



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 21, 2020 – 01:31 PM BST

PDB ID : 3ZDZ
Title : Integrin alphaIIb beta3 headpiece and RGD peptide complex
Authors : Zhu, J.H.; Zhu, J.Q.; Springer, T.A.
Deposited on : 2012-12-03
Resolution : 2.75 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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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 : 2.13.1
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) : 2.13.1

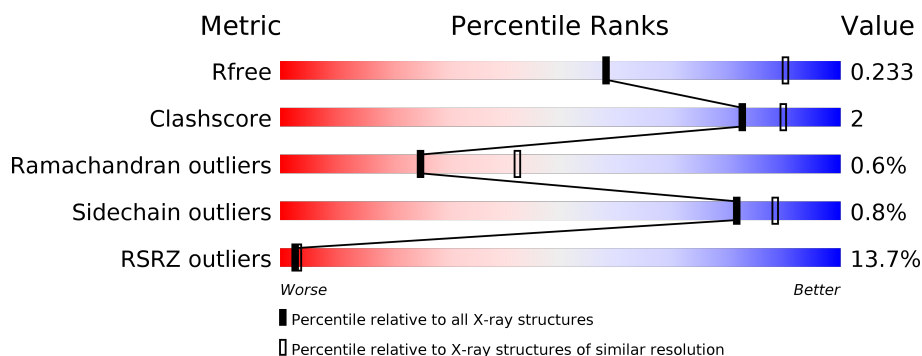
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.75 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	1235 (2.78-2.74)
Clashscore	141614	1277 (2.78-2.74)
Ramachandran outliers	138981	1257 (2.78-2.74)
Sidechain outliers	138945	1257 (2.78-2.74)
RSRZ outliers	127900	1207 (2.78-2.74)

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 on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	457	<div> <div>3%</div> <div>96%</div> <div>.</div> </div>
1	C	457	<div> <div>3%</div> <div>95%</div> <div>..</div> </div>
2	B	472	<div> <div>14%</div> <div>89%</div> <div>8% ..</div> </div>
2	D	472	<div> <div>17%</div> <div>92%</div> <div>7% .</div> </div>
3	E	221	<div> <div>28%</div> <div>93%</div> <div>5% .</div> </div>
3	H	221	<div> <div>14%</div> <div>91%</div> <div>6% .</div> </div>

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Mol	Chain	Length	Quality of chain
4	F	214	
4	L	214	
5	I	6	
5	J	6	
6	G	5	
7	K	2	
7	N	2	
8	M	4	

2 Entry composition

There are 14 unique types of molecules in this entry. The entry contains 41823 atoms, of which 20224 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 INTEGRIN ALPHA-IIB.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	455	Total	C	H	N	O	S	2	6	0
			6889	2240	3368	607	666	8			
1	C	453	Total	C	H	N	O	S	2	2	0
			6795	2214	3311	600	662	8			

- Molecule 2 is a protein called INTEGRIN BETA-3.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
2	B	464	Total	C	H	N	O	S	6	1	0
			7083	2233	3498	612	707	33			
2	D	469	Total	C	H	N	O	S	11	0	0
			7133	2248	3521	617	713	34			

- Molecule 3 is a protein called 10E5 FAB HEAVY CHAIN.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
3	E	216	Total	C	H	N	O	S	0	0	0
			3239	1041	1597	266	329	6			
3	H	216	Total	C	H	N	O	S	0	0	0
			3239	1041	1597	266	329	6			

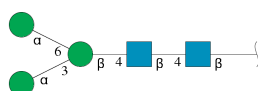
- Molecule 4 is a protein called 10E5 FAB LIGHT CHAIN.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
4	F	214	Total	C	H	N	O	S	0	0	0
			3187	1019	1550	268	341	9			
4	L	214	Total	C	H	N	O	S	0	0	0
			3187	1019	1550	268	341	9			

- Molecule 5 is a protein called RGD PEPTIDE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	I	6	Total	C	H	N	O	0	0	0
			75	22	34	9	10			
5	J	5	Total	C	H	N	O	0	0	0
			60	17	27	8	8			

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



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	G	5	Total	C	H	N	O	0	0	0
			113	34	52	2	25			

- Molecule 7 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



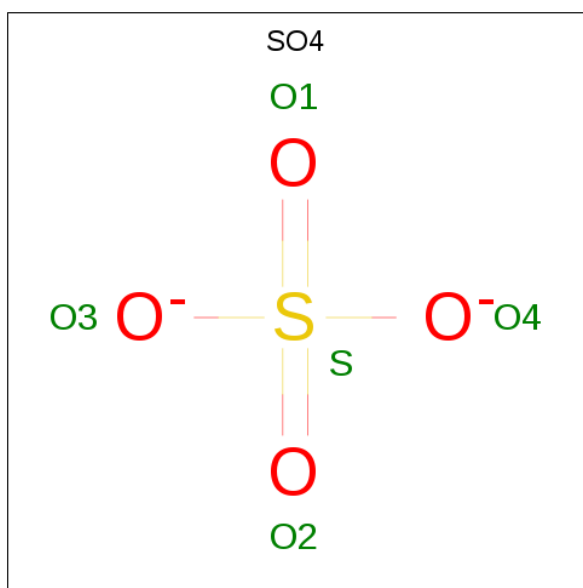
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	K	2	Total	C	H	N	O	0	0	0
			53	16	25	2	10			
7	N	2	Total	C	H	N	O	0	0	0
			53	16	25	2	10			

- Molecule 8 is an oligosaccharide called alpha-D-mannopyranose-(1-3)-beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	M	4	Total	C	H	N	O	0	0	0
			93	28	43	2	20			

- Molecule 9 is SULFATE ION (three-letter code: SO4) (formula: O₄S).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
9	A	1	Total	O	S	0	0
			5	4	1		
9	C	1	Total	O	S	0	0
			5	4	1		
9	L	1	Total	O	S	0	0
			5	4	1		

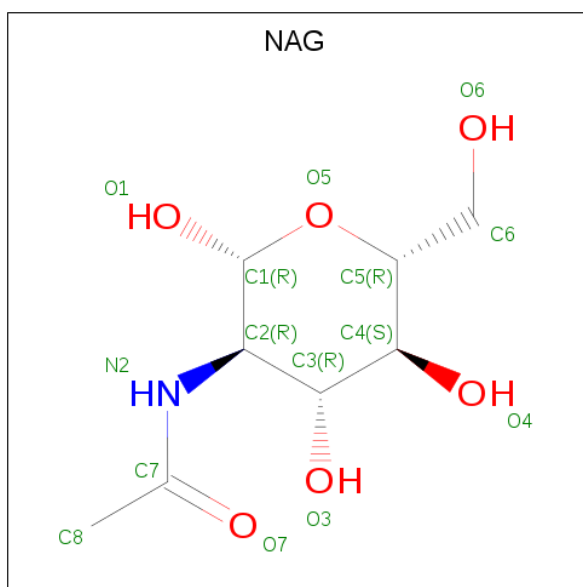
- Molecule 10 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
10	A	4	Total	Ca	0	0
			4	4		
10	C	4	Total	Ca	0	0
			4	4		

- Molecule 11 is MANGANESE (II) ION (three-letter code: MN) (formula: Mn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
11	B	3	Total	Mn	0	0
			3	3		
11	D	3	Total	Mn	0	0
			3	3		

- Molecule 12 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: C₈H₁₅NO₆).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
12	B	1	Total	C	H	N	O	0	0
			27	8	13	1	5		
12	D	1	Total	C	H	N	O	0	0
			27	8	13	1	5		

- Molecule 13 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
13	C	1	Total	Cl	0	0
			1	1		

- Molecule 14 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
14	A	251	Total	O	0	0
			251	251		
14	B	103	Total	O	0	0
			103	103		
14	C	92	Total	O	0	0
			92	92		
14	D	46	Total	O	0	0
			46	46		
14	E	7	Total	O	0	0
			7	7		
14	F	3	Total	O	0	0
			3	3		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
14	H	21	Total 21	O 21	0	0
14	I	1	Total 1	O 1	0	0
14	J	1	Total 1	O 1	0	0
14	L	15	Total 15	O 15	0	0

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.

