



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 11:25 AM UTC

PDB ID : 4IBL / pdb_00004ibl
Title : Rubidium Sites in Blood Coagulation Factor VIIa
Authors : Vadivel, K.; Schmidt, A.; Cascio, D.; Padmanabhan, K.; Bajaj, S.P.
Deposited on : 2012-12-08
Resolution : 1.80 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 : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

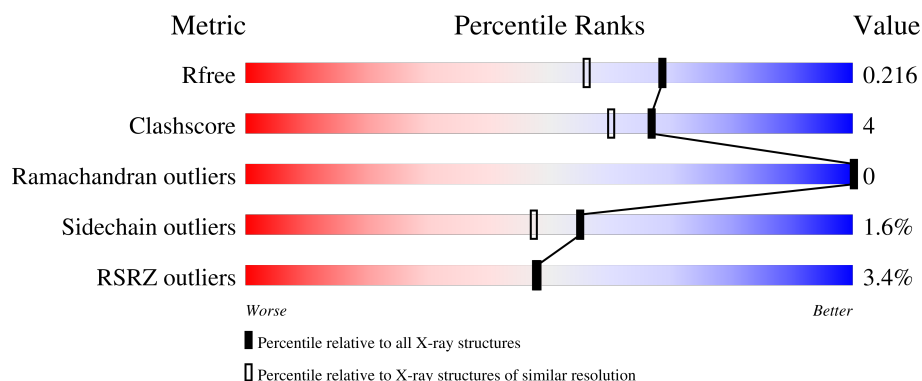
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

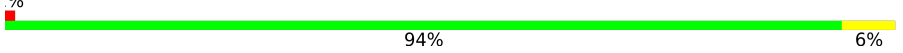
The reported resolution of this entry is 1.80 Å.

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}	180053	7662 (1.80-1.80)
Clashscore	190562	8479 (1.80-1.80)
Ramachandran outliers	187476	8391 (1.80-1.80)
Sidechain outliers	187428	8390 (1.80-1.80)
RSRZ outliers	180081	7663 (1.80-1.80)

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 $\leq 5\%$. 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	L	152	
2	H	254	
3	T	219	

2 Entry composition [i](#)

There are 11 unique types of molecules in this entry. The entry contains 5267 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 Coagulation factor VII.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	L	140	1121	676	186	244	15	0	0	0

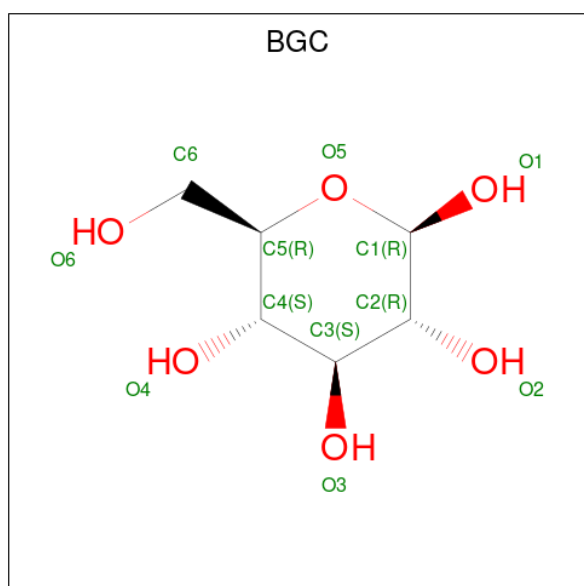
- Molecule 2 is a protein called Coagulation factor VII.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	H	254	1974	1253	351	357	13	0	0	0

- Molecule 3 is a protein called Tissue factor.

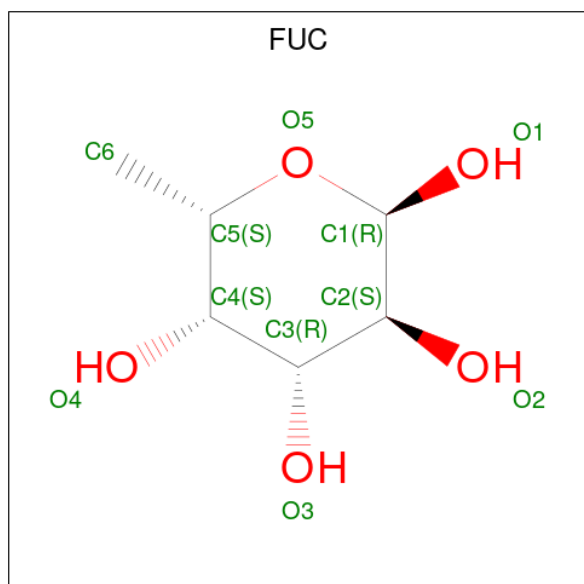
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	T	198	1596	1013	259	319	5	0	0	0

- Molecule 4 is beta-D-glucopyranose (CCD ID: BGC) (formula: C₆H₁₂O₆).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	L	1	Total	C	O	0	0
			11	6	5		

- Molecule 5 is alpha-L-fucopyranose (CCD ID: FUC) (formula: $C_6H_{12}O_5$).



