Full wwPDB X-ray Structure Validation Report ⓘ

Nov 18, 2026 – 04:24 PM JST

PDB ID	:	22ZF / pdb_000022zf
Title	:	Crystal Structure of the human Trop2 in complex with therapeutic antibody hRS7
Authors	:	Zhou, T.; Dong, X.C.
Deposited on	:	2026-01-28
Resolution	:	2.50 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 types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references ⓘ) were used in the production of this report:

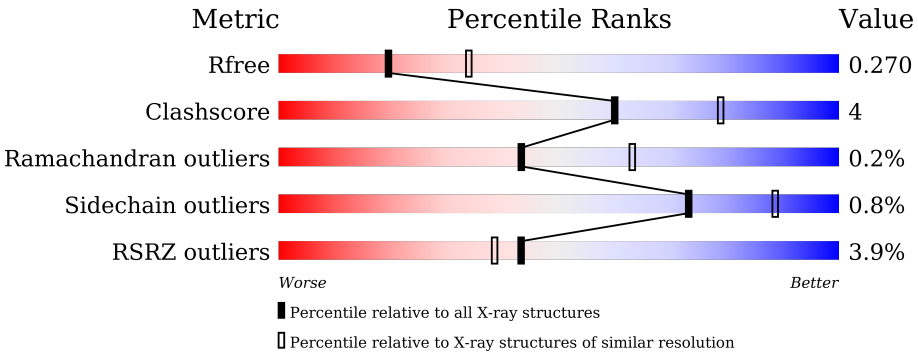
MolProbity	:	4-5-2 with Phenix2.2
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	2.2
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.015 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.51

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 2.50 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.



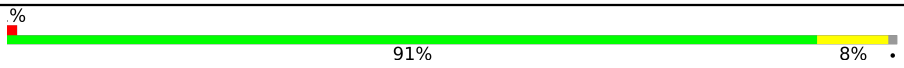
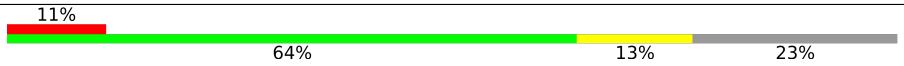
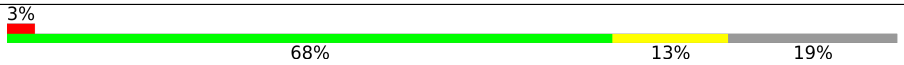
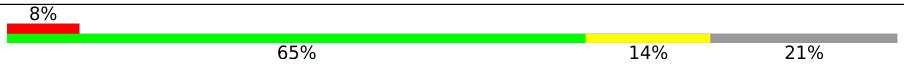
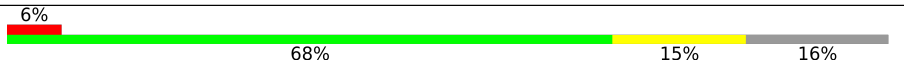
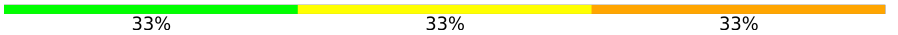
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	5829 (2.50-2.50)
Clashscore	190562	6492 (2.50-2.50)
Ramachandran outliers	187476	6378 (2.50-2.50)
Sidechain outliers	187428	6380 (2.50-2.50)
RSRZ outliers	180081	5833 (2.50-2.50)

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 >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	230	2% 84% 9% 7%
1	C	230	84% 7% 8%
1	E	230	% 86% 8% 6%
1	G	230	% 82% 10% 8%
2	B	214	2% 92% 7%
2	D	214	% 92% 7%

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Mol	Chain	Length	Quality of chain
2	F	214	
2	H	214	
3	I	280	
3	J	280	
3	K	280	
3	L	280	
4	M	3	
5	N	5	
6	O	2	

2 Entry composition (i)

There are 8 unique types of molecules in this entry. The entry contains 20449 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 hRS7-HC.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	G	212	Total	C	N	O	S	0	0	0
			1605	1028	260	311	6			
1	C	211	Total	C	N	O	S	0	0	0
			1598	1024	259	309	6			
1	A	213	Total	C	N	O	S	0	0	0
			1609	1030	261	312	6			
1	E	217	Total	C	N	O	S	0	0	0
			1632	1042	265	319	6			

- Molecule 2 is a protein called hRS7-LC.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	H	212	Total	C	N	O	S	0	0	0
			1627	1024	271	328	4			
2	D	212	Total	C	N	O	S	0	0	0
			1627	1024	271	328	4			
2	B	212	Total	C	N	O	S	0	0	0
			1627	1024	271	328	4			
2	F	212	Total	C	N	O	S	0	0	0
			1627	1024	271	328	4			

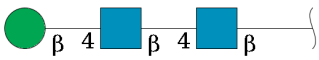
- Molecule 3 is a protein called Tumor-associated calcium signal transducer 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	I	215	Total	C	N	O	S	0	0	0
			1711	1059	322	315	15			
3	K	220	Total	C	N	O	S	0	0	0
			1746	1077	330	324	15			
3	J	227	Total	C	N	O	S	0	0	0
			1788	1106	337	330	15			
3	L	234	Total	C	N	O	S	0	0	0
			1851	1140	348	348	15			

There are 24 discrepancies between the modelled and reference sequences:

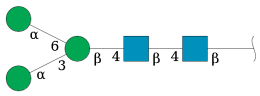
Chain	Residue	Modelled	Actual	Comment	Reference
I	275	HIS	-	expression tag	UNP P09758
I	276	HIS	-	expression tag	UNP P09758
I	277	HIS	-	expression tag	UNP P09758
I	278	HIS	-	expression tag	UNP P09758
I	279	HIS	-	expression tag	UNP P09758
I	280	HIS	-	expression tag	UNP P09758
K	275	HIS	-	expression tag	UNP P09758
K	276	HIS	-	expression tag	UNP P09758
K	277	HIS	-	expression tag	UNP P09758
K	278	HIS	-	expression tag	UNP P09758
K	279	HIS	-	expression tag	UNP P09758
K	280	HIS	-	expression tag	UNP P09758
J	275	HIS	-	expression tag	UNP P09758
J	276	HIS	-	expression tag	UNP P09758
J	277	HIS	-	expression tag	UNP P09758
J	278	HIS	-	expression tag	UNP P09758
J	279	HIS	-	expression tag	UNP P09758
J	280	HIS	-	expression tag	UNP P09758
L	275	HIS	-	expression tag	UNP P09758
L	276	HIS	-	expression tag	UNP P09758
L	277	HIS	-	expression tag	UNP P09758
L	278	HIS	-	expression tag	UNP P09758
L	279	HIS	-	expression tag	UNP P09758
L	280	HIS	-	expression tag	UNP P09758

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



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

- Molecule 5 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.



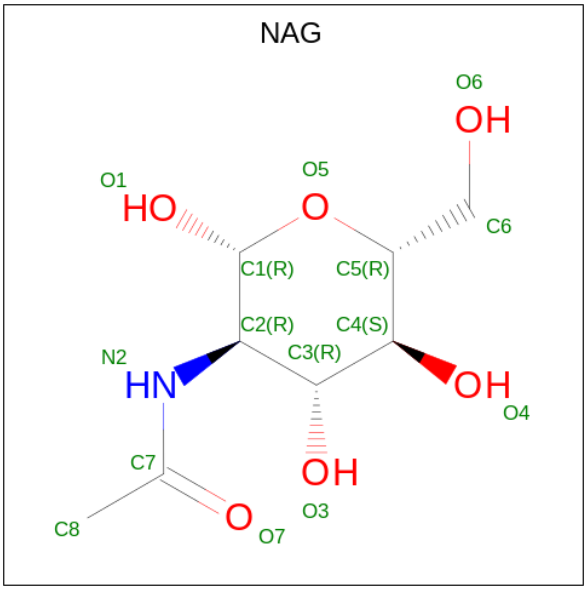
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
5	N	5	Total	C	N	O	0	0	0
			61	34	2	25			

- Molecule 6 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
6	O	2	Total	C	N	O	0	0	0
			28	16	2	10			

- Molecule 7 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
7	I	1	Total	C	N	O	0	0
			14	8	1	5		
7	J	1	Total	C	N	O	0	0
			14	8	1	5		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	J	1	Total C N O 14 8 1 5	0	0
7	L	1	Total C N O 14 8 1 5	0	0

- Molecule 8 is water.

