

# wwPDB X-ray Structure Validation Summary Report (i)

#### Aug 8, 2020 – 09:21 PM BST

PDB ID : 1DAN

Title: Complex of active site inhibited human blood coagulation factor VIIA with

human recombinant soluble tissue factor

Authors : Banner, D.W. Deposited on : 1997-03-05

Resolution : 2.00 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 following versions of software and data (see references (1)) 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 : 2.13.1 buster-report : 1.1.7 (2018)

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)

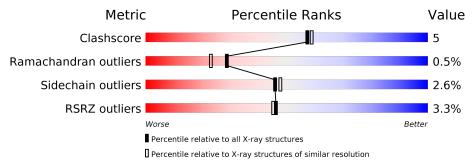
Validation Pipeline (wwPDB-VP) : 2.13.1

## 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 2.00 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	$\begin{array}{c} \text{Whole archive} \\ (\#\text{Entries}) \end{array}$	$egin{aligned}  ext{Similar resolution} \ (\# ext{Entries},  ext{resolution range}( ext{Å})) \end{aligned}$
Clashscore	141614	9178 (2.00-2.00)
Ramachandran outliers	138981	9054 (2.00-2.00)
Sidechain outliers	138945	9053 (2.00-2.00)
RSRZ outliers	127900	7900 (2.00-2.00)

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 on 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	L	152	86%	7% • 7%
2	Н	254	89%	10%
3	Т	80	81%	11% • 6%
4	U	121	7% 82%	12% •• •



## 2 Entry composition (i)

There are 11 unique types of molecules in this entry. The entry contains 4971 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 BLOOD COAGULATION FACTOR VIIA light chain.

Mol	Chain	Residues		$\mathbf{A}$ 1	toms			ZeroOcc	AltConf	Trace
1	L	142	Total	С	N	0	S	46	0	0
			1134	683	189	247	15			

• Molecule 2 is a protein called BLOOD COAGULATION FACTOR VIIA heavy chain.

$\mathbf{Mol}$	Chain	Residues		At	oms			ZeroOcc	AltConf	Trace
2	Н	254	Total 1974	C 1253	N 351	O 357	S 13	75	0	0

• Molecule 3 is a protein called SOLUBLE TISSUE FACTOR.

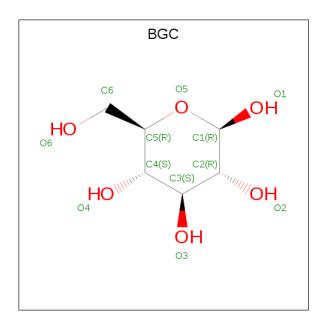
Mol	Chain	Residues		$\mathbf{At}$	oms			ZeroOcc	AltConf	Trace
3	Т	75	Total	С	N	О	S	7	0	0
ا ا	1	10	614	397	95	120	2	'	0	U

• Molecule 4 is a protein called SOLUBLE TISSUE FACTOR.

Mol	Chain	Residues		Atoms				ZeroOcc	AltConf	Trace
4	TT	116	Total	С	N	О	S	20	0	0
4	U	110	940	593	155	189	3	39	0	U

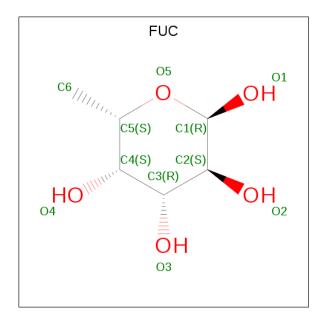
• Molecule 5 is beta-D-glucopyranose (three-letter code: BGC) (formula: C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>).





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

 $\bullet$  Molecule 6 is alpha-L-fucopyranose (three-letter code: FUC) (formula:  $\mathrm{C_6H_{12}O_5}).$ 



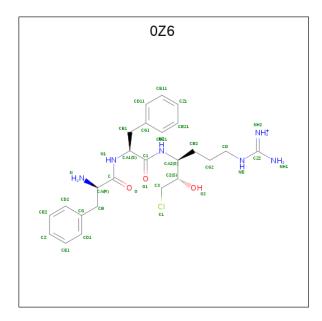
Mol	Chain	Residues	Ato	oms		ZeroOcc	AltConf
6	L	1	Total 10	C 6	O 4	0	0

• Molecule 7 is CALCIUM ION (three-letter code: CA) (formula: Ca).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	Н	1	Total Ca 1 1	0	0
7	L	8	Total Ca 8 8	0	0

