Full wwPDB X-ray Structure Validation Report ⓘ

Oct 1, 2024 – 12:28 AM JST

PDB ID	:	5GV3
Title	:	Crystal structure of the membrane-distal domain of mouse lysosome-associated membrane protein 2 (LAMP-2)
Authors	:	Tomabechi, Y.; Ehara, H.; Kukimoto-Niino, M.; Shirouzu, M.
Deposited on	:	2016-09-01
Resolution	:	2.10 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 types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

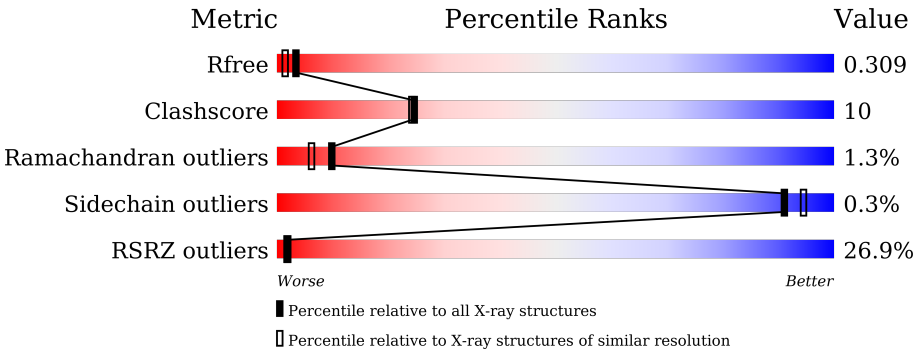
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.10 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}	164625	6234 (2.10-2.10)
Clashscore	180529	6893 (2.10-2.10)
Ramachandran outliers	177936	6839 (2.10-2.10)
Sidechain outliers	177891	6840 (2.10-2.10)
RSRZ outliers	164620	6234 (2.10-2.10)

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	169	21% 77% 17% • 5%
1	B	169	30% 76% 20% • •

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 2773 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 Lysosome-associated membrane glycoprotein 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	161	Total	C	N	O	S	0	0	0
			1261	802	205	248	6			
1	B	163	Total	C	N	O	S	0	0	0
			1275	809	209	251	6			

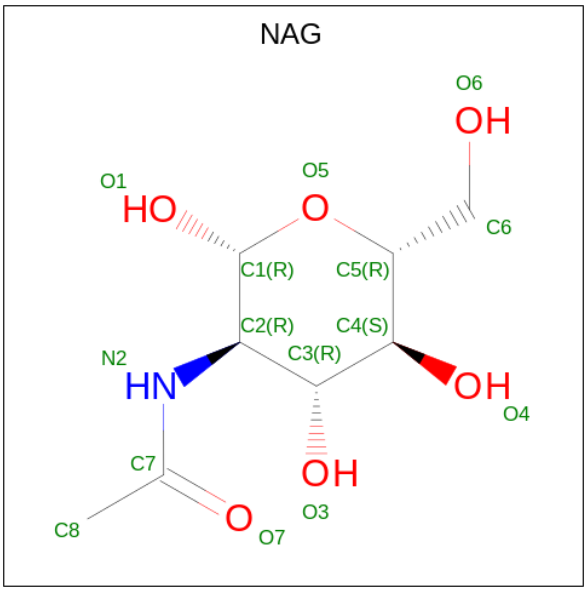
There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	25	ASP	-	expression tag	UNP P17047
A	190	GLY	-	expression tag	UNP P17047
A	191	SER	-	expression tag	UNP P17047
A	192	SER	-	expression tag	UNP P17047
A	193	LEU	-	expression tag	UNP P17047
B	25	ASP	-	expression tag	UNP P17047
B	190	GLY	-	expression tag	UNP P17047
B	191	SER	-	expression tag	UNP P17047
B	192	SER	-	expression tag	UNP P17047
B	193	LEU	-	expression tag	UNP P17047

- Molecule 2 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	9	Total	Zn	3	0
			9	9		
2	B	6	Total	Zn	2	0
			6	6		

- Molecule 3 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).



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

- Molecule 4 is water.