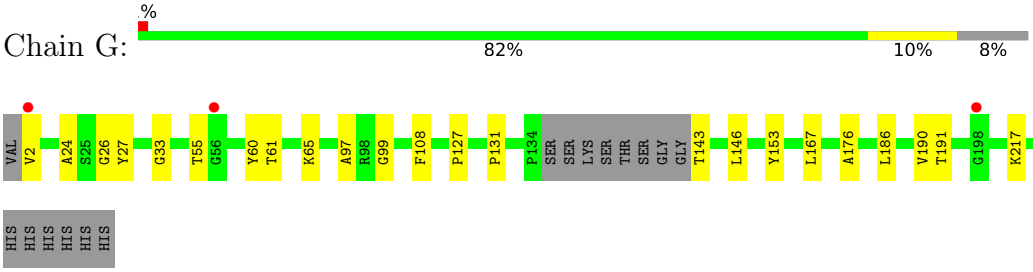
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	G	26	Total O 26 26	0	0
8	H	29	Total O 29 29	0	0
8	I	13	Total O 13 13	0	0
8	C	17	Total O 17 17	0	0
8	A	18	Total O 18 18	0	0
8	E	14	Total O 14 14	0	0
8	D	7	Total O 7 7	0	0
8	B	23	Total O 23 23	0	0
8	F	11	Total O 11 11	0	0
8	K	18	Total O 18 18	0	0
8	J	17	Total O 17 17	0	0
8	L	24	Total O 24 24	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.

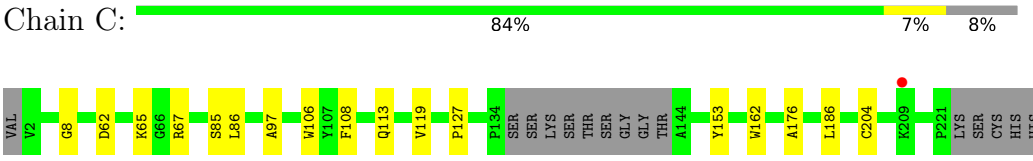
• Molecule 1: hRS7-HC

Chain G:



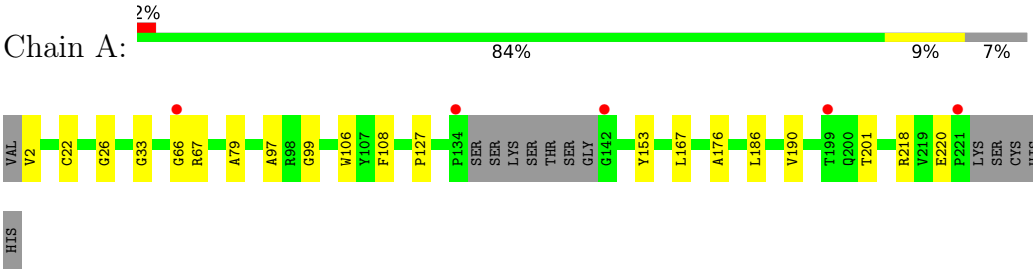
• Molecule 1: hRS7-HC

Chain C:



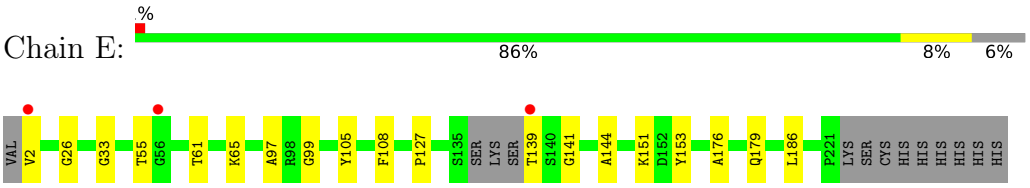
• Molecule 1: hRS7-HC

Chain A:



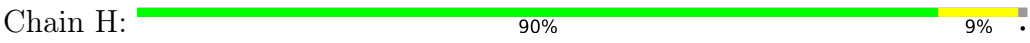
• Molecule 1: hRS7-HC

Chain E:



• Molecule 2: hRS7-LC

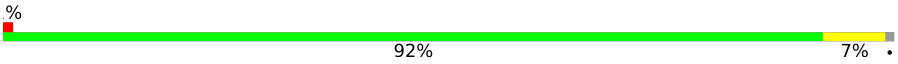
Chain H:

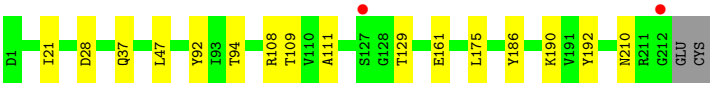




• Molecule 2: hRS7-LC

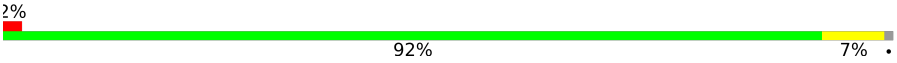
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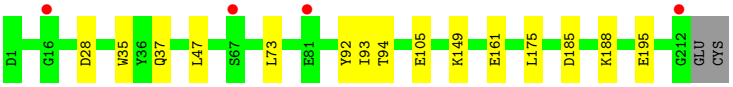




• Molecule 2: hRS7-LC

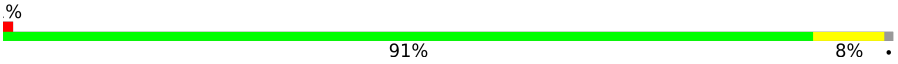
Chain B:

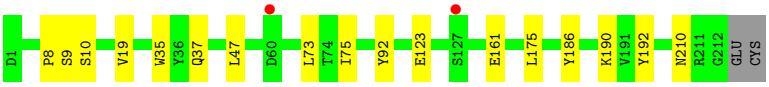




• Molecule 2: hRS7-LC

Chain F:

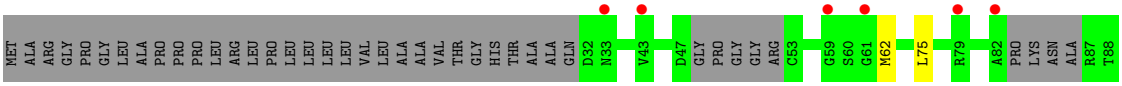


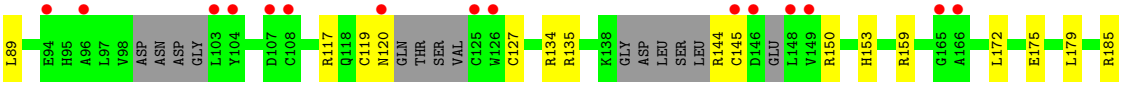


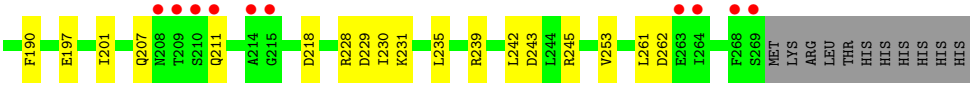
• Molecule 3: Tumor-associated calcium signal transducer 2

Chain I:





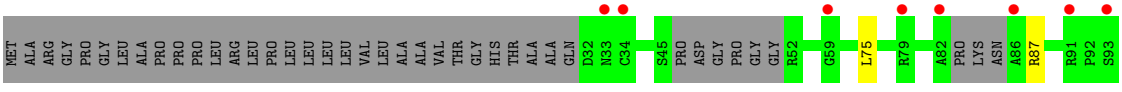


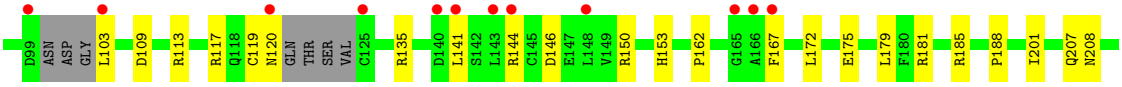


• Molecule 3: Tumor-associated calcium signal transducer 2

Chain K:



