



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 18, 2020 – 09:06 AM BST

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

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.13.1
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.13.1

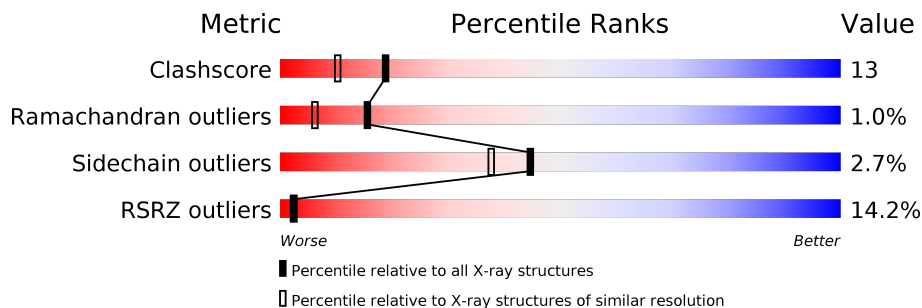
1 Overall quality at a glance i

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	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	6847 (1.90-1.90)
Ramachandran outliers	138981	6760 (1.90-1.90)
Sidechain outliers	138945	6760 (1.90-1.90)
RSRZ outliers	127900	6082 (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 on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	438	13% (Poor fit) 69% (0 outliers), 23% (1 outlier), 5% (2 outliers)
1	B	438	12% (Poor fit) 73% (0 outliers), 21% (1 outlier), 2% (2 outliers)
1	C	438	9% (Poor fit) 71% (0 outliers), 22% (1 outlier), 5% (2 outliers)
1	D	438	17% (Poor fit) 69% (0 outliers), 24% (1 outlier), 5% (2 outliers)
1	E	438	15% (Poor fit) 70% (0 outliers), 25% (1 outlier), 2% (2 outliers)
1	F	438	16% (Poor fit) 71% (0 outliers), 20% (1 outlier), 6% (2 outliers)
2	G	2	100% (0 outliers)

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Mol	Chain	Length	Quality of chain
2	H	2	 50% 50%
2	I	2	 50% 50%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	NAG	D	7	-	-	-	X
3	NAG	E	10	-	-	-	X
3	NAG	F	11	-	-	-	X
3	NAG	F	12	-	-	-	X

2 Entry composition [i](#)

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

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



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

- Molecule 3 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: C₈H₁₅NO₆).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
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).

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

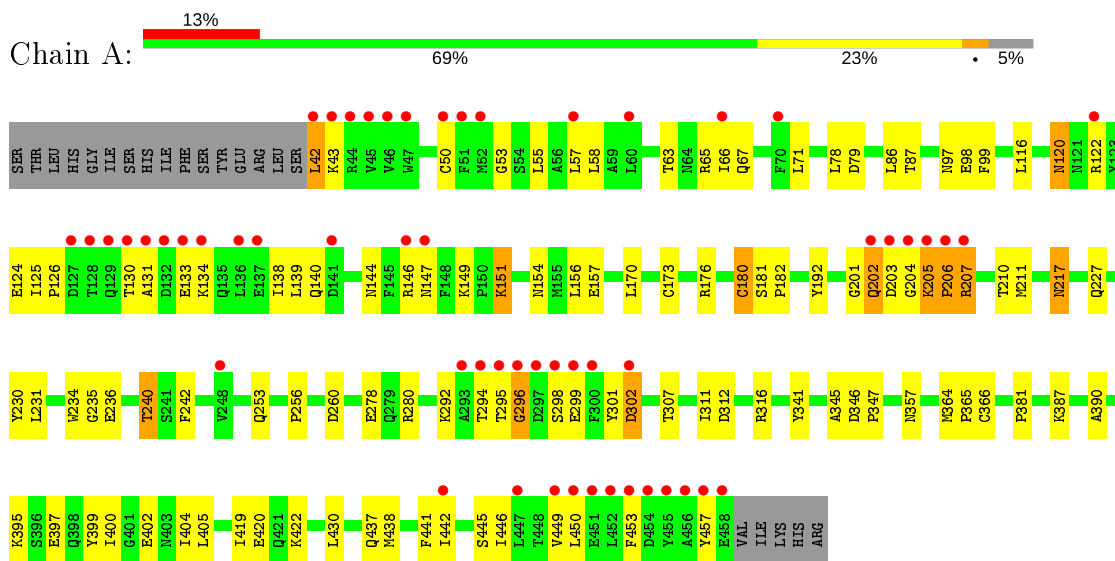
- Molecule 5 is water.

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

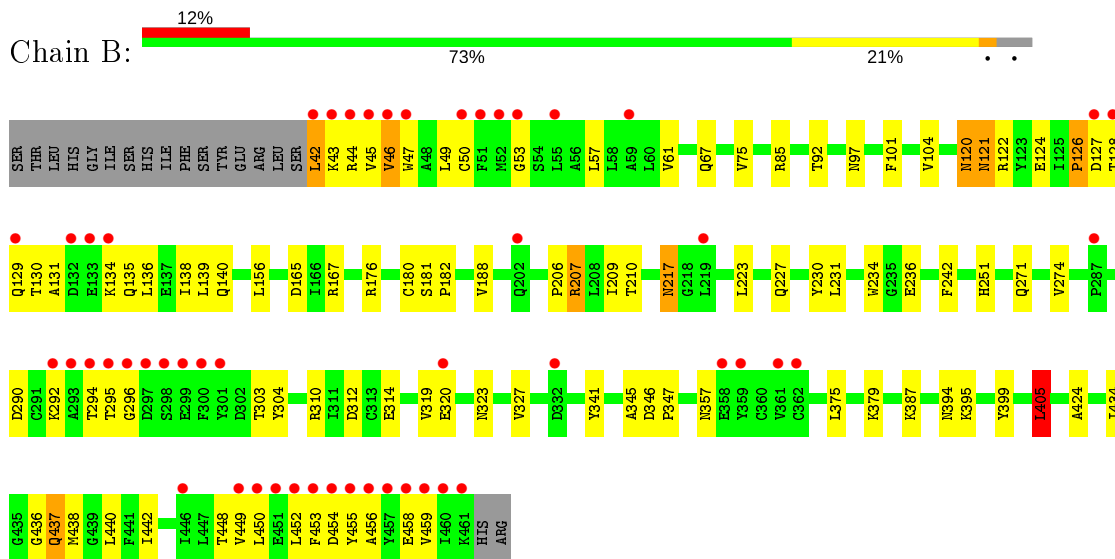
3 Residue-property plots

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.

