



# Full wwPDB X-ray Structure Validation Report ⓘ

Sep 30, 2021 – 05:41 PM EDT

PDB ID : 3M3R  
Title : Crystal structure of the M113F alpha-hemolysin mutant complexed with beta-cyclodextrin  
Authors : Montoya, M.; Gouaux, E.  
Deposited on : 2010-03-09  
Resolution : 2.20 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.

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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)  
Xtrriage (Phenix) : 1.13  
EDS : 2.23.2  
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) : 2.23.2

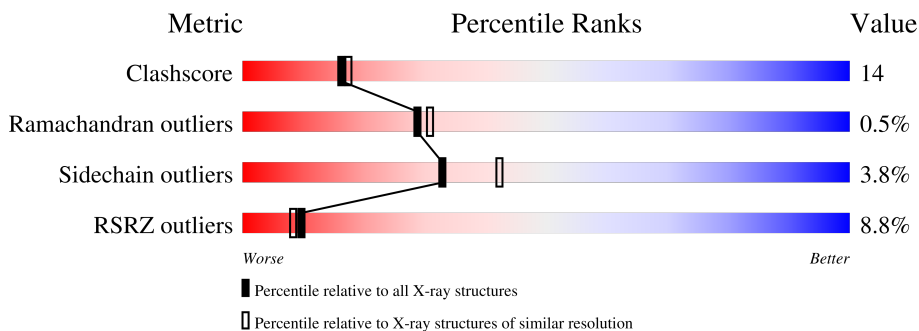
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.20 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.



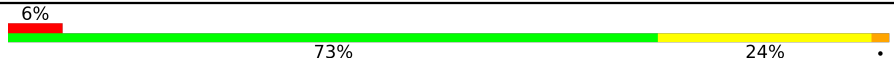


Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	5594 (2.20-2.20)
Ramachandran outliers	138981	5503 (2.20-2.20)
Sidechain outliers	138945	5504 (2.20-2.20)
RSRZ outliers	127900	4800 (2.20-2.20)

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	A	293	
1	B	293	
1	C	293	
1	D	293	
1	E	293	
1	F	293	

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Mol	Chain	Length	Quality of chain
1	G	293	 <p>6% 73% 24%</p>
2	H	7	 <p>43% 57%</p>
2	I	7	 <p>29% 71%</p>

## 2 Entry composition [i](#)

There are 3 unique types of molecules in this entry. The entry contains 16831 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.

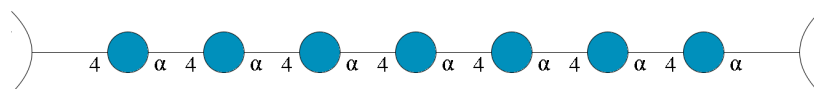
- Molecule 1 is a protein called Alpha-hemolysin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	293	2348	1476	401	465	6	41	0	0
1	B	293	2348	1476	401	465	6	45	0	0
1	C	293	2348	1476	401	465	6	59	0	0
1	D	293	2348	1476	401	465	6	66	0	0
1	E	293	2348	1476	401	465	6	49	0	0
1	F	293	2348	1476	401	465	6	62	0	0
1	G	293	2348	1476	401	465	6	52	0	0

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	113	PHE	MET	engineered mutation	UNP P09616
B	113	PHE	MET	engineered mutation	UNP P09616
C	113	PHE	MET	engineered mutation	UNP P09616
D	113	PHE	MET	engineered mutation	UNP P09616
E	113	PHE	MET	engineered mutation	UNP P09616
F	113	PHE	MET	engineered mutation	UNP P09616
G	113	PHE	MET	engineered mutation	UNP P09616

- Molecule 2 is an oligosaccharide called Cycloheptakis-(1-4)-(alpha-D-glucopyranose).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace
2	H	7	Total	C	O	0	0	0
			77	42	35			
2	I	7	Total	C	O	0	0	0
			77	42	35			

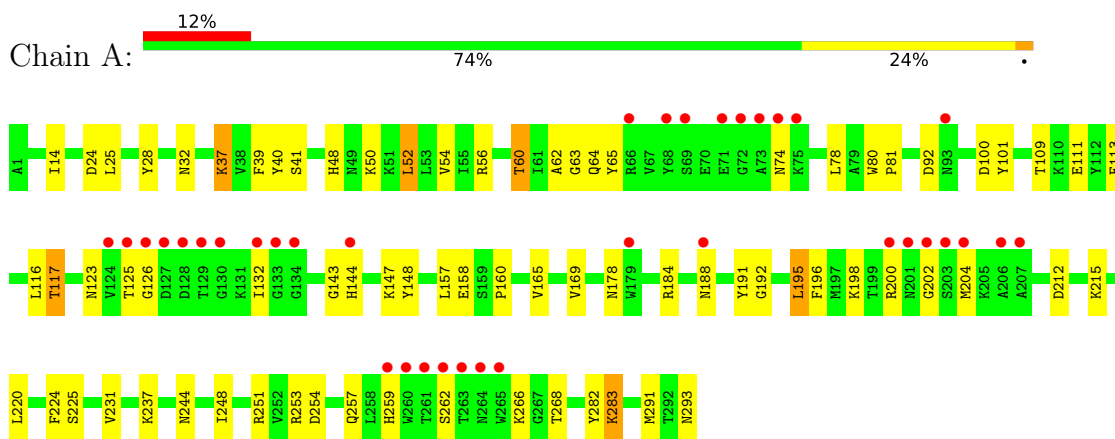
- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	35	Total	O	0	0
			35	35		
3	B	33	Total	O	0	0
			33	33		
3	C	40	Total	O	0	0
			40	40		
3	D	32	Total	O	0	0
			32	32		
3	E	27	Total	O	0	0
			27	27		
3	F	43	Total	O	0	0
			43	43		
3	G	31	Total	O	0	0
			31	31		

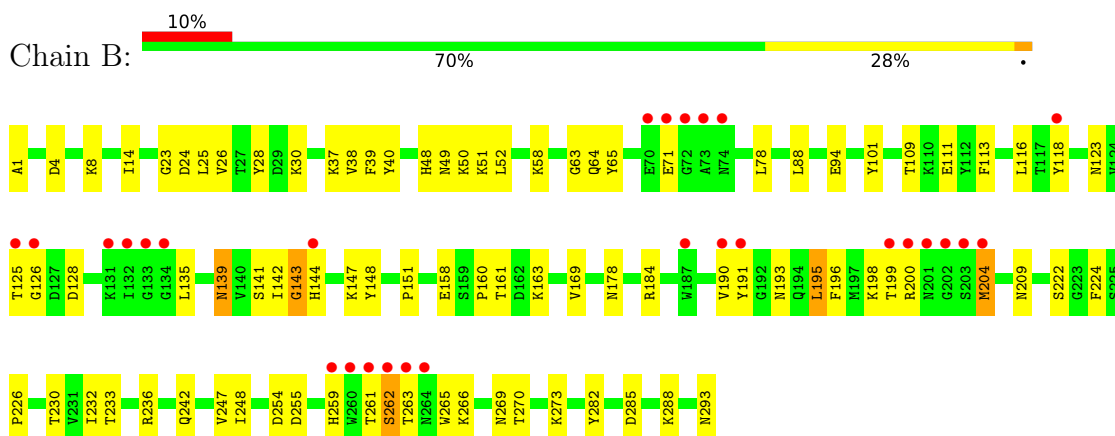
### 3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and 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.

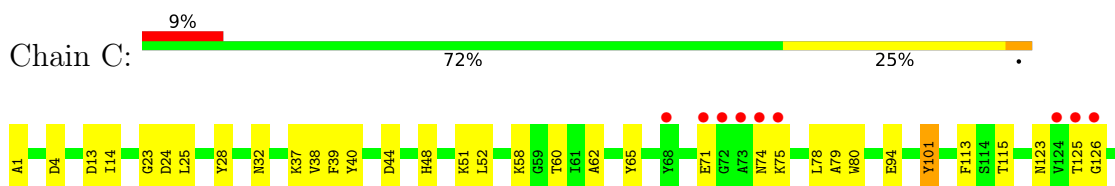
- Molecule 1: Alpha-hemolysin

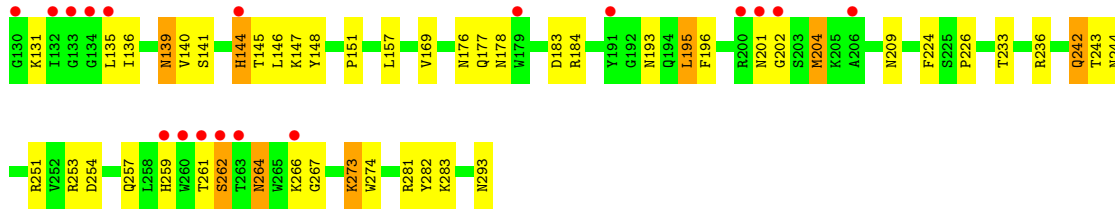


- Molecule 1: Alpha-hemolysin

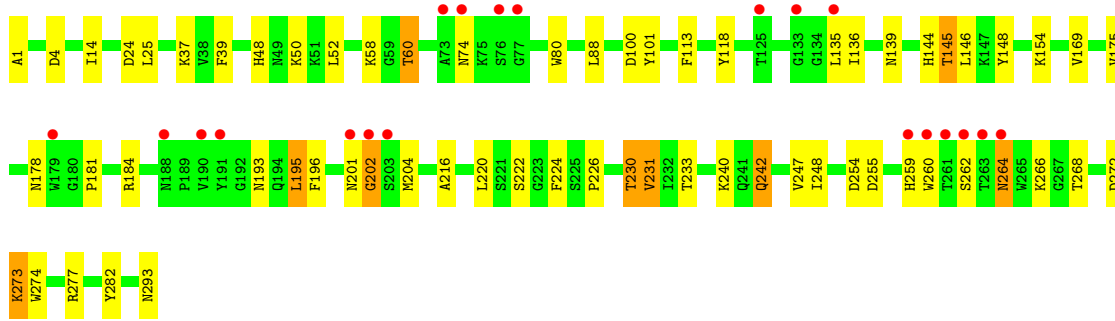
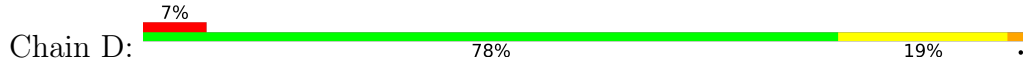


- Molecule 1: Alpha-hemolysin

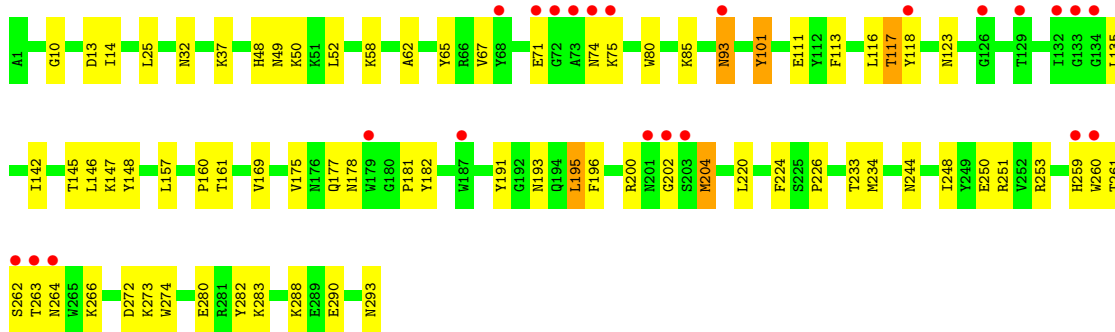
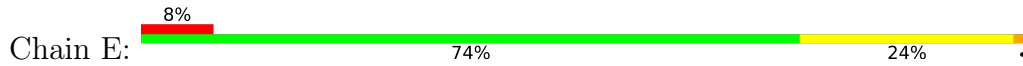