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

- Molecule 6 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	L	3	Total	Mg	0	0
			3	3		

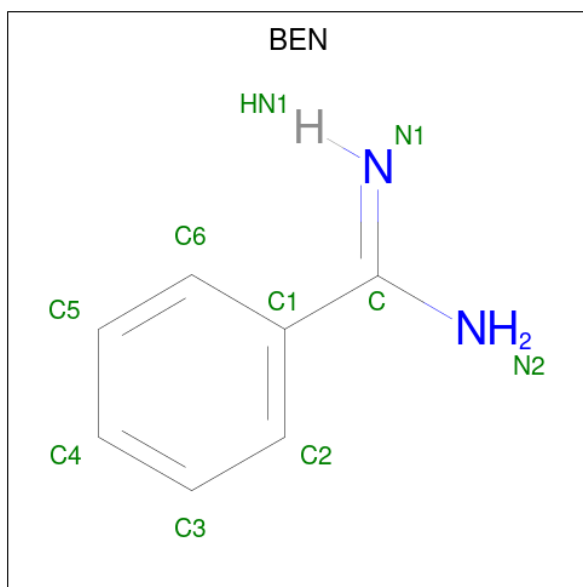
- Molecule 7 is CALCIUM ION (CCD ID: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	L	3	Total	Ca	0	0
			3	3		
7	H	1	Total	Ca	0	0
			1	1		

- Molecule 8 is RUBIDIUM ION (CCD ID: RB) (formula: Rb).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
8	L	4	Total	Rb	0	0
			4	4		
8	H	2	Total	Rb	0	0
			2	2		

- Molecule 9 is BENZAMIDINE (CCD ID: BEN) (formula: $C_7H_8N_2$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
9	H	1	Total	C	N	0	0
			9	7	2		

- Molecule 10 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
10	H	3	Total	Cl	0	0
			3	3		
10	T	1	Total	Cl	0	0
			1	1		

- Molecule 11 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
11	L	133	Total	O	0	0
			133	133		
11	H	248	Total	O	0	0
			248	248		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
11	T	148	Total 148	O 148	0	0

4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	69.90Å 81.06Å 126.42Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	68.24 – 1.80 68.24 – 1.80	Depositor EDS
% Data completeness (in resolution range)	100.0 (68.24-1.80) 100.0 (68.24-1.80)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.53 (at 1.81Å)	Xtriage
Refinement program	REFMAC 5.5.0109	Depositor
R, R_{free}	0.175 , 0.215 0.179 , 0.216	Depositor DCC
R_{free} test set	6702 reflections (10.00%)	wwPDB-VP
Wilson B-factor (Å ²)	18.8	Xtriage
Anisotropy	0.046	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 37.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	5267	wwPDB-VP
Average B, all atoms (Å ²)	22.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.92% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: CGU, CL, RB, BGC, MG, BEN, FUC, CA

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	L	1.18	1/1015 (0.1%)	1.10	1/1356 (0.1%)
2	H	1.40	3/2024 (0.1%)	1.18	1/2755 (0.0%)
3	T	1.31	2/1631 (0.1%)	1.19	0/2218
All	All	1.33	6/4670 (0.1%)	1.17	2/6329 (0.0%)

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	H	88	VAL	C-O	-6.62	1.17	1.24
3	T	156	TYR	CA-C	-5.72	1.45	1.52
2	H	179	TYR	N-CA	5.67	1.53	1.46
2	H	82	SER	N-CA	5.15	1.51	1.45
3	T	13	THR	CA-C	-5.12	1.46	1.52
1	L	94	GLU	C-O	5.03	1.29	1.23

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L	78	GLY	N-CA-C	-5.79	106.45	111.95
2	H	141	TRP	N-CA-C	-5.01	105.65	112.26