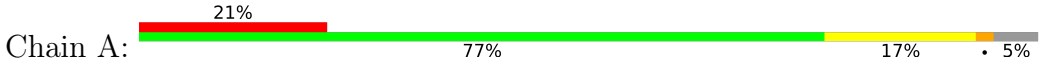
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	50	Total O 50 50	0	0
4	B	32	Total O 32 32	0	0

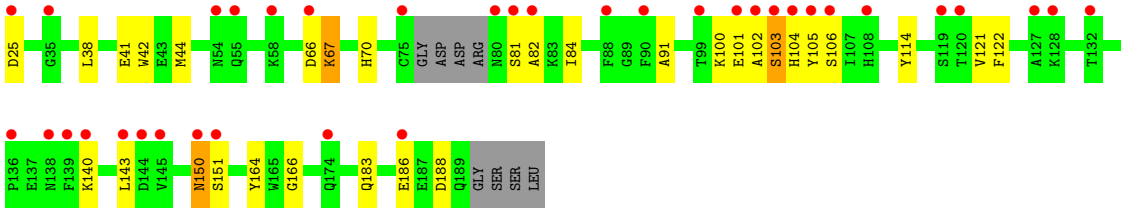
3 Residue-property plots (i)

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: Lysosome-associated membrane glycoprotein 2

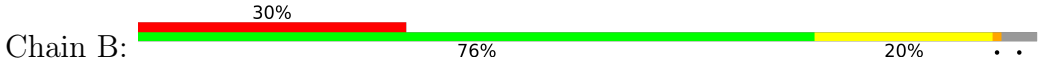
Chain A:

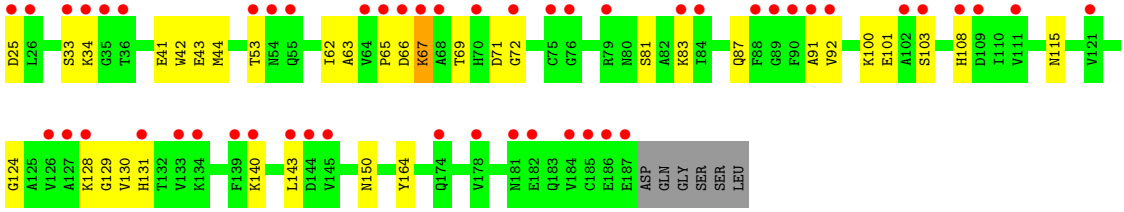




• Molecule 1: Lysosome-associated membrane glycoprotein 2

Chain B:





4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	59.61Å 103.93Å 129.18Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.49 – 2.10 40.49 – 2.10	Depositor EDS
% Data completeness (in resolution range)	98.7 (40.49-2.10) 98.7 (40.49-2.10)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.07	Depositor
$< I/\sigma(I) >$ [1]	2.00 (at 2.10Å)	Xtriage
Refinement program	PHENIX 1.9_1690	Depositor
R, R_{free}	0.269 , 0.307 0.270 , 0.309	Depositor DCC
R_{free} test set	1982 reflections (8.37%)	wwPDB-VP
Wilson B-factor (Å^2)	45.4	Xtriage
Anisotropy	0.642	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.37 , 59.0	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.020 for 1/2*h-1/2*k,-3/2*h-1/2*k,-l 0.035 for 1/2*h+1/2*k,3/2*h-1/2*k,-l	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	2773	wwPDB-VP
Average B, all atoms (Å^2)	56.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.12% 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: ZN, NAG

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	0.45	1/1289 (0.1%)	0.65	0/1757
1	B	0.55	1/1304 (0.1%)	0.62	1/1778 (0.1%)
All	All	0.50	2/2593 (0.1%)	0.64	1/3535 (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

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	43	GLU	CB-CG	11.71	1.74	1.52
1	A	150	ASN	CB-CG	5.44	1.63	1.51

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	43	GLU	CA-CB-CG	5.26	124.96	113.40

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	67	LYS	Peptide

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	1261	0	1210	27	3
1	B	1275	0	1224	23	3
2	A	9	0	0	0	0
2	B	6	0	0	0	1
3	A	70	0	65	1	0
3	B	70	0	65	2	0
4	A	50	0	0	3	1
4	B	32	0	0	3	1
All	All	2773	0	2564	51	5

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 10.

