Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 05:02 PM UTC

PDB ID	:	6OEJ / pdb_00006oej
Title	:	CRYSTAL STRUCTURE OF THE NON-NEUTRALIZING AND ADCC-POTENT ANTIBODY C11 IN COMPLEX WITH HIV-1 CLADE A/E GP120
Authors	:	Tolbert, W.D.; Pazgier, M.
Deposited on	:	2019-03-27
Resolution	:	3.45 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:

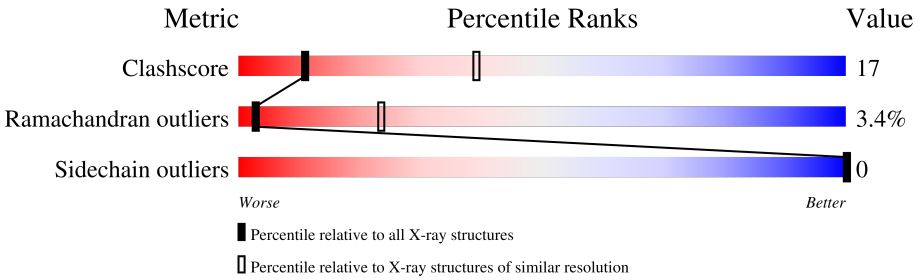
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	NOT EXECUTED
Xtriage (Phenix)	:	2.0
EDS	:	NOT EXECUTED
Buster-report	:	NOT EXECUTED
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

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 3.45 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	190562	1128 (3.50-3.42)
Ramachandran outliers	187476	1101 (3.50-3.42)
Sidechain outliers	187428	1102 (3.50-3.42)

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%

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	385	50% 31% • 16%
1	G	385	49% 33% • 17%
2	B	239	61% 33% • 5%
2	H	239	63% 30% • 5%
3	C	218	60% 37% ••
3	L	218	77% 22% •
4	D	4	75% 25%
4	E	4	100%

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 12140 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 clade A/E 93TH057 HIV-1 gp120 core.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	G	319	Total	C	N	O	S	0	0	0
			2497	1574	423	478	22			
1	A	322	Total	C	N	O	S	0	0	0
			2524	1591	429	481	23			

There are 68 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	31	CYS	-	see sequence details	UNP A0A0M3KKW9
G	32	ASP	-	see sequence details	UNP A0A0M3KKW9
G	33	ASN	-	see sequence details	UNP A0A0M3KKW9
G	34	LEU	-	see sequence details	UNP A0A0M3KKW9
G	35	TRP	-	see sequence details	UNP A0A0M3KKW9
G	36	VAL	-	see sequence details	UNP A0A0M3KKW9
G	37	THR	-	see sequence details	UNP A0A0M3KKW9
G	38	VAL	-	see sequence details	UNP A0A0M3KKW9
G	39	TYR	-	see sequence details	UNP A0A0M3KKW9
G	40	TYR	-	see sequence details	UNP A0A0M3KKW9
G	41	GLY	-	see sequence details	UNP A0A0M3KKW9
G	42	VAL	-	see sequence details	UNP A0A0M3KKW9
G	43	PRO	-	see sequence details	UNP A0A0M3KKW9
G	80	CYS	ASN	engineered mutation	UNP A0A0M3KKW9
G	375	SER	HIS	engineered mutation	UNP A0A0M3KKW9
G	493	PRO	-	see sequence details	UNP A0A0M3KKW9
G	494	LEU	-	see sequence details	UNP A0A0M3KKW9
G	495	GLY	-	see sequence details	UNP A0A0M3KKW9
G	496	ILE	-	see sequence details	UNP A0A0M3KKW9
G	497	ALA	-	see sequence details	UNP A0A0M3KKW9
G	498	PRO	-	see sequence details	UNP A0A0M3KKW9
G	499	THR	-	see sequence details	UNP A0A0M3KKW9
G	500	LYS	-	see sequence details	UNP A0A0M3KKW9
G	501	ALA	-	see sequence details	UNP A0A0M3KKW9
G	502	LYS	-	see sequence details	UNP A0A0M3KKW9

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Chain	Residue	Modelled	Actual	Comment	Reference
G	503	ARG	-	see sequence details	UNP A0A0M3KKW9
G	504	ARG	-	see sequence details	UNP A0A0M3KKW9
G	505	VAL	-	see sequence details	UNP A0A0M3KKW9
G	506	VAL	-	see sequence details	UNP A0A0M3KKW9
G	507	GLN	-	see sequence details	UNP A0A0M3KKW9
G	508	ARG	-	see sequence details	UNP A0A0M3KKW9
G	509	GLU	-	see sequence details	UNP A0A0M3KKW9
G	510	LYS	-	see sequence details	UNP A0A0M3KKW9
G	511	ARG	-	see sequence details	UNP A0A0M3KKW9
A	31	CYS	-	see sequence details	UNP A0A0M3KKW9
A	32	ASP	-	see sequence details	UNP A0A0M3KKW9
A	33	ASN	-	see sequence details	UNP A0A0M3KKW9
A	34	LEU	-	see sequence details	UNP A0A0M3KKW9
A	35	TRP	-	see sequence details	UNP A0A0M3KKW9
A	36	VAL	-	see sequence details	UNP A0A0M3KKW9
A	37	THR	-	see sequence details	UNP A0A0M3KKW9
A	38	VAL	-	see sequence details	UNP A0A0M3KKW9
A	39	TYR	-	see sequence details	UNP A0A0M3KKW9
A	40	TYR	-	see sequence details	UNP A0A0M3KKW9
A	41	GLY	-	see sequence details	UNP A0A0M3KKW9
A	42	VAL	-	see sequence details	UNP A0A0M3KKW9
A	43	PRO	-	see sequence details	UNP A0A0M3KKW9
A	80	CYS	ASN	engineered mutation	UNP A0A0M3KKW9
A	375	SER	HIS	engineered mutation	UNP A0A0M3KKW9
A	493	PRO	-	see sequence details	UNP A0A0M3KKW9
A	494	LEU	-	see sequence details	UNP A0A0M3KKW9
A	495	GLY	-	see sequence details	UNP A0A0M3KKW9
A	496	ILE	-	see sequence details	UNP A0A0M3KKW9
A	497	ALA	-	see sequence details	UNP A0A0M3KKW9
A	498	PRO	-	see sequence details	UNP A0A0M3KKW9
A	499	THR	-	see sequence details	UNP A0A0M3KKW9
A	500	LYS	-	see sequence details	UNP A0A0M3KKW9
A	501	ALA	-	see sequence details	UNP A0A0M3KKW9
A	502	LYS	-	see sequence details	UNP A0A0M3KKW9
A	503	ARG	-	see sequence details	UNP A0A0M3KKW9
A	504	ARG	-	see sequence details	UNP A0A0M3KKW9
A	505	VAL	-	see sequence details	UNP A0A0M3KKW9
A	506	VAL	-	see sequence details	UNP A0A0M3KKW9
A	507	GLN	-	see sequence details	UNP A0A0M3KKW9
A	508	ARG	-	see sequence details	UNP A0A0M3KKW9
A	509	GLU	-	see sequence details	UNP A0A0M3KKW9
A	510	LYS	-	see sequence details	UNP A0A0M3KKW9

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Chain	Residue	Modelled	Actual	Comment	Reference
A	511	ARG	-	see sequence details	UNP A0A0M3KKW9

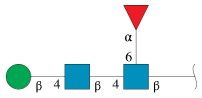
- Molecule 2 is a protein called C11 Fab heavy chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	H	227	Total	C	N	O	S	0	0	0
			1708	1079	288	334	7			
2	B	227	Total	C	N	O	S	0	0	0
			1709	1079	288	335	7			

- Molecule 3 is a protein called C11 Fab light chain.

