Full wwPDB X-ray Structure Validation Report (i)

Aug 26, 2025 – 01:13 pm BST

PDB ID	:	5A6A / pdb_00005a6a
Title	:	GH20C, Beta-hexosaminidase from Streptococcus pneumoniae in complex with NGT
Authors	:	Cid, M.; Robb, C.S.; Higgins, M.A.; Boraston, A.B.
Deposited on	:	2015-06-24
Resolution	:	2.69 Å(reported)

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

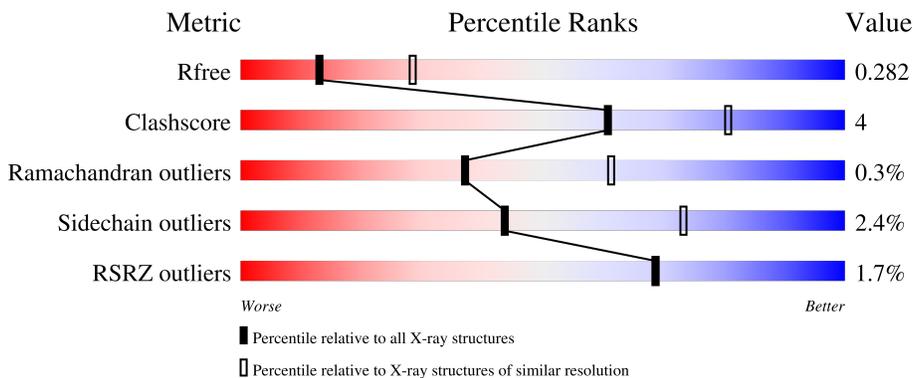|		
MolProbity	:	4-5-2 with Phenix2.0rc1
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.45.1

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 2.69 Å.

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

Metric	Percentile Ranks	Value
Rfree		0.282
Clashscore		4
Ramachandran outliers		0.3%
Sidechain outliers		2.4%
RSRZ outliers		1.7%

Worse   *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	3333 (2.70-2.70)
Clashscore	180529	3684 (2.70-2.70)
Ramachandran outliers	177936	3633 (2.70-2.70)
Sidechain outliers	177891	3633 (2.70-2.70)
RSRZ outliers	164620	3333 (2.70-2.70)

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 of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	649	84% 11% ·
1	B	649	82% 9% 8%

2 Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 9219 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 N-ACETYL-BETA-D-GLUCOSAMINIDASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	620	Total 4698	C 2999	N 799	O 881	S 19	0	0	0
1	B	597	Total 4410	C 2808	N 751	O 833	S 18	0	0	0

There are 50 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-22	MET	-	expression tag	UNP C1CH75
A	-21	GLY	-	expression tag	UNP C1CH75
A	-20	SER	-	expression tag	UNP C1CH75
A	-19	SER	-	expression tag	UNP C1CH75
A	-18	HIS	-	expression tag	UNP C1CH75
A	-17	HIS	-	expression tag	UNP C1CH75
A	-16	HIS	-	expression tag	UNP C1CH75
A	-15	HIS	-	expression tag	UNP C1CH75
A	-14	HIS	-	expression tag	UNP C1CH75
A	-13	HIS	-	expression tag	UNP C1CH75
A	-12	SER	-	expression tag	UNP C1CH75
A	-11	SER	-	expression tag	UNP C1CH75
A	-10	GLY	-	expression tag	UNP C1CH75
A	-9	LEU	-	expression tag	UNP C1CH75
A	-8	VAL	-	expression tag	UNP C1CH75
A	-7	PRO	-	expression tag	UNP C1CH75
A	-6	ARG	-	expression tag	UNP C1CH75
A	-5	GLY	-	expression tag	UNP C1CH75
A	-4	SER	-	expression tag	UNP C1CH75
A	-3	HIS	-	expression tag	UNP C1CH75
A	-2	MET	-	expression tag	UNP C1CH75
A	-1	ALA	-	expression tag	UNP C1CH75
A	0	SER	-	expression tag	UNP C1CH75
A	9	LEU	PRO	conflict	UNP C1CH75
A	158	VAL	MET	conflict	UNP C1CH75

