W O R L D W I D E
wwPDB
P R O T E I N   D A T A   B A N K

Full wwPDB X-ray Structure Validation Report ⓘ

Oct 24, 2024 – 09:01 AM EDT

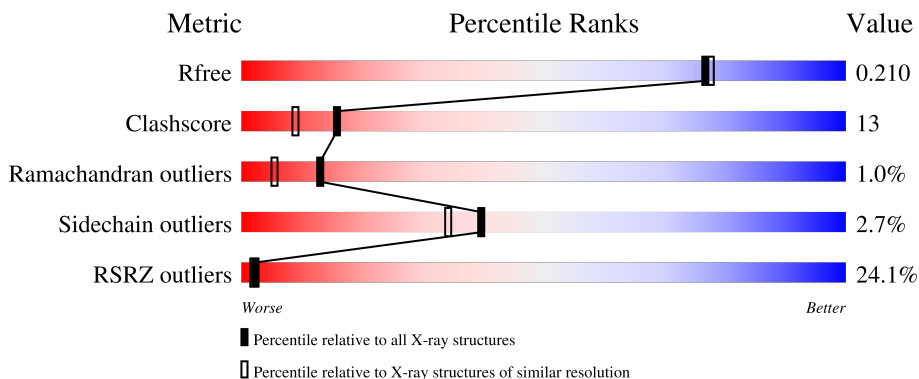|		
PDB ID	:	2QTS
Title	:	Structure of an acid-sensing ion channel 1 at 1.9 A resolution and low pH
Authors	:	Jasti, J.; Furukawa, H.; Gonzales, E.B.; Gouaux, E.
Deposited on	:	2007-08-02
Resolution	:	1.90 Å(reported)

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 1.90 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.
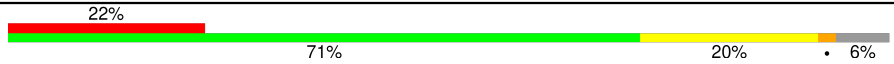
Metric	Percentile Ranks	Value
Rfree		0.210
Clashscore		13
Ramachandran outliers		1.0%
Sidechain outliers		2.7%
RSRZ outliers		24.1%

Worse   *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	164625	7293 (1.90-1.90)
Clashscore	180529	8090 (1.90-1.90)
Ramachandran outliers	177936	8022 (1.90-1.90)
Sidechain outliers	177891	8022 (1.90-1.90)
RSRZ outliers	164620	7292 (1.90-1.90)

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	438	23% / 69% 23% · 5%
1	B	438	20% / 73% 21% · ·
1	C	438	21% / 71% 22% · 5%
1	D	438	24% / 69% 24% · 5%
1	E	438	28% / 70% 25% · ·

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Mol	Chain	Length	Quality of chain
1	F	438	22% 71% 20% 6%
2	G	2	100%
2	H	2	50% 50%
2	I	2	50% 50%

2 Entity composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 22034 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 Acid-sensing ion channel.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	417	Total	C	N	O	S	0	0	0
			3345	2144	541	633	27			
1	B	420	Total	C	N	O	S	0	0	0
			3369	2161	545	636	27			
1	C	418	Total	C	N	O	S	0	0	0
			3350	2148	542	633	27			
1	D	415	Total	C	N	O	S	0	0	0
			3324	2130	539	628	27			
1	E	421	Total	C	N	O	S	0	0	0
			3375	2164	546	638	27			
1	F	412	Total	C	N	O	S	0	0	0
			3299	2114	536	622	27			

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

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace
2	G	2	Total	C	O	0	0	0
			23	12	11			
2	H	2	Total	C	O	0	0	0
			23	12	11			
2	I	2	Total	C	O	0	0	0
			23	12	11			

- Molecule 3 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).

NAG

O6
OH

O5
O1
HO O

O1
C1(R)   C5(R)   C6

C2(R)   C4(S)
N2   C3(R)
HN   OH
O4

C7
OH
C8   O   O3
O7

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total	C	N	O	0	0
			14	8	1	5		
3	A	1	Total	C	N	O	0	0
			14	8	1	5		
3	B	1	Total	C	N	O	0	0
			14	8	1	5		
3	B	1	Total	C	N	O	0	0
			14	8	1	5		
3	C	1	Total	C	N	O	0	0
			14	8	1	5		
3	C	1	Total	C	N	O	0	0
			14	8	1	5		
3	D	1	Total	C	N	O	0	0
			14	8	1	5		
3	D	1	Total	C	N	O	0	0
			14	8	1	5		
3	E	1	Total	C	N	O	0	0
			14	8	1	5		
3	E	1	Total	C	N	O	0	0
			14	8	1	5		
3	F	1	Total	C	N	O	0	0
			14	8	1	5		
3	F	1	Total	C	N	O	0	0
			14	8	1	5		

- Molecule 4 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

WORLDWIDE
wwPDB
PROTEIN DATA BANK

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	1	Total 1	Cl 1	0	0
4	B	1	Total 1	Cl 1	0	0
4	C	1	Total 1	Cl 1	0	0
4	D	1	Total 1	Cl 1	0	0
4	E	1	Total 1	Cl 1	0	0
4	F	1	Total 1	Cl 1	0	0

- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	285	Total 285	O 285	0	0
5	B	280	Total 280	O 280	0	0
5	C	302	Total 302	O 302	0	0
5	D	270	Total 270	O 270	0	0
5	E	292	Total 292	O 292	0	0
5	F	300	Total 300	O 300	0	0

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: Acid-sensing ion channel

Chain A:

• Molecule 1: Acid-sensing ion channel

Chain B:

• Molecule 1: Acid-sensing ion channel

Chain C:

21%

71% 22% • 5%

• Molecule 1: Acid-sensing ion channel

Chain D:

24%

69% 24% • 5%

• Molecule 1: Acid-sensing ion channel

Chain E:

28%

70% 25% • •

• Molecule 1: Acid-sensing ion channel

Chain F:

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

Chain G:

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

Chain H:

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

Chain I:
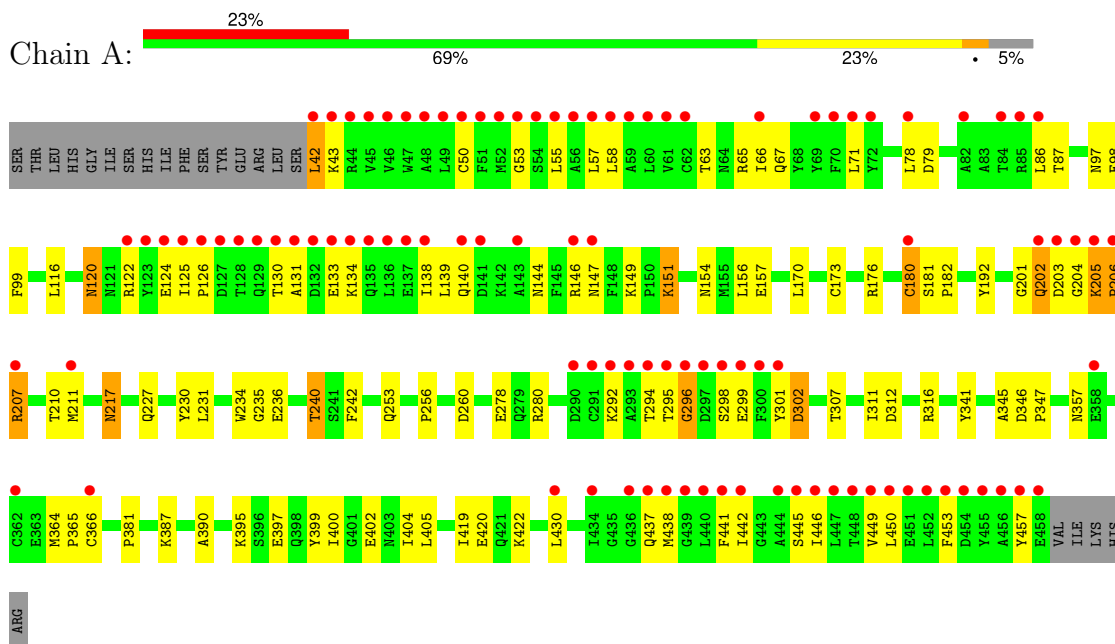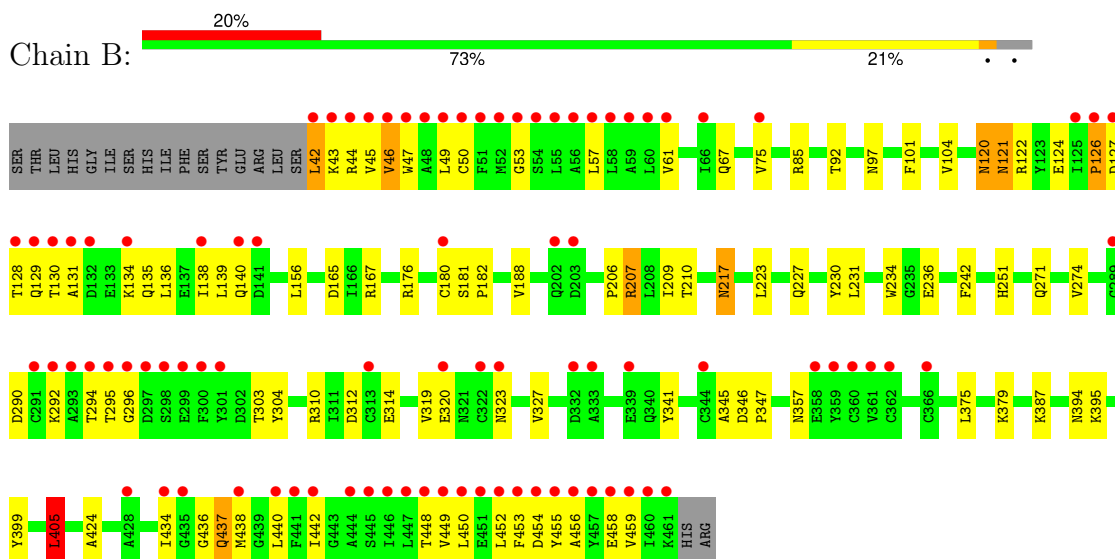
GLC1 GLC2

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	124.25Å 110.78Å 149.89Å 90.00° 97.54° 90.00°	Depositor
Resolution (Å)	30.00 – 1.90 30.00 – 1.90	Depositor EDS
% Data completeness (in resolution range)	88.4 (30.00-1.90) 88.4 (30.00-1.90)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	0.07	Depositor
$< I/\sigma(I) >$ [1]	0.78 (at 1.76Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.208 , 0.233 (Not available) , 0.210	Depositor DCC
R_{free} test set	15744 reflections (4.96%)	wwPDB-VP
Wilson B-factor (Å^2)	20.8	Xtriage
Anisotropy	0.490	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.35 , 49.3	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	22034	wwPDB-VP
Average B, all atoms (Å^2)	38.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 8.17% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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 (i)

5.1   Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: NAG, CL, GLC

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.32	0/3424	0.58	0/4637
1	B	0.32	0/3448	0.59	1/4669 (0.0%)
1	C	0.33	0/3429	0.60	0/4644
1	D	0.32	0/3402	0.58	0/4607
1	E	0.32	0/3454	0.59	1/4677 (0.0%)
1	F	0.32	0/3376	0.59	0/4571
All	All	0.32	0/20533	0.59	2/27805 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	405	LEU	CA-CB-CG	6.13	129.40	115.30
1	E	271	GLN	N-CA-C	-5.00	97.49	111.00

There are no chirality outliers.

There are no planarity outliers.

5.2   Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3345	0	3238	91	0
1	B	3369	0	3271	103	0
1	C	3350	0	3248	95	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	D	3324	0	3222	99	0
1	E	3375	0	3276	100	0
1	F	3299	0	3205	82	0
2	G	23	0	21	0	0
2	H	23	0	21	0	0
2	I	23	0	21	0	0
3	A	28	0	26	0	0
3	B	28	0	26	0	0
3	C	28	0	26	1	0
3	D	28	0	26	1	0
3	E	28	0	26	0	0
3	F	28	0	26	1	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
4	E	1	0	0	0	0
4	F	1	0	0	0	0
5	A	285	0	0	9	0
5	B	280	0	0	3	0
5	C	302	0	0	9	0
5	D	270	0	0	9	0
5	E	292	0	0	7	0
5	F	300	0	0	7	0
All	All	22034	0	19679	523	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 13.