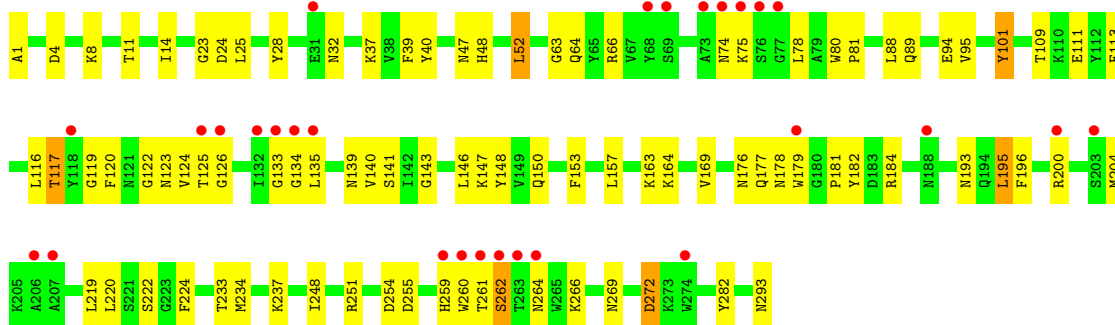
- Molecule 1: Alpha-hemolysin



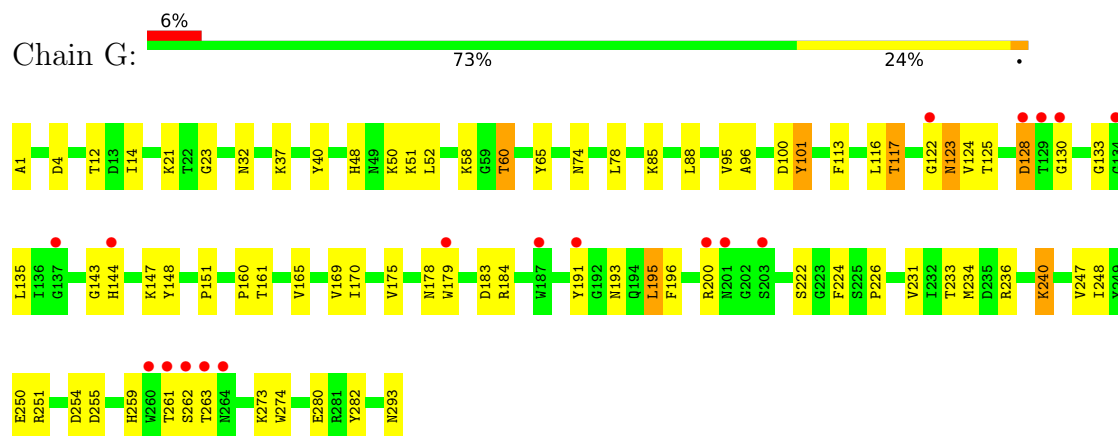
- Molecule 1: Alpha-hemolysin



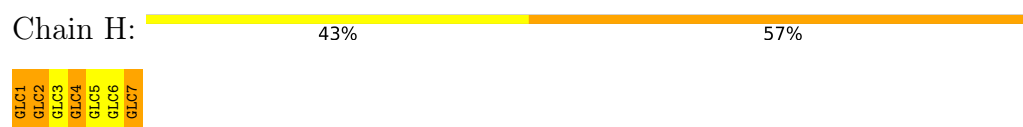
- Molecule 1: Alpha-hemolysin



- Molecule 1: Alpha-hemolysin



- Molecule 2: Cycloheptakis-(1-4)-(alpha-D-glucopyranose)



- Molecule 2: Cycloheptakis-(1-4)-(alpha-D-glucopyranose)





## 4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	151.67Å 135.40Å 133.01Å 90.00° 90.77° 90.00°	Depositor
Resolution (Å)	20.00 – 2.20 38.50 – 2.20	Depositor EDS
% Data completeness (in resolution range)	90.0 (20.00-2.20) 90.1 (38.50-2.20)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.31 (at 2.20Å)	Xtrriage
Refinement program	CNS	Depositor
R, $R_{free}$	0.242 , 0.283 0.252 , (Not available)	Depositor DCC
$R_{free}$ test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	39.5	Xtrriage
Anisotropy	0.108	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.36 , 44.4	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.51$ , $\langle L^2 \rangle = 0.34$	Xtrriage
Estimated twinning fraction	0.006 for -h,-k,l	Xtrriage
$F_o, F_c$ correlation	0.94	EDS
Total number of atoms	16831	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	41.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.22% 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: GLC

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	0.36	0/2401	0.63	1/3249 (0.0%)
1	B	0.54	2/2401 (0.1%)	0.67	0/3249
1	C	0.37	0/2401	0.66	0/3249
1	D	0.38	0/2401	0.63	0/3249
1	E	0.36	0/2401	0.62	0/3249
1	F	0.35	0/2401	0.63	0/3249
1	G	0.37	0/2401	0.64	0/3249
All	All	0.40	2/16807 (0.0%)	0.64	1/22743 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	143	GLY	CA-C	13.52	1.73	1.51
1	B	143	GLY	C-O	12.17	1.43	1.23

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	52	LEU	CA-CB-CG	6.50	130.26	115.30

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	A	2348	0	2270	73	0
1	B	2348	0	2270	91	0
1	C	2348	0	2270	84	0
1	D	2348	0	2270	56	0
1	E	2348	0	2270	67	0
1	F	2348	0	2270	77	0
1	G	2348	0	2270	88	0
2	H	77	0	62	11	0
2	I	77	0	60	12	0
3	A	35	0	0	2	0
3	B	33	0	0	1	0
3	C	40	0	0	2	0
3	D	32	0	0	1	0
3	E	27	0	0	1	0
3	F	43	0	0	0	0
3	G	31	0	0	1	0
All	All	16831	0	16012	455	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 14.