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
B	-22	MET	-	expression tag	UNP C1CH75
B	-21	GLY	-	expression tag	UNP C1CH75
B	-20	SER	-	expression tag	UNP C1CH75
B	-19	SER	-	expression tag	UNP C1CH75
B	-18	HIS	-	expression tag	UNP C1CH75
B	-17	HIS	-	expression tag	UNP C1CH75
B	-16	HIS	-	expression tag	UNP C1CH75
B	-15	HIS	-	expression tag	UNP C1CH75
B	-14	HIS	-	expression tag	UNP C1CH75
B	-13	HIS	-	expression tag	UNP C1CH75
B	-12	SER	-	expression tag	UNP C1CH75
B	-11	SER	-	expression tag	UNP C1CH75
B	-10	GLY	-	expression tag	UNP C1CH75
B	-9	LEU	-	expression tag	UNP C1CH75
B	-8	VAL	-	expression tag	UNP C1CH75
B	-7	PRO	-	expression tag	UNP C1CH75
B	-6	ARG	-	expression tag	UNP C1CH75
B	-5	GLY	-	expression tag	UNP C1CH75
B	-4	SER	-	expression tag	UNP C1CH75
B	-3	HIS	-	expression tag	UNP C1CH75
B	-2	MET	-	expression tag	UNP C1CH75
B	-1	ALA	-	expression tag	UNP C1CH75
B	0	SER	-	expression tag	UNP C1CH75
B	9	LEU	PRO	conflict	UNP C1CH75
B	158	VAL	MET	conflict	UNP C1CH75

- Molecule 2 is 1,2-ETHANEDIOL (CCD ID: EDO) (formula: $C_2H_6O_2$).
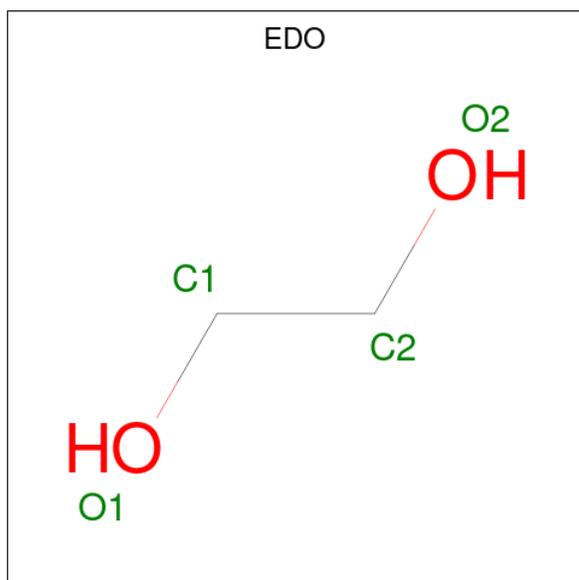
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total 4	C 2	O 2	0	0