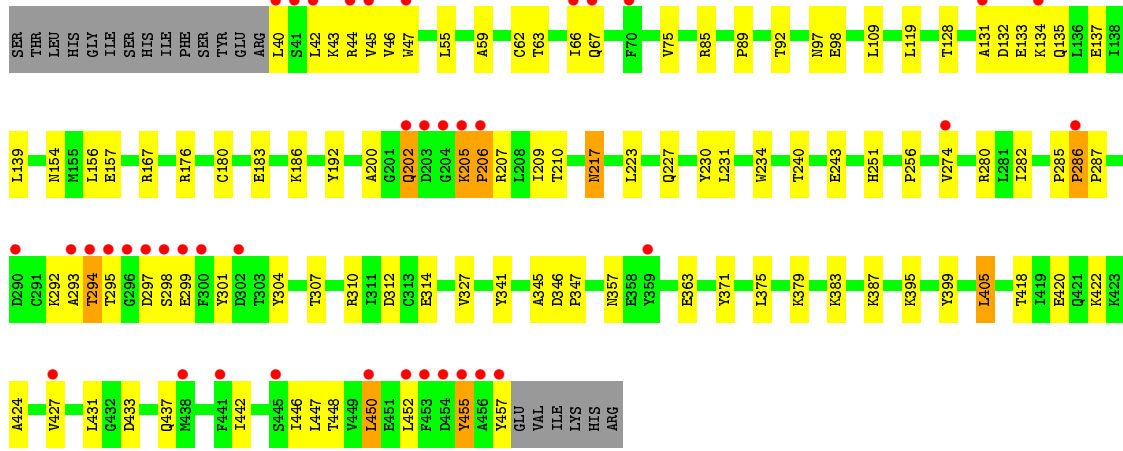
- Molecule 1: Acid-sensing ion channel



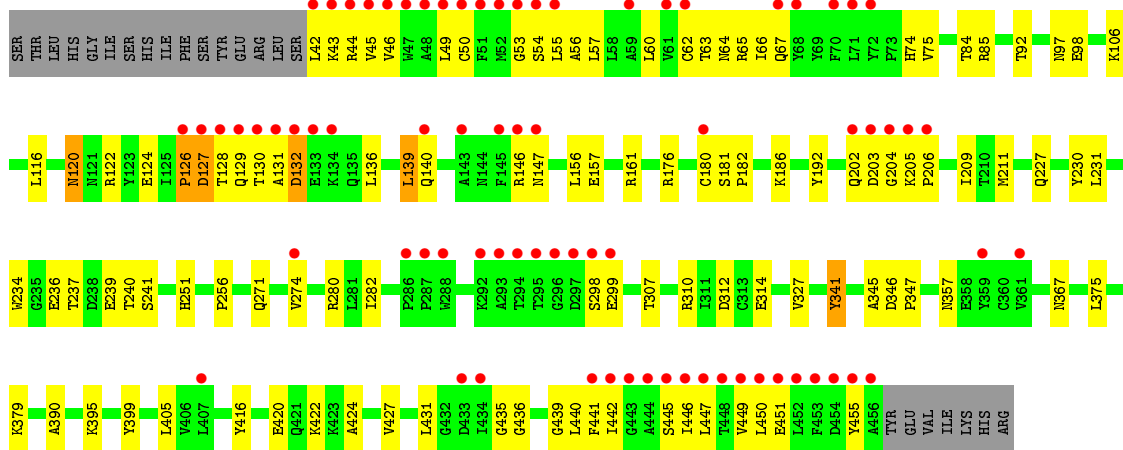
- Molecule 1: Acid-sensing ion channel



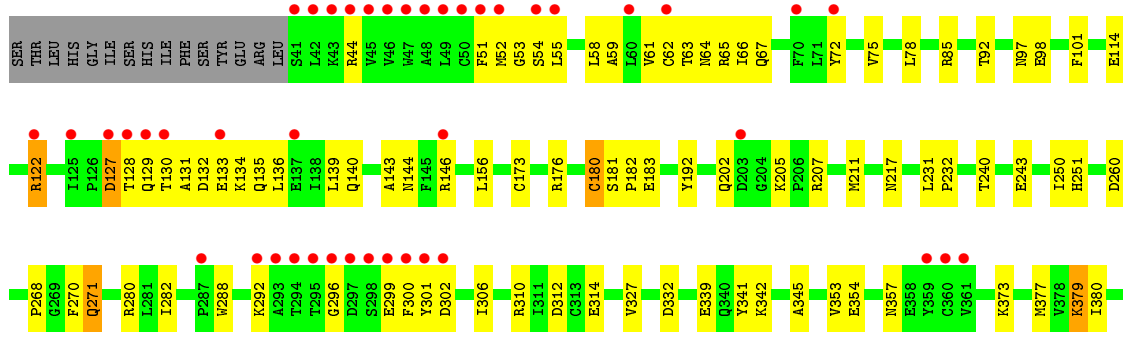
- Molecule 1: Acid-sensing ion channel

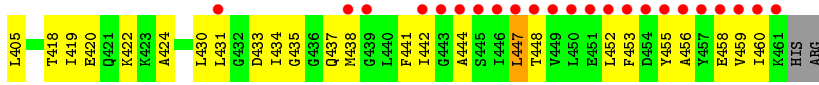


• Molecule 1: Acid-sensing ion channel

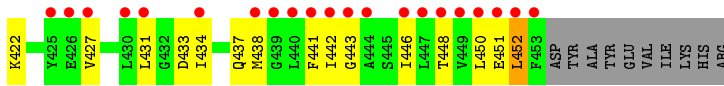
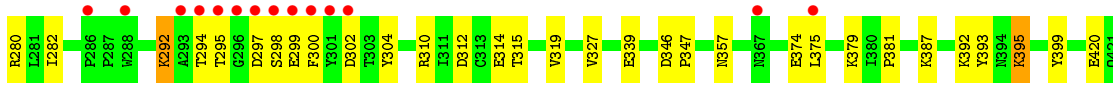
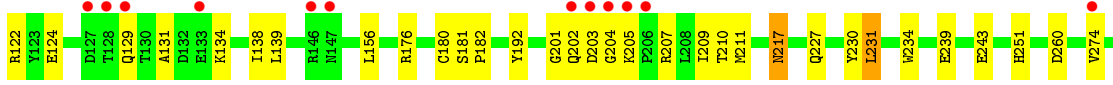
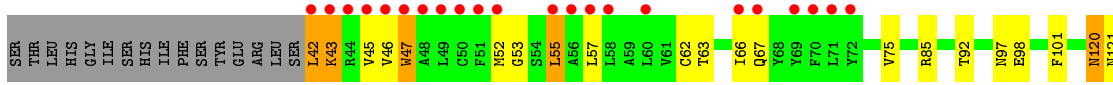


• Molecule 1: Acid-sensing ion channel





- Molecule 1: Acid-sensing ion channel



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



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



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



4 Data and refinement statistics

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 49.53 – 1.76	Depositor EDS
% Data completeness (in resolution range)	88.4 (30.00-1.90) 77.2 (49.53-1.76)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	0.07	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.78 (at 1.76Å)	Xtrriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.208 , 0.233 0.214 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å ²)	20.8	Xtrriage
Anisotropy	0.490	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 56.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
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