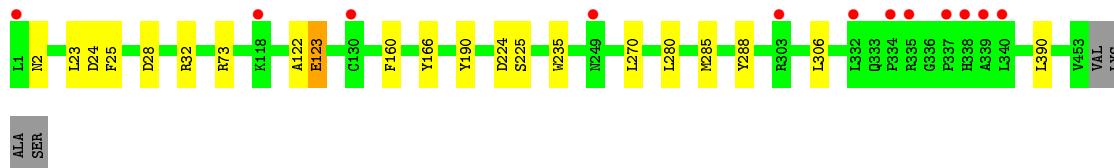
• Molecule 1: INTEGRIN ALPHA-IIB

Chain A: 

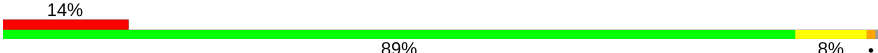


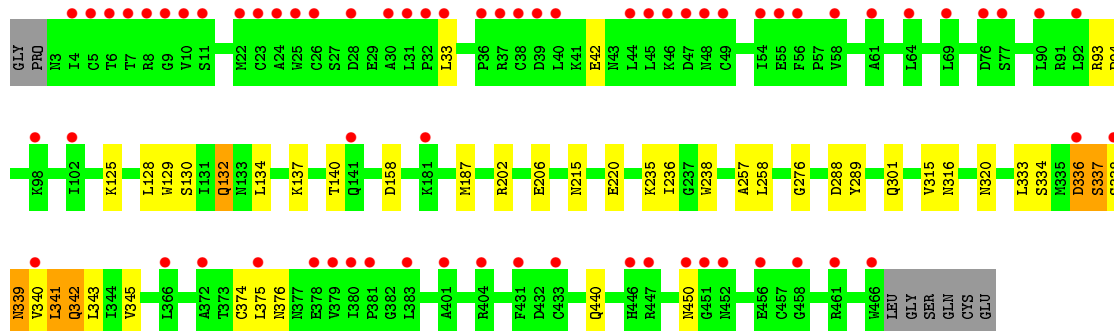
• Molecule 1: INTEGRIN ALPHA-IIB

Chain C: 



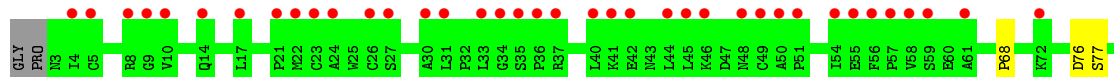
• Molecule 2: INTEGRIN BETA-3

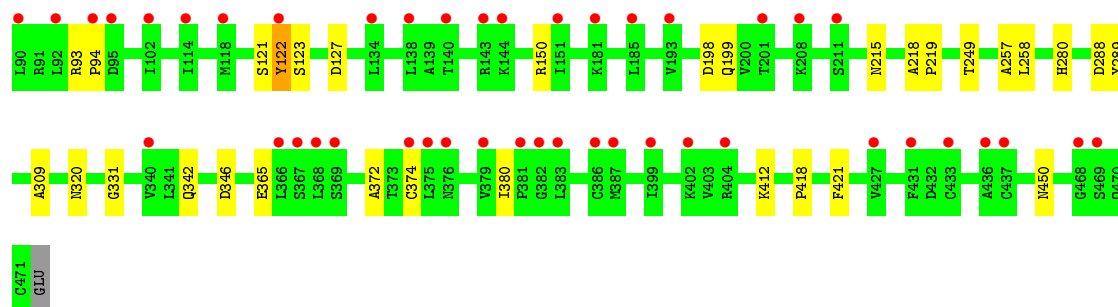
Chain B: 



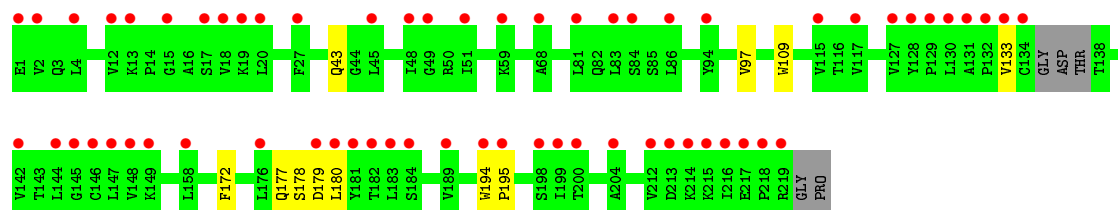
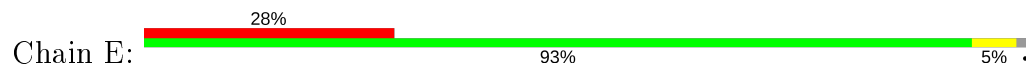
• Molecule 2: INTEGRIN BETA-3

Chain D: 

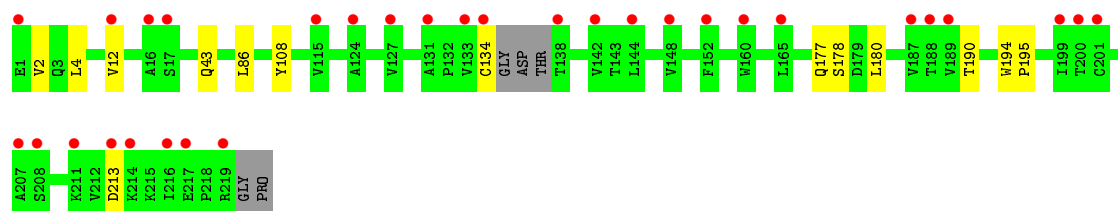
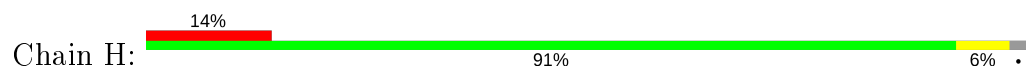




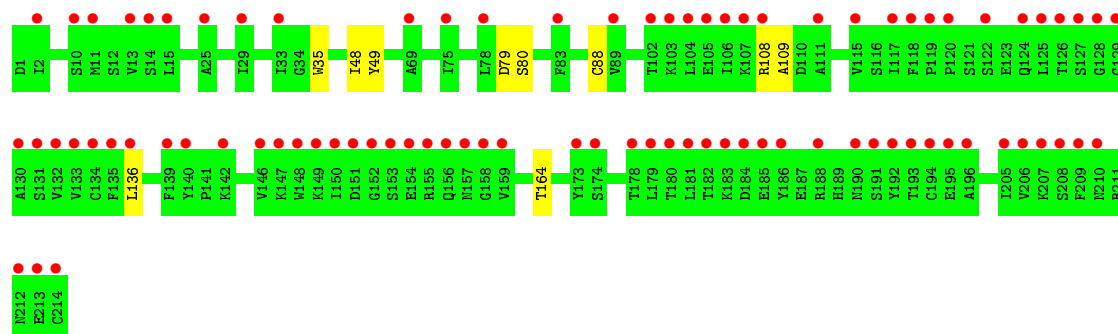
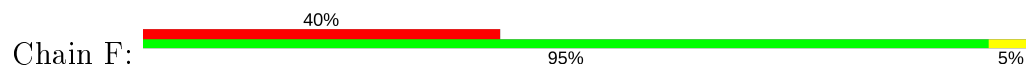
• Molecule 3: 10E5 FAB HEAVY CHAIN



• Molecule 3: 10E5 FAB HEAVY CHAIN



• Molecule 4: 10E5 FAB LIGHT CHAIN

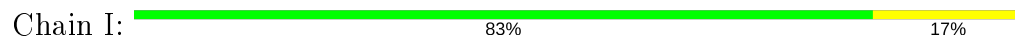


• Molecule 4: 10E5 FAB LIGHT CHAIN

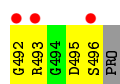




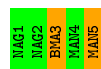
- Molecule 5: RGD PEPTIDE



- Molecule 5: RGD PEPTIDE



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



- Molecule 7: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose



- Molecule 7: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose



- Molecule 8: alpha-D-mannopyranose-(1-3)-beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α , β , γ	259.62Å 144.47Å 104.75Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.28 – 2.75 48.28 – 2.75	Depositor EDS
% Data completeness (in resolution range)	99.8 (48.28-2.75) 99.8 (48.28-2.75)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.30 (at 2.77Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE)	Depositor
R, R_{free}	0.184 , 0.221 0.193 , 0.233	Depositor DCC
R_{free} test set	1032 reflections (1.00%)	wwPDB-VP
Wilson B-factor (Å ²)	52.2	Xtriage
Anisotropy	0.000	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 72.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	41823	wwPDB-VP
Average B, all atoms (Å ²)	91.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.51% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical 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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: BMA, NAG, CL, CA, MN, SO4, MAN

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	0.23	0/3636	0.41	0/4954
1	C	0.22	0/3587	0.38	0/4888
2	B	0.22	0/3654	0.40	0/4954
2	D	0.21	0/3678	0.37	0/4986
3	E	0.21	0/1684	0.38	0/2305
3	H	0.21	0/1684	0.39	0/2305
4	F	0.21	0/1673	0.37	0/2269
4	L	0.22	0/1673	0.38	0/2269
5	I	0.20	0/41	0.43	0/52
5	J	0.27	0/32	0.55	0/40
All	All	0.22	0/21342	0.39	0/29022