All (523) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:131:ALA:HA	1:F:387:LYS:HD3	1.46	0.98
1:F:294:THR:HG23	1:F:304:TYR:H	1.28	0.97
1:F:298:SER:HB2	1:F:302:ASP:HA	1.47	0.95
1:B:131:ALA:HB2	1:B:234:TRP:HE1	1.31	0.93
1:C:294:THR:HA	1:C:304:TYR:HB3	1.50	0.91
1:B:42:LEU:HD12	1:B:44:ARG:HB2	1.54	0.88
1:B:207:ARG:HH21	1:B:207:ARG:HB2	1.41	0.85
1:E:122:ARG:HE	1:E:122:ARG:HA	1.41	0.83
1:A:154:ASN:HD22	1:A:157:GLU:H	1.27	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:186:LYS:HE2	1:C:202:GLN:HG2	1.60	0.82
1:D:205:LYS:HB3	1:D:206:PRO:HD2	1.63	0.80
1:D:211:MET:HG3	1:E:357:ASN:ND2	1.98	0.79
1:D:98:GLU:HG2	1:D:192:TYR:O	1.84	0.78
1:D:357:ASN:ND2	1:F:211:MET:HG3	1.98	0.77
1:C:223:LEU:HB2	1:C:405:LEU:CD2	2.14	0.77
1:E:146:ARG:HD2	5:E:671:HOH:O	1.83	0.76
1:A:395:LYS:HG2	1:A:399:TYR:CD1	2.19	0.76
1:E:127:ASP:CG	1:E:128:THR:H	1.90	0.74
1:C:42:LEU:H	1:C:42:LEU:HD22	1.52	0.74
1:D:127:ASP:O	1:D:130:THR:HG23	1.87	0.73
1:C:395:LYS:HG2	1:C:399:TYR:CD1	2.24	0.73
1:B:97:ASN:HD21	1:B:231:LEU:H	1.36	0.73
1:A:130:THR:HB	1:C:387:LYS:HB3	1.70	0.72
1:F:98:GLU:HG2	1:F:192:TYR:O	1.88	0.72
1:C:223:LEU:HB2	1:C:405:LEU:HD21	1.72	0.71
1:E:65:ARG:HH21	1:E:433:ASP:HB3	1.56	0.71
1:E:420:GLU:HG2	1:E:422:LYS:HD3	1.71	0.71
1:A:78:LEU:HD13	1:A:79:ASP:N	2.05	0.70
1:A:176:ARG:HH22	1:B:357:ASN:ND2	1.89	0.70
1:C:98:GLU:HG2	1:C:192:TYR:O	1.91	0.70
1:D:395:LYS:HG2	1:D:399:TYR:CD1	2.27	0.70
1:F:310:ARG:O	1:F:314:GLU:HG3	1.92	0.69
1:D:63:THR:O	1:D:67:GLN:HG3	1.92	0.69
1:D:156:LEU:HD13	1:D:327:VAL:HG13	1.72	0.69
1:E:63:THR:O	1:E:67:GLN:HG3	1.92	0.69
1:B:437:GLN:NE2	1:B:437:GLN:H	1.90	0.69
1:E:144:ASN:OD1	1:E:146:ARG:HD3	1.93	0.69
1:C:405:LEU:HD23	1:C:405:LEU:O	1.94	0.67
1:C:210:THR:HG23	1:C:217:ASN:HB3	1.75	0.67
1:D:239:GLU:HB2	5:D:705:HOH:O	1.94	0.67
1:E:296:GLY:HA2	1:E:302:ASP:HA	1.77	0.67
1:A:357:ASN:HD21	1:C:176:ARG:HH12	1.43	0.66
1:E:332:ASP:HB3	5:E:700:HOH:O	1.96	0.66
1:B:120:ASN:ND2	1:B:122:ARG:H	1.94	0.65
1:B:341:TYR:HA	1:B:345:ALA:HB3	1.78	0.65
1:C:240:THR:HG21	5:C:726:HOH:O	1.97	0.65
1:F:42:LEU:N	1:F:42:LEU:HD13	2.11	0.65
1:B:120:ASN:C	1:B:120:ASN:HD22	1.98	0.65
1:A:86:LEU:HD23	1:A:87:THR:N	2.12	0.65
1:A:97:ASN:HD21	1:A:231:LEU:H	1.43	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:366:CYS:HB2	5:A:692:HOH:O	1.97	0.64
1:D:375:LEU:HD13	5:F:591:HOH:O	1.98	0.64
1:D:131:ALA:HB3	1:D:234:TRP:HE1	1.61	0.64
1:F:393:TYR:O	1:F:395:LYS:HD2	1.97	0.64
1:A:260:ASP:HB3	5:A:732:HOH:O	1.98	0.64
1:B:450:LEU:HD21	1:C:42:LEU:HB2	1.78	0.64
1:D:310:ARG:O	1:D:314:GLU:HG3	1.97	0.64
1:D:341:TYR:HA	1:D:345:ALA:HB3	1.80	0.64
1:D:203:ASP:HB3	1:D:205:LYS:HG3	1.80	0.64
1:E:122:ARG:HA	1:E:122:ARG:NE	2.11	0.64
1:F:298:SER:CB	1:F:302:ASP:HA	2.25	0.64
1:A:139:LEU:HD23	1:A:234:TRP:CH2	2.33	0.63
1:A:387:LYS:HD3	5:A:733:HOH:O	1.97	0.63
1:B:437:GLN:H	1:B:437:GLN:HE21	1.45	0.63
1:A:78:LEU:HD23	1:A:419:ILE:HG12	1.80	0.63
1:C:75:VAL:HG13	1:C:424:ALA:HB2	1.79	0.63
1:D:176:ARG:HH22	1:E:357:ASN:ND2	1.95	0.63
1:A:420:GLU:OE1	1:A:422:LYS:HE2	1.98	0.63
1:B:156:LEU:HD13	1:B:327:VAL:HG13	1.79	0.63
1:F:97:ASN:HD21	1:F:231:LEU:H	1.46	0.62
1:A:67:GLN:O	1:A:71:LEU:HD23	2.00	0.62
1:E:55:LEU:HD13	1:E:55:LEU:O	1.98	0.62
1:A:295:THR:HG22	1:A:296:GLY:N	2.14	0.62
1:B:176:ARG:HH12	1:C:357:ASN:HD21	1.45	0.62
1:B:379:LYS:HE3	5:B:496:HOH:O	1.98	0.62
1:F:55:LEU:HD23	1:F:441:PHE:CE1	2.35	0.62
1:F:239:GLU:HB2	5:F:640:HOH:O	1.98	0.62
1:C:156:LEU:HD13	1:C:327:VAL:HG13	1.81	0.61
1:A:125:ILE:HD12	1:A:140:GLN:HG2	1.80	0.61
1:C:132:ASP:HB3	1:C:135:GLN:HG3	1.82	0.61
1:B:45:VAL:C	1:B:47:TRP:H	2.04	0.61
1:E:211:MET:HG3	1:F:357:ASN:ND2	2.16	0.61
1:B:295:THR:HG22	1:B:296:GLY:N	2.16	0.61
1:C:285:PRO:CB	1:C:286:PRO:HD2	2.30	0.61
1:C:418:THR:HG23	5:C:532:HOH:O	2.01	0.61
1:E:310:ARG:O	1:E:314:GLU:HG3	2.00	0.60
1:B:395:LYS:HG2	1:B:399:TYR:CD1	2.36	0.60
1:D:75:VAL:HG13	1:D:424:ALA:HB2	1.82	0.60
1:E:59:ALA:HB2	1:E:441:PHE:CE2	2.36	0.60
1:E:438:MET:O	1:E:442:ILE:HG13	2.00	0.60
1:C:40:LEU:HD22	1:C:43:LYS:HE3	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:62:CYS:O	1:F:66:ILE:HG13	2.01	0.60
1:D:97:ASN:HD21	1:D:231:LEU:H	1.50	0.60
1:F:120:ASN:ND2	1:F:122:ARG:H	2.00	0.60
1:E:456:ALA:O	1:E:460:ILE:HG13	2.02	0.59
1:C:298:SER:HB2	1:C:301:TYR:O	2.02	0.59
1:E:341:TYR:HA	1:E:345:ALA:HB3	1.84	0.59
1:C:200:ALA:HB1	1:C:202:GLN:NE2	2.17	0.59
1:B:92:THR:OG1	1:B:251:HIS:HE1	1.85	0.59
1:D:62:CYS:O	1:D:66:ILE:HG12	2.02	0.59
1:A:176:ARG:HH12	1:B:357:ASN:HD21	1.49	0.59
1:C:202:GLN:N	1:C:202:GLN:HE21	2.01	0.59
1:F:101:PHE:HE1	1:F:139:LEU:HD21	1.68	0.59
1:E:139:LEU:O	1:E:143:ALA:N	2.35	0.58
1:E:136:LEU:O	1:E:140:GLN:HG3	2.02	0.58
1:D:120:ASN:ND2	1:D:124:GLU:H	2.00	0.58
1:A:154:ASN:HD21	1:A:156:LEU:HB3	1.68	0.58
1:B:454:ASP:CG	1:C:40:LEU:HD21	2.24	0.58
1:C:47:TRP:HZ3	1:C:447:LEU:HB3	1.69	0.58
1:D:50:CYS:HB2	1:F:450:LEU:HD21	1.84	0.58
1:E:97:ASN:HD21	1:E:231:LEU:H	1.52	0.58
1:D:120:ASN:C	1:D:120:ASN:HD22	2.07	0.58
1:E:240:THR:HG21	5:E:623:HOH:O	2.02	0.58
1:E:260:ASP:HB3	5:E:583:HOH:O	2.03	0.58
1:C:63:THR:O	1:C:67:GLN:HG3	2.04	0.57
1:E:176:ARG:HH12	1:F:357:ASN:HD21	1.51	0.57
1:E:181:SER:OG	1:E:183:GLU:HG2	2.05	0.57
1:F:120:ASN:C	1:F:120:ASN:HD22	2.07	0.57
1:A:98:GLU:HG2	1:A:192:TYR:O	2.05	0.57
1:A:120:ASN:C	1:A:120:ASN:HD22	2.08	0.57
1:E:62:CYS:O	1:E:66:ILE:HG13	2.05	0.57
1:E:207:ARG:NH1	1:E:207:ARG:HB2	2.20	0.57
1:D:120:ASN:ND2	1:D:122:ARG:H	2.02	0.57
1:F:207:ARG:HA	5:F:551:HOH:O	2.03	0.57
1:B:437:GLN:NE2	1:B:437:GLN:N	2.53	0.57
1:B:120:ASN:HD22	1:B:122:ARG:H	1.52	0.57
1:E:53:GLY:C	1:E:55:LEU:H	2.08	0.57
1:A:253:GLN:HG3	5:A:578:HOH:O	2.05	0.57
1:B:223:LEU:HB2	1:B:405:LEU:HD22	1.87	0.57
1:D:43:LYS:NZ	1:D:43:LYS:HB3	2.20	0.57
1:C:341:TYR:HA	1:C:345:ALA:HB3	1.86	0.57
1:A:298:SER:HB3	1:A:302:ASP:HA	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:154:ASN:HD22	1:C:157:GLU:H	1.53	0.56
1:D:357:ASN:ND2	1:F:176:ARG:HH22	2.03	0.56
1:F:203:ASP:O	1:F:205:LYS:HG2	2.05	0.56
1:B:207:ARG:HB2	1:B:207:ARG:NH2	2.17	0.56
1:D:157:GLU:OE2	1:D:161:ARG:NE	2.34	0.56
1:B:75:VAL:HG23	1:B:424:ALA:HB2	1.86	0.56
1:C:167:ARG:NH2	1:C:183:GLU:OE1	2.39	0.56
1:C:285:PRO:HB2	1:C:286:PRO:HD2	1.86	0.56
1:D:53:GLY:O	1:D:57:LEU:HG	2.06	0.56
1:B:128:THR:HB	1:B:136:LEU:HD21	1.87	0.56
1:F:420:GLU:OE1	1:F:422:LYS:HE2	2.06	0.56
1:B:42:LEU:C	1:B:44:ARG:H	2.08	0.56
1:B:127:ASP:O	1:B:130:THR:HG23	2.06	0.56
1:B:295:THR:HG22	1:B:296:GLY:H	1.70	0.56
1:C:97:ASN:HD21	1:C:231:LEU:H	1.54	0.56
1:C:282:ILE:HB	1:C:420:GLU:HG3	1.88	0.56
1:D:442:ILE:HG22	1:E:54:SER:OG	2.05	0.56
1:F:92:THR:OG1	1:F:251:HIS:HE1	1.89	0.56
1:B:206:PRO:HG2	5:B:648:HOH:O	2.06	0.56
1:E:176:ARG:HH22	1:F:357:ASN:ND2	2.04	0.56
1:A:210:THR:HG22	1:A:217:ASN:O	2.06	0.55
1:F:53:GLY:O	1:F:57:LEU:HD23	2.06	0.55
1:F:156:LEU:HD13	1:F:327:VAL:HG13	1.87	0.55
1:A:42:LEU:N	1:A:42:LEU:HD13	2.21	0.55
1:B:405:LEU:C	1:B:405:LEU:HD23	2.27	0.55
1:A:65:ARG:NE	1:A:65:ARG:HA	2.22	0.55
1:A:50:CYS:HB3	1:C:446:ILE:HG23	1.89	0.55
1:A:204:GLY:O	1:A:205:LYS:C	2.45	0.55
1:D:447:LEU:HD12	1:F:450:LEU:HB3	1.88	0.55
1:F:131:ALA:HB2	1:F:234:TRP:HE1	1.72	0.55
1:A:211:MET:HG3	1:B:357:ASN:ND2	2.21	0.55
1:C:133:GLU:CD	1:C:133:GLU:H	2.09	0.55
1:E:420:GLU:CG	1:E:422:LYS:HD3	2.37	0.55
1:A:122:ARG:O	1:A:124:GLU:HG3	2.07	0.55
1:A:280:ARG:HG2	1:A:280:ARG:HH11	1.72	0.55
1:D:237:THR:OG1	1:D:240:THR:HG23	2.07	0.55
1:D:447:LEU:O	1:D:451:GLU:HG3	2.06	0.55
1:E:452:LEU:O	1:E:452:LEU:HD23	2.06	0.55
1:A:295:THR:HG22	1:A:296:GLY:H	1.71	0.54
1:B:139:LEU:HD23	1:B:234:TRP:CH2	2.42	0.54
1:F:134:LYS:O	1:F:138:ILE:HG12	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:294:THR:HG22	1:A:295:THR:N	2.21	0.54