Xtrriage'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.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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(°)	Ideal(°)
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:HD22	1:C:42:LEU:H	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:HD13	1:F:42:LEU:N	2.11	0.65
1:B:120:ASN:HD22	1:B:120:ASN:C	1.98	0.65
1:A:86:LEU:HD23	1:A:87:THR:N	2.12	0.65
1:A:366:CYS:HB2	5:A:692:HOH:O	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:97:ASN:HD21	1:A:231:LEU:H	1.43	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:438:MET:O	1:E:442:ILE:HG13	2.00	0.60
1:E:59:ALA:HB2	1:E:441:PHE:CE2	2.36	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:HE21	1:C:202:GLN:N	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:E:97:ASN:HD21	1:E:231:LEU:H	1.52	0.58
1:D:50:CYS:HB2	1:F:450:LEU:HD21	1.84	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:181:SER:OG	1:E:183:GLU:HG2	2.05	0.57
1:F:120:ASN:HD22	1:F:120:ASN:C	2.07	0.57
1:E:176:ARG:HH12	1:F:357:ASN:HD21	1.51	0.57
1:A:120:ASN:C	1:A:120:ASN:HD22	2.08	0.57
1:A:98:GLU:HG2	1:A:192:TYR:O	2.05	0.57
1:E:207:ARG:NH1	1:E:207:ARG:HB2	2.20	0.57
1:E:62:CYS:O	1:E:66:ILE:HG13	2.05	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:N	1:B:437:GLN:NE2	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:282:ILE:HB	1:C:420:GLU:HG3	1.88	0.56
1:C:97:ASN:HD21	1:C:231:LEU:H	1.54	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:156:LEU:HD13	1:F:327:VAL:HG13	1.87	0.55
1:F:53:GLY:O	1:F:57:LEU:HD23	2.06	0.55
1:A:42:LEU:HD13	1:A:42:LEU:N	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:F:131:ALA:HB2	1:F:234:TRP:HE1	1.72	0.55
1:D:447:LEU:HD12	1:F:450:LEU:HB3	1.88	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:HD23	1:E:452:LEU:O	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: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:D:357:ASN:HD21	1:F:176:ARG:HH12	1.54	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:HD3	1:C:387:LYS:O	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:85:ARG:NH2	1:B:209:ILE:HD13	2.23	0.53
1:B:42:LEU:HD12	1:B:44:ARG:CB	2.33	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:207:ARG:HA	5:A:625:HOH:O	2.10	0.52
1:A:63:THR:O	1:A:67:GLN:HG3	2.09	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:O	1:F:295:THR:HG22	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:440:LEU:HD23	1:F:443:GLY:HA3	1.93	0.51
1:D:44:ARG:HD2	1:D:455:TYR:CE2	2.45	0.51
1:F:312:ASP:HB3	5:F:687:HOH:O	2.11	0.51
1:F:63:THR:O	1:F:67:GLN:HG3	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:327:VAL:HG12	5:E:480:HOH:O	2.09	0.51
1:E:114:GLU:HG2	1:E:342:LYS:HE3	1.93	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:C	1:D:209:ILE:HD12	2.31	0.51
1:E:85:ARG:NH2	1:E:85:ARG:HB3	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:144:ASN:HD21	1:A:146:ARG:HE	1.60	0.50
1:A:43:LYS:NZ	1:A:43:LYS:HB3	2.27	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:CD2	1:C:42:LEU:H	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:O	1:F:452:LEU:HD13	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:202:GLN:HB2	1:E:205:LYS:HG2	1.95	0.47
1:E:78:LEU:HD13	1:E:419:ILE:HG12	1.96	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:176:ARG:HH22	1:B:357:ASN:HD21	1.58	0.47
1:A:78:LEU:HD13	1:A:78:LEU:C	2.34	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:97:ASN:ND2	1:F:231:LEU:H	2.10	0.47
1:F:55:LEU:C	1:F:55:LEU:HD13	2.34	0.47
1:B:456:ALA:O	1:B:459:VAL:HG23	2.15	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:B:85:ARG:HG2	1:B:209:ILE:HD12	1.97	0.47
1:D:92:THR:OG1	1:D:251:HIS:HE1	1.96	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:O3	3:C:6:NAG:H83	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:448:THR:HG23	1:C:452:LEU:HD12	1.98	0.46
1:C:42:LEU:O	1:C:45:VAL:HG22	2.16	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:O	1:B:405:LEU:HD23	2.17	0.45
3:D:7:NAG:O3	3:D:7:NAG:H83	2.17	0.45
1:C:139:LEU:HD23	1:C:234:TRP:CH2	2.51	0.45
1:C:89:PRO:HB3	1:C:371:TYR:CZ	2.51	0.45
1:D:49:LEU:C	1:D:49:LEU:HD12	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:129:GLN:C	1:E:131:ALA:H	2.20	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:130:THR:HG22	1:E:130:THR:O	2.17	0.45
1:E:97:ASN:ND2	1:E:231:LEU:H	2.13	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:HD12	1:D:405:LEU:C	2.38	0.44
1:D:176:ARG:HH22	1:E:357:ASN:HD21	1.60	0.44
1:E:405:LEU:HD12	1:E:405:LEU:C	2.38	0.44
1:E:51:PHE:HB2	1:E:448:THR:OG1	2.17	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:HD12	1:E:58:LEU:N	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:227:GLN:HA	1:F:230:TYR:CD1	2.54	0.43
1:F:55:LEU:HD22	1:F:55:LEU:O	2.18	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: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:D:271:GLN:HE21	1:E:243:GLU:HG2	1.84	0.43
1:A:131:ALA:C	1:A:133:GLU:N	2.71	0.43
1:B:139:LEU:HA	1:B:139:LEU:HD12	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:427:VAL:O	1:D:431:LEU:HD13	2.18	0.42
1:D:176:ARG:NH1	1:E:357:ASN:HD21	2.17	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:HD13	1:D:447:LEU:O	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:H	1:F:339:GLU:CD	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:HH11	1:D:146:ARG:HG3	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:448:THR:O	1:B:452:LEU:HD22	2.20	0.41
1:B:42:LEU:CD1	1:B:44:ARG:HB2	2.38	0.41
1:D:126:PRO:O	1:D:127:ASP:C	2.59	0.41
1:D:97:ASN:ND2	1:D:231:LEU:H	2.16	0.41
1:D:54:SER:OG	1:D:441:PHE:HA	2.20	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:HG13	1:B:188:VAL:O	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:HH11	1:D:44:ARG:HG2	1.85	0.41
1:E:270:PHE:CG	1:E:377:MET:HE3	2.56	0.41
1:E:176:ARG:NH1	1:F:357:ASN:HD21	2.17	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:B:292:LYS:HD2	1:B:304:TYR:CZ	2.55	0.41
1:C:433:ASP:O	1:C:437:GLN:HG2	2.21	0.41
1:C:55:LEU:C	1:C:55:LEU:HD13	2.41	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: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:HB2	1:B:67:GLN:HE21	1.67	0.41
1:C:210:THR:HG21	5:C:738:HOH:O	2.21	0.41
1:E:431:LEU:N	1:E:431:LEU:HD12	2.36	0.40
1:E:55:LEU:CD1	1:E:58:LEU:HD22	2.51	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:236:GLU:HG2	1:A:242:PHE:CZ	2.55	0.40
1:A:57:LEU:HB3	1:A:437:GLN:OE1	2.21	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:HG2	1:E:280:ARG:HH21	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:HH21	1:E:44:ARG:HG2	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 [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	415/438 (95%)	396 (95%)	12 (3%)	7 (2%)	9 2
1	B	418/438 (95%)	397 (95%)	18 (4%)	3 (1%)	22 12
1	C	416/438 (95%)	398 (96%)	12 (3%)	6 (1%)	11 3

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	D	413/438 (94%)	390 (94%)	18 (4%)	5 (1%)	13	4
1	E	419/438 (96%)	397 (95%)	20 (5%)	2 (0%)	29	18
1	F	410/438 (94%)	394 (96%)	13 (3%)	3 (1%)	22	12
All	All	2491/2628 (95%)	2372 (95%)	93 (4%)	26 (1%)	15	6

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 [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	363/383 (95%)	351 (97%)	12 (3%)	38	29
1	B	366/383 (96%)	354 (97%)	12 (3%)	38	29
1	C	364/383 (95%)	358 (98%)	6 (2%)	62	60
1	D	361/383 (94%)	355 (98%)	6 (2%)	60	57
1	E	367/383 (96%)	358 (98%)	9 (2%)	47	41
1	F	359/383 (94%)	346 (96%)	13 (4%)	35	26
All	All	2180/2298 (95%)	2122 (97%)	58 (3%)	44	38

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

Some 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	0.72	0
2	GLC	G	2	2	11,11,12	1.09	0	15,15,17	0.81	0
2	GLC	H	1	2	12,12,12	1.01	0	17,17,17	0.74	0
2	GLC	H	2	2	11,11,12	1.16	1 (9%)	15,15,17	0.81	0
2	GLC	I	1	2	12,12,12	1.00	0	17,17,17	0.73	0
2	GLC	I	2	2	11,11,12	1.14	1 (9%)	15,15,17	0.80	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	2.18	1.47	1.43
2	H	2	GLC	O5-C1	2.16	1.47	1.43

There are no bond angle outliers.