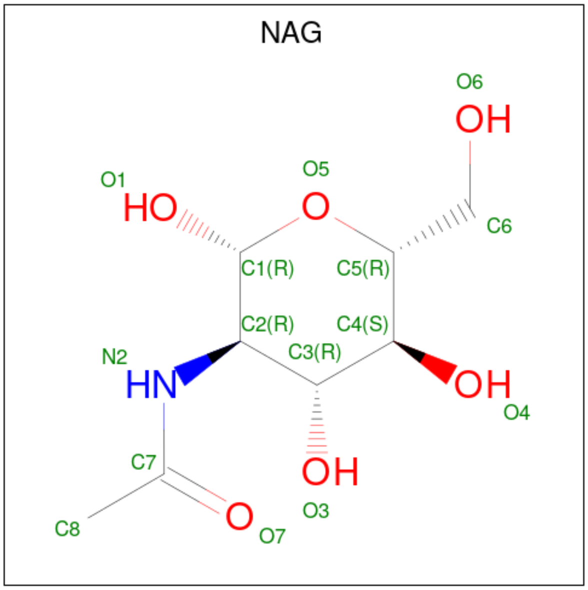
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	L	215	Total	C	N	O	S	0	0	0
			1646	1035	277	328	6			
3	C	216	Total	C	N	O	S	0	0	0
			1650	1037	278	329	6			

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



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
4	D	4	Total	C	N	O	0	0	0
			49	28	2	19			
4	E	4	Total	C	N	O	0	0	0
			49	28	2	19			

- Molecule 5 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$).



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

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

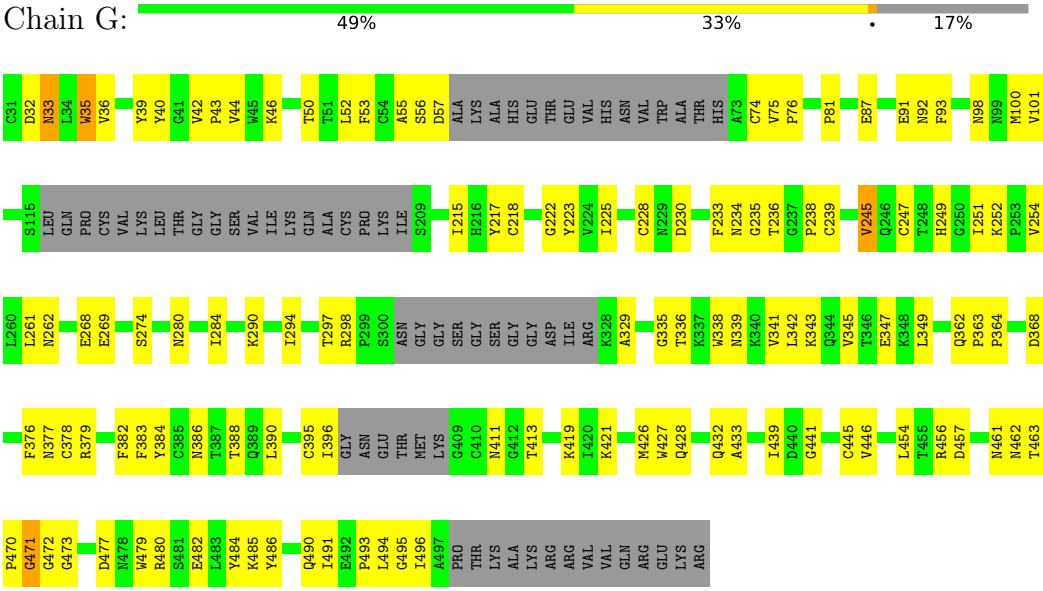
3 Residue-property plots (i)

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. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

Note EDS was not executed.

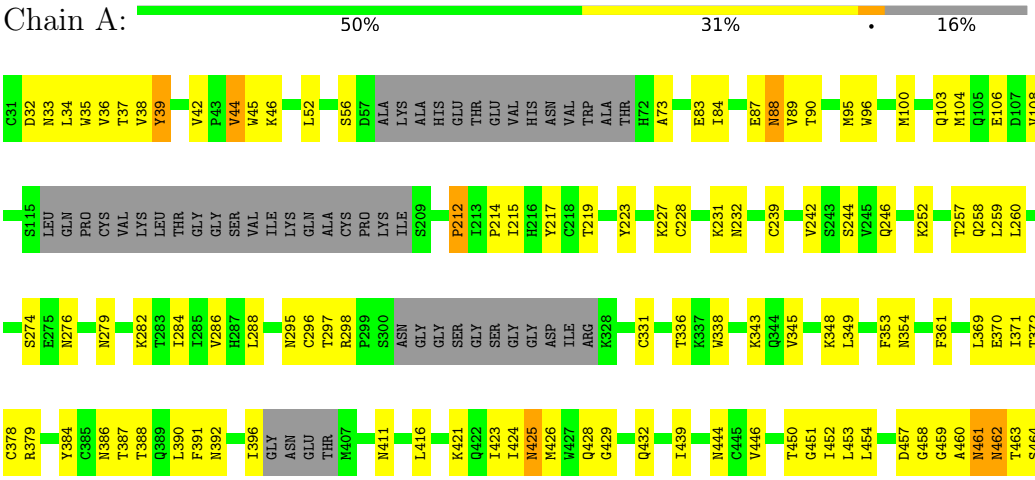
• Molecule 1: clade A/E 93TH057 HIV-1 gp120 core

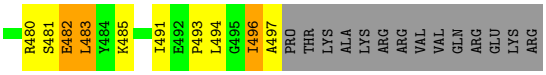
Chain G:



• Molecule 1: clade A/E 93TH057 HIV-1 gp120 core

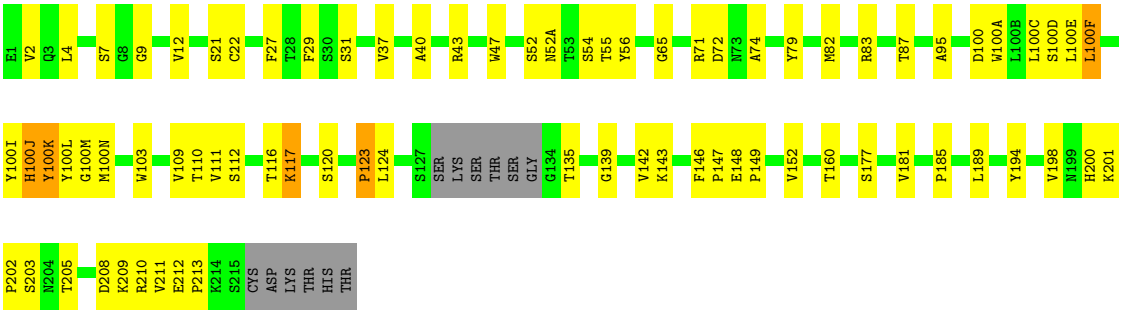
Chain A:





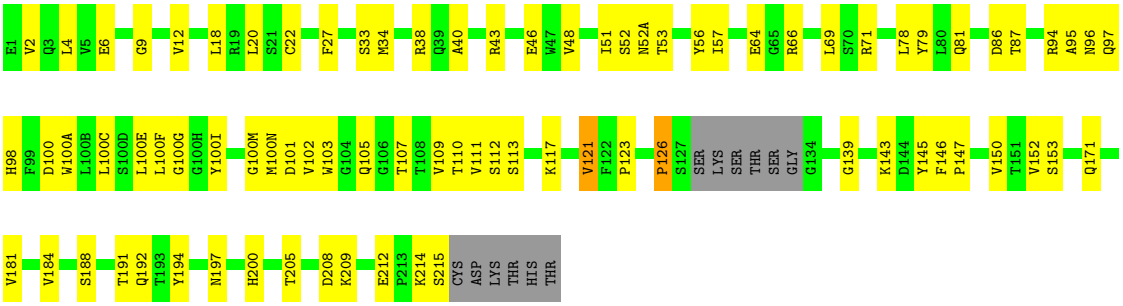
• Molecule 2: C11 Fab heavy chain

Chain H:



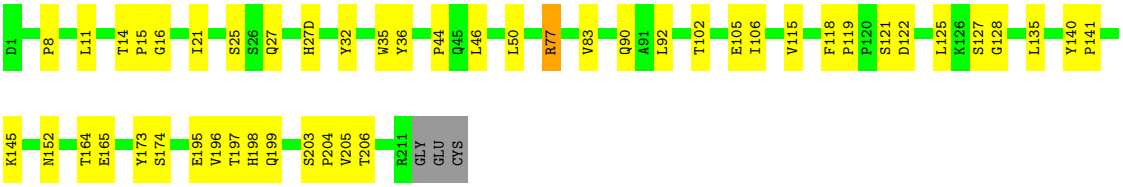
• Molecule 2: C11 Fab heavy chain

Chain B:



