



# Full wwPDB X-ray Structure Validation Report ⓘ

Dec 15, 2018 – 10:38 PM EST

PDB ID : 6GN6  
Title : Alpha-L-fucosidase isoenzyme 1 from *Paenibacillus thiaminolyticus*  
Authors : Kovalova, T.; Koval, T.; Lipovova, P.; Dohnalek, J.  
Deposited on : 2018-05-30  
Resolution : 2.20 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](mailto: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.

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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)  
Xtriage (Phenix) : 1.13  
EDS : rb-20031633  
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) : rb-20031633

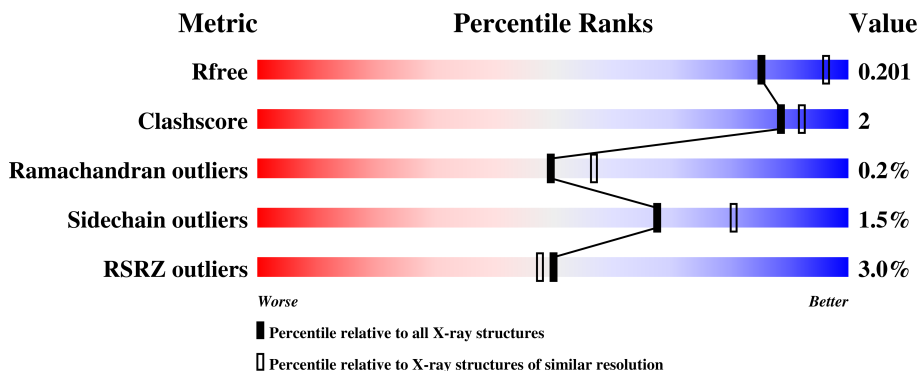
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.20 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.



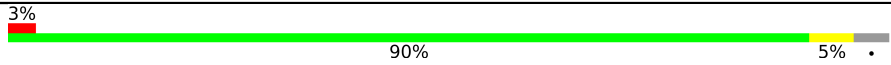
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	111664	4343 (2.20-2.20)
Clashscore	122126	5027 (2.20-2.20)
Ramachandran outliers	120053	4952 (2.20-2.20)
Sidechain outliers	120020	4953 (2.20-2.20)
RSRZ outliers	108989	4245 (2.20-2.20)

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  $\geq 3$ , 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  $\leq 5\%$ . 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	447	 3% 88% 6% 6%
1	B	447	 3% 89% 6% •• 6%
1	C	447	 4% 89% 5% 6%
1	D	447	 4% 89% 6% 5%
1	E	447	 % 90% 6% •• 6%

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Mol	Chain	Length	Quality of chain
1	F	447	 A horizontal bar chart representing the quality of chain. The bar is divided into three segments: a small red segment on the left labeled '3%', a large green segment in the middle labeled '90%', and a small yellow segment on the right labeled '5%'. There is a small grey dot at the end of the bar.

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	MAL	E	502	-	-	-	X

## 2 Entry composition [i](#)

There are 10 unique types of molecules in this entry. The entry contains 22428 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 Alpha-L-fucosidase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	421	Total 3416	C 2184	N 593	O 626	S 13	0	2	0
1	B	421	Total 3424	C 2190	N 595	O 626	S 13	0	3	0
1	C	421	Total 3408	C 2179	N 590	O 626	S 13	0	1	0
1	D	425	Total 3444	C 2202	N 599	O 629	S 14	0	1	0
1	E	421	Total 3416	C 2184	N 593	O 626	S 13	0	2	0
1	F	428	Total 3473	C 2218	N 605	O 636	S 14	0	2	0

There are 126 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-20	MET	-	initiating methionine	UNP E3PQQ9
A	-19	GLY	-	expression tag	UNP E3PQQ9
A	-18	HIS	-	expression tag	UNP E3PQQ9
A	-17	HIS	-	expression tag	UNP E3PQQ9
A	-16	HIS	-	expression tag	UNP E3PQQ9
A	-15	HIS	-	expression tag	UNP E3PQQ9
A	-14	HIS	-	expression tag	UNP E3PQQ9
A	-13	HIS	-	expression tag	UNP E3PQQ9
A	-12	HIS	-	expression tag	UNP E3PQQ9
A	-11	HIS	-	expression tag	UNP E3PQQ9
A	-10	HIS	-	expression tag	UNP E3PQQ9
A	-9	HIS	-	expression tag	UNP E3PQQ9
A	-8	SER	-	expression tag	UNP E3PQQ9
A	-7	SER	-	expression tag	UNP E3PQQ9
A	-6	GLY	-	expression tag	UNP E3PQQ9
A	-5	HIS	-	expression tag	UNP E3PQQ9
A	-4	ILE	-	expression tag	UNP E3PQQ9

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-3	GLU	-	expression tag	UNP E3PQQ9
A	-2	GLY	-	expression tag	UNP E3PQQ9
A	-1	ARG	-	expression tag	UNP E3PQQ9
A	0	HIS	-	expression tag	UNP E3PQQ9
B	-20	MET	-	initiating methionine	UNP E3PQQ9
B	-19	GLY	-	expression tag	UNP E3PQQ9
B	-18	HIS	-	expression tag	UNP E3PQQ9
B	-17	HIS	-	expression tag	UNP E3PQQ9
B	-16	HIS	-	expression tag	UNP E3PQQ9
B	-15	HIS	-	expression tag	UNP E3PQQ9
B	-14	HIS	-	expression tag	UNP E3PQQ9
B	-13	HIS	-	expression tag	UNP E3PQQ9
B	-12	HIS	-	expression tag	UNP E3PQQ9
B	-11	HIS	-	expression tag	UNP E3PQQ9
B	-10	HIS	-	expression tag	UNP E3PQQ9
B	-9	HIS	-	expression tag	UNP E3PQQ9
B	-8	SER	-	expression tag	UNP E3PQQ9
B	-7	SER	-	expression tag	UNP E3PQQ9
B	-6	GLY	-	expression tag	UNP E3PQQ9
B	-5	HIS	-	expression tag	UNP E3PQQ9
B	-4	ILE	-	expression tag	UNP E3PQQ9
B	-3	GLU	-	expression tag	UNP E3PQQ9
B	-2	GLY	-	expression tag	UNP E3PQQ9
B	-1	ARG	-	expression tag	UNP E3PQQ9
B	0	HIS	-	expression tag	UNP E3PQQ9
C	-20	MET	-	initiating methionine	UNP E3PQQ9
C	-19	GLY	-	expression tag	UNP E3PQQ9
C	-18	HIS	-	expression tag	UNP E3PQQ9
C	-17	HIS	-	expression tag	UNP E3PQQ9
C	-16	HIS	-	expression tag	UNP E3PQQ9
C	-15	HIS	-	expression tag	UNP E3PQQ9
C	-14	HIS	-	expression tag	UNP E3PQQ9
C	-13	HIS	-	expression tag	UNP E3PQQ9
C	-12	HIS	-	expression tag	UNP E3PQQ9
C	-11	HIS	-	expression tag	UNP E3PQQ9
C	-10	HIS	-	expression tag	UNP E3PQQ9
C	-9	HIS	-	expression tag	UNP E3PQQ9
C	-8	SER	-	expression tag	UNP E3PQQ9
C	-7	SER	-	expression tag	UNP E3PQQ9
C	-6	GLY	-	expression tag	UNP E3PQQ9
C	-5	HIS	-	expression tag	UNP E3PQQ9
C	-4	ILE	-	expression tag	UNP E3PQQ9