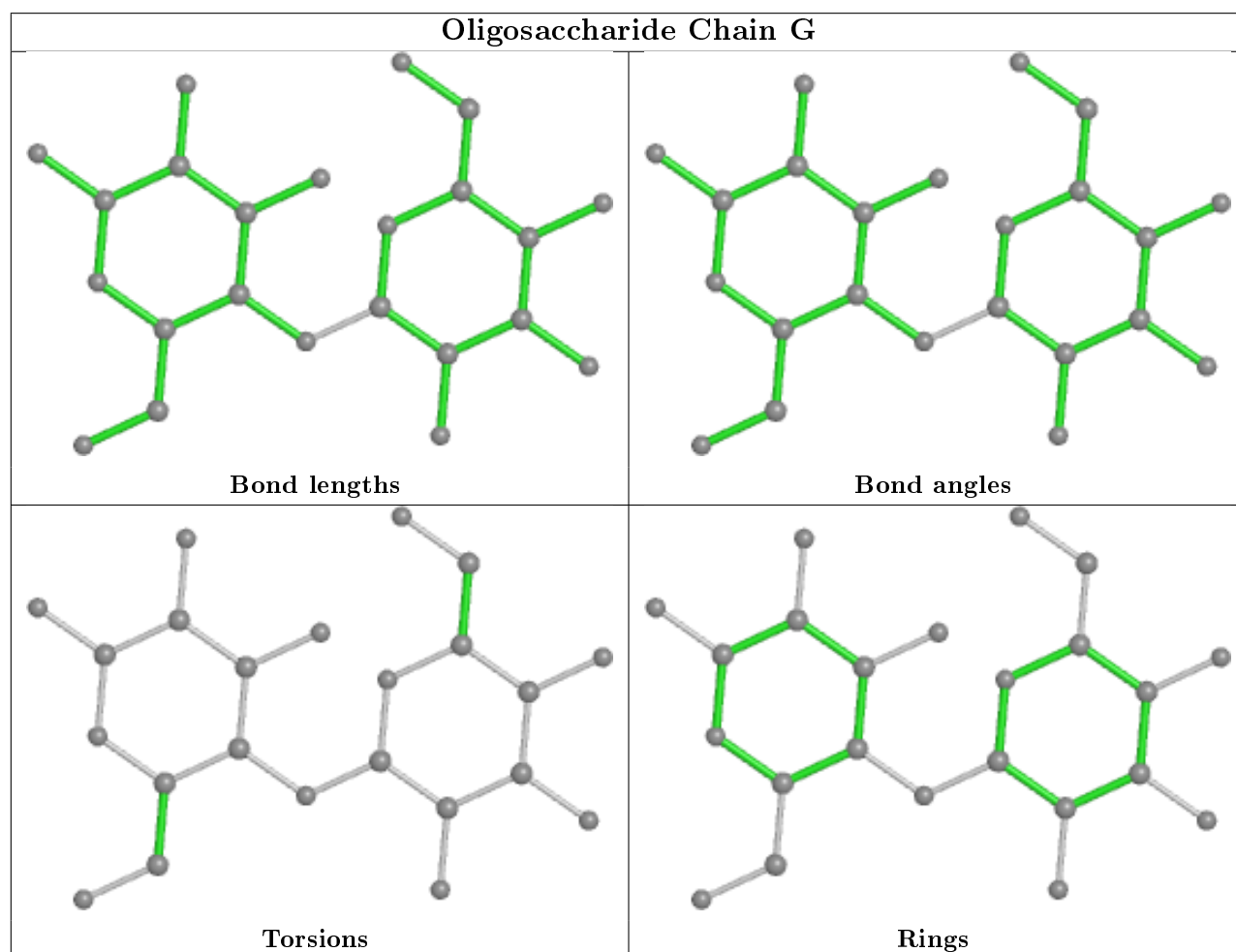
There are no chirality outliers.

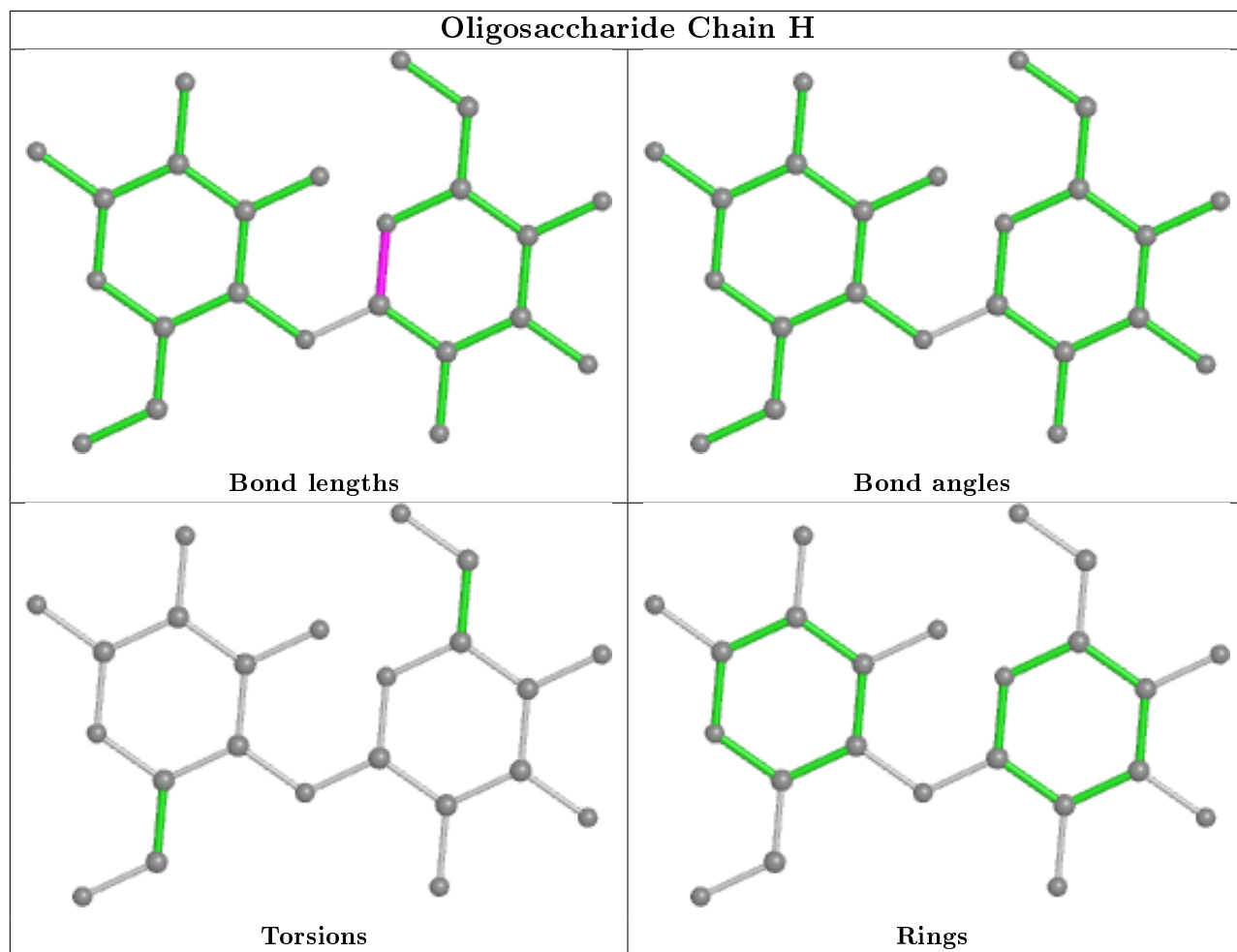
There are no torsion outliers.