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3521	3368	3377	9	0
1	C	3484	3311	3320	12	0
2	B	3585	3498	3504	30	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	D	3612	3521	3527	21	0
3	E	1642	1597	1600	6	0
3	H	1642	1597	1600	10	0
4	F	1637	1550	1553	6	0
4	L	1637	1550	1553	4	0
5	I	41	34	34	1	0
5	J	33	27	27	7	0
6	G	61	52	52	2	0
7	K	28	25	25	0	0
7	N	28	25	25	1	0
8	M	50	43	43	0	0
9	A	5	0	0	1	0
9	C	5	0	0	0	0
9	L	5	0	0	0	0
10	A	4	0	0	0	0
10	C	4	0	0	0	0
11	B	3	0	0	0	0
11	D	3	0	0	0	0
12	B	14	13	13	0	0
12	D	14	13	13	0	0
13	C	1	0	0	0	0
14	A	251	0	0	3	1
14	B	103	0	0	3	0
14	C	92	0	0	1	1
14	D	46	0	0	4	0
14	E	7	0	0	0	0
14	F	3	0	0	0	0
14	H	21	0	0	3	0
14	I	1	0	0	0	0
14	J	1	0	0	1	0
14	L	15	0	0	2	0
All	All	21599	20224	20266	102	1

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 2.

All (102) 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)
2:B:336:ASP:O	2:B:337:SER:OG	2.07	0.71
6:G:3:BMA:H62	6:G:5:MAN:H5	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:134:CYS:SG	14:H:4018:HOH:O	2.51	0.68
9:A:1456:SO4:S	14:A:4225:HOH:O	2.52	0.67
2:B:301:GLN:NE2	14:B:4082:HOH:O	2.28	0.67
2:D:150:ARG:NH1	14:D:4012:HOH:O	2.27	0.66
2:D:68:PRO:O	14:D:4002:HOH:O	2.15	0.64
4:F:108:ARG:NH1	4:F:109:ALA:O	2.32	0.62
1:C:73:ARG:NH1	14:C:4023:HOH:O	2.32	0.61
2:D:331:GLY:N	14:D:4036:HOH:O	2.33	0.61
3:H:134:CYS:N	14:H:4018:HOH:O	2.33	0.61
2:D:280:HIS:O	14:D:4031:HOH:O	2.17	0.59
1:A:225:SER:O	5:I:493:ARG:NH2	2.36	0.58
1:C:122:ALA:O	1:C:123:GLU:HB2	2.04	0.57
1:A:122:ALA:O	1:A:123:GLU:HB2	2.04	0.57
6:G:3:BMA:H62	6:G:5:MAN:C5	2.35	0.57
2:B:202:ARG:NH2	2:B:206:GLU:OE2	2.38	0.57
1:A:341:GLY:N	14:A:4187:HOH:O	2.39	0.55
1:C:224:ASP:OD1	1:C:225:SER:N	2.38	0.55
2:B:125:LYS:O	14:B:4012:HOH:O	2.18	0.55
3:H:177:GLN:N	3:H:180:LEU:O	2.41	0.54
2:B:257:ALA:O	2:B:258:LEU:HB2	2.08	0.54
1:A:90[A]:ARG:NH1	14:A:4055:HOH:O	2.40	0.53
2:B:235:LYS:NZ	2:B:276:GLY:O	2.42	0.52
2:B:342:GLN:O	2:B:345:VAL:N	2.42	0.52
1:A:122:ALA:O	1:A:123:GLU:CB	2.57	0.52
5:J:492:GLY:N	14:J:4001:HOH:O	2.41	0.52
2:B:450:ASN:ND2	2:B:450:ASN:O	2.43	0.52
5:J:495:ASP:O	5:J:496:SER:C	2.49	0.51
2:B:340:VAL:O	2:B:341:LEU:CB	2.59	0.51
1:C:160:PHE:CD2	5:J:492:GLY:N	2.78	0.51
1:C:24:ASP:OD1	1:C:25:PHE:N	2.44	0.51
1:C:122:ALA:O	1:C:123:GLU:CB	2.59	0.51
1:C:28:ASP:OD1	1:C:32:ARG:N	2.44	0.51
2:D:257:ALA:O	2:D:258:LEU:HB2	2.11	0.50
2:D:76:ASP:OD1	2:D:77:SER:N	2.45	0.50
4:L:155:ARG:O	14:L:4011:HOH:O	2.19	0.49
2:B:129:TRP:CE3	2:B:130:SER:HA	2.47	0.49
3:H:194:TRP:CG	3:H:195:PRO:HA	2.48	0.49
2:B:158:ASP:HB3	2:B:187:MET:CE	2.42	0.49
2:B:340:VAL:O	2:B:341:LEU:HB2	2.11	0.49
1:C:2:ASN:N	1:C:2:ASN:OD1	2.45	0.49
2:B:339:ASN:OD1	2:B:342:GLN:N	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:N:1:NAG:O3	7:N:2:NAG:O5	2.23	0.49
2:B:340:VAL:O	2:B:341:LEU:HG	2.14	0.48
2:D:198:ASP:OD1	2:D:199:GLN:NE2	2.46	0.48
2:D:218:ALA:HB3	2:D:219:PRO:HD3	1.94	0.48
2:B:130:SER:O	2:B:341:LEU:CD1	2.61	0.48
3:E:194:TRP:CG	3:E:195:PRO:HA	2.49	0.48
3:H:213:ASP:OD1	3:H:213:ASP:N	2.47	0.48
1:A:132:LEU:N	1:A:132:LEU:HD12	2.29	0.47
2:B:93:ARG:HB2	2:B:94:PRO:HD2	1.97	0.46
2:D:342:GLN:NE2	2:D:346:ASP:OD1	2.48	0.46
2:D:121:SER:O	2:D:123:SER:N	2.49	0.46
2:B:288:ASP:OD1	2:B:289:TYR:N	2.50	0.45
4:L:157:ASN:ND2	14:L:4014:HOH:O	2.49	0.45
2:B:134:LEU:HA	2:B:137:LYS:CD	2.46	0.45
4:F:35:TRP:CZ3	4:F:88:CYS:HB3	2.52	0.45
2:D:121:SER:HB2	5:J:495:ASP:OD1	2.16	0.45
3:E:172:PHE:CD2	4:F:164:THR:HG23	2.52	0.45
2:B:333:LEU:HA	2:B:340:VAL:HG13	1.98	0.44
2:D:450:ASN:ND2	2:D:450:ASN:O	2.51	0.44
2:D:288:ASP:OD1	2:D:289:TYR:N	2.46	0.44
4:F:136:LEU:N	4:F:136:LEU:HD12	2.33	0.43
2:D:93:ARG:HB2	2:D:94:PRO:HD2	2.00	0.43
2:B:42:GLU:OE1	2:B:42:GLU:N	2.51	0.43
4:F:48:ILE:HG22	4:F:49:TYR:N	2.34	0.43
4:F:79:ASP:OD1	4:F:80:SER:N	2.50	0.43
1:A:194:LEU:C	1:A:194:LEU:HD12	2.38	0.43
2:B:341:LEU:O	14:B:4095:HOH:O	2.21	0.43
1:A:285:MET:O	1:A:286:ALA:HB3	2.19	0.43
3:H:190:THR:O	14:H:4020:HOH:O	2.20	0.43
2:D:418:PRO:HB2	2:D:421:PHE:CD1	2.54	0.43
2:D:122:TYR:N	5:J:495:ASP:OD2	2.52	0.43
4:L:136:LEU:N	4:L:136:LEU:HD12	2.33	0.43
3:E:178:SER:O	3:E:179:ASP:HB2	2.19	0.43
3:H:43:GLN:N	3:H:43:GLN:OE1	2.52	0.43
2:B:220:GLU:OE1	2:B:220:GLU:HA	2.19	0.42
3:E:177:GLN:N	3:E:180:LEU:O	2.52	0.42
4:L:81:GLU:N	4:L:81:GLU:OE1	2.53	0.42
2:B:236:ILE:HG21	2:B:238:TRP:CE2	2.55	0.42
2:B:315:VAL:HG13	2:B:316:ASN:N	2.35	0.42
3:E:43:GLN:N	3:E:43:GLN:OE1	2.51	0.42
1:A:285:MET:SD	2:B:320:ASN:HB3	2.60	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:365:GLU:OE2	2:D:412:LYS:NZ	2.53	0.41
2:B:129:TRP:CE3	2:B:130:SER:CA	3.03	0.41
3:H:12:VAL:HG21	3:H:86:LEU:CD1	2.50	0.41
2:D:249:THR:HG22	2:D:309:ALA:HB3	2.01	0.41
3:H:2:VAL:HG11	3:H:108:TYR:CD2	2.56	0.41
2:B:338:SER:O	2:B:339:ASN:HB2	2.21	0.41
2:B:374:CYS:O	2:B:376:ASN:N	2.53	0.41
1:C:285:MET:SD	2:D:320:ASN:HB3	2.60	0.41
2:D:372:ALA:O	2:D:380:ILE:N	2.52	0.41
3:H:4:LEU:N	3:H:4:LEU:HD12	2.36	0.41
1:C:390:LEU:HD12	1:C:390:LEU:N	2.36	0.41
2:B:341:LEU:HA	2:B:341:LEU:HD23	1.93	0.40
1:C:280:LEU:CD1	1:C:306:LEU:HD23	2.52	0.40
5:J:493:ARG:O	5:J:493:ARG:CG	2.69	0.40
1:C:235:TRP:CZ2	1:C:270:LEU:HD11	2.55	0.40
3:E:97:VAL:HG22	3:E:109:TRP:CD2	2.56	0.40
2:B:334:SER:O	2:B:340:VAL:HG21	2.21	0.40
2:D:123:SER:HB3	5:J:495:ASP:O	2.22	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:A:4236:HOH:O	14:C:4002:HOH:O[1_554]	2.10	0.10