1:D:357:ASN:HD22	1:F:211:MET:HG3	1.72	0.54
1:D:357:ASN:HD21	1:F:176:ARG:HH12	1.54	0.54
1:E:455:TYR:O	1:E:459:VAL:HG23	2.07	0.54
3:F:11:NAG:O3	3:F:11:NAG:H83	2.07	0.54
1:C:299:GLU:HG2	1:C:312:ASP:OD1	2.08	0.54
1:D:146:ARG:O	1:D:147:ASN:HB2	2.07	0.54
1:B:130:THR:HA	5:B:739:HOH:O	2.06	0.54
1:C:286:PRO:HG2	1:C:287:PRO:HD3	1.89	0.54
1:E:250:ILE:HD12	1:E:373:LYS:HD3	1.89	0.54
1:B:236:GLU:HG2	1:B:242:PHE:CZ	2.42	0.54
1:C:387:LYS:O	1:C:387:LYS:HD3	2.07	0.54
1:D:240:THR:HG21	5:D:546:HOH:O	2.06	0.54
1:E:64:ASN:HA	1:E:67:GLN:NE2	2.23	0.54
1:F:121:ASN:OD1	1:F:122:ARG:HG3	2.06	0.54
1:D:157:GLU:CD	1:D:161:ARG:HE	2.10	0.54
1:F:210:THR:HG23	1:F:217:ASN:HB3	1.90	0.54
1:C:59:ALA:O	1:C:63:THR:HG23	2.08	0.54
1:F:280:ARG:HG2	1:F:280:ARG:HH21	1.73	0.54
1:A:154:ASN:ND2	1:A:157:GLU:H	2.03	0.54
1:A:442:ILE:O	1:A:446:ILE:HG13	2.08	0.54
1:E:128:THR:HA	1:E:136:LEU:HD21	1.88	0.54
1:A:86:LEU:HD21	1:A:278:GLU:OE1	2.07	0.53
1:B:135:GLN:O	1:B:139:LEU:HB2	2.08	0.53
1:E:92:THR:OG1	1:E:251:HIS:HE1	1.92	0.53
1:A:55:LEU:HB2	1:A:441:PHE:HE2	1.73	0.53
1:D:42:LEU:O	1:D:45:VAL:HG12	2.09	0.53
1:B:131:ALA:HB2	1:B:234:TRP:NE1	2.14	0.53
1:C:420:GLU:OE1	1:C:422:LYS:HE3	2.09	0.53
1:A:312:ASP:OD2	1:A:316:ARG:NH1	2.42	0.53
1:C:132:ASP:OD1	1:C:134:LYS:HG2	2.09	0.53
1:B:42:LEU:HD12	1:B:44:ARG:CB	2.33	0.53
1:B:85:ARG:NH2	1:B:209:ILE:HD13	2.23	0.53
1:A:341:TYR:HA	1:A:345:ALA:HB3	1.91	0.53
1:E:127:ASP:CG	1:E:128:THR:N	2.62	0.53
1:B:167:ARG:HG2	1:B:167:ARG:HH21	1.74	0.53
1:D:139:LEU:HD23	1:D:234:TRP:CH2	2.44	0.53
1:D:176:ARG:HH12	1:E:357:ASN:HD21	1.56	0.53
1:C:405:LEU:HD23	1:C:405:LEU:C	2.29	0.53
1:A:420:GLU:CD	1:A:422:LYS:HE2	2.30	0.52
1:D:379:LYS:HG3	5:D:722:HOH:O	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:56:ALA:O	1:D:60:LEU:HD23	2.09	0.52
1:B:44:ARG:HH11	1:B:455:TYR:HE2	1.57	0.52
1:A:63:THR:O	1:A:67:GLN:HG3	2.09	0.52
1:A:207:ARG:HA	5:A:625:HOH:O	2.10	0.52
1:C:256:PRO:HG2	1:C:307:THR:HG22	1.91	0.52
1:C:379:LYS:HE3	5:C:480:HOH:O	2.10	0.52
1:D:136:LEU:O	1:D:140:GLN:HG3	2.09	0.52
1:A:357:ASN:ND2	1:C:176:ARG:HH22	2.08	0.52
1:C:42:LEU:HD22	1:C:42:LEU:N	2.22	0.52
1:C:210:THR:HG22	5:C:750:HOH:O	2.09	0.52
1:B:310:ARG:O	1:B:314:GLU:HG3	2.08	0.52
1:C:92:THR:OG1	1:C:251:HIS:HE1	1.93	0.52
1:E:156:LEU:HD13	1:E:327:VAL:CG2	2.39	0.52
1:B:46:VAL:HG12	1:B:46:VAL:O	2.10	0.52
1:F:295:THR:HG22	1:F:295:THR:O	2.10	0.52
1:A:131:ALA:C	1:A:133:GLU:H	2.13	0.51
1:D:447:LEU:CD1	1:F:450:LEU:HB3	2.40	0.51
1:C:63:THR:O	1:C:66:ILE:HG12	2.09	0.51
1:D:44:ARG:HD2	1:D:455:TYR:CE2	2.45	0.51
1:D:440:LEU:HD23	1:F:443:GLY:HA3	1.93	0.51
1:F:63:THR:O	1:F:67:GLN:HG3	2.11	0.51
1:F:312:ASP:HB3	5:F:687:HOH:O	2.11	0.51
1:D:274:VAL:HG22	1:D:375:LEU:HG	1.92	0.51
1:E:271:GLN:HE21	1:F:243:GLU:HG2	1.74	0.51
1:B:271:GLN:HE21	1:C:243:GLU:HG2	1.76	0.51
1:E:114:GLU:HG2	1:E:342:LYS:HE3	1.93	0.51
1:E:327:VAL:HG12	5:E:480:HOH:O	2.09	0.51
1:A:120:ASN:ND2	1:A:122:ARG:H	2.08	0.51
1:B:319:VAL:O	1:B:323:ASN:HA	2.11	0.51
1:D:209:ILE:HD12	1:D:209:ILE:C	2.31	0.51
1:E:85:ARG:HB3	1:E:85:ARG:NH2	2.26	0.51
1:A:256:PRO:HG2	1:A:307:THR:HG22	1.92	0.51
1:D:256:PRO:HG2	1:D:307:THR:HG22	1.92	0.51
1:A:402:GLU:OE1	1:C:383:LYS:HE2	2.11	0.50
1:C:205:LYS:H	1:C:206:PRO:HD2	1.77	0.50
1:C:310:ARG:O	1:C:314:GLU:HG3	2.11	0.50
1:C:446:ILE:HG22	1:C:450:LEU:HD22	1.93	0.50
1:D:202:GLN:C	1:D:204:GLY:H	2.14	0.50
1:E:418:THR:HG23	5:E:543:HOH:O	2.12	0.50
1:B:294:THR:HG21	1:B:303:THR:HA	1.93	0.50
1:C:287:PRO:HG2	5:C:727:HOH:O	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:454:ASP:OD2	1:C:40:LEU:HD21	2.12	0.50
1:C:442:ILE:O	1:C:446:ILE:HG13	2.11	0.50
1:A:292:LYS:HA	5:A:644:HOH:O	2.12	0.50
1:D:446:ILE:HG13	1:E:54:SER:HB2	1.94	0.50
1:F:75:VAL:HG13	1:F:422:LYS:HB2	1.93	0.50
1:A:298:SER:HB2	1:A:301:TYR:C	2.32	0.50
1:D:186:LYS:HE3	5:D:697:HOH:O	2.12	0.50
1:A:43:LYS:NZ	1:A:43:LYS:HB3	2.27	0.50
1:A:144:ASN:HD21	1:A:146:ARG:HE	1.60	0.50
1:C:395:LYS:HG2	1:C:399:TYR:CE1	2.47	0.49
1:A:205:LYS:O	1:A:207:ARG:N	2.45	0.49
1:C:420:GLU:CD	1:C:422:LYS:HE3	2.33	0.49
1:A:176:ARG:NH1	1:B:357:ASN:HD21	2.09	0.49
1:C:154:ASN:ND2	1:C:156:LEU:HB3	2.27	0.49
1:C:293:ALA:C	1:C:295:THR:H	2.16	0.49
1:B:176:ARG:HH22	1:C:357:ASN:ND2	2.10	0.49
1:F:346:ASP:HB2	1:F:347:PRO:HD3	1.95	0.49
1:B:210:THR:HG23	1:B:217:ASN:HB3	1.95	0.49
1:E:202:GLN:HB2	1:E:205:LYS:CG	2.42	0.49
1:C:274:VAL:HG22	1:C:375:LEU:HG	1.95	0.49
1:B:274:VAL:HG22	1:B:375:LEU:HG	1.95	0.49
1:B:438:MET:O	1:B:442:ILE:HG13	2.13	0.49
1:D:282:ILE:HB	1:D:420:GLU:HG3	1.95	0.49
1:B:136:LEU:O	1:B:140:GLN:HG3	2.13	0.48
1:C:42:LEU:H	1:C:42:LEU:CD2	2.23	0.48
1:C:44:ARG:CZ	1:C:455:TYR:HB2	2.43	0.48
1:D:209:ILE:HD12	1:D:209:ILE:O	2.13	0.48
1:D:445:SER:O	1:D:449:VAL:HG23	2.13	0.48
1:F:101:PHE:CE1	1:F:139:LEU:HD21	2.47	0.48
1:D:202:GLN:HG3	5:D:697:HOH:O	2.13	0.48
1:D:390:ALA:HB1	1:D:395:LYS:O	2.14	0.48
1:F:452:LEU:HD13	1:F:452:LEU:O	2.13	0.48
1:A:387:LYS:HE2	1:A:397:GLU:OE2	2.13	0.48
1:A:400:ILE:HG23	1:A:404:ILE:HG13	1.95	0.48
1:C:292:LYS:HD2	1:C:363:GLU:OE1	2.13	0.48
1:E:51:PHE:HD2	1:E:447:LEU:HD13	1.77	0.48
1:D:122:ARG:O	1:D:124:GLU:HG3	2.14	0.48
1:A:387:LYS:HD3	5:A:747:HOH:O	2.12	0.48
1:B:292:LYS:O	1:B:292:LYS:HG3	2.13	0.48
1:D:116:LEU:HA	5:D:705:HOH:O	2.12	0.48
1:D:211:MET:HG3	1:E:357:ASN:HD22	1.74	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:44:ARG:NH1	1:B:455:TYR:HE2	2.12	0.48
1:B:346:ASP:HB2	1:B:347:PRO:HD3	1.96	0.48
1:C:395:LYS:HE3	5:C:635:HOH:O	2.13	0.48
1:E:339:GLU:HG3	5:E:694:HOH:O	2.13	0.48
1:F:85:ARG:HD3	1:F:209:ILE:HD12	1.96	0.48
1:E:78:LEU:HD13	1:E:419:ILE:HG12	1.96	0.47
1:E:202:GLN:HB2	1:E:205:LYS:HG2	1.95	0.47
1:A:395:LYS:HG2	1:A:399:TYR:CE1	2.48	0.47
1:D:49:LEU:HD12	1:D:50:CYS:N	2.28	0.47
1:A:78:LEU:HD13	1:A:78:LEU:C	2.34	0.47
1:A:176:ARG:HH22	1:B:357:ASN:HD21	1.58	0.47
1:B:236:GLU:HG2	1:B:242:PHE:HZ	1.80	0.47
1:D:436:GLY:O	1:D:440:LEU:HD13	2.14	0.47
1:E:101:PHE:CE1	1:E:139:LEU:HD21	2.50	0.47
1:C:207:ARG:HA	5:C:639:HOH:O	2.14	0.47
1:F:55:LEU:HD13	1:F:55:LEU:C	2.34	0.47
1:F:97:ASN:ND2	1:F:231:LEU:H	2.10	0.47
1:B:85:ARG:HG2	1:B:209:ILE:HD12	1.97	0.47
1:B:456:ALA:O	1:B:459:VAL:HG23	2.15	0.47
1:D:92:THR:OG1	1:D:251:HIS:HE1	1.96	0.47
1:E:442:ILE:C	1:E:444:ALA:H	2.18	0.47
1:F:292:LYS:HD2	1:F:304:TYR:CD2	2.50	0.47
1:D:181:SER:HB2	1:D:182:PRO:CD	2.45	0.47
1:D:420:GLU:OE1	1:D:422:LYS:HE2	2.15	0.47
1:D:435:GLY:HA3	1:E:61:VAL:HG11	1.97	0.47
1:E:59:ALA:O	1:E:63:THR:HG23	2.15	0.47
1:E:75:VAL:HG23	1:E:424:ALA:HB2	1.96	0.47
1:A:170:LEU:HD11	1:A:173:CYS:HB2	1.97	0.47
1:C:205:LYS:H	1:C:206:PRO:CD	2.27	0.46
1:F:52:MET:O	1:F:55:LEU:HB3	2.13	0.46
1:B:207:ARG:HH21	1:B:207:ARG:CB	2.20	0.46
1:E:299:GLU:C	1:E:301:TYR:H	2.18	0.46
1:B:97:ASN:ND2	1:B:231:LEU:H	2.09	0.46
3:C:6:NAG:H83	3:C:6:NAG:O3	2.15	0.46
1:F:315:THR:O	1:F:319:VAL:HG23	2.15	0.46
1:F:434:ILE:HG22	1:F:438:MET:HE2	1.98	0.46
1:C:427:VAL:O	1:C:431:LEU:HD13	2.14	0.46
1:A:149:LYS:O	1:A:151:LYS:HD3	2.16	0.46
1:B:452:LEU:HA	1:B:455:TYR:HB3	1.96	0.46
1:F:45:VAL:HG23	1:F:46:VAL:N	2.30	0.46
1:A:120:ASN:ND2	1:A:124:GLU:H	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:47:TRP:CZ3	1:C:447:LEU:HB3	2.51	0.46
1:D:120:ASN:HD21	1:D:124:GLU:H	1.64	0.46
1:E:181:SER:HB2	1:E:182:PRO:CD	2.46	0.46
1:F:442:ILE:O	1:F:446:ILE:HG13	2.15	0.46
1:B:53:GLY:O	1:B:57:LEU:HD23	2.15	0.46
1:C:42:LEU:O	1:C:45:VAL:HG22	2.16	0.46
1:C:448:THR:HG23	1:C:452:LEU:HD12	1.98	0.46
1:D:46:VAL:HA	1:D:49:LEU:HG	1.98	0.46
1:E:434:ILE:HA	1:E:437:GLN:HB3	1.98	0.46
1:A:453:PHE:HE1	1:B:43:LYS:HZ2	1.64	0.46
1:E:65:ARG:NH2	1:E:433:ASP:HB3	2.28	0.46
1:C:62:CYS:O	1:C:66:ILE:HG23	2.16	0.46
1:A:201:GLY:O	1:A:202:GLN:HB2	2.16	0.45