All (455) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:117:THR:HG23	1:B:143:GLY:HA3	1.45	0.98
1:C:123:ASN:HB3	1:C:135:LEU:HB3	1.46	0.96
1:E:117:THR:HG23	1:F:143:GLY:CA	1.97	0.94
1:A:117:THR:CG2	1:B:143:GLY:HA3	1.99	0.93
1:C:52:LEU:HD22	1:C:233:THR:HG22	1.51	0.92
1:E:117:THR:HG23	1:F:143:GLY:HA3	1.51	0.92
1:B:125:THR:HG22	1:B:126:GLY:H	1.36	0.90
1:B:123:ASN:HB3	1:B:135:LEU:HB3	1.52	0.89
1:B:160:PRO:HD2	1:C:60:THR:HG21	1.53	0.87
1:G:51:LYS:HE3	1:G:236:ARG:HG2	1.59	0.82
1:G:240:LYS:HB2	1:G:240:LYS:NZ	1.95	0.81
1:A:143:GLY:HA3	1:G:117:THR:CG2	2.10	0.81
1:C:125:THR:HG22	1:D:135:LEU:HB2	1.62	0.81
1:B:160:PRO:CD	1:C:60:THR:HG21	2.11	0.81
1:D:52:LEU:CD2	1:D:233:THR:HG22	2.12	0.79
1:E:123:ASN:HB3	1:E:135:LEU:HB3	1.65	0.78
1:D:135:LEU:HD12	1:D:136:ILE:N	1.99	0.78
1:D:240:LYS:HE3	1:D:242:GLN:HE21	1.48	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:184:ARG:HD2	1:F:254:ASP:OD2	1.85	0.76
1:D:282:TYR:CD1	1:D:293:ASN:HB3	2.21	0.75
1:G:123:ASN:HB3	1:G:135:LEU:HB3	1.68	0.75
1:C:14:ILE:HD11	1:C:48:HIS:CE1	2.22	0.75
1:B:160:PRO:CG	1:C:60:THR:HG21	2.17	0.75
1:F:14:ILE:HD11	1:F:48:HIS:CE1	2.21	0.74
1:B:52:LEU:HD23	1:B:233:THR:HG22	1.67	0.74
1:E:117:THR:HG23	1:F:143:GLY:HA2	1.69	0.74
1:B:199:THR:H	1:B:209:ASN:HD21	1.35	0.74
1:A:143:GLY:HA3	1:G:117:THR:HG23	1.69	0.74
1:E:14:ILE:HD11	1:E:48:HIS:CE1	2.23	0.73
1:C:242:GLN:HB2	1:C:283:LYS:HE3	1.68	0.73
1:F:117:THR:HG23	1:G:143:GLY:HA3	1.71	0.72
1:B:14:ILE:HD11	1:C:39:PHE:HE1	1.54	0.72
1:D:240:LYS:HG3	1:D:242:GLN:NE2	2.05	0.72
1:E:52:LEU:CD2	1:E:233:THR:HG22	2.20	0.72
1:D:240:LYS:HE3	1:D:242:GLN:NE2	2.05	0.71
1:B:8:LYS:HD2	1:C:13:ASP:HB2	1.71	0.71
1:D:135:LEU:HD12	1:D:136:ILE:H	1.57	0.70
2:H:2:GLC:HO3	2:I:1:GLC:HO3	1.39	0.69
1:A:116:LEU:HD23	1:B:144:HIS:HE1	1.57	0.69
1:D:255:ASP:HB2	1:D:273:LYS:HG3	1.75	0.69
1:F:282:TYR:CD1	1:F:293:ASN:HB3	2.29	0.68
1:C:125:THR:HG23	1:D:135:LEU:HD13	1.75	0.68
1:A:132:ILE:HB	1:G:128:ASP:HB3	1.75	0.68
1:A:56:ARG:NH2	1:G:12:THR:HG21	2.08	0.67
1:G:96:ALA:HB2	1:G:234:MET:CE	2.23	0.67
1:E:202:GLY:HA3	1:E:204:MET:CE	2.24	0.67
1:F:259:HIS:CE1	1:F:266:LYS:HB3	2.29	0.67
1:D:52:LEU:HD23	1:D:233:THR:HG22	1.74	0.67
1:E:32:ASN:O	1:E:251:ARG:NH1	2.28	0.67
1:G:191:TYR:CE2	1:G:200:ARG:HB3	2.30	0.67
1:F:123:ASN:HB3	1:F:135:LEU:HB3	1.76	0.66
1:B:52:LEU:CD2	1:B:233:THR:HG22	2.25	0.66
1:E:259:HIS:CE1	1:E:266:LYS:HB3	2.30	0.66
1:G:74:ASN:O	1:G:259:HIS:HA	1.96	0.66
2:H:2:GLC:O3	2:I:1:GLC:O3	2.13	0.66
1:E:116:LEU:HD23	1:E:142:ILE:HG12	1.78	0.65
1:D:148:TYR:OH	1:E:178:ASN:ND2	2.29	0.65
1:A:143:GLY:HA3	1:G:117:THR:HG22	1.79	0.64
1:C:52:LEU:CD2	1:C:233:THR:HG22	2.24	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:144:HIS:C	1:C:144:HIS:CD2	2.71	0.64
1:C:148:TYR:OH	1:D:178:ASN:ND2	2.31	0.64
1:E:273:LYS:HD2	1:E:274:TRP:CE2	2.33	0.64
1:B:191:TYR:CE2	1:B:200:ARG:HB3	2.33	0.63
1:F:74:ASN:O	1:F:259:HIS:HA	1.98	0.63
1:G:240:LYS:HB2	1:G:240:LYS:HZ3	1.63	0.63
1:C:51:LYS:HE3	1:C:236:ARG:HG2	1.81	0.63
1:D:14:ILE:HD11	1:D:48:HIS:CE1	2.34	0.63
1:A:14:ILE:HD11	1:A:48:HIS:CE1	2.34	0.62
1:C:37:LYS:HD2	1:C:37:LYS:C	2.19	0.62
1:E:117:THR:CG2	1:F:143:GLY:HA3	2.28	0.62
1:F:124:VAL:O	1:G:135:LEU:HD12	1.97	0.62
1:B:178:ASN:N	1:B:178:ASN:HD22	1.97	0.62
1:A:123:ASN:OD1	1:B:135:LEU:HD11	1.99	0.62
1:A:123:ASN:ND2	1:B:135:LEU:HD11	2.14	0.62
1:A:32:ASN:O	1:A:251:ARG:NH1	2.31	0.62
1:B:116:LEU:HD21	1:B:118:TYR:HE1	1.64	0.62
1:F:123:ASN:ND2	1:G:135:LEU:HD11	2.14	0.62
1:E:146:LEU:HD13	1:F:181:PRO:HD3	1.82	0.62
1:E:148:TYR:OH	1:F:178:ASN:ND2	2.32	0.62
1:B:199:THR:N	1:B:209:ASN:HD21	1.97	0.61
1:B:184:ARG:HD2	1:B:254:ASP:OD2	2.00	0.61
1:G:100:ASP:HB3	1:G:231:VAL:CG1	2.30	0.61
1:A:117:THR:HG22	1:B:143:GLY:HA3	1.82	0.61
1:B:169:VAL:HG21	1:B:224:PHE:CZ	2.36	0.61
1:B:199:THR:H	1:B:209:ASN:ND2	1.98	0.61
1:E:74:ASN:HB3	1:E:260:TRP:HB3	1.83	0.61
1:E:117:THR:CG2	1:F:143:GLY:CA	2.76	0.61
1:G:282:TYR:CD1	1:G:293:ASN:HB3	2.36	0.61
1:A:56:ARG:HH22	1:G:12:THR:HG21	1.66	0.61
1:F:193:ASN:OD1	1:F:195:LEU:HB2	2.01	0.61
1:A:123:ASN:HD21	1:B:135:LEU:HD11	1.65	0.60
1:A:178:ASN:ND2	1:G:148:TYR:OH	2.34	0.60
1:A:14:ILE:HD11	1:B:39:PHE:HE1	1.65	0.60
1:G:37:LYS:HD2	1:G:37:LYS:C	2.22	0.60
1:G:96:ALA:HB2	1:G:234:MET:HE2	1.83	0.60
1:F:148:TYR:OH	1:G:178:ASN:ND2	2.35	0.60
1:G:123:ASN:CB	1:G:135:LEU:HB3	2.32	0.60
1:C:139:ASN:HD22	1:C:139:ASN:N	2.00	0.60
1:D:169:VAL:HG21	1:D:224:PHE:CZ	2.37	0.59
1:E:14:ILE:HD11	1:F:39:PHE:HE1	1.66	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:125:THR:HB	1:F:133:GLY:HA3	1.84	0.59
1:B:113:PHE:O	1:B:144:HIS:HA	2.02	0.59
1:B:8:LYS:HD2	1:C:13:ASP:CB	2.32	0.59
1:B:123:ASN:CG	1:C:135:LEU:HD11	2.22	0.59
1:G:125:THR:HB	1:G:133:GLY:HA3	1.85	0.59
1:B:139:ASN:N	1:B:139:ASN:HD22	2.01	0.59
1:F:32:ASN:O	1:F:251:ARG:NH2	2.33	0.59
1:G:160:PRO:HB3	1:G:165:VAL:HG23	1.85	0.59
1:A:41:SER:OG	1:G:12:THR:HG23	2.03	0.58
1:F:119:GLY:HA3	1:F:139:ASN:OD1	2.03	0.58
1:F:177:GLN:O	1:F:179:TRP:HD1	1.86	0.58
1:C:51:LYS:HG3	1:C:236:ARG:HG3	1.84	0.58
1:C:58:LYS:HA	1:C:226:PRO:O	2.03	0.58
1:D:273:LYS:HD2	1:D:274:TRP:CE2	2.39	0.58
1:F:117:THR:CG2	1:G:143:GLY:HA3	2.32	0.58
1:D:146:LEU:HD21	1:E:175:VAL:HG22	1.86	0.58
1:D:195:LEU:HD13	1:D:196:PHE:CE2	2.39	0.58
1:A:65:TYR:CE1	1:A:78:LEU:HD21	2.39	0.58
1:B:195:LEU:HD13	1:B:196:PHE:CE2	2.39	0.58
1:C:139:ASN:HD22	1:C:139:ASN:H	1.51	0.58
1:C:204:MET:HE3	1:C:209:ASN:HB2	1.86	0.58
1:G:184:ARG:HD2	1:G:254:ASP:OD2	2.04	0.58
1:A:39:PHE:HE1	1:G:14:ILE:HD11	1.69	0.57
1:A:178:ASN:N	1:A:178:ASN:HD22	2.02	0.57
1:C:146:LEU:HD13	1:D:181:PRO:HD3	1.86	0.57
1:E:248:ILE:N	1:E:248:ILE:HD12	2.19	0.57
1:G:58:LYS:HA	1:G:226:PRO:O	2.05	0.57
1:B:125:THR:HG22	1:B:126:GLY:N	2.15	0.57
1:E:62:ALA:O	1:E:251:ARG:NH2	2.37	0.57
1:C:195:LEU:HD13	1:C:196:PHE:CE2	2.39	0.57
1:E:49:ASN:O	1:E:50:LYS:HG3	2.04	0.57
1:E:195:LEU:HD13	1:E:196:PHE:CE2	2.40	0.57
1:C:125:THR:CG2	1:D:135:LEU:HD13	2.34	0.56
1:A:60:THR:HG22	1:G:101:TYR:OH	2.05	0.56
1:A:191:TYR:CE2	1:A:200:ARG:HB3	2.40	0.56
1:G:96:ALA:HB2	1:G:234:MET:HE1	1.88	0.56
1:G:240:LYS:HB2	1:G:240:LYS:HZ2	1.68	0.56
1:A:282:TYR:CD1	1:A:293:ASN:HB3	2.41	0.56
1:C:193:ASN:OD1	1:C:195:LEU:HB2	2.05	0.56
1:G:12:THR:HG22	1:G:12:THR:O	2.06	0.56
1:C:183:ASP:HB2	3:C:314:HOH:O	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:71:GLU:O	1:E:75:LYS:HB3	2.06	0.56
1:G:32:ASN:O	1:G:251:ARG:NH1	2.35	0.56
1:A:37:LYS:HD2	1:A:37:LYS:C	2.27	0.55
1:A:111:GLU:OE1	1:B:147:LYS:HE3	2.06	0.55
1:D:100:ASP:HB3	1:D:231:VAL:HG13	1.87	0.55
1:F:176:ASN:OD1	1:F:177:GLN:HG3	2.07	0.55
1:B:49:ASN:O	1:B:50:LYS:HG3	2.06	0.55
1:D:264:ASN:C	1:D:264:ASN:HD22	2.09	0.55
1:E:10:GLY:HA2	1:E:13:ASP:OD2	2.06	0.55
1:D:74:ASN:O	1:D:259:HIS:HA	2.06	0.55
1:G:100:ASP:HB3	1:G:231:VAL:HG11	1.87	0.55