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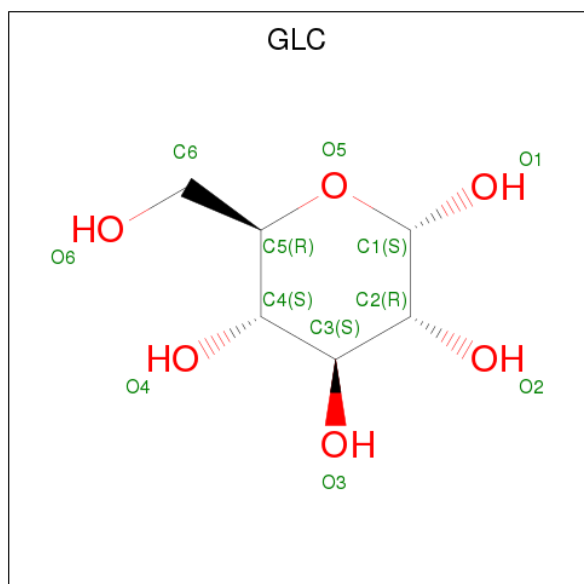
Chain	Residue	Modelled	Actual	Comment	Reference
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C	-2	GLY	-	expression tag	UNP E3PQQ9
C	-1	ARG	-	expression tag	UNP E3PQQ9
C	0	HIS	-	expression tag	UNP E3PQQ9
D	-20	MET	-	initiating methionine	UNP E3PQQ9
D	-19	GLY	-	expression tag	UNP E3PQQ9
D	-18	HIS	-	expression tag	UNP E3PQQ9
D	-17	HIS	-	expression tag	UNP E3PQQ9
D	-16	HIS	-	expression tag	UNP E3PQQ9
D	-15	HIS	-	expression tag	UNP E3PQQ9
D	-14	HIS	-	expression tag	UNP E3PQQ9
D	-13	HIS	-	expression tag	UNP E3PQQ9
D	-12	HIS	-	expression tag	UNP E3PQQ9
D	-11	HIS	-	expression tag	UNP E3PQQ9
D	-10	HIS	-	expression tag	UNP E3PQQ9
D	-9	HIS	-	expression tag	UNP E3PQQ9
D	-8	SER	-	expression tag	UNP E3PQQ9
D	-7	SER	-	expression tag	UNP E3PQQ9
D	-6	GLY	-	expression tag	UNP E3PQQ9
D	-5	HIS	-	expression tag	UNP E3PQQ9
D	-4	ILE	-	expression tag	UNP E3PQQ9
D	-3	GLU	-	expression tag	UNP E3PQQ9
D	-2	GLY	-	expression tag	UNP E3PQQ9
D	-1	ARG	-	expression tag	UNP E3PQQ9
D	0	HIS	-	expression tag	UNP E3PQQ9
E	-20	MET	-	initiating methionine	UNP E3PQQ9
E	-19	GLY	-	expression tag	UNP E3PQQ9
E	-18	HIS	-	expression tag	UNP E3PQQ9
E	-17	HIS	-	expression tag	UNP E3PQQ9
E	-16	HIS	-	expression tag	UNP E3PQQ9
E	-15	HIS	-	expression tag	UNP E3PQQ9
E	-14	HIS	-	expression tag	UNP E3PQQ9
E	-13	HIS	-	expression tag	UNP E3PQQ9
E	-12	HIS	-	expression tag	UNP E3PQQ9
E	-11	HIS	-	expression tag	UNP E3PQQ9
E	-10	HIS	-	expression tag	UNP E3PQQ9
E	-9	HIS	-	expression tag	UNP E3PQQ9
E	-8	SER	-	expression tag	UNP E3PQQ9
E	-7	SER	-	expression tag	UNP E3PQQ9
E	-6	GLY	-	expression tag	UNP E3PQQ9
E	-5	HIS	-	expression tag	UNP E3PQQ9
E	-4	ILE	-	expression tag	UNP E3PQQ9

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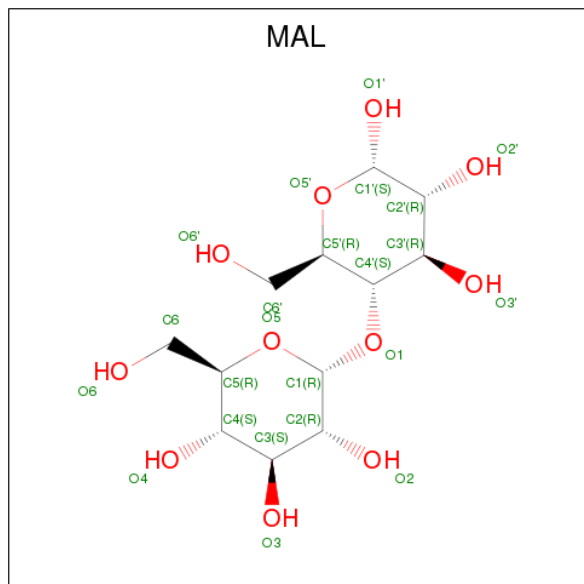
Chain	Residue	Modelled	Actual	Comment	Reference
E	-3	GLU	-	expression tag	UNP E3PQQ9
E	-2	GLY	-	expression tag	UNP E3PQQ9
E	-1	ARG	-	expression tag	UNP E3PQQ9
E	0	HIS	-	expression tag	UNP E3PQQ9
F	-20	MET	-	initiating methionine	UNP E3PQQ9
F	-19	GLY	-	expression tag	UNP E3PQQ9
F	-18	HIS	-	expression tag	UNP E3PQQ9
F	-17	HIS	-	expression tag	UNP E3PQQ9
F	-16	HIS	-	expression tag	UNP E3PQQ9
F	-15	HIS	-	expression tag	UNP E3PQQ9
F	-14	HIS	-	expression tag	UNP E3PQQ9
F	-13	HIS	-	expression tag	UNP E3PQQ9
F	-12	HIS	-	expression tag	UNP E3PQQ9
F	-11	HIS	-	expression tag	UNP E3PQQ9
F	-10	HIS	-	expression tag	UNP E3PQQ9
F	-9	HIS	-	expression tag	UNP E3PQQ9
F	-8	SER	-	expression tag	UNP E3PQQ9
F	-7	SER	-	expression tag	UNP E3PQQ9
F	-6	GLY	-	expression tag	UNP E3PQQ9
F	-5	HIS	-	expression tag	UNP E3PQQ9
F	-4	ILE	-	expression tag	UNP E3PQQ9
F	-3	GLU	-	expression tag	UNP E3PQQ9
F	-2	GLY	-	expression tag	UNP E3PQQ9
F	-1	ARG	-	expression tag	UNP E3PQQ9
F	0	HIS	-	expression tag	UNP E3PQQ9