- Molecule 3 is 3AR,5R,6S,7R,7AR-5-HYDROXYMETHYL-2-METHYL-5,6,7,7A-TE TRAHYDRO-3AH-PYRANO[3,2-D]THIAZOLE-6,7-DIOL (CCD ID: NGT) (formula: $C_8H_{13}NO_4S$).
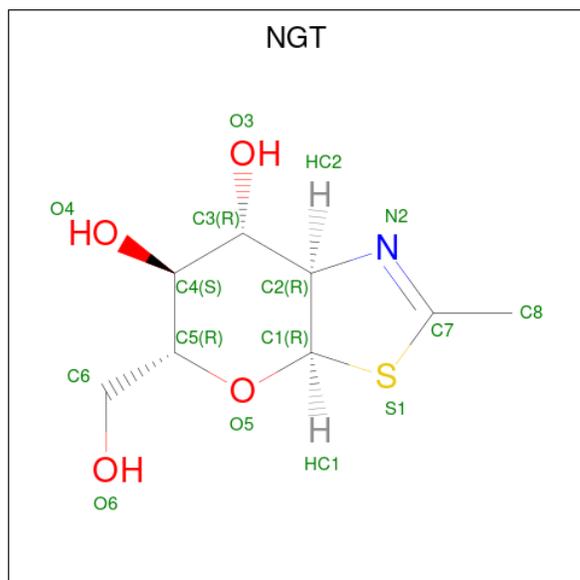
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total 14	C 8	N 1	O 4	S 1	0	0
3	B	1	Total 14	C 8	N 1	O 4	S 1	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	45	Total 45	O 45	0	0
4	B	34	Total 34	O 34	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: N-ACETYL-BETA-D-GLUCOSAMINIDASE
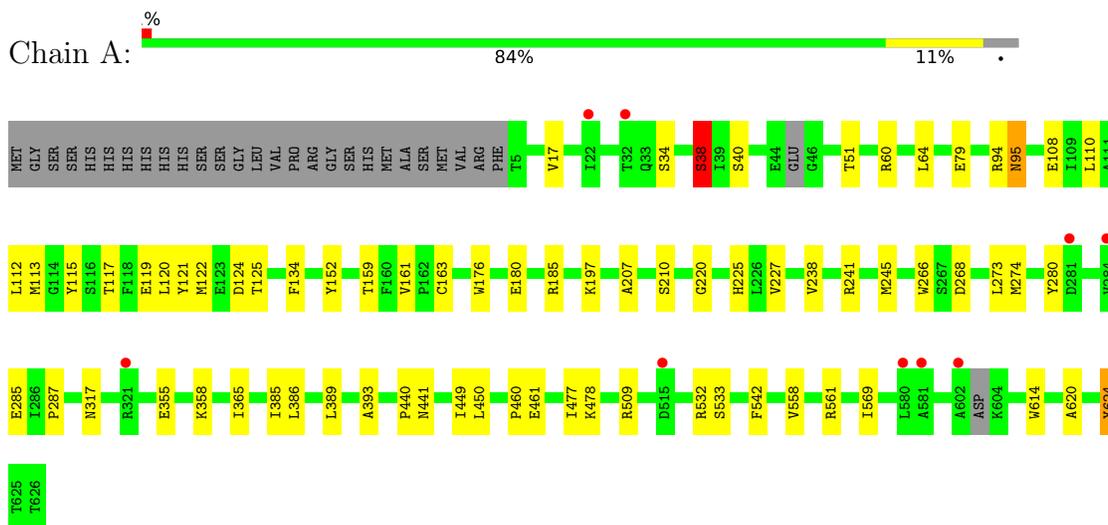
- Molecule 1: N-ACETYL-BETA-D-GLUCOSAMINIDASE
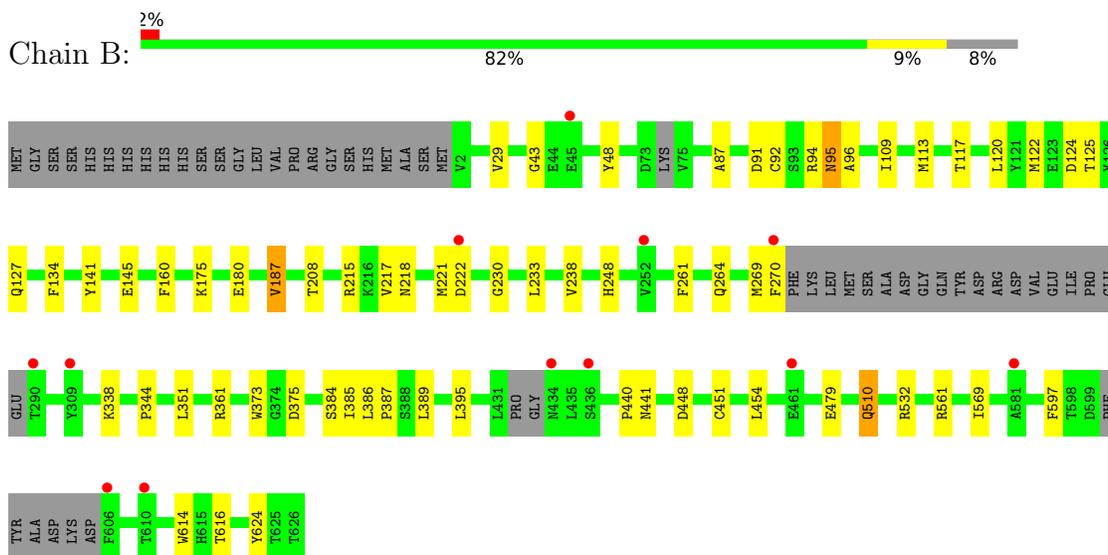
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	83.34Å 96.28Å 132.73Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	45.74 – 2.69 45.74 – 2.69	Depositor EDS
% Data completeness (in resolution range)	93.9 (45.74-2.69) 93.9 (45.74-2.69)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	5.60 (at 2.69Å)	Xtriage
Refinement program	REFMAC 5.7.0029	Depositor
R, R_{free}	0.211 , 0.281 0.211 , 0.282	Depositor DCC
R_{free} test set	1445 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å^2)	38.2	Xtriage
Anisotropy	0.183	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.35 , 58.3	EDS
L-test for twinning [2]	$< |L| > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	9219	wwPDB-VP
Average B, all atoms (Å^2)	40.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 21.80 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 6.5018e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

