WORLDWIDE
wwPDB
PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report (i)

Jul 1, 2024 – 08:11 PM JST

PDB ID	:	8YK1
Title	:	Blood group B alpha-1,3-galactosidase AgaBb from Bifidobacterium bifidum, construct 23-844
Authors	:	Kashima, T.; Ashida, H.; Fushinobu, S.
Deposited on	:	2024-03-04
Resolution	:	2.02 Å(reported)

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

|		
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.37.1
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)	:	2.37.1

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 2.02 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		0.222
Clashscore		3
Ramachandran outliers		0.4%
Sidechain outliers		1.1%
RSRZ outliers		1.9%

Worse   *Better*

▐ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
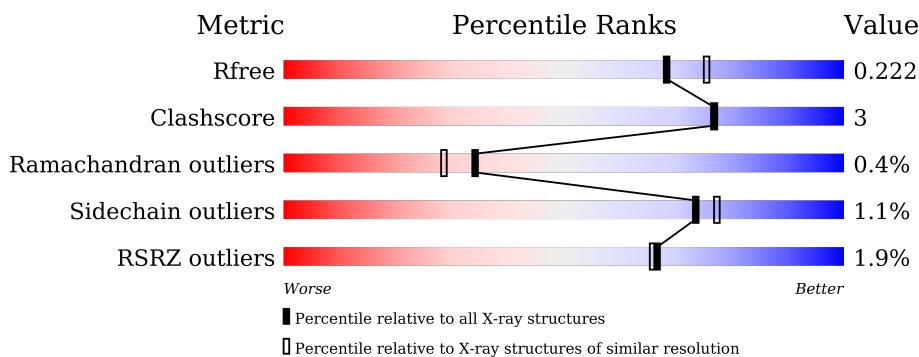
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	130704	10434 (2.04-2.00)
Clashscore	141614	11643 (2.04-2.00)
Ramachandran outliers	138981	11493 (2.04-2.00)
Sidechain outliers	138945	11492 (2.04-2.00)
RSRZ outliers	127900	10220 (2.04-2.00)

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	829	2% 89% 8% •
1	B	829	% 89% 8% •
1	C	829	2% 90% 7% •
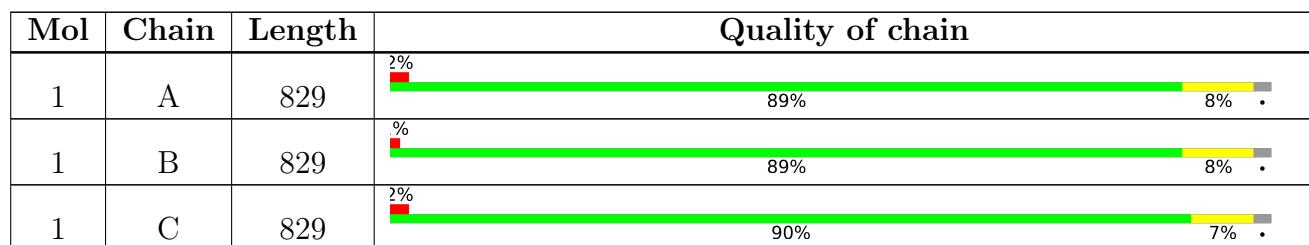
2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 19153 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-galactosidase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	810	Total 6072	C 3783	N 1040	O 1233	S 16	0	0	0
1	B	810	Total 6072	C 3783	N 1040	O 1233	S 16	0	0	0
1	C	810	Total 6072	C 3783	N 1040	O 1233	S 16	0	0	0