- Molecule 2 is ALPHA-D-GLUCOSE (three-letter code: GLC) (formula: C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C O 12 6 6	0	0
2	B	1	Total C O 12 6 6	0	0
2	C	1	Total C O 12 6 6	0	0
2	D	1	Total C O 12 6 6	0	0
2	E	1	Total C O 12 6 6	0	0
2	F	1	Total C O 12 6 6	0	0

- Molecule 3 is MALTOSE (three-letter code: MAL) (formula: C<sub>12</sub>H<sub>22</sub>O<sub>11</sub>).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C O 23 12 11	0	0
3	A	1	Total C O 23 12 11	0	0
3	E	1	Total C O 23 12 11	0	0
3	E	1	Total C O 23 12 11	0	0
3	E	1	Total C O 23 12 11	0	0
3	E	1	Total C O 23 12 11	0	0

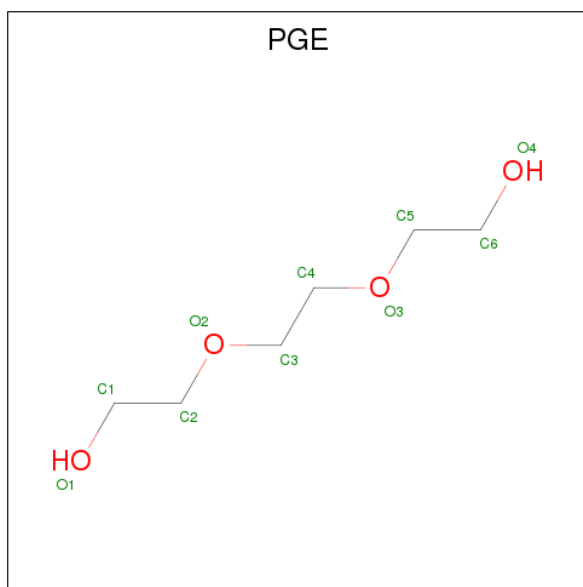
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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	F	1	Total	C	O	0	0
			23	12	11		
3	F	1	Total	C	O	0	0
			23	12	11		

- Molecule 4 is TRIETHYLENE GLYCOL (three-letter code: PGE) (formula: C<sub>6</sub>H<sub>14</sub>O<sub>4</sub>).



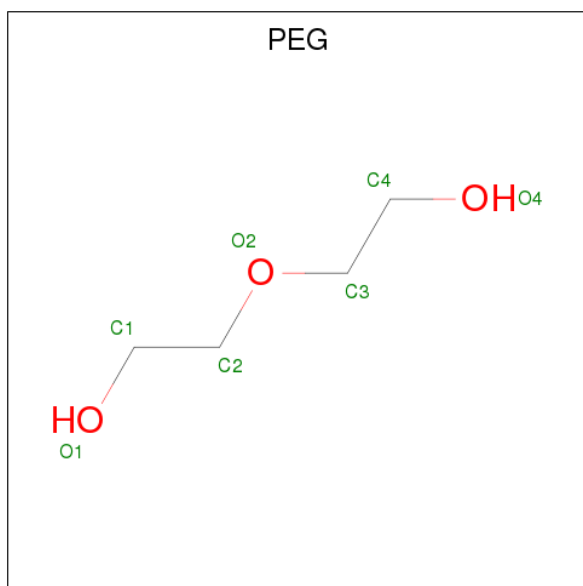
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total	C	O	0	0
			10	6	4		
4	A	1	Total	C	O	0	0
			10	6	4		
4	B	1	Total	C	O	0	0
			10	6	4		
4	C	1	Total	C	O	0	0
			10	6	4		
4	C	1	Total	C	O	0	0
			10	6	4		
4	D	1	Total	C	O	0	0
			10	6	4		
4	D	1	Total	C	O	0	0
			10	6	4		
4	E	1	Total	C	O	0	0
			10	6	4		
4	E	1	Total	C	O	0	0
			10	6	4		

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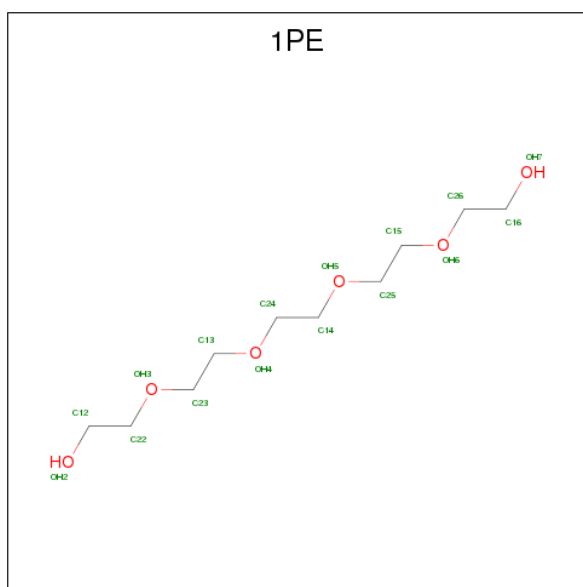
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	F	1	Total	C	O	0	0
			10	6	4		

- Molecule 5 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula:  $C_4H_{10}O_3$ ).



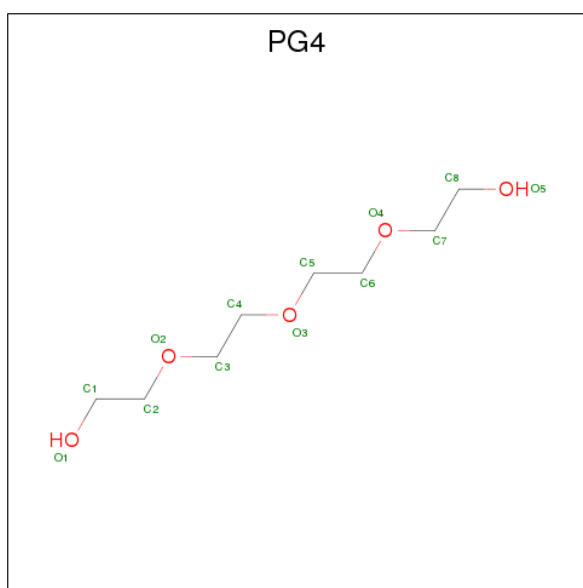
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	B	1	Total	C	O	0	0
			7	4	3		
5	B	1	Total	C	O	0	0
			7	4	3		

- Molecule 6 is PENTAETHYLENE GLYCOL (three-letter code: 1PE) (formula:  $C_{10}H_{22}O_6$ ).