---

[1]Intensities estimated from amplitudes.
[2]Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5　Model quality ⓘ

5.1　Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: NGT, EDO

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	0.64	0/4801	0.85	3/6539 (0.0%)
1	B	0.61	0/4501	0.83	0/6136
All	All	0.63	0/9302	0.84	3/12675 (0.0%)

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	38	SER	N-CA-C	-5.92	104.74	111.07
1	A	185	ARG	N-CA-C	5.60	118.09	109.07
1	A	176	TRP	N-CA-C	5.57	117.16	109.15

There are no chirality outliers.

There are no planarity outliers.

5.2　Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4698	0	4307	35	0
1	B	4410	0	3921	40	0
2	A	4	0	6	0	0
3	A	14	0	13	0	0
3	B	14	0	13	1	0
4	A	45	0	0	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	B	34	0	0	0	0
All	All	9219	0	8260	71	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 4.

All (71) 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:B:217:VAL:HG23	1:B:261:PHE:CE1	2.33	0.63
1:A:124:ASP:HA	1:A:134:PHE:CZ	2.37	0.59
1:A:542:PHE:CE2	1:A:558:VAL:HG11	2.40	0.56
1:A:227:VAL:HG11	1:A:245:MET:CE	2.37	0.55
1:A:119:GLU:HG2	1:A:161:VAL:HB	1.89	0.55
1:A:620:ALA:O	1:B:175:LYS:NZ	2.35	0.55
1:A:561:ARG:HG2	1:A:614:TRP:CE2	2.45	0.52
1:B:187:VAL:HB	1:B:230:GLY:HA3	1.91	0.52
1:A:207:ALA:O	1:A:210:SER:OG	2.23	0.51
1:A:225:HIS:O	1:A:241:ARG:NH2	2.41	0.51
1:B:92:CYS:O	1:B:125:THR:HG21	2.09	0.51
1:B:94:ARG:O	1:B:95:ASN:HB2	2.10	0.51
1:B:109:ILE:CG2	1:B:113:MET:HE3	2.41	0.50
1:A:624:TYR:HB3	1:B:624:TYR:CZ	2.48	0.49
1:A:227:VAL:HG11	1:A:245:MET:HE1	1.95	0.49
1:A:238:VAL:HG21	1:B:238:VAL:HG11	1.95	0.49
1:B:561:ARG:HG2	1:B:614:TRP:CE2	2.48	0.48
1:B:124:ASP:HA	1:B:134:PHE:CZ	2.48	0.48
1:A:94:ARG:O	1:A:95:ASN:HB2	2.14	0.48
1:A:268:ASP:HA	1:A:280:TYR:CE1	2.49	0.48
1:B:91:ASP:HB2	1:B:373:TRP:HA	1.94	0.48
1:B:440:PRO:O	1:B:441:ASN:C	2.57	0.48
1:B:344:PRO:HG3	1:B:384:SER:HB2	1.96	0.47
1:B:217:VAL:HG23	1:B:261:PHE:CD1	2.49	0.47
1:A:60:ARG:HA	1:A:112:LEU:O	2.14	0.47
1:B:361:ARG:NH2	1:B:395:LEU:O	2.44	0.47
1:B:510:GLN:HE21	1:B:510:GLN:HA	1.80	0.47