1:G:248:ILE:HD12	1:G:248:ILE:N	2.21	0.55
2:H:2:GLC:C3	2:I:1:GLC:HO3	2.19	0.55
1:A:144:HIS:HE1	1:G:116:LEU:HD23	1.71	0.55
1:B:282:TYR:CD1	1:B:293:ASN:HB3	2.42	0.55
2:H:1:GLC:HO3	2:I:2:GLC:HO2	1.53	0.55
1:A:100:ASP:N	1:A:231:VAL:HG22	2.22	0.55
1:C:184:ARG:HD2	1:C:254:ASP:OD2	2.06	0.55
1:E:85:LYS:HD2	1:E:250:GLU:OE1	2.07	0.54
1:E:113:PHE:HB2	1:E:145:THR:HB	1.88	0.54
1:F:179:TRP:HZ3	1:F:200:ARG:CZ	2.21	0.54
1:G:48:HIS:O	1:G:236:ARG:NH2	2.31	0.54
1:F:123:ASN:HD21	1:G:135:LEU:HD11	1.73	0.54
1:F:195:LEU:HD13	1:F:196:PHE:CE2	2.42	0.54
1:A:191:TYR:CZ	1:A:200:ARG:HD3	2.43	0.54
1:E:282:TYR:CD1	1:E:293:ASN:HB3	2.43	0.54
1:F:146:LEU:HD21	1:G:175:VAL:HG22	1.90	0.54
1:G:50:LYS:HD3	1:G:233:THR:HB	1.89	0.54
1:E:202:GLY:HA3	1:E:204:MET:HE3	1.89	0.54
1:F:123:ASN:OD1	1:G:135:LEU:HD11	2.08	0.54
1:G:23:GLY:HA3	1:G:40:TYR:CE1	2.43	0.54
1:C:51:LYS:O	1:C:52:LEU:HD23	2.08	0.53
1:A:184:ARG:HD2	1:A:254:ASP:OD2	2.08	0.53
1:B:94:GLU:O	1:B:163:LYS:NZ	2.41	0.53
1:E:111:GLU:OE2	1:E:147:LYS:HD3	2.08	0.53
1:D:259:HIS:CE1	1:D:266:LYS:HB3	2.43	0.53
1:E:177:GLN:O	1:E:178:ASN:HB2	2.08	0.53
1:F:122:GLY:O	1:F:123:ASN:HB2	2.07	0.53
2:H:2:GLC:HO3	2:I:1:GLC:HO2	1.55	0.53
1:F:157:LEU:O	1:G:222:SER:HB3	2.08	0.53
1:G:193:ASN:OD1	1:G:195:LEU:HB2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:259:HIS:CE1	1:A:266:LYS:HB3	2.43	0.53
1:E:58:LYS:HA	1:E:226:PRO:O	2.09	0.53
1:C:48:HIS:O	1:C:236:ARG:NH2	2.39	0.52
1:B:160:PRO:HG2	1:C:60:THR:HG21	1.90	0.52
1:C:169:VAL:HG21	1:C:224:PHE:CZ	2.44	0.52
1:C:144:HIS:C	1:C:144:HIS:HD2	2.13	0.52
1:F:123:ASN:CG	1:G:135:LEU:HD11	2.30	0.52
1:D:37:LYS:C	1:D:37:LYS:HD2	2.29	0.52
1:F:169:VAL:HG21	1:F:224:PHE:CZ	2.45	0.52
1:G:124:VAL:HA	1:G:133:GLY:O	2.09	0.52
1:A:212:ASP:HB3	1:A:215:LYS:HD2	1.91	0.52
1:F:261:THR:O	1:F:262:SER:CB	2.57	0.52
1:B:204:MET:HE1	1:B:265:TRP:HE1	1.74	0.52
1:F:125:THR:HG22	1:F:126:GLY:H	1.75	0.52
1:C:113:PHE:HB2	1:C:145:THR:HB	1.91	0.52
1:C:257:GLN:O	1:C:267:GLY:HA2	2.10	0.52
1:G:170:ILE:HD12	1:G:170:ILE:O	2.10	0.52
1:B:116:LEU:HD13	1:B:142:ILE:HD11	1.92	0.51
1:B:160:PRO:HG2	1:C:60:THR:CG2	2.40	0.51
1:A:123:ASN:CG	1:B:135:LEU:HD11	2.30	0.51
1:G:123:ASN:HD22	1:G:135:LEU:CB	2.23	0.51
1:A:160:PRO:HB3	1:A:165:VAL:HG23	1.90	0.51
1:A:248:ILE:N	1:A:248:ILE:HD12	2.25	0.51
1:D:184:ARG:HD2	1:D:254:ASP:OD2	2.09	0.51
1:E:191:TYR:CZ	1:E:200:ARG:HD3	2.46	0.51
1:A:109:THR:HG22	1:B:151:PRO:HA	1.93	0.51
1:B:111:GLU:OE2	1:C:147:LYS:HE3	2.11	0.51
1:B:259:HIS:CE1	1:B:266:LYS:HB3	2.46	0.51
1:E:52:LEU:HD21	1:E:233:THR:HG22	1.90	0.51
1:B:37:LYS:HD2	1:B:38:VAL:N	2.26	0.51
1:F:37:LYS:HD2	1:F:37:LYS:C	2.31	0.51
1:A:100:ASP:H	1:A:231:VAL:HG22	1.75	0.51
1:C:115:THR:OG1	1:D:145:THR:HB	2.11	0.51
1:F:282:TYR:CE1	1:F:293:ASN:HB3	2.46	0.51
1:E:169:VAL:HG21	1:E:224:PHE:CZ	2.46	0.51
1:G:52:LEU:CD2	1:G:233:THR:HG22	2.41	0.50
1:A:195:LEU:HD13	1:A:196:PHE:CE2	2.46	0.50
1:B:160:PRO:HD2	1:C:60:THR:CG2	2.33	0.50
1:B:51:LYS:HE3	1:B:236:ARG:HG2	1.92	0.50
1:D:52:LEU:HD21	1:D:233:THR:HG22	1.93	0.50
1:G:1:ALA:O	1:G:4:ASP:HB2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:170:ILE:HD12	1:G:170:ILE:C	2.32	0.50
2:H:3:GLC:HO3	2:I:7:GLC:HO2	1.60	0.50
1:A:80:TRP:O	1:A:253:ARG:HA	2.12	0.50
1:C:74:ASN:O	1:C:259:HIS:HA	2.12	0.50
1:E:260:TRP:NE1	1:E:262:SER:HA	2.27	0.50
1:A:117:THR:HG23	1:B:143:GLY:CA	2.31	0.49
1:B:58:LYS:HA	1:B:226:PRO:O	2.12	0.49
1:E:244:ASN:OD1	1:E:283:LYS:HE3	2.12	0.49
1:C:101:TYR:OH	1:D:60:THR:HG23	2.12	0.49
1:B:1:ALA:HB3	1:B:4:ASP:OD1	2.12	0.49
1:C:261:THR:OG1	1:C:264:ASN:ND2	2.44	0.49
1:A:62:ALA:O	1:A:251:ARG:NH2	2.42	0.49
1:A:244:ASN:OD1	1:A:283:LYS:HE2	2.12	0.49
1:C:23:GLY:HA3	1:C:40:TYR:CZ	2.47	0.49
1:C:264:ASN:N	1:C:264:ASN:HD22	2.10	0.49
1:G:125:THR:CB	1:G:133:GLY:HA3	2.43	0.49
1:D:118:TYR:HA	1:D:139:ASN:O	2.12	0.49
1:G:273:LYS:HD3	1:G:274:TRP:CZ2	2.47	0.49
1:F:66:ARG:C	1:F:78:LEU:HD12	2.32	0.49
1:G:12:THR:O	1:G:12:THR:CG2	2.60	0.49
1:C:78:LEU:HD12	1:C:79:ALA:N	2.27	0.49
1:A:14:ILE:CD1	1:A:48:HIS:CE1	2.96	0.49
1:A:215:LYS:NZ	1:G:183:ASP:OD1	2.46	0.49
1:F:148:TYR:OH	1:G:178:ASN:HA	2.12	0.49
1:F:272:ASP:OD2	1:F:272:ASP:N	2.46	0.49
2:I:1:GLC:H62	2:I:2:GLC:O5	2.12	0.49
1:F:248:ILE:N	1:F:248:ILE:HD12	2.28	0.49
1:G:65:TYR:CE2	1:G:78:LEU:HD21	2.48	0.49
1:C:261:THR:O	1:C:262:SER:HB3	2.13	0.48
1:A:74:ASN:O	1:A:259:HIS:HA	2.13	0.48
1:C:201:ASN:O	1:C:202:GLY:C	2.52	0.48
1:D:216:ALA:HB1	1:D:220:LEU:HD12	1.95	0.48
1:E:191:TYR:CE1	1:E:200:ARG:HB3	2.48	0.48
1:A:28:TYR:CZ	1:G:161:THR:HG22	2.49	0.48
1:A:40:TYR:HA	1:A:54:VAL:O	2.13	0.48
1:A:257:GLN:HB2	1:A:268:THR:CG2	2.43	0.48
1:F:179:TRP:CZ3	1:F:200:ARG:CZ	2.96	0.48
1:G:23:GLY:HA3	1:G:40:TYR:CZ	2.48	0.48
1:B:191:TYR:O	1:B:266:LYS:HA	2.13	0.48
1:F:261:THR:O	1:F:262:SER:HB2	2.13	0.48
1:C:32:ASN:O	1:C:251:ARG:NH1	2.41	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:125:THR:HG22	1:D:135:LEU:CB	2.40	0.48
1:F:23:GLY:HA3	1:F:40:TYR:CZ	2.49	0.48
1:A:14:ILE:HD11	1:B:39:PHE:CE1	2.47	0.48
1:D:264:ASN:C	1:D:264:ASN:ND2	2.65	0.48
1:E:74:ASN:O	1:E:259:HIS:HA	2.13	0.48
1:E:288:LYS:HE2	1:E:290:GLU:OE1	2.14	0.48
1:A:158:GLU:O	1:A:160:PRO:HD3	2.14	0.48
1:C:65:TYR:CE2	1:C:78:LEU:HD21	2.49	0.47
1:C:157:LEU:O	1:D:222:SER:HB3	2.15	0.47
1:F:89:GLN:HG3	1:F:164:LYS:HB3	1.97	0.47
1:E:263:THR:HG23	1:E:264:ASN:OD1	2.14	0.47
1:F:75:LYS:HG2	1:F:259:HIS:CB	2.45	0.47
1:A:148:TYR:OH	1:B:178:ASN:ND2	2.48	0.47
1:B:37:LYS:HD2	1:B:37:LYS:C	2.35	0.47
1:C:259:HIS:CE1	1:C:266:LYS:HB3	2.50	0.47
1:F:125:THR:HG22	1:F:126:GLY:N	2.29	0.47
1:E:261:THR:O	1:E:262:SER:HB2	2.14	0.47
1:A:80:TRP:CE2	1:A:254:ASP:HB2	2.50	0.47
1:B:109:THR:HG22	1:C:151:PRO:HA	1.97	0.47
1:A:50:LYS:NZ	3:A:296:HOH:O	2.48	0.46
1:B:255:ASP:HB3	1:B:270:THR:OG1	2.15	0.46
1:D:247:VAL:C	1:D:248:ILE:HD12	2.36	0.46
1:F:52:LEU:HD23	1:F:233:THR:HG22	1.97	0.46
1:F:153:PHE:CD2	1:F:219:LEU:HD22	2.50	0.46
1:F:47:ASN:OD1	1:G:21:LYS:HE2	2.15	0.46
1:D:260:TRP:CZ3	1:D:264:ASN:HA	2.50	0.46
1:G:195:LEU:HD13	1:G:196:PHE:CE2	2.50	0.46
1:B:23:GLY:HA3	1:B:40:TYR:CZ	2.50	0.46
1:B:248:ILE:HD12	1:B:248:ILE:N	2.30	0.46
1:E:161:THR:HA	1:F:28:TYR:CD2	2.51	0.46
1:F:111:GLU:OE1	1:F:147:LYS:HD3	2.16	0.46
2:H:1:GLC:HO2	2:I:2:GLC:HO3	1.62	0.46
1:A:63:GLY:O	1:A:64:GLN:HB2	2.15	0.46
1:D:88:LEU:HD22	1:D:230:THR:HG21	1.97	0.46
1:D:272:ASP:OD2	1:D:272:ASP:N	2.49	0.46
1:E:80:TRP:O	1:E:253:ARG:HA	2.16	0.46
1:F:80:TRP:CE2	1:F:254:ASP:HB2	2.50	0.46
1:B:193:ASN:OD1	1:B:195:LEU:HB2	2.15	0.46
1:C:101:TYR:OH	1:D:60:THR:CG2	2.64	0.46
1:D:146:LEU:HD21	1:E:175:VAL:CG2	2.46	0.46
1:E:182:TYR:HB2	1:E:195:LEU:HD23	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:140:VAL:HG12	1:F:141:SER:N	2.31	0.46
1:B:199:THR:OG1	1:B:209:ASN:ND2	2.49	0.46
1:E:93:ASN:H	1:E:93:ASN:ND2	2.14	0.46