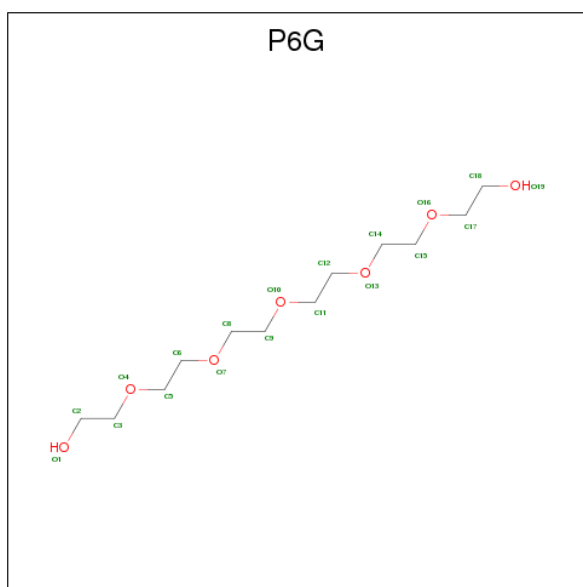
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	B	1	Total	C O	0	0
			16	10 6		
6	F	1	Total	C O	0	0
			16	10 6		

- Molecule 7 is TETRAETHYLENE GLYCOL (three-letter code: PG4) (formula:  $C_8H_{18}O_5$ ).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	B	1	Total	C O	0	0
			13	8 5		

- Molecule 8 is HEXAETHYLENE GLYCOL (three-letter code: P6G) (formula:  $C_{12}H_{26}O_7$ ).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
8	C	1	Total	C O	0	0
			19	12 7		
8	E	1	Total	C O	0	0
			19	12 7		

- Molecule 9 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
9	C	1	Total	Na	0	0
			1	1		
9	F	1	Total	Na	0	0
			1	1		

- Molecule 10 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
10	A	255	Total	O	0	0
			255	255		
10	B	247	Total	O	0	0
			247	247		
10	C	218	Total	O	0	0
			218	218		
10	D	226	Total	O	0	0
			226	226		
10	E	226	Total	O	0	0
			226	226		

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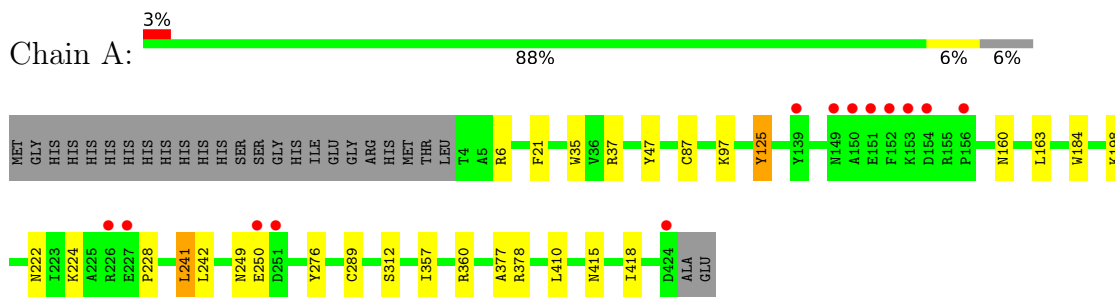
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<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>		<b>ZeroOcc</b>	<b>AltConf</b>
10	F	220	Total 220	O 220	0	0

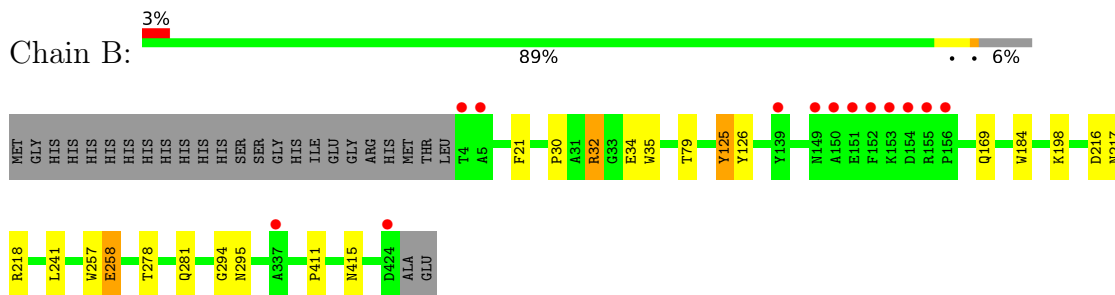
### 3 Residue-property plots

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 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.

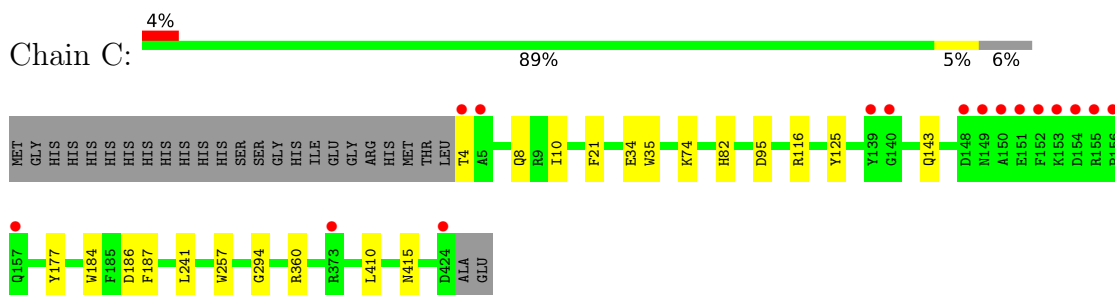
- Molecule 1: Alpha-L-fucosidase



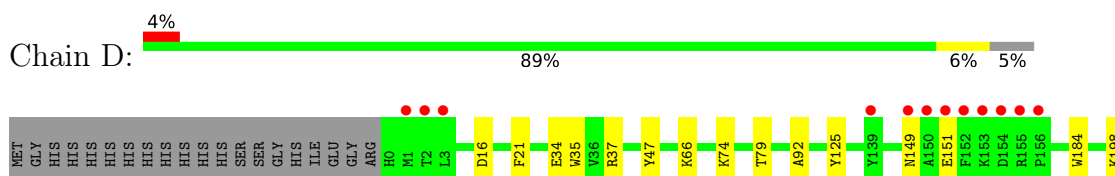
- Molecule 1: Alpha-L-fucosidase

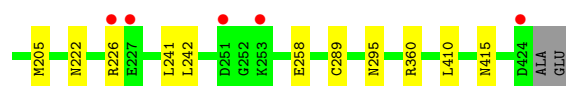


- Molecule 1: Alpha-L-fucosidase

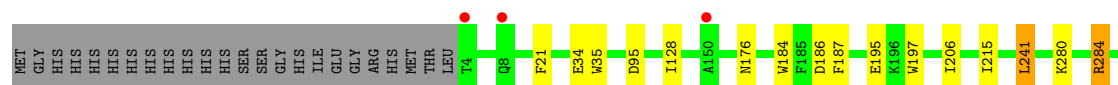
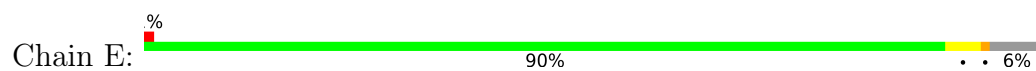


- Molecule 1: Alpha-L-fucosidase

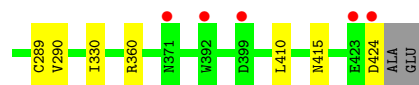
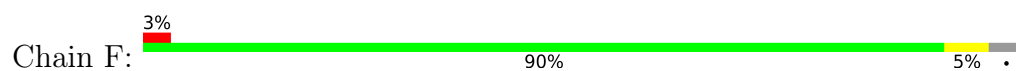