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	459/457 (100%)	442 (96%)	16 (4%)	1 (0%)	47 69
1	C	453/457 (99%)	431 (95%)	21 (5%)	1 (0%)	47 69

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	B	463/472 (98%)	435 (94%)	20 (4%)	8 (2%)	9	16
2	D	467/472 (99%)	437 (94%)	28 (6%)	2 (0%)	34	53
3	E	212/221 (96%)	196 (92%)	15 (7%)	1 (0%)	29	47
3	H	212/221 (96%)	197 (93%)	14 (7%)	1 (0%)	29	47
4	F	212/214 (99%)	200 (94%)	12 (6%)	0	100	100
4	L	212/214 (99%)	203 (96%)	8 (4%)	1 (0%)	29	47
5	I	4/6 (67%)	4 (100%)	0	0	100	100
5	J	3/6 (50%)	3 (100%)	0	0	100	100
All	All	2697/2740 (98%)	2548 (94%)	134 (5%)	15 (1%)	25	42

All (15) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	341	LEU
2	B	343	LEU
1	A	123	GLU
2	B	337	SER
2	B	339	ASN
2	B	375	LEU
2	B	440	GLN
1	C	123	GLU
3	E	133	VAL
2	B	33	LEU
2	D	122	TYR
3	H	178	SER
2	B	132	GLN
2	D	374	CYS
4	L	30	SER

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	369/364 (101%)	362 (98%)	7 (2%)	57	73
1	C	363/364 (100%)	359 (99%)	4 (1%)	73	84
2	B	412/417 (99%)	406 (98%)	6 (2%)	65	78
2	D	415/417 (100%)	413 (100%)	2 (0%)	88	92
3	E	187/190 (98%)	187 (100%)	0	100	100
3	H	187/190 (98%)	187 (100%)	0	100	100
4	F	188/188 (100%)	188 (100%)	0	100	100
4	L	188/188 (100%)	188 (100%)	0	100	100
5	I	4/4 (100%)	4 (100%)	0	100	100
5	J	3/4 (75%)	3 (100%)	0	100	100
All	All	2316/2326 (100%)	2297 (99%)	19 (1%)	81	88

All (19) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	23	LEU
1	A	61	GLU
1	A	166	TYR
1	A	190	TYR
1	A	267	VAL
1	A	270	LEU
1	A	288	TYR
2	B	128	LEU
2	B	132	GLN
2	B	140	THR
2	B	215	ASN
2	B	336	ASP
2	B	342	GLN
1	C	23	LEU
1	C	166	TYR
1	C	190	TYR
1	C	288	TYR
2	D	127	ASP
2	D	215	ASN

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	338	HIS
2	B	3	ASN
2	B	450	ASN
1	C	197	GLN
2	D	3	ASN
2	D	450	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

13 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	$\# Z > 2$
6	NAG	G	1	2,6	14,14,15	0.56	0	17,19,21	0.69	0
6	NAG	G	2	6	14,14,15	0.59	0	17,19,21	0.75	0
6	BMA	G	3	6	11,11,12	0.61	0	15,15,17	0.85	1 (6%)
6	MAN	G	4	6	11,11,12	0.64	0	15,15,17	0.65	0
6	MAN	G	5	6	11,11,12	0.47	0	15,15,17	1.60	2 (13%)
7	NAG	K	1	2,7	14,14,15	0.59	0	17,19,21	0.91	0
7	NAG	K	2	7	14,14,15	0.55	0	17,19,21	0.60	0
8	NAG	M	1	8,2	14,14,15	0.55	0	17,19,21	0.76	0
8	NAG	M	2	8	14,14,15	0.55	0	17,19,21	0.65	0
8	BMA	M	3	8	11,11,12	0.66	0	15,15,17	0.85	1 (6%)
8	MAN	M	4	8	11,11,12	0.65	0	15,15,17	0.68	0
7	NAG	N	1	2,7	14,14,15	0.60	0	17,19,21	0.80	1 (5%)
7	NAG	N	2	7	14,14,15	0.54	0	17,19,21	0.64	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
6	NAG	G	1	2,6	-	0/6/23/26	0/1/1/1
6	NAG	G	2	6	-	0/6/23/26	0/1/1/1
6	BMA	G	3	6	-	2/2/19/22	0/1/1/1
6	MAN	G	4	6	-	0/2/19/22	0/1/1/1
6	MAN	G	5	6	-	2/2/19/22	0/1/1/1
7	NAG	K	1	2,7	-	0/6/23/26	0/1/1/1
7	NAG	K	2	7	-	1/6/23/26	0/1/1/1
8	NAG	M	1	8,2	-	0/6/23/26	0/1/1/1
8	NAG	M	2	8	-	2/6/23/26	0/1/1/1
8	BMA	M	3	8	-	0/2/19/22	0/1/1/1
8	MAN	M	4	8	-	0/2/19/22	0/1/1/1
7	NAG	N	1	2,7	-	2/6/23/26	0/1/1/1
7	NAG	N	2	7	-	2/6/23/26	0/1/1/1

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	G	5	MAN	C1-O5-C5	5.27	119.34	112.19
6	G	3	BMA	O5-C5-C6	2.36	110.90	107.20
8	M	3	BMA	C1-C2-C3	2.15	112.31	109.67
7	N	1	NAG	O5-C5-C6	2.04	110.40	107.20
6	G	5	MAN	C2-C3-C4	-2.04	107.37	110.89

There are no chirality outliers.

All (11) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
7	N	2	NAG	C8-C7-N2-C2
7	N	2	NAG	O7-C7-N2-C2
8	M	2	NAG	C8-C7-N2-C2
8	M	2	NAG	O7-C7-N2-C2
7	K	2	NAG	O5-C5-C6-O6
7	N	1	NAG	C8-C7-N2-C2
6	G	5	MAN	C4-C5-C6-O6
7	N	1	NAG	O7-C7-N2-C2