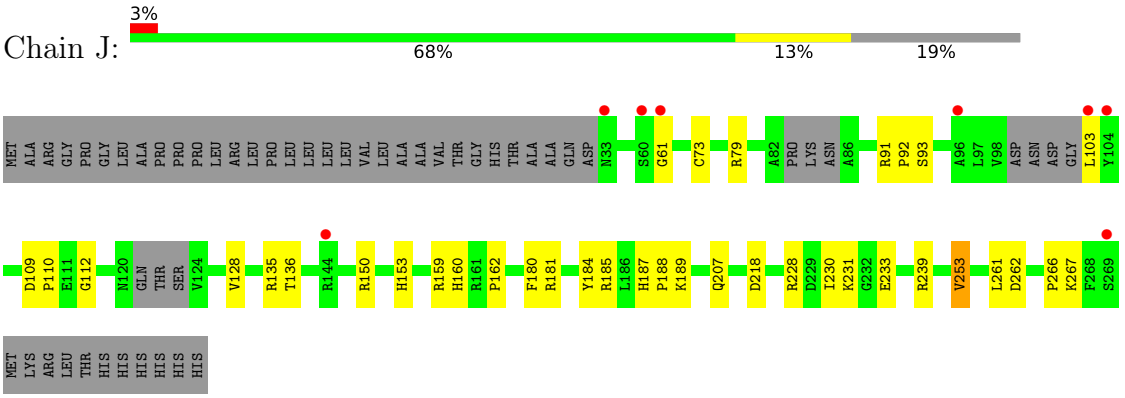






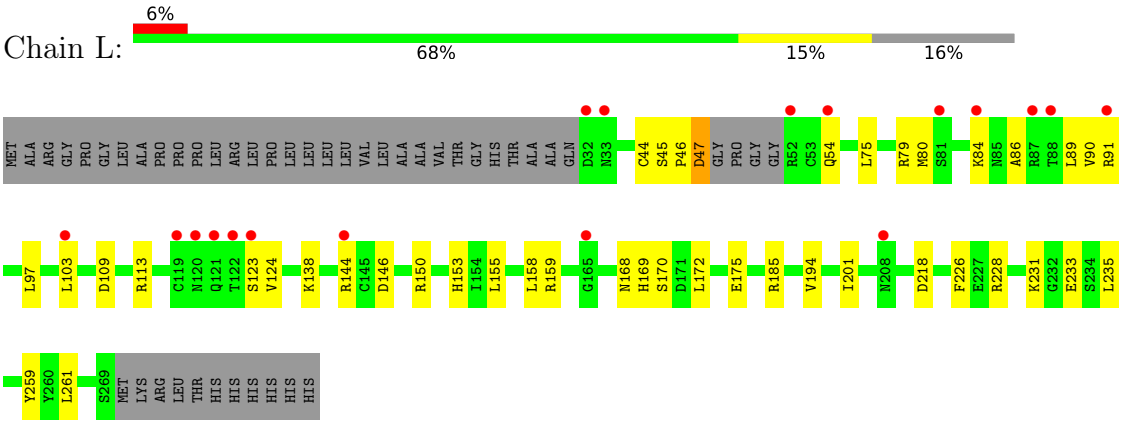
• Molecule 3: Tumor-associated calcium signal transducer 2

Chain J:



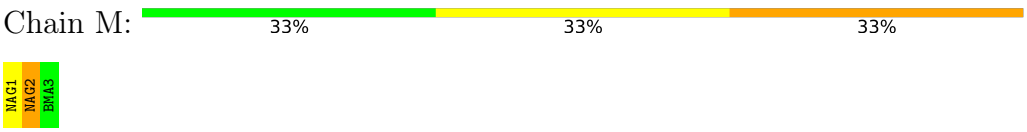
• Molecule 3: Tumor-associated calcium signal transducer 2

Chain L:



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

Chain M:



• Molecule 5: 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

Chain N:



• Molecule 6: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain O:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	81.90Å 208.60Å 94.70Å 90.00° 106.60° 90.00°	Depositor
Resolution (Å)	45.38 – 2.50 45.38 – 2.50	Depositor EDS
% Data completeness (in resolution range)	86.8 (45.38-2.50) 89.0 (45.38-2.50)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.66 (at 2.51Å)	Xtriage
Refinement program	PHENIX 1.20.1_4487	Depositor
R, R_{free}	0.235 , 0.271 0.236 , 0.270	Depositor DCC
R_{free} test set	1951 reflections (1.86%)	wwPDB-VP
Wilson B-factor (Å^2)	32.3	Xtriage
Anisotropy	0.659	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.37 , 37.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.45$, $< L^2 > = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	20449	wwPDB-VP
Average B, all atoms (Å^2)	38.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 30.63 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.2669e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ 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, MAN, NAG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
1	A	0.13	0/1654	0.34	0/2255
1	C	0.13	0/1643	0.32	0/2240
1	E	0.13	0/1677	0.33	0/2286
1	G	0.13	0/1650	0.33	0/2250
2	B	0.13	0/1663	0.33	0/2260
2	D	0.12	0/1663	0.32	0/2260
2	F	0.12	0/1663	0.33	0/2260
2	H	0.13	0/1663	0.33	0/2260
3	I	0.15	0/1738	0.37	0/2338
3	J	0.13	0/1819	0.35	0/2452
3	K	0.13	0/1773	0.32	0/2387
3	L	0.14	0/1884	0.35	0/2544
All	All	0.13	0/20490	0.34	0/27792

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	1609	0	1555	12	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C	1598	0	1545	10	0
1	E	1632	0	1575	11	0
1	G	1605	0	1552	14	0
2	B	1627	0	1588	9	0
2	D	1627	0	1588	9	0
2	F	1627	0	1588	8	0
2	H	1627	0	1588	12	0
3	I	1711	0	1676	23	0
3	J	1788	0	1757	25	0
3	K	1746	0	1715	28	0
3	L	1851	0	1809	30	0
4	M	39	0	34	1	0
5	N	61	0	52	2	0
6	O	28	0	25	1	0
7	I	14	0	13	0	0
7	J	28	0	26	0	0
7	L	14	0	13	1	0
8	A	18	0	0	0	0
8	B	23	0	0	0	0
8	C	17	0	0	0	0
8	D	7	0	0	0	0
8	E	14	0	0	0	0
8	F	11	0	0	0	0
8	G	26	0	0	0	0
8	H	29	0	0	0	0
8	I	13	0	0	1	0
8	J	17	0	0	0	0
8	K	18	0	0	0	0
8	L	24	0	0	0	0
All	All	20449	0	19699	171	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 4.