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	L	1121	0	973	4	0
2	H	1974	0	1950	9	0
3	T	1596	0	1551	23	0
4	L	11	0	10	0	0
5	L	10	0	10	0	0
6	L	3	0	0	0	0
7	H	1	0	0	0	0
7	L	3	0	0	0	0
8	H	2	0	0	0	0
8	L	4	0	0	0	0
9	H	9	0	7	0	0
10	H	3	0	0	1	0
10	T	1	0	0	0	0
11	H	248	0	0	6	0
11	L	133	0	0	1	0
11	T	148	0	0	4	0
All	All	5267	0	4501	34	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 (34) 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)
2:H:27:CYS:HB3	11:H:625:HOH:O	1.47	1.10
10:H:306:CL:CL	11:H:545:HOH:O	2.39	0.76
3:T:156:TYR:CD2	11:T:525:HOH:O	2.40	0.75
3:T:76:PHE:CD1	3:T:92:PRO:HG2	2.22	0.73
3:T:136:ARG:HG2	3:T:136:ARG:HH11	1.57	0.70
3:T:135:ARG:HD3	11:T:544:HOH:O	1.91	0.69
3:T:76:PHE:HD1	3:T:92:PRO:HG2	1.57	0.69
2:H:143:GLN:HB2	2:H:191:CYS:SG	2.35	0.66
1:L:71:PHE:CE2	3:T:131:ARG:HG2	2.32	0.64
2:H:156:MET:HE2	11:H:428:HOH:O	1.97	0.63
3:T:108:LEU:HD11	3:T:193:ILE:HG12	1.84	0.60
3:T:137:ASN:O	3:T:138:ASN:HB2	2.01	0.59
1:L:105:HIS:HE1	1:L:111:SER:OG	1.87	0.58
2:H:156:MET:HE1	11:H:463:HOH:O	2.03	0.57
3:T:118:GLN:HG3	3:T:122:LYS:O	2.10	0.52
1:L:105:HIS:O	1:L:108:THR:O	2.30	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:T:156:TYR:CD1	3:T:165:LYS:HD3	2.46	0.49
3:T:179:VAL:HB	3:T:185:TYR:CE1	2.47	0.49
1:L:3:ALA:HA	11:L:393:HOH:O	2.13	0.49
3:T:16:SER:HA	3:T:20:LYS:O	2.13	0.49
3:T:156:TYR:CE2	11:T:525:HOH:O	2.65	0.49
3:T:136:ARG:HH11	3:T:136:ARG:CG	2.23	0.48
3:T:116:PHE:HA	3:T:124:ASN:O	2.15	0.46
3:T:158:TRP:CE2	3:T:186:CYS:HB2	2.50	0.46
3:T:156:TYR:HD2	11:T:525:HOH:O	1.91	0.46
3:T:107:ASN:OD1	3:T:199:ASN:ND2	2.48	0.45
2:H:156:MET:CE	11:H:428:HOH:O	2.62	0.45
3:T:155:LEU:HD11	3:T:187:PHE:HB3	2.00	0.43
2:H:135:PHE:HB3	2:H:159:ASN:HD21	1.84	0.43
2:H:170(A):GLN:HB3	11:H:618:HOH:O	2.18	0.42
3:T:29:PRO:HB2	3:T:32:GLN:O	2.20	0.42
2:H:166:GLN:HB3	3:T:94:TYR:OH	2.21	0.41
2:H:164:MET:HE1	3:T:76:PHE:HE1	1.85	0.40
3:T:170:THR:HG23	3:T:172:THR:O	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	L	128/152 (84%)	122 (95%)	6 (5%)	0	100	100
2	H	252/254 (99%)	247 (98%)	5 (2%)	0	100	100
3	T	194/219 (89%)	191 (98%)	3 (2%)	0	100	100
All	All	574/625 (92%)	560 (98%)	14 (2%)	0	100	100

There are no Ramachandran outliers to report.

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	L	113/122 (93%)	111 (98%)	2 (2%)	51	43
2	H	216/216 (100%)	215 (100%)	1 (0%)	81	80
3	T	184/200 (92%)	179 (97%)	5 (3%)	39	27
All	All	513/538 (95%)	505 (98%)	8 (2%)	55	47

All (8) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	L	38	LYS
1	L	42	ILE
2	H	245	GLU
3	T	72	LEU
3	T	119	VAL
3	T	165	LYS
3	T	181	LYS
3	T	197	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (8) such sidechains are listed below:

Mol	Chain	Res	Type
1	L	57	ASN
1	L	80	ASN
1	L	88	GLN
1	L	105	HIS
2	H	109	HIS
2	H	110	GLN
2	H	159	ASN
3	T	190	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