- Molecule 1: Alpha-L-fucosidase



- Molecule 1: Alpha-L-fucosidase



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	107.77Å 148.76Å 194.90Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.93 – 2.20 48.93 – 2.20	Depositor EDS
% Data completeness (in resolution range)	99.2 (48.93-2.20) 99.2 (48.93-2.20)	Depositor EDS
$R_{merge}$	0.10	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.23 (at 2.20Å)	Xtrriage
Refinement program	REFMAC 5.8.0222	Depositor
R, $R_{free}$	0.167 , 0.217 0.176 , 0.201	Depositor DCC
$R_{free}$ test set	7763 reflections (4.92%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	34.2	Xtrriage
Anisotropy	0.026	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.38 , 52.7	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.48$ , $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.96	EDS
Total number of atoms	22428	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	35.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 7.50% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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: PGE, NA, GLC, 1PE, PG4, P6G, PEG, MAL

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	0.80	0/3524	0.87	1/4790 (0.0%)
1	B	0.85	1/3536 (0.0%)	0.89	0/4806
1	C	0.82	0/3513	0.83	0/4776
1	D	0.83	1/3550 (0.0%)	0.84	0/4825
1	E	0.84	0/3524	0.89	2/4790 (0.0%)
1	F	0.80	0/3582	0.86	0/4867
All	All	0.82	2/21229 (0.0%)	0.86	3/28854 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	258	GLU	CD-OE2	5.64	1.31	1.25
1	D	92	ALA	C-O	-5.42	1.13	1.23

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	241	LEU	CA-CB-CG	6.28	129.75	115.30
1	E	284	ARG	NE-CZ-NH2	-5.86	117.37	120.30
1	E	241	LEU	CA-CB-CG	5.18	127.22	115.30

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	3416	0	3270	22	0
1	B	3424	0	3279	12	0
1	C	3408	0	3257	10	0
1	D	3444	0	3303	14	0
1	E	3416	0	3270	14	0
1	F	3473	0	3329	17	0
2	A	12	0	12	1	0
2	B	12	0	12	2	0
2	C	12	0	12	3	0
2	D	12	0	12	2	0
2	E	12	0	12	2	0
2	F	12	0	12	3	0
3	A	46	0	44	0	0
3	E	92	0	88	1	0
3	F	46	0	44	0	0
4	A	20	0	28	1	0
4	B	10	0	14	0	0
4	C	20	0	28	1	0
4	D	20	0	28	2	0
4	E	20	0	28	0	0
4	F	10	0	14	0	0
5	B	14	0	20	1	0
6	B	16	0	22	0	0
6	F	16	0	22	0	0
7	B	13	0	18	1	0
8	C	19	0	26	0	0
8	E	19	0	26	0	0
9	C	1	0	0	0	0
9	F	1	0	0	0	0
10	A	255	0	0	1	0
10	B	247	0	0	0	0
10	C	218	0	0	1	0
10	D	226	0	0	0	0
10	E	226	0	0	2	0
10	F	220	0	0	1	0
All	All	22428	0	20230	88	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 2.

All (88) 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:C:95[A]:ASP:OD1	10:C:601:HOH:O	1.69	1.10
1:E:95[B]:ASP:OD1	10:E:601:HOH:O	1.85	0.93
1:F:95[B]:ASP:OD1	10:F:601:HOH:O	1.89	0.91
1:D:149:ASN:OD1	1:D:151:GLU:HG2	1.78	0.83
1:E:360:ARG:HH21	1:E:360:ARG:HG3	1.57	0.69
1:B:30:PRO:O	1:B:32:ARG:HG2	1.95	0.66
1:A:360:ARG:HH11	1:A:360:ARG:HG3	1.60	0.66
1:A:360:ARG:HB2	1:A:410:LEU:HG	1.76	0.65
1:C:257:TRP:CE2	1:C:294:GLY:HA3	2.32	0.64
1:E:280:LYS:O	1:E:284:ARG:HG3	1.98	0.64
1:F:35:TRP:HE1	2:F:501:GLC:H2	1.63	0.64
1:E:176:ASN:HA	3:E:505:MAL:H1'	1.81	0.63
1:D:258:GLU:HB2	1:D:295:ASN:HB2	1.82	0.62
1:D:360:ARG:HB2	1:D:410:LEU:HG	1.83	0.61
1:A:357:ILE:HD11	1:A:418:ILE:HD12	1.86	0.56
1:E:195:GLU:HA	1:E:195:GLU:OE2	2.06	0.56
1:B:216:ASP:OD2	1:B:218:ARG:HG3	2.06	0.56
1:A:224:LYS:O	1:A:250:GLU:HG3	2.06	0.55
1:A:163:LEU:HD13	1:A:198:LYS:HG3	1.89	0.55
1:B:258:GLU:HB2	1:B:295:ASN:HB2	1.90	0.54
1:F:360:ARG:HB2	1:F:410:LEU:HG	1.91	0.53
1:E:360:ARG:HB2	1:E:410:LEU:HG	1.90	0.53
1:C:74:LYS:HD3	4:C:503:PGE:H52	1.90	0.53
1:E:35:TRP:HE1	2:E:501:GLC:H2	1.73	0.52
1:A:360:ARG:NH1	1:A:360:ARG:HG3	2.24	0.52
1:D:198:LYS:HE3	4:D:503:PGE:H4	1.92	0.52
1:E:360:ARG:NH2	1:E:360:ARG:HG3	2.24	0.51
1:B:198:LYS:HE2	7:B:506:PG4:O4	2.10	0.51
1:B:411:PRO:HB3	1:F:274:ARG:NH2	2.27	0.50
1:F:360:ARG:HH11	1:F:360:ARG:HG3	1.76	0.50
1:A:6:ARG:HG2	10:A:607:HOH:O	2.12	0.50
1:C:360:ARG:HB2	1:C:410:LEU:HG	1.94	0.49
1:E:360:ARG:HG3	1:E:360:ARG:O	2.12	0.49
1:A:37:ARG:HG3	1:A:47:TYR:CE1	2.48	0.49
1:B:35:TRP:HE1	2:B:501:GLC:H2	1.78	0.49
1:B:126:TYR:OH	1:B:169:GLN:NE2	2.43	0.48
1:F:34:GLU:OE2	2:F:501:GLC:O3	2.32	0.48
1:C:186:ASP:OD1	1:C:187:PHE:HB3	2.12	0.48
1:E:34:GLU:OE2	2:E:501:GLC:O3	2.31	0.48
1:F:82:HIS:HE2	2:F:501:GLC:H3	1.79	0.47
1:A:377:ALA:C	1:A:378[B]:ARG:HG2	2.35	0.47
1:A:242:LEU:HD22	1:A:289:CYS:SG	2.54	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:35:TRP:HE1	2:C:501:GLC:H2	1.79	0.47
1:F:128:ILE:HD12	1:F:197:TRP:CE2	2.50	0.47
1:A:360:ARG:HG3	1:A:360:ARG:O	2.14	0.47
1:A:249:ASN:C	1:A:249:ASN:OD1	2.53	0.46
1:B:34:GLU:OE2	2:B:501:GLC:O3	2.33	0.46
1:A:276:TYR:HE2	1:A:312:SER:HG	1.62	0.46
1:A:125:TYR:C	1:A:125:TYR:CD1	2.89	0.46
1:B:278:THR:OG1	1:B:281:GLN:HG3	2.17	0.45
1:D:242:LEU:HD22	1:D:289:CYS:SG	2.55	0.45
1:E:186:ASP:OD1	1:E:187:PHE:HB3	2.16	0.45
1:A:160:ASN:OD1	4:A:504:PGE:H62	2.16	0.45
1:A:35:TRP:HE1	2:A:501:GLC:H2	1.81	0.45
1:D:222:ASN:OD1	1:D:222:ASN:C	2.56	0.44
1:F:241:LEU:O	1:F:241:LEU:HD12	2.17	0.44
1:D:35:TRP:HE1	2:D:501:GLC:H2	1.83	0.44
1:B:79:THR:HA	1:B:125:TYR:HB3	1.99	0.44
1:A:377:ALA:C	1:A:378[A]:ARG:HG2	2.37	0.44
1:C:82:HIS:HE2	2:C:501:GLC:H3	1.81	0.44
1:D:79:THR:HA	1:D:125:TYR:HB3	1.99	0.44
1:A:357:ILE:HD11	1:A:418:ILE:CD1	2.48	0.43
1:C:34:GLU:OE2	2:C:501:GLC:O3	2.36	0.43
1:F:89:PHE:HA	1:F:106:ASP:OD1	2.18	0.43
1:B:257:TRP:CE2	1:B:294:GLY:HA3	2.53	0.43
1:C:4:THR:O	1:C:8:GLN:HB2	2.19	0.43
1:C:116:ARG:NH1	1:C:177:TYR:O	2.44	0.43
1:D:37:ARG:HG3	1:D:47:TYR:CE1	2.54	0.42
1:A:377:ALA:O	1:A:378[B]:ARG:HG2	2.19	0.42
1:D:34:GLU:OE2	2:D:501:GLC:O3	2.38	0.42
1:A:87:CYS:O	1:A:97:LYS:HA	2.19	0.42
1:E:206:ILE:HG21	1:E:215:ILE:HD11	2.00	0.42
1:E:128:ILE:HD12	1:E:197:TRP:CE2	2.55	0.42
1:F:5:ALA:O	1:F:9:ARG:HG2	2.20	0.42
1:F:360:ARG:HG3	1:F:360:ARG:O	2.20	0.42
1:D:360:ARG:HG3	1:D:360:ARG:HH11	1.84	0.41
1:F:196:LYS:HA	1:F:196:LYS:HD3	1.77	0.41
1:F:195:GLU:OE1	1:F:195:GLU:HA	2.20	0.41
1:A:224:LYS:O	1:A:249:ASN:HB2	2.21	0.41
1:F:242:LEU:HD22	1:F:289:CYS:SG	2.61	0.41
1:D:205:MET:HG3	4:D:502:PGE:H22	2.03	0.41
1:D:149:ASN:CG	1:D:151:GLU:HG2	2.40	0.41
1:B:217:ASN:HD21	5:B:502:PEG:H41	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:16:ASP:HB3	1:D:74:LYS:HB2	2.03	0.40
1:E:378[A]:ARG:HD2	10:E:607:HOH:O	2.21	0.40
1:F:290:VAL:HG21	1:F:330:ILE:HG23	2.03	0.40
1:F:34:GLU:H	1:F:34:GLU:CD	2.24	0.40
1:A:222:ASN:O	1:A:228:PRO:HB3	2.22	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	421/447 (94%)	410 (97%)	10 (2%)	1 (0%)	49	57
1	B	422/447 (94%)	403 (96%)	18 (4%)	1 (0%)	49	57
1	C	420/447 (94%)	404 (96%)	15 (4%)	1 (0%)	49	57
1	D	424/447 (95%)	410 (97%)	13 (3%)	1 (0%)	49	57
1	E	421/447 (94%)	408 (97%)	13 (3%)	0	100	100
1	F	428/447 (96%)	413 (96%)	14 (3%)	1 (0%)	49	57
All	All	2536/2682 (95%)	2448 (96%)	83 (3%)	5 (0%)	49	57