1:G:280:GLU:OE1	1:G:293:ASN:ND2	2.49	0.46
1:B:178:ASN:N	1:B:178:ASN:ND2	2.61	0.45
1:C:273:LYS:HB3	1:C:274:TRP:CE3	2.51	0.45
1:F:88:LEU:HD12	1:F:88:LEU:N	2.31	0.45
1:G:14:ILE:HD11	1:G:48:HIS:CE1	2.51	0.45
1:D:293:ASN:CG	1:D:293:ASN:O	2.54	0.45
1:D:58:LYS:HA	1:D:226:PRO:O	2.15	0.45
1:C:14:ILE:CD1	1:C:48:HIS:CE1	2.97	0.45
1:D:146:LEU:HD13	1:E:181:PRO:HD3	1.98	0.45
1:D:282:TYR:CE1	1:D:293:ASN:HB3	2.51	0.45
1:E:193:ASN:OD1	1:E:195:LEU:HB2	2.15	0.45
1:A:144:HIS:CE1	1:G:116:LEU:HB3	2.52	0.45
1:B:247:VAL:C	1:B:248:ILE:HD12	2.37	0.45
1:A:191:TYR:HE2	1:A:200:ARG:HB3	1.82	0.45
1:B:14:ILE:HD11	1:B:48:HIS:CE1	2.51	0.45
1:B:111:GLU:HB3	1:B:147:LYS:HB3	1.98	0.45
1:G:85:LYS:HB2	1:G:250:GLU:HB3	1.99	0.45
2:H:3:GLC:HO2	2:I:7:GLC:HO3	1.64	0.45
1:G:100:ASP:CB	1:G:231:VAL:CG1	2.95	0.45
1:B:190:VAL:HB	1:B:191:TYR:CD1	2.52	0.44
1:A:113:PHE:O	1:A:144:HIS:HA	2.17	0.44
1:D:14:ILE:CD1	1:D:48:HIS:CE1	3.00	0.44
1:B:230:THR:HG22	1:B:232:ILE:HD12	1.99	0.44
1:G:52:LEU:HD22	1:G:233:THR:HG22	1.98	0.44
2:H:7:GLC:HO3	2:I:3:GLC:HO2	1.64	0.44
1:E:37:LYS:HD2	1:E:37:LYS:C	2.38	0.44
1:B:255:ASP:HB2	1:B:273:LYS:HG3	2.00	0.44
1:A:237:LYS:HA	1:A:237:LYS:HE2	1.99	0.44
1:B:65:TYR:CE2	1:B:78:LEU:HD21	2.53	0.44
1:B:191:TYR:HE2	1:B:200:ARG:HB3	1.78	0.44
1:D:100:ASP:HB3	1:D:231:VAL:CG1	2.47	0.44
1:F:116:LEU:HB3	1:G:144:HIS:CE1	2.53	0.44
1:C:126:GLY:HA2	1:C:131:LYS:O	2.17	0.44
1:E:52:LEU:HD23	1:E:233:THR:HG22	1.98	0.44
1:F:63:GLY:O	1:F:64:GLN:HB2	2.18	0.44
1:G:122:GLY:O	1:G:123:ASN:HB2	2.17	0.44
1:C:135:LEU:HD12	1:C:136:ILE:H	1.82	0.44
1:A:188:ASN:O	1:A:192:GLY:N	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:141:SER:C	1:B:142:ILE:HD12	2.38	0.44
1:B:261:THR:O	1:B:262:SER:HB3	2.18	0.44
1:B:26:VAL:HG22	1:B:37:LYS:HG2	2.00	0.43
1:C:80:TRP:CE2	1:C:254:ASP:HB2	2.52	0.43
1:E:14:ILE:CD1	1:E:48:HIS:CE1	2.98	0.43
1:B:25:LEU:HD21	1:B:40:TYR:HE1	1.83	0.43
1:G:169:VAL:HG21	1:G:224:PHE:CZ	2.53	0.43
2:H:4:GLC:HO2	2:I:6:GLC:HO3	1.66	0.43
1:B:28:TYR:CE1	1:B:30:LYS:HA	2.53	0.43
1:D:1:ALA:HB3	1:D:4:ASP:OD1	2.18	0.43
1:F:52:LEU:CD2	1:F:233:THR:HG22	2.48	0.43
1:C:94:GLU:OE1	1:C:243:THR:HG23	2.19	0.43
1:F:101:TYR:OH	1:G:60:THR:CG2	2.67	0.43
1:A:14:ILE:CD1	1:B:39:PHE:HE1	2.30	0.43
1:C:244:ASN:HB3	1:C:281:ARG:HD2	2.01	0.43
1:B:198:LYS:HB3	1:B:209:ASN:ND2	2.34	0.43
1:C:51:LYS:C	1:C:52:LEU:HD23	2.40	0.43
1:F:95:VAL:HG23	1:F:234:MET:SD	2.59	0.43
1:A:253:ARG:NH1	3:A:316:HOH:O	2.52	0.43
1:C:71:GLU:HB2	1:C:75:LYS:HB3	2.00	0.43
1:B:24:ASP:OD1	1:B:37:LYS:HD3	2.19	0.42
1:B:50:LYS:NZ	3:B:317:HOH:O	2.52	0.42
1:E:50:LYS:NZ	3:E:299:HOH:O	2.51	0.42
1:B:88:LEU:N	1:B:88:LEU:HD12	2.34	0.42
1:C:62:ALA:O	1:C:251:ARG:NH2	2.47	0.42
1:E:101:TYR:CZ	1:E:160:PRO:HG3	2.54	0.42
1:F:124:VAL:HA	1:F:134:GLY:HA2	2.01	0.42
1:G:255:ASP:HB2	1:G:273:LYS:HD2	2.01	0.42
1:B:204:MET:HE1	1:B:265:TRP:NE1	2.34	0.42
1:B:204:MET:CE	1:B:265:TRP:HE1	2.32	0.42
1:D:50:LYS:NZ	3:D:301:HOH:O	2.52	0.42
1:D:113:PHE:O	1:D:144:HIS:HA	2.20	0.42
1:E:118:TYR:O	1:F:141:SER:HB2	2.19	0.42
1:F:148:TYR:HE2	1:F:150:GLN:OE1	2.03	0.42
1:G:261:THR:O	1:G:263:THR:N	2.47	0.42
1:D:80:TRP:CE2	1:D:254:ASP:HB2	2.54	0.42
1:E:261:THR:C	1:E:263:THR:H	2.23	0.42
1:F:113:PHE:CE2	1:G:147:LYS:HD2	2.55	0.42
1:F:125:THR:H	1:F:133:GLY:C	2.23	0.42
1:G:183:ASP:HB2	3:G:311:HOH:O	2.18	0.42
2:H:7:GLC:HO2	2:I:3:GLC:HO3	1.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:14:ILE:HD11	1:C:39:PHE:CE1	2.45	0.42
1:F:81:PRO:CG	1:F:220:LEU:HA	2.49	0.42
1:B:148:TYR:OH	1:C:178:ASN:ND2	2.53	0.42
1:F:1:ALA:HB3	1:F:4:ASP:OD1	2.20	0.42
1:G:100:ASP:HB3	1:G:231:VAL:HG12	2.01	0.42
1:A:117:THR:CG2	1:B:143:GLY:CA	2.85	0.42
1:C:178:ASN:N	1:C:178:ASN:HD22	2.18	0.42
1:E:195:LEU:HD13	1:E:196:PHE:CZ	2.55	0.42
1:C:44:ASP:HB3	3:C:302:HOH:O	2.20	0.42
1:C:282:TYR:CD1	1:C:293:ASN:HB3	2.55	0.42
1:E:75:LYS:HE3	1:E:75:LYS:HB2	1.87	0.42
1:C:14:ILE:CD1	1:D:39:PHE:HE1	2.33	0.41
1:D:201:ASN:O	1:D:202:GLY:C	2.58	0.41
1:E:116:LEU:HD13	1:E:117:THR:N	2.35	0.41
1:F:8:LYS:HB3	1:F:11:THR:OG1	2.20	0.41
1:F:94:GLU:O	1:F:163:LYS:NZ	2.53	0.41
1:B:204:MET:HE2	1:B:204:MET:N	2.35	0.41
1:C:113:PHE:N	1:C:113:PHE:CD1	2.88	0.41
1:C:140:VAL:HG12	1:C:141:SER:N	2.35	0.41
1:F:177:GLN:O	1:F:178:ASN:HB2	2.20	0.41
1:G:113:PHE:CD1	1:G:113:PHE:N	2.88	0.41
1:G:247:VAL:C	1:G:248:ILE:HD12	2.41	0.41
1:G:273:LYS:HD3	1:G:274:TRP:CH2	2.55	0.41
1:A:157:LEU:O	1:B:222:SER:HB3	2.20	0.41
1:B:161:THR:HG22	1:C:28:TYR:CZ	2.55	0.41
1:C:1:ALA:HB3	1:C:4:ASP:OD1	2.21	0.41
1:C:23:GLY:HA3	1:C:40:TYR:CE1	2.55	0.41
1:C:37:LYS:HD2	1:C:38:VAL:N	2.36	0.41
1:F:75:LYS:HG2	1:F:259:HIS:HB3	2.02	0.41
1:G:88:LEU:N	1:G:88:LEU:HD12	2.35	0.41
1:B:285:ASP:OD1	1:B:288:LYS:HG3	2.20	0.41
1:C:264:ASN:ND2	1:C:264:ASN:N	2.68	0.41
1:F:182:TYR:HB2	1:F:195:LEU:HD23	2.03	0.41
1:A:147:LYS:HD2	1:G:113:PHE:CE2	2.56	0.41
1:A:132:ILE:H	1:G:128:ASP:CG	2.24	0.41
1:E:116:LEU:HD13	1:E:116:LEU:C	2.40	0.41
1:G:282:TYR:CE1	1:G:293:ASN:HB3	2.56	0.41
1:C:139:ASN:N	1:C:139:ASN:ND2	2.68	0.41
1:C:176:ASN:OD1	1:C:177:GLN:HG3	2.21	0.41
1:C:195:LEU:HD13	1:C:196:PHE:CZ	2.55	0.41
1:E:85:LYS:HB2	1:E:250:GLU:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:272:ASP:OD2	1:E:272:ASP:N	2.53	0.41
1:G:51:LYS:HG3	1:G:236:ARG:HG3	2.02	0.41
1:A:60:THR:HB	1:A:225:SER:OG	2.20	0.41
1:A:282:TYR:C	1:A:283:LYS:HD2	2.41	0.41
1:C:80:TRP:O	1:C:253:ARG:HA	2.21	0.41
1:C:146:LEU:HD11	1:D:181:PRO:HG3	2.03	0.41
1:E:148:TYR:CD1	1:E:148:TYR:N	2.89	0.41
1:A:40:TYR:CE1	1:A:291:MET:HB2	2.56	0.40
1:A:169:VAL:HG21	1:A:224:PHE:CZ	2.55	0.40
1:B:63:GLY:O	1:B:64:GLN:HB2	2.21	0.40
1:C:146:LEU:HD21	1:D:175:VAL:HG22	2.03	0.40
1:E:93:ASN:C	1:E:93:ASN:HD22	2.25	0.40
1:F:109:THR:HG22	1:G:151:PRO:HA	2.02	0.40
1:F:260:TRP:CZ3	1:F:264:ASN:HA	2.56	0.40
1:A:81:PRO:HG2	1:A:220:LEU:HD23	2.04	0.40
1:B:158:GLU:O	1:B:160:PRO:HD3	2.22	0.40
1:E:157:LEU:O	1:F:222:SER:HB3	2.21	0.40
1:F:255:ASP:O	1:F:269:ASN:HA	2.22	0.40
1:A:125:THR:HG22	1:A:126:GLY:N	2.36	0.40
1:D:154:LYS:O	1:D:169:VAL:HA	2.21	0.40
1:D:193:ASN:OD1	1:D:195:LEU:HB2	2.21	0.40
1:E:280:GLU:OE1	1:E:293:ASN:ND2	2.54	0.40
1:A:123:ASN:HD21	1:B:135:LEU:CD1	2.32	0.40
1:A:178:ASN:ND2	1:A:178:ASN:N	2.67	0.40
1:B:255:ASP:O	1:B:269:ASN:HA	2.22	0.40
1:E:65:TYR:HB2	1:E:220:LEU:O	2.21	0.40
1:G:261:THR:O	1:G:262:SER:HB3	2.21	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	
1	A	291/293 (99%)	273 (94%)	16 (6%)	2 (1%)	22	22
1	B	291/293 (99%)	265 (91%)	24 (8%)	2 (1%)	22	22
1	C	291/293 (99%)	275 (94%)	15 (5%)	1 (0%)	41	46
1	D	291/293 (99%)	273 (94%)	16 (6%)	2 (1%)	22	22
1	E	291/293 (99%)	276 (95%)	15 (5%)	0	100	100
1	F	291/293 (99%)	271 (93%)	19 (6%)	1 (0%)	41	46
1	G	291/293 (99%)	268 (92%)	20 (7%)	3 (1%)	15	14
All	All	2037/2051 (99%)	1901 (93%)	125 (6%)	11 (0%)	29	31

