



# wwPDB X-ray Structure Validation Summary Report ⓘ

Mar 18, 2026 – 06:14 AM UTC

PDB ID : 3HUS / pdb\_00003hus  
Title : Crystal structure of recombinant gamma N308K fibrinogen fragment D with the peptide ligand Gly-Pro-Arg-Pro-amide  
Authors : Lord, S.T.; Bowley, S.R.; Okumura, N.  
Deposited on : 2009-06-15  
Resolution : 3.04 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](mailto: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>.

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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

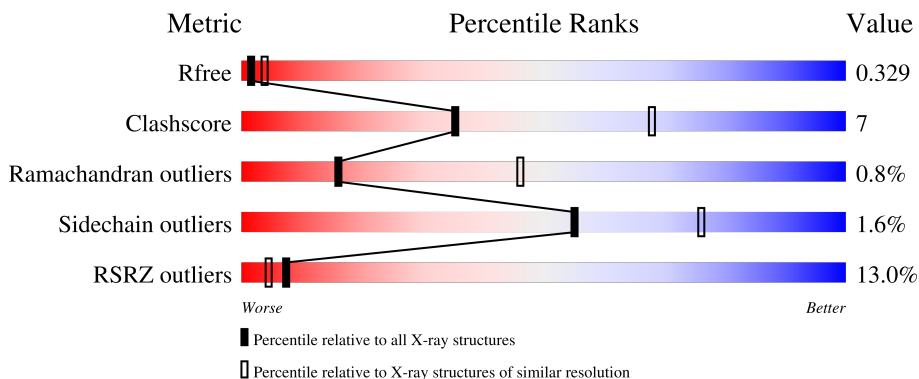
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*



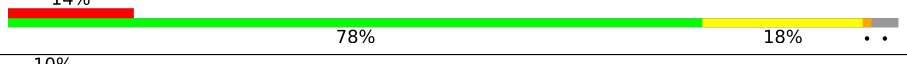


The reported resolution of this entry is 3.04 Å.

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	3685 (3.08-3.00)
Clashscore	190562	4007 (3.08-3.00)
Ramachandran outliers	187476	3834 (3.08-3.00)
Sidechain outliers	187428	3836 (3.08-3.00)
RSRZ outliers	180081	3684 (3.08-3.00)

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  $\geq 3$ , 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	A	66	
1	D	66	
2	B	313	
2	E	313	
3	C	311	

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Mol	Chain	Length	Quality of chain
3	F	311	<p>10% 78% 14% 6%</p>
4	G	4	<p>25% 100%</p>
4	H	4	<p>75% 75% 25% 100%</p>
4	I	4	<p>75% 25% 100%</p>
4	J	4	<p>50% 50% 50%</p>
5	K	3	<p>67% 33%</p>
5	L	3	<p>33% 33% 33%</p>

## 2 Entry composition [i](#)

There are 7 unique types of molecules in this entry. The entry contains 10837 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 Fibrinogen alpha chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	61	497	305	95	94	3	0	0	0
1	D	61	497	305	95	94	3	0	0	0

- Molecule 2 is a protein called Fibrinogen beta chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	303	2428	1514	429	463	22	0	0	0
2	E	303	2428	1514	429	463	22	0	0	0

- Molecule 3 is a protein called Fibrinogen gamma chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	291	2335	1483	393	448	11	0	0	0
3	F	293	2352	1493	397	451	11	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	308	LYS	ASN	engineered mutation	UNP P02679
F	308	LYS	ASN	engineered mutation	UNP P02679

- Molecule 4 is a protein called Peptide Ligand Gly-Pro-Arg-Pro-amide.

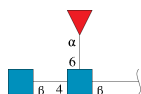
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
4	G	4	30	18	7	5	0	0	0

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
4	H	4	Total	C	N	O	0	0	0
			30	18	7	5			
4	I	4	Total	C	N	O	0	0	0
			30	18	7	5			
4	J	4	Total	C	N	O	0	0	0
			30	18	7	5			

- Molecule 5 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-[alpha-L-fucopyranose-(1-6)]2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
5	K	3	Total	C	N	O	0	0	0
			38	22	2	14			
5	L	3	Total	C	N	O	0	0	0
			38	22	2	14			

- Molecule 6 is CALCIUM ION (CCD ID: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	B	1	Total	Ca	0	0
			1	1		
6	C	1	Total	Ca	0	0
			1	1		
6	E	1	Total	Ca	0	0
			1	1		
6	F	1	Total	Ca	0	0
			1	1		