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	415	ASN
1	D	415	ASN
1	B	415	ASN
1	C	415	ASN
1	F	415	ASN

### 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	352/372 (95%)	348 (99%)	4 (1%)	76	87
1	B	353/372 (95%)	348 (99%)	5 (1%)	69	82
1	C	351/372 (94%)	345 (98%)	6 (2%)	63	77
1	D	355/372 (95%)	350 (99%)	5 (1%)	69	82
1	E	352/372 (95%)	347 (99%)	5 (1%)	69	82
1	F	358/372 (96%)	351 (98%)	7 (2%)	58	72
All	All	2121/2232 (95%)	2089 (98%)	32 (2%)	67	80

All (32) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	21	PHE
1	A	125	TYR
1	A	184	TRP
1	A	241	LEU
1	B	21	PHE
1	B	32	ARG
1	B	125	TYR
1	B	184	TRP
1	B	241	LEU
1	C	10	ILE
1	C	21	PHE
1	C	125	TYR
1	C	143	GLN
1	C	184	TRP
1	C	241	LEU
1	D	21	PHE
1	D	66	LYS
1	D	184	TRP
1	D	226	ARG
1	D	241	LEU
1	E	21	PHE
1	E	184	TRP

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Mol	Chain	Res	Type
1	E	241	LEU
1	E	307	GLU
1	E	360	ARG
1	F	21	PHE
1	F	143	GLN
1	F	151	GLU
1	F	184	TRP
1	F	196	LYS
1	F	241	LEU
1	F	424	ASP

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

### 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](#)

Of 33 ligands modelled in this entry, 2 are monoatomic - leaving 31 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	$\# Z  > 2$
2	GLC	A	501	-	12,12,12	0.74	0	17,17,17	2.39	9 (52%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
3	MAL	A	502	-	24,24,24	0.77	0	35,35,35	0.74	1 (2%)
3	MAL	A	503	-	24,24,24	0.65	0	35,35,35	0.67	0
4	PGE	A	504	-	9,9,9	0.70	0	8,8,8	0.81	0
4	PGE	A	505	-	9,9,9	0.77	0	8,8,8	0.87	0
2	GLC	B	501	-	12,12,12	0.77	0	17,17,17	2.34	10 (58%)
5	PEG	B	502	-	6,6,6	0.53	0	5,5,5	0.31	0
5	PEG	B	503	-	6,6,6	0.66	0	5,5,5	0.23	0
4	PGE	B	504	-	9,9,9	0.83	0	8,8,8	0.87	0
6	1PE	B	505	-	15,15,15	0.60	0	14,14,14	0.32	0
7	PG4	B	506	-	12,12,12	0.67	0	11,11,11	0.37	0
2	GLC	C	501	-	12,12,12	0.74	0	17,17,17	2.00	5 (29%)
8	P6G	C	502	9	18,18,18	0.76	0	17,17,17	0.91	0
4	PGE	C	503	-	9,9,9	1.06	0	8,8,8	1.44	2 (25%)
4	PGE	C	504	-	9,9,9	0.55	0	8,8,8	0.45	0
2	GLC	D	501	-	12,12,12	0.92	1 (8%)	17,17,17	2.16	7 (41%)
4	PGE	D	502	-	9,9,9	0.75	0	8,8,8	0.77	0
4	PGE	D	503	-	9,9,9	0.57	0	8,8,8	0.56	0
2	GLC	E	501	-	12,12,12	0.72	0	17,17,17	2.10	6 (35%)
3	MAL	E	502	-	24,24,24	0.53	0	35,35,35	0.74	0
3	MAL	E	503	-	24,24,24	0.74	0	35,35,35	0.81	0
3	MAL	E	504	-	24,24,24	0.66	0	35,35,35	0.93	0
3	MAL	E	505	-	24,24,24	0.73	0	35,35,35	1.16	4 (11%)
4	PGE	E	506	-	9,9,9	0.85	0	8,8,8	0.76	0
4	PGE	E	507	-	9,9,9	0.89	0	8,8,8	0.75	0
8	P6G	E	508	-	18,18,18	0.80	0	17,17,17	0.96	0
2	GLC	F	501	-	12,12,12	0.70	0	17,17,17	2.21	6 (35%)
3	MAL	F	502	-	24,24,24	0.92	0	35,35,35	0.87	1 (2%)
3	MAL	F	503	-	24,24,24	0.62	0	35,35,35	0.65	0
4	PGE	F	504	-	9,9,9	0.73	0	8,8,8	0.77	0
6	1PE	F	505	9	15,15,15	0.76	0	14,14,14	0.52	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	A	501	-	-	0/2/22/22	0/1/1/1
3	MAL	A	502	-	-	0/8/48/48	0/2/2/2
3	MAL	A	503	-	-	0/8/48/48	0/2/2/2
4	PGE	A	504	-	-	0/7/7/7	0/0/0/0