All (171) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:91:ARG:HD2	3:J:92:PRO:HD2	1.46	0.96
2:H:108:ARG:NH1	2:H:109:THR:O	2.18	0.77
2:D:108:ARG:NH1	2:D:109:THR:O	2.21	0.74
3:L:124:VAL:HG11	3:L:138:LYS:HE3	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:62:ASP:HA	1:C:65:LYS:HE3	1.72	0.70
3:J:150:ARG:NH1	3:J:218:ASP:OD2	2.24	0.70
3:I:190:PHE:HE1	3:I:211:GLN:HG2	1.58	0.69
3:I:150:ARG:NH1	3:I:218:ASP:OD2	2.26	0.68
3:J:93:SER:HB3	3:L:261:LEU:HD21	1.76	0.68
1:G:60:TYR:HB2	1:G:65:LYS:HG2	1.77	0.67
1:E:127:PRO:HB3	1:E:153:TYR:HB3	1.78	0.66
3:I:135:ARG:NH1	3:I:262:ASP:OD2	2.30	0.65
3:K:228:ARG:NH1	3:K:233:GLU:OE1	2.30	0.64
3:J:159:ARG:NH1	3:L:231:LYS:O	2.30	0.64
1:A:127:PRO:HB3	1:A:153:TYR:HB3	1.79	0.63
3:I:243:ASP:N	8:I:401:HOH:O	2.31	0.63
3:L:91:ARG:HH21	6:O:2:NAG:H4	1.64	0.63
3:K:230:ILE:HG23	3:K:253:VAL:HG21	1.80	0.62
3:L:84:LYS:HG3	3:L:91:ARG:HH12	1.64	0.62
2:B:37:GLN:HB2	2:B:47:LEU:HD11	1.82	0.61
2:D:190:LYS:HE2	2:D:210:ASN:HB3	1.82	0.61
3:L:153:HIS:HB3	3:L:261:LEU:HB2	1.82	0.61
3:L:47:ASP:N	3:L:47:ASP:OD1	2.32	0.61
1:G:127:PRO:HB3	1:G:153:TYR:HB3	1.83	0.60
2:H:37:GLN:HB2	2:H:47:LEU:HD11	1.82	0.60
1:C:113:GLN:HG3	5:N:5:MAN:H4	1.83	0.60
2:H:105:GLU:OE1	2:H:173:TYR:OH	2.20	0.59
2:H:92:TYR:OH	3:I:185:ARG:NH1	2.36	0.58
1:E:61:THR:O	1:E:65:LYS:HG3	2.03	0.58
3:K:153:HIS:HB3	3:K:261:LEU:HB3	1.84	0.58
1:G:2:VAL:HG22	1:G:26:GLY:HA3	1.84	0.58
3:K:150:ARG:NH1	3:K:218:ASP:OD2	2.31	0.58
3:L:80:MET:HE2	3:L:80:MET:HA	1.85	0.58
1:E:139:THR:HA	1:E:144:ALA:HA	1.85	0.57
3:K:117:ARG:HH22	3:K:141:LEU:HD12	1.69	0.57
3:I:119:CYS:O	3:I:120:ASN:HB2	2.04	0.57
1:A:97:ALA:HB1	1:A:108:PHE:HB3	1.85	0.57
2:F:37:GLN:HB2	2:F:47:LEU:HD11	1.87	0.56
3:I:230:ILE:HG23	3:I:253:VAL:HG21	1.86	0.56
1:G:97:ALA:HB1	1:G:108:PHE:HB3	1.88	0.56
1:C:127:PRO:HB3	1:C:153:TYR:HB3	1.89	0.55
1:C:97:ALA:HB1	1:C:108:PHE:HB3	1.88	0.55
3:K:144:ARG:HH12	3:K:146:ASP:CG	2.13	0.55
2:H:149:LYS:NZ	2:H:195:GLU:OE1	2.32	0.55
3:J:109:ASP:HB2	3:J:110:PRO:HD2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:161:GLU:HG2	2:F:175:LEU:HD21	1.89	0.55
3:I:117:ARG:NH2	3:I:144:ARG:HE	2.04	0.54
3:K:228:ARG:NH2	3:K:231:LYS:HD2	2.22	0.54
2:D:37:GLN:HB2	2:D:47:LEU:HD11	1.89	0.54
2:F:190:LYS:HE2	2:F:210:ASN:HB3	1.89	0.54
3:J:181:ARG:HD2	3:J:188:PRO:HG3	1.90	0.54
1:G:61:THR:O	1:G:65:LYS:HG3	2.08	0.53
2:F:92:TYR:OH	3:L:185:ARG:NH1	2.41	0.53
2:H:28:ASP:OD1	3:I:185:ARG:NH2	2.41	0.53
3:J:135:ARG:NH1	3:J:262:ASP:OD2	2.40	0.53
2:H:123:GLU:HA	2:H:126:LYS:HE2	1.90	0.53
3:I:150:ARG:NH2	3:I:207:GLN:OE1	2.41	0.53
3:K:119:CYS:O	3:K:120:ASN:HB2	2.08	0.53
2:F:186:TYR:O	2:F:192:TYR:OH	2.26	0.53
3:K:208:ASN:N	3:K:211:GLN:OE1	2.33	0.52
3:L:172:LEU:HD21	3:L:201:ILE:HG12	1.91	0.52
2:B:92:TYR:OH	3:J:185:ARG:NH1	2.43	0.52
1:E:97:ALA:HB1	1:E:108:PHE:HB3	1.91	0.52
3:J:160:HIS:HA	3:J:253:VAL:HA	1.91	0.51
2:D:92:TYR:OH	3:K:185:ARG:NH1	2.42	0.51
1:A:201:THR:HG23	1:A:218:ARG:HE	1.76	0.51
3:L:144:ARG:NH1	3:L:146:ASP:OD2	2.44	0.51
3:L:228:ARG:HH21	3:L:231:LYS:HD2	1.75	0.51
1:G:217:LYS:NZ	2:H:123:GLU:OE1	2.40	0.51
3:K:75:LEU:HD13	3:K:235:LEU:HD13	1.94	0.50
1:E:176:ALA:HB2	1:E:186:LEU:HD23	1.94	0.50
3:K:150:ARG:NH2	3:K:207:GLN:OE1	2.43	0.50
3:J:228:ARG:NH1	3:J:233:GLU:OE1	2.44	0.50
3:L:150:ARG:NH1	3:L:218:ASP:OD2	2.32	0.50
2:B:161:GLU:HG2	2:B:175:LEU:HD21	1.93	0.49
3:J:150:ARG:NH2	3:J:207:GLN:OE1	2.45	0.49
3:J:153:HIS:HB3	3:J:261:LEU:HB3	1.93	0.49
1:E:2:VAL:HG22	1:E:26:GLY:HA3	1.95	0.49
1:A:2:VAL:HG22	1:A:26:GLY:HA3	1.94	0.49
3:K:175:GLU:O	3:K:179:LEU:HD23	2.12	0.49
3:L:75:LEU:HD13	3:L:235:LEU:HD13	1.95	0.49
2:H:93:ILE:HG22	3:I:239:ARG:HG2	1.93	0.48
2:D:186:TYR:O	2:D:192:TYR:OH	2.31	0.48
3:J:73:CYS:HB3	3:J:112:GLY:O	2.13	0.48
3:L:44:CYS:HA	3:L:54:GLN:O	2.13	0.48
1:G:33:GLY:N	1:G:99:GLY:O	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:176:ALA:HB2	1:G:186:LEU:HD23	1.96	0.48
1:E:176:ALA:HA	1:E:186:LEU:HB3	1.94	0.48
1:A:176:ALA:HA	1:A:186:LEU:HB3	1.95	0.48
3:K:229:ASP:HB3	3:K:242:LEU:HB2	1.96	0.48
3:J:266:PRO:HG3	3:L:97:LEU:HD21	1.95	0.48
3:L:228:ARG:NH1	3:L:233:GLU:OE1	2.46	0.48
2:B:149:LYS:NZ	2:B:195:GLU:OE1	2.37	0.48
3:K:172:LEU:HD21	3:K:201:ILE:HG12	1.96	0.48
3:L:79:ARG:HB3	3:L:103:LEU:HD21	1.94	0.47
3:I:75:LEU:HD13	3:I:235:LEU:HD13	1.95	0.47
3:L:144:ARG:HH11	3:L:146:ASP:CG	2.23	0.47
3:J:228:ARG:HH21	3:J:231:LYS:HD2	1.80	0.47
1:A:66:GLY:O	1:A:67:ARG:HG2	2.15	0.47
2:D:28:ASP:OD1	3:K:185:ARG:NH2	2.49	0.46
3:J:136:THR:HG22	3:J:267:LYS:HE3	1.98	0.46
3:J:187:HIS:ND1	3:J:189:LYS:HG2	2.31	0.46
3:K:117:ARG:NH2	3:K:141:LEU:HA	2.30	0.46
1:C:67:ARG:HD2	1:C:85:SER:HB2	1.98	0.45
3:J:230:ILE:HD12	3:J:253:VAL:HG11	1.97	0.45
3:K:208:ASN:H	3:K:211:GLN:CD	2.22	0.45
3:I:175:GLU:O	3:I:179:LEU:HD23	2.17	0.45
1:C:162:TRP:CH2	1:C:204:CYS:HB3	2.52	0.45
3:L:45:SER:O	3:L:54:GLN:N	2.42	0.45
2:D:161:GLU:HG2	2:D:175:LEU:HD21	1.99	0.45
1:G:167:LEU:HD21	1:G:190:VAL:HG21	1.99	0.45
1:A:167:LEU:HD21	1:A:190:VAL:HG21	1.98	0.45
2:B:185:ASP:HA	2:B:188:LYS:HE3	1.98	0.45
3:I:153:HIS:HB3	3:I:261:LEU:HB2	1.98	0.45
1:G:176:ALA:HA	1:G:186:LEU:HB3	1.97	0.45
3:I:228:ARG:NH2	3:I:231:LYS:HD2	2.32	0.45
3:I:159:ARG:NH2	3:K:233:GLU:OE2	2.50	0.44
3:I:127:CYS:O	3:I:134:ARG:HA	2.16	0.44
3:L:169:HIS:NE2	3:L:194:VAL:O	2.43	0.44
1:G:143:THR:HG23	1:G:191:THR:HG23	1.99	0.44
2:B:93:ILE:HG22	3:J:239:ARG:HG2	1.99	0.44
3:I:172:LEU:HD21	3:I:201:ILE:HG12	1.99	0.44
2:F:8:PRO:C	2:F:10:SER:H	2.25	0.44
1:E:105:TYR:OH	3:L:175:GLU:OE2	2.32	0.44
2:H:186:TYR:O	2:H:192:TYR:OH	2.36	0.43
1:A:33:GLY:N	1:A:99:GLY:O	2.48	0.43
3:K:135:ARG:NH1	3:K:262:ASP:OD2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:55:THR:HG22	3:K:162:PRO:O	2.18	0.43
2:H:161:GLU:HG2	2:H:175:LEU:HD21	1.99	0.43
3:I:229:ASP:HB3	3:I:242:LEU:HB2	2.00	0.43
2:F:19:VAL:HG22	2:F:75:ILE:HB	2.00	0.43
3:K:144:ARG:NH1	3:K:146:ASP:OD1	2.52	0.43
1:E:55:THR:HG22	3:J:162:PRO:O	2.19	0.43
2:B:35:TRP:CD2	2:B:73:LEU:HB2	2.54	0.43
1:G:131:PRO:HD3	1:G:217:LYS:NZ	2.33	0.43
1:C:176:ALA:HA	1:C:186:LEU:HB3	2.00	0.43
2:H:19:VAL:HG22	2:H:75:ILE:HB	2.00	0.43
3:I:243:ASP:O	3:I:245:ARG:HG3	2.19	0.43
2:B:28:ASP:OD1	3:J:185:ARG:NH2	2.52	0.42
1:E:33:GLY:N	1:E:99:GLY:O	2.48	0.42
3:K:109:ASP:OD1	3:K:113:ARG:N	2.53	0.42
3:J:92:PRO:HG3	3:L:259:TYR:CZ	2.54	0.42
3:L:158:LEU:HD11	3:L:226:PHE:HZ	1.85	0.42
1:C:8:GLY:HA2	5:N:5:MAN:H2	2.01	0.42
3:K:265:PRO:HA	3:K:266:PRO:HD3	1.93	0.42
1:C:106:TRP:CZ3	2:D:94:THR:HG23	2.55	0.42
3:L:144:ARG:NH1	3:L:146:ASP:CG	2.77	0.42
3:J:180:PHE:HA	3:J:184:TYR:HD2	1.84	0.42
3:I:172:LEU:HD21	3:I:201:ILE:HG23	2.01	0.42
3:K:117:ARG:HH22	3:K:141:LEU:HA	1.85	0.42
4:M:1:NAG:H61	4:M:2:NAG:C7	2.50	0.42
1:E:151:LYS:NZ	1:E:179:GLN:OE1	2.53	0.42
1:A:106:TRP:CZ3	2:B:94:THR:HG23	2.55	0.42
3:I:197:GLU:CD	3:K:87:ARG:HB2	2.44	0.41
1:C:86:LEU:HD22	1:C:119:VAL:HG21	2.01	0.41
1:A:176:ALA:HB2	1:A:186:LEU:HD23	2.00	0.41
3:K:181:ARG:HD3	3:K:188:PRO:HD3	2.01	0.41
3:L:228:ARG:HB3	3:L:233:GLU:O	2.21	0.41
3:L:155:LEU:HB3	3:L:259:TYR:HB2	2.03	0.41
3:L:86:ALA:HB1	3:L:89:LEU:HB2	2.03	0.41
3:L:170:SER:CB	7:L:301:NAG:H82	2.51	0.41
3:I:229:ASP:HB3	3:I:242:LEU:CB	2.51	0.41
2:D:108:ARG:HH12	2:D:111:ALA:HB2	1.84	0.41
1:A:22:CYS:N	1:A:79:ALA:O	2.52	0.41
3:J:228:ARG:HB3	3:J:233:GLU:O	2.21	0.41
1:G:24:ALA:HB1	1:G:27:TYR:CE1	2.56	0.40
3:K:208:ASN:HB2	3:K:211:GLN:HG3	2.03	0.40
1:A:218:ARG:HH12	1:A:220:GLU:CD	2.30	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:35:TRP:CD2	2:F:73:LEU:HB2	2.56	0.40
3:J:79:ARG:HH11	3:J:103:LEU:CD2	2.34	0.40
3:L:109:ASP:OD1	3:L:113:ARG:N	2.54	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	209/230 (91%)	203 (97%)	6 (3%)	0	100	100
1	C	207/230 (90%)	203 (98%)	4 (2%)	0	100	100
1	E	213/230 (93%)	205 (96%)	7 (3%)	1 (0%)	24	43
1	G	208/230 (90%)	203 (98%)	5 (2%)	0	100	100
2	B	210/214 (98%)	206 (98%)	4 (2%)	0	100	100
2	D	210/214 (98%)	206 (98%)	4 (2%)	0	100	100
2	F	210/214 (98%)	205 (98%)	5 (2%)	0	100	100
2	H	210/214 (98%)	206 (98%)	4 (2%)	0	100	100
3	I	201/280 (72%)	196 (98%)	5 (2%)	0	100	100
3	J	219/280 (78%)	211 (96%)	7 (3%)	1 (0%)	24	43
3	K	210/280 (75%)	203 (97%)	7 (3%)	0	100	100
3	L	230/280 (82%)	222 (96%)	6 (3%)	2 (1%)	14	27
All	All	2537/2896 (88%)	2469 (97%)	64 (2%)	4 (0%)	43	63

