

wwPDB X-ray Structure Validation Summary Report (i)

Feb 2, 2025 - 01:53 am GMT

:	9FXT
:	L2A5 Fab in complex with STn-Ser
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:	2024-07-02
:	2.30 Å(reported)
	: : : :

This is a wwPDB X-ray Structure Validation Summary 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 (i) 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 (1)) were used in the production of this report:

MolProbity	:	4.02b-467
Mogul	:	1.8.4, 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)	:	2.40

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure: $X\text{-}RAY \, DIFFRACTION$

The reported resolution of this entry is 2.30 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.



Motrie	Whole archive	Similar resolution
	$(\# { m Entries})$	$(\# { m Entries}, { m resolution} { m range}({ m \AA}))$
R_{free}	164625	5963 (2.30-2.30)
Clashscore	180529	6698 (2.30-2.30)
Ramachandran outliers	177936	6640 (2.30-2.30)
Sidechain outliers	177891	6640 (2.30-2.30)
RSRZ outliers	164620	5963(2.30-2.30)

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		
			28%		
1	Н	216	83% 8	8%	
			6%		
1	Ι	216	96%	•	
			7%		
2	K	127	87%	7% 6%	
			9%		
2	V	127	90%	• 6%	
			7%		
3	L	215	91%	8%	



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Mol	Chain	Length	Quality	⁷ of chain		
2	М	915	27%			50/
<u> </u>	1/1	210	84%		11%	5%
	D	2				
4	В	2	50%	50%		
4	С	2	50%	50%		



2 Entry composition (i)

There are 8 unique types of molecules in this entry. The entry contains 8110 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 L2A5 Fab Heavy Chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	Ц	108	Total	С	Ν	0	S	0	0	0
	ГП	190	1503	952	251	295	5	0	0	U
1	Т	216	Total	С	Ν	0	S	0	0	0
1	L	210	1634	1030	271	327	6	0	0	0

• Molecule 2 is a protein called Anti kappa Variable Heavy Chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	K	120	Total	Total C N O S		0	0			
	2 K	120	718	438	135	143	2	0	0	0
0	V	110	Total	С	Ν	0	S	0	0	0
	v	119	712	435	134	141	2	0	U	

• Molecule 3 is a protein called L2A5 Fab Light Chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	3 L	214	Total	С	Ν	0	\mathbf{S}	0	0	0
0			1628	1018	269	333	8	0	0	
2	м	204	Total	С	Ν	0	S	0	0	0
່ງ	111	204	1554	973	259	314	8	0	0	0

• Molecule 4 is an oligosaccharide called N-acetyl-alpha-neuraminic acid-(2-6)-2-acetamido-2-deoxy-alpha-D-galactopyranose.



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
4	В	2	Total 34	C 19	N 2	O 13	0	0	0



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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
4	С	2	Total C N O 34 19 2 13	0	0	0

• Molecule 5 is SERINE (three-letter code: SER) (formula: $C_3H_7NO_3$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
5	Н	1	Total 7	${ m C} { m 3}$	N 1	O 3	0	0
5	Ι	1	Total 7	C 3	N 1	0 3	0	0





Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	Н	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 6 & 3 & 3 \end{array}$	0	0
6	Ι	1	Total C O 6 3 3	0	0
6	Ι	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 6 & 3 & 3 \end{array}$	0	0
6	Ι	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 6 & 3 & 3 \end{array}$	0	0
6	L	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 6 & 3 & 3 \end{array}$	0	0
6	L	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 6 & 3 & 3 \end{array}$	0	0
6	М	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 6 & 3 & 3 \end{array}$	0	0
6	V	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 6 & 3 & 3 \end{array}$	0	0

• Molecule 7 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula: $C_4H_{10}O_3$).





Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	Н	1	$\begin{array}{ccc} \text{Total} \text{C} \text{O} \\ 7 4 3 \end{array}$	0	0
7	Ι	1	$\begin{array}{ccc} \text{Total} \text{C} \text{O} \\ 7 4 3 \end{array}$	0	0

• Molecule 8 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	Н	35	Total O 35 35	0	0
8	Ι	62	Total O 62 62	0	0
8	К	10	Total O 10 10	0	0
8	L	57	$\begin{array}{cc} {\rm Total} & {\rm O} \\ 57 & 57 \end{array}$	0	0
8	М	38	Total O 38 38	0	0
8	V	15	Total O 15 15	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: L2A5 Fab Heavy Chain