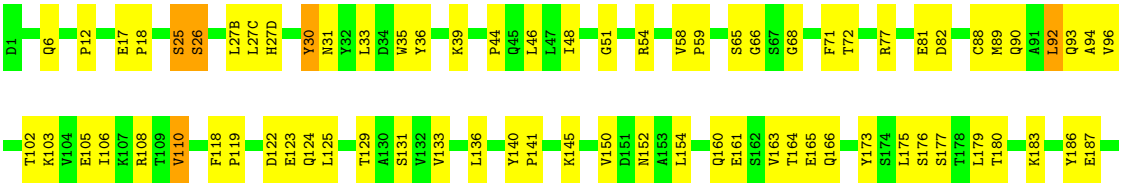
• Molecule 3: C11 Fab light chain

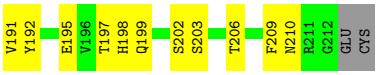
Chain L:



• Molecule 3: C11 Fab light chain

Chain C:



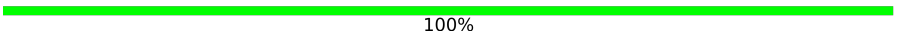


• Molecule 4: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-[alpha-L-fucopyranose-(1-6)]2-acetamido-2-deoxy-beta-D-glucopyranose

Chain D:

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

Chain E:



4 Data and refinement statistics (i)

EDS was not executed - this section is therefore incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	89.37Å 110.96Å 217.56Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.42 – 3.45	Depositor
% Data completeness (in resolution range)	91.1 (49.42-3.45)	Depositor
R_{merge}	0.16	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.34 (at 3.48Å)	Xtriage
Refinement program	PHENIX (1.13_2998: ???)	Depositor
R, R_{free}	0.231 , 0.284	Depositor
Wilson B-factor (Å^2)	98.9	Xtriage
Anisotropy	0.773	Xtriage
L-test for twinning[2]	$< \|L\| > = 0.44$, $< L^2 > = 0.27$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	12140	wwPDB-VP
Average B, all atoms (Å^2)	114.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.81% of the height of the origin peak. No significant pseudotranslation is detected.*

[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, NAG, FUC

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|>5$	RMSZ	#$\|Z\|>5$
1	A	0.17	0/2577	0.48	3/3498 (0.1%)
1	G	0.17	0/2549	0.49	0/3462
2	B	0.19	0/1751	0.48	0/2385
2	H	0.23	0/1750	0.52	0/2384
3	C	0.27	0/1686	0.53	2/2290 (0.1%)
3	L	0.19	0/1682	0.44	0/2285
All	All	0.20	0/11995	0.49	5/16304 (0.0%)

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	44	VAL	N-CA-C	-6.60	107.44	113.71
3	C	30	TYR	CA-CB-CG	5.96	124.63	113.90
3	C	94	ALA	CB-CA-C	-5.27	110.48	116.54
1	A	461	ASN	CA-C-N	5.17	131.00	121.70
1	A	461	ASN	C-N-CA	5.17	131.00	121.70

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	2524	0	2446	92	0
1	G	2497	0	2417	100	1
2	B	1709	0	1649	66	0
2	H	1708	0	1646	67	1
3	C	1650	0	1617	63	0
3	L	1646	0	1614	36	0
4	D	49	0	43	1	0
4	E	49	0	43	0	0
5	A	154	0	143	4	0
5	G	154	0	143	2	0
All	All	12140	0	11761	395	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 17.

