



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2018 – 11:06 pm GMT

PDB ID : 2BVW
Title : CELLOBIOHYDROLASE II (CEL6A) FROM HUMICOLA INSOLENS IN
COMPLEX WITH GLUCOSE AND CELLOTETRAOSE
Authors : Varrot, A.; Davies, G.J.; Schulein, M.
Deposited on : 1999-02-18
Resolution : 1.70 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 : 1.7.3 (157068), CSD as539be (2018)
Xtrriage (Phenix) : 1.13
EDS : trunk30967
Percentile statistics : 20171227.v01 (using entries in the PDB archive December 27th 2017)
Refmac : 5.8.0158
CCP4 : 7.0 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : trunk30967

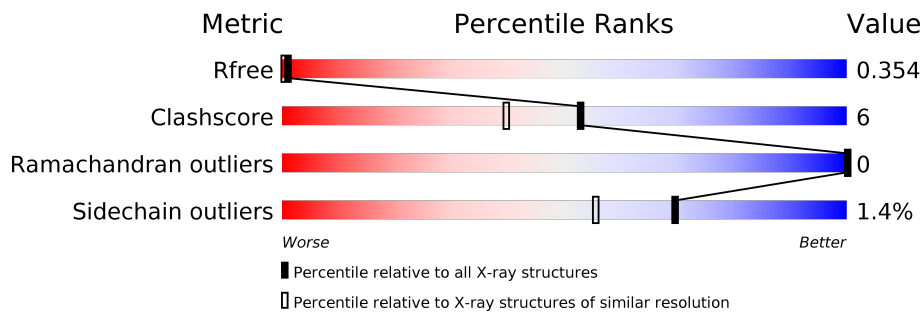
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.70 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	111664	3793 (1.70-1.70)
Clashscore	122126	4167 (1.70-1.70)
Ramachandran outliers	120053	4100 (1.70-1.70)
Sidechain outliers	120020	4100 (1.70-1.70)

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. 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 $\leq 5\%$.

Mol	Chain	Length	Quality of chain
1	A	362	88% 11% .
1	B	362	86% 11% ..

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
6	CTR	B	601	X	-	-	-

2 Entry composition [i](#)

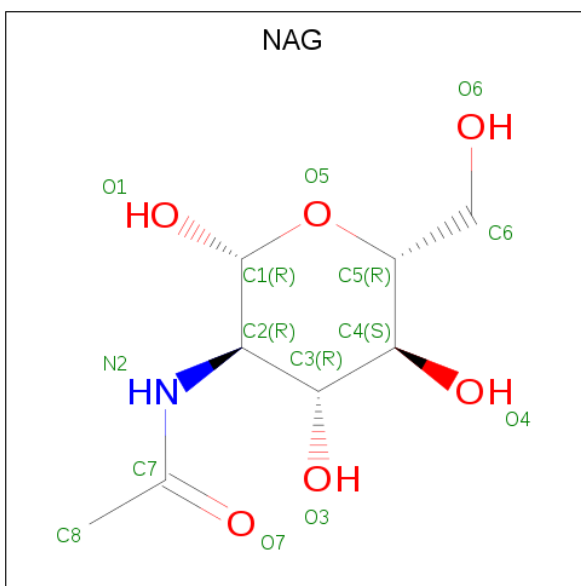
There are 7 unique types of molecules in this entry. The entry contains 6474 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 CELLOBIOHYDROLASE II.

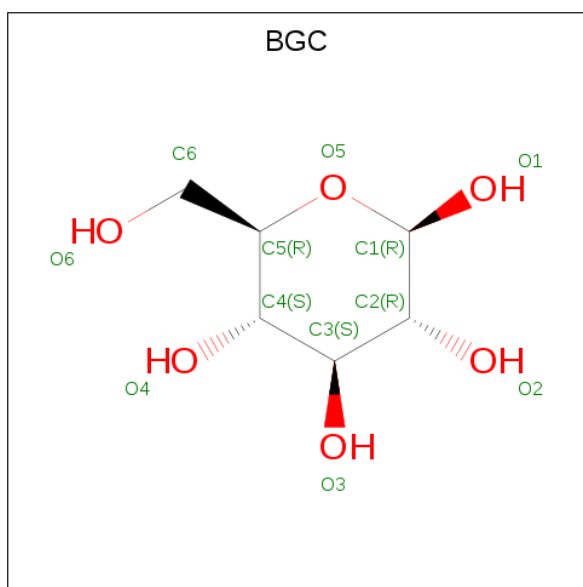
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	361	Total 2850	C 1803	N 502	O 535	S 10	0	8	0
1	B	360	Total 2834	C 1795	N 493	O 536	S 10	0	7	0

- Molecule 2 is N-ACETYL-D-GLUCOSAMINE (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).