- Molecule 7 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	6	Total	O	0	0
			6	6		
7	B	26	Total	O	0	0
			26	26		
7	C	14	Total	O	0	0
			14	14		

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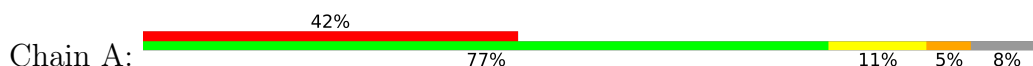
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<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>	<b>ZeroOcc</b>	<b>AltConf</b>
7	D	4	Total O 4 4	0	0
7	E	33	Total O 33 33	0	0
7	F	17	Total O 17 17	0	0

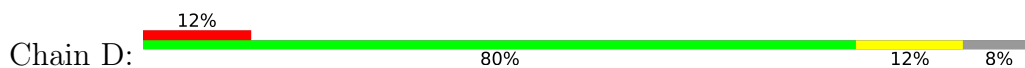
### 3 Residue-property plots [i](#)

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.

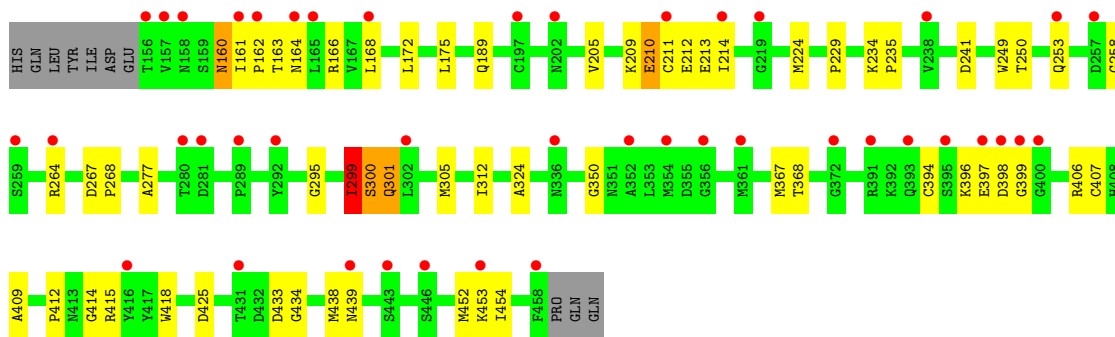
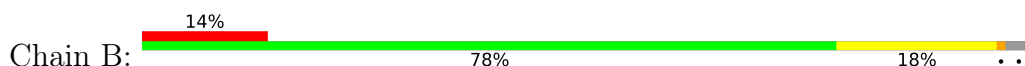
- Molecule 1: Fibrinogen alpha chain



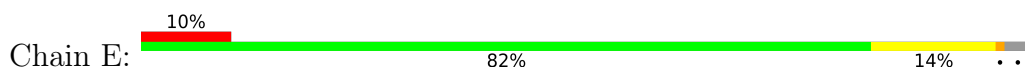
- Molecule 1: Fibrinogen alpha chain



- Molecule 2: Fibrinogen beta chain

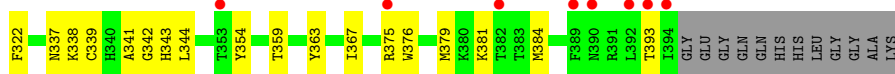
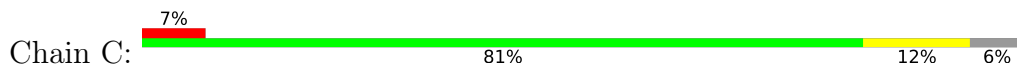


- Molecule 2: Fibrinogen beta chain

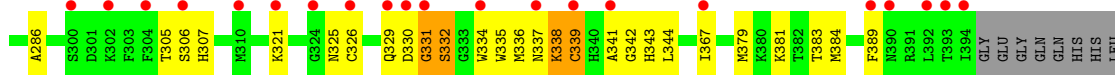
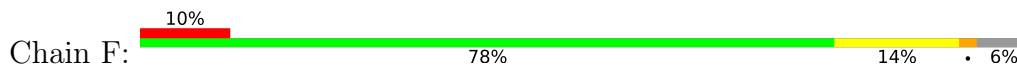




