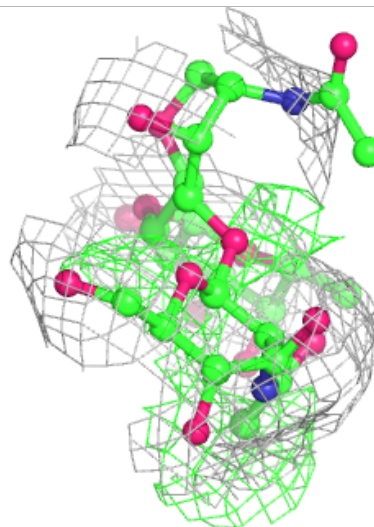
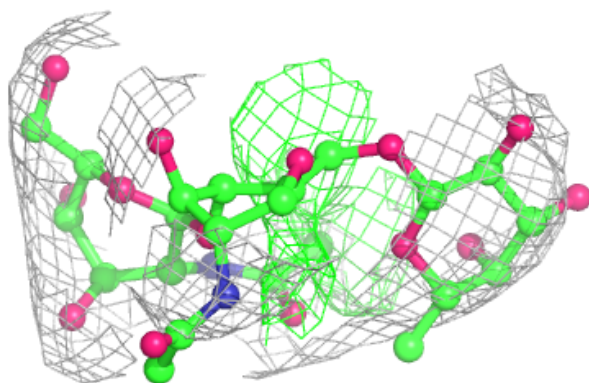
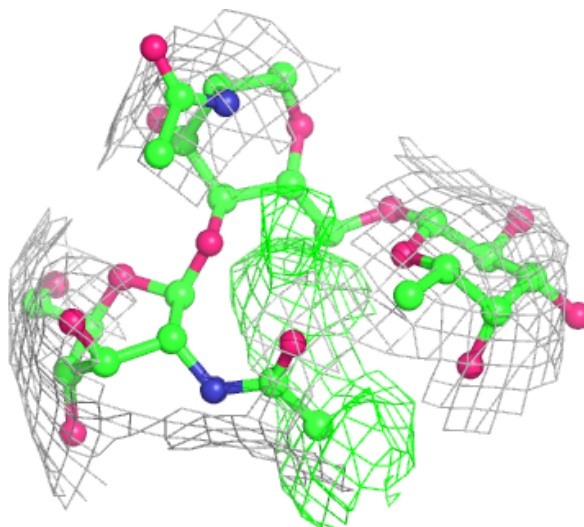
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

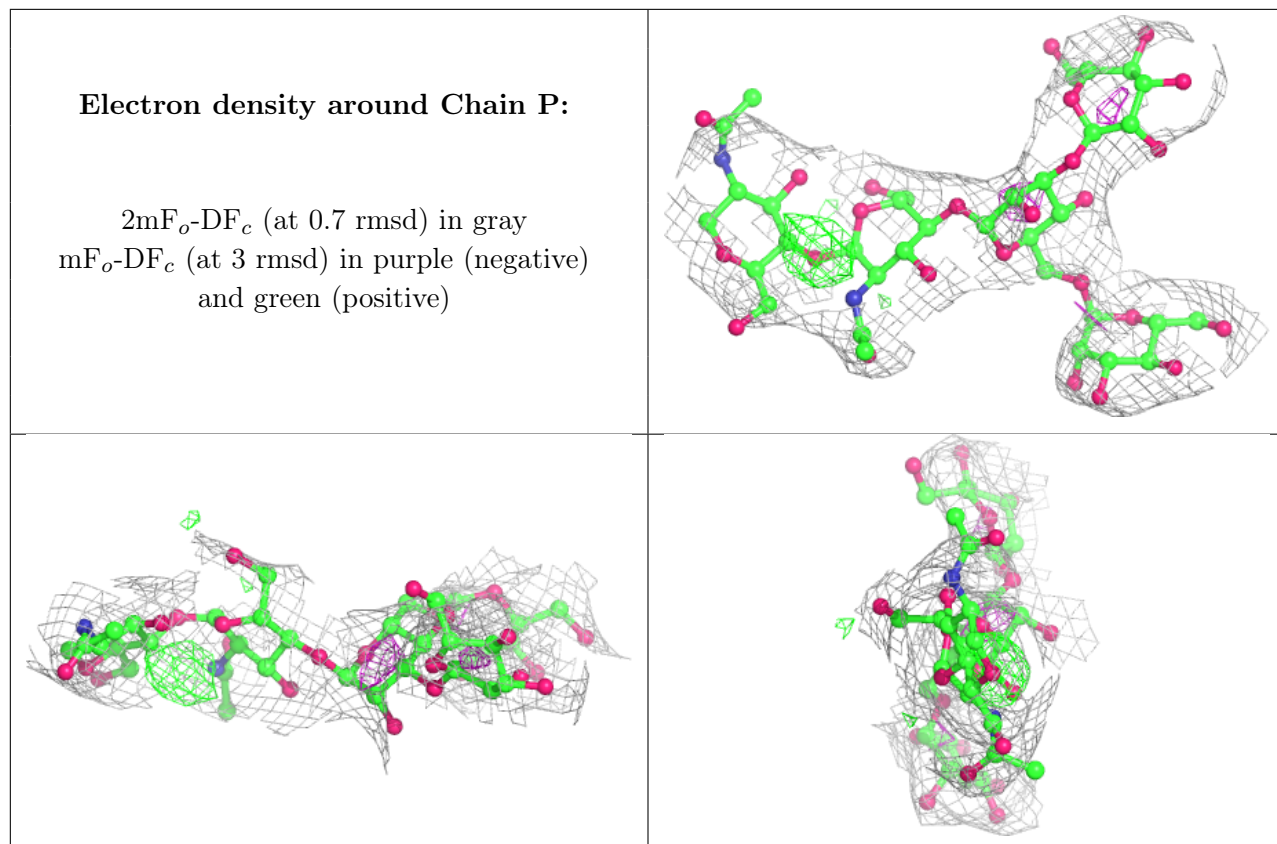




**Electron density around Chain N:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





## 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q<0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
13	NAG	A	1961	14/15	0.67	0.30	182,186,187,187	0
13	NAG	A	724	14/15	0.77	0.26	196,197,197,197	0
13	NAG	B	724	14/15	0.78	0.31	189,190,190,190	0
13	NAG	B	1961	14/15	0.86	0.20	181,183,184,184	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.