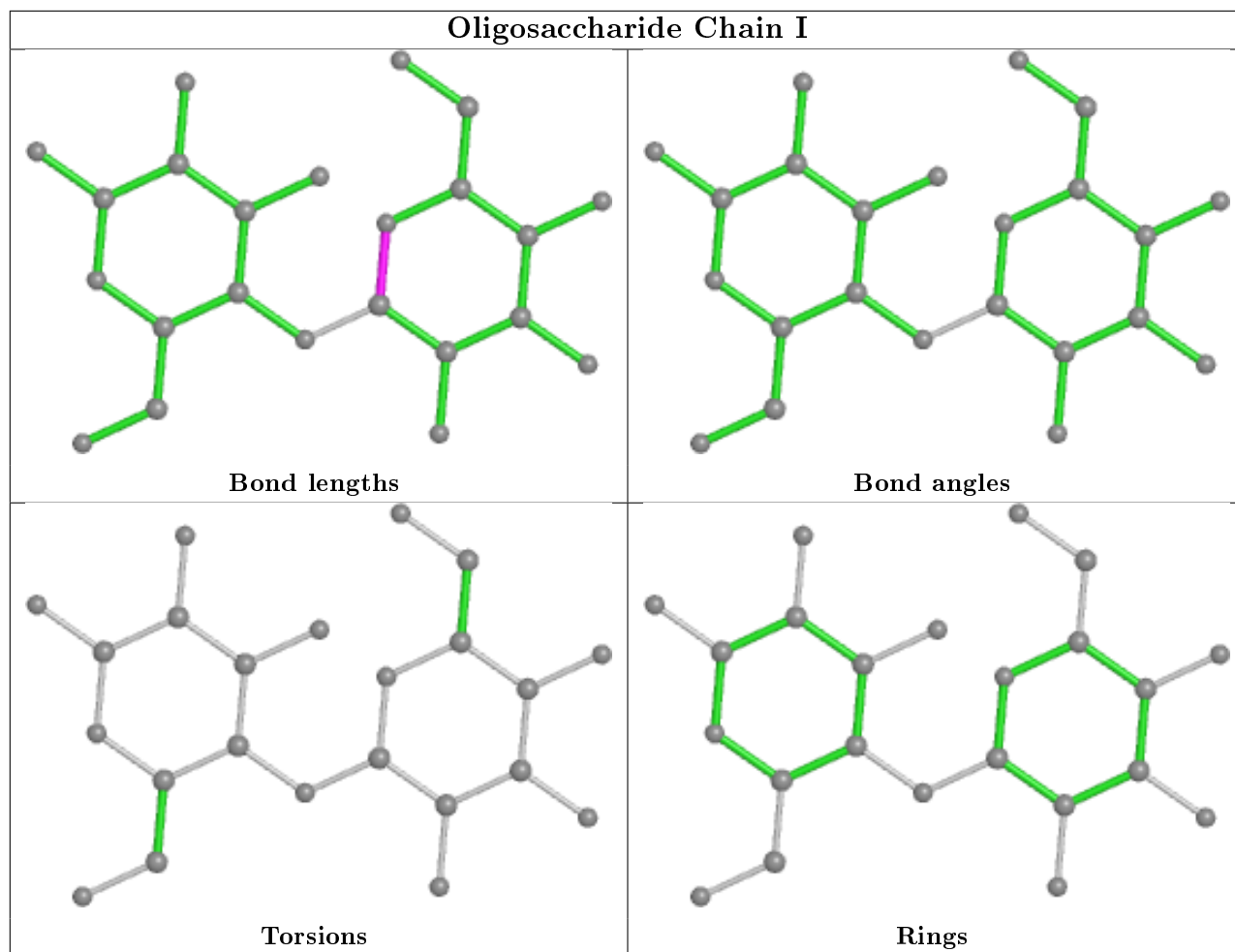
There are no ring outliers.

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.







5.6 Ligand geometry [i](#)

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	D	7	1	14,14,15	0.49	0	17,19,21	0.66	1 (5%)
3	NAG	F	11	1	14,14,15	0.55	0	17,19,21	0.61	0
3	NAG	D	8	1	14,14,15	0.60	0	17,19,21	0.67	1 (5%)
3	NAG	E	9	1	14,14,15	0.48	0	17,19,21	0.66	1 (5%)
3	NAG	C	5	1	14,14,15	0.52	0	17,19,21	0.56	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	0.49	0	17,19,21	0.68	1 (5%)
3	NAG	F	12	1	14,14,15	0.58	0	17,19,21	0.59	0
3	NAG	B	4	1	14,14,15	0.51	0	17,19,21	0.60	0
3	NAG	A	2	1	14,14,15	0.58	0	17,19,21	0.65	0
3	NAG	E	10	1	14,14,15	0.52	0	17,19,21	0.63	0
3	NAG	C	6	1	14,14,15	0.52	0	17,19,21	0.62	0
3	NAG	B	3	1	14,14,15	0.50	0	17,19,21	0.66	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
3	NAG	D	7	1	-	4/6/23/26	0/1/1/1
3	NAG	F	11	1	-	3/6/23/26	0/1/1/1
3	NAG	D	8	1	-	0/6/23/26	0/1/1/1
3	NAG	E	9	1	-	4/6/23/26	0/1/1/1
3	NAG	C	5	1	-	3/6/23/26	0/1/1/1
3	NAG	A	1	1	-	2/6/23/26	0/1/1/1
3	NAG	F	12	1	-	6/6/23/26	0/1/1/1
3	NAG	B	4	1	-	4/6/23/26	0/1/1/1
3	NAG	A	2	1	-	0/6/23/26	0/1/1/1
3	NAG	E	10	1	-	4/6/23/26	0/1/1/1
3	NAG	C	6	1	-	2/6/23/26	0/1/1/1
3	NAG	B	3	1	-	0/6/23/26	0/1/1/1

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	8	NAG	C2-N2-C7	-2.10	119.92	122.90
3	E	9	NAG	C2-N2-C7	-2.09	119.93	122.90
3	A	1	NAG	C2-N2-C7	-2.07	119.96	122.90
3	D	7	NAG	C2-N2-C7	-2.05	119.99	122.90

There are no chirality outliers.