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	262	SER
1	B	262	SER
1	C	262	SER
1	D	262	SER
1	D	202	GLY
1	A	202	GLY
1	F	262	SER
1	G	128	ASP
1	B	128	ASP
1	G	123	ASN
1	G	130	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	
1	A	259/259 (100%)	247 (95%)	12 (5%)	27	34
1	B	259/259 (100%)	252 (97%)	7 (3%)	44	57
1	C	259/259 (100%)	249 (96%)	10 (4%)	32	41
1	D	259/259 (100%)	245 (95%)	14 (5%)	22	26
1	E	259/259 (100%)	251 (97%)	8 (3%)	40	51

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	F	259/259 (100%)	249 (96%)	10 (4%)	32	41
1	G	259/259 (100%)	252 (97%)	7 (3%)	44	57
All	All	1813/1813 (100%)	1745 (96%)	68 (4%)	33	42

All (68) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	24	ASP
1	A	25	LEU
1	A	37	LYS
1	A	52	LEU
1	A	60	THR
1	A	92	ASP
1	A	101	TYR
1	A	117	THR
1	A	195	LEU
1	A	198	LYS
1	A	204	MET
1	A	283	LYS
1	B	71	GLU
1	B	101	TYR
1	B	139	ASN
1	B	195	LEU
1	B	204	MET
1	B	242	GLN
1	B	263	THR
1	C	24	ASP
1	C	25	LEU
1	C	101	TYR
1	C	139	ASN
1	C	144	HIS
1	C	195	LEU
1	C	204	MET
1	C	242	GLN
1	C	264	ASN
1	C	273	LYS
1	D	24	ASP
1	D	25	LEU
1	D	60	THR
1	D	101	TYR
1	D	145	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	D	195	LEU
1	D	204	MET
1	D	230	THR
1	D	231	VAL
1	D	242	GLN
1	D	264	ASN
1	D	268	THR
1	D	273	LYS
1	D	277	ARG
1	E	25	LEU
1	E	67	VAL
1	E	93	ASN
1	E	101	TYR
1	E	117	THR
1	E	195	LEU
1	E	204	MET
1	E	234	MET
1	F	24	ASP
1	F	25	LEU
1	F	52	LEU
1	F	101	TYR
1	F	117	THR
1	F	120	PHE
1	F	195	LEU
1	F	204	MET
1	F	237	LYS
1	F	272	ASP
1	G	60	THR
1	G	95	VAL
1	G	101	TYR
1	G	117	THR
1	G	179	TRP
1	G	195	LEU
1	G	240	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (51) such sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	17	ASN
1	A	64	GLN
1	A	74	ASN
1	A	144	HIS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	178	ASN
1	A	242	GLN
1	A	259	HIS
1	B	64	GLN
1	B	74	ASN
1	B	89	GLN
1	B	139	ASN
1	B	144	HIS
1	B	178	ASN
1	B	209	ASN
1	B	242	GLN
1	B	259	HIS
1	C	64	GLN
1	C	74	ASN
1	C	139	ASN
1	C	150	GLN
1	C	178	ASN
1	C	242	GLN
1	C	259	HIS
1	C	264	ASN
1	D	64	GLN
1	D	74	ASN
1	D	89	GLN
1	D	144	HIS
1	D	178	ASN
1	D	242	GLN
1	D	244	ASN
1	D	257	GLN
1	D	259	HIS
1	D	264	ASN
1	E	64	GLN
1	E	74	ASN
1	E	93	ASN
1	E	150	GLN
1	E	178	ASN
1	E	201	ASN
1	F	64	GLN
1	F	74	ASN
1	F	89	GLN
1	F	150	GLN
1	F	178	ASN
1	F	259	HIS

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Mol	Chain	Res	Type
1	G	74	ASN
1	G	89	GLN
1	G	123	ASN
1	G	144	HIS
1	G	178	ASN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

14 monosaccharides are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
2	GLC	H	1	2	11,11,12	1.67	3 (27%)	15,15,17	0.78	0
2	GLC	H	2	2	11,11,12	2.89	2 (18%)	15,15,17	2.84	7 (46%)
2	GLC	H	3	2	11,11,12	0.80	0	15,15,17	0.91	0
2	GLC	H	4	2	11,11,12	1.33	1 (9%)	15,15,17	1.15	1 (6%)
2	GLC	H	5	2	11,11,12	0.99	0	15,15,17	1.34	2 (13%)
2	GLC	H	6	2	11,11,12	1.77	4 (36%)	15,15,17	1.17	1 (6%)
2	GLC	H	7	2	11,11,12	1.40	2 (18%)	15,15,17	0.86	0
2	GLC	I	1	2	11,11,12	2.12	4 (36%)	15,15,17	1.21	1 (6%)
2	GLC	I	2	2	11,11,12	2.96	2 (18%)	15,15,17	2.80	5 (33%)
2	GLC	I	3	2	11,11,12	0.89	0	15,15,17	1.12	1 (6%)
2	GLC	I	4	2	11,11,12	1.61	2 (18%)	15,15,17	2.19	4 (26%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
2	GLC	I	5	2	11,11,12	0.86	0	15,15,17	1.21	2 (13%)
2	GLC	I	6	2	11,11,12	2.05	6 (54%)	15,15,17	1.50	3 (20%)
2	GLC	I	7	2	11,11,12	1.61	2 (18%)	15,15,17	1.01	1 (6%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	GLC	H	1	2	-	0/2/19/22	0/1/1/1
2	GLC	H	2	2	-	2/2/19/22	0/1/1/1
2	GLC	H	3	2	-	2/2/19/22	0/1/1/1
2	GLC	H	4	2	-	0/2/19/22	0/1/1/1
2	GLC	H	5	2	-	2/2/19/22	0/1/1/1
2	GLC	H	6	2	-	2/2/19/22	0/1/1/1
2	GLC	H	7	2	-	2/2/19/22	0/1/1/1
2	GLC	I	1	2	-	0/2/19/22	0/1/1/1
2	GLC	I	2	2	-	2/2/19/22	0/1/1/1
2	GLC	I	3	2	-	0/2/19/22	0/1/1/1
2	GLC	I	4	2	-	0/2/19/22	0/1/1/1
2	GLC	I	5	2	-	0/2/19/22	0/1/1/1
2	GLC	I	6	2	-	1/2/19/22	0/1/1/1
2	GLC	I	7	2	-	2/2/19/22	0/1/1/1

All (28) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	H	2	GLC	O5-C5	-8.98	1.25	1.43
2	I	2	GLC	O5-C5	-8.77	1.25	1.43
2	H	1	GLC	O5-C5	3.79	1.51	1.43
2	I	4	GLC	C1-C2	3.76	1.60	1.52
2	I	7	GLC	C2-C3	3.71	1.58	1.52
2	H	7	GLC	O5-C5	3.68	1.50	1.43
2	I	6	GLC	C4-C3	-3.48	1.43	1.52
2	H	4	GLC	C1-C2	3.41	1.60	1.52
2	I	2	GLC	C4-C5	3.32	1.60	1.53
2	I	1	GLC	O5-C1	3.22	1.48	1.43
2	I	7	GLC	O5-C5	3.19	1.49	1.43
2	H	6	GLC	O6-C6	-3.16	1.29	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	I	1	GLC	C2-C3	2.97	1.56	1.52
2	I	1	GLC	O5-C5	2.83	1.49	1.43
2	I	6	GLC	O6-C6	-2.82	1.30	1.42
2	I	6	GLC	O4-C4	2.81	1.49	1.43
2	H	6	GLC	O5-C5	2.70	1.48	1.43
2	H	2	GLC	C4-C5	2.62	1.58	1.53
2	H	1	GLC	O5-C1	2.60	1.47	1.43
2	I	6	GLC	C2-C3	2.50	1.56	1.52
2	I	4	GLC	O2-C2	-2.42	1.38	1.43
2	I	1	GLC	C4-C3	-2.38	1.46	1.52
2	H	1	GLC	C1-C2	2.33	1.57	1.52
2	H	6	GLC	O5-C1	2.32	1.47	1.43
2	H	7	GLC	C2-C3	2.15	1.55	1.52
2	I	6	GLC	O5-C5	2.12	1.47	1.43
2	H	6	GLC	C4-C3	-2.12	1.46	1.52
2	I	6	GLC	C6-C5	-2.07	1.44	1.51

All (28) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	I	2	GLC	C1-O5-C5	7.33	122.12	112.19
2	H	2	GLC	C1-O5-C5	7.04	121.72	112.19
2	I	4	GLC	C1-O5-C5	6.04	120.38	112.19
2	I	2	GLC	O5-C5-C6	5.09	115.19	107.20
2	H	2	GLC	O5-C5-C6	5.01	115.06	107.20
2	I	4	GLC	C6-C5-C4	-4.10	103.40	113.00
2	H	5	GLC	O4-C4-C3	-3.26	102.82	110.35
2	H	2	GLC	O4-C4-C5	3.19	117.23	109.30
2	I	1	GLC	O5-C1-C2	-3.18	105.86	110.77
2	H	4	GLC	C1-O5-C5	3.16	116.47	112.19
2	I	2	GLC	O4-C4-C5	3.01	116.76	109.30
2	I	3	GLC	C1-O5-C5	2.93	116.17	112.19
2	H	5	GLC	C1-O5-C5	2.72	115.88	112.19
2	I	7	GLC	C1-O5-C5	2.69	115.83	112.19
2	I	5	GLC	O4-C4-C3	-2.57	104.41	110.35
2	I	6	GLC	O6-C6-C5	-2.49	102.73	111.29
2	H	2	GLC	O2-C2-C3	2.49	115.13	110.14
2	H	2	GLC	O6-C6-C5	-2.46	102.86	111.29
2	I	6	GLC	C1-C2-C3	2.45	112.68	109.67
2	I	2	GLC	O2-C2-C3	2.40	114.94	110.14
2	I	5	GLC	C1-O5-C5	2.32	115.34	112.19
2	I	4	GLC	C3-C4-C5	2.32	114.38	110.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	I	4	GLC	C1-C2-C3	-2.32	106.82	109.67
2	H	2	GLC	C1-C2-C3	-2.10	107.08	109.67
2	H	2	GLC	O4-C4-C3	-2.10	105.50	110.35
2	I	2	GLC	O6-C6-C5	-2.10	104.10	111.29
2	I	6	GLC	O5-C5-C4	-2.05	105.85	110.83
2	H	6	GLC	C1-C2-C3	2.02	112.15	109.67

There are no chirality outliers.