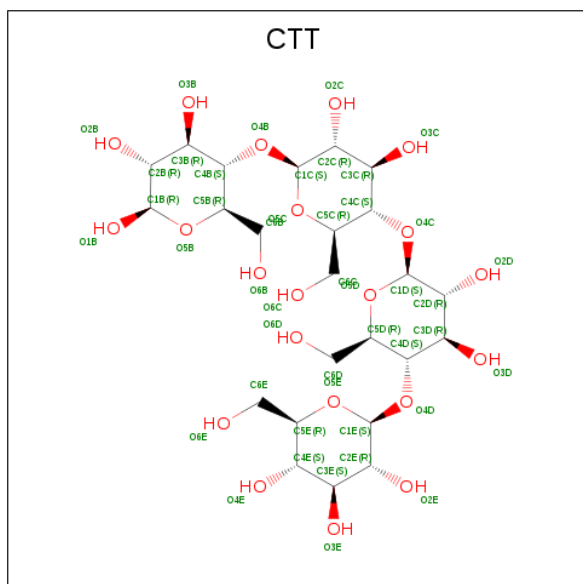
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
2	A	1	Total 14	C 8	N 1	O 5	0	0
2	B	1	Total 14	C 8	N 1	O 5	0	0

- Molecule 3 is BETA-D-GLUCOSE (three-letter code: BGC) (formula: $C_6H_{12}O_6$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf		
3	A	1	Total	C	O	0	0
			12	6	6		
3	B	1	Total	C	O	0	0
			12	6	6		

- Molecule 4 is beta-D-glucopyranosyl-(1->4)-beta-D-glucopyranosyl-(1->4)-beta-D-glucopyranosyl-(1->4)-beta-D-glucopyranose (three-letter code: CTT) (formula: C₂₄H₄₂O₂₁).



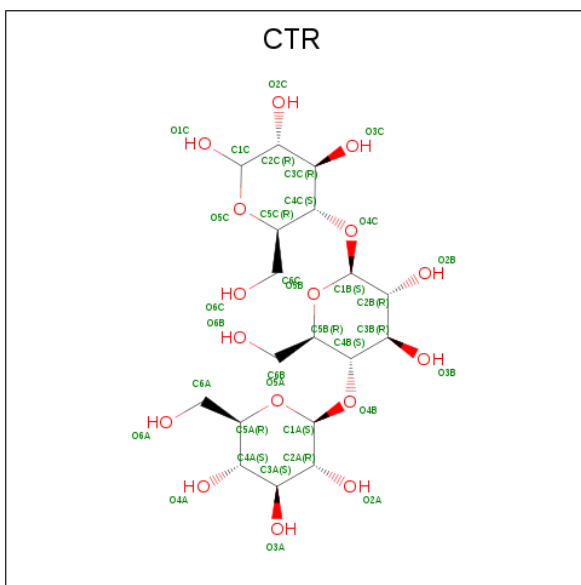
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf		
4	A	1	Total	C	O	0	0
			45	24	21		

- Molecule 5 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C O 6 3 3	0	0
5	A	1	Total C O 6 3 3	0	0
5	A	1	Total C O 6 3 3	0	0
5	A	1	Total C O 6 3 3	0	0
5	A	1	Total C O 6 3 3	0	0
5	A	1	Total C O 6 3 3	0	0
5	B	1	Total C O 6 3 3	0	0

- Molecule 6 is CELLOTRIOSE (three-letter code: CTR) (formula: $C_{18}H_{32}O_{16}$).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	
6	B	1	Total	C	O	0	0
			34	18	16		