D1 12 15 15 15 24 856 856 657 057	865 766 771 877 877 877 877 893 195 102 1102 1102 1102	4125 (1125 (1125 (1125 (1126 (1154 (1154 (1154 (1154) (1154) (1154) (1154) (1154) (1154) (1154) (1154) (1154) (1154) (1154) (1156) (1156) (1156) (1125) (11	q199 N210 R311 G213 CYS CYS
• Molecule 3: L2	A5 Fab Light Chain		
Chain M:	27% 84%	119	6 5%
ASP ILE VAL 15 15 16 811 811 812	100 122 122 122 122 122 122 122 122 122	142 843 846 846 846 148 148 148 148 148 156 853 855 855 855 861 861 861 861 861 861 863 863	865 867 867 168 870 870 872 872
L73 T74 M78 E79 A80 A80 A80 A80 Q89 Q89 Q90 W91 S92	833 ASP P956 P956 P956 P956 P956 P956 F197 P100 F1003 F1003 F1003 F1003 F1003 F1005 F1005 F1005 F1005 F1005 F1005 F1105	V132 K145 K145 S168 S176 A184 A184 Q199 Q199 Q199 C133 CV5	
• Molecule 4: N-e	acetyl-alpha-neuraminic ac	id-(2-6)-2-acetamido-2-de	oxy-alpha-D-galactopyranos
Chain B:	50%	50%	
• Molecule 4: N- e	acetyl-alpha-neuraminic ac	id-(2-6)-2-acetamido-2-de	oxy-alpha-D-galactopyranos
Chain C:	50%	50%	
A 2G1 SIA2			



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants	48.35Å 125.28Å 190.76Å	Depositor
a, b, c, α , β , γ	90.00° 90.00° 90.00°	Depositor
Bosolution (Å)	47.69 - 2.30	Depositor
Resolution (A)	47.69 - 2.30	EDS
% Data completeness	99.7 (47.69-2.30)	Depositor
(in resolution range)	99.7 (47.69-2.30)	EDS
R_{merge}	0.17	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) > 1$	$1.51 (at 2.29 \text{\AA})$	Xtriage
Refinement program	PHENIX (1.21rc1_5109: ???)	Depositor
P. P.	0.261 , 0.312	Depositor
n, n_{free}	0.260 , 0.307	DCC
R_{free} test set	2649 reflections $(5.03%)$	wwPDB-VP
Wilson B-factor $(Å^2)$	44.4	Xtriage
Anisotropy	0.297	Xtriage
Bulk solvent $k_{sol}(e/Å^3), B_{sol}(Å^2)$	0.35 , 40.1	EDS
L-test for $twinning^2$	$ < L >=0.50, < L^2>=0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	8110	wwPDB-VP
Average B, all atoms $(Å^2)$	50.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 3.53% of the height of the origin peak. No significant pseudotranslation is detected.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.



¹Intensities estimated from amplitudes.

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: SIA, GOL, PEG, A2G $\,$

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	
	Unam	RMSZ	# Z > 5	RMSZ	# Z > 5
1	Н	0.25	0/1537	0.51	0/2091
1	Ι	0.26	0/1675	0.53	0/2285
2	Κ	0.22	0/342	0.53	0/425
2	V	0.22	0/336	0.52	0/417
3	L	0.25	0/1665	0.50	0/2261
3	М	0.26	0/1588	0.52	0/2151
All	All	0.25	0/7143	0.51	0/9630

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
3	L	0	1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	L	94	ASP	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



Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	Н	1503	0	1468	9	0
1	Ι	1634	0	1593	6	0
2	K	718	0	414	5	0
2	V	712	0	410	3	0
3	L	1628	0	1576	10	0
3	М	1554	0	1506	16	0
4	В	34	0	28	1	0
4	С	34	0	28	0	0
5	Н	7	0	3	0	0
5	Ι	7	0	3	0	0
6	Н	6	0	8	0	0
6	Ι	18	0	24	0	0
6	L	12	0	16	2	0
6	М	6	0	8	1	0
6	V	6	0	8	0	0
7	Н	7	0	10	1	0
7	Ι	7	0	10	1	0
8	Н	35	0	0	0	0
8	Ι	62	0	0	1	0
8	K	10	0	0	0	0
8	L	57	0	0	1	0
8	М	38	0	0	0	0
8	V	15	0	0	0	0
All	All	8110	0	7113	47	0

the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

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.