All (15) torsion outliers are listed below:

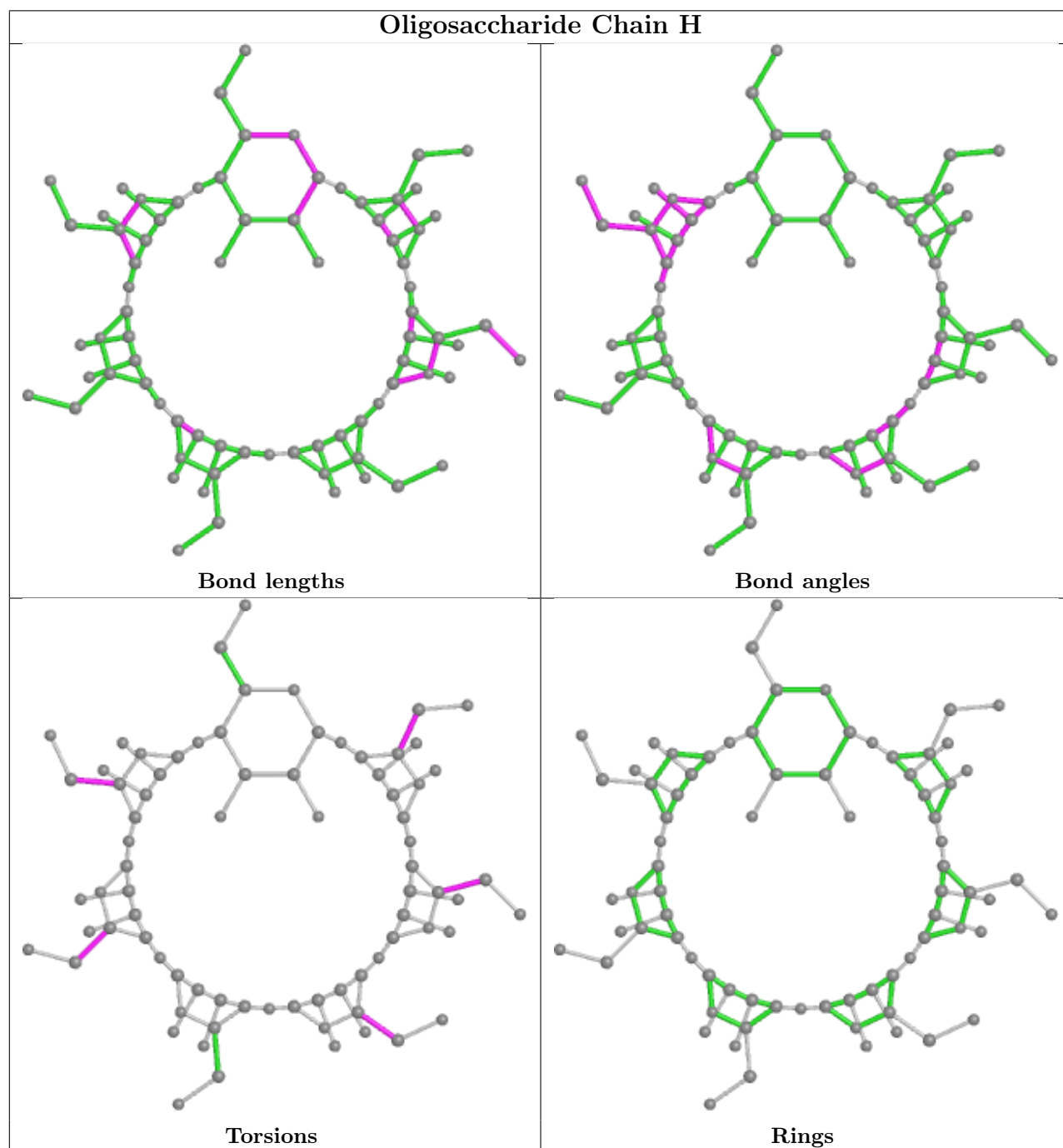
Mol	Chain	Res	Type	Atoms
2	H	6	GLC	O5-C5-C6-O6
2	H	5	GLC	O5-C5-C6-O6
2	I	7	GLC	O5-C5-C6-O6
2	H	5	GLC	C4-C5-C6-O6
2	H	6	GLC	C4-C5-C6-O6
2	H	2	GLC	C4-C5-C6-O6
2	I	7	GLC	C4-C5-C6-O6
2	I	2	GLC	O5-C5-C6-O6
2	H	7	GLC	C4-C5-C6-O6
2	H	3	GLC	C4-C5-C6-O6
2	H	7	GLC	O5-C5-C6-O6
2	I	6	GLC	C4-C5-C6-O6
2	H	3	GLC	O5-C5-C6-O6
2	I	2	GLC	C4-C5-C6-O6
2	H	2	GLC	O5-C5-C6-O6

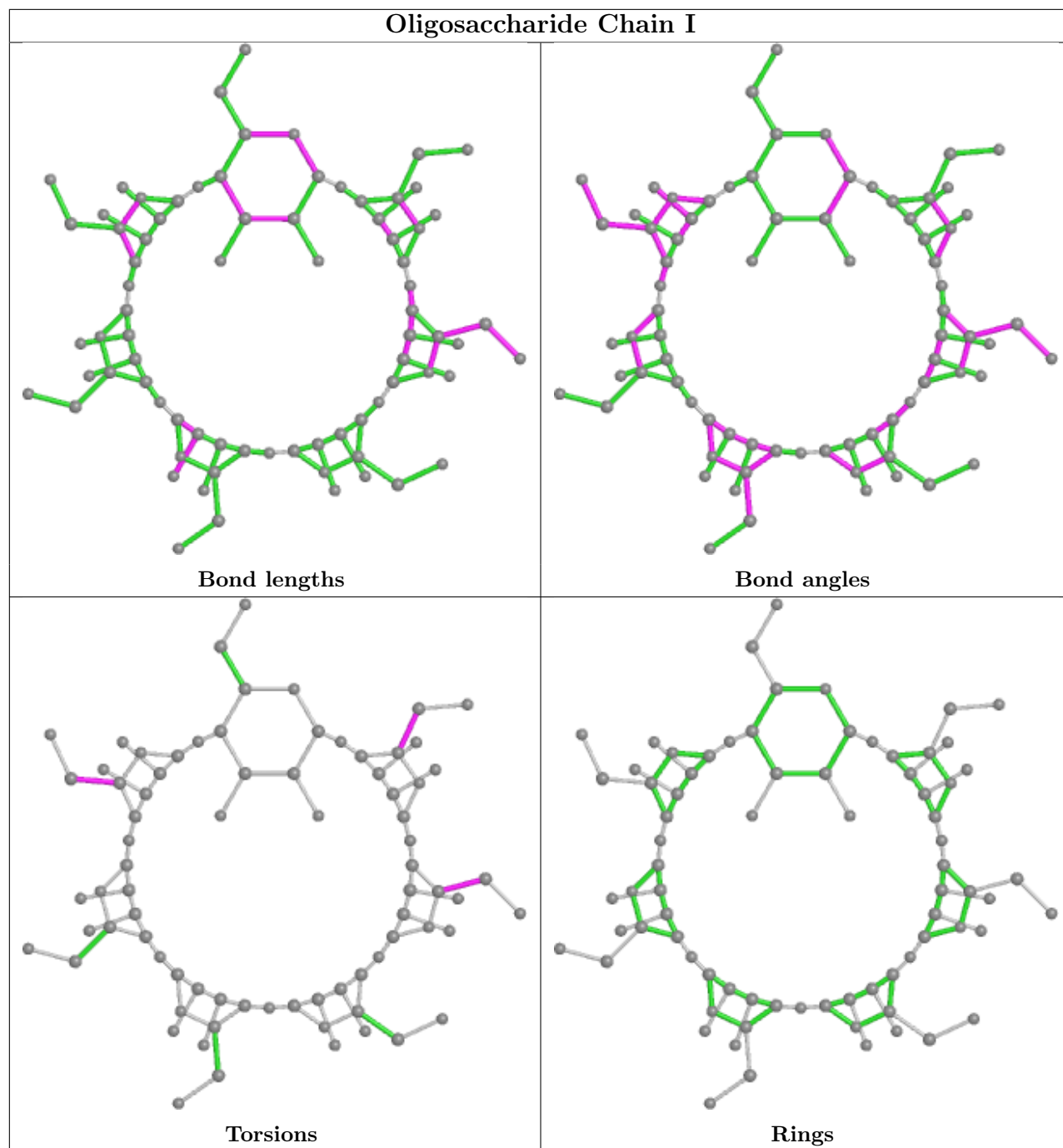
There are no ring outliers.

10 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	I	3	GLC	2	0
2	I	2	GLC	3	0
2	I	6	GLC	1	0
2	H	4	GLC	1	0
2	I	1	GLC	5	0
2	H	7	GLC	2	0
2	H	1	GLC	2	0
2	I	7	GLC	2	0
2	H	3	GLC	2	0
2	H	2	GLC	4	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](#)

There are no ligands in this entry.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.



## 5.8 Polymer linkage issues

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	A	293/293 (100%)	0.50	36 (12%) 4 3	21, 39, 74, 96	13 (4%)
1	B	292/293 (99%)	0.26	28 (9%) 8 6	21, 36, 73, 96	12 (4%)
1	C	293/293 (100%)	0.27	27 (9%) 9 7	21, 36, 72, 92	16 (5%)
1	D	292/293 (99%)	0.22	20 (6%) 17 16	22, 37, 71, 88	19 (6%)
1	E	293/293 (100%)	0.25	23 (7%) 13 11	21, 39, 76, 89	17 (5%)
1	F	293/293 (100%)	0.37	28 (9%) 8 6	23, 39, 76, 91	19 (6%)
1	G	292/293 (99%)	0.21	18 (6%) 20 19	22, 38, 70, 92	16 (5%)
All	All	2048/2051 (99%)	0.30	180 (8%) 10 8	21, 38, 74, 96	112 (5%)