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	L	46	PRO

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Mol	Chain	Res	Type
1	E	141	GLY
3	J	61	GLY
3	L	123	SER

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	178/194 (92%)	178 (100%)	0	100	100
1	C	177/194 (91%)	177 (100%)	0	100	100
1	E	181/194 (93%)	181 (100%)	0	100	100
1	G	178/194 (92%)	177 (99%)	1 (1%)	78	91
2	B	185/187 (99%)	184 (100%)	1 (0%)	81	92
2	D	185/187 (99%)	183 (99%)	2 (1%)	65	84
2	F	185/187 (99%)	183 (99%)	2 (1%)	65	84
2	H	185/187 (99%)	184 (100%)	1 (0%)	81	92
3	I	188/238 (79%)	185 (98%)	3 (2%)	55	79
3	J	195/238 (82%)	193 (99%)	2 (1%)	68	86
3	K	191/238 (80%)	189 (99%)	2 (1%)	68	86
3	L	204/238 (86%)	200 (98%)	4 (2%)	48	75
All	All	2232/2476 (90%)	2214 (99%)	18 (1%)	73	88

All (18) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	G	146	LEU
2	H	129	THR
3	I	62	MET
3	I	89	LEU
3	I	145	CYS
2	D	21	ILE
2	D	129	THR

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Mol	Chain	Res	Type
2	B	105	GLU
2	F	9	SER
2	F	123	GLU
3	K	103	LEU
3	K	167	PHE
3	J	128	VAL
3	J	253	VAL
3	L	47	ASP
3	L	90	VAL
3	L	159	ARG
3	L	168	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	39	GLN
1	C	82	GLN
2	D	38	GLN
2	D	137	ASN
2	B	124	GLN

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)

10 monosaccharides are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	NAG	M	1	3,4	14,14,15	0.41	0	17,19,21	0.50	0
4	NAG	M	2	4	14,14,15	0.24	0	17,19,21	0.61	1 (5%)
4	BMA	M	3	4	11,11,12	0.69	0	15,15,17	0.73	0
5	NAG	N	1	3,5	14,14,15	0.68	0	17,19,21	1.02	1 (5%)
5	NAG	N	2	5	14,14,15	0.39	0	17,19,21	0.33	0
5	BMA	N	3	5	11,11,12	0.64	0	15,15,17	0.87	0
5	MAN	N	4	5	11,11,12	0.78	0	15,15,17	0.90	0
5	MAN	N	5	5	11,11,12	0.89	0	15,15,17	0.98	2 (13%)
6	NAG	O	1	6,3	14,14,15	0.18	0	17,19,21	0.57	0
6	NAG	O	2	6	14,14,15	0.26	0	17,19,21	0.45	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	M	1	3,4	-	2/6/23/26	0/1/1/1
4	NAG	M	2	4	-	0/6/23/26	0/1/1/1
4	BMA	M	3	4	-	0/2/19/22	0/1/1/1
5	NAG	N	1	3,5	-	0/6/23/26	0/1/1/1
5	NAG	N	2	5	-	2/6/23/26	0/1/1/1
5	BMA	N	3	5	-	0/2/19/22	0/1/1/1
5	MAN	N	4	5	-	2/2/19/22	0/1/1/1
5	MAN	N	5	5	-	2/2/19/22	0/1/1/1
6	NAG	O	1	6,3	-	1/6/23/26	0/1/1/1
6	NAG	O	2	6	-	2/6/23/26	0/1/1/1

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	N	1	NAG	C1-O5-C5	3.48	116.90	112.19
5	N	5	MAN	O2-C2-C3	-2.16	105.81	110.14
4	M	2	NAG	C1-O5-C5	2.14	115.09	112.19
5	N	5	MAN	C1-O5-C5	2.08	115.02	112.19

There are no chirality outliers.