There are 27 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	24	MET	-	initiating methionine	UNP L8B3G2
A	845	LEU	-	expression tag	UNP L8B3G2
A	846	GLU	-	expression tag	UNP L8B3G2
A	847	HIS	-	expression tag	UNP L8B3G2
A	848	HIS	-	expression tag	UNP L8B3G2
A	849	HIS	-	expression tag	UNP L8B3G2
A	850	HIS	-	expression tag	UNP L8B3G2
A	851	HIS	-	expression tag	UNP L8B3G2
A	852	HIS	-	expression tag	UNP L8B3G2
B	24	MET	-	initiating methionine	UNP L8B3G2
B	845	LEU	-	expression tag	UNP L8B3G2
B	846	GLU	-	expression tag	UNP L8B3G2
B	847	HIS	-	expression tag	UNP L8B3G2
B	848	HIS	-	expression tag	UNP L8B3G2
B	849	HIS	-	expression tag	UNP L8B3G2
B	850	HIS	-	expression tag	UNP L8B3G2
B	851	HIS	-	expression tag	UNP L8B3G2
B	852	HIS	-	expression tag	UNP L8B3G2
C	24	MET	-	initiating methionine	UNP L8B3G2
C	845	LEU	-	expression tag	UNP L8B3G2
C	846	GLU	-	expression tag	UNP L8B3G2
C	847	HIS	-	expression tag	UNP L8B3G2
C	848	HIS	-	expression tag	UNP L8B3G2

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
C	849	HIS	-	expression tag	UNP L8B3G2
C	850	HIS	-	expression tag	UNP L8B3G2
C	851	HIS	-	expression tag	UNP L8B3G2
C	852	HIS	-	expression tag	UNP L8B3G2

• Molecule 2 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total 1	Na 1	0	0
2	B	1	Total 1	Na 1	0	0
2	C	1	Total 1	Na 1	0	0

• Molecule 3 is water.

| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	357	Total 357	O 357	0	0
3	B	368	Total 368	O 368	0	0
3	C	209	Total 209	O 209	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: Alpha-galactosidase

Chain A:

- Molecule 1: Alpha-galactosidase

Chain B:

- Molecule 1: Alpha-galactosidase

Chain C:

A413 Q420 T437 L438 I442 Y458 R475 T480 E488 A498 N504 G513 R521 D531 N539 V542 T545 E555 R578 Y583 L593 G594 G595 D596 A597 D598 L601 R607 G635 D640 V641 V657 N658 V659