All (32) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	D	7	NAG	C8-C7-N2-C2
3	D	7	NAG	O7-C7-N2-C2
3	F	11	NAG	C8-C7-N2-C2
3	F	11	NAG	O7-C7-N2-C2
3	E	9	NAG	C8-C7-N2-C2
3	E	9	NAG	O7-C7-N2-C2
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	F	12	NAG	C8-C7-N2-C2
3	F	12	NAG	O7-C7-N2-C2
3	C	6	NAG	C8-C7-N2-C2
3	C	6	NAG	O7-C7-N2-C2
3	E	10	NAG	C8-C7-N2-C2
3	E	10	NAG	O7-C7-N2-C2
3	E	9	NAG	O5-C5-C6-O6
3	F	12	NAG	C1-C2-N2-C7
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	A	1	NAG	C8-C7-N2-C2
3	E	10	NAG	O5-C5-C6-O6
3	D	7	NAG	O5-C5-C6-O6
3	F	12	NAG	C4-C5-C6-O6
3	A	1	NAG	O7-C7-N2-C2
3	D	7	NAG	C4-C5-C6-O6
3	B	4	NAG	C8-C7-N2-C2
3	F	11	NAG	O5-C5-C6-O6
3	B	4	NAG	O7-C7-N2-C2
3	B	4	NAG	C4-C5-C6-O6
3	B	4	NAG	O5-C5-C6-O6
3	F	12	NAG	C3-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	F	11	NAG	1	0
3	C	6	NAG	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ > 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q < 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ > 2	OWAB(Å ²)	Q < 0.9
1	A	417/438 (95%)	0.71	55 (13%) 3 3	13, 30, 80, 91	0
1	B	420/438 (95%)	0.68	51 (12%) 4 4	12, 31, 85, 97	0
1	C	418/438 (95%)	0.48	40 (9%) 8 9	13, 28, 73, 88	0
1	D	415/438 (94%)	0.91	75 (18%) 1 1	12, 31, 80, 91	0
1	E	421/438 (96%)	0.98	66 (15%) 2 2	11, 31, 87, 96	0
1	F	412/438 (94%)	0.83	69 (16%) 1 1	13, 30, 81, 94	0
All	All	2503/2628 (95%)	0.77	356 (14%) 2 2	11, 30, 82, 97	0

All (356) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	F	42	LEU	14.8
1	B	296	GLY	14.0
1	B	453	PHE	12.8
1	A	295	THR	12.2
1	E	294	THR	12.0
1	D	128	THR	11.3
1	A	297	ASP	11.1
1	D	297	ASP	11.0
1	B	295	THR	11.0
1	E	298	SER	10.9
1	D	45	VAL	10.7
1	E	457	TYR	10.6
1	E	54	SER	10.0
1	D	294	THR	9.9
1	F	298	SER	9.8
1	C	457	TYR	9.8
1	E	48	ALA	9.8
1	D	293	ALA	9.6
1	D	296	GLY	9.6

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Mol	Chain	Res	Type	RSRZ
1	D	295	THR	9.6
1	B	128	THR	9.5
1	F	295	THR	9.5
1	F	293	ALA	9.5
1	E	297	ASP	9.4
1	B	457	TYR	9.3
1	E	295	THR	9.3
1	D	129	GLN	9.2
1	D	453	PHE	9.1
1	E	42	LEU	9.1
1	F	452	LEU	8.8
1	A	298	SER	8.7
1	F	297	ASP	8.7
1	F	296	GLY	8.7
1	A	455	TYR	8.6
1	B	298	SER	8.6
1	E	128	THR	8.6
1	C	295	THR	8.4
1	A	206	PRO	8.4
1	F	202	GLN	8.4
1	A	296	GLY	8.4
1	A	453	PHE	8.3
1	A	457	TYR	8.3
1	C	293	ALA	8.1
1	B	297	ASP	8.0
1	E	453	PHE	7.9
1	A	132	ASP	7.9
1	F	294	THR	7.9
1	C	297	ASP	7.8
1	C	296	GLY	7.8
1	F	450	LEU	7.8
1	F	300	PHE	7.7
1	E	460	ILE	7.7
1	E	296	GLY	7.6
1	F	45	VAL	7.6
1	E	50	CYS	7.5
1	E	452	LEU	7.4
1	B	300	PHE	7.4
1	E	293	ALA	7.4
1	A	203	ASP	7.4
1	A	294	THR	7.4
1	C	298	SER	7.1

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Mol	Chain	Res	Type	RSRZ
1	F	299	GLU	7.0
1	B	45	VAL	6.9
1	E	446	ILE	6.9
1	B	294	THR	6.7
1	A	204	GLY	6.6
1	D	455	TYR	6.6
1	A	456	ALA	6.6
1	E	55	LEU	6.6
1	F	301	TYR	6.5
1	D	452	LEU	6.5
1	D	447	LEU	6.5
1	B	42	LEU	6.4
1	D	454	ASP	6.4
1	E	52	MET	6.3
1	E	51	PHE	6.3
1	F	44	ARG	6.3
1	D	203	ASP	6.2
1	F	204	GLY	6.2
1	E	43	LYS	6.1
1	B	46	VAL	6.1
1	D	132	ASP	6.1
1	D	202	GLN	6.0
1	D	298	SER	6.0
1	A	129	GLN	6.0
1	F	453	PHE	6.0
1	D	444	ALA	5.8
1	F	446	ILE	5.8
1	B	129	GLN	5.8
1	C	203	ASP	5.8
1	F	449	VAL	5.7
1	E	450	LEU	5.6
1	C	294	THR	5.6
1	E	133	GLU	5.6
1	B	449	VAL	5.6
1	D	206	PRO	5.6
1	C	204	GLY	5.5
1	B	454	ASP	5.5
1	B	459	VAL	5.5
1	A	42	LEU	5.5
1	E	49	LEU	5.5
1	E	46	VAL	5.4
1	A	205	LYS	5.4

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Mol	Chain	Res	Type	RSRZ
1	F	48	ALA	5.4
1	D	450	LEU	5.4
1	E	445	SER	5.4
1	B	52	MET	5.4
1	B	299	GLU	5.2
1	B	460	ILE	5.2
1	D	456	ALA	5.1
1	E	300	PHE	5.1
1	A	47	TRP	5.1
1	F	66	ILE	5.0
1	D	448	THR	5.0
1	A	127	ASP	5.0
1	A	450	LEU	5.0
1	C	205	LYS	5.0
1	A	130	THR	5.0
1	F	427	VAL	5.0
1	F	203	ASP	4.9
1	E	45	VAL	4.9
1	B	51	PHE	4.9
1	C	40	LEU	4.9
1	F	49	LEU	4.9
1	E	444	ALA	4.9
1	D	449	VAL	4.8
1	B	452	LEU	4.8
1	C	42	LEU	4.8
1	D	49	LEU	4.8
1	D	42	LEU	4.7
1	F	127	ASP	4.7
1	A	202	GLN	4.7
1	A	134	LYS	4.6
1	A	452	LEU	4.6
1	E	122	ARG	4.6
1	D	52	MET	4.6
1	A	128	THR	4.5
1	A	449	VAL	4.5
1	D	127	ASP	4.5
1	C	45	VAL	4.5
1	A	293	ALA	4.5
1	D	133	GLU	4.4
1	D	146	ARG	4.4
1	D	51	PHE	4.4
1	E	458	GLU	4.4