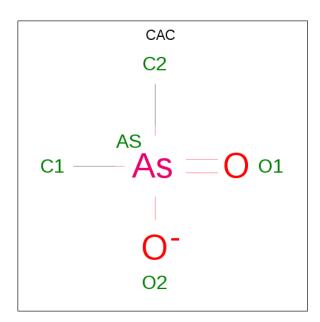
 $\bullet \ \, Molecule \ 8 \ is \ D-phenylalanyl-N-[(2S,3S)-6-\{[amino(iminio)methyl]amino\}-1-chloro-2-hydro \ \, xyhexan-3-yl]-L-phenylalaninamide (three-letter code: 0Z6) (formula: $C_{25}H_{36}ClN_6O_3$).$ 



Mol	Chain	Residues	A	Atoms				AltConf
0	П	1	Total	С	Ν	О	0	0
0	11	1	34	25	6	3	U	U

• Molecule 9 is CACODYLATE ION (three-letter code: CAC) (formula:  $C_2H_6AsO_2$ ).





Mol	Chain	Residues	A	\tom	ıs		ZeroOcc	AltConf
0	п	1	Total	As	С	О	0	0
9	11	1	5	1	2	2	U	0

• Molecule 10 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	${f Atoms}$	ZeroOcc	AltConf
10	Н	1	Total Cl 1 1	0	0

• Molecule 11 is water.

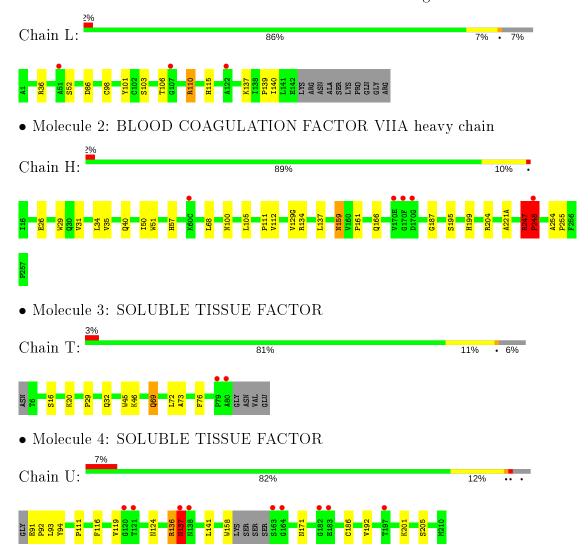
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
11	L	47	Total O 47 47	0	0
11	Н	106	Total O 106 106	0	0
11	Т	40	Total O 40 40	0	0
11	U	46	Total O 46 46	0	0



## 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: BLOOD COAGULATION FACTOR VIIA light chain





## 4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants	70.65Å 82.55Å 126.50Å	D:4
a, b, c, $\alpha$ , $\beta$ , $\gamma$	90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 - 2.00	Depositor
resolution (A)	19.62 - 2.00	EDS
% Data completeness	98.1 (20.00-2.00)	Depositor
(in resolution range)	98.1 (19.62-2.00)	EDS
$R_{merge}$	0.08	Depositor
$R_{sym}$	(Not available)	Depositor
$< I/\sigma(I) > 1$	$3.50 \; ({\rm at} \; 2.01 {\rm \AA})$	Xtriage
Refinement program	X-PLOR	Depositor
P. P.	0.187 , $0.218$	Depositor
$R, R_{free}$	0.188 , (Not available)	DCC
$R_{free}$ test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	25.5	Xtriage
Anisotropy	0.391	Xtriage
Bulk solvent $k_{sol}(e/Å^3)$ , $B_{sol}(Å^2)$	0.31, 55.6	EDS
L-test for twinning <sup>2</sup>	$ < L > = 0.50, < L^2> = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.96	EDS
Total number of atoms	4971	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	34.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 5.93% of the height of the origin peak. No significant pseudotranslation is detected.

<sup>&</sup>lt;sup>2</sup>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.



<sup>&</sup>lt;sup>1</sup>Intensities 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: BGC, CL, CA, 0Z6, FUC, CAC, CGU

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).