10 non-standard protein/DNA/RNA residues 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
1	CGU	L	26	7,8,1,6	9,11,12	1.45	1 (11%)	10,14,16	1.46	1 (10%)
1	CGU	L	6	1	9,11,12	1.20	0	10,14,16	0.93	1 (10%)
1	CGU	L	14	1,6	9,11,12	1.36	1 (11%)	10,14,16	0.64	0
1	CGU	L	25	1,6	9,11,12	1.25	0	10,14,16	0.84	0
1	CGU	L	7	8,1	9,11,12	1.35	0	10,14,16	0.75	0
1	CGU	L	16	8,1,6	9,11,12	1.10	0	10,14,16	1.29	2 (20%)
1	CGU	L	29	7,8,1,6	9,11,12	1.68	2 (22%)	10,14,16	0.80	0
1	CGU	L	20	7,8,1	9,11,12	1.08	0	10,14,16	1.13	1 (10%)
1	CGU	L	35	1	9,11,12	1.70	2 (22%)	10,14,16	1.07	0
1	CGU	L	19	1,6	9,11,12	1.14	0	10,14,16	0.59	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
1	CGU	L	26	7,8,1,6	-	6/13/14/16	-
1	CGU	L	6	1	-	3/13/14/16	-
1	CGU	L	14	1,6	-	3/13/14/16	-
1	CGU	L	25	1,6	-	2/13/14/16	-
1	CGU	L	7	8,1	-	3/13/14/16	-
1	CGU	L	16	8,1,6	-	4/13/14/16	-
1	CGU	L	29	7,8,1,6	-	0/13/14/16	-
1	CGU	L	20	7,8,1	-	1/13/14/16	-
1	CGU	L	35	1	-	4/13/14/16	-
1	CGU	L	19	1,6	-	4/13/14/16	-

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	L	35	CGU	CG-CD1	3.20	1.56	1.52
1	L	29	CGU	CG-CD1	2.79	1.55	1.52
1	L	35	CGU	CG-CD2	2.69	1.55	1.52
1	L	26	CGU	OE12-CD1	-2.60	1.22	1.30
1	L	29	CGU	OE12-CD1	-2.06	1.24	1.30
1	L	14	CGU	OE12-CD1	-2.05	1.24	1.30

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L	26	CGU	CB-CA-C	-4.06	104.74	110.99
1	L	20	CGU	CB-CA-C	-2.99	106.39	110.99
1	L	16	CGU	CB-CA-C	-2.68	106.87	110.99
1	L	16	CGU	CB-CG-CD1	-2.49	108.05	113.11
1	L	6	CGU	CB-CG-CD1	-2.09	108.87	113.11

There are no chirality outliers.

All (30) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	L	7	CGU	O-C-CA-CB
1	L	26	CGU	OE12-CD1-CG-CB
1	L	35	CGU	CA-CB-CG-CD1
1	L	35	CGU	CA-CB-CG-CD2
1	L	26	CGU	CA-CB-CG-CD2
1	L	16	CGU	OE11-CD1-CG-CB
1	L	16	CGU	OE12-CD1-CG-CB
1	L	16	CGU	OE21-CD2-CG-CB
1	L	16	CGU	OE22-CD2-CG-CB
1	L	26	CGU	OE11-CD1-CG-CB
1	L	26	CGU	OE21-CD2-CG-CB
1	L	26	CGU	OE22-CD2-CG-CB
1	L	35	CGU	OE21-CD2-CG-CB
1	L	35	CGU	OE22-CD2-CG-CB
1	L	20	CGU	N-CA-CB-CG
1	L	6	CGU	OE21-CD2-CG-CB
1	L	6	CGU	OE22-CD2-CG-CB
1	L	7	CGU	OE11-CD1-CG-CB
1	L	7	CGU	OE12-CD1-CG-CB
1	L	14	CGU	OE21-CD2-CG-CB
1	L	14	CGU	OE22-CD2-CG-CB

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Mol	Chain	Res	Type	Atoms
1	L	19	CGU	OE11-CD1-CG-CB
1	L	19	CGU	OE12-CD1-CG-CB
1	L	19	CGU	OE21-CD2-CG-CB
1	L	19	CGU	OE22-CD2-CG-CB
1	L	25	CGU	OE11-CD1-CG-CB
1	L	25	CGU	OE12-CD1-CG-CB
1	L	6	CGU	OE21-CD2-CG-CD1
1	L	14	CGU	OE22-CD2-CG-CD1
1	L	26	CGU	OE12-CD1-CG-CD2

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 20 ligands modelled in this entry, 17 are monoatomic - leaving 3 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	$\# Z > 2$
5	FUC	L	202	1	10,10,11	0.29	0	14,14,16	0.58	0
4	BGC	L	201	1	11,11,12	0.26	0	15,15,17	0.52	0
9	BEN	H	301	-	9,9,9	1.37	2 (22%)	7,11,11	2.02	2 (28%)