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	PGE	A	505	-	-	0/7/7/7	0/0/0/0
2	GLC	B	501	-	-	0/2/22/22	0/1/1/1
5	PEG	B	502	-	-	0/4/4/4	0/0/0/0
5	PEG	B	503	-	-	0/4/4/4	0/0/0/0
4	PGE	B	504	-	-	0/7/7/7	0/0/0/0
6	1PE	B	505	-	-	0/13/13/13	0/0/0/0
7	PG4	B	506	-	-	0/10/10/10	0/0/0/0
2	GLC	C	501	-	-	0/2/22/22	0/1/1/1
8	P6G	C	502	9	-	0/16/16/16	0/0/0/0
4	PGE	C	503	-	-	0/7/7/7	0/0/0/0
4	PGE	C	504	-	-	0/7/7/7	0/0/0/0
2	GLC	D	501	-	-	0/2/22/22	0/1/1/1
4	PGE	D	502	-	-	0/7/7/7	0/0/0/0
4	PGE	D	503	-	-	0/7/7/7	0/0/0/0
2	GLC	E	501	-	-	0/2/22/22	0/1/1/1
3	MAL	E	502	-	-	0/8/48/48	0/2/2/2
3	MAL	E	503	-	-	0/8/48/48	0/2/2/2
3	MAL	E	504	-	-	0/8/48/48	0/2/2/2
3	MAL	E	505	-	-	0/8/48/48	0/2/2/2
4	PGE	E	506	-	-	0/7/7/7	0/0/0/0
4	PGE	E	507	-	-	0/7/7/7	0/0/0/0
8	P6G	E	508	-	-	0/16/16/16	0/0/0/0
2	GLC	F	501	-	-	0/2/22/22	0/1/1/1
3	MAL	F	502	-	-	0/8/48/48	0/2/2/2
3	MAL	F	503	-	-	0/8/48/48	0/2/2/2
4	PGE	F	504	-	-	0/7/7/7	0/0/0/0
6	1PE	F	505	9	-	0/13/13/13	0/0/0/0

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	501	GLC	O5-C5	-2.16	1.39	1.44

All (51) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	F	501	GLC	O5-C1-C2	-5.21	100.93	110.31
2	E	501	GLC	O5-C1-C2	-4.79	101.69	110.31
2	C	501	GLC	O5-C1-C2	-3.94	103.22	110.31
2	A	501	GLC	C1-C2-C3	-3.52	103.33	110.36
2	A	501	GLC	O5-C1-C2	-3.43	104.14	110.31
2	D	501	GLC	O3-C3-C2	-3.43	102.34	110.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	E	501	GLC	O6-C6-C5	-3.21	100.10	111.29
2	B	501	GLC	O1-C1-O5	-2.98	101.46	110.44
2	F	501	GLC	O6-C6-C5	-2.97	100.91	111.29
2	B	501	GLC	C1-C2-C3	-2.88	104.60	110.36
2	A	501	GLC	O3-C3-C4	-2.78	103.85	110.34
2	E	501	GLC	O3-C3-C2	-2.63	104.20	110.34
2	B	501	GLC	O6-C6-C5	-2.54	102.41	111.29
2	F	501	GLC	C1-C2-C3	-2.53	105.31	110.36
2	B	501	GLC	O3-C3-C2	-2.49	104.54	110.34
3	F	502	MAL	C1-O1-C4'	-2.43	111.90	117.97
2	A	501	GLC	O3-C3-C2	-2.42	104.69	110.34
2	A	501	GLC	O6-C6-C5	-2.31	103.21	111.29
2	E	501	GLC	O4-C4-C5	-2.27	103.63	109.31
2	D	501	GLC	O1-C1-O5	-2.26	103.62	110.44
3	E	505	MAL	C1-O1-C4'	-2.23	112.40	117.97
2	B	501	GLC	C1-O5-C5	-2.20	109.46	113.69
3	E	505	MAL	O4-C4-C3	-2.20	105.22	110.34
3	A	502	MAL	C1-O1-C4'	-2.16	112.56	117.97
2	F	501	GLC	O3-C3-C2	-2.15	105.33	110.34
3	E	505	MAL	O2'-C2'-C3'	-2.03	105.61	110.34
2	D	501	GLC	O6-C6-C5	-2.03	104.22	111.29
2	C	501	GLC	C1-C2-C3	-2.01	106.35	110.36
2	D	501	GLC	O5-C5-C4	2.16	113.66	109.69
2	B	501	GLC	O5-C5-C4	2.16	113.66	109.69
4	C	503	PGE	C5-O3-C4	2.25	123.18	113.30
2	A	501	GLC	O5-C5-C4	2.30	113.91	109.69
3	E	505	MAL	C3-C4-C5	2.32	114.39	110.24
2	E	501	GLC	C4-C3-C2	2.37	114.98	110.83
4	C	503	PGE	O2-C3-C4	2.50	121.93	110.37
2	C	501	GLC	O1-C1-C2	2.55	116.29	109.02
2	C	501	GLC	C3-C4-C5	2.85	115.34	110.24
2	A	501	GLC	C3-C4-C5	3.01	115.62	110.24
2	D	501	GLC	C3-C4-C5	3.01	115.62	110.24
2	B	501	GLC	O1-C1-C2	3.03	117.65	109.02
2	A	501	GLC	O2-C2-C1	3.06	116.31	109.14
2	F	501	GLC	C3-C4-C5	3.15	115.88	110.24
2	C	501	GLC	C4-C3-C2	3.16	116.36	110.83
2	B	501	GLC	O2-C2-C1	3.21	116.67	109.14
2	B	501	GLC	C3-C4-C5	3.37	116.28	110.24
2	F	501	GLC	C4-C3-C2	3.52	117.00	110.83
2	E	501	GLC	C3-C4-C5	3.61	116.69	110.24
2	D	501	GLC	C4-C3-C2	3.68	117.28	110.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	501	GLC	C4-C3-C2	3.77	117.44	110.83
2	D	501	GLC	O2-C2-C1	4.28	119.19	109.14
2	A	501	GLC	C4-C3-C2	4.34	118.44	110.83