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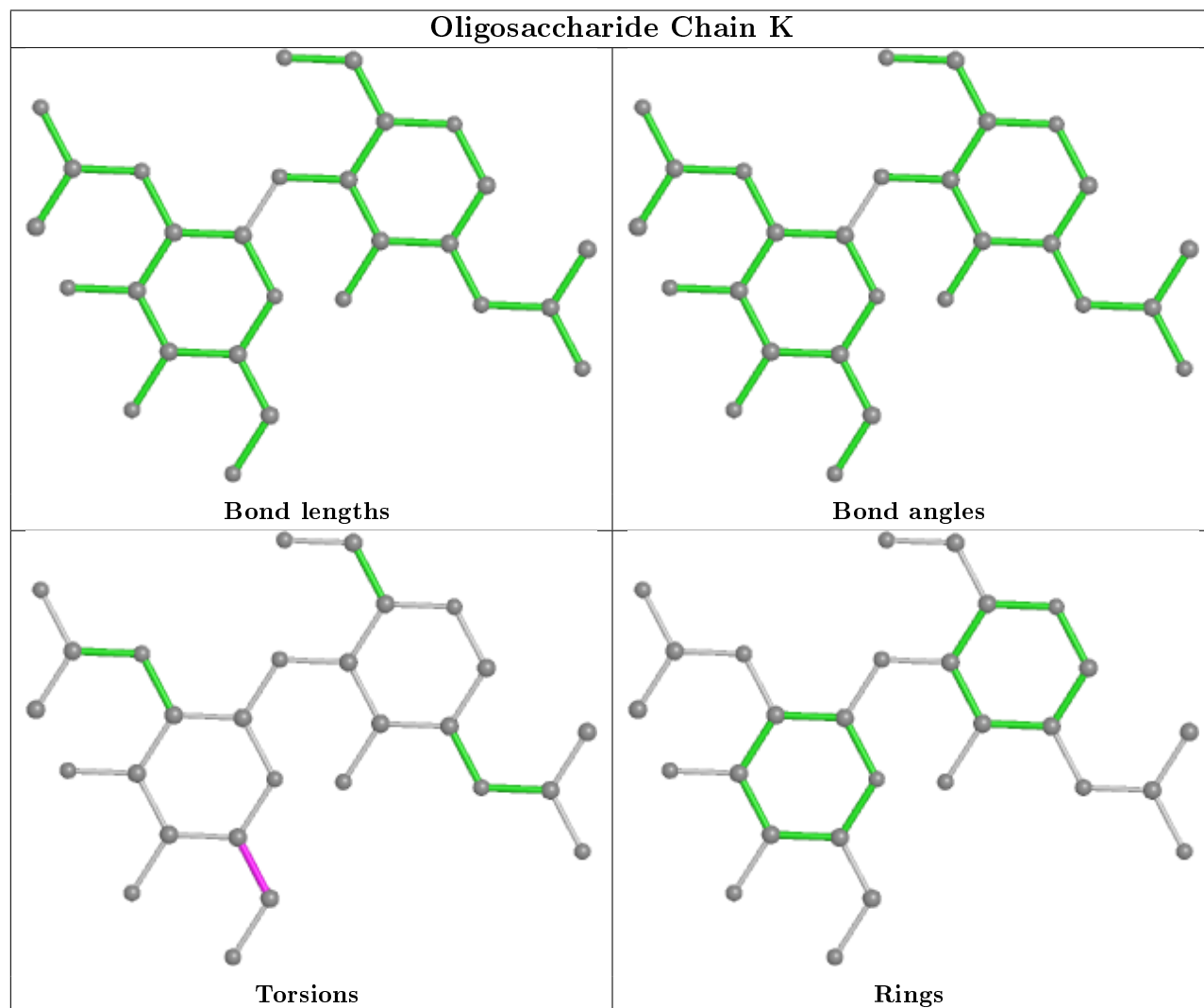
Mol	Chain	Res	Type	Atoms
6	G	3	BMA	C4-C5-C6-O6
6	G	5	MAN	O5-C5-C6-O6
6	G	3	BMA	O5-C5-C6-O6

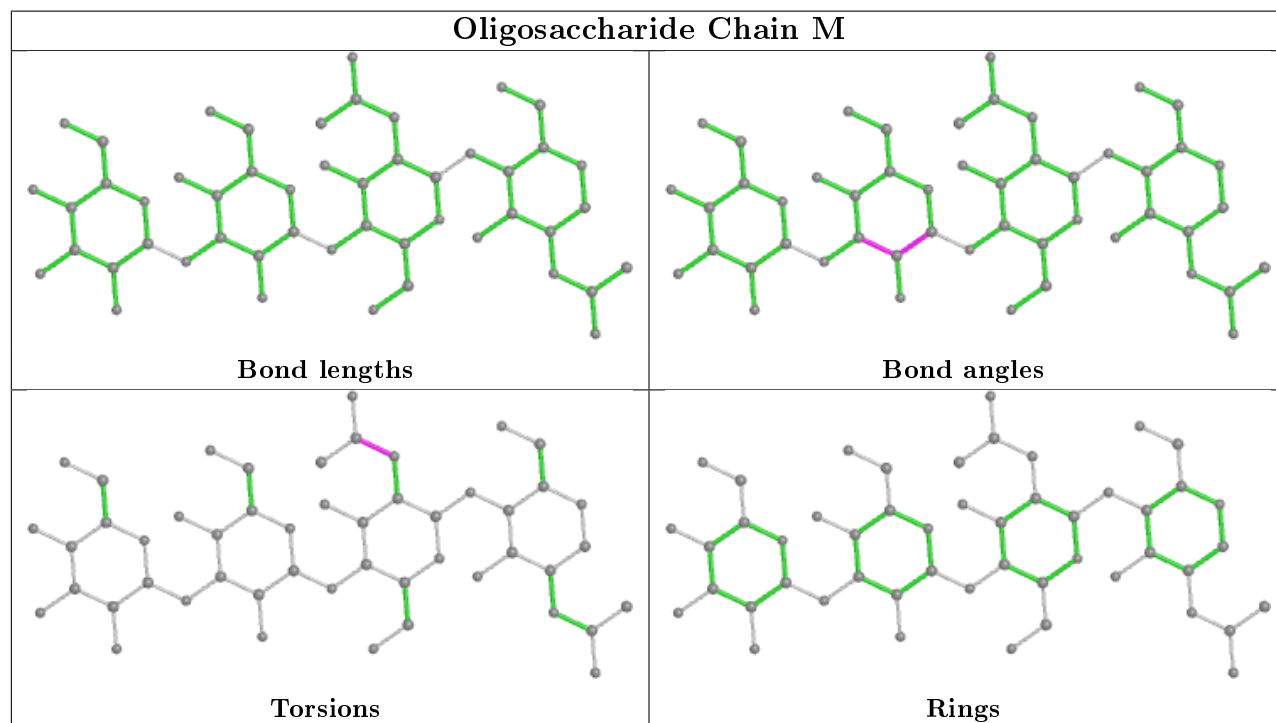
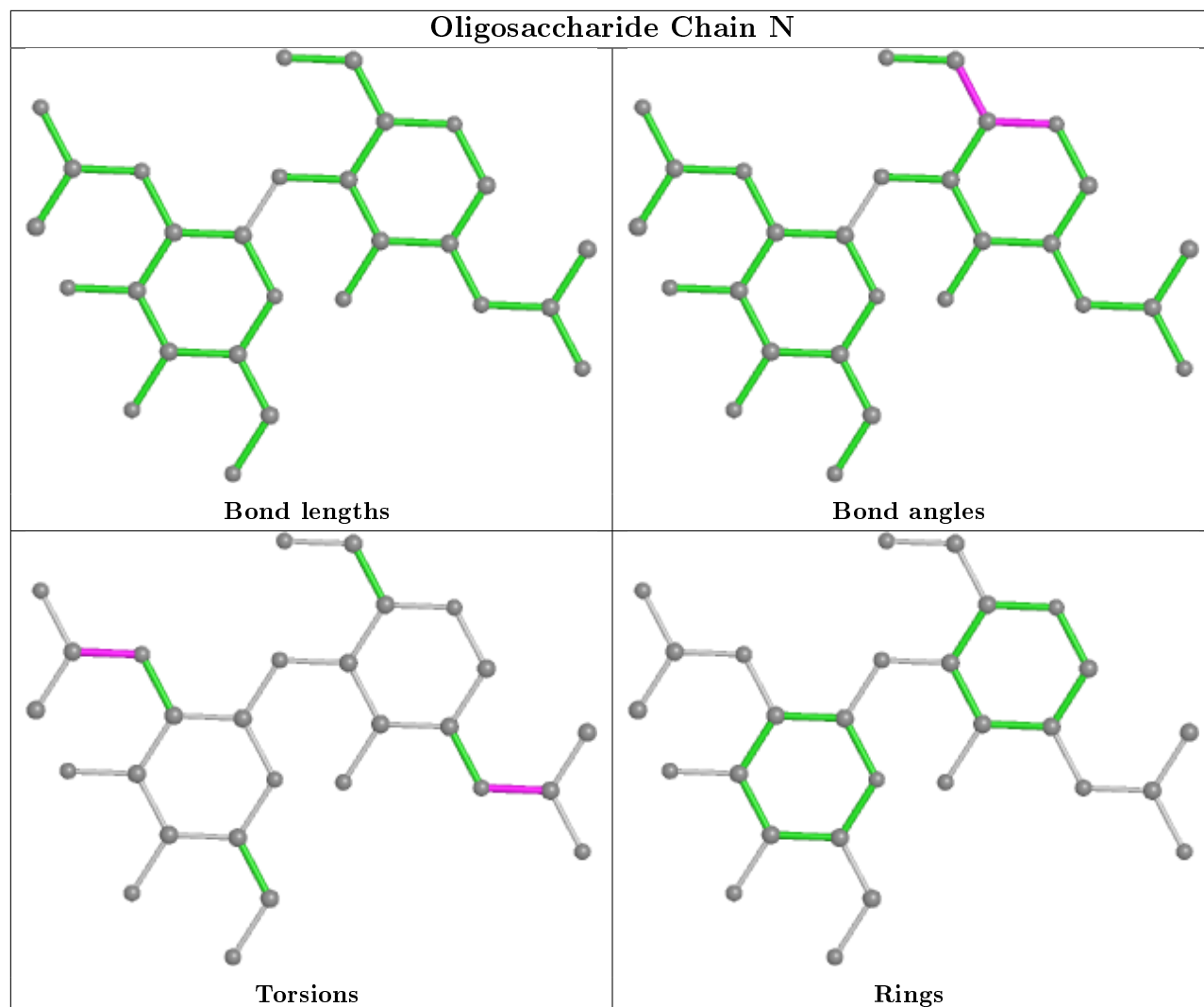
There are no ring outliers.