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
5	FUC	L	202	1	-	-	0/1/1/1
4	BGC	L	201	1	-	1/2/19/22	0/1/1/1
9	BEN	H	301	-	-	4/4/4/4	0/1/1/1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	H	301	BEN	C5-C4	2.20	1.43	1.38
9	H	301	BEN	C2-C1	2.14	1.42	1.39

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	H	301	BEN	C3-C2-C1	-3.03	117.39	120.36
9	H	301	BEN	C4-C3-C2	2.94	123.86	120.24

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	L	201	BGC	O5-C5-C6-O6
9	H	301	BEN	N2-C-C1-C2
9	H	301	BEN	N2-C-C1-C6
9	H	301	BEN	N1-C-C1-C2
9	H	301	BEN	N1-C-C1-C6

There are no ring outliers.

No monomer is involved in short contacts.

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, 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	L	130/152 (85%)	0.18	4 (3%) 51 51	13, 24, 38, 43	0
2	H	254/254 (100%)	-0.47	2 (0%) 82 83	9, 15, 33, 51	0
3	T	198/219 (90%)	0.12	14 (7%) 22 20	13, 21, 46, 60	0
All	All	582/625 (93%)	-0.12	20 (3%) 48 48	9, 20, 40, 60	0

All (20) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	T	119	VAL	4.6
1	L	108	THR	4.4
3	T	82	ASN	3.8
2	H	170(G)	ASP	3.8
3	T	121	THR	3.7
3	T	81	GLY	3.3
1	L	107	GLY	3.3
3	T	165	LYS	3.2
1	L	121	LEU	2.9
3	T	120	GLY	2.8
3	T	118	GLN	2.8
3	T	156	TYR	2.7
3	T	90	GLY	2.6
1	L	122	ALA	2.6
2	H	191	CYS	2.5
3	T	137	ASN	2.4
3	T	182	GLY	2.4
3	T	138	ASN	2.3
3	T	164	GLY	2.3
3	T	184	ASN	2.2

6.2 Non-standard residues in protein, DNA, RNA chains [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, 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
1	CGU	L	35	12/13	0.82	0.18	32,46,55,56	0
1	CGU	L	6	12/13	0.88	0.12	24,35,44,45	0
1	CGU	L	19	12/13	0.89	0.10	38,43,46,46	0
1	CGU	L	20	12/13	0.90	0.10	35,40,43,44	0
1	CGU	L	14	12/13	0.90	0.09	30,36,42,44	0
1	CGU	L	7	12/13	0.92	0.10	25,29,42,44	0
1	CGU	L	26	12/13	0.93	0.09	21,24,27,32	0
1	CGU	L	16	12/13	0.94	0.08	22,25,29,30	0
1	CGU	L	29	12/13	0.94	0.08	24,27,28,28	0
1	CGU	L	25	12/13	0.94	0.08	24,26,33,35	0

6.3 Carbohydrates [i](#)

There are no oligosaccharides 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, 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
5	FUC	L	202	10/11	0.78	0.14	29,30,33,37	0
4	BGC	L	201	11/12	0.83	0.12	30,36,37,39	0
7	CA	L	208	1/1	0.84	0.09	71,71,71,71	0
7	CA	L	204	1/1	0.86	0.14	60,60,60,60	0
8	RB	H	305	1/1	0.89	0.16	52,52,52,52	1
8	RB	L	212	1/1	0.92	0.10	45,45,45,45	1
8	RB	H	304	1/1	0.93	0.13	46,46,46,46	1
8	RB	L	207	1/1	0.94	0.09	55,55,55,55	1
6	MG	L	209	1/1	0.96	0.07	47,47,47,47	0
7	CA	H	302	1/1	0.97	0.08	27,27,27,27	0
8	RB	L	205	1/1	0.97	0.08	48,48,48,48	1
6	MG	L	203	1/1	0.97	0.07	32,32,32,32	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
7	CA	L	210	1/1	0.98	0.03	21,21,21,21	0
6	MG	L	206	1/1	0.98	0.07	24,24,24,24	0
8	RB	L	211	1/1	0.98	0.11	31,31,31,31	1
9	BEN	H	301	9/9	0.98	0.05	12,15,16,18	0
10	CL	H	303	1/1	0.98	0.04	23,23,23,23	0
10	CL	H	307	1/1	0.98	0.07	32,32,32,32	0
10	CL	H	306	1/1	0.99	0.07	21,21,21,21	0
10	CL	T	301	1/1	0.99	0.02	20,20,20,20	0

6.5 Other polymers [i](#)

There are no such residues in this entry.