All (11) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	N	4	MAN	O5-C5-C6-O6
4	M	1	NAG	O5-C5-C6-O6
5	N	2	NAG	O5-C5-C6-O6
4	M	1	NAG	C4-C5-C6-O6
5	N	4	MAN	C4-C5-C6-O6
5	N	5	MAN	O5-C5-C6-O6
5	N	5	MAN	C4-C5-C6-O6
5	N	2	NAG	C4-C5-C6-O6
6	O	2	NAG	C4-C5-C6-O6
6	O	2	NAG	O5-C5-C6-O6
6	O	1	NAG	C3-C2-N2-C7

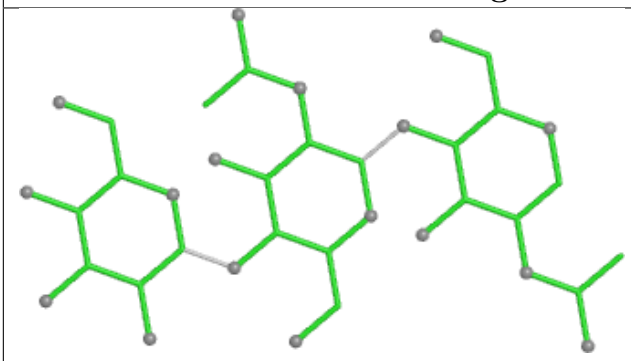
There are no ring outliers.

4 monomers are involved in 4 short contacts:

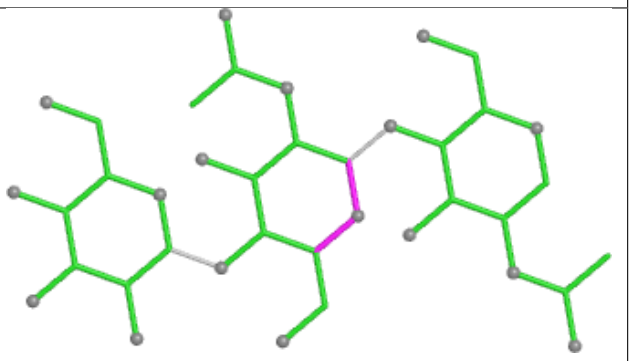
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	N	5	MAN	2	0
4	M	2	NAG	1	0
6	O	2	NAG	1	0
4	M	1	NAG	1	0