Mal	Chain	Bond lengths		Bond angles	
Mol	Chain	RMSZ	# Z >5	RMSZ	# Z  > 5
1	L	0.40	0/1028	0.64	0/1374
2	Н	0.41	0/2024	0.76	$3/2755 \ (0.1\%)$
3	Т	0.43	0/630	0.73	0/860
4	U	0.43	0/958	0.73	$1/1299 \ (0.1\%)$
All	All	0.41	0/4640	0.73	$4/6288 \ (0.1\%)$

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$\mathbf{Observed}(^o)$	$\mathbf{Ideal}(^{o})$
2	Н	248	PRO	N-CA-C	6.82	129.83	112.10
2	Н	199	HIS	N-CA-C	-6.39	93.74	111.00
2	Н	129(G)	VAL	N-CA-C	-5.13	97.14	111.00
4	U	136	ARG	N-CA-C	-5.11	97.21	111.00

There are no chirality outliers.

There are no planarity outliers.

#### 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	$\mathbf{H}(\mathbf{model})$	$\mathbf{H}(\mathbf{added})$	Clashes	Symm-Clashes
1	L	1134	0	987	6	0
2	Н	1974	0	1949	20	0
3	Т	614	0	598	9	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	U	940	0	912	12	0
5	L	11	0	10	1	0
6	L	10	0	10	0	0
7	Η	1	0	0	0	0
7	L	8	0	0	0	0
8	Η	34	0	32	0	0
9	Н	5	0	0	0	0
10	Η	1	0	0	0	0
11	Н	106	0	0	0	0
11	L	47	0	0	1	0
11	Т	40	0	0	1	0
11	U	46	0	0	0	0
All	All	4971	0	4498	43	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 5.

The worst 5 of 43 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	$egin{aligned}  ext{Interatomic} \  ext{distance} \ ( ext{Å}) \end{aligned}$	$egin{array}{c}  ext{Clash} \  ext{overlap } ( ext{Å}) \end{array}$
2:H:68:LEU:HD12	2:H:112:VAL:HG11	1.47	0.94
2:H:31:VAL:HG22	2:H:68:LEU:HD21	1.56	0.85
2:H:68:LEU:CD1	2:H:112:VAL:HG11	2.18	0.74
2:H:247:ARG:HB3	2:H:248:PRO:CD	2.17	0.74
3:T:45:TRP:HH2	3:T:72:LEU:HD12	1.60	0.66

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	130/152~(86%)	121 (93%)	9 (7%)	0	100 100
2	Н	252/254~(99%)	238 (94%)	12 (5%)	2 (1%)	19 13
3	Т	73/80 (91%)	70 (96%)	3 (4%)	0	100 100
4	U	112/121~(93%)	106~(95%)	5 (4%)	1 (1%)	17 11
All	All	567/607 (93%)	535 (94%)	29 (5%)	3 (0%)	29 23

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	Н	247	ARG
4	U	137	ASN
2	Н	248	PRO

#### 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	${ m L}$	$114/122 \ (93\%)$	109 (96%)	5 (4%)	28 25
2	Н	$216/216 \; (100\%)$	212 (98%)	4 (2%)	57 61
3	Τ	70/74~(95%)	69 (99%)	1 (1%)	67 72
4	U	$109/113 \; (96\%)$	106 (97%)	3 (3%)	43 44
All	All	509/525~(97%)	496 (97%)	13 (3%)	46 48

5 of 13 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	Н	29	TRP
2	Н	100	ASN
4	U	93	LEU
1	L	110	ARG
3	Т	69	GLN

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 7 such sidechains are listed below:



Mol	Chain	Res	Type
2	Н	110	GLN
4	U	171	ASN
2	Н	143	GLN
1	L	115	HIS
2	Н	159	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)

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	Tune	Chain	Res	Link	В	ond leng	$\operatorname{gths}$	Bond angles		
MIGI	Type	Chain	nes	Lilik	Counts	RMSZ	# Z >2	Counts	RMSZ	# Z  > 2
1	CGU	L	20	1,7	3,11,12	0.56	0	1,14,16	0.10	0
1	CGU	L	35	1	3,11,12	0.61	0	1,14,16	0.59	0
1	CGU	L	16	1,7	3,11,12	0.59	0	1,14,16	0.55	0
1	CGU	L	29	1,7	3,11,12	0.61	0	1,14,16	0.04	0
1	CGU	L	14	1,7	3,11,12	0.79	0	1,14,16	0.10	0
1	CGU	L	26	1,7	3,11,12	0.54	0	1,14,16	0.12	0
1	CGU	L	25	1,7	3,11,12	0.71	0	1,14,16	0.03	0
1	CGU	L	6	1,7	3,11,12	0.50	0	1,14,16	0.68	0
1	CGU	L	19	1,7	3,11,12	0.65	0	1,14,16	0.04	0
1	CGU	L	7	1,7	3,11,12	0.67	0	1,14,16	0.17	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	20	1,7	-	0/5/14/16	-
1	CGU	L	35	1	-	4/5/14/16	-