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Mol	Chain	Res	Type	RSRZ
1	F	146	ARG	4.4
1	E	299	GLU	4.3
1	E	455	TYR	4.3
1	E	448	THR	4.3
1	C	206	PRO	4.3
1	E	129	GLN	4.3
1	E	41	SER	4.3
1	E	360	CYS	4.3
1	E	47	TRP	4.2
1	F	441	PHE	4.2
1	E	361	VAL	4.2
1	E	130	THR	4.2
1	E	447	LEU	4.2
1	F	133	GLU	4.1
1	D	47	TRP	4.1
1	E	70	PHE	4.1
1	B	450	LEU	4.1
1	F	50	CYS	4.1
1	D	72	TYR	4.1
1	D	205	LYS	4.0
1	F	128	THR	4.0
1	C	286	PRO	4.0
1	E	438	MET	4.0
1	E	456	ALA	3.9
1	D	46	VAL	3.9
1	B	47	TRP	3.9
1	F	47	TRP	3.9
1	A	300	PHE	3.9
1	B	43	LYS	3.9
1	B	361	VAL	3.9
1	A	45	VAL	3.9
1	D	204	GLY	3.9
1	D	451	GLU	3.9
1	E	449	VAL	3.8
1	D	53	GLY	3.8
1	C	66	ILE	3.8
1	F	205	LYS	3.8
1	C	300	PHE	3.8
1	D	446	ILE	3.8
1	F	70	PHE	3.7
1	A	141	ASP	3.7
1	C	455	TYR	3.7

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Mol	Chain	Res	Type	RSRZ
1	E	443	GLY	3.7
1	F	51	PHE	3.7
1	B	133	GLU	3.7
1	F	443	GLY	3.7
1	B	359	TYR	3.7
1	E	359	TYR	3.7
1	F	52	MET	3.7
1	B	461	LYS	3.7
1	E	461	LYS	3.7
1	F	302	ASP	3.7
1	A	299	GLU	3.6
1	F	46	VAL	3.6
1	E	203	ASP	3.6
1	F	60	LEU	3.6
1	A	46	VAL	3.6
1	D	134	LYS	3.6
1	B	456	ALA	3.6
1	E	454	ASP	3.6
1	E	442	ILE	3.6
1	B	127	ASP	3.5
1	C	44	ARG	3.5
1	A	442	ILE	3.5
1	A	454	ASP	3.5
1	E	62	CYS	3.5
1	A	447	LEU	3.5
1	E	301	TYR	3.5
1	C	427	VAL	3.5
1	C	41	SER	3.5
1	D	445	SER	3.4
1	C	47	TRP	3.4
1	C	453	PHE	3.4
1	D	44	ARG	3.4
1	F	57	LEU	3.4
1	C	456	ALA	3.4
1	F	288	TRP	3.3
1	D	55	LEU	3.3
1	F	206	PRO	3.3
1	D	286	PRO	3.3
1	B	44	ARG	3.3
1	D	442	ILE	3.3
1	A	451	GLU	3.2
1	F	440	LEU	3.2

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Mol	Chain	Res	Type	RSRZ
1	F	451	GLU	3.2
1	A	146	ARG	3.2
1	B	134	LYS	3.2
1	D	48	ALA	3.2
1	E	459	VAL	3.2
1	B	455	TYR	3.1
1	C	359	TYR	3.1
1	C	450	LEU	3.1
1	E	127	ASP	3.1
1	A	137	GLU	3.1
1	E	44	ARG	3.1
1	C	302	ASP	3.1
1	A	131	ALA	3.1
1	D	59	ALA	3.1
1	D	299	GLU	3.0
1	F	71	LEU	3.0
1	F	43	LYS	3.0
1	E	125	ILE	3.0
1	A	66	ILE	3.0
1	D	54	SER	3.0
1	A	147	ASN	3.0
1	A	44	ARG	3.0
1	B	458	GLU	3.0
1	E	431	LEU	3.0
1	A	136	LEU	2.9
1	E	292	LYS	2.9
1	B	332	ASP	2.9
1	C	299	GLU	2.9
1	A	133	GLU	2.9
1	D	130	THR	2.9
1	A	70	PHE	2.9
1	D	70	PHE	2.9
1	F	72	TYR	2.8
1	F	56	ALA	2.8
1	D	71	LEU	2.8
1	F	444	ALA	2.8
1	B	293	ALA	2.7
1	F	448	THR	2.7
1	A	458	GLU	2.7
1	F	431	LEU	2.7
1	B	446	ILE	2.7
1	E	439	GLY	2.7

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Mol	Chain	Res	Type	RSRZ
1	D	126	PRO	2.7
1	E	302	ASP	2.6
1	A	43	LYS	2.6
1	C	441	PHE	2.6
1	B	53	GLY	2.6
1	A	207	ARG	2.6
1	F	55	LEU	2.6
1	A	302	ASP	2.6
1	E	146	ARG	2.6
1	F	438	MET	2.6
1	E	287	PRO	2.6
1	D	131	ALA	2.6
1	D	288	TRP	2.6
1	D	145	PHE	2.6
1	D	361	VAL	2.6
1	A	60	LEU	2.6
1	D	359	TYR	2.5
1	F	69	TYR	2.5
1	B	287	PRO	2.5
1	C	445	SER	2.5
1	D	147	ASN	2.5
1	C	134	LYS	2.5
1	B	55	LEU	2.5
1	D	274	VAL	2.5
1	B	358	GLU	2.5
1	C	131	ALA	2.4
1	B	50	CYS	2.4
1	B	362	CYS	2.4
1	D	50	CYS	2.4
1	B	132	ASP	2.4
1	F	447	LEU	2.4
1	A	122	ARG	2.4
1	C	70	PHE	2.4
1	F	442	ILE	2.4
1	D	443	GLY	2.4
1	F	439	GLY	2.4
1	B	320	GLU	2.4
1	F	67	GLN	2.4
1	E	72	TYR	2.3
1	A	50	CYS	2.3
1	E	137	GLU	2.3
1	D	143	ALA	2.3

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Mol	Chain	Res	Type	RSRZ
1	F	58	LEU	2.3
1	D	441	PHE	2.2
1	D	43	LYS	2.2
1	D	287	PRO	2.2
1	C	454	ASP	2.2
1	D	292	LYS	2.2
1	F	375	LEU	2.2
1	F	147	ASN	2.2
1	B	301	TYR	2.2
1	C	290	ASP	2.2
1	D	61	VAL	2.2
1	F	430	LEU	2.2
1	F	367	ASN	2.2
1	B	451	GLU	2.2
1	D	434	ILE	2.2
1	B	202	GLN	2.2
1	F	426	GLU	2.2
1	A	51	PHE	2.2
1	B	292	LYS	2.2
1	A	57	LEU	2.1
1	D	433	ASP	2.1
1	D	62	CYS	2.1
1	F	274	VAL	2.1
1	C	438	MET	2.1
1	F	425	TYR	2.1
1	B	59	ALA	2.1
1	F	286	PRO	2.1
1	F	129	GLN	2.1
1	A	52	MET	2.1
1	E	60	LEU	2.1
1	A	248	VAL	2.1
1	C	67	GLN	2.1
1	D	67	GLN	2.1
1	D	140	GLN	2.1
1	B	219	LEU	2.1
1	D	180	CYS	2.1
1	D	68	TYR	2.0
1	E	451	GLU	2.0
1	C	452	LEU	2.0
1	C	274	VAL	2.0
1	C	202	GLN	2.0
1	D	407	LEU	2.0

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Mol	Chain	Res	Type	RSRZ
1	F	434	ILE	2.0