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

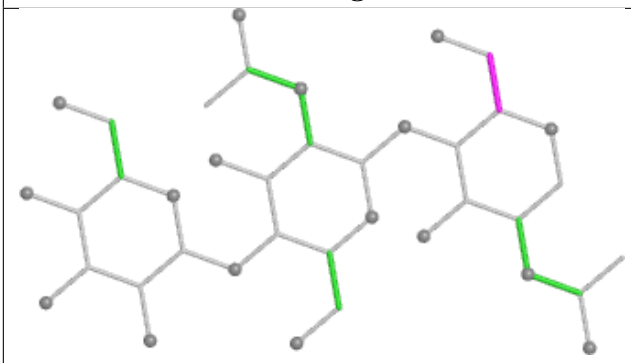
Oligosaccharide Chain M



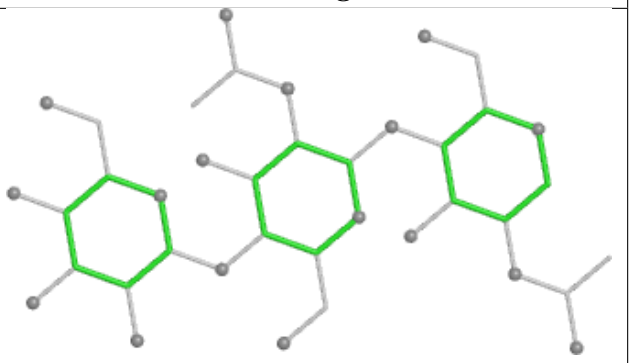
Bond lengths



Bond angles

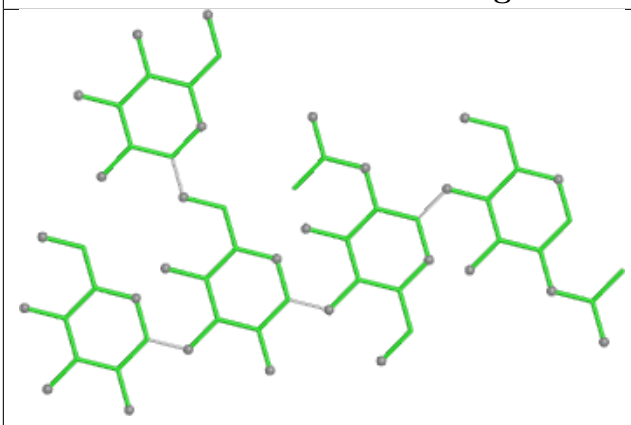


Torsions

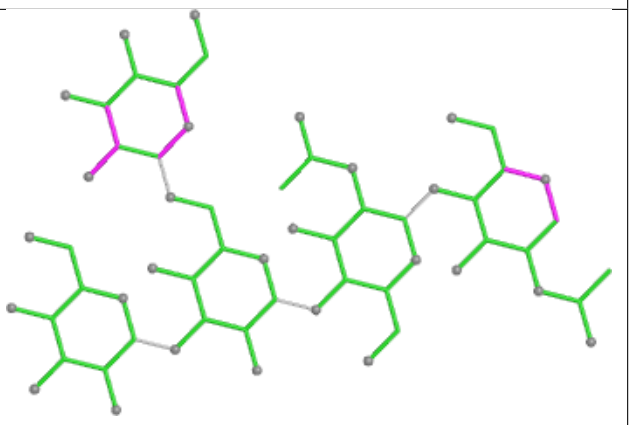


Rings

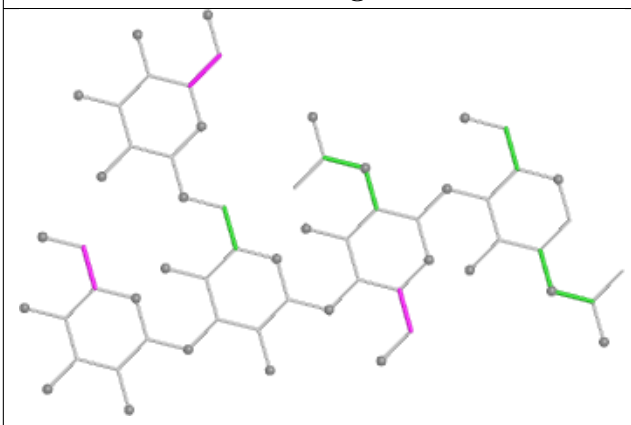
Oligosaccharide Chain N



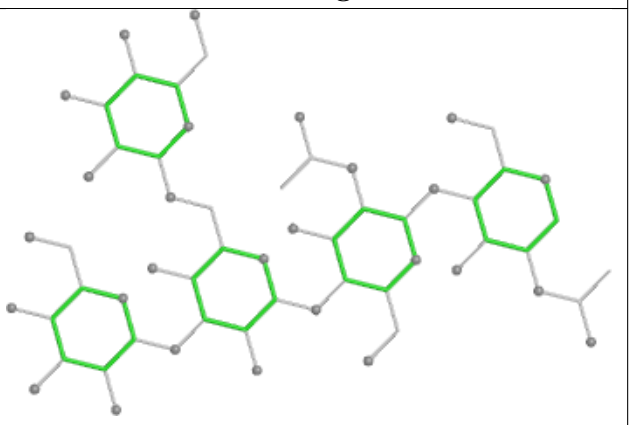
Bond lengths



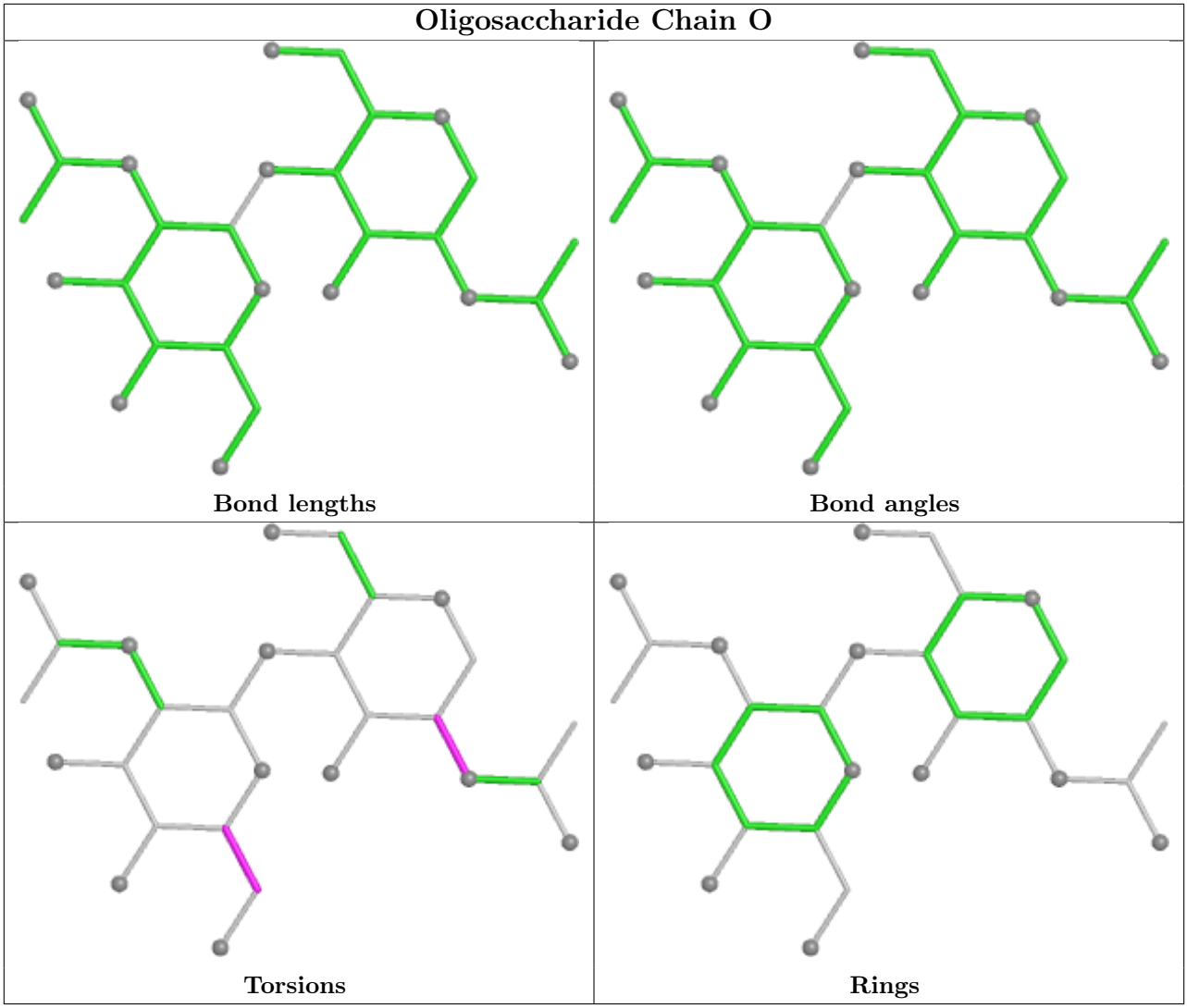
Bond angles



Torsions



Rings



5.6 Ligand geometry (i)

4 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
7	NAG	J	302	3	14,14,15	0.45	0	17,19,21	0.70	1 (5%)
7	NAG	J	301	3	14,14,15	0.35	0	17,19,21	0.41	0
7	NAG	L	301	3	14,14,15	0.31	0	17,19,21	0.82	1 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
7	NAG	I	301	3	14,14,15	0.37	0	17,19,21	0.72	1 (5%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
7	NAG	J	302	3	-	0/6/23/26	0/1/1/1
7	NAG	J	301	3	-	1/6/23/26	0/1/1/1
7	NAG	L	301	3	-	0/6/23/26	0/1/1/1
7	NAG	I	301	3	-	1/6/23/26	0/1/1/1

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	J	302	NAG	C1-O5-C5	2.53	115.62	112.19
7	L	301	NAG	C1-O5-C5	2.37	115.40	112.19
7	I	301	NAG	C1-O5-C5	2.25	115.25	112.19

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
7	J	301	NAG	O5-C5-C6-O6
7	I	301	NAG	C3-C2-N2-C7

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	L	301	NAG	1	0

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} 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	213/230 (92%)	0.24	5 (2%) 61 57	24, 33, 57, 72	0
1	C	211/230 (91%)	0.16	1 (0%) 87 85	26, 32, 53, 66	0
1	E	217/230 (94%)	0.30	3 (1%) 73 70	24, 35, 55, 69	0
1	G	212/230 (92%)	0.29	3 (1%) 73 70	25, 34, 52, 68	0
2	B	212/214 (99%)	0.07	4 (1%) 66 62	23, 30, 45, 55	0
2	D	212/214 (99%)	0.19	2 (0%) 81 78	28, 33, 49, 57	0
2	F	212/214 (99%)	0.10	2 (0%) 81 78	24, 33, 46, 60	0
2	H	212/214 (99%)	0.13	1 (0%) 87 85	25, 32, 46, 58	0
3	I	215/280 (76%)	0.91	31 (14%) 6 5	27, 49, 80, 98	0
3	J	227/280 (81%)	0.52	8 (3%) 47 42	25, 40, 62, 77	0
3	K	220/280 (78%)	0.73	23 (10%) 11 10	28, 45, 78, 95	0
3	L	234/280 (83%)	0.51	18 (7%) 19 17	23, 38, 71, 97	0
All	All	2597/2896 (89%)	0.35	101 (3%) 43 38	23, 35, 65, 98	0

All (101) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	I	268	PHE	4.5
3	I	125	CYS	4.1
3	L	120	ASN	3.9
3	I	103	LEU	3.8
3	L	122	THR	3.8
1	E	56	GLY	3.7
3	K	141	LEU	3.6
3	I	148	LEU	3.5
3	I	211	GLN	3.4
3	L	121	GLN	3.3
3	K	33	ASN	3.2

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Mol	Chain	Res	Type	RSRZ
3	L	119	CYS	3.2
3	I	264	ILE	3.1
1	G	56	GLY	3.1
1	G	198	GLY	3.1
3	I	146	ASP	3.1
3	K	144	ARG	3.0
3	J	60	SER	3.0
1	E	139	THR	3.0
3	K	143	LEU	3.0
3	J	33	ASN	3.0
1	E	2	VAL	2.9
3	L	33	ASN	2.9
3	K	103	LEU	2.9
3	L	88	THR	2.8
3	L	123	SER	2.7
3	L	87	ARG	2.7
3	I	104	TYR	2.6
3	K	99	ASP	2.6
3	K	140	ASP	2.6
3	I	145	CYS	2.6
3	K	34	CYS	2.6
1	G	2	VAL	2.6
3	I	214	ALA	2.6
3	I	263	GLU	2.6
3	L	32	ASP	2.6
2	B	81	GLU	2.6
3	I	108	CYS	2.5
3	K	86	ALA	2.5
3	I	209	THR	2.5
3	K	82	ALA	2.5
3	L	103	LEU	2.5
3	K	167	PHE	2.5
3	K	214	ALA	2.5
3	K	125	CYS	2.4
3	I	79	ARG	2.4
3	I	59	GLY	2.4
3	L	84	LYS	2.4
3	L	54	GLN	2.4
1	C	209	LYS	2.4
2	H	212	GLY	2.4
3	K	264	ILE	2.4
3	I	43	VAL	2.4

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Mol	Chain	Res	Type	RSRZ
3	J	269	SER	2.4
1	A	66	GLY	2.4
3	J	104	TYR	2.4
3	J	103	LEU	2.3
1	A	134	PRO	2.3
3	I	126	TRP	2.3
3	I	120	ASN	2.3
3	J	144	ARG	2.3
2	D	212	GLY	2.3
3	K	148	LEU	2.3
3	I	94	GLU	2.3
3	K	211	GLN	2.3
3	L	144	ARG	2.3
1	A	142	GLY	2.2
3	I	165	GLY	2.2
3	I	215	GLY	2.2
3	L	165	GLY	2.2
2	B	67	SER	2.2
3	K	93	SER	2.2
3	K	79	ARG	2.2
3	I	33	ASN	2.2
2	B	212	GLY	2.2
3	I	61	GLY	2.2
3	I	210	SER	2.2
2	F	60	ASP	2.2
3	L	91	ARG	2.2
1	A	221	PRO	2.2
3	I	208	ASN	2.1
2	B	16	GLY	2.1
3	L	81	SER	2.1
3	I	149	VAL	2.1
3	K	120	ASN	2.1
1	A	199	THR	2.1
3	J	61	GLY	2.1
2	D	127	SER	2.1
3	K	166	ALA	2.1
3	J	96	ALA	2.1
2	F	127	SER	2.1
3	I	82	ALA	2.0
3	L	208	ASN	2.0
3	K	59	GLY	2.0
3	I	107	ASP	2.0

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Mol	Chain	Res	Type	RSRZ
3	K	91	ARG	2.0
3	L	52	ARG	2.0
3	I	96	ALA	2.0
3	I	166	ALA	2.0
3	K	165	GLY	2.0
3	I	269	SER	2.0