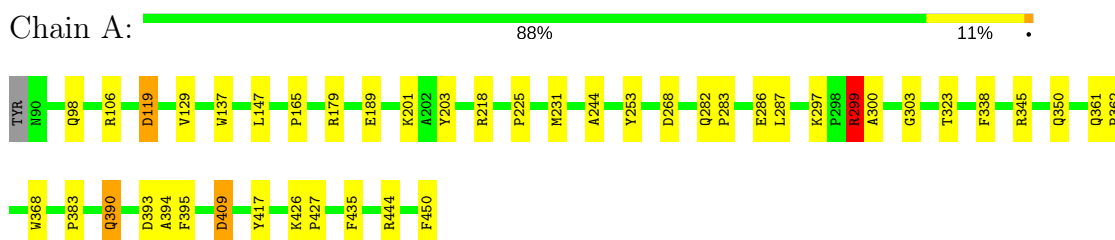
- Molecule 7 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	355	Total	O	0	0
			355	355		
7	B	262	Total	O	0	0
			262	262		

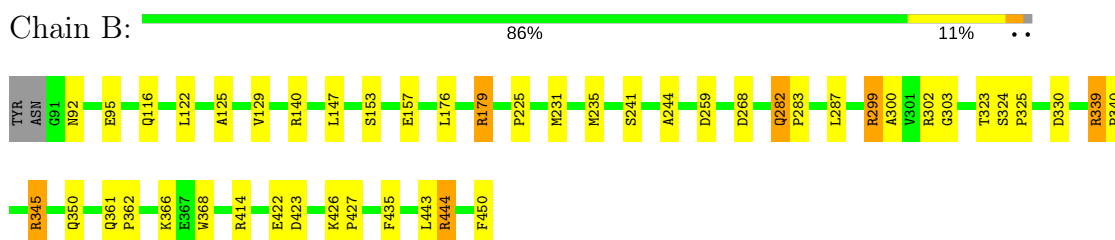
3 Residue-property plots [i](#)

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

- Molecule 1: CELLOBIOHYDROLASE II



- Molecule 1: CELLOBIOHYDROLASE II



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	48.56Å 154.43Å 51.04Å 90.00° 119.31° 90.00°	Depositor
Resolution (Å)	20.00 – 1.70 19.80 – 1.67	Depositor EDS
% Data completeness (in resolution range)	89.6 (20.00-1.70) 86.3 (19.80-1.67)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	0.08	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.91 (at 1.67Å)	Xtrriage
Refinement program	CCP4	Depositor
R, R_{free}	0.175 , 0.226 0.336 , 0.354	Depositor DCC
R_{free} test set	3313 reflections (5.08%)	wwPDB-VP
Wilson B-factor (Å ²)	13.7	Xtrriage
Anisotropy	0.570	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.38 , 45.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	0.031 for h,-k,-h-l	Xtrriage
F_o, F_c correlation	0.82	EDS
Total number of atoms	6474	wwPDB-VP
Average B, all atoms (Å ²)	18.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.83% 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: CTT, GOL, BGC, NAG, CTR

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	0.44	0/2972	1.03	8/4063 (0.2%)
1	B	0.44	0/2951	1.02	11/4035 (0.3%)
All	All	0.44	0/5923	1.03	19/8098 (0.2%)

There are no bond length outliers.

All (19) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	119	ASP	CB-CG-OD1	8.05	125.55	118.30
1	A	299[A]	ARG	NE-CZ-NH1	7.15	123.88	120.30
1	A	299[B]	ARG	NE-CZ-NH1	7.15	123.88	120.30
1	B	330	ASP	CB-CG-OD1	7.14	124.72	118.30
1	B	345	ARG	NE-CZ-NH1	6.83	123.72	120.30
1	B	414	ARG	NE-CZ-NH2	-6.39	117.11	120.30
1	B	345	ARG	CD-NE-CZ	5.80	131.72	123.60
1	B	259	ASP	CB-CG-OD1	5.71	123.44	118.30
1	A	189	GLU	OE1-CD-OE2	-5.71	116.45	123.30
1	A	203	TYR	CA-CB-CG	5.66	124.16	113.40
1	A	409	ASP	CB-CG-OD2	-5.48	113.37	118.30
1	B	444[A]	ARG	NE-CZ-NH1	5.43	123.02	120.30
1	B	444[B]	ARG	NE-CZ-NH1	5.43	123.02	120.30
1	A	179	ARG	NE-CZ-NH1	5.42	123.01	120.30
1	B	140	ARG	NE-CZ-NH2	5.37	122.98	120.30
1	B	302	ARG	NE-CZ-NH2	5.36	122.98	120.30
1	B	339	ARG	NE-CZ-NH2	-5.36	117.62	120.30
1	A	338	PHE	CB-CG-CD2	-5.30	117.09	120.80
1	B	179	ARG	NE-CZ-NH1	5.30	122.95	120.30