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Continued	trom	mromanne	maaa
-	110116	DICUIUU	$Du_iu_{C}$

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	CGU	L	16	1,7	_	0/5/14/16	-
1	CGU	L	29	1,7	-	1/5/14/16	-
1	CGU	L	14	1,7	-	0/5/14/16	-
1	CGU	L	26	1,7	-	0/5/14/16	-
1	CGU	L	25	1,7	_	0/5/14/16	-
1	CGU	L	6	1,7	-	2/5/14/16	-
1	CGU	L	19	1,7	-	0/5/14/16	-
1	CGU	L	7	1,7	-	0/5/14/16	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

5 of 7 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	L	35	CGU	N-CA-CB-CG
1	L	35	CGU	C-CA-CB-CG
1	L	6	CGU	CA-CB-CG-CD1
1	L	6	CGU	CA-CB-CG-CD2
1	L	35	CGU	CA-CB-CG-CD1

There are no ring outliers.

No monomer is involved in short contacts.

### 5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

### 5.6 Ligand geometry (i)

Of 14 ligands modelled in this entry, 10 are monoatomic - leaving 4 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	Bo	ond leng	ths	Bond angles		
MIOI		Chain			Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
5	BGC	L	153	1	11,11,12	1.27	1 (9%)	15,15,17	1.71	1 (6%)
8	0Z6	Н	1	2	34,35,36	1.27	2 (5%)	41,45,46	0.65	1 (2%)
6	FUC	L	154	1	10,10,11	1.09	1 (10%)	14,14,16	0.95	0
9	CAC	Н	259	-	0,4,4	0.00	-	0,6,6	0.00	-

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	BGC	L	153	1	_	0/2/19/22	0/1/1/1
8	0Z6	Н	1	2	-	1/35/35/37	0/2/2/2
6	FUC	L	154	1	-	-	0/1/1/1

#### All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$\operatorname{Observed}(\operatorname{\AA})$	$\operatorname{Ideal}( ext{\AA})$
8	Н	1	0Z6	O2-C2	-6.69	1.24	1.43
5	L	153	BGC	C2-C3	2.76	1.56	1.52
6	L	154	FUC	C1-C2	2.14	1.57	1.52
8	Н	1	0Z6	C3-C2	2.04	1.57	1.51

#### All (2) bond angle outliers are listed below:

N.	<b>Iol</b>	Chain	Res	Type	Atoms	$\mathbf{Z}$	$Observed(^o)$	$\operatorname{Ideal}({}^o)$
	5	L	153	BGC	C1-O5-C5	5.82	120.08	112.19
	8	Н	1	0Z6	C1-CA1-N1	-2.66	103.91	111.16

There are no chirality outliers.

#### All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
8	Н	1	0Z6	O2-C2-CA2-CB2

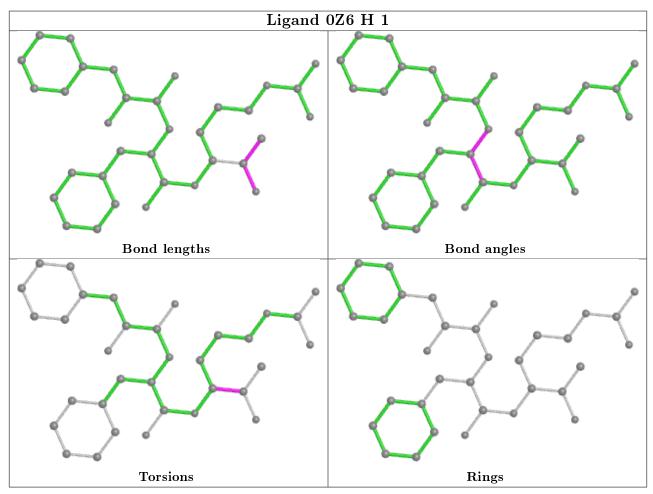
There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	$\operatorname{Res}$	Type	Clashes	Symm-Clashes
5	L	153	BGC	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 all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



#### 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	$\langle { m RSRZ} \rangle$	$\#\mathrm{RSRZ}{>}2$	$OWAB(A^2)$	Q < 0.9
1	L	132/152~(86%)	0.12	3 (2%) 60 59	22, 39, 56, 68	10 (7%)
2	Н	$254/254 \ (100\%)$	-0.32	5 (1%) 65 63	12, 23, 59, 72	23 (9%)
3	Т	75/80 (93%)	-0.40	2 (2%) 54 53	15, 25, 50, 62	4 (5%)
4	U	116/121 (95%)	0.13	9 (7%) 13 12	17, 34, 64, 69	21 (18%)
All	All	577/607 (95%)	-0.14	19 (3%) 46 45	12, 30, 59, 72	58 (10%)