All (51) 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:91:ALA:HB1	1:B:115:ASN:HB3	1.47	0.97
1:B:69:THR:HG23	1:B:87:GLN:OE1	1.71	0.90
1:B:42:TRP:HE1	1:B:44:MET:HE2	1.38	0.84
1:B:44:MET:SD	4:B:331:HOH:O	2.36	0.82
1:B:100:LYS:HE2	1:B:143:LEU:HD21	1.63	0.79
1:B:101:GLU:OE2	1:B:140:LYS:NZ	2.14	0.79
1:A:100:LYS:HE3	1:A:143:LEU:HD21	1.68	0.75
1:A:183:GLN:NE2	4:A:303:HOH:O	2.20	0.73
1:A:104:HIS:HB3	1:A:143:LEU:HD13	1.71	0.71
1:A:151:SER:OG	1:A:188:ASP:OD1	2.07	0.71
1:B:42:TRP:HE1	1:B:44:MET:CE	2.04	0.70
1:A:42:TRP:HE1	1:A:44:MET:CE	2.06	0.68
1:A:44:MET:HE1	1:A:164:TYR:HE1	1.60	0.67
1:A:102:ALA:HB3	1:A:140:LYS:HZ3	1.63	0.64
1:B:150:ASN:OD1	4:B:304:HOH:O	2.15	0.63
1:B:71:ASP:O	1:B:87:GLN:NE2	2.32	0.59
1:A:150:ASN:HA	1:A:166:GLY:HA2	1.84	0.59
1:A:186:GLU:OE1	4:A:302:HOH:O	2.17	0.59
3:A:210:NAG:H3	3:A:210:NAG:H83	1.84	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:66:ASP:OD1	1:B:67:LYS:HG2	2.05	0.57
1:A:106:SER:HB3	1:A:140:LYS:NZ	2.21	0.56
1:A:102:ALA:HB3	1:A:140:LYS:NZ	2.21	0.56
1:A:42:TRP:HE1	1:A:44:MET:HE3	1.73	0.53
1:A:103:SER:C	1:A:140:LYS:HE3	2.30	0.52
1:B:81:SER:OG	3:B:209:NAG:H83	2.09	0.52
1:B:53:THR:N	1:B:124:GLY:O	2.42	0.51
1:B:103:SER:O	1:B:143:LEU:HB2	2.12	0.50
1:A:66:ASP:O	1:A:67:LYS:HG2	2.11	0.50
1:B:25:ASP:N	4:B:307:HOH:O	2.44	0.49
1:A:106:SER:HB3	1:A:140:LYS:HZ2	1.77	0.49
1:A:121:VAL:HG13	1:A:122:PHE:CD2	2.47	0.49
1:A:102:ALA:O	1:A:103:SER:OG	2.24	0.48
1:A:70:HIS:HE1	4:A:339:HOH:O	1.97	0.48
1:B:33:SER:HA	1:B:34:LYS:HA	1.58	0.47
1:B:72:GLY:O	1:B:83:LYS:HE3	2.14	0.47
1:A:44:MET:HE1	1:A:164:TYR:CE1	2.45	0.46
1:B:62:ILE:HD13	1:B:92:VAL:HG21	1.97	0.46
1:B:63:ALA:O	1:B:65:PRO:HD3	2.17	0.45
1:A:100:LYS:HG2	1:A:101:GLU:HG3	1.98	0.44
1:B:130:VAL:HG21	3:B:208:NAG:H82	1.99	0.44
1:A:91:ALA:O	1:A:114:TYR:HA	2.19	0.43
1:A:38:LEU:HD21	1:A:84:ILE:HD11	2.00	0.43
1:A:140:LYS:HD2	1:A:140:LYS:HA	1.61	0.42
1:B:42:TRP:NE1	1:B:44:MET:HE2	2.19	0.42
1:B:66:ASP:HA	1:B:67:LYS:HA	1.55	0.42
1:A:25:ASP:N	1:A:25:ASP:OD1	2.51	0.42
1:A:101:GLU:N	1:A:104:HIS:O	2.39	0.42
1:A:42:TRP:HE1	1:A:44:MET:HE2	1.82	0.42
1:B:128:LYS:HA	1:B:129:GLY:HA2	1.73	0.41
1:A:105:TYR:HD2	1:A:143:LEU:HD12	1.86	0.41
1:B:44:MET:HE1	1:B:164:TYR:HE1	1.85	0.41