V674 T675 D691 A731 THR ALA PRO THR PRO GLY THR SER A740 S755 K763 S764 F765 D766 F767 K768 K788 S795 V796 L800 K803 V812 V825 G844 LEU GLU HIS HIS HIS HIS HIS HIS
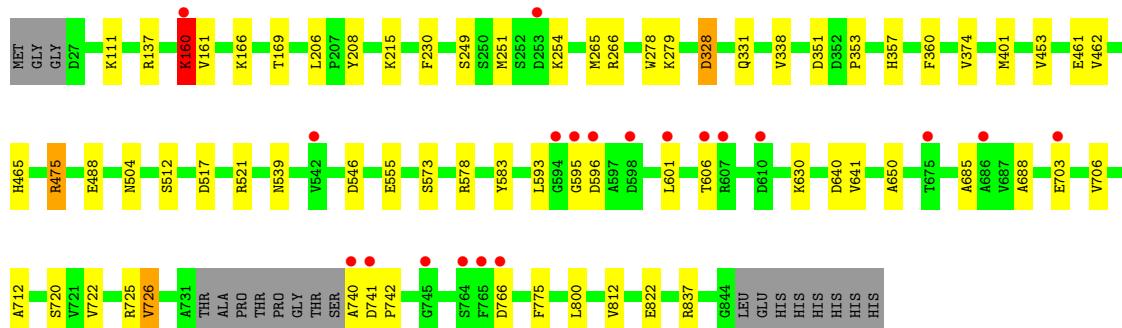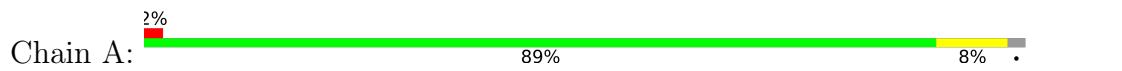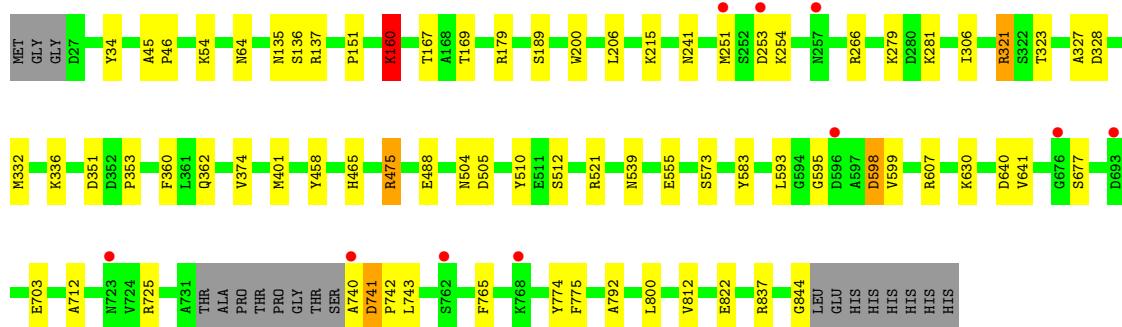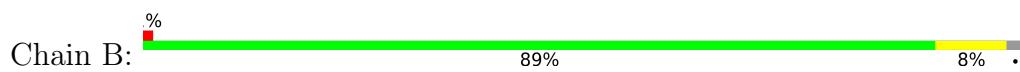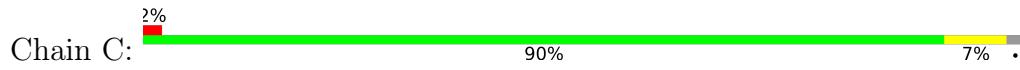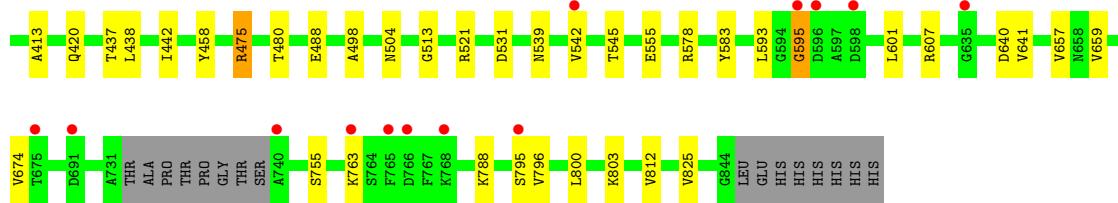
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	127.69Å 68.77Å 291.31Å 90.00° 91.40° 90.00°	Depositor
Resolution (Å)	48.59 – 2.02 48.59 – 2.02	Depositor EDS
% Data completeness (in resolution range)	98.0 (48.59-2.02) 98.0 (48.59-2.02)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.73 (at 2.03Å)	Xtriage
Refinement program	PHENIX 1.21_5207	Depositor
R, R_{free}	0.189 , 0.221 0.189 , 0.222	Depositor DCC
R_{free} test set	8190 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å^2)	25.1	Xtriage
Anisotropy	0.076	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 45.8	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	0.004 for -h,-k,l	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	19153	wwPDB-VP
Average B, all atoms (Å^2)	26.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.19% of the height of the origin peak. No significant pseudotranslation is detected.*

---

[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: NA

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	0.41	1/6179 (0.0%)	0.60	1/8405 (0.0%)
1	B	0.39	1/6179 (0.0%)	0.60	0/8405
1	C	0.35	1/6179 (0.0%)	0.57	0/8405
All	All	0.38	3/18537 (0.0%)	0.59	1/25215 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	1
1	C	0	1
All	All	0	2

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	160	LYS	CE-NZ	-8.03	1.28	1.49
1	B	160	LYS	CE-NZ	-6.77	1.32	1.49
1	A	160	LYS	CE-NZ	-5.49	1.35	1.49

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	160	LYS	CD-CE-NZ	8.45	131.14	111.70

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	321	ARG	Sidechain
1	C	321	ARG	Sidechain

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	6072	0	5911	38	0
1	B	6072	0	5911	42	0
1	C	6072	0	5911	30	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
3	A	357	0	0	0	0
3	B	368	0	0	1	0
3	C	209	0	0	1	0
All	All	19153	0	17733	108	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 3.