All (180) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	262	SER	7.2
1	F	179	TRP	7.1
1	C	125	THR	6.8
1	A	133	GLY	6.8
1	A	132	ILE	6.8
1	A	129	THR	5.7
1	F	73	ALA	5.6
1	A	261	THR	5.3
1	C	133	GLY	5.1
1	E	260	TRP	4.9
1	A	128	ASP	4.9
1	F	262	SER	4.8
1	D	125	THR	4.7
1	F	259	HIS	4.6
1	B	260	TRP	4.6
1	B	203	SER	4.6
1	A	203	SER	4.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	E	259	HIS	4.6
1	B	73	ALA	4.5
1	G	179	TRP	4.5
1	F	74	ASN	4.4
1	B	133	GLY	4.4
1	A	260	TRP	4.4
1	F	134	GLY	4.3
1	A	264	ASN	4.3
1	A	144	HIS	4.3
1	D	263	THR	4.3
1	D	133	GLY	4.2
1	B	263	THR	4.1
1	F	260	TRP	4.1
1	F	263	THR	4.1
1	B	72	GLY	4.1
1	B	187	TRP	4.1
1	C	130	GLY	4.1
1	B	134	GLY	4.1
1	G	263	THR	4.0
1	C	179	TRP	4.0
1	G	262	SER	4.0
1	D	261	THR	3.9
1	F	133	GLY	3.9
1	F	261	THR	3.9
1	A	262	SER	3.8
1	A	74	ASN	3.8
1	B	71	GLU	3.8
1	E	201	ASN	3.7
1	G	260	TRP	3.7
1	A	179	TRP	3.7
1	B	201	ASN	3.6
1	F	125	THR	3.6
1	F	264	ASN	3.5
1	B	74	ASN	3.5
1	G	264	ASN	3.5
1	C	132	ILE	3.5
1	F	76	SER	3.5
1	C	68	TYR	3.4
1	A	127	ASP	3.4
1	A	263	THR	3.4
1	E	73	ALA	3.4
1	G	130	GLY	3.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	A	73	ALA	3.4
1	C	72	GLY	3.4
1	A	69	SER	3.3
1	E	179	TRP	3.3
1	C	134	GLY	3.3
1	G	203	SER	3.3
1	G	261	THR	3.3
1	C	144	HIS	3.3
1	E	75	LYS	3.3
1	D	260	TRP	3.3
1	F	126	GLY	3.3
1	E	118	TYR	3.3
1	G	134	GLY	3.2
1	C	71	GLU	3.2
1	E	134	GLY	3.2
1	F	75	LYS	3.2
1	C	74	ASN	3.2
1	A	68	TYR	3.2
1	B	125	THR	3.1
1	G	129	THR	3.1
1	B	118	TYR	3.1
1	C	259	HIS	3.1
1	F	200	ARG	3.1
1	A	125	THR	3.1
1	D	191	TYR	3.1
1	C	260	TRP	3.1
1	D	179	TRP	3.1
1	C	263	THR	3.1
1	C	126	GLY	3.0
1	G	144	HIS	3.0
1	D	264	ASN	3.0
1	A	72	GLY	3.0
1	A	206	ALA	2.9
1	C	262	SER	2.9
1	D	262	SER	2.9
1	B	132	ILE	2.9
1	C	135	LEU	2.9
1	E	264	ASN	2.9
1	C	73	ALA	2.9
1	C	200	ARG	2.9
1	A	126	GLY	2.9
1	D	203	SER	2.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	E	93	ASN	2.8
1	E	263	THR	2.8
1	F	135	LEU	2.8
1	E	74	ASN	2.8
1	B	70	GLU	2.8
1	D	135	LEU	2.7
1	C	124	VAL	2.7
1	F	132	ILE	2.7
1	A	130	GLY	2.7
1	G	201	ASN	2.7
1	E	72	GLY	2.7
1	F	68	TYR	2.7
1	E	71	GLU	2.7
1	A	188	ASN	2.7
1	D	188	ASN	2.7
1	E	203	SER	2.7
1	F	69	SER	2.7
1	B	190	VAL	2.6
1	C	261	THR	2.6
1	B	204	MET	2.6
1	G	137	GLY	2.6
1	G	128	ASP	2.6
1	E	202	GLY	2.6
1	A	124	VAL	2.6
1	E	68	TYR	2.6
1	B	259	HIS	2.6
1	C	191	TYR	2.6
1	G	191	TYR	2.6
1	A	202	GLY	2.6
1	A	75	LYS	2.6
1	D	201	ASN	2.5
1	D	73	ALA	2.5
1	E	132	ILE	2.5
1	D	202	GLY	2.5
1	E	133	GLY	2.5
1	A	259	HIS	2.5
1	A	204	MET	2.4
1	A	265	TRP	2.4
1	A	134	GLY	2.4
1	F	118	TYR	2.4
1	B	144	HIS	2.4
1	F	203	SER	2.4

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Mol	Chain	Res	Type	RSRZ
1	D	74	ASN	2.4
1	E	129	THR	2.4
1	C	75	LYS	2.3
1	C	266	LYS	2.3
1	D	76	SER	2.3
1	B	200	ARG	2.3
1	G	200	ARG	2.3
1	B	191	TYR	2.3
1	B	126	GLY	2.3
1	D	190	VAL	2.3
1	A	66	ARG	2.2
1	B	264	ASN	2.2
1	E	187	TRP	2.2
1	B	131	LYS	2.2
1	C	201	ASN	2.2
1	A	207	ALA	2.2
1	F	274	TRP	2.2
1	G	187	TRP	2.2
1	A	93	ASN	2.2
1	A	71	GLU	2.2
1	G	122	GLY	2.2
1	A	201	ASN	2.2
1	D	259	HIS	2.2
1	C	202	GLY	2.2
1	B	262	SER	2.1
1	D	77	GLY	2.1
1	F	31	GLU	2.1
1	B	261	THR	2.1
1	F	188	ASN	2.1
1	F	77	GLY	2.1
1	A	200	ARG	2.1
1	C	206	ALA	2.1
1	F	206	ALA	2.1
1	B	202	GLY	2.1
1	E	126	GLY	2.0
1	F	207	ALA	2.0
1	B	199	THR	2.0

## 6.2 Non-standard residues in protein, DNA, RNA chains

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

### 6.3 Carbohydrates

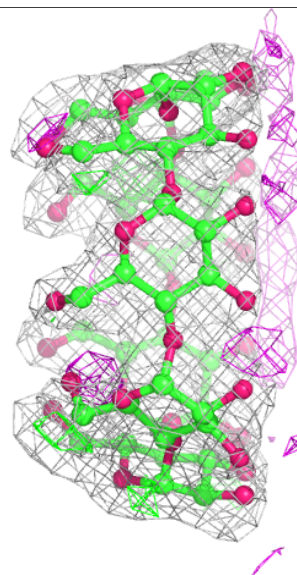
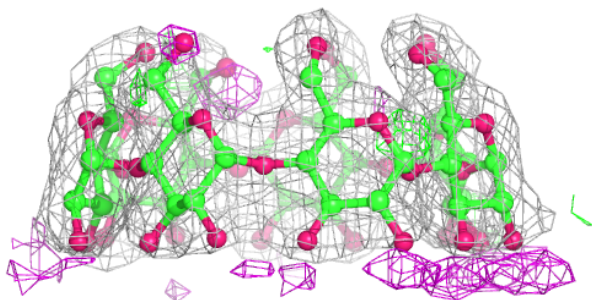
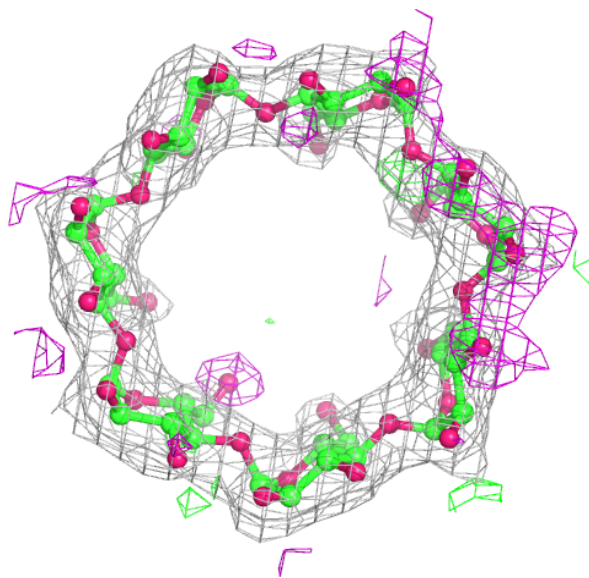
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
2	GLC	I	1	11/12	0.82	0.25	53,54,55,56	0
2	GLC	I	2	11/12	0.82	0.17	43,46,49,51	0
2	GLC	H	6	11/12	0.84	0.19	41,46,50,56	0
2	GLC	I	6	11/12	0.84	0.20	49,50,54,59	0
2	GLC	H	2	11/12	0.85	0.19	46,47,49,50	0
2	GLC	I	7	11/12	0.86	0.17	49,51,53,58	0
2	GLC	H	4	11/12	0.87	0.19	46,47,50,58	0
2	GLC	H	3	11/12	0.89	0.18	43,45,47,50	0
2	GLC	H	7	11/12	0.90	0.17	43,44,45,49	0
2	GLC	I	5	11/12	0.90	0.14	50,52,53,55	0
2	GLC	I	4	11/12	0.91	0.15	49,53,57,57	0
2	GLC	H	1	11/12	0.91	0.14	43,45,47,47	0
2	GLC	I	3	11/12	0.92	0.17	43,47,49,50	0
2	GLC	H	5	11/12	0.93	0.17	45,47,47,49	0

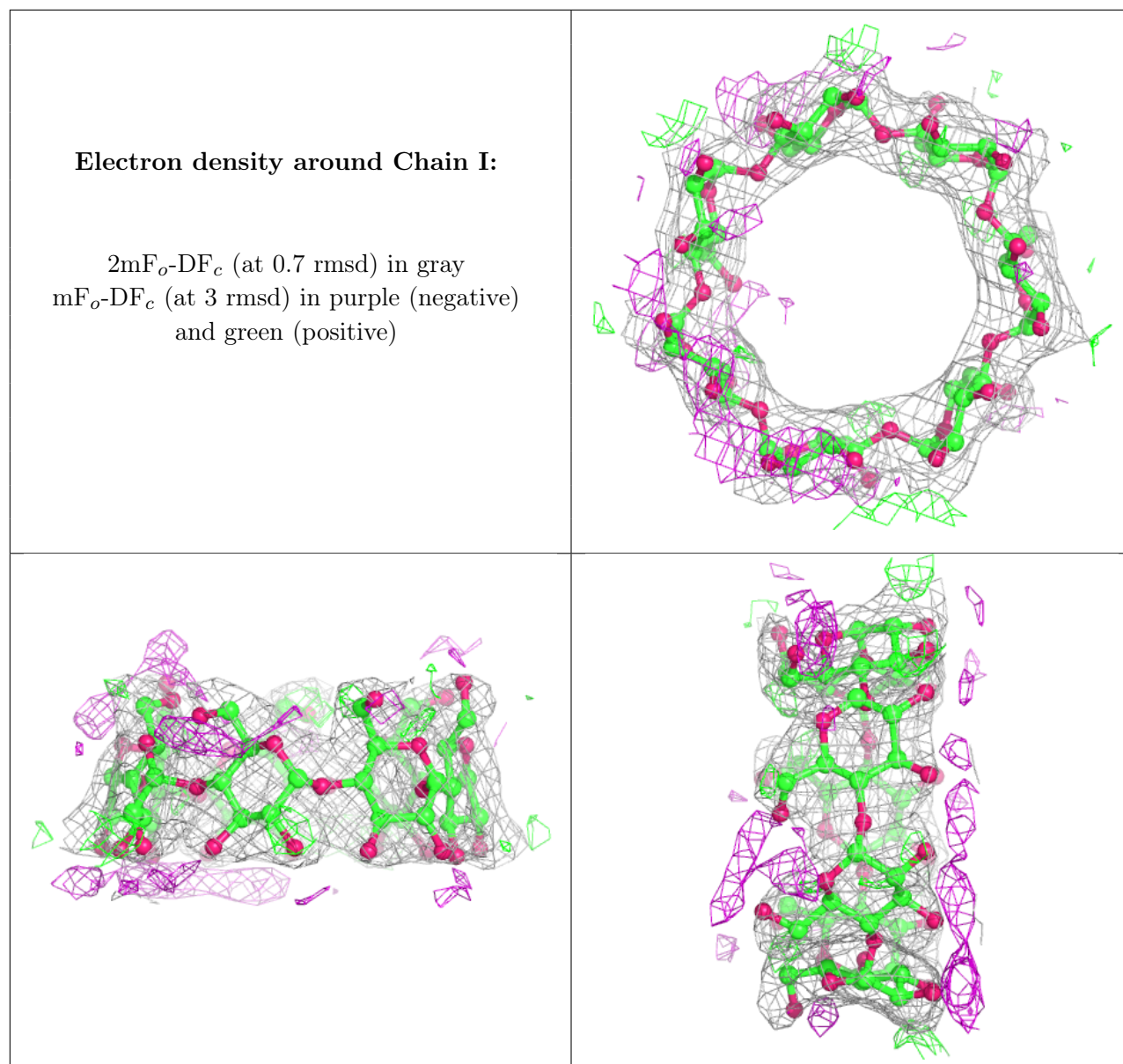
The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.

**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)







## 6.4 Ligands [i](#)

There are no ligands in this entry.

## 6.5 Other polymers [i](#)

There are no such residues in this entry.