1:A:205:LYS:HA	1:A:206:PRO:HD2	1.80	0.45
1:A:240:THR:HG22	5:A:618:HOH:O	2.16	0.45
1:B:101:PHE:CE1	1:B:139:LEU:HD13	2.51	0.45
1:B:405:LEU:HD23	1:B:405:LEU:O	2.17	0.45
3:D:7:NAG:H83	3:D:7:NAG:O3	2.17	0.45
1:C:89:PRO:HB3	1:C:371:TYR:CZ	2.51	0.45
1:C:139:LEU:HD23	1:C:234:TRP:CH2	2.51	0.45
1:D:49:LEU:HD12	1:D:49:LEU:C	2.37	0.45
1:D:74:HIS:HD2	5:D:588:HOH:O	1.99	0.45
1:F:282:ILE:HB	1:F:420:GLU:HG3	1.98	0.45
1:A:63:THR:O	1:A:66:ILE:HG22	2.17	0.45
1:C:137:GLU:HG2	5:C:632:HOH:O	2.17	0.45
1:E:282:ILE:HB	1:E:420:GLU:HG3	1.98	0.45
1:A:390:ALA:HB1	1:A:395:LYS:O	2.15	0.45
1:D:446:ILE:O	1:D:450:LEU:HG	2.17	0.45
1:E:420:GLU:CD	1:E:422:LYS:HD3	2.37	0.45
1:A:58:LEU:HD13	1:A:438:MET:HA	1.99	0.45
1:E:132:ASP:OD2	1:E:134:LYS:HB3	2.17	0.45
1:B:181:SER:HB2	1:B:182:PRO:CD	2.47	0.45
1:D:280:ARG:HG3	1:D:416:TYR:CE1	2.51	0.45
1:A:227:GLN:HA	1:A:230:TYR:CD1	2.52	0.45
1:B:61:VAL:HG11	1:B:437:GLN:HG2	1.97	0.45
1:C:205:LYS:HB3	1:C:206:PRO:HD3	1.97	0.45
1:F:192:TYR:CE2	1:F:260:ASP:HA	2.52	0.45
1:A:176:ARG:NH2	1:B:357:ASN:HD21	2.15	0.45
1:B:436:GLY:O	1:B:440:LEU:HG	2.17	0.45
1:C:154:ASN:HD21	1:C:156:LEU:HB3	1.82	0.45
1:E:97:ASN:ND2	1:E:231:LEU:H	2.13	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:129:GLN:C	1:E:131:ALA:H	2.20	0.45
1:E:130:THR:HG22	1:E:130:THR:O	2.17	0.45
1:B:434:ILE:O	1:B:438:MET:HG2	2.17	0.45
1:A:204:GLY:O	1:A:206:PRO:N	2.49	0.44
1:E:300:PHE:HD2	1:E:312:ASP:CG	2.21	0.44
1:F:274:VAL:HG22	1:F:375:LEU:HG	1.99	0.44
1:E:53:GLY:C	1:E:55:LEU:N	2.70	0.44
1:F:395:LYS:HG2	1:F:399:TYR:CD1	2.51	0.44
1:B:449:VAL:HA	1:B:452:LEU:CD2	2.47	0.44
1:C:43:LYS:O	1:C:47:TRP:HD1	2.00	0.44
1:D:132:ASP:HB2	5:D:651:HOH:O	2.17	0.44
1:E:53:GLY:O	1:E:54:SER:HB3	2.18	0.44
1:F:433:ASP:O	1:F:437:GLN:HG2	2.17	0.44
1:A:134:LYS:O	1:A:138:ILE:HG22	2.18	0.44
1:D:405:LEU:C	1:D:405:LEU:HD12	2.38	0.44
1:D:176:ARG:HH22	1:E:357:ASN:HD21	1.60	0.44
1:E:51:PHE:HB2	1:E:448:THR:OG1	2.17	0.44
1:E:405:LEU:C	1:E:405:LEU:HD12	2.38	0.44
1:C:109:LEU:HG	1:C:119:LEU:HD11	1.99	0.44
1:E:133:GLU:HG3	1:E:134:LYS:N	2.33	0.44
1:A:53:GLY:O	1:A:57:LEU:HD23	2.17	0.44
1:D:84:THR:O	1:D:85:ARG:HB2	2.17	0.44
1:F:434:ILE:HG22	1:F:438:MET:CE	2.48	0.44
1:C:42:LEU:O	1:C:46:VAL:HG23	2.17	0.44
1:E:55:LEU:HD11	1:E:58:LEU:HD22	2.00	0.44
1:A:295:THR:CG2	1:A:296:GLY:N	2.81	0.43
1:D:227:GLN:HA	1:D:230:TYR:CD1	2.53	0.43
1:F:120:ASN:ND2	1:F:124:GLU:H	2.17	0.43
1:E:353:VAL:HG23	1:E:354:GLU:HG3	2.01	0.43
1:C:346:ASP:HB2	1:C:347:PRO:HD3	2.00	0.43
1:E:58:LEU:N	1:E:58:LEU:HD12	2.34	0.43
1:F:42:LEU:O	1:F:42:LEU:HD22	2.19	0.43
1:B:120:ASN:ND2	1:B:120:ASN:C	2.70	0.43
1:D:395:LYS:HG2	1:D:399:TYR:CE1	2.54	0.43
1:E:271:GLN:NE2	1:F:243:GLU:HG2	2.33	0.43
1:D:43:LYS:HB3	1:D:43:LYS:HZ3	1.84	0.43
1:F:55:LEU:HD22	1:F:55:LEU:O	2.18	0.43
1:F:227:GLN:HA	1:F:230:TYR:CD1	2.54	0.43
1:A:445:SER:O	1:A:449:VAL:HG23	2.18	0.43
1:B:165:ASP:OD1	1:B:167:ARG:HG3	2.18	0.43
1:B:395:LYS:HG2	1:B:399:TYR:CE1	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:293:ALA:O	1:C:295:THR:N	2.49	0.43
1:F:300:PHE:HD2	1:F:312:ASP:OD1	2.01	0.43
1:B:45:VAL:O	1:B:49:LEU:HG	2.19	0.43
1:D:271:GLN:HE21	1:E:243:GLU:HG2	1.84	0.43
1:E:135:GLN:NE2	1:E:232:PRO:HG3	2.34	0.43
1:E:181:SER:HB2	1:E:182:PRO:HD2	2.01	0.43
1:A:131:ALA:C	1:A:133:GLU:N	2.71	0.43
1:B:139:LEU:HD12	1:B:139:LEU:HA	1.86	0.43
1:C:128:THR:HB	1:C:234:TRP:CE2	2.53	0.43
1:D:346:ASP:HB2	1:D:347:PRO:HD3	2.01	0.43
1:E:98:GLU:HG2	1:E:192:TYR:O	2.19	0.43
1:F:43:LYS:NZ	1:F:43:LYS:HB3	2.34	0.43
1:F:427:VAL:O	1:F:431:LEU:HD13	2.20	0.42
1:B:126:PRO:O	1:B:127:ASP:C	2.58	0.42
1:B:449:VAL:O	1:B:453:PHE:HB2	2.20	0.42
1:C:205:LYS:N	1:C:206:PRO:CD	2.81	0.42
1:B:121:ASN:C	1:B:121:ASN:HD22	2.22	0.42
1:C:280:ARG:HG2	1:C:280:ARG:HH11	1.84	0.42
1:D:106:LYS:HE3	1:D:106:LYS:HB2	1.88	0.42
1:D:176:ARG:NH1	1:E:357:ASN:HD21	2.17	0.42
1:D:427:VAL:O	1:D:431:LEU:HD13	2.18	0.42
1:A:346:ASP:N	1:A:347:PRO:HD2	2.34	0.42
1:B:45:VAL:C	1:B:47:TRP:N	2.72	0.42
1:D:447:LEU:O	1:D:447:LEU:HD13	2.19	0.42
1:E:268:PRO:HA	1:E:405:LEU:HB3	2.01	0.42
1:F:292:LYS:HD3	1:F:292:LYS:C	2.40	0.42
1:F:339:GLU:CD	1:F:339:GLU:H	2.23	0.42
1:B:135:GLN:O	1:B:138:ILE:HG23	2.19	0.42
1:A:256:PRO:O	1:A:307:THR:HG21	2.19	0.42
1:B:121:ASN:ND2	1:B:122:ARG:HG3	2.33	0.42
1:B:134:LYS:O	1:B:138:ILE:HG22	2.19	0.42
1:D:146:ARG:HG3	1:D:146:ARG:HH11	1.84	0.42
1:D:241:SER:HB2	5:D:518:HOH:O	2.19	0.42
1:F:201:GLY:O	1:F:202:GLN:NE2	2.53	0.42
1:B:227:GLN:HA	1:B:230:TYR:CD1	2.55	0.42
1:B:394:ASN:O	1:B:395:LYS:HD2	2.18	0.42
1:E:58:LEU:O	1:E:62:CYS:HB2	2.20	0.42
1:A:405:LEU:C	1:A:405:LEU:HD12	2.40	0.42
1:B:120:ASN:ND2	1:B:124:GLU:H	2.17	0.42
1:F:47:TRP:HH2	1:F:448:THR:HG1	1.60	0.42
1:C:85:ARG:HH21	1:C:209:ILE:HD13	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:55:LEU:HB2	1:D:441:PHE:HE2	1.84	0.42
1:A:97:ASN:ND2	1:A:231:LEU:H	2.14	0.42
1:D:202:GLN:OE1	1:D:202:GLN:HA	2.20	0.42
1:B:128:THR:O	1:B:130:THR:N	2.53	0.41
1:B:454:ASP:OD1	1:C:40:LEU:HD21	2.20	0.41
1:D:46:VAL:O	1:D:49:LEU:HG	2.19	0.41
1:D:64:ASN:OD1	1:D:65:ARG:HD2	2.20	0.41
1:F:181:SER:HB3	1:F:182:PRO:CD	2.50	0.41
5:A:728:HOH:O	1:B:437:GLN:HG3	2.19	0.41
1:B:42:LEU:CD1	1:B:44:ARG:HB2	2.38	0.41
1:B:448:THR:O	1:B:452:LEU:HD22	2.20	0.41
1:D:54:SER:OG	1:D:441:PHE:HA	2.20	0.41
1:D:97:ASN:ND2	1:D:231:LEU:H	2.16	0.41
1:D:126:PRO:O	1:D:127:ASP:C	2.59	0.41
1:F:374:GLU:HB3	5:F:591:HOH:O	2.19	0.41
1:A:173:CYS:C	1:A:180:CYS:SG	2.99	0.41
1:B:44:ARG:O	1:B:47:TRP:HB3	2.21	0.41
1:C:227:GLN:HA	1:C:230:TYR:CD1	2.55	0.41
1:E:173:CYS:C	1:E:180:CYS:SG	2.99	0.41
1:A:235:GLY:O	1:A:240:THR:HG21	2.20	0.41
1:A:364:MET:HA	1:A:365:PRO:HD3	1.97	0.41
1:B:188:VAL:O	1:B:188:VAL:HG13	2.21	0.41
1:C:85:ARG:HD3	1:C:209:ILE:CD1	2.50	0.41
1:D:128:THR:HG22	1:D:129:GLN:N	2.36	0.41
1:D:44:ARG:HG2	1:D:44:ARG:HH11	1.85	0.41
1:E:176:ARG:NH1	1:F:357:ASN:HD21	2.17	0.41
1:E:270:PHE:CG	1:E:377:MET:HE3	2.56	0.41
1:A:450:LEU:HD11	1:B:50:CYS:SG	2.61	0.41
1:F:204:GLY:N	5:F:654:HOH:O	2.54	0.41
1:A:99:PHE:CE2	1:A:116:LEU:HD21	2.55	0.41
1:B:295:THR:CG2	1:B:296:GLY:N	2.83	0.41
1:E:72:TYR:HB3	1:E:288:TRP:CD1	2.56	0.41
1:E:306:ILE:O	1:E:310:ARG:HG3	2.20	0.41
1:E:379:LYS:HD2	1:E:380:ILE:N	2.36	0.41
1:F:120:ASN:HD22	1:F:122:ARG:H	1.67	0.41
1:A:144:ASN:OD1	1:A:146:ARG:HG2	2.21	0.41
1:A:181:SER:HB2	1:A:182:PRO:HD2	2.03	0.41
1:B:292:LYS:HD2	1:B:304:TYR:CZ	2.55	0.41
1:C:55:LEU:C	1:C:55:LEU:HD13	2.41	0.41
1:C:433:ASP:O	1:C:437:GLN:HG2	2.21	0.41
1:D:236:GLU:OE1	1:F:392:LYS:NZ	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:301:TYR:OH	1:A:311:ILE:HG21	2.19	0.41
1:B:67:GLN:HE21	1:B:67:GLN:HB2	1.67	0.41
1:C:210:THR:HG21	5:C:738:HOH:O	2.21	0.41
1:E:55:LEU:CD1	1:E:58:LEU:HD22	2.51	0.40
1:E:431:LEU:HD12	1:E:431:LEU:N	2.36	0.40
1:F:181:SER:HB3	1:F:182:PRO:HD2	2.01	0.40
1:F:379:LYS:HD3	5:F:757:HOH:O	2.21	0.40
1:A:57:LEU:HB3	1:A:437:GLN:OE1	2.21	0.40
1:A:236:GLU:HG2	1:A:242:PHE:CZ	2.55	0.40
1:D:439:GLY:HA3	1:E:58:LEU:CD1	2.52	0.40
1:E:128:THR:HA	1:E:136:LEU:CD2	2.50	0.40
1:E:280:ARG:HH21	1:E:280:ARG:HG2	1.86	0.40
1:F:448:THR:O	1:F:452:LEU:HB2	2.21	0.40
1:B:135:GLN:HA	1:B:138:ILE:CG2	2.52	0.40
1:B:387:LYS:HE2	1:C:131:ALA:HA	2.04	0.40
1:D:357:ASN:HD21	1:F:176:ARG:NH1	2.19	0.40
1:E:52:MET:HG3	1:E:448:THR:OG1	2.21	0.40
1:B:104:VAL:HG21	1:B:231:LEU:HD21	2.03	0.40
1:B:303:THR:HG22	1:B:304:TYR:N	2.37	0.40
1:D:176:ARG:NH2	1:E:357:ASN:HD21	2.20	0.40
1:E:44:ARG:HG2	1:E:44:ARG:HH21	1.87	0.40
1:C:85:ARG:HD3	1:C:209:ILE:HD12	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	415/438 (95%)	396 (95%)	12 (3%)	7 (2%)	7	2
1	B	418/438 (95%)	397 (95%)	18 (4%)	3 (1%)	19	11
1	C	416/438 (95%)	398 (96%)	12 (3%)	6 (1%)	9	3