The worst 5 of 19 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
4	U	164	GLY	6.0
2	Н	248	PRO	4.5
3	Т	80	ALA	4.3
4	U	137	ASN	3.7
2	Н	170(F)	GLY	3.4

### 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,  $95^{th}$  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	$ extbf{B-factors}( extbf{A}^2)$	Q < 0.9
1	CGU	L	19	12/13	0.82	0.18	44,59,68,70	1
1	CGU	L	14	12/13	0.87	0.18	39,61,70,72	0
1	CGU	L	25	12/13	0.89	0.20	36,63,72,72	0
1	CGU	L	35	12/13	0.92	0.14	58,70,96,99	7
1	CGU	L	20	12/13	0.93	0.14	38,43,47,55	0
1	CGU	L	29	12/13	0.95	0.10	31,36,47,50	0
1	CGU	L	26	12/13	0.95	0.11	28,34,40,45	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	$\operatorname{\textbf{B-factors}}(\AA^2)$	Q<0.9
1	CGU	L	7	12/13	0.95	0.09	23,31,36,40	0
1	CGU	L	16	12/13	0.96	0.10	19,34,38,38	0
1	CGU	L	6	12/13	0.96	0.11	26,32,40,48	0

### 6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

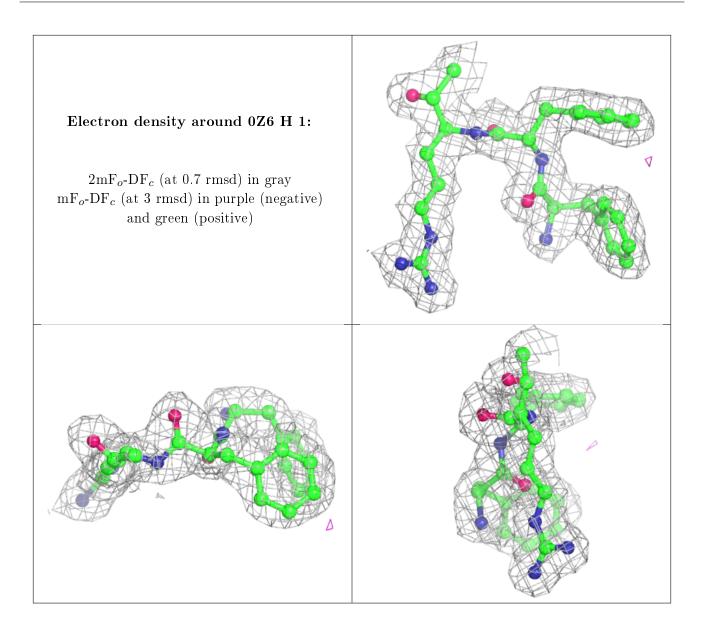
### 6.4 Ligands (i)

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,  $95^{th}$  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	$\mathbf{B} ext{-}\mathbf{factors}(\mathbf{\mathring{A}}^2)$	Q < 0.9
7	CA	L	162	1/1	0.81	0.10	62,62,62,62	0
7	CA	L	161	1/1	0.87	0.11	62,62,62,62	0
5	BGC	L	153	11/12	0.89	0.15	54,59,74,81	0
6	FUC	L	154	10/11	0.91	0.15	53,56,57,59	0
7	CA	L	160	1/1	0.93	0.15	76,76,76,76	0
7	CA	L	159	1/1	0.96	0.06	34,34,34,34	0
8	0Z6	Н	1	34/35	0.96	0.10	9,24,34,35	0
7	CA	L	155	1/1	0.96	0.04	41,41,41,41	0
7	CA	Н	258	1/1	0.97	0.06	30,30,30,30	0
7	CA	L	157	1/1	0.98	0.06	31,31,31,31	0
10	CL	Н	260	1/1	0.98	0.06	27,27,27,27	0
9	CAC	Н	259	5/5	0.99	0.08	29,32,36,44	0
7	CA	L	158	1/1	0.99	0.05	29,29,29,29	0
7	CA	Ĺ	156	1/1	0.99	0.05	31,31,31,31	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.





## 6.5 Other polymers (i)

There are no such residues in this entry.