All (395) 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:C:90:GLN:OE1	3:C:92:LEU:N	1.88	1.06
2:H:100:ASP:OD2	3:L:27(D):HIS:NE2	1.91	1.02
3:C:195:GLU:HG2	3:C:206:THR:HB	1.58	0.85
2:H:87:THR:HG23	2:H:110:THR:HA	1.59	0.84
2:B:52(A):ASN:HA	2:B:71:ARG:HH12	1.43	0.83
1:G:339:ASN:HD21	1:G:395:CYS:HB3	1.44	0.82
1:G:104:MET:SD	1:G:217:TYR:OH	2.39	0.80
3:C:27(C):LEU:HD23	3:C:68:GLY:HA2	1.62	0.79
2:H:52:SER:O	2:H:71:ARG:NH1	2.15	0.79
3:C:89:MET:HE3	3:C:96:VAL:HG13	1.65	0.79
1:A:286:VAL:O	1:A:451:GLY:HA2	1.84	0.77
1:G:362:GLN:HG2	1:G:469:ARG:NH1	1.99	0.77
1:G:44:VAL:HG11	2:H:56:TYR:HE2	1.49	0.76
1:G:268:GLU:HG2	1:G:269:GLU:OE2	1.85	0.75
2:B:66:ARG:NH2	2:B:86:ASP:OD1	2.19	0.75
2:B:52:SER:O	2:B:71:ARG:NH1	2.20	0.75
2:H:100:ASP:OD2	3:L:27(D):HIS:CE1	2.41	0.74
1:G:50:THR:HG21	1:G:223:TYR:CE1	2.21	0.74
2:H:152:VAL:HG12	2:H:198:VAL:HG23	1.71	0.73
1:A:35:TRP:O	3:C:93:GLN:NE2	2.22	0.72
1:A:374:HIS:O	1:A:384:TYR:HA	1.89	0.72
2:B:40:ALA:HB3	2:B:43:ARG:HB3	1.71	0.72
1:G:298:ARG:NH2	1:G:439:ILE:O	2.21	0.72
3:C:35:TRP:HB2	3:C:48:ILE:HB	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:56:SER:HB2	1:G:215:ILE:HG22	1.73	0.70
3:L:195:GLU:HA	3:L:206:THR:HG21	1.74	0.69
2:H:52:SER:HB3	2:H:100(J):HIS:CE1	2.30	0.67
2:B:53:THR:O	2:B:53:THR:HG22	1.95	0.67
1:A:284:ILE:HB	1:A:454:LEU:O	1.95	0.67
2:H:52(A):ASN:HA	2:H:71:ARG:HH12	1.60	0.66
2:H:100(E):LEU:O	2:H:100(F):LEU:HG	1.95	0.66
1:A:493:PRO:HB2	1:A:494:LEU:HD23	1.77	0.66
1:G:234:ASN:OD1	1:G:235:GLY:N	2.30	0.65
1:G:364:PRO:HB2	1:G:372:THR:HA	1.79	0.65
1:A:246:GLN:HG3	2:B:100(E):LEU:HD21	1.79	0.63
1:G:336:THR:OG1	1:G:411:ASN:O	2.14	0.63
3:C:27(C):LEU:HB3	3:C:31:ASN:HD22	1.63	0.63
3:C:36:TYR:CE2	3:C:46:LEU:HD12	2.34	0.63
1:G:477:ASP:O	1:G:480:ARG:HB2	1.99	0.62
2:H:100(E):LEU:C	2:H:100(F):LEU:HG	2.24	0.62
1:A:52:LEU:HD23	1:A:219:THR:HG22	1.80	0.62
1:G:52:LEU:HD12	1:G:217:TYR:HB3	1.81	0.62
1:A:96:TRP:HA	1:A:480:ARG:HE	1.65	0.62
3:C:191:VAL:HG22	3:C:210:ASN:HB3	1.81	0.61
2:B:117:LYS:HB3	2:B:205:THR:HG21	1.82	0.61
1:G:39:TYR:HE1	2:H:56:TYR:HA	1.64	0.61
1:A:298:ARG:NH2	1:A:439:ILE:O	2.34	0.61
1:G:249:HIS:ND1	1:G:486:TYR:OH	2.32	0.61
1:G:257:THR:O	1:G:259:LEU:N	2.32	0.61
1:G:33:ASN:HD22	1:G:35:TRP:HE1	1.47	0.61
3:L:21:ILE:HD11	3:L:35:TRP:HZ3	1.66	0.61
2:H:37:VAL:HG22	2:H:47:TRP:HA	1.82	0.61
2:H:181:VAL:HG21	3:L:135:LEU:HD11	1.83	0.61
1:A:219:THR:OG1	1:A:223:TYR:O	2.15	0.61
3:C:186:TYR:O	3:C:192:TYR:OH	2.19	0.61
2:H:124:LEU:HD13	3:L:119:PRO:HG2	1.84	0.60
2:B:51:ILE:HB	2:B:69:LEU:HD13	1.83	0.60
1:A:45:TRP:HZ2	1:A:89:VAL:HG21	1.67	0.60
3:C:39:LYS:NZ	3:C:81:GLU:O	2.30	0.60
1:A:343:LYS:HE2	1:A:396:ILE:HG12	1.84	0.59
2:H:83:ARG:NH2	3:C:154:LEU:O	2.35	0.59
3:C:54:ARG:NH2	3:C:58:VAL:O	2.35	0.59
1:A:462:ASN:OD1	1:A:463:THR:N	2.35	0.59
1:A:37:THR:HB	1:A:84:ILE:HG12	1.86	0.58
1:G:252:LYS:CD	1:G:262:ASN:HB3	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:336:THR:OG1	1:A:411:ASN:O	2.19	0.58
2:H:82:MET:HE1	2:H:109:VAL:HG21	1.84	0.58
2:H:95:ALA:HA	2:H:100(M):GLY:O	2.04	0.58
1:G:39:TYR:CE1	2:H:56:TYR:HA	2.39	0.58
2:H:56:TYR:HB2	2:H:100(J):HIS:HE2	1.69	0.58
1:A:481:SER:O	1:A:483:LEU:N	2.37	0.57
1:G:104:MET:HG2	1:G:479:TRP:CG	2.39	0.57
2:H:40:ALA:HB3	2:H:43:ARG:HB2	1.87	0.57
1:G:377:ASN:OD1	1:G:378:CYS:N	2.37	0.57
1:G:274:SER:HB2	1:G:284:ILE:HD13	1.87	0.57
2:H:56:TYR:O	2:H:100(J):HIS:NE2	2.38	0.57
2:B:112:SER:OG	2:B:113:SER:N	2.38	0.57
1:G:467:THR:HG21	1:G:469:ARG:HH21	1.68	0.57
1:G:33:ASN:HD22	1:G:35:TRP:NE1	2.03	0.56
1:G:44:VAL:HG11	2:H:56:TYR:CE2	2.35	0.56
3:C:192:TYR:HB2	3:C:209:PHE:CE1	2.41	0.56
1:A:297:THR:OG1	1:A:444:ASN:OD1	2.21	0.56
2:B:20:LEU:HD21	2:B:107:THR:HG21	1.87	0.56
1:G:50:THR:HG21	1:G:223:TYR:CD1	2.40	0.56
1:G:493:PRO:HB2	1:G:494:LEU:HD12	1.88	0.56
2:B:87:THR:HG23	2:B:110:THR:HA	1.86	0.56
1:G:40:TYR:HE1	1:G:87:GLU:HB3	1.70	0.56
3:L:8:PRO:HG2	3:L:11:LEU:HB2	1.88	0.56
2:B:12:VAL:HG13	2:B:111:VAL:HG22	1.86	0.56
2:B:100(C):LEU:HB2	2:B:100(G):GLY:HA3	1.87	0.56
2:H:100(L):TYR:CD2	3:L:50:LEU:HD13	2.41	0.55
1:A:423:ILE:CG2	1:A:432:GLN:HE22	2.19	0.55
1:A:296:CYS:HA	1:A:331:CYS:HA	1.88	0.55
2:B:184:VAL:HG11	2:B:194:TYR:CE1	2.42	0.55
2:H:123:PRO:HG3	2:H:211:VAL:HG12	1.88	0.55
2:B:4:LEU:HD22	2:B:22:CYS:HB3	1.89	0.55
1:A:260:LEU:HD21	1:A:453:LEU:HD21	1.88	0.55
2:H:56:TYR:HB2	2:H:100(J):HIS:NE2	2.21	0.55
1:G:223:TYR:CE2	1:G:490:GLN:HG3	2.41	0.55
1:G:342:LEU:HB3	1:G:396:ILE:HD11	1.88	0.55
1:A:39:TYR:CE1	2:B:56:TYR:HA	2.42	0.55
1:A:353:PHE:HE2	1:A:468:PHE:HZ	1.53	0.55
3:C:27(C):LEU:CD2	3:C:68:GLY:HA2	2.33	0.55
2:H:56:TYR:O	2:H:100(J):HIS:CD2	2.60	0.54
3:L:105:GLU:OE1	3:L:173:TYR:OH	2.19	0.54
3:L:196:VAL:H	3:L:206:THR:HG22	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:270:ILE:HG21	1:A:345:VAL:HG22	1.90	0.54
3:L:195:GLU:HA	3:L:206:THR:CG2	2.38	0.54
2:B:52(A):ASN:HA	2:B:71:ARG:NH1	2.19	0.54
1:G:345:VAL:O	1:G:349:LEU:HG	2.08	0.54
2:H:2:VAL:HG23	2:H:27:PHE:HD2	1.72	0.54
2:B:143:LYS:NZ	2:B:171:GLN:OE1	2.36	0.53
3:C:105:GLU:HG2	3:C:173:TYR:OH	2.08	0.53
1:A:44:VAL:HG11	2:B:100(F):LEU:HD23	1.90	0.53
1:A:458:GLY:O	1:A:460:ALA:N	2.37	0.53
3:C:163:VAL:HG22	3:C:175:LEU:HD13	1.91	0.53
1:G:233:PHE:CE1	1:G:239:CYS:HB3	2.42	0.53
2:H:208:ASP:OD1	2:H:208:ASP:N	2.42	0.53
1:A:232:ASN:ND2	1:A:268:GLU:OE1	2.31	0.53
1:A:228:CYS:HA	1:A:242:VAL:HG12	1.90	0.53
1:A:481:SER:OG	1:A:482:GLU:N	2.41	0.53
1:A:286:VAL:O	1:A:451:GLY:CA	2.54	0.53
2:H:7:SER:OG	2:H:21:SER:OG	2.25	0.53
3:C:17:GLU:HG2	3:C:18:PRO:HD2	1.90	0.53
1:G:432:GLN:HG2	1:G:433:ALA:H	1.75	0.52
1:G:32:ASP:O	1:G:33:ASN:HB2	2.09	0.52
3:C:6:GLN:NE2	3:C:102:THR:OG1	2.42	0.52
1:A:276:ASN:CG	1:A:279:ASN:HB2	2.33	0.52
3:C:106:ILE:N	3:C:166:GLN:OE1	2.42	0.52
1:A:109:ILE:C	1:A:111:LEU:H	2.17	0.52
1:A:450:THR:O	1:A:450:THR:OG1	2.28	0.52