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	D	413/438 (94%)	390 (94%)	18 (4%)	5 (1%)	11	4
1	E	419/438 (96%)	397 (95%)	20 (5%)	2 (0%)	25	17
1	F	410/438 (94%)	394 (96%)	13 (3%)	3 (1%)	19	11
All	All	2491/2628 (95%)	2372 (95%)	93 (4%)	26 (1%)	13	5

All (26) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	202	GLN
1	A	203	ASP
1	A	206	PRO
1	C	205	LYS
1	D	132	ASP
1	D	298	SER
1	D	299	GLU
1	E	127	ASP
1	F	43	LYS
1	D	127	ASP
1	F	299	GLU
1	A	207	ARG
1	B	46	VAL
1	B	129	GLN
1	C	286	PRO
1	C	294	THR
1	C	455	TYR
1	F	297	ASP
1	A	205	LYS
1	C	206	PRO
1	C	297	ASP
1	E	435	GLY
1	A	296	GLY
1	B	126	PRO
1	D	126	PRO
1	A	126	PRO

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	363/383 (95%)	351 (97%)	12 (3%)	33	26
1	B	366/383 (96%)	354 (97%)	12 (3%)	33	26
1	C	364/383 (95%)	358 (98%)	6 (2%)	58	56
1	D	361/383 (94%)	355 (98%)	6 (2%)	56	54
1	E	367/383 (96%)	358 (98%)	9 (2%)	42	37
1	F	359/383 (94%)	346 (96%)	13 (4%)	30	23
All	All	2180/2298 (95%)	2122 (97%)	58 (3%)	40	34

All (58) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	42	LEU
1	A	120	ASN
1	A	147	ASN
1	A	151	LYS
1	A	180	CYS
1	A	217	ASN
1	A	240	THR
1	A	299	GLU
1	A	302	ASP
1	A	381	PRO
1	A	430	LEU
1	A	457	TYR
1	B	42	LEU
1	B	120	ASN
1	B	121	ASN
1	B	180	CYS
1	B	207	ARG
1	B	217	ASN
1	B	290	ASP
1	B	312	ASP
1	B	320	GLU
1	B	405	LEU
1	B	437	GLN
1	B	458	GLU
1	C	180	CYS
1	C	202	GLN
1	C	217	ASN

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Mol	Chain	Res	Type
1	C	405	LEU
1	C	450	LEU
1	C	457	TYR
1	D	120	ASN
1	D	139	LEU
1	D	180	CYS
1	D	312	ASP
1	D	341	TYR
1	D	367	ASN
1	E	122	ARG
1	E	180	CYS
1	E	217	ASN
1	E	292	LYS
1	E	379	LYS
1	E	430	LEU
1	E	447	LEU
1	E	453	PHE
1	E	458	GLU
1	F	42	LEU
1	F	47	TRP
1	F	55	LEU
1	F	120	ASN
1	F	129	GLN
1	F	180	CYS
1	F	217	ASN
1	F	231	LEU
1	F	292	LYS
1	F	381	PRO
1	F	395	LYS
1	F	451	GLU
1	F	452	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (49) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	97	ASN
1	A	111	HIS
1	A	120	ASN
1	A	129	GLN
1	A	154	ASN
1	A	202	GLN
1	A	357	ASN

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Mol	Chain	Res	Type
1	A	437	GLN
1	B	67	GLN
1	B	97	ASN
1	B	120	ASN
1	B	121	ASN
1	B	147	ASN
1	B	251	HIS
1	B	271	GLN
1	B	321	ASN
1	B	323	ASN
1	B	357	ASN
1	B	437	GLN
1	C	64	ASN
1	C	97	ASN
1	C	154	ASN
1	C	202	GLN
1	C	251	HIS
1	C	321	ASN
1	C	357	ASN
1	D	74	HIS
1	D	97	ASN
1	D	120	ASN
1	D	135	GLN
1	D	147	ASN
1	D	251	HIS
1	D	271	GLN
1	D	357	ASN
1	E	67	GLN
1	E	97	ASN
1	E	135	GLN
1	E	251	HIS
1	E	271	GLN
1	E	357	ASN
1	E	398	GLN
1	F	64	ASN
1	F	67	GLN
1	F	97	ASN
1	F	120	ASN
1	F	251	HIS
1	F	323	ASN
1	F	357	ASN
1	F	398	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)

6 monosaccharides are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#$|Z| > 2$	Counts	RMSZ	#$|Z| > 2$
2	GLC	G	1	2	12,12,12	1.00	0	17,17,17	0.71	0
2	GLC	G	2	2	11,11,12	1.07	0	15,15,17	0.75	0
2	GLC	H	1	2	12,12,12	1.01	0	17,17,17	0.73	0
2	GLC	H	2	2	11,11,12	1.13	1 (9%)	15,15,17	0.74	0
2	GLC	I	1	2	12,12,12	1.00	0	17,17,17	0.72	0
2	GLC	I	2	2	11,11,12	1.11	1 (9%)	15,15,17	0.73	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
2	GLC	G	1	2	-	0/2/22/22	0/1/1/1
2	GLC	G	2	2	-	0/2/19/22	0/1/1/1
2	GLC	H	1	2	-	0/2/22/22	0/1/1/1
2	GLC	H	2	2	-	0/2/19/22	0/1/1/1
2	GLC	I	1	2	-	0/2/22/22	0/1/1/1
2	GLC	I	2	2	-	0/2/19/22	0/1/1/1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	I	2	GLC	O5-C1	2.09	1.47	1.43
2	H	2	GLC	O5-C1	2.07	1.47	1.43

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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 G