All (5) 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:41:GLU:OE2	2:B:206:ZN:ZN[4_566]	1.63	0.57
1:A:150:ASN:ND2	1:B:41:GLU:OE2[4_566]	2.07	0.13
4:A:335:HOH:O	4:B:312:HOH:O[4_566]	2.10	0.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:150:ASN:OD1	1:B:25:ASP:OD2[4_566]	2.16	0.04
1:B:101:GLU:OE2	1:B:131:HIS:ND1[8_566]	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	157/169 (93%)	146 (93%)	7 (4%)	4 (2%)	4 2
1	B	161/169 (95%)	147 (91%)	14 (9%)	0	100 100
All	All	318/338 (94%)	293 (92%)	21 (7%)	4 (1%)	10 6

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	103	SER
1	A	67	LYS
1	A	82	ALA
1	A	81	SER

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	144/150 (96%)	144 (100%)	0	100 100
1	B	145/150 (97%)	144 (99%)	1 (1%)	81 87

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	289/300 (96%)	288 (100%)	1 (0%)	91 94

All (1) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	108	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	168	HIS

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 oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 25 ligands modelled in this entry, 15 are monoatomic - leaving 10 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	NAG	A	210	1	14,14,15	0.56	0	17,19,21	1.24	1 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	NAG	B	209	1	14,14,15	0.46	0	17,19,21	0.76	1 (5%)
3	NAG	A	212	1	14,14,15	0.26	0	17,19,21	0.65	0
3	NAG	B	211	1	14,14,15	0.46	0	17,19,21	0.38	0
3	NAG	A	213	1	14,14,15	0.60	1 (7%)	17,19,21	0.45	0
3	NAG	A	214	1	14,14,15	0.39	0	17,19,21	0.43	0
3	NAG	B	210	1	14,14,15	0.18	0	17,19,21	0.48	0
3	NAG	B	208	1	14,14,15	0.30	0	17,19,21	0.63	1 (5%)
3	NAG	B	207	1	14,14,15	0.47	0	17,19,21	0.57	0
3	NAG	A	211	1	14,14,15	0.31	0	17,19,21	0.44	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	NAG	A	210	1	-	5/6/23/26	0/1/1/1
3	NAG	B	209	1	-	3/6/23/26	0/1/1/1
3	NAG	A	212	1	-	2/6/23/26	0/1/1/1
3	NAG	B	211	1	-	0/6/23/26	0/1/1/1
3	NAG	A	213	1	-	1/6/23/26	0/1/1/1
3	NAG	A	214	1	-	1/6/23/26	0/1/1/1
3	NAG	B	210	1	-	0/6/23/26	0/1/1/1
3	NAG	B	208	1	-	2/6/23/26	0/1/1/1
3	NAG	B	207	1	-	2/6/23/26	0/1/1/1
3	NAG	A	211	1	-	0/6/23/26	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	213	NAG	O5-C1	-2.01	1.40	1.43

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	210	NAG	C2-N2-C7	4.12	128.76	122.90
3	B	208	NAG	C1-O5-C5	2.19	115.17	112.19
3	B	209	NAG	C1-C2-N2	2.07	114.02	110.49

There are no chirality outliers.

All (16) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	B	208	NAG	C4-C5-C6-O6
3	B	207	NAG	O5-C5-C6-O6
3	B	208	NAG	O5-C5-C6-O6
3	B	209	NAG	C4-C5-C6-O6
3	B	207	NAG	C4-C5-C6-O6
3	A	210	NAG	O5-C5-C6-O6
3	A	210	NAG	C8-C7-N2-C2
3	A	210	NAG	O7-C7-N2-C2
3	B	209	NAG	O5-C5-C6-O6
3	A	210	NAG	C4-C5-C6-O6
3	A	212	NAG	O5-C5-C6-O6
3	A	212	NAG	C4-C5-C6-O6
3	B	209	NAG	C1-C2-N2-C7
3	A	214	NAG	O5-C5-C6-O6
3	A	213	NAG	C1-C2-N2-C7
3	A	210	NAG	C3-C2-N2-C7

There are no ring outliers.