2:B:34:MET:HG2	2:B:71:ARG:HH21	1.75	0.52
2:B:209:LYS:NZ	3:C:123:GLU:OE1	2.42	0.52
2:B:208:ASP:OD1	2:B:208:ASP:N	2.43	0.52
3:C:145:LYS:HB3	3:C:197:THR:HG23	1.92	0.52
2:B:38:ARG:NE	2:B:46:GLU:OE1	2.35	0.52
2:B:51:ILE:HG13	2:B:57:ILE:HG12	1.91	0.52
3:L:203:SER:O	3:L:205:VAL:N	2.43	0.52
1:G:81:PRO:HG2	3:C:202:SER:OG	2.10	0.51
1:A:227:LYS:HA	1:A:485:LYS:O	2.09	0.51
1:G:252:LYS:HD2	1:G:262:ASN:HB3	1.92	0.51
2:H:120:SER:HB3	2:H:142:VAL:HG22	1.92	0.51
2:H:143:LYS:HA	2:H:177:SER:HB2	1.92	0.51
1:G:252:LYS:HD3	1:G:262:ASN:HB3	1.92	0.51
1:G:362:GLN:HB3	1:G:469:ARG:HG3	1.92	0.51
1:G:419:LYS:HG3	1:G:421:LYS:HG3	1.93	0.51
1:A:212:PRO:O	1:A:252:LYS:NZ	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:25:SER:OG	3:C:26:SER:N	2.42	0.51
2:H:100:ASP:HB3	2:H:100(C):LEU:CD1	2.41	0.51
1:G:377:ASN:O	5:G:604:NAG:H81	2.11	0.50
1:G:471:GLY:O	1:G:473:GLY:N	2.43	0.50
2:H:189:LEU:HD21	2:H:213:PRO:HB3	1.92	0.50
3:L:122:ASP:N	3:L:122:ASP:OD1	2.44	0.50
1:A:461:ASN:HA	1:A:462:ASN:O	2.11	0.50
3:C:125:LEU:HB3	3:C:183:LYS:HE3	1.92	0.50
1:G:384:TYR:CD1	1:G:421:LYS:HD3	2.46	0.50
3:L:8:PRO:O	3:L:102:THR:HG23	2.11	0.50
3:C:105:GLU:HA	3:C:166:GLN:HE22	1.76	0.50
3:C:150:VAL:HG12	3:C:192:TYR:CD1	2.46	0.50
2:H:103:TRP:CD2	3:L:44:PRO:HG2	2.47	0.50
2:B:94:ARG:HE	2:B:102:VAL:HG12	1.77	0.50
1:G:52:LEU:CD1	1:G:217:TYR:HB3	2.42	0.50
2:H:100(N):MET:O	2:H:103:TRP:NE1	2.45	0.50
1:A:298:ARG:C	1:A:298:ARG:HD2	2.37	0.50
3:L:152:ASN:ND2	1:A:87:GLU:OE2	2.44	0.49
1:A:214:PRO:HB3	1:A:252:LYS:HG2	1.94	0.49
1:A:83:GLU:OE1	1:A:83:GLU:N	2.46	0.49
1:A:377:ASN:OD1	1:A:378:CYS:N	2.45	0.49
1:G:39:TYR:OH	2:H:55:THR:OG1	2.30	0.49
1:G:112:TRP:HH2	1:G:382:PHE:HZ	1.60	0.49
1:G:386:ASN:OD1	1:G:388:THR:OG1	2.27	0.49
3:L:197:THR:O	3:L:197:THR:OG1	2.30	0.49
1:G:280:ASN:ND2	1:G:457:ASP:O	2.45	0.49
2:B:56:TYR:CE2	2:B:100(F):LEU:HB3	2.47	0.49
2:H:201:LYS:C	2:H:203:SER:H	2.19	0.49
1:A:44:VAL:HG13	1:A:493:PRO:HA	1.95	0.49
1:G:234:ASN:HB2	5:G:602:NAG:H2	1.96	0.48
1:G:92:ASN:HA	1:G:238:PRO:HA	1.95	0.48
2:H:135:THR:HG23	2:H:185:PRO:HA	1.95	0.48
1:G:46:LYS:HG3	1:G:490:GLN:HB3	1.94	0.48
1:A:288:LEU:HD12	1:A:450:THR:HA	1.94	0.48
1:G:91:GLU:O	1:G:238:PRO:HA	2.14	0.48
2:B:100(C):LEU:HD21	2:B:100(I):TYR:CE2	2.48	0.48
3:C:183:LYS:O	3:C:187:GLU:HG2	2.13	0.48
1:A:108:VAL:O	1:A:112:TRP:HD1	1.97	0.48
1:A:231:LYS:NZ	1:A:267:GLU:OE2	2.43	0.48
3:C:12:PRO:HB3	3:C:140:TYR:OH	2.14	0.48
2:H:29:PHE:C	2:H:31:SER:H	2.22	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:56:SER:HB3	1:A:215:ILE:HG22	1.96	0.48
2:B:153:SER:O	2:B:197:ASN:HB2	2.14	0.48
3:C:27(D):HIS:H	3:C:27(D):HIS:CD2	2.31	0.48
1:A:390:LEU:HG	1:A:416:LEU:HD11	1.96	0.47
3:C:66:GLY:HA3	3:C:71:PHE:HA	1.96	0.47
1:G:378:CYS:SG	1:G:379:ARG:HG2	2.54	0.47
2:B:87:THR:HA	2:B:109:VAL:O	2.14	0.47
2:B:100(C):LEU:CG	2:B:100(I):TYR:HE2	2.28	0.47
3:L:106:ILE:O	3:L:140:TYR:OH	2.25	0.47
2:B:100(E):LEU:HB2	2:B:100(F):LEU:HD12	1.96	0.47
2:B:188:SER:HB3	2:B:192:GLN:HB2	1.96	0.47
3:C:27(B):LEU:HD12	3:C:71:PHE:CE2	2.49	0.47
1:A:496:ILE:HG22	1:A:497:ALA:N	2.29	0.47
1:G:338:TRP:CE2	1:G:390:LEU:HD22	2.49	0.47
1:A:258:GLN:OE1	1:A:374:HIS:HA	2.15	0.47
1:A:373:MET:HG3	5:A:609:NAG:H82	1.96	0.47
1:A:386:ASN:OD1	1:A:388:THR:OG1	2.32	0.47
2:B:101:ASP:OD1	2:B:102:VAL:N	2.42	0.47
2:H:142:VAL:HG21	2:H:198:VAL:HG21	1.96	0.47
1:A:96:TRP:CE3	1:A:480:ARG:HD3	2.50	0.47
1:A:421:LYS:NZ	1:A:423:ILE:O	2.36	0.47
3:C:131:SER:HB3	3:C:180:THR:HG22	1.96	0.47
1:G:39:TYR:HH	2:H:56:TYR:HD2	1.63	0.47
2:B:33:SER:HB2	2:B:51:ILE:O	2.15	0.47
1:G:461:ASN:HA	1:G:462:ASN:C	2.41	0.46
2:H:116:THR:HG22	2:H:117:LYS:H	1.80	0.46
3:L:27(D):HIS:O	3:L:27(D):HIS:ND1	2.48	0.46
3:C:27(C):LEU:HD23	3:C:68:GLY:CA	2.39	0.46
3:C:65:SER:OG	3:C:72:THR:HG23	2.14	0.46
3:L:25:SER:OG	3:L:27:GLN:O	2.21	0.46
1:A:39:TYR:HE1	2:B:56:TYR:HA	1.80	0.46
1:A:42:VAL:HG13	1:A:497:ALA:HB2	1.96	0.46
1:G:454:LEU:HA	1:G:470:PRO:HA	1.97	0.46
1:A:348:LYS:HD2	1:A:348:LYS:HA	1.79	0.46
1:G:112:TRP:CH2	1:G:382:PHE:HZ	2.33	0.46
1:G:370:GLU:HG3	1:G:427:TRP:CZ2	2.51	0.46
1:A:423:ILE:HG22	1:A:432:GLN:HE22	1.80	0.46
2:B:4:LEU:HD11	2:B:34:MET:HE1	1.98	0.46
2:B:188:SER:O	2:B:192:GLN:N	2.42	0.46
1:G:258:GLN:NE2	1:G:371:ILE:O	2.49	0.46
1:A:100:MET:O	1:A:103:GLN:HB2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:276:ASN:ND2	1:A:279:ASN:HB2	2.30	0.46
1:A:349:LEU:O	1:A:353:PHE:N	2.48	0.46
3:C:27(D):HIS:H	3:C:27(D):HIS:HD2	1.64	0.46
1:A:463:THR:HG22	1:A:464:SER:N	2.31	0.46
3:C:136:LEU:HD22	3:C:175:LEU:HD23	1.98	0.46
1:G:42:VAL:HG12	2:H:54:SER:O	2.15	0.46
2:B:78:LEU:O	2:B:79:TYR:HB2	2.15	0.46
1:A:369:LEU:O	1:A:373:MET:HB2	2.16	0.45
1:A:446:VAL:O	5:A:604:NAG:H5	2.16	0.45
2:B:94:ARG:HB2	2:B:102:VAL:HG12	1.98	0.45
2:B:100(C):LEU:HD21	2:B:100(I):TYR:HE2	1.81	0.45
1:G:218:CYS:N	1:G:247:CYS:SG	2.89	0.45
3:C:160:GLN:O	3:C:177:SER:HA	2.17	0.45
2:H:72:ASP:OD1	2:H:72:ASP:N	2.49	0.45
2:H:116:THR:HG22	2:H:117:LYS:N	2.32	0.45
1:A:95:MET:HG3	1:A:96:TRP:CD1	2.51	0.45
1:A:259:LEU:HA	1:A:452:ILE:HA	1.98	0.45
2:B:103:TRP:CD2	3:C:44:PRO:HG2	2.51	0.45
1:G:101:VAL:HG13	1:G:479:TRP:HB2	1.98	0.45
1:G:294:ILE:O	1:G:446:VAL:HA	2.16	0.45
3:L:164:THR:HG23	3:L:174:SER:O	2.17	0.45
2:H:203:SER:HG	2:H:205:THR:HG1	1.56	0.45
1:A:257:THR:O	1:A:259:LEU:N	2.47	0.45
2:H:87:THR:HA	2:H:109:VAL:O	2.17	0.45
2:B:6:GLU:HG3	2:B:105:GLN:HG3	1.99	0.45
3:L:145:LYS:HD2	3:L:145:LYS:HA	1.82	0.45
3:L:164:THR:OG1	3:L:165:GLU:N	2.49	0.45
1:A:84:ILE:HB	1:A:244:SER:OG	2.17	0.45
1:A:338:TRP:CE2	1:A:390:LEU:HD22	2.51	0.45
2:B:52(A):ASN:N	2:B:97:GLN:OE1	2.49	0.45
2:B:150:VAL:HG22	2:B:200:HIS:CD2	2.52	0.45
1:G:98:ASN:ND2	1:G:100:MET:HB2	2.32	0.44
1:A:90:THR:HA	1:A:239:CYS:O	2.16	0.44
1:G:230:ASP:OD2	1:G:239:CYS:HB2	2.16	0.44
1:G:376:PHE:CE2	1:G:383:PHE:HB2	2.52	0.44
1:A:494:LEU:CB	2:B:53:THR:HG21	2.48	0.44