Bond lengths

Bond angles

Torsions

Rings

Oligosaccharide Chain H

Bond lengths

Bond angles

Torsions

Rings

Oligosaccharide Chain I

Bond lengths

Bond angles

Torsions

Rings
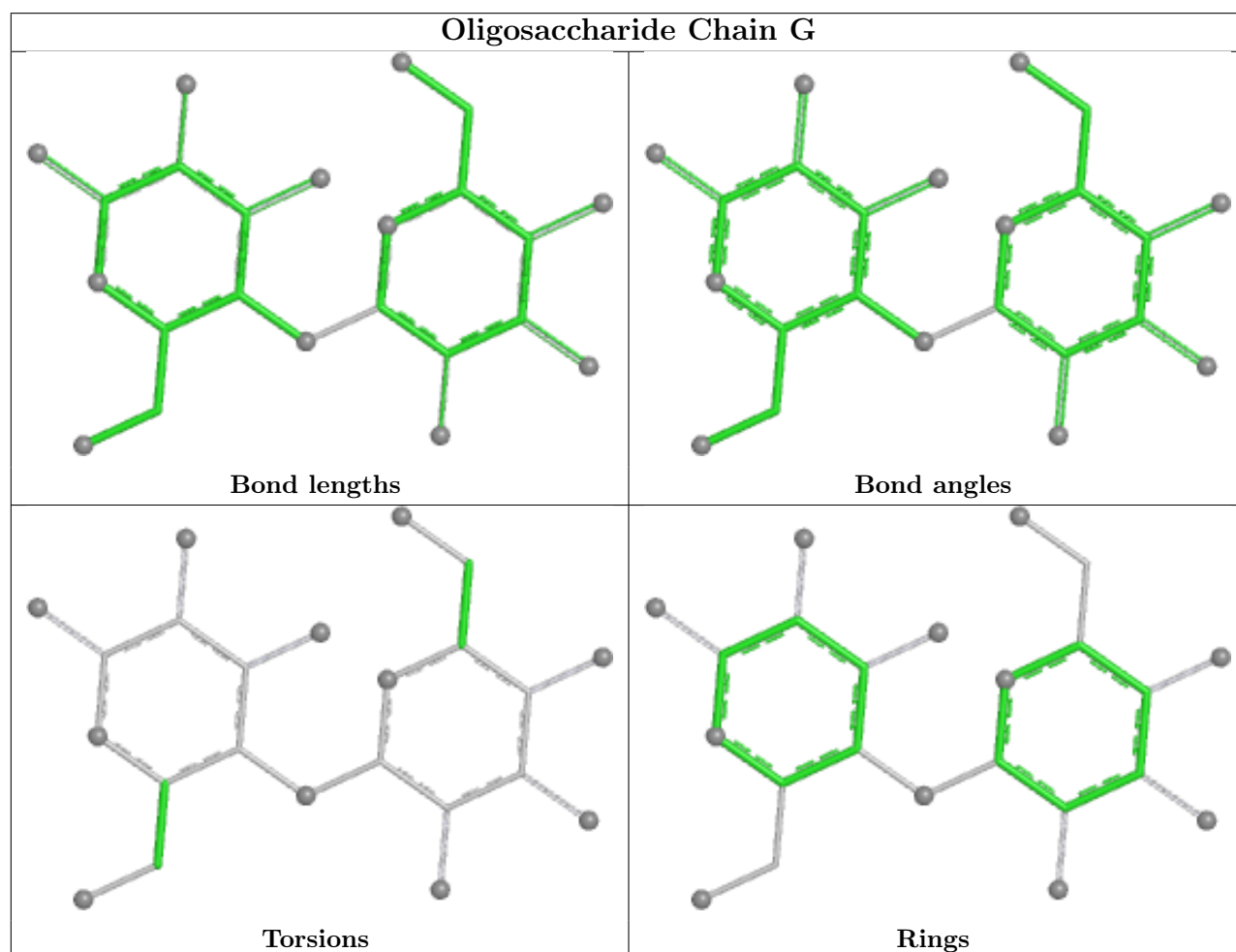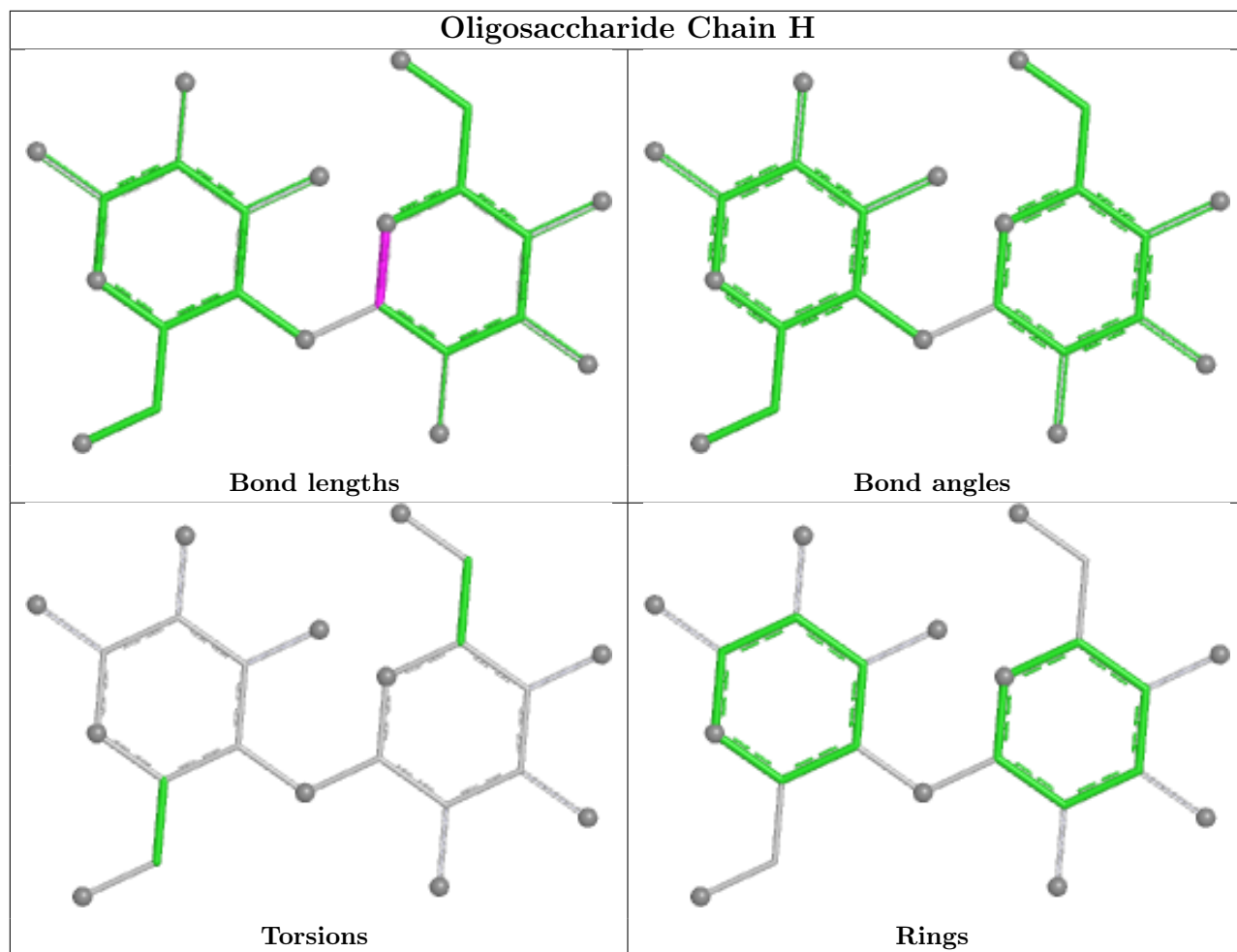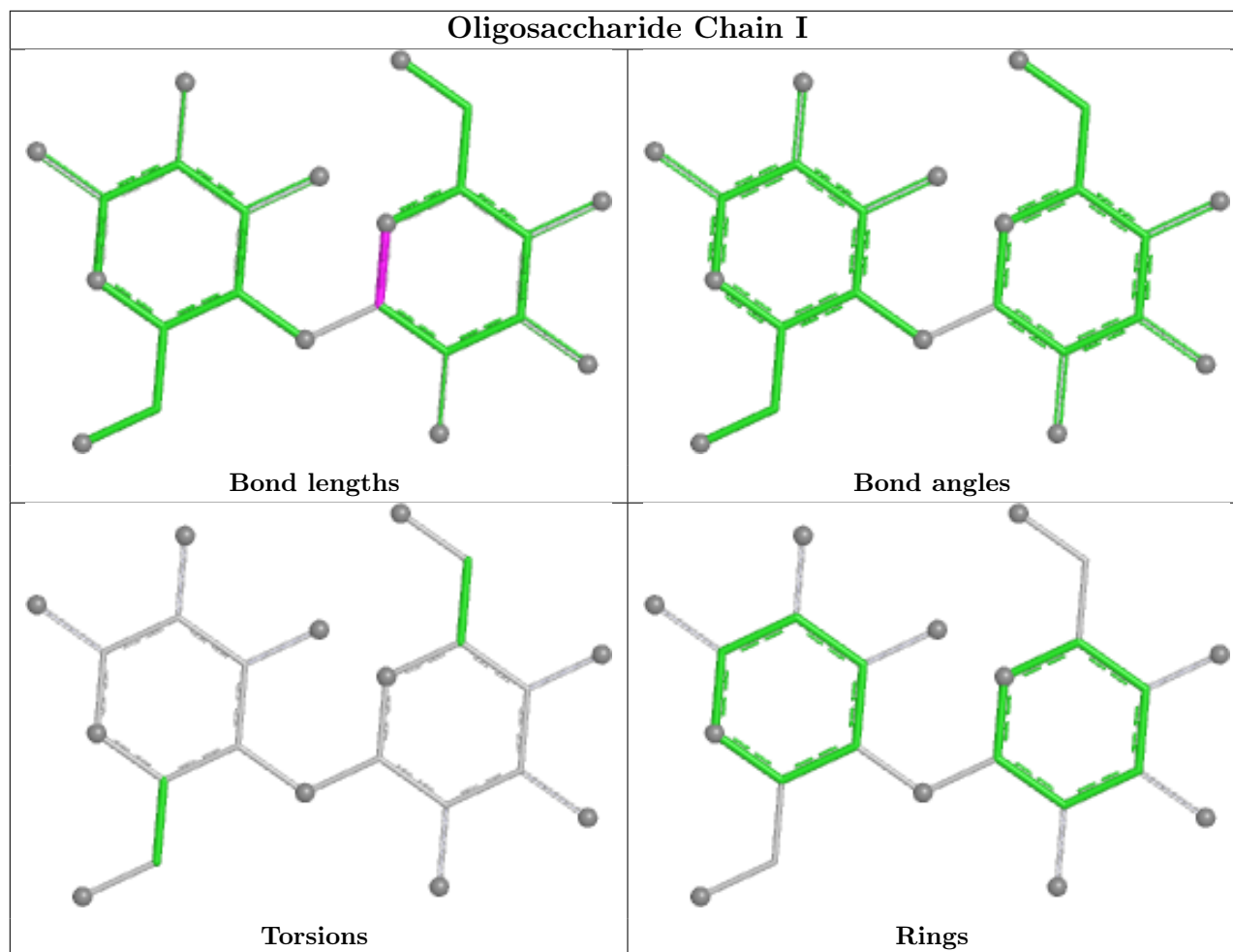
5.6 Ligand geometry ⓘ

Of 18 ligands modelled in this entry, 6 are monoatomic - leaving 12 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
3	NAG	C	5	1	14,14,15	0.53	0	17,19,21	0.59	0
3	NAG	D	7	1	14,14,15	0.50	0	17,19,21	0.69	1 (5%)
3	NAG	E	10	1	14,14,15	0.53	0	17,19,21	0.66	0
3	NAG	F	12	1	14,14,15	0.60	0	17,19,21	0.61	0
3	NAG	C	6	1	14,14,15	0.54	0	17,19,21	0.65	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
3	NAG	A	1	1	14,14,15	0.50	0	17,19,21	0.71	1 (5%)
3	NAG	A	2	1	14,14,15	0.60	0	17,19,21	0.68	1 (5%)
3	NAG	E	9	1	14,14,15	0.49	0	17,19,21	0.70	1 (5%)
3	NAG	D	8	1	14,14,15	0.62	0	17,19,21	0.70	1 (5%)
3	NAG	F	11	1	14,14,15	0.57	0	17,19,21	0.64	0
3	NAG	B	4	1	14,14,15	0.53	0	17,19,21	0.63	0
3	NAG	B	3	1	14,14,15	0.51	0	17,19,21	0.69	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
3	NAG	C	5	1	-	3/6/23/26	0/1/1/1
3	NAG	D	7	1	-	4/6/23/26	0/1/1/1
3	NAG	E	10	1	-	4/6/23/26	0/1/1/1
3	NAG	F	12	1	-	6/6/23/26	0/1/1/1
3	NAG	C	6	1	-	2/6/23/26	0/1/1/1
3	NAG	A	1	1	-	2/6/23/26	0/1/1/1
3	NAG	A	2	1	-	0/6/23/26	0/1/1/1
3	NAG	E	9	1	-	4/6/23/26	0/1/1/1
3	NAG	D	8	1	-	0/6/23/26	0/1/1/1
3	NAG	F	11	1	-	3/6/23/26	0/1/1/1
3	NAG	B	4	1	-	4/6/23/26	0/1/1/1
3	NAG	B	3	1	-	0/6/23/26	0/1/1/1

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	D	8	NAG	C2-N2-C7	-2.23	119.92	122.90
3	E	9	NAG	C2-N2-C7	-2.21	119.93	122.90
3	A	1	NAG	C2-N2-C7	-2.20	119.96	122.90
3	D	7	NAG	C2-N2-C7	-2.17	119.99	122.90
3	B	3	NAG	C2-N2-C7	-2.08	120.11	122.90
3	A	2	NAG	C2-N2-C7	-2.07	120.13	122.90

There are no chirality outliers.

All (32) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	C	5	NAG	C3-C2-N2-C7
3	C	5	NAG	C8-C7-N2-C2
3	C	5	NAG	O7-C7-N2-C2
3	C	6	NAG	C8-C7-N2-C2
3	C	6	NAG	O7-C7-N2-C2
3	D	7	NAG	C8-C7-N2-C2
3	D	7	NAG	O7-C7-N2-C2
3	E	9	NAG	C8-C7-N2-C2
3	E	9	NAG	O7-C7-N2-C2
3	E	10	NAG	C8-C7-N2-C2
3	E	10	NAG	O7-C7-N2-C2
3	F	11	NAG	C8-C7-N2-C2
3	F	11	NAG	O7-C7-N2-C2
3	F	12	NAG	C8-C7-N2-C2
3	F	12	NAG	O7-C7-N2-C2
3	E	9	NAG	O5-C5-C6-O6
3	E	10	NAG	C4-C5-C6-O6
3	F	12	NAG	O5-C5-C6-O6
3	E	9	NAG	C4-C5-C6-O6
3	E	10	NAG	O5-C5-C6-O6
3	F	12	NAG	C4-C5-C6-O6
3	A	1	NAG	C8-C7-N2-C2
3	D	7	NAG	O5-C5-C6-O6
3	D	7	NAG	C4-C5-C6-O6
3	A	1	NAG	O7-C7-N2-C2
3	B	4	NAG	C8-C7-N2-C2
3	F	11	NAG	O5-C5-C6-O6
3	B	4	NAG	C4-C5-C6-O6
3	B	4	NAG	O7-C7-N2-C2
3	B	4	NAG	O5-C5-C6-O6
3	F	12	NAG	C3-C2-N2-C7
3	F	12	NAG	C1-C2-N2-C7

There are no ring outliers.

3 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	D	7	NAG	1	0
3	C	6	NAG	1	0
3	F	11	NAG	1	0

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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(Å²)	Q<0.9
1	A	417/438 (95%)	0.95	100 (23%)	2	2	13, 30, 80, 91	0
1	B	420/438 (95%)	0.89	88 (20%)	3	3	12, 31, 85, 97	0
1	C	418/438 (95%)	0.70	90 (21%)	3	2	13, 28, 73, 88	0
1	D	415/438 (94%)	1.11	106 (25%)	2	2	12, 31, 80, 91	0
1	E	421/438 (96%)	1.19	123 (29%)	1	1	11, 31, 87, 96	0
1	F	412/438 (94%)	0.97	97 (23%)	2	2	13, 30, 81, 94	0
All	All	2503/2628 (95%)	0.97	604 (24%)	2	2	11, 30, 82, 97	0

All (604) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	293	ALA	8.7
1	F	42	LEU	8.5
1	B	457	TYR	7.8
1	F	202	GLN	7.5
1	E	447	LEU	7.4
1	D	456	ALA	7.3
1	B	128	THR	7.1
1	E	293	ALA	7.1
1	F	293	ALA	7.1
1	A	206	PRO	7.0
1	F	450	LEU	6.8
1	E	298	SER	6.8
1	E	446	ILE	6.7
1	D	447	LEU	6.7
1	E	295	THR	6.6
1	A	293	ALA	6.5
1	F	45	VAL	6.5
1	D	453	PHE	6.3
1	D	294	THR	6.3

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Mol	Chain	Res	Type	RSRZ
1	A	450	LEU	6.3
1	A	295	THR	6.2
1	A	128	THR	6.1
1	A	453	PHE	6.0
1	E	130	THR	6.0
1	E	48	ALA	6.0
1	F	46	VAL	6.0
1	E	54	SER	5.9
1	D	42	LEU	5.9
1	B	447	LEU	5.8
1	A	294	THR	5.8
1	B	460	ILE	5.8
1	D	128	THR	5.8
1	D	130	THR	5.8
1	B	300	PHE	5.8
1	F	48	ALA	5.7
1	D	297	ASP	5.7
1	D	298	SER	5.7
1	B	453	PHE	5.7
1	E	125	ILE	5.6
1	E	131	ALA	5.6
1	C	457	TYR	5.6
1	F	300	PHE	5.6
1	F	296	GLY	5.6
1	E	449	VAL	5.6
1	B	296	GLY	5.6
1	E	128	THR	5.5
1	D	295	THR	5.5
1	D	45	VAL	5.5
1	B	295	THR	5.5
1	A	42	LEU	5.5
1	F	295	THR	5.5
1	F	61	VAL	5.4
1	F	56	ALA	5.4
1	B	450	LEU	5.4
1	D	58	LEU	5.3
1	A	131	ALA	5.3
1	F	49	LEU	5.2
1	A	130	THR	5.2
1	D	292	LYS	5.2
1	F	453	PHE	5.1
1	A	447	LEU	5.1