3 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	210	NAG	1	0
3	B	209	NAG	1	0
3	B	208	NAG	1	0

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} 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	161/169 (95%)	1.45	36 (22%)	3	3	37, 51, 72, 92	0
1	B	163/169 (96%)	1.67	51 (31%)	1	1	39, 54, 79, 98	0
All	All	324/338 (95%)	1.56	87 (26%)	2	2	37, 53, 78, 98	0

All (87) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	66	ASP	6.9
1	B	25	ASP	6.8
1	A	82	ALA	6.3
1	A	25	ASP	6.2
1	A	81	SER	6.0
1	B	90	PHE	5.8
1	B	88	PHE	5.5
1	A	90	PHE	5.5
1	A	103	SER	5.4
1	A	102	ALA	5.4
1	A	104	HIS	5.3
1	A	140	LYS	5.1
1	A	66	ASP	4.8
1	B	143	LEU	4.7
1	B	26	LEU	4.6
1	B	91	ALA	4.5
1	B	103	SER	4.5
1	B	33	SER	4.2
1	B	67	LYS	4.1
1	B	108	HIS	4.0
1	B	54	ASN	4.0
1	A	150	ASN	3.9
1	A	101	GLU	3.9
1	B	68	ALA	3.7

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Mol	Chain	Res	Type	RSRZ
1	B	89	GLY	3.5
1	B	185	CYS	3.5
1	A	143	LEU	3.5
1	A	108	HIS	3.4
1	B	55	GLN	3.4
1	B	140	LYS	3.3
1	B	102	ALA	3.3
1	B	186	GLU	3.3
1	B	134	LYS	3.1
1	B	131	HIS	3.0
1	B	181	ASN	3.0
1	B	139	PHE	3.0
1	B	65	PRO	2.9
1	B	126	VAL	2.8
1	A	144	ASP	2.8
1	B	182	GLU	2.8
1	A	75	CYS	2.8
1	A	151	SER	2.8
1	B	70	HIS	2.7
1	B	92	VAL	2.7
1	A	35	GLY	2.7
1	A	120	THR	2.7
1	B	109	ASP	2.6
1	B	128	LYS	2.6
1	B	121	VAL	2.6
1	B	35	GLY	2.6
1	A	145	VAL	2.5
1	B	184	VAL	2.5
1	A	88	PHE	2.5
1	A	139	PHE	2.5
1	B	187	GLU	2.5
1	B	144	ASP	2.5
1	B	36	THR	2.5
1	A	55	GLN	2.4
1	A	136	PRO	2.4
1	A	128	LYS	2.3
1	A	106	SER	2.3
1	B	111	VAL	2.3
1	A	99	THR	2.3
1	A	54	ASN	2.3
1	B	127	ALA	2.3
1	A	186	GLU	2.3

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Mol	Chain	Res	Type	RSRZ
1	B	178	VAL	2.3
1	B	174	GLN	2.3
1	B	64	VAL	2.2
1	B	83	LYS	2.2
1	B	133	VAL	2.2
1	A	80	ASN	2.2
1	B	79	ARG	2.2
1	A	132	THR	2.2
1	B	75	CYS	2.2
1	A	119	SER	2.2
1	A	58	LYS	2.1
1	A	174	GLN	2.1
1	B	34	LYS	2.1
1	B	53	THR	2.1
1	B	84	ILE	2.1
1	B	76	GLY	2.1
1	B	72	GLY	2.0
1	A	105	TYR	2.0
1	A	138	ASN	2.0
1	A	127	ALA	2.0
1	B	145	VAL	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 monosaccharides in this entry.

6.4 Ligands (i)

LIGAND-RSR INFOmissingINFO

6.5 Other polymers (i)

There are no such residues in this entry.