1:B:233:LEU:C	1:B:233:LEU:HD23	2.40	0.46
1:A:120:LEU:HB2	1:A:122:MET:HE2	1.96	0.46
1:A:108:GLU:OE2	1:A:152:TYR:OH	2.28	0.46
1:A:355:GLU:HA	1:A:358:LYS:HE3	1.96	0.46
1:B:87:ALA:HB2	1:B:117:THR:HB	1.98	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:109:ILE:O	1:B:113:MET:HG3	2.16	0.46
1:B:120:LEU:HG	1:B:160:PHE:HE1	1.81	0.45
1:B:454:LEU:HD13	1:B:597:PHE:CG	2.52	0.45
1:B:386:LEU:HD23	1:B:389:LEU:HD12	1.99	0.45
1:A:386:LEU:HD23	1:A:389:LEU:HD12	1.98	0.45
1:A:220:GLY:HA2	1:A:266:TRP:CD1	2.51	0.45
1:B:510:GLN:HE21	1:B:510:GLN:CA	2.30	0.44
1:A:285:GLU:O	1:A:287:PRO:HD3	2.18	0.44
1:B:375:ASP:OD2	3:B:1627:NGT:O6	2.23	0.44
1:B:122:MET:HA	1:B:125:THR:CG2	2.48	0.44
1:B:448:ASP:HB3	1:B:451:CYS:O	2.18	0.44
1:A:440:PRO:O	1:A:441:ASN:C	2.60	0.43
1:B:43:GLY:HA3	1:B:48:TYR:HA	2.00	0.43
1:B:215:ARG:HA	1:B:261:PHE:CE1	2.54	0.43
1:B:269:MET:HG3	1:B:270:PHE:N	2.33	0.43
1:A:117:THR:HA	1:A:159:THR:O	2.18	0.43
1:B:141:TYR:HA	1:B:145:GLU:OE1	2.19	0.43
1:A:245:MET:HE3	1:A:273:LEU:HD11	2.01	0.43
1:A:460:PRO:O	1:A:461:GLU:C	2.61	0.43
1:A:121:TYR:HA	1:A:163:CYS:HB2	2.01	0.42
1:B:94:ARG:O	1:B:95:ASN:CB	2.67	0.42
1:B:386:LEU:N	1:B:387:PRO:CD	2.83	0.42
1:A:274:MET:HG2	1:A:287:PRO:HD2	2.02	0.42
1:B:269:MET:CG	1:B:270:PHE:N	2.83	0.42
1:A:365:ILE:HD13	1:A:365:ILE:HA	1.92	0.42
1:B:127:GLN:O	1:B:208:THR:HG21	2.20	0.42
1:A:110:LEU:HB3	1:A:115:TYR:HB2	2.02	0.41
1:A:532:ARG:HG3	1:A:569:ILE:HG21	2.01	0.41
1:B:532:ARG:HG3	1:B:569:ILE:HG21	2.02	0.41
1:A:450:LEU:O	1:A:509:ARG:NH2	2.53	0.41
1:B:221:MET:HE1	1:B:248:HIS:HD2	1.84	0.41
1:A:477:ILE:O	1:A:478:LYS:C	2.62	0.41
1:A:38:SER:HB2	1:A:79:GLU:O	2.21	0.41
1:A:40:SER:HB3	1:A:51:THR:OG1	2.21	0.41
1:A:113:MET:O	1:A:393:ALA:HB1	2.20	0.40
1:B:87:ALA:CB	1:B:117:THR:HB	2.51	0.40
1:B:92:CYS:HA	1:B:96:ALA:O	2.21	0.40
1:B:218:ASN:HA	1:B:264:GLN:O	2.20	0.40
1:A:238:VAL:HG21	1:B:238:VAL:CG1	2.51	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	614/649 (95%)	579 (94%)	33 (5%)	2 (0%)	37	61
1	B	587/649 (90%)	553 (94%)	32 (6%)	2 (0%)	37	61
All	All	1201/1298 (92%)	1132 (94%)	65 (5%)	4 (0%)	37	61