4 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	G	3	BMA	2	0
7	N	1	NAG	1	0
7	N	2	NAG	1	0
6	G	5	MAN	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

Of 20 ligands modelled in this entry, 15 are monoatomic - leaving 5 for Mogul analysis.

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	$\# Z > 2$
9	SO4	A	1456	-	4,4,4	0.14	0	6,6,6	0.06	0
9	SO4	L	1215	-	4,4,4	0.14	0	6,6,6	0.05	0
12	NAG	D	3099	2	14,14,15	0.54	0	17,19,21	0.62	0
9	SO4	C	1454	-	4,4,4	0.13	0	6,6,6	0.07	0
12	NAG	B	3099	2	14,14,15	0.50	0	17,19,21	0.69	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
12	NAG	D	3099	2	-	2/6/23/26	0/1/1/1
12	NAG	B	3099	2	-	0/6/23/26	0/1/1/1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
12	D	3099	NAG	O5-C5-C6-O6
12	D	3099	NAG	C4-C5-C6-O6

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
9	A	1456	SO4	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, 95th 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 ²)	Q<0.9
1	A	455/457 (99%)	0.46	12 (2%) 56 65	21, 37, 67, 130	3 (0%)
1	C	453/457 (99%)	0.51	12 (2%) 56 65	32, 65, 102, 148	2 (0%)
2	B	464/472 (98%)	0.96	68 (14%) 2 2	17, 74, 160, 206	2 (0%)
2	D	469/472 (99%)	1.03	82 (17%) 1 1	45, 95, 154, 197	3 (0%)
3	E	216/221 (97%)	1.59	62 (28%) 0 0	75, 129, 176, 197	0
3	H	216/221 (97%)	0.78	31 (14%) 2 2	43, 98, 164, 193	0
4	F	214/214 (100%)	2.04	86 (40%) 0 0	78, 129, 201, 252	0
4	L	214/214 (100%)	0.60	15 (7%) 16 19	53, 85, 122, 182	0
5	I	6/6 (100%)	0.65	0 100 100	41, 57, 84, 88	0
5	J	5/6 (83%)	3.70	3 (60%) 0 0	52, 57, 95, 106	2 (40%)
All	All	2712/2740 (98%)	0.91	371 (13%) 3 3	17, 80, 161, 252	12 (0%)

All (371) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
4	F	181	LEU	13.6
4	F	193	THR	11.4
3	E	144	LEU	9.8
4	F	130	ALA	8.5
4	F	192	TYR	8.3
4	F	179	LEU	8.1
2	B	33	LEU	7.6
1	A	455	LYS	7.5
3	E	194	TRP	7.4
3	E	134	CYS	7.4
4	F	214	CYS	7.3
3	E	133	VAL	7.2
5	J	496	SER	7.0

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Mol	Chain	Res	Type	RSRZ
3	E	219	ARG	7.0
4	F	150	ILE	6.9
4	F	125	LEU	6.9
3	E	127	VAL	6.9
3	E	130	LEU	6.8
3	E	131	ALA	6.6
2	B	44	LEU	6.6
3	H	189	VAL	6.5
3	E	142	VAL	6.5
3	E	216	ILE	6.5
2	B	36	PRO	6.4
2	D	44	LEU	6.3
2	D	469	SER	6.2
2	B	48	ASN	6.1
4	F	148	TRP	5.9
3	E	132	PRO	5.9
4	F	180	THR	5.9
5	J	492	GLY	5.8
3	E	148	VAL	5.8
4	L	214	CYS	5.8
4	F	206	VAL	5.6
4	F	159	VAL	5.5
4	F	132	VAL	5.5
3	E	128	TYR	5.4
4	F	149	LYS	5.4
4	F	186	TYR	5.4
3	E	145	GLY	5.3
2	B	10	VAL	5.2
3	E	212	VAL	5.2
2	B	49	CYS	5.2
4	F	182	THR	5.1
2	B	54	ILE	5.1
2	D	375	LEU	5.1
3	H	199	ILE	5.1
3	H	133	VAL	5.1
3	E	189	VAL	5.1
3	E	149	LYS	5.0
3	E	200	THR	5.0
4	F	136	LEU	5.0
3	E	217	GLU	4.9
2	B	451	GLY	4.9
3	H	144	LEU	4.9

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Mol	Chain	Res	Type	RSRZ
3	E	147	LEU	4.9
3	E	183	LEU	4.8
4	F	104	LEU	4.8
2	B	8	ARG	4.7
2	D	35	SER	4.7
2	B	77	SER	4.7
2	D	58	VAL	4.7
4	F	208	SER	4.7
4	F	212	ASN	4.6
4	F	147	LYS	4.6
3	H	216	ILE	4.6
3	E	218	PRO	4.5
4	L	104	LEU	4.5
4	F	106	ILE	4.4
2	D	36	PRO	4.4
4	F	213	GLU	4.4
2	B	5	CYS	4.3
4	F	107	LYS	4.3
2	D	33	LEU	4.3
2	B	141	GLN	4.3
2	D	72	LYS	4.2
2	D	31	LEU	4.2
2	B	22	MET	4.2
2	D	22	MET	4.2
4	F	129	GLY	4.2
1	A	337	PRO	4.2
2	D	122	TYR	4.2
4	F	191	SER	4.2
2	D	51	PRO	4.1
3	E	86	LEU	4.1
2	B	466	TRP	4.1
4	F	153	SER	4.1
4	F	174	SER	4.1
4	F	83	PHE	4.1
3	E	199	ILE	4.1
4	F	205	ILE	4.1
4	F	15	LEU	4.0
3	E	27	PHE	4.0
4	F	190	ASN	4.0
2	D	369	SER	4.0
2	B	26	CYS	3.9
2	D	21	PRO	3.9

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Mol	Chain	Res	Type	RSRZ
3	E	18	VAL	3.9
3	H	142	VAL	3.9
2	B	24	ALA	3.9
4	F	105	GLU	3.9
4	F	11	MET	3.9
4	F	209	PHE	3.9
2	D	9	GLY	3.9
3	H	217	GLU	3.9
4	F	195	GLU	3.9
4	F	194	CYS	3.8
4	F	126	THR	3.8
2	D	57	PRO	3.8
2	B	4	ILE	3.8
4	F	155	ARG	3.8
1	A	339	ALA	3.8
4	L	212	ASN	3.8
3	E	176	LEU	3.7
2	D	61	ALA	3.7
3	E	214	LYS	3.7
4	F	117	ILE	3.7
4	L	105	GLU	3.7
2	B	39	ASP	3.7
2	B	338	SER	3.7
2	D	102	ILE	3.6
4	L	169	LYS	3.6
1	C	340	LEU	3.6
2	B	46	LYS	3.6
4	F	13	VAL	3.6
2	D	55	GLU	3.6
2	D	90	LEU	3.6
4	F	207	LYS	3.6
4	F	157	ASN	3.6
4	F	115	VAL	3.5
3	H	188	THR	3.5
4	F	120	PRO	3.5
4	L	205	ILE	3.5
2	D	376	ASN	3.4
2	D	49	CYS	3.4
4	F	118	PHE	3.4
2	D	24	ALA	3.3
2	B	56	PHE	3.3
2	D	50	ALA	3.3