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	2850	0	2721	35	4
1	B	2834	0	2697	32	3
2	A	14	0	13	0	0
2	B	14	0	13	0	0
3	A	12	0	12	1	0
3	B	12	0	12	0	0
4	A	45	0	42	0	0
5	A	36	0	48	3	0
5	B	6	0	8	0	0
6	B	34	0	32	1	0
7	A	355	0	0	3	7
7	B	262	0	0	7	1
All	All	6474	0	5598	68	8

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 6.

All (68) 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:A:444[B]:ARG:NH1	7:A:722:HOH:O	1.81	1.14
1:A:129[A]:VAL:HG22	1:A:450:PHE:CZ	1.95	0.99
1:A:129[A]:VAL:HG22	1:A:450:PHE:CE2	2.10	0.87
1:B:299[B]:ARG:NH2	7:B:798:HOH:O	2.10	0.83
1:B:299[A]:ARG:NH2	7:B:858:HOH:O	2.12	0.83
1:B:299[B]:ARG:NH1	7:B:858:HOH:O	2.15	0.79
1:A:286:GLU:HG2	1:A:345[B]:ARG:HE	1.50	0.77
1:A:390:GLN:HE21	1:A:390:GLN:H	1.34	0.76
1:B:444[A]:ARG:HH11	1:B:444[A]:ARG:HG3	1.51	0.75
1:B:129[A]:VAL:HG13	1:B:450:PHE:CZ	2.24	0.73
1:A:444[B]:ARG:HH11	1:A:444[B]:ARG:HG2	1.55	0.71
1:A:299[A]:ARG:HG2	1:A:299[A]:ARG:HH11	1.56	0.71
1:A:390:GLN:NE2	1:A:390:GLN:H	1.90	0.68
1:A:129[A]:VAL:HG22	1:A:450:PHE:CE1	2.30	0.66
1:B:92:ASN:O	1:B:95[B]:GLU:HG2	1.98	0.63