All (108) 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:137:ARG:HG3	1:B:281:LYS:HB3	1.68	0.76
1:B:179:ARG:NH2	3:B:1001:HOH:O	2.23	0.71
1:A:703:GLU:HG2	1:A:725:ARG:HG2	1.71	0.71
1:A:331:GLN:OE1	1:A:357:HIS:NE2	2.23	0.68
1:A:800:LEU:HD22	1:A:812:VAL:HB	1.77	0.67
1:B:598:ASP:OD2	1:B:725:ARG:NH1	2.29	0.66
1:C:800:LEU:HD22	1:C:812:VAL:HB	1.78	0.65
1:C:796:VAL:HG22	1:C:825:VAL:HG22	1.79	0.64
1:A:215:LYS:HG2	1:A:775:PHE:HB2	1.80	0.62
1:B:703:GLU:HG3	1:B:725:ARG:HG2	1.83	0.61
1:B:241:ASN:ND2	1:B:844:GLY:O	2.33	0.61
1:A:160:LYS:HE3	1:A:169:THR:OG1	2.02	0.60
1:B:215:LYS:HG2	1:B:775:PHE:HB2	1.85	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:401:MET:HG2	1:A:539:ASN:HB3	1.84	0.59
1:B:306:ILE:HD12	1:B:332:MET:SD	2.43	0.58
1:C:321:ARG:NH2	1:C:323:THR:O	2.36	0.58
1:C:206:LEU:HD23	1:C:266:ARG:HA	1.85	0.57
1:C:401:MET:HG2	1:C:539:ASN:HB3	1.87	0.57
1:B:160:LYS:HG3	1:B:169:THR:HB	1.87	0.57
1:A:353:PRO:HD2	1:A:475:ARG:O	2.06	0.56
1:B:321:ARG:NH2	1:B:323:THR:O	2.40	0.55
1:B:593:LEU:O	1:B:595:GLY:N	2.38	0.54
1:C:601:LEU:HD21	1:C:607:ARG:HB2	1.89	0.54
1:B:353:PRO:HD2	1:B:475:ARG:O	2.08	0.54
1:B:206:LEU:HD23	1:B:266:ARG:HA	1.90	0.53
1:B:800:LEU:HD22	1:B:812:VAL:HB	1.90	0.53
1:A:230:PHE:HE2	1:A:265:MET:HE1	1.72	0.53
1:C:151:PRO:HG2	1:C:321:ARG:NE	2.25	0.52
1:A:328:ASP:OD1	1:A:351:ASP:HB3	2.10	0.52
1:A:338:VAL:HG13	1:A:461:GLU:HG2	1.91	0.52
1:C:583:TYR:HA	1:C:640:ASP:HB2	1.91	0.52
1:A:601:LEU:HB2	1:A:726:VAL:HG12	1.91	0.52
1:B:599:VAL:HG13	1:B:607:ARG:HD3	1.91	0.51
1:B:521:ARG:HA	1:B:555:GLU:O	2.11	0.51
1:A:740:ALA:HB1	1:A:742:PRO:HD2	1.93	0.51
1:B:360:PHE:CE2	1:B:512:SER:HA	2.46	0.51
1:B:254:LYS:HE2	1:B:254:LYS:H	1.76	0.51
1:C:755:SER:HB3	1:C:788:LYS:HB2	1.93	0.50
1:B:740:ALA:HB1	1:B:743:LEU:HB2	1.94	0.49
1:C:336:LYS:HB3	1:C:458:TYR:HA	1.94	0.49
1:C:795:SER:O	1:C:825:VAL:HA	2.12	0.49
1:A:360:PHE:CE2	1:A:512:SER:HA	2.48	0.48
1:B:488:GLU:HA	1:B:521:ARG:O	2.13	0.48
1:C:521:ARG:HA	1:C:555:GLU:O	2.13	0.48
1:A:583:TYR:HA	1:A:640:ASP:HB2	1.94	0.48
1:C:420:GLN:NE2	3:C:1003:HOH:O	2.41	0.48
1:C:353:PRO:HD2	1:C:475:ARG:O	2.13	0.48
1:B:583:TYR:HA	1:B:640:ASP:HB2	1.96	0.47
1:A:606:THR:OG1	1:B:64:ASN:ND2	2.47	0.47
1:C:641:VAL:CG1	1:C:674:VAL:HA	2.43	0.47
1:A:111:LYS:HA	1:A:137:ARG:O	2.15	0.47
1:B:251:MET:HE3	1:B:251:MET:HB2	1.88	0.47
1:B:741:ASP:OD1	1:B:742:PRO:HD3	2.15	0.46
1:B:160:LYS:HE3	1:B:169:THR:OG1	2.15	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:136:SER:C	1:B:137:ARG:HD2	2.35	0.46