3:C:119:PRO:HB3	3:C:209:PHE:CE2	2.52	0.44
1:A:494:LEU:HA	2:B:53:THR:HG21	1.98	0.44
1:A:88:ASN:ND2	5:A:601:NAG:O7	2.51	0.44
1:A:461:ASN:N	1:A:462:ASN:HB3	2.32	0.44
2:B:18:LEU:O	2:B:81:GLN:NE2	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:426:MET:HE2	1:G:428:GLN:HB3	1.99	0.44
2:H:65:GLY:HA3	3:C:152:ASN:O	2.17	0.44
2:H:100(I):TYR:O	2:H:100(K):TYR:N	2.51	0.44
2:B:212:GLU:O	2:B:215:SER:OG	2.35	0.44
1:G:53:PHE:CE1	1:G:218:CYS:HB2	2.53	0.44
1:G:335:GLY:H	1:G:413:THR:HA	1.83	0.44
3:L:121:SER:O	3:L:125:LEU:HG	2.18	0.44
1:A:370:GLU:OE1	1:A:425:ASN:ND2	2.50	0.44
1:A:387:THR:HA	1:A:416:LEU:HD22	2.00	0.44
1:G:252:LYS:HB3	1:G:252:LYS:HE2	1.84	0.44
1:G:461:ASN:OD1	1:G:461:ASN:N	2.51	0.44
2:H:123:PRO:CG	2:H:211:VAL:HG12	2.47	0.44
1:G:222:GLY:O	1:G:491:ILE:HB	2.18	0.44
1:G:485:LYS:H	1:G:485:LYS:HG2	1.60	0.44
3:C:164:THR:OG1	3:C:165:GLU:N	2.48	0.44
1:G:378:CYS:HB3	1:G:383:PHE:CE2	2.53	0.44
3:L:140:TYR:CG	3:L:141:PRO:HA	2.53	0.44
2:B:126:PRO:HB3	2:B:214:LYS:H	1.83	0.44
3:C:33:LEU:HA	3:C:89:MET:O	2.17	0.43
1:G:225:ILE:HB	1:G:245:VAL:HG23	2.00	0.43
3:L:198:HIS:CD2	3:L:199:GLN:H	2.36	0.43
1:A:274:SER:HB2	1:A:284:ILE:HG12	1.99	0.43
2:B:38:ARG:HG2	2:B:48:VAL:HG22	1.99	0.43
3:C:6:GLN:OE1	3:C:88:CYS:N	2.40	0.43
3:C:92:LEU:HD23	3:C:92:LEU:HA	1.82	0.43
1:G:230:ASP:CG	1:G:239:CYS:HB2	2.44	0.43
1:A:33:ASN:OD1	1:A:34:LEU:N	2.48	0.43
1:A:279:ASN:HB3	1:A:282:LYS:HG2	1.99	0.43
2:H:203:SER:OG	2:H:205:THR:OG1	2.23	0.43
1:A:392:ASN:OD1	5:A:610:NAG:N2	2.51	0.43
1:G:251:ILE:HD13	1:G:482:GLU:HB3	2.01	0.43
1:G:298:ARG:NH2	1:G:441:GLY:O	2.40	0.43
1:A:106:GLU:O	1:A:110:SER:N	2.34	0.43
2:B:117:LYS:O	2:B:145:TYR:HA	2.18	0.43
3:C:118:PHE:HB2	3:C:133:VAL:HB	2.00	0.43
1:G:290:LYS:HD2	1:G:290:LYS:HA	1.83	0.43
1:A:295:ASN:OD1	1:A:444:ASN:ND2	2.48	0.43
3:C:27(D):HIS:CD2	3:C:27(D):HIS:N	2.87	0.43
2:B:2:VAL:HG23	2:B:27:PHE:HD2	1.83	0.43
1:G:379:ARG:NE	1:G:445:CYS:SG	2.91	0.43
2:H:4:LEU:HB3	2:H:22:CYS:SG	2.59	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:152:VAL:HA	2:B:197:ASN:O	2.18	0.43
2:H:9:GLY:HA2	2:H:109:VAL:HG22	2.01	0.43
1:G:93:PHE:CE2	1:G:228:CYS:HB2	2.53	0.42
1:G:378:CYS:HB3	1:G:383:PHE:HE2	1.84	0.42
2:H:12:VAL:HG13	2:H:111:VAL:HG22	2.01	0.42
2:H:181:VAL:HG11	3:L:135:LEU:CD1	2.48	0.42
3:L:115:VAL:HA	3:L:135:LEU:O	2.19	0.42
1:G:223:TYR:HE2	1:G:490:GLN:HG3	1.82	0.42
1:G:343:LYS:O	1:G:347:GLU:HG3	2.19	0.42
1:G:457:ASP:HB3	1:G:467:THR:HB	2.01	0.42
1:G:484:TYR:CZ	1:G:485:LYS:HD3	2.54	0.42
2:H:100(N):MET:HB2	3:L:36:TYR:CE2	2.54	0.42
2:H:209:LYS:HA	2:H:209:LYS:HD2	1.79	0.42
1:A:42:VAL:CG1	1:A:497:ALA:HB2	2.49	0.42
3:C:82:ASP:OD1	3:C:82:ASP:N	2.52	0.42
3:C:161:GLU:HA	3:C:176:SER:O	2.19	0.42
1:G:341:VAL:O	1:G:345:VAL:HG23	2.20	0.42
1:G:462:ASN:OD1	1:G:463:THR:N	2.42	0.42
2:H:123:PRO:HG2	2:H:124:LEU:H	1.85	0.42
2:B:95:ALA:HA	2:B:100(M):GLY:O	2.19	0.42
3:C:161:GLU:HB2	3:C:175:LEU:HD11	2.00	0.42
1:G:43:PRO:O	1:G:495:GLY:HA3	2.20	0.42
1:G:234:ASN:OD1	1:G:236:THR:N	2.53	0.42
1:G:362:GLN:OE1	1:G:363:PRO:HD2	2.19	0.42
1:A:491:ILE:HD13	1:A:491:ILE:HA	1.87	0.42
2:H:72:ASP:C	2:H:74:ALA:H	2.27	0.42
2:H:194:TYR:O	2:H:211:VAL:HG22	2.20	0.42
3:L:27(D):HIS:O	3:L:27(D):HIS:CG	2.73	0.42
3:C:54:ARG:HH22	3:C:59:PRO:C	2.27	0.42
1:G:280:ASN:HB2	1:G:456:ARG:HB3	2.02	0.42
2:H:139:GLY:HA3	2:H:181:VAL:HA	2.01	0.42
1:G:298:ARG:NH2	1:G:441:GLY:H	2.18	0.42
2:B:100(E):LEU:C	2:B:100(F):LEU:HD12	2.44	0.42
3:L:14:THR:O	3:L:16:GLY:N	2.53	0.41
1:A:46:LYS:HG2	1:A:496:ILE:HD11	2.01	0.41
1:A:378:CYS:SG	1:A:379:ARG:HG2	2.60	0.41
2:B:214:LYS:HD2	2:B:214:LYS:HA	1.88	0.41
1:G:254:VAL:HG11	1:G:261:LEU:O	2.20	0.41
2:B:100(C):LEU:HD11	2:B:100(I):TYR:CD2	2.54	0.41
3:C:125:LEU:HD22	3:C:183:LYS:HD2	2.02	0.41
3:C:131:SER:HA	3:C:179:LEU:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:2:NAG:O7	4:D:2:NAG:O3	2.36	0.41
1:G:55:ALA:HA	1:G:74:CYS:HB3	2.02	0.41
2:H:100:ASP:OD1	2:H:100(A):TRP:N	2.52	0.41
3:L:27(D):HIS:CB	3:L:32:TYR:HE2	2.33	0.41
3:C:124:GLN:HG2	3:C:129:THR:O	2.20	0.41
3:C:140:TYR:CG	3:C:141:PRO:HA	2.54	0.41
1:G:56:SER:OG	1:G:57:ASP:N	2.53	0.41
1:A:361:PHE:HB3	1:A:391:PHE:HB3	2.02	0.41
1:A:424:ILE:O	1:A:426:MET:N	2.54	0.41
2:B:146:PHE:HA	2:B:147:PRO:HA	1.73	0.41
3:C:27(B):LEU:HD23	3:C:27(B):LEU:HA	1.88	0.41
3:C:122:ASP:HA	3:C:125:LEU:HD12	2.03	0.41
2:H:146:PHE:CE1	2:H:147:PRO:HB3	2.55	0.41
2:H:201:LYS:HB3	2:H:202:PRO:HD3	2.03	0.41
3:L:90:GLN:OE1	3:L:92:LEU:N	2.54	0.41
3:L:118:PHE:HA	3:L:119:PRO:HD2	1.92	0.41
1:G:75:VAL:HB	1:G:76:PRO:HD2	2.02	0.41
2:H:200:HIS:CE1	2:H:202:PRO:HD2	2.56	0.41
3:L:36:TYR:CE2	3:L:46:LEU:HD13	2.56	0.41
1:A:109:ILE:C	1:A:111:LEU:N	2.79	0.41
2:B:112:SER:HB3	2:B:146:PHE:CZ	2.56	0.41
1:G:368:ASP:O	1:G:372:THR:HG23	2.21	0.41
2:H:210:ARG:NH2	2:H:212:GLU:OE1	2.54	0.41
1:A:475:ILE:H	1:A:475:ILE:HD12	1.86	0.41
2:B:100(N):MET:H	3:C:46:LEU:HD13	1.85	0.41
1:G:40:TYR:CE1	1:G:87:GLU:HB3	2.52	0.41
1:G:297:THR:O	1:G:329:ALA:HB1	2.21	0.41
2:B:100(C):LEU:HG	2:B:100(I):TYR:HE2	1.86	0.41
2:B:121:VAL:HG11	3:C:124:GLN:HB2	2.02	0.41
3:L:16:GLY:O	3:L:77:ARG:HA	2.21	0.40
2:B:139:GLY:HA2	2:B:181:VAL:HA	2.02	0.40
2:B:191:THR:OG1	2:B:192:GLN:N	2.54	0.40
2:H:148:GLU:HA	2:H:149:PRO:HA	1.86	0.40
1:A:428:GLN:HG3	1:A:429:GLY:N	2.36	0.40
2:B:96:ASN:OD1	2:B:96:ASN:N	2.55	0.40
3:C:103:LYS:HE2	3:C:103:LYS:HB2	1.84	0.40
3:C:108:ARG:C	3:C:110:VAL:H	2.28	0.40
3:C:210:ASN:ND2	3:C:210:ASN:O	2.55	0.40
1:A:259:LEU:HD21	1:A:374:HIS:CD2	2.56	0.40
1:A:371:ILE:HG13	1:A:372:THR:HG23	2.03	0.40
3:C:198:HIS:CG	3:C:199:GLN:N	2.90	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:104:MET:HE2	1:A:217:TYR:CE2	2.57	0.40
2:B:100:ASP:OD2	2:B:100(A):TRP:N	2.54	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)
1:G:368:ASP:OD1	2:H:160:THR:N[2_455]	2.16	0.04