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:287:LEU:HD12	7:A:835:HOH:O	1.98	0.63
1:B:235:MET:O	1:B:241:SER:HB3	1.99	0.63
1:B:129[A]:VAL:HG21	1:B:443:LEU:HD21	1.83	0.60
1:A:426:LYS:HB3	1:A:427:PRO:HA	1.84	0.59
1:B:129[A]:VAL:CG2	1:B:443:LEU:HD21	2.34	0.58
1:B:444[A]:ARG:HG3	1:B:444[A]:ARG:NH1	2.15	0.58
1:B:225:PRO:HA	1:B:268:ASP:CB	2.35	0.57
1:A:106:ARG:HH22	5:A:605:GOL:H12	1.70	0.56
1:B:426:LYS:HB3	1:B:427:PRO:HA	1.86	0.56
6:B:601:CTR:H6C1	7:B:610:HOH:O	2.05	0.55
1:B:129[A]:VAL:HG21	1:B:443:LEU:CD2	2.38	0.53
1:A:129[A]:VAL:CG2	1:A:450:PHE:CE2	2.88	0.52
1:A:282:GLN:O	1:A:286:GLU:HG3	2.10	0.52
1:B:125:ALA:O	1:B:129[A]:VAL:HG23	2.11	0.51
1:A:282:GLN:HB2	1:A:283:PRO:HD3	1.94	0.49
1:A:361:GLN:HA	1:A:362:PRO:C	2.32	0.49
1:B:231:MET:SD	1:B:244:ALA:HA	2.53	0.49
1:A:299[A]:ARG:HG2	1:A:299[A]:ARG:NH1	2.27	0.48
1:A:303:GLY:HA3	1:A:350:GLN:O	2.13	0.48
1:A:225:PRO:HA	1:A:268:ASP:CB	2.44	0.47
1:B:366:LYS:HE3	1:B:423:ASP:HB3	1.96	0.47
1:B:366:LYS:HB3	7:B:609:HOH:O	2.14	0.47
1:B:176:LEU:O	1:B:179:ARG:HB2	2.15	0.46
1:A:299[A]:ARG:HG3	7:A:698:HOH:O	2.15	0.46
1:A:444[B]:ARG:NH1	1:A:444[B]:ARG:HG2	2.24	0.46
1:B:122:LEU:HD22	1:B:444[B]:ARG:NH2	2.30	0.46
1:B:282:GLN:N	1:B:283:PRO:HD2	2.30	0.46
1:A:129[A]:VAL:HG22	1:A:450:PHE:CD2	2.51	0.45
1:A:286:GLU:HG2	1:A:345[A]:ARG:CZ	2.46	0.45
1:B:303:GLY:HA3	1:B:350:GLN:O	2.17	0.45
1:B:339:ARG:HB3	1:B:340:PRO:HD3	1.98	0.45
1:A:137:TRP:CE3	3:A:602:BGC:H5	2.52	0.45
1:B:299[A]:ARG:HG2	7:B:773:HOH:O	2.17	0.44
1:A:323:THR:HA	1:A:368:TRP:CE3	2.52	0.44
1:B:345:ARG:HH11	1:B:345:ARG:HG3	1.83	0.43
1:A:98:GLN:HG3	1:A:165:PRO:HG2	1.99	0.43
1:B:323:THR:HA	1:B:368:TRP:CE3	2.53	0.43
1:A:225:PRO:HA	1:A:268:ASP:CG	2.39	0.43
1:A:299[A]:ARG:HD2	1:A:300:ALA:N	2.33	0.43
1:A:383:PRO:HA	1:A:395:PHE:O	2.19	0.43
1:A:231:MET:SD	1:A:244:ALA:HA	2.59	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:417:TYR:HD1	5:A:610:GOL:HO3	1.66	0.42
1:B:324:SER:HA	1:B:325:PRO:HA	1.79	0.42
1:B:366:LYS:NZ	1:B:422:GLU:HB2	2.33	0.42
1:B:361:GLN:HA	1:B:362:PRO:C	2.40	0.42
1:B:225:PRO:HA	1:B:268:ASP:CG	2.40	0.42
1:A:393:ASP:O	1:A:394:ALA:HB2	2.20	0.42
1:B:299[A]:ARG:HG3	1:B:300:ALA:N	2.34	0.42
1:A:218:ARG:CZ	5:A:609:GOL:H12	2.50	0.41
1:B:147:LEU:HD23	7:B:676:HOH:O	2.21	0.41
1:B:116:GLN:HE21	1:B:116:GLN:HB3	1.68	0.41
1:A:129[A]:VAL:CG2	1:A:450:PHE:CD2	3.05	0.40

All (8) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:253:TYR:OH	7:A:824:HOH:O[1_454]	1.62	0.58
1:B:116:GLN:OE1	7:A:920:HOH:O[1_454]	1.97	0.23
7:A:860:HOH:O	7:B:711:HOH:O[1_656]	2.02	0.18
1:B:157[B]:GLU:CG	7:A:753:HOH:O[1_454]	2.04	0.16
1:A:119:ASP:OD1	7:A:694:HOH:O[1_656]	2.07	0.13
1:A:201:LYS:NZ	7:A:850:HOH:O[1_454]	2.14	0.06
1:B:153:SER:O	7:A:753:HOH:O[1_454]	2.18	0.02
1:A:297:LYS:NZ	1:A:409:ASP:OD1[1_554]	2.19	0.01

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	367/362 (101%)	356 (97%)	11 (3%)	0	100	100
1	B	365/362 (101%)	353 (97%)	12 (3%)	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
All	All	732/724 (101%)	709 (97%)	23 (3%)	0	100	100

There are no Ramachandran outliers to report.