1:A:461:GLU:HG3	1:A:462:VAL:N	2.32	0.45
1:C:413:ALA:HB3	1:C:437:THR:HB	1.97	0.45
1:C:555:GLU:HA	1:C:578:ARG:O	2.16	0.45
1:C:488:GLU:HA	1:C:521:ARG:O	2.17	0.45
1:A:488:GLU:HA	1:A:521:ARG:O	2.17	0.45
1:B:822:GLU:HG2	1:B:837:ARG:HG2	1.99	0.45
1:B:151:PRO:HG2	1:B:321:ARG:NE	2.32	0.44
1:B:189:SER:HB3	1:B:200:TRP:CE2	2.52	0.44
1:C:160:LYS:HG3	1:C:169:THR:HB	2.00	0.44
1:A:706:VAL:HG22	1:A:722:VAL:HB	1.98	0.44
1:A:166:LYS:HE3	1:A:249:SER:O	2.17	0.44
1:C:657:VAL:HG12	1:C:659:VAL:HG13	1.98	0.44
1:C:53:ASP:O	1:C:57:GLU:HG3	2.18	0.44
1:A:641:VAL:HG21	1:A:712:ALA:HB1	1.98	0.44
1:B:328:ASP:OD1	1:B:351:ASP:HB3	2.18	0.44
1:C:278:TRP:CE2	1:C:279:LYS:HE2	2.52	0.44
1:C:189:SER:HB3	1:C:200:TRP:CE2	2.54	0.43
1:A:208:TYR:O	1:A:265:MET:HA	2.19	0.43
1:A:521:ARG:HA	1:A:555:GLU:O	2.17	0.43
1:A:465:HIS:HA	1:A:488:GLU:O	2.19	0.43
1:B:641:VAL:HG21	1:B:712:ALA:HB1	2.00	0.43
1:B:465:HIS:HA	1:B:488:GLU:O	2.19	0.43
1:C:480:THR:O	1:C:513:GLY:HA3	2.19	0.42
1:C:593:LEU:C	1:C:595:GLY:H	2.23	0.42
1:A:573:SER:HA	1:A:630:LYS:O	2.18	0.42
1:C:232:ASN:HB3	1:C:249:SER:OG	2.20	0.42
1:C:331:GLN:OE1	1:C:357:HIS:NE2	2.39	0.42
1:A:685:ALA:HA	1:A:688:ALA:O	2.20	0.42
1:B:573:SER:HA	1:B:630:LYS:O	2.19	0.41
1:A:206:LEU:HB2	1:A:265:MET:HG3	2.01	0.41
1:B:362:GLN:O	1:B:374:VAL:HA	2.20	0.41
1:B:45:ALA:HB3	1:B:46:PRO:HD3	2.02	0.41
1:A:166:LYS:HA	1:A:251:MET:HE3	2.02	0.41
1:B:401:MET:HG2	1:B:539:ASN:HB3	2.02	0.41
1:A:206:LEU:HD23	1:A:266:ARG:HA	2.02	0.41
1:A:278:TRP:CE2	1:A:279:LYS:HE2	2.55	0.41
1:A:822:GLU:HG2	1:A:837:ARG:HG2	2.03	0.41
1:A:593:LEU:HG	1:A:720:SER:HB2	2.03	0.41
1:A:650:ALA:HB1	1:B:792:ALA:HB1	2.01	0.41
1:B:135:ASN:OD1	1:B:279:LYS:HE3	2.20	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:765:PHE:CD1	1:B:774:TYR:HB3	2.55	0.41
1:A:555:GLU:HA	1:A:578:ARG:O	2.20	0.41
1:A:741:ASP:N	1:A:742:PRO:HD2	2.36	0.41
1:B:505:ASP:O	1:B:510:TYR:HA	2.21	0.41
1:C:306:ILE:HD12	1:C:332:MET:SD	2.61	0.40
1:A:374:VAL:HG11	1:A:453:VAL:HG11	2.02	0.40
1:C:498:ALA:HA	1:C:531:ASP:O	2.21	0.40
1:A:160:LYS:HG2	1:A:161:VAL:N	2.35	0.40
1:C:438:LEU:HD12	1:C:442:ILE:CG2	2.51	0.40
1:A:593:LEU:O	1:A:595:GLY:N	2.52	0.40
1:B:34:TYR:OH	1:B:54:LYS:HG2	2.21	0.40
1:B:160:LYS:NZ	1:B:167:THR:OG1	2.51	0.40
1:B:336:LYS:HB3	1:B:458:TYR:HA	2.02	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	806/829 (97%)	777 (96%)	26 (3%)	3 (0%)	34	28
1	B	806/829 (97%)	772 (96%)	31 (4%)	3 (0%)	34	28
1	C	806/829 (97%)	772 (96%)	31 (4%)	3 (0%)	34	28
All	All	2418/2487 (97%)	2321 (96%)	88 (4%)	9 (0%)	34	28