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	95	ASN
1	B	95	ASN
1	B	222	ASP
1	A	449	ILE

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	445/557 (80%)	434 (98%)	11 (2%)	42	72
1	B	397/557 (71%)	388 (98%)	9 (2%)	45	74
All	All	842/1114 (76%)	822 (98%)	20 (2%)	44	73

All (20) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	17	VAL
1	A	34	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	38	SER
1	A	64	LEU
1	A	125	THR
1	A	180	GLU
1	A	197	LYS
1	A	317	ASN
1	A	385	ILE
1	A	533	SER
1	A	624	TYR
1	B	29	VAL
1	B	180	GLU
1	B	187	VAL
1	B	338	LYS
1	B	351	LEU
1	B	385	ILE
1	B	479	GLU
1	B	510	GLN
1	B	616	THR

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

Mol	Chain	Res	Type
1	A	328	HIS
1	A	567	GLN
1	A	612	ASN
1	B	47	HIS
1	B	80	GLN
1	B	218	ASN
1	B	495	ASN
1	B	510	GLN
1	B	612	ASN

5.3.3   RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

3 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	$\#\|Z\| > 2$
3	NGT	B	1627	-	13,15,15	2.64	1 (7%)	12,22,22	1.60	3 (25%)
3	NGT	A	1628	-	13,15,15	2.92	1 (7%)	12,22,22	1.62	4 (33%)
2	EDO	A	1627	-	3,3,3	0.47	0	2,2,2	0.27	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	NGT	B	1627	-	-	0/2/30/30	0/2/2/2
3	NGT	A	1628	-	-	0/2/30/30	0/2/2/2
2	EDO	A	1627	-	-	1/1/1/1	-

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	1628	NGT	C7-S1	-10.34	1.68	1.77
3	B	1627	NGT	C7-S1	-9.24	1.69	1.77

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	B	1627	NGT	C8-C7-S1	3.97	124.94	118.96
3	A	1628	NGT	C8-C7-S1	3.00	123.47	118.96
3	B	1627	NGT	C1-O5-C5	2.28	116.78	112.58

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	1628	NGT	C1-O5-C5	2.25	116.73	112.58
3	A	1628	NGT	O3-C3-C2	2.13	114.00	109.14
3	B	1627	NGT	O4-C4-C3	-2.11	105.47	110.35
3	A	1628	NGT	O4-C4-C3	-2.08	105.54	110.35

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	1627	EDO	O1-C1-C2-O2

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	1627	NGT	1	0

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6   Fit of model and data ⓘ

6.1   Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å²)	Q<0.9
1	A	620/649 (95%)	0.00	9 (1%)	71	71	24, 37, 57, 87	0
1	B	597/649 (91%)	0.14	12 (2%)	64	64	25, 41, 66, 78	0
All	All	1217/1298 (93%)	0.07	21 (1%)	69	68	24, 39, 61, 87	0

All (21) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	610	THR	3.8
1	A	22	ILE	3.4
1	B	434	ASN	2.9
1	A	602	ALA	2.8
1	B	290	THR	2.8
1	A	284	VAL	2.7
1	A	321	ARG	2.7
1	A	515	ASP	2.6
1	A	580	LEU	2.6
1	A	581	ALA	2.5
1	B	461	GLU	2.5
1	B	606	PHE	2.4
1	B	581	ALA	2.4
1	B	45	GLU	2.4
1	B	270	PHE	2.4
1	B	436	SER	2.3
1	A	281	ASP	2.2
1	B	222	ASP	2.2
1	B	309	TYR	2.1
1	A	32	THR	2.1
1	B	252	VAL	2.0

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

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

6.3 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

6.4 Ligands ⓘ

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	EDO	A	1627	4/4	0.74	0.22	59,60,60,61	0
3	NGT	B	1627	14/14	0.89	0.12	24,30,33,34	0
3	NGT	A	1628	14/14	0.95	0.09	21,22,23,23	0

6.5 Other polymers ⓘ

There are no such residues in this entry.