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Mol	Chain	Res	Type	RSRZ
2	B	450	ASN	3.3
2	D	48	ASN	3.3
3	E	204	ALA	3.3
4	F	173	TYR	3.3
2	D	8	ARG	3.3
2	B	38	CYS	3.3
3	H	201	CYS	3.3
2	D	10	VAL	3.2
3	H	127	VAL	3.2
2	B	55	GLU	3.2
2	D	368	LEU	3.2
4	F	185	GLU	3.2
2	B	7	THR	3.2
3	H	131	ALA	3.2
3	H	160	TRP	3.1
2	D	399	ILE	3.1
3	E	83	LEU	3.1
4	F	133	VAL	3.1
2	B	30	ALA	3.1
4	F	158	GLY	3.1
2	D	151	ILE	3.1
3	E	45	LEU	3.1
4	F	119	PRO	3.1
1	A	454	VAL	3.1
2	B	404	ARG	3.1
2	D	45	LEU	3.0
2	D	30	ALA	3.0
2	B	32	PRO	3.0
2	D	54	ILE	3.0
2	B	6	THR	3.0
2	B	379	VAL	3.0
2	D	46	LYS	3.0
2	D	23	CYS	3.0
2	B	25	TRP	3.0
2	D	181	LYS	3.0
4	F	75	ILE	3.0
4	F	102	THR	3.0
2	D	382	GLY	3.0
4	F	69	ALA	3.0
2	B	61	ALA	2.9
4	L	206	VAL	2.9
2	D	17	LEU	2.9

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Mol	Chain	Res	Type	RSRZ
3	E	4	LEU	2.9
3	E	1	GLU	2.9
2	B	383	LEU	2.9
3	E	146	CYS	2.9
2	B	446	HIS	2.9
2	D	41	LYS	2.9
3	H	214	LYS	2.9
3	E	129	PRO	2.9
3	E	117	VAL	2.8
2	D	34	GLY	2.8
2	D	404	ARG	2.8
2	D	379	VAL	2.8
4	F	146	VAL	2.8
4	F	135	PHE	2.8
2	B	378	GLU	2.8
1	C	338	HIS	2.8
2	B	23	CYS	2.8
3	H	138	THR	2.8
1	C	337	PRO	2.8
2	B	28	ASP	2.8
4	F	78	LEU	2.8
3	E	15	GLY	2.8
3	E	13	LYS	2.8
2	D	37	ARG	2.8
1	C	339	ALA	2.7
3	E	198	SER	2.7
3	E	195	PRO	2.7
4	F	196	ALA	2.7
2	B	11	SER	2.7
2	D	118	MET	2.7
2	B	98	LYS	2.7
3	E	94	TYR	2.7
4	F	188	ARG	2.7
1	C	334	PRO	2.7
2	B	9	GLY	2.7
2	D	92	LEU	2.7
2	D	383	LEU	2.7
3	H	165	LEU	2.7
2	D	4	ILE	2.7
2	D	367	SER	2.7
2	D	143	ARG	2.7
2	B	431	PHE	2.7

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Mol	Chain	Res	Type	RSRZ
3	E	179	ASP	2.7
1	C	332	LEU	2.7
2	B	375	LEU	2.7
2	B	76	ASP	2.6
3	E	2	VAL	2.6
3	H	148	VAL	2.6
4	F	103	LYS	2.6
2	B	92	LEU	2.6
2	D	56	PHE	2.6
2	B	40	LEU	2.6
2	D	134	LEU	2.6
1	C	118	LYS	2.6
3	H	213	ASP	2.6
2	D	5	CYS	2.6
2	D	185	LEU	2.5
3	E	215	LYS	2.5
4	F	2	ILE	2.5
4	F	154	GLU	2.5
2	D	94	PRO	2.5
1	A	338	HIS	2.5
4	F	29	ILE	2.5
3	E	181	TYR	2.5
4	F	14	SER	2.5
3	H	200	THR	2.5
2	B	37	ARG	2.5
3	H	219	ARG	2.5
4	L	183	LYS	2.5
3	E	19	LYS	2.5
3	E	48	ILE	2.5
4	L	115	VAL	2.5
2	D	208	LYS	2.5
5	J	493	ARG	2.5
2	B	380	ILE	2.5
4	F	128	GLY	2.4
2	B	401	ALA	2.4
2	D	201	THR	2.4
3	H	152	PHE	2.4
2	D	381	PRO	2.4
2	B	456	GLU	2.4
2	D	42	GLU	2.4
2	D	95	ASP	2.4
4	L	196	ALA	2.4

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Mol	Chain	Res	Type	RSRZ
1	C	1	LEU	2.4
3	E	84	SER	2.4
4	L	171	SER	2.4
2	B	58	VAL	2.4
4	F	151	ASP	2.4
2	B	181	LYS	2.4
2	B	452	ASN	2.4
2	D	340	VAL	2.4
3	E	12	VAL	2.4
4	F	184	ASP	2.4
2	D	140	THR	2.4
4	F	111	ALA	2.4
3	E	17	SER	2.4
4	F	131	SER	2.4
4	L	144	ILE	2.4
2	B	64	LEU	2.4
2	D	138	LEU	2.4
4	F	140	TYR	2.4
3	E	49	GLY	2.4
3	H	211	LYS	2.4
4	F	33	ILE	2.4
3	H	187	VAL	2.3
4	F	142	LYS	2.3
3	E	213	ASP	2.3
1	C	335	ARG	2.3
2	B	45	LEU	2.3
4	F	183	LYS	2.3
2	D	366	LEU	2.3
4	F	10	SER	2.3
2	D	427	VAL	2.3
1	C	130	CYS	2.3
2	D	26	CYS	2.3
2	D	40	LEU	2.3
2	B	372	ALA	2.3
2	D	14	GLN	2.3
4	F	178	THR	2.3
2	D	211	SER	2.3
3	E	20	LEU	2.3
3	E	81	LEU	2.3
2	D	436	ALA	2.3
3	H	115	VAL	2.3
4	F	127	SER	2.2

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Mol	Chain	Res	Type	RSRZ
4	F	108	ARG	2.2
2	B	102	ILE	2.2
3	E	51	ILE	2.2
4	F	156	GLN	2.2
2	B	69	LEU	2.2
4	L	170	ASP	2.2
2	D	386	CYS	2.2
4	F	124	GLN	2.2
2	B	458	GLY	2.2
3	E	184	SER	2.2
4	F	210	ASN	2.2
2	D	144	LYS	2.2
3	H	17	SER	2.2
3	E	68	ALA	2.2
4	F	139	PHE	2.2
3	H	208	SER	2.2
2	D	431	PHE	2.2
2	B	340	VAL	2.2
2	B	366	LEU	2.2
1	A	170	GLY	2.2
3	H	124	ALA	2.2
4	F	89	VAL	2.1
2	B	381	PRO	2.1
2	B	336	ASP	2.1
3	H	16	ALA	2.1
3	H	134	CYS	2.1
3	E	59	LYS	2.1
3	E	180	LEU	2.1
4	F	25	ALA	2.1
2	D	433	CYS	2.1
2	D	193	VAL	2.1
4	L	173	TYR	2.1
2	B	447	ARG	2.1
2	D	387	MET	2.1
2	B	461	ARG	2.1
3	E	182	THR	2.1
2	B	47	ASP	2.1
4	F	122	SER	2.1
4	L	83	PHE	2.1
2	D	468	GLY	2.1
2	B	433	CYS	2.1
3	H	1	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
3	H	12	VAL	2.1
1	A	167	CYS	2.1
4	F	134	CYS	2.1
3	H	207	ALA	2.1
1	C	249	ASN	2.1
1	C	303	ARG	2.1
2	B	90	LEU	2.0
2	D	402	LYS	2.0
3	E	158	LEU	2.0
2	D	114	ILE	2.0
1	A	169	ALA	2.0
2	D	374	CYS	2.0
1	A	236	GLY	2.0
2	D	59	SER	2.0
4	F	152	GLY	2.0
2	B	31	LEU	2.0
3	E	115	VAL	2.0
2	D	437	CYS	2.0
1	A	173	SER	2.0
1	A	336	GLY	2.0
2	D	27	SER	2.0
1	A	107	CYS	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, 95th 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.