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Mol	Chain	Res	Type	RSRZ
1	C	293	ALA	5.1
1	E	453	PHE	5.1
1	C	66	ILE	5.1
1	A	141	ASP	5.0
1	B	42	LEU	5.0
1	E	450	LEU	5.0
1	F	452	LEU	5.0
1	E	456	ALA	5.0
1	E	457	TYR	4.9
1	D	49	LEU	4.9
1	D	296	GLY	4.9
1	E	50	CYS	4.9
1	A	300	PHE	4.9
1	E	452	LEU	4.9
1	D	446	ILE	4.9
1	E	70	PHE	4.9
1	B	359	TYR	4.9
1	A	452	LEU	4.8
1	C	294	THR	4.8
1	E	294	THR	4.8
1	A	449	VAL	4.8
1	B	455	TYR	4.8
1	D	452	LEU	4.8
1	A	127	ASP	4.7
1	A	204	GLY	4.7
1	F	449	VAL	4.7
1	C	51	PHE	4.7
1	E	57	LEU	4.7
1	D	434	ILE	4.7
1	E	460	ILE	4.7
1	E	300	PHE	4.7
1	D	450	LEU	4.7
1	E	442	ILE	4.6
1	E	459	VAL	4.6
1	C	295	THR	4.6
1	F	294	THR	4.6
1	F	55	LEU	4.6
1	F	298	SER	4.6
1	C	47	TRP	4.6
1	A	442	ILE	4.6
1	E	49	LEU	4.6
1	A	46	VAL	4.6

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Mol	Chain	Res	Type	RSRZ
1	A	298	SER	4.5
1	E	66	ILE	4.5
1	D	444	ALA	4.5
1	E	61	VAL	4.5
1	F	58	LEU	4.5
1	A	132	ASP	4.5
1	C	50	CYS	4.5
1	F	301	TYR	4.5
1	D	47	TRP	4.5
1	E	56	ALA	4.5
1	A	297	ASP	4.5
1	E	55	LEU	4.5
1	A	66	ILE	4.4
1	E	204	GLY	4.4
1	E	47	TRP	4.4
1	A	45	VAL	4.4
1	D	202	GLN	4.4
1	E	431	LEU	4.4
1	F	47	TRP	4.4
1	E	129	GLN	4.3
1	B	45	VAL	4.3
1	E	65	ARG	4.3
1	C	450	LEU	4.3
1	D	206	PRO	4.3
1	D	131	ALA	4.3
1	E	434	ILE	4.3
1	B	461	LYS	4.3
1	C	296	GLY	4.3
1	A	290	ASP	4.2
1	D	203	ASP	4.2
1	E	42	LEU	4.2
1	B	301	TYR	4.2
1	A	49	LEU	4.2
1	B	452	LEU	4.2
1	F	60	LEU	4.2
1	A	299	GLU	4.2
1	E	123	TYR	4.2
1	E	291	CYS	4.1
1	F	43	LYS	4.1
1	D	455	TYR	4.1
1	E	445	SER	4.1
1	D	441	PHE	4.1

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Mol	Chain	Res	Type	RSRZ
1	A	58	LEU	4.1
1	B	294	THR	4.1
1	F	57	LEU	4.1
1	E	359	TYR	4.1
1	E	46	VAL	4.1
1	A	205	LYS	4.1
1	B	456	ALA	4.1
1	D	125	ILE	4.1
1	B	130	THR	4.1
1	C	359	TYR	4.1
1	C	300	PHE	4.1
1	A	180	CYS	4.1
1	F	204	GLY	4.0
1	E	62	CYS	4.0
1	E	146	ARG	4.0
1	F	446	ILE	4.0
1	A	292	LYS	4.0
1	A	296	GLY	4.0
1	F	441	PHE	4.0
1	F	439	GLY	4.0
1	F	443	GLY	4.0
1	D	51	PHE	4.0
1	F	66	ILE	4.0
1	C	287	PRO	3.9
1	C	290	ASP	3.9
1	B	49	LEU	3.9
1	E	332	ASP	3.9
1	B	298	SER	3.9
1	C	46	VAL	3.9
1	E	122	ARG	3.9
1	B	292	LYS	3.9
1	A	455	TYR	3.9
1	B	131	ALA	3.9
1	E	45	VAL	3.9
1	D	132	ASP	3.9
1	D	299	GLU	3.9
1	B	446	ILE	3.9
1	D	57	LEU	3.9
1	E	448	THR	3.8
1	D	454	ASP	3.8
1	B	47	TRP	3.8
1	F	51	PHE	3.8

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Mol	Chain	Res	Type	RSRZ
1	C	455	TYR	3.8
1	F	69	TYR	3.8
1	F	299	GLU	3.8
1	C	286	PRO	3.8
1	D	55	LEU	3.8
1	D	451	GLU	3.8
1	B	454	ASP	3.8
1	C	206	PRO	3.8
1	A	57	LEU	3.8
1	A	129	GLN	3.8
1	D	445	SER	3.7
1	B	55	LEU	3.7
1	F	438	MET	3.7
1	D	442	ILE	3.7
1	D	43	LYS	3.7
1	D	448	THR	3.7
1	E	438	MET	3.7
1	F	50	CYS	3.7
1	B	51	PHE	3.7
1	A	47	TRP	3.7
1	D	440	LEU	3.7
1	F	440	LEU	3.7
1	E	124	GLU	3.7
1	B	46	VAL	3.7
1	C	449	VAL	3.7
1	F	64	ASN	3.7
1	D	359	TYR	3.6
1	E	53	GLY	3.6
1	E	63	THR	3.6
1	B	48	ALA	3.6
1	B	293	ALA	3.6
1	B	134	LYS	3.6
1	D	46	VAL	3.6
1	E	75	VAL	3.6
1	F	203	ASP	3.6
1	C	204	GLY	3.6
1	C	42	LEU	3.6
1	E	430	LEU	3.6
1	F	434	ILE	3.6
1	F	288	TRP	3.6
1	E	127	ASP	3.6
1	D	61	VAL	3.6

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Mol	Chain	Res	Type	RSRZ
1	F	52	MET	3.6
1	A	457	TYR	3.6
1	C	41	SER	3.6
1	C	205	LYS	3.5
1	D	75	VAL	3.5
1	E	292	LYS	3.5
1	F	292	LYS	3.5
1	B	291	CYS	3.5
1	D	129	GLN	3.5
1	E	443	GLY	3.5
1	A	207	ARG	3.5
1	E	43	LYS	3.5
1	C	203	ASP	3.5
1	D	70	PHE	3.5
1	E	297	ASP	3.5
1	C	40	LEU	3.5
1	E	440	LEU	3.5
1	E	69	TYR	3.5
1	F	289	GLY	3.5
1	B	458	GLU	3.4
1	B	203	ASP	3.4
1	F	444	ALA	3.4
1	A	59	ALA	3.4
1	C	440	LEU	3.4
1	B	299	GLU	3.4
1	B	362	CYS	3.4
1	E	299	GLU	3.4
1	E	425	TYR	3.4
1	E	51	PHE	3.4
1	E	202	GLN	3.4
1	B	52	MET	3.4
1	F	205	LYS	3.4
1	A	55	LEU	3.4
1	E	360	CYS	3.4
1	D	72	TYR	3.4
1	A	434	ILE	3.4
1	B	127	ASP	3.4
1	D	433	ASP	3.4
1	C	453	PHE	3.3
1	C	292	LYS	3.3
1	A	440	LEU	3.3
1	E	60	LEU	3.3

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Mol	Chain	Res	Type	RSRZ
1	E	296	GLY	3.3
1	A	61	VAL	3.3
1	C	452	LEU	3.3
1	D	50	CYS	3.3
1	E	366	CYS	3.3
1	A	446	ILE	3.3
1	D	300	PHE	3.3
1	E	133	GLU	3.3
1	E	362	CYS	3.3
1	F	72	TYR	3.3
1	C	297	ASP	3.2
1	B	320	GLU	3.2
1	C	444	ALA	3.2
1	D	133	GLU	3.2
1	A	71	LEU	3.2
1	A	126	PRO	3.2
1	C	49	LEU	3.2
1	D	60	LEU	3.2
1	A	44	ARG	3.2
1	B	129	GLN	3.2
1	B	323	ASN	3.2
1	D	204	GLY	3.2
1	A	203	ASP	3.2
1	F	297	ASP	3.2
1	A	125	ILE	3.2
1	E	134	LYS	3.2
1	F	359	TYR	3.2
1	A	70	PHE	3.2
1	F	447	LEU	3.1
1	B	438	MET	3.1
1	A	448	THR	3.1
1	B	332	ASP	3.1
1	B	441	PHE	3.1
1	D	48	ALA	3.1
1	C	431	LEU	3.1
1	C	54	SER	3.1
1	D	323	ASN	3.1
1	E	458	GLU	3.1
1	E	139	LEU	3.1
1	C	298	SER	3.1
1	B	138	ILE	3.1
1	F	206	PRO	3.1

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Mol	Chain	Res	Type	RSRZ
1	A	43	LYS	3.1
1	B	43	LYS	3.1
1	D	432	GLY	3.1
1	C	57	LEU	3.1
1	B	434	ILE	3.0
1	E	132	ASP	3.0
1	E	203	ASP	3.0
1	A	54	SER	3.0
1	A	451	GLU	3.0
1	F	451	GLU	3.0
1	B	344	CYS	3.0
1	D	180	CYS	3.0
1	C	312	ASP	3.0
1	E	301	TYR	3.0
1	C	441	PHE	3.0
1	E	363	GLU	3.0
1	B	60	LEU	3.0
1	E	461	LYS	3.0
1	D	437	GLN	3.0
1	C	439	GLY	3.0
1	D	56	ALA	3.0
1	E	59	ALA	3.0
1	A	51	PHE	3.0
1	D	84	THR	3.0
1	F	70	PHE	3.0
1	F	71	LEU	3.0
1	C	43	LYS	3.0
1	E	344	CYS	3.0
1	F	131	ALA	2.9
1	B	459	VAL	2.9
1	F	427	VAL	2.9
1	D	124	GLU	2.9
1	A	202	GLN	2.9
1	F	68	TYR	2.9
1	F	425	TYR	2.9
1	A	441	PHE	2.9
1	A	454	ASP	2.9
1	C	45	VAL	2.9
1	B	126	PRO	2.9
1	C	445	SER	2.9
1	D	146	ARG	2.9
1	E	52	MET	2.9

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Mol	Chain	Res	Type	RSRZ
1	B	444	ALA	2.9
1	D	83	ALA	2.9
1	D	205	LYS	2.9
1	A	138	ILE	2.9
1	F	430	LEU	2.9
1	E	126	PRO	2.9
1	B	366	CYS	2.9
1	C	62	CYS	2.9
1	C	320	GLU	2.8
1	C	426	GLU	2.8
1	F	431	LEU	2.8
1	E	439	GLY	2.8
1	B	360	CYS	2.8
1	F	62	CYS	2.8
1	D	59	ALA	2.8
1	A	122	ARG	2.8
1	A	134	LYS	2.8
1	B	339	GLU	2.8
1	F	424	ALA	2.8
1	B	448	THR	2.8
1	A	52	MET	2.8
1	A	438	MET	2.8
1	A	436	GLY	2.8
1	D	436	GLY	2.8
1	E	455	TYR	2.8
1	B	44	ARG	2.8
1	A	362	CYS	2.8
1	E	444	ALA	2.8
1	A	430	LEU	2.7
1	B	440	LEU	2.7
1	D	148	PHE	2.7
1	E	441	PHE	2.7
1	F	44	ARG	2.7
1	A	301	TYR	2.7
1	E	68	TYR	2.7
1	C	141	ASP	2.7
1	D	127	ASP	2.7
1	A	48	ALA	2.7
1	D	54	SER	2.7
1	C	442	ILE	2.7
1	C	425	TYR	2.7
1	E	72	TYR	2.7

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Mol	Chain	Res	Type	RSRZ
1	B	449	VAL	2.7
1	E	361	VAL	2.7
1	D	52	MET	2.7
1	A	358	GLU	2.7
1	B	50	CYS	2.7
1	C	289	GLY	2.7
1	D	44	ARG	2.7
1	D	86	LEU	2.7
1	E	71	LEU	2.7
1	E	288	TRP	2.7
1	C	438	MET	2.7
1	B	61	VAL	2.7
1	E	427	VAL	2.7
1	C	456	ALA	2.7
1	D	360	CYS	2.7
1	F	291	CYS	2.7
1	C	434	ILE	2.7
1	F	312	ASP	2.7
1	B	451	GLU	2.7
1	C	134	LYS	2.7
1	E	137	GLU	2.7
1	F	130	THR	2.6
1	A	50	CYS	2.6
1	F	53	GLY	2.6
1	D	71	LEU	2.6
1	F	367	ASN	2.6
1	D	288	TRP	2.6
1	F	63	THR	2.6
1	B	56	ALA	2.6
1	C	180	CYS	2.6
1	D	62	CYS	2.6
1	F	442	ILE	2.6
1	C	58	LEU	2.6
1	B	445	SER	2.6
1	B	289	GLY	2.6
1	E	424	ALA	2.6
1	B	297	ASP	2.6
1	C	79	ASP	2.6
1	F	132	ASP	2.6
1	A	291	CYS	2.6
1	C	299	GLU	2.6
1	B	59	ALA	2.6