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	312/385 (81%)	260 (83%)	37 (12%)	15 (5%)	2	16
1	G	309/385 (80%)	256 (83%)	45 (15%)	8 (3%)	4	27
2	B	223/239 (93%)	183 (82%)	34 (15%)	6 (3%)	4	27
2	H	223/239 (93%)	176 (79%)	39 (18%)	8 (4%)	2	22
3	C	214/218 (98%)	175 (82%)	31 (14%)	8 (4%)	2	21
3	L	213/218 (98%)	183 (86%)	24 (11%)	6 (3%)	4	26
All	All	1494/1684 (89%)	1233 (82%)	210 (14%)	51 (3%)	3	23

All (51) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	G	36	VAL
2	H	100(J)	HIS
2	H	100(K)	TYR
2	H	117	LYS
2	H	123	PRO
1	A	32	ASP

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Mol	Chain	Res	Type
1	A	38	VAL
1	A	39	TYR
1	A	88	ASN
1	A	354	ASN
2	B	121	VAL
3	C	30	TYR
1	G	472	GLY
1	G	496	ILE
1	A	425	ASN
1	A	457	ASP
1	A	459	GLY
1	A	482	GLU
2	B	126	PRO
1	G	35	TRP
1	G	471	GLY
2	H	79	TYR
2	H	100(D)	SER
2	H	100(F)	LEU
3	L	128	GLY
1	A	73	ALA
1	A	483	LEU
3	C	26	SER
3	C	77	ARG
3	C	92	LEU
3	C	110	VAL
3	C	203	SER
1	G	33	ASN
1	G	258	GLN
3	L	77	ARG
3	L	83	VAL
3	L	204	PRO
1	A	36	VAL
1	A	496	ILE
3	C	25	SER
2	H	112	SER
1	A	462	ASN
2	B	64	GLU
2	B	98	HIS
3	C	51	GLY
3	L	127	SER
1	A	212	PRO
2	B	9	GLY

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Mol	Chain	Res	Type
3	L	15	PRO
1	G	245	VAL
2	B	123	PRO

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	289/339 (85%)	289 (100%)	0	100	100
1	G	286/339 (84%)	286 (100%)	0	100	100
2	B	189/202 (94%)	189 (100%)	0	100	100
2	H	188/202 (93%)	188 (100%)	0	100	100
3	C	188/190 (99%)	188 (100%)	0	100	100
3	L	188/190 (99%)	188 (100%)	0	100	100
All	All	1328/1462 (91%)	1328 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (22) such sidechains are listed below:

Mol	Chain	Res	Type
1	G	33	ASN
1	G	339	ASN
1	G	393	ASN
1	G	422	GLN
1	G	465	ASN
2	H	73	ASN
2	H	164	HIS
3	L	198	HIS
3	L	210	ASN
1	A	82	GLN
1	A	99	ASN
1	A	103	GLN
1	A	339	ASN

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Mol	Chain	Res	Type
1	A	362	GLN
1	A	374	HIS
1	A	425	ASN
3	C	27(D)	HIS
3	C	28	ASN
3	C	31	ASN
3	C	53	ASN
3	C	137	ASN
3	C	189	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

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

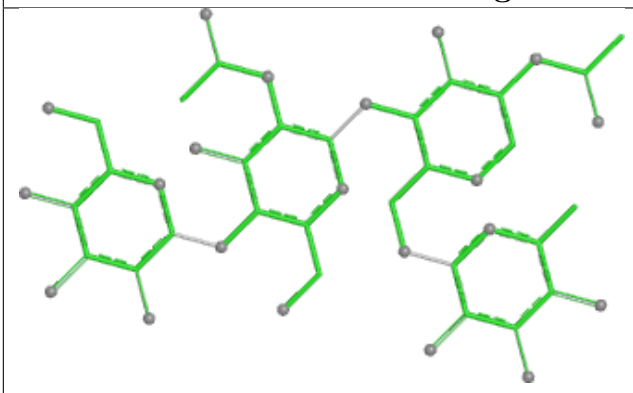
Mogul was not executed - this section is therefore empty.

5.5 Carbohydrates

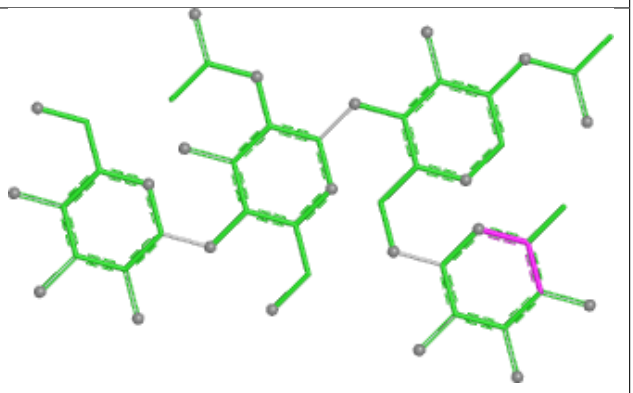
Mogul was not executed - this section is therefore empty.