The worst 5 of 47 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)
3:L:142:ARG:HH12	6:L:302:GOL:H32	1.61	0.65
3:M:36:PHE:HE1	3:M:89:GLN:HB3	1.61	0.65
1:H:119:PRO:HB3	1:H:145:TYR:HB3	1.82	0.61
1:I:81:LYS:NZ	8:I:404:HOH:O	2.35	0.60
1:I:82(B):SER:O	1:I:82(B):SER:OG	2.17	0.59

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	Н	186/216~(86%)	$180 \ (97\%)$	6 (3%)	0	100 100
1	Ι	214/216~(99%)	207~(97%)	6 (3%)	1 (0%)	25 32
2	Κ	47/127~(37%)	46 (98%)	1 (2%)	0	100 100
2	V	46/127~(36%)	45 (98%)	1 (2%)	0	100 100
3	L	212/215~(99%)	205~(97%)	6 (3%)	1 (0%)	25 32
3	М	198/215~(92%)	192 (97%)	6(3%)	0	100 100
All	All	903/1116 (81%)	875 (97%)	26 (3%)	2(0%)	44 55

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	L	95	PRO
1	Ι	95	GLY

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	Н	173/189~(92%)	170~(98%)	3(2%)	56	72	
1	Ι	189/189~(100%)	188 (100%)	1 (0%)	86	93	
2	Κ	38/45~(84%)	38 (100%)	0	100	100	
2	V	37/45~(82%)	37~(100%)	0	100	100	
3	L	185/186~(100%)	184 (100%)	1 (0%)	86	93	



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Mol	Chain	Analysed	Rotameric	Rotameric Outliers		
3	М	175/186~(94%)	175 (100%)	0	100	100
All	All	797/840~(95%)	792~(99%)	5 (1%)	84	92

All (5) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	Н	29	ILE
1	Н	44	LYS
1	Н	65	ASP
1	Ι	82(B)	SER
3	L	145	LYS

Sometimes side chains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 6 such side chains are listed below:

Mol	Chain	Res	Type
1	Ι	105	GLN
3	М	34	HIS
3	М	90	GLN
1	Н	105	GLN
1	Н	82(A)	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

4 monosaccharides 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



Mal	Turne	Chain	Dec	Tink	Bo	ond leng	$_{\rm ths}$	Bond angles			
	vior Type Cham	nes		Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2		
4	A2G	В	1	4,5	$14,\!14,\!15$	0.38	0	17,19,21	0.40	0	
4	SIA	В	2	4	20,20,21	0.83	1 (5%)	24,28,31	1.08	3 (12%)	
4	A2G	С	1	4,5	14,14,15	0.34	0	17,19,21	0.44	0	
4	SIA	С	2	4	20,20,21	0.78	1 (5%)	24,28,31	1.03	3 (12%)	

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).

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
4	A2G	В	1	4,5	-	1/6/23/26	0/1/1/1
4	SIA	В	2	4	-	0/18/34/38	0/1/1/1
4	A2G	С	1	4,5	-	2/6/23/26	0/1/1/1
4	SIA	С	2	4	-	0/18/34/38	0/1/1/1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	В	2	SIA	C2-C1	2.62	1.54	1.52
4	С	2	SIA	C2-C1	2.54	1.54	1.52

The worst 5 of 6 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$Observed(^{o})$	$Ideal(^{o})$
4	В	2	SIA	O1A-C1-C2	-2.90	115.73	122.57
4	С	2	SIA	O1A-C1-C2	-2.82	115.91	122.57
4	С	2	SIA	C6-O6-C2	2.66	117.02	111.34
4	В	2	SIA	C6-O6-C2	2.60	116.90	111.34
4	В	2	SIA	C3-C4-C5	-2.39	108.57	111.46

There are no chirality outliers.

All (3) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	С	1	A2G	C4-C5-C6-O6
4	В	1	A2G	C4-C5-C6-O6
4	С	1	A2G	O5-C5-C6-O6



There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	В	2	SIA	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.







5.6 Ligand geometry (i)

12 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).