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

13 monomers are involved in 20 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	501	GLC	1	0
4	A	504	PGE	1	0
2	B	501	GLC	2	0
5	B	502	PEG	1	0
7	B	506	PG4	1	0
2	C	501	GLC	3	0
4	C	503	PGE	1	0
2	D	501	GLC	2	0
4	D	502	PGE	1	0
4	D	503	PGE	1	0
2	E	501	GLC	2	0
3	E	505	MAL	1	0
2	F	501	GLC	3	0

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data

### 6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	421/447 (94%)	-0.20	13 (3%) 49 46	19, 31, 57, 86	0
1	B	421/447 (94%)	-0.20	13 (3%) 49 46	19, 28, 55, 91	0
1	C	421/447 (94%)	-0.10	16 (3%) 40 38	20, 33, 59, 94	1 (0%)
1	D	425/447 (95%)	-0.04	17 (4%) 38 36	19, 31, 63, 110	0
1	E	421/447 (94%)	-0.22	5 (1%) 79 77	17, 30, 57, 79	0
1	F	428/447 (95%)	-0.11	13 (3%) 50 48	20, 32, 60, 87	0
All	All	2537/2682 (94%)	-0.14	77 (3%) 50 48	17, 31, 59, 110	1 (0%)

All (77) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	156	PRO	7.1
1	C	154	ASP	6.3
1	B	150	ALA	5.8
1	B	5	ALA	5.4
1	C	424	ASP	5.4
1	B	154	ASP	5.3
1	D	1	MET	5.3
1	B	4	THR	5.2
1	A	150	ALA	4.9
1	C	139	TYR	4.8
1	C	153	LYS	4.8
1	B	424	ASP	4.5
1	D	150	ALA	4.4
1	A	424	ASP	4.3
1	D	2	THR	4.2
1	E	424	ASP	4.2
1	A	154	ASP	4.1
1	D	3	LEU	4.1
1	C	155	ARG	3.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	C	373	ARG	3.7
1	B	151	GLU	3.7
1	D	151	GLU	3.6
1	A	149	ASN	3.6
1	D	154	ASP	3.5
1	C	4	THR	3.5
1	C	148	ASP	3.5
1	C	150	ALA	3.5
1	A	151	GLU	3.5
1	D	139	TYR	3.4
1	F	-3	GLU	3.4
1	A	250	GLU	3.4
1	D	155	ARG	3.4
1	B	156	PRO	3.3
1	C	152	PHE	3.2
1	A	139	TYR	3.2
1	D	227	GLU	3.1
1	F	371	ASN	3.1
1	F	424	ASP	3.0
1	A	156	PRO	3.0
1	B	152	PHE	3.0
1	F	154	ASP	2.9
1	D	226	ARG	2.8
1	A	226	ARG	2.8
1	D	253	LYS	2.7
1	B	337	ALA	2.7
1	D	152	PHE	2.7
1	F	156	PRO	2.7
1	A	227	GLU	2.7
1	B	139	TYR	2.6
1	D	251	ASP	2.6
1	C	149	ASN	2.6
1	A	153	LYS	2.6
1	D	156	PRO	2.5
1	F	152	PHE	2.5
1	B	155	ARG	2.5
1	E	150	ALA	2.5
1	F	399	ASP	2.5
1	F	153	LYS	2.4
1	E	4	THR	2.4
1	D	424	ASP	2.4
1	D	149	ASN	2.3

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Mol	Chain	Res	Type	RSRZ
1	D	153	LYS	2.3
1	A	251	ASP	2.3
1	F	392	TRP	2.2
1	F	423	GLU	2.2
1	B	153	LYS	2.2
1	B	149	ASN	2.2
1	F	139	TYR	2.1
1	A	152	PHE	2.1
1	C	151	GLU	2.1
1	C	5	ALA	2.1
1	C	140	GLY	2.1
1	E	8	GLN	2.1
1	F	-2	GLY	2.0
1	E	423	GLU	2.0
1	F	151	GLU	2.0
1	C	157	GLN	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](#)

There are no carbohydrates in this entry.

## 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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
3	MAL	E	502	23/23	0.70	0.45	75,93,104,110	0
6	1PE	F	505	16/16	0.71	0.25	56,73,82,83	0
4	PGE	E	506	10/10	0.72	0.18	62,67,77,78	0
4	PGE	D	502	10/10	0.73	0.21	65,72,75,81	0
4	PGE	A	505	10/10	0.73	0.34	60,74,83,84	0
4	PGE	B	504	10/10	0.75	0.29	65,69,81,83	0
9	NA	C	505	1/1	0.75	0.23	69,69,69,69	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
6	1PE	B	505	16/16	0.75	0.18	60,70,76,77	0
2	GLC	C	501	12/12	0.75	0.22	37,57,66,74	0
9	NA	F	506	1/1	0.75	0.24	63,63,63,63	0
4	PGE	A	504	10/10	0.77	0.17	63,80,84,85	0
3	MAL	E	503	23/23	0.78	0.32	58,70,79,81	0
3	MAL	A	502	23/23	0.80	0.23	49,58,64,66	0
4	PGE	C	503	10/10	0.81	0.21	55,69,78,80	0
8	P6G	C	502	19/19	0.82	0.18	52,65,81,81	0
3	MAL	E	505	23/23	0.82	0.24	28,40,44,46	23
7	PG4	B	506	13/13	0.82	0.18	56,64,81,94	0
4	PGE	F	504	10/10	0.83	0.17	49,74,86,90	0
2	GLC	F	501	12/12	0.83	0.20	37,55,61,69	0
3	MAL	A	503	23/23	0.84	0.39	52,76,84,103	0
4	PGE	E	507	10/10	0.84	0.23	62,64,69,72	0
2	GLC	D	501	12/12	0.85	0.21	33,51,59,59	0
4	PGE	D	503	10/10	0.85	0.16	61,67,71,72	0
2	GLC	A	501	12/12	0.85	0.23	36,52,64,73	0
8	P6G	E	508	19/19	0.85	0.19	52,70,77,80	0
3	MAL	E	504	23/23	0.85	0.28	44,59,76,84	0
3	MAL	F	503	23/23	0.86	0.39	58,68,73,78	0
2	GLC	B	501	12/12	0.87	0.18	40,53,57,65	0
3	MAL	F	502	23/23	0.87	0.20	47,54,58,59	0
5	PEG	B	503	7/7	0.88	0.29	60,63,67,68	0
2	GLC	E	501	12/12	0.88	0.16	34,52,57,68	0
4	PGE	C	504	10/10	0.88	0.26	58,65,74,77	0
5	PEG	B	502	7/7	0.89	0.27	54,60,62,63	0

## 6.5 Other polymers [\(i\)](#)

There are no such residues in this entry.