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Mol	Chain	Res	Type	RSRZ
1	E	287	PRO	2.5
1	B	202	GLN	2.5
1	B	442	ILE	2.5
1	E	138	ILE	2.5
1	B	58	LEU	2.5
1	C	451	GLU	2.5
1	B	132	ASP	2.5
1	C	454	ASP	2.5
1	A	456	ALA	2.5
1	C	48	ALA	2.5
1	B	322	CYS	2.5
1	D	301	TYR	2.5
1	F	129	GLN	2.5
1	B	66	ILE	2.5
1	B	53	GLY	2.5
1	D	289	GLY	2.5
1	C	302	ASP	2.5
1	C	131	ALA	2.5
1	D	449	VAL	2.5
1	E	437	GLN	2.5
1	F	147	ASN	2.5
1	A	62	CYS	2.5
1	C	344	CYS	2.5
1	E	451	GLU	2.5
1	C	127	ASP	2.5
1	C	60	LEU	2.5
1	D	63	THR	2.5
1	B	358	GLU	2.5
1	D	69	TYR	2.4
1	C	207	ARG	2.4
1	D	364	MET	2.4
1	C	254	ASP	2.4
1	E	58	LEU	2.4
1	A	133	GLU	2.4
1	F	133	GLU	2.4
1	E	149	LYS	2.4
1	D	141	ASP	2.4
1	E	254	ASP	2.4
1	C	301	TYR	2.4
1	E	432	GLY	2.4
1	A	60	LEU	2.4
1	F	82	ALA	2.4

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Mol	Chain	Res	Type	RSRZ
1	F	207	ARG	2.4
1	B	75	VAL	2.4
1	D	123	TYR	2.4
1	A	137	GLU	2.4
1	C	55	LEU	2.4
1	E	64	ASN	2.4
1	A	146	ARG	2.4
1	D	85	ARG	2.4
1	E	143	ALA	2.4
1	F	201	GLY	2.4
1	C	358	GLU	2.4
1	C	366	CYS	2.4
1	E	120	ASN	2.3
1	F	59	ALA	2.3
1	A	445	SER	2.3
1	F	127	ASP	2.3
1	D	435	GLY	2.3
1	F	432	GLY	2.3
1	C	44	ARG	2.3
1	C	147	ASN	2.3
1	F	84	THR	2.3
1	F	448	THR	2.3
1	D	134	LYS	2.3
1	A	78	LEU	2.3
1	C	430	LEU	2.3
1	D	285	PRO	2.3
1	D	427	VAL	2.3
1	A	84	THR	2.3
1	C	447	LEU	2.3
1	D	79	ASP	2.3
1	E	426	GLU	2.3
1	F	428	ALA	2.3
1	D	126	PRO	2.3
1	E	289	GLY	2.3
1	D	65	ARG	2.3
1	F	344	CYS	2.3
1	A	135	GLN	2.3
1	E	320	GLU	2.3
1	F	302	ASP	2.3
1	A	72	TYR	2.3
1	F	146	ARG	2.2
1	E	121	ASN	2.2

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Mol	Chain	Res	Type	RSRZ
1	A	124	GLU	2.2
1	E	148	PHE	2.2
1	A	444	ALA	2.2
1	B	428	ALA	2.2
1	A	53	GLY	2.2
1	B	125	ILE	2.2
1	C	285	PRO	2.2
1	A	140	GLN	2.2
1	C	67	GLN	2.2
1	E	418	THR	2.2
1	F	290	ASP	2.2
1	B	313	CYS	2.2
1	D	362	CYS	2.2
1	A	136	LEU	2.2
1	D	53	GLY	2.2
1	D	431	LEU	2.2
1	D	367	ASN	2.2
1	A	123	TYR	2.2
1	A	437	GLN	2.2
1	C	150	PRO	2.2
1	D	74	HIS	2.2
1	E	303	THR	2.2
1	F	303	THR	2.2
1	D	361	VAL	2.2
1	E	77	LYS	2.2
1	A	147	ASN	2.2
1	C	52	MET	2.2
1	A	86	LEU	2.2
1	B	140	GLN	2.2
1	C	56	ALA	2.2
1	A	458	GLU	2.2
1	F	254	ASP	2.1
1	F	363	GLU	2.1
1	B	57	LEU	2.1
1	E	73	PRO	2.1
1	F	280	ARG	2.1
1	E	290	ASP	2.1
1	E	211	MET	2.1
1	D	147	ASN	2.1
1	A	439	GLY	2.1
1	B	180	CYS	2.1
1	C	427	VAL	2.1

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Mol	Chain	Res	Type	RSRZ
1	D	207	ARG	2.1
1	A	82	ALA	2.1
1	B	333	ALA	2.1
1	C	83	ALA	2.1
1	F	284	LEU	2.1
1	D	254	ASP	2.1
1	D	286	PRO	2.1
1	D	287	PRO	2.1
1	C	446	ILE	2.1
1	C	448	THR	2.1
1	F	128	THR	2.1
1	B	435	GLY	2.1
1	D	280	ARG	2.1
1	E	207	ARG	2.1
1	C	61	VAL	2.1
1	F	180	CYS	2.1
1	B	141	ASP	2.1
1	C	332	ASP	2.1
1	F	423	LYS	2.1
1	A	211	MET	2.1
1	E	144	ASN	2.1
1	A	85	ARG	2.1
1	C	65	ARG	2.1
1	F	433	ASP	2.0
1	A	143	ALA	2.0
1	E	206	PRO	2.0
1	E	428	ALA	2.0
1	C	70	PHE	2.0
1	C	133	GLU	2.0
1	C	64	ASN	2.0
1	F	65	ARG	2.0
1	A	69	TYR	2.0
1	A	56	ALA	2.0
1	A	366	CYS	2.0
1	B	361	VAL	2.0
1	D	319	VAL	2.0
1	E	205	LYS	2.0
1	E	327	VAL	2.0
1	B	54	SER	2.0

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

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

6.3 Carbohydrates ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 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
2	GLC	I	1	12/12	0.71	0.20	78,78,79,79	0
2	GLC	I	2	11/12	0.73	0.17	76,77,78,78	0
2	GLC	H	1	12/12	0.75	0.16	71,73,74,74	0
2	GLC	H	2	11/12	0.78	0.16	73,73,75,76	0
2	GLC	G	2	11/12	0.80	0.17	63,63,64,64	0
2	GLC	G	1	12/12	0.82	0.18	63,64,64,65	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.
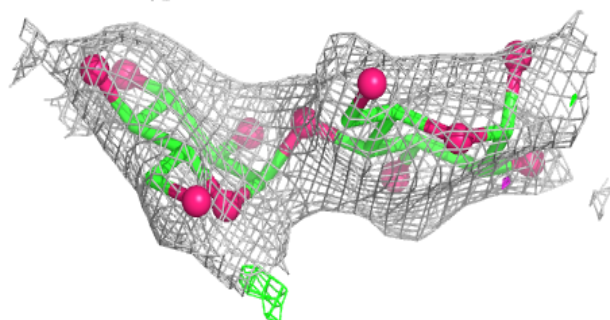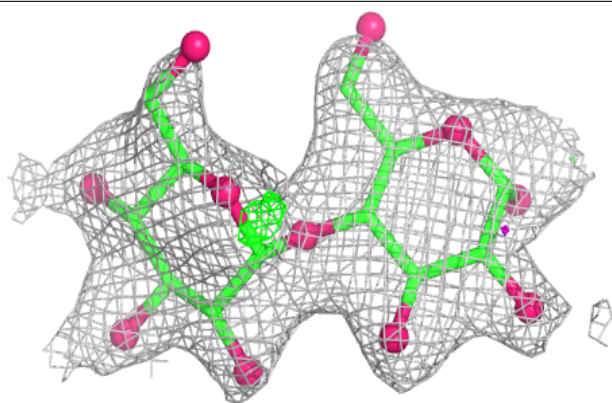
Electron density around Chain G:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
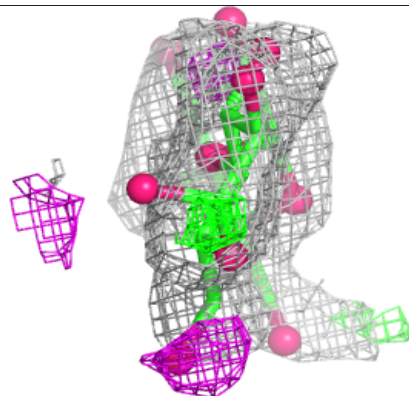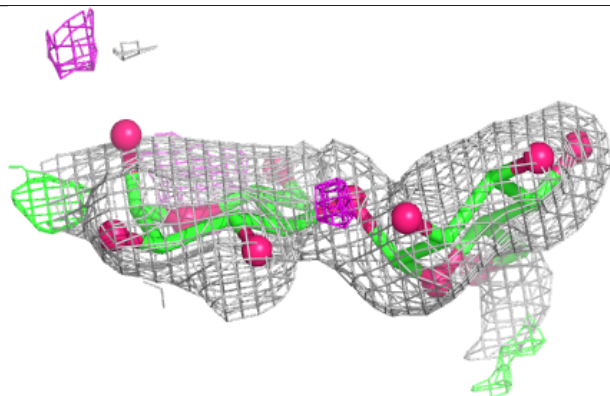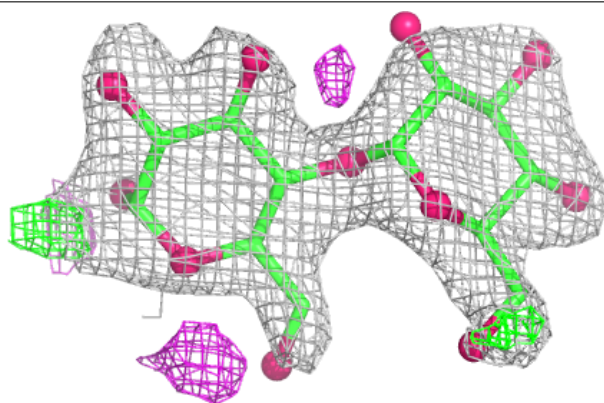$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
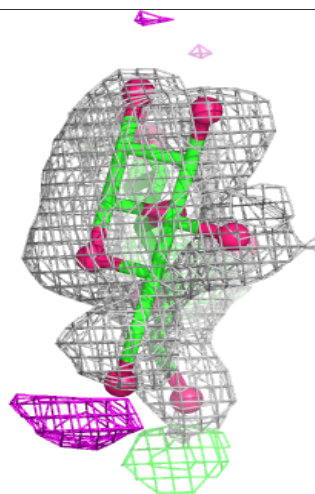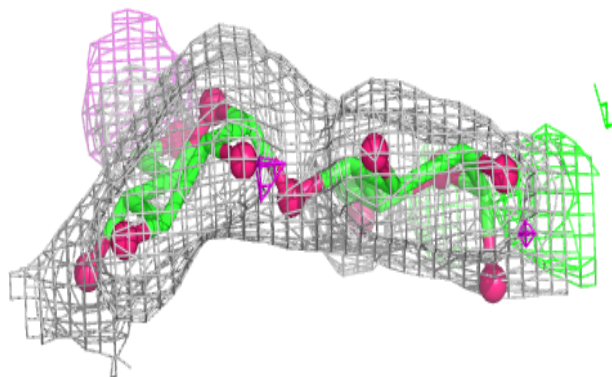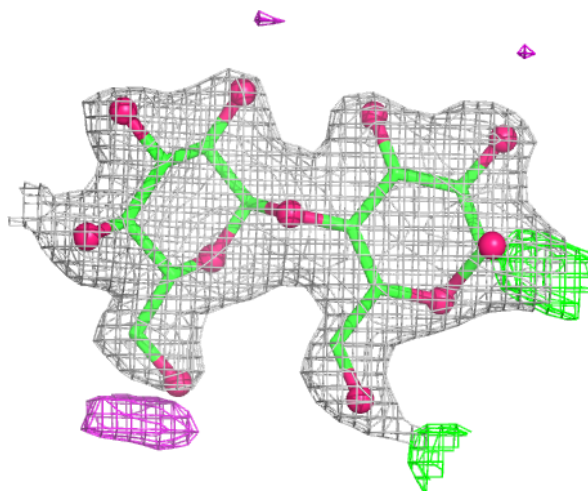
Electron density around Chain H:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)
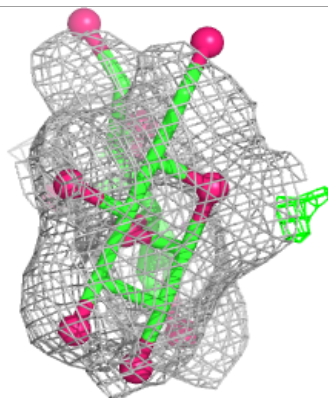
Electron density around Chain I:

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, 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($\mathring{A}^2$)	Q<0.9
3	NAG	F	12	14/15	0.10	0.22	67,72,74,74	0
3	NAG	D	7	14/15	0.34	0.20	69,73,74,75	0
3	NAG	F	11	14/15	0.36	0.21	70,74,76,76	0
3	NAG	E	10	14/15	0.45	0.19	61,67,69,70	0
3	NAG	C	5	14/15	0.46	0.16	61,66,68,69	0
3	NAG	C	6	14/15	0.56	0.18	65,71,73,73	0
3	NAG	B	4	14/15	0.72	0.14	52,55,59,61	0
3	NAG	A	2	14/15	0.76	0.13	44,46,50,51	0
3	NAG	E	9	14/15	0.78	0.15	53,57,59,61	0
3	NAG	A	1	14/15	0.81	0.13	50,54,56,57	0
3	NAG	B	3	14/15	0.85	0.11	42,45,48,50	0
3	NAG	D	8	14/15	0.87	0.10	32,36,42,45	0
4	CL	B	464	1/1	0.97	0.06	29,29,29,29	0
4	CL	D	4	1/1	0.97	0.07	31,31,31,31	0
4	CL	F	6	1/1	0.98	0.08	28,28,28,28	0
4	CL	A	464	1/1	0.99	0.03	26,26,26,26	0
4	CL	E	5	1/1	0.99	0.04	31,31,31,31	0
4	CL	C	464	1/1	0.99	0.03	24,24,24,24	0

6.5 Other polymers ⓘ

There are no such residues in this entry.