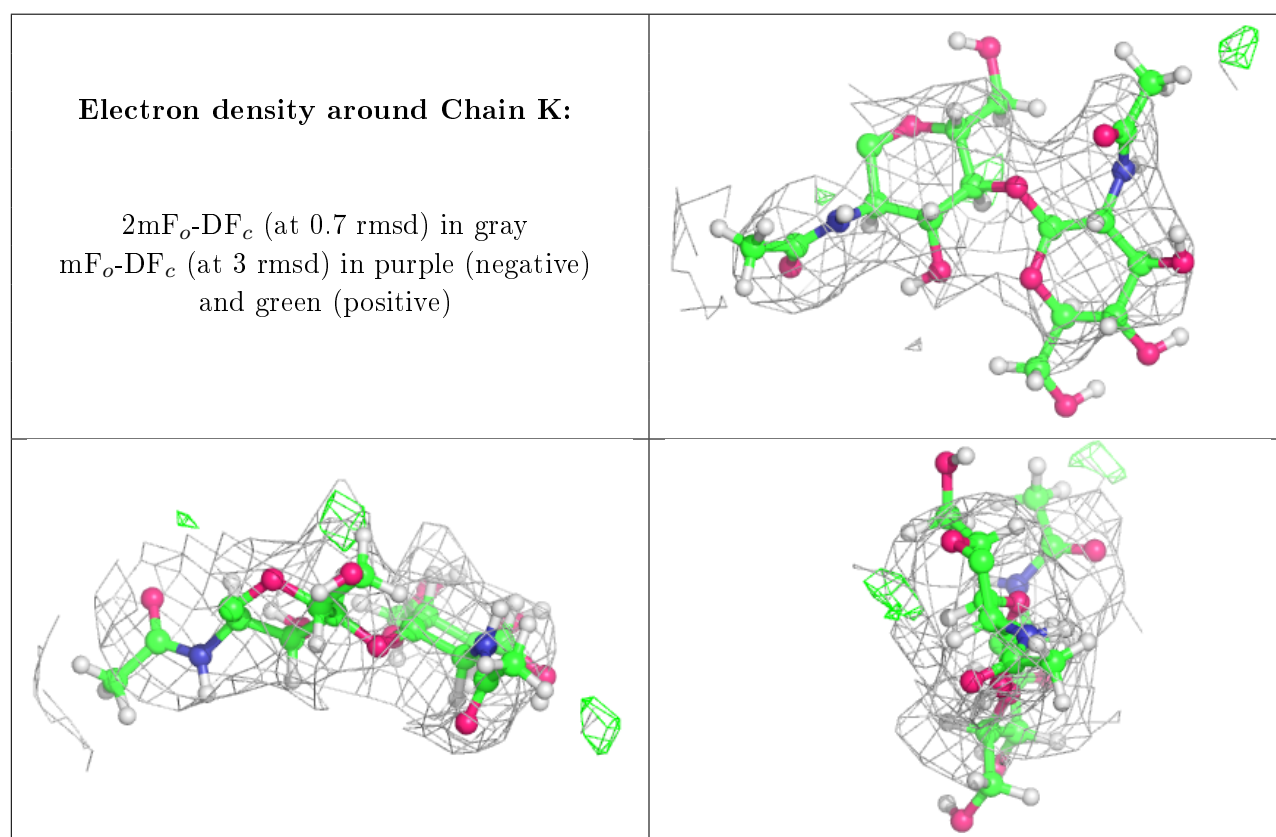
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
6	BMA	G	3	11/12	0.77	0.13	105,123,149,152	0
6	MAN	G	5	11/12	0.80	0.19	107,119,140,143	0
8	BMA	M	3	11/12	0.81	0.23	148,158,186,190	0
7	NAG	N	2	14/15	0.82	0.44	149,155,186,188	0
7	NAG	K	2	14/15	0.84	0.38	125,150,180,183	0
7	NAG	N	1	14/15	0.86	0.39	101,135,155,162	0

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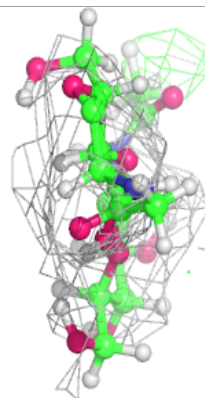
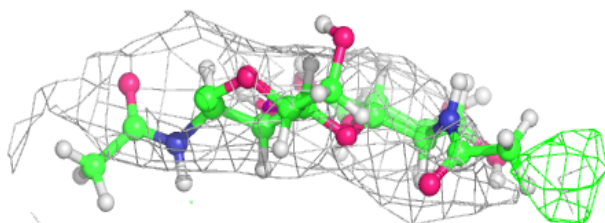
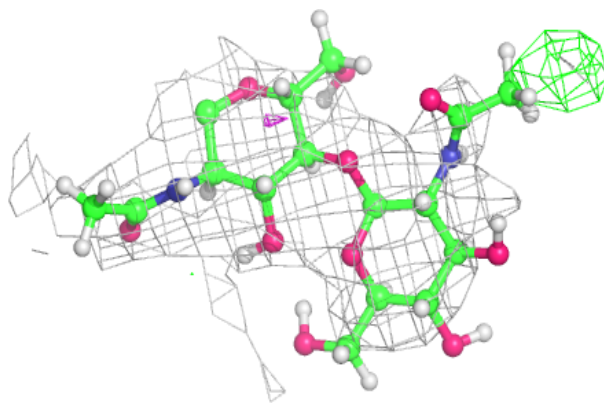
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
8	MAN	M	4	11/12	0.87	0.35	170,173,208,208	0
7	NAG	K	1	14/15	0.90	0.29	89,118,147,149	0
6	NAG	G	2	14/15	0.90	0.15	58,81,101,107	0
6	MAN	G	4	11/12	0.91	0.20	113,126,150,153	0
8	NAG	M	2	14/15	0.93	0.21	107,128,152,154	0
8	NAG	M	1	14/15	0.94	0.14	67,97,119,119	0
6	NAG	G	1	14/15	0.98	0.14	27,39,54,62	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.

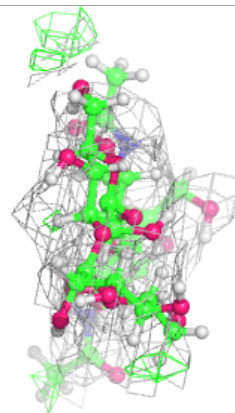
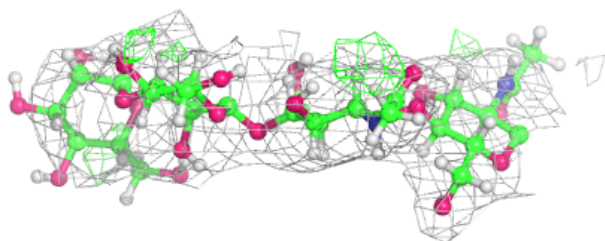
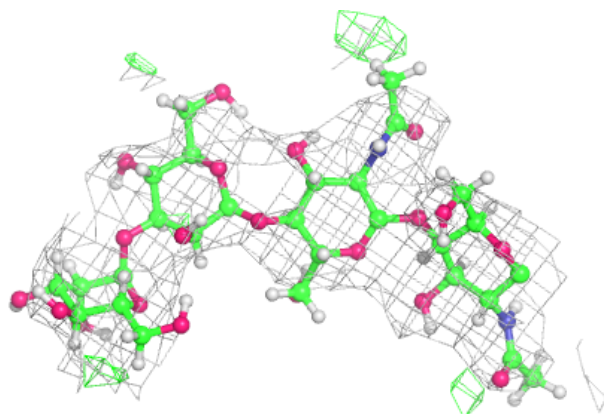


Electron density around Chain N:

$2mF_o-DF_c$ (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)



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, 95th 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(\AA^2)	Q<0.9
12	NAG	D	3099	14/15	0.73	0.39	95,125,149,149	0
9	SO4	C	1454	5/5	0.86	0.28	130,131,132,134	0
12	NAG	B	3099	14/15	0.91	0.38	91,120,143,146	0
10	CA	C	2004	1/1	0.91	0.07	100,100,100,100	0
9	SO4	L	1215	5/5	0.93	0.17	130,131,132,133	0
11	MN	D	2002	1/1	0.94	0.13	129,129,129,129	0
11	MN	D	2001	1/1	0.95	0.19	81,81,81,81	0
9	SO4	A	1456	5/5	0.95	0.16	66,73,78,90	0
13	CL	C	1455	1/1	0.96	0.36	73,73,73,73	0
10	CA	C	2007	1/1	0.97	0.14	59,59,59,59	0
10	CA	A	2004	1/1	0.98	0.10	40,40,40,40	0
11	MN	B	2001	1/1	0.98	0.33	47,47,47,47	0
11	MN	D	2003	1/1	0.98	0.14	79,79,79,79	0
10	CA	A	2005	1/1	0.99	0.16	34,34,34,34	0
10	CA	A	2006	1/1	0.99	0.20	33,33,33,33	0
11	MN	B	2003	1/1	0.99	0.23	45,45,45,45	0
11	MN	B	2002	1/1	0.99	0.17	58,58,58,58	0
10	CA	C	2005	1/1	0.99	0.08	78,78,78,78	0
10	CA	C	2006	1/1	0.99	0.11	62,62,62,62	0
10	CA	A	2007	1/1	1.00	0.18	30,30,30,30	0

6.5 Other polymers [i](#)

There are no such residues in this entry.