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	296/289 (102%)	291 (98%)	5 (2%)	63	48
1	B	294/289 (102%)	289 (98%)	5 (2%)	63	48
All	All	590/578 (102%)	580 (98%)	10 (2%)	69	48

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	147	LEU
1	A	299[A]	ARG
1	A	299[B]	ARG
1	A	390	GLN
1	A	435	PHE
1	B	282	GLN
1	B	287	LEU
1	B	299[A]	ARG
1	B	299[B]	ARG
1	B	435	PHE

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	116	GLN
1	A	166	GLN
1	A	390	GLN
1	A	445	ASN
1	B	116	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	136	GLN
1	B	166	GLN
1	B	230	ASN
1	B	234	ASN

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](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

13 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
2	NAG	A	500	1	14,14,15	1.08	1 (7%)	17,19,21	1.00	0
4	CTT	A	600	-	48,48,48	0.61	0	71,71,71	1.09	2 (2%)
3	BGC	A	602	-	12,12,12	0.66	0	17,17,17	1.01	0
5	GOL	A	604	-	5,5,5	0.66	0	5,5,5	0.54	0
5	GOL	A	605	-	5,5,5	0.41	0	5,5,5	0.78	0
5	GOL	A	606	-	5,5,5	0.63	0	5,5,5	0.50	0
5	GOL	A	607	-	5,5,5	0.56	0	5,5,5	0.43	0
5	GOL	A	609	-	5,5,5	0.73	0	5,5,5	0.60	0
5	GOL	A	610	-	5,5,5	0.56	0	5,5,5	0.56	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	NAG	B	500	1	14,14,15	1.36	1 (7%)	17,19,21	1.23	1 (5%)
6	CTR	B	601	-	36,36,36	0.48	0	53,53,53	0.92	2 (3%)
3	BGC	B	603	-	12,12,12	0.74	0	17,17,17	0.85	0
5	GOL	B	608	-	5,5,5	0.48	0	5,5,5	0.48	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	NAG	A	500	1	-	0/6/23/26	0/1/1/1
4	CTT	A	600	-	-	0/20/100/100	0/4/4/4
3	BGC	A	602	-	-	0/2/22/22	0/1/1/1
5	GOL	A	604	-	-	0/4/4/4	0/0/0/0
5	GOL	A	605	-	-	0/4/4/4	0/0/0/0
5	GOL	A	606	-	-	0/4/4/4	0/0/0/0
5	GOL	A	607	-	-	0/4/4/4	0/0/0/0
5	GOL	A	609	-	-	0/4/4/4	0/0/0/0
5	GOL	A	610	-	-	0/4/4/4	0/0/0/0
2	NAG	B	500	1	-	0/6/23/26	0/1/1/1
6	CTR	B	601	-	1/1/15/15	0/14/74/74	0/3/3/3
3	BGC	B	603	-	-	0/2/22/22	0/1/1/1
5	GOL	B	608	-	-	0/4/4/4	0/0/0/0

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	500	NAG	O7-C7	-3.50	1.15	1.23
2	A	500	NAG	O7-C7	-3.37	1.15	1.23

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	A	600	CTT	O3C-C3C-C2C	-2.80	103.79	110.34
2	B	500	NAG	O5-C1-C2	-2.59	107.94	111.52
6	B	601	CTR	O5A-C5A-C4A	-2.12	105.79	109.69
4	A	600	CTT	O3D-C3D-C2D	-2.08	105.48	110.34
6	B	601	CTR	O4B-C1A-O5A	-2.08	104.76	110.66

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
6	B	601	CTR	C1C

There are no torsion outliers.

There are no ring outliers.

5 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	602	BGC	1	0
5	A	605	GOL	1	0
5	A	609	GOL	1	0
5	A	610	GOL	1	0
6	B	601	CTR	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

Unable to reproduce the depositors R factor - this section is therefore empty.

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

Unable to reproduce the depositors R factor - this section is therefore empty.

6.3 Carbohydrates

Unable to reproduce the depositors R factor - this section is therefore empty.

6.4 Ligands

Unable to reproduce the depositors R factor - this section is therefore empty.

6.5 Other polymers

Unable to reproduce the depositors R factor - this section is therefore empty.