All (9) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	596	ASP
1	B	677	SER
1	B	504	ASN
1	A	504	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	517	ASP
1	C	327	ALA
1	C	504	ASN
1	C	595	GLY
1	B	327	ALA

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	658/674 (98%)	651 (99%)	7 (1%)	73	77
1	B	658/674 (98%)	653 (99%)	5 (1%)	81	85
1	C	658/674 (98%)	649 (99%)	9 (1%)	67	70
All	All	1974/2022 (98%)	1953 (99%)	21 (1%)	73	77

All (21) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	160	LYS
1	A	254	LYS
1	A	328	ASP
1	A	475	ARG
1	A	546	ASP
1	A	726	VAL
1	A	766	ASP
1	B	160	LYS
1	B	253	ASP
1	B	475	ARG
1	B	598	ASP
1	B	741	ASP
1	C	79	ASP
1	C	160	LYS
1	C	328	ASP
1	C	406	ASP
1	C	475	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	542	VAL
1	C	545	THR
1	C	763	LYS
1	C	803	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	64	ASN
1	C	651	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 monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 3 ligands modelled in this entry, 3 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

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.

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(Å^2)	Q<0.9
1	A	810/829 (97%)	-0.06	20 (2%) 57	57	12, 21, 50, 75	0
1	B	810/829 (97%)	-0.13	10 (1%) 79	78	12, 23, 38, 58	0
1	C	810/829 (97%)	0.10	17 (2%) 63	63	17, 31, 50, 68	0
All	All	2430/2487 (97%)	-0.03	47 (1%) 66	66	12, 24, 47, 75	0

All (47) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	740	ALA	7.4
1	A	740	ALA	7.0
1	C	740	ALA	4.8
1	A	595	GLY	4.1
1	A	596	ASP	3.9
1	C	795	SER	3.8
1	C	595	GLY	3.7
1	C	675	THR	3.5
1	A	594	GLY	3.4
1	A	766	ASP	3.1
1	B	762	SER	3.1
1	B	253	ASP	3.0
1	A	601	LEU	3.0
1	C	766	ASP	3.0
1	C	253	ASP	3.0
1	C	763	LYS	2.8
1	C	768	LYS	2.7
1	A	741	ASP	2.6
1	B	676	GLY	2.6
1	A	675	THR	2.6
1	C	257	ASN	2.6
1	B	693	ASP	2.5
1	A	764	SER	2.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	596	ASP	2.4
1	A	607	ARG	2.4
1	C	165	ALA	2.4
1	C	542	VAL	2.4
1	B	723	ASN	2.4
1	A	686	ALA	2.4
1	B	768	LYS	2.3
1	A	606	THR	2.3
1	A	598	ASP	2.3
1	C	250	SER	2.2
1	B	257	ASN	2.2
1	C	765	PHE	2.2
1	A	253	ASP	2.2
1	C	596	ASP	2.2
1	C	691	ASP	2.1
1	C	635	GLY	2.1
1	A	703	GLU	2.1
1	A	542	VAL	2.1
1	A	765	PHE	2.1
1	C	598	ASP	2.1
1	A	160	LYS	2.1
1	B	251	MET	2.1
1	A	610	ASP	2.1
1	A	745	GLY	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 monosaccharides 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	NA	A	901	1/1	0.92	0.45	14,14,14,14	0
2	NA	B	901	1/1	0.98	0.46	3,3,3,3	0
2	NA	C	901	1/1	0.99	0.47	3,3,3,3	0

6.5 Other polymers ⓘ

There are no such residues in this entry.