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

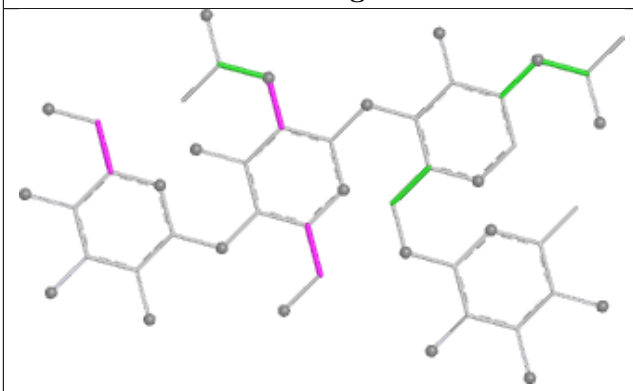
Oligosaccharide Chain D



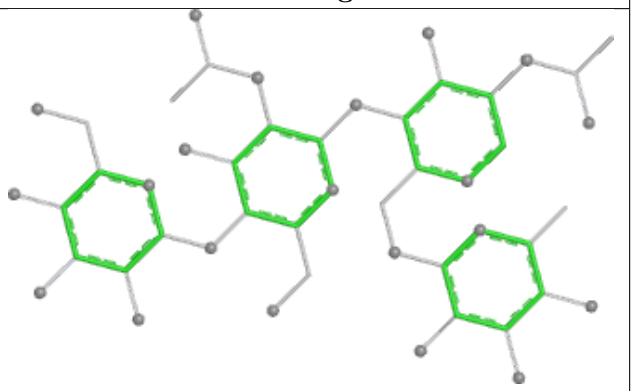
Bond lengths



Bond angles

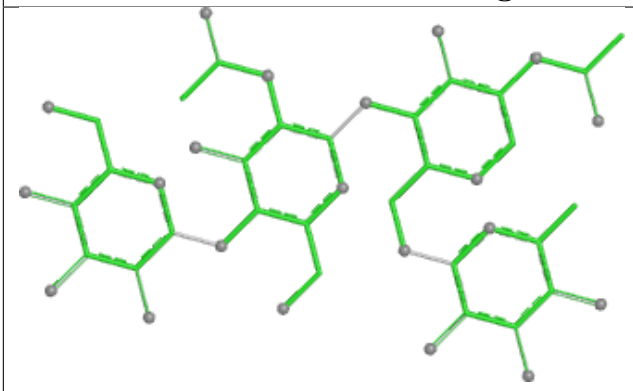


Torsions

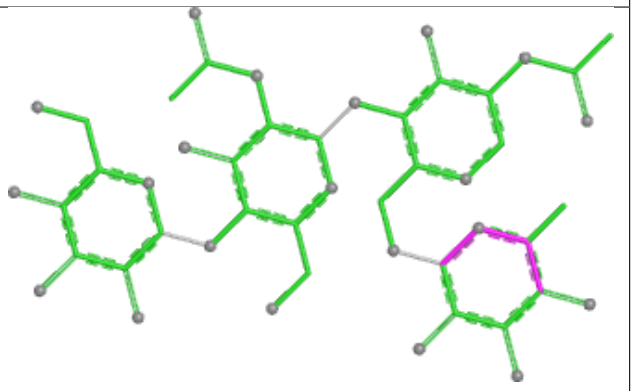


Rings

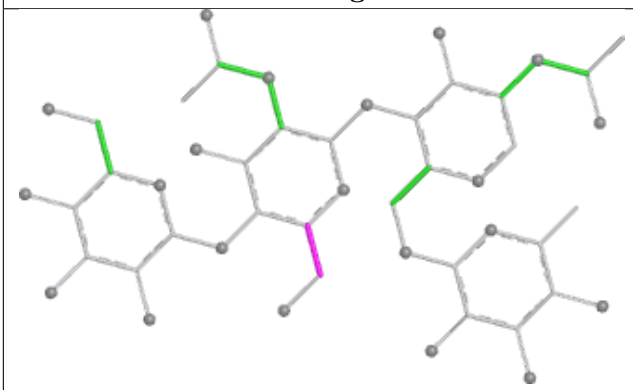
Oligosaccharide Chain E



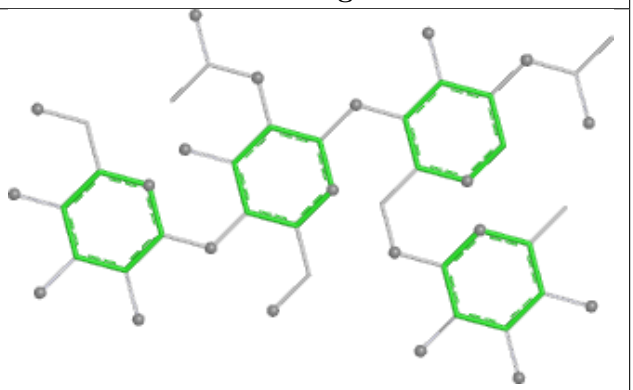
Bond lengths



Bond angles



Torsions



Rings

5.6 Ligand geometry (i)

Mogul was not executed - this section is therefore empty.

5.7 Other polymers (i)

Mogul was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

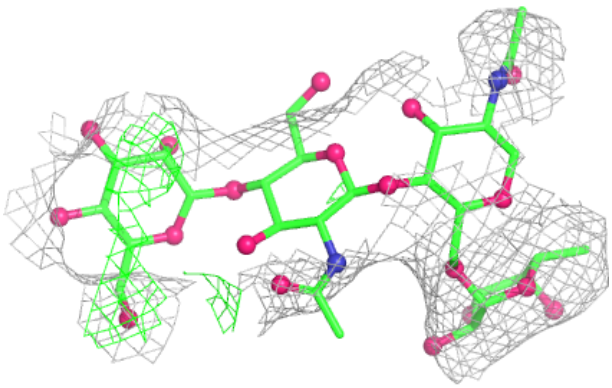
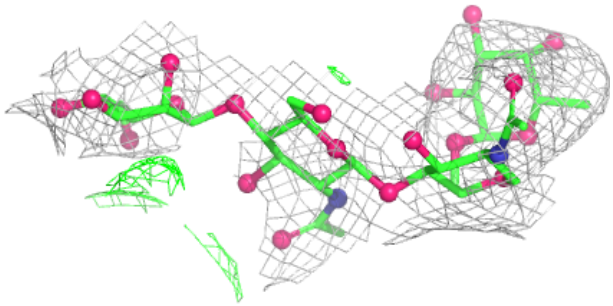
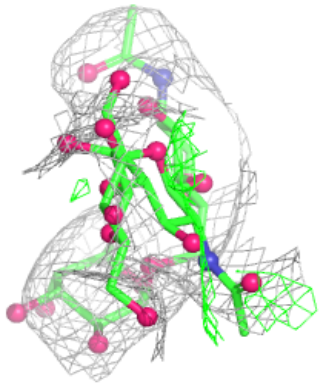
6.2 Non-standard residues in protein, DNA, RNA chains

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates

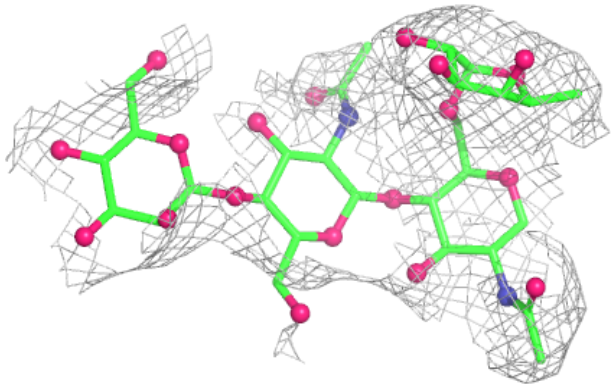
EDS was not executed - this section is therefore empty.

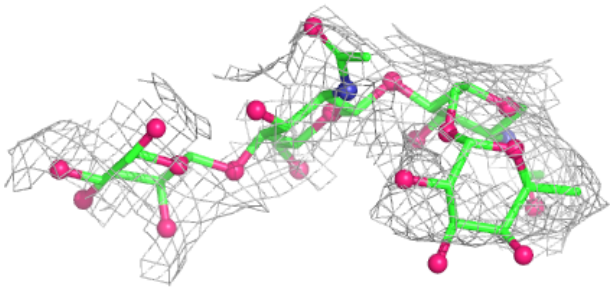
The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.

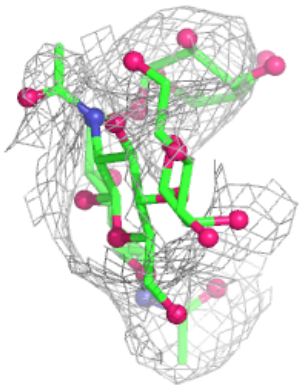
Electron density around Chain D: $2mF_o$-DF_c (at 0.7 rmsd) in gray mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)	
	

Electron density around Chain E:

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







6.4 Ligands

EDS was not executed - this section is therefore empty.

6.5 Other polymers

EDS was not executed - this section is therefore empty.