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

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

6.3 Carbohydrates (i)

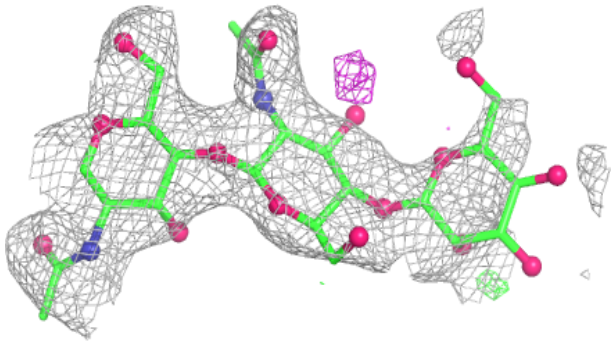
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

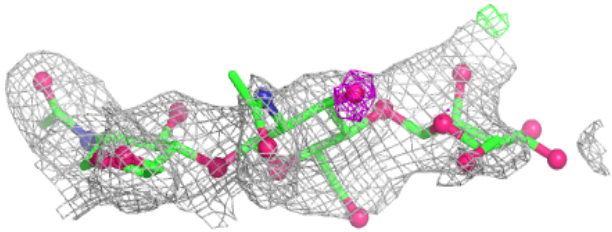
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	MAN	N	5	11/12	0.66	0.18	48,53,59,61	0
4	BMA	M	3	11/12	0.69	0.16	68,74,77,79	0
6	NAG	O	2	14/15	0.69	0.17	75,87,92,93	0
4	NAG	M	2	14/15	0.70	0.16	56,63,71,72	0
6	NAG	O	1	14/15	0.76	0.16	67,76,85,92	0
5	NAG	N	2	14/15	0.81	0.13	33,54,58,63	0
5	MAN	N	4	11/12	0.84	0.11	57,62,66,67	0
5	NAG	N	1	14/15	0.85	0.13	39,57,64,66	0
4	NAG	M	1	14/15	0.85	0.12	48,56,65,68	0
5	BMA	N	3	11/12	0.87	0.10	47,54,60,62	0

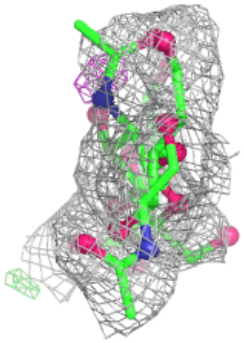
The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around Chain M:

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

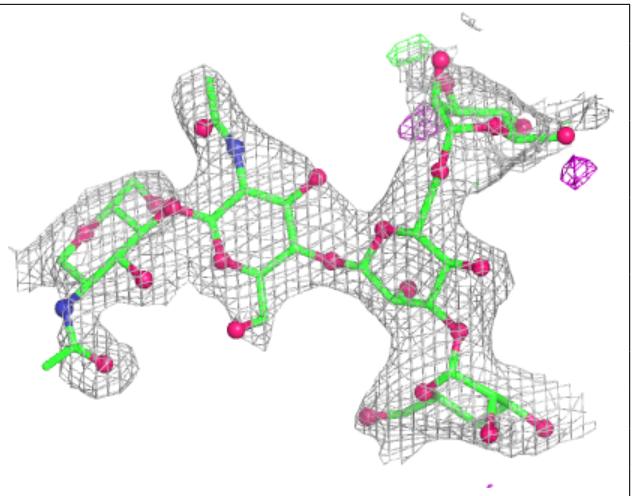


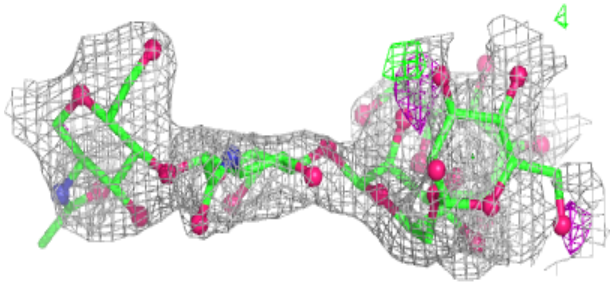


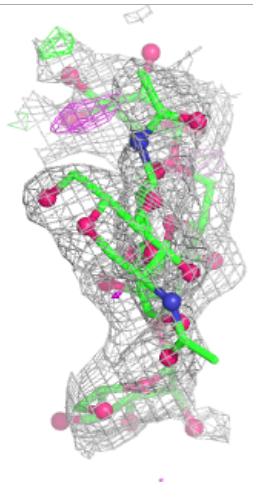


Electron density around Chain N:

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

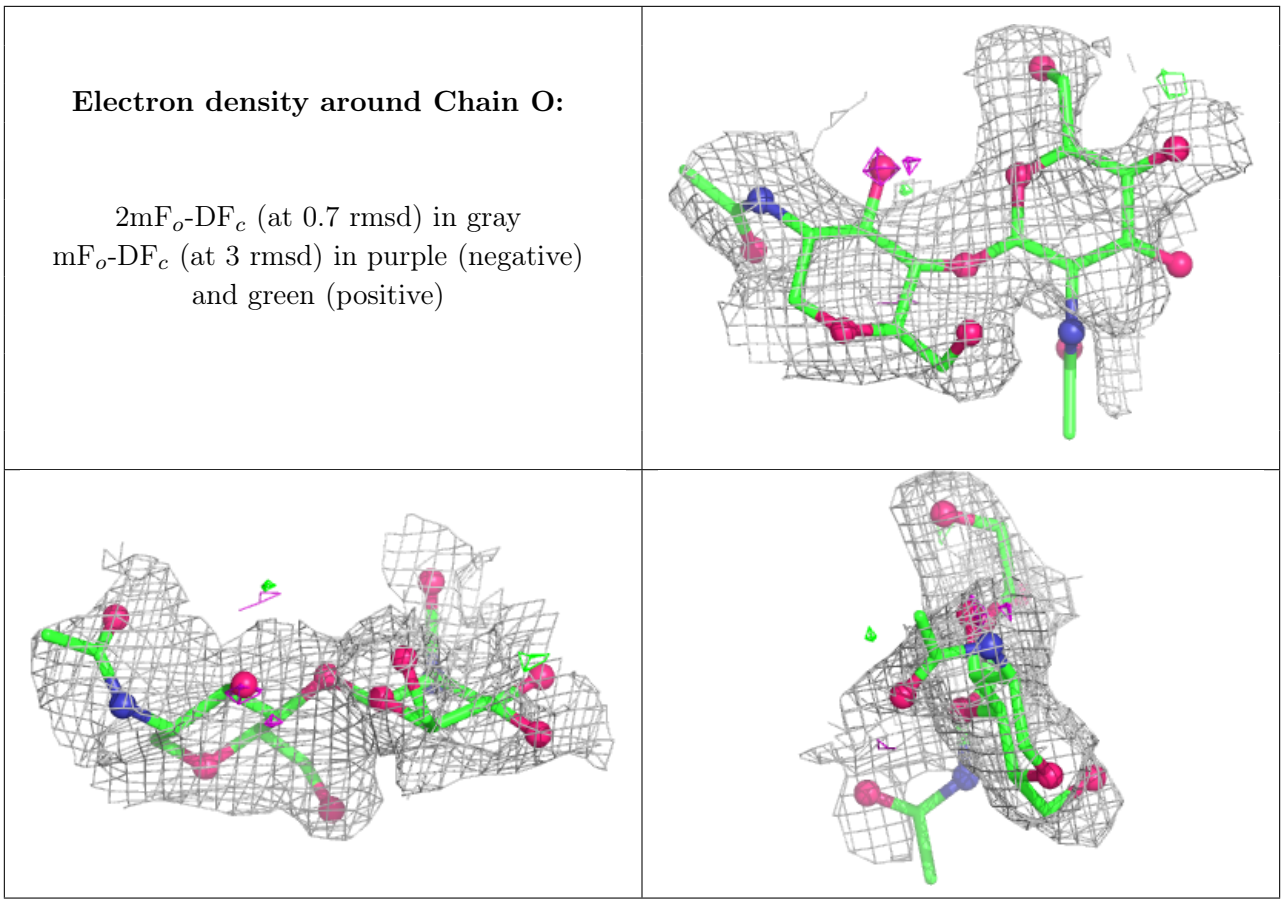






Electron density around Chain O:

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



6.4 Ligands

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^{th} 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
7	NAG	I	301	14/15	0.65	0.19	62,66,75,76	0
7	NAG	J	301	14/15	0.68	0.18	74,83,90,92	0
7	NAG	L	301	14/15	0.76	0.15	47,65,73,78	0
7	NAG	J	302	14/15	0.80	0.15	68,71,77,81	0

6.5 Other polymers

There are no such residues in this entry.