Mal	T a	Chain	Dag	T : 1-	B	ond leng	$_{\rm gths}$	E	Bond ang	gles
	Type	Chain	Ites Link	Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2	
7	PEG	Ι	305	-	6,6,6	0.24	0	$5,\!5,\!5$	0.26	0
6	GOL	М	301	-	5,5,5	0.33	0	$5,\!5,\!5$	0.40	0
6	GOL	Н	302	-	5,5,5	0.33	0	$5,\!5,\!5$	0.38	0
5	SER	Н	301	4	5,6,6	0.94	0	5,7,7	1.17	0
7	PEG	Н	303	-	6,6,6	0.25	0	$5,\!5,\!5$	0.27	0
6	GOL	L	301	-	5,5,5	0.35	0	$5,\!5,\!5$	0.43	0
6	GOL	Ι	304	-	5,5,5	0.36	0	$5,\!5,\!5$	0.38	0
5	SER	Ι	301	4	5,6,6	0.95	0	5,7,7	1.15	0
6	GOL	L	302	-	5,5,5	0.35	0	$5,\!5,\!5$	0.40	0
6	GOL	V	201	-	5,5,5	0.35	0	$5,\!5,\!5$	0.37	0
6	GOL	Ι	302	-	5,5,5	0.35	0	$5,\!5,\!5$	0.38	0



Mol Type	Tuno	Chain	Dog	Res Link	Bond lengths			Bond angles		
	туре		nes		Counts	RMSZ	# Z >2	Counts	RMSZ	# Z >2
6	GOL	Ι	303	-	5,5,5	0.36	0	$5,\!5,\!5$	0.38	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
7	PEG	Ι	305	-	-	3/4/4/4	-
6	GOL	М	301	-	-	0/4/4/4	-
6	GOL	Н	302	-	-	0/4/4/4	-
5	SER	Н	301	4	-	2/6/6/6	-
7	PEG	Н	303	-	-	2/4/4/4	-
6	GOL	L	301	-	-	0/4/4/4	-
6	GOL	Ι	304	-	-	2/4/4/4	-
5	SER	Ι	301	4	-	2/6/6/6	-
6	GOL	L	302	-	-	0/4/4/4	-
6	GOL	V	201	-	-	0/4/4/4	-
6	GOL	Ι	302	-	-	0/4/4/4	-
6	GOL	Ι	303	-	-	2/4/4/4	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

5 of 13 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	Ι	303	GOL	C1-C2-C3-O3
6	Ι	304	GOL	O1-C1-C2-C3
7	Ι	305	PEG	O1-C1-C2-O2
7	Ι	305	PEG	O2-C3-C4-O4
6	Ι	303	GOL	O2-C2-C3-O3

There are no ring outliers.

4 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	Ι	305	PEG	1	0
6	М	301	GOL	1	0



Continued from previous page...

Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	Н	303	PEG	1	0
6	L	302	GOL	2	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 (i)

6.1 Protein, DNA and RNA chains (i)

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	Н	198/216~(91%)	1.47	61 (30%) 1 1	32, 57, 92, 101	0
1	Ι	216/216~(100%)	0.58	12 (5%) 31 33	32, 41, 55, 76	0
2	K	48/127~(37%)	1.32	9 (18%) 4 5	38, 53, 72, 77	0
2	V	47/127~(37%)	1.35	11 (23%) 2 3	39, 53, 70, 78	0
3	L	214/215~(99%)	0.67	16 (7%) 22 23	28, 44, 61, 81	0
3	М	204/215~(94%)	1.23	57 (27%) 2 2	31, 52, 85, 92	0
All	All	927/1116 (83%)	1.01	166 (17%) 4 5	28, 47, 82, 101	0

The worst 5 of 166 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	Н	95	GLY	7.1
1	Н	30	THR	5.5
3	М	95	PRO	4.9
1	Н	78	PHE	4.8
1	Н	76	ASN	4.8

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)

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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^{th} 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	$B-factors(A^2)$	Q<0.9
5	SER	Н	301	7/7	0.39	0.20	86,87,88,91	0
6	GOL	Н	302	6/6	0.55	0.22	72,73,77,82	0
6	GOL	L	301	6/6	0.58	0.27	47,51,59,63	0
6	GOL	Ι	303	6/6	0.71	0.24	47,49,54,61	0
7	PEG	Ι	305	7/7	0.72	0.28	40,42,53,54	0
5	SER	Ι	301	7/7	0.75	0.13	52,54,56,60	0
6	GOL	L	302	6/6	0.76	0.20	43,48,49,55	0
7	PEG	Н	303	7/7	0.82	0.15	48,48,56,61	0
6	GOL	М	301	6/6	0.83	0.22	33,39,40,42	0
6	GOL	Ι	304	6/6	0.84	0.13	44,47,54,55	0
6	GOL	Ι	302	6/6	0.85	0.16	36,45,49,53	0
6	GOL	V	201	6/6	0.85	0.18	$51,\!56,\!62,\!73$	0

6.5 Other polymers (i)

There are no such residues in this entry.