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

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

6.3 Carbohydrates [i](#)

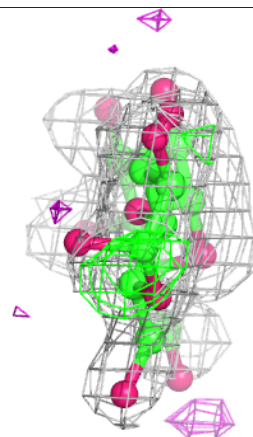
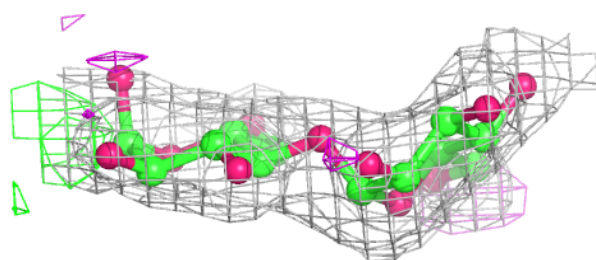
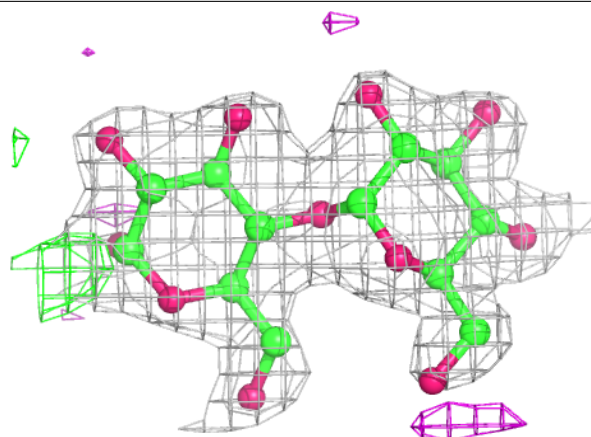
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	GLC	H	1	12/12	0.72	0.23	71,73,74,74	0
2	GLC	H	2	11/12	0.75	0.22	73,73,75,76	0
2	GLC	I	2	11/12	0.80	0.22	76,77,78,78	0
2	GLC	I	1	12/12	0.82	0.26	78,78,79,79	0
2	GLC	G	2	11/12	0.84	0.13	63,63,64,64	0
2	GLC	G	1	12/12	0.86	0.14	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.

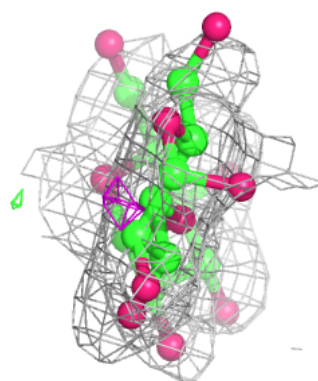
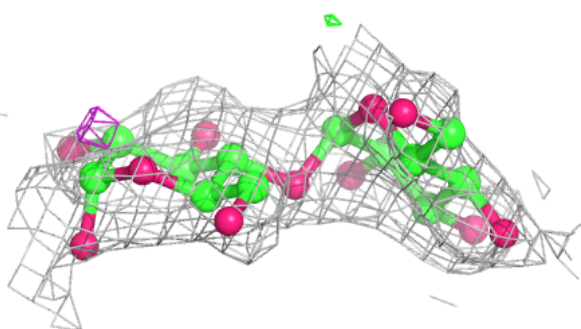
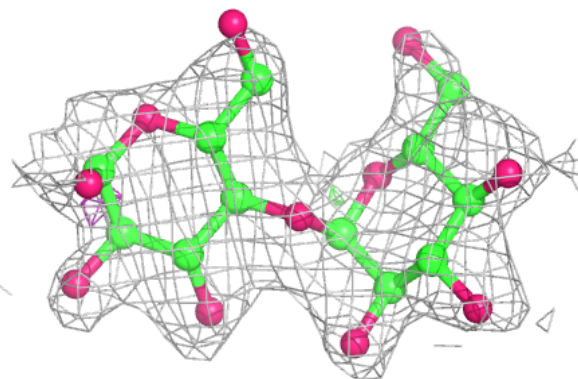
Electron density around Chain G:

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

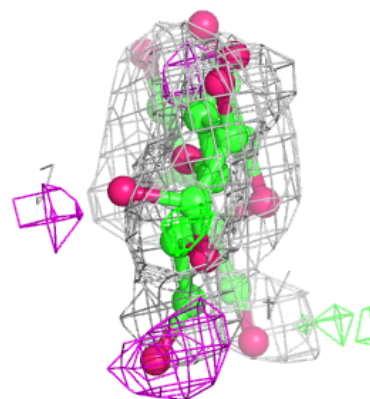
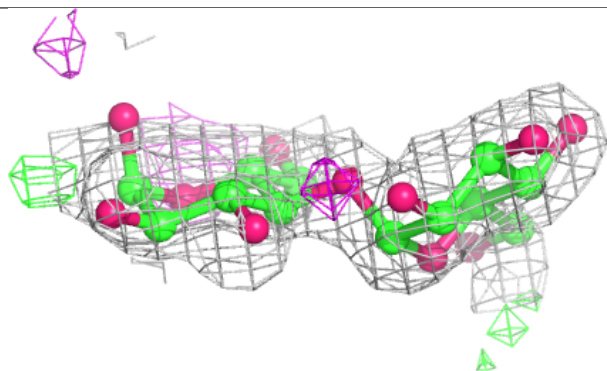
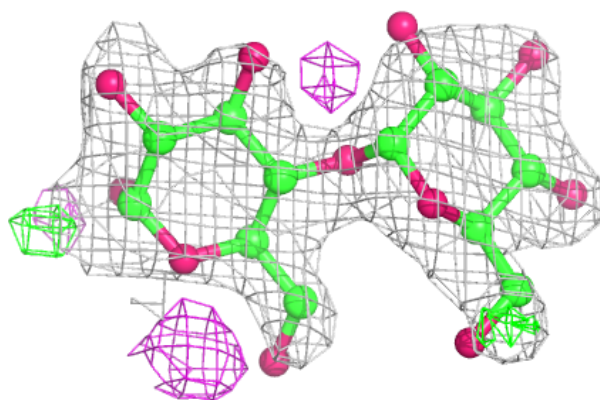


Electron density around Chain H:

$2mF_o-DF_c$ (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 [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
3	NAG	F	12	14/15	0.32	0.53	67,72,74,74	0
3	NAG	F	11	14/15	0.38	0.52	70,74,76,76	0
3	NAG	D	7	14/15	0.61	0.54	69,73,74,75	0
3	NAG	E	10	14/15	0.63	0.44	61,67,69,70	0
3	NAG	C	6	14/15	0.68	0.31	65,71,73,73	0
3	NAG	A	2	14/15	0.79	0.18	44,46,50,51	0
3	NAG	C	5	14/15	0.80	0.31	61,66,68,69	0
3	NAG	E	9	14/15	0.80	0.17	53,57,59,61	0
3	NAG	B	4	14/15	0.80	0.25	52,55,59,61	0
3	NAG	A	1	14/15	0.84	0.21	50,54,56,57	0
3	NAG	B	3	14/15	0.88	0.16	42,45,48,50	0
3	NAG	D	8	14/15	0.90	0.13	32,36,42,45	0
4	CL	D	4	1/1	0.97	0.06	31,31,31,31	0
4	CL	B	464	1/1	0.97	0.05	29,29,29,29	0
4	CL	C	464	1/1	0.99	0.06	24,24,24,24	0
4	CL	F	6	1/1	0.99	0.05	28,28,28,28	0
4	CL	E	5	1/1	0.99	0.04	31,31,31,31	0
4	CL	A	464	1/1	1.00	0.06	26,26,26,26	0

6.5 Other polymers [i](#)

There are no such residues in this entry.