• Molecule 3: Fibrinogen gamma chain



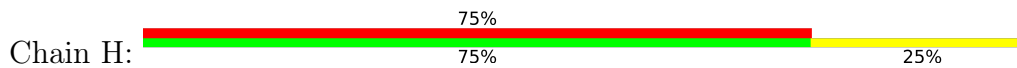
• Molecule 3: Fibrinogen gamma chain



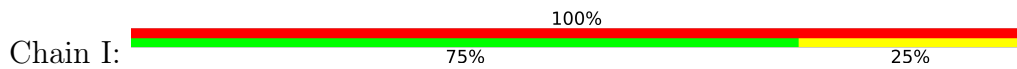
• Molecule 4: Peptide Ligand Gly-Pro-Arg-Pro-amide



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• Molecule 4: Peptide Ligand Gly-Pro-Arg-Pro-amide



- Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-[alpha-L-fucopyranose-(1-6)]2-acetamido-2-deoxy-beta-D-glucopyranose



- Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-[alpha-L-fucopyranose-(1-6)]2-acetamido-2-deoxy-beta-D-glucopyranose



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 43 21 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	95.01Å 95.01Å 448.38Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	47.25 – 3.04 47.25 – 3.04	Depositor EDS
% Data completeness (in resolution range)	99.4 (47.25-3.04) 99.3 (47.25-3.04)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	4.14 (at 3.07Å)	Xtrriage
Refinement program	REFMAC 5.0	Depositor
R, $R_{free}$	0.220 , 0.288 0.293 , 0.329	Depositor DCC
$R_{free}$ test set	2030 reflections (4.98%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	65.0	Xtrriage
Anisotropy	0.016	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.28 , 30.4	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.53$ , $\langle L^2 \rangle = 0.37$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.89	EDS
Total number of atoms	10837	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	61.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 42.63 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.9848e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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 [i](#)

### 5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: CA, NAG, FUC

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	0.52	0/498	0.85	0/665
1	D	0.36	0/498	0.78	0/665
2	B	0.48	0/2489	0.73	1/3362 (0.0%)
2	E	0.50	0/2489	0.73	1/3362 (0.0%)
3	C	0.40	0/2399	0.68	0/3243
3	F	0.50	1/2417 (0.0%)	0.71	2/3268 (0.1%)
4	G	0.60	0/31	0.58	0/40
4	H	0.61	0/31	0.70	0/40
4	I	0.64	0/31	0.80	0/40
4	J	0.60	0/31	0.64	0/40
All	All	0.47	1/10914 (0.0%)	0.72	4/14725 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	F	197	ARG	CA-C	-7.13	1.44	1.52

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	F	198	LEU	CA-C-N	-7.49	108.49	120.70
3	F	198	LEU	C-N-CA	-7.49	108.49	120.70
2	B	299	ILE	CB-CA-C	-6.02	104.17	112.24
2	E	409	ALA	N-CA-C	-5.07	107.48	113.97

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	H(model)	H(added)	Clashes	Symm-Clashes
1	A	497	0	517	12	0
1	D	497	0	517	6	0
2	B	2428	0	2295	46	0
2	E	2428	0	2296	34	0
3	C	2335	0	2192	24	0
3	F	2352	0	2208	47	0
4	G	30	0	32	0	0
4	H	30	0	32	1	0
4	I	30	0	32	1	0
4	J	30	0	32	3	0
5	K	38	0	34	0	0
5	L	38	0	34	1	0
6	B	1	0	0	0	0
6	C	1	0	0	0	0
6	E	1	0	0	0	0
6	F	1	0	0	0	0
7	A	6	0	0	0	0
7	B	26	0	0	1	0
7	C	14	0	0	1	0
7	D	4	0	0	0	0
7	E	33	0	0	2	0
7	F	17	0	0	0	0
All	All	10837	0	10221	154	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 7.

The worst 5 of 154 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:A:159:ARG:NH1	2:B:418:TRP:CE3	2.08	1.22
3:F:198:LEU:HD12	3:F:198:LEU:N	1.50	1.17
3:F:326:CYS:HB3	3:F:339:CYS:SG	1.85	1.16
3:F:326:CYS:CB	3:F:339:CYS:SG	2.41	1.08
1:A:159:ARG:O	2:B:258:GLY:O	1.70	1.07

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	A	59/66 (89%)	55 (93%)	3 (5%)	1 (2%)	7	29
1	D	59/66 (89%)	58 (98%)	1 (2%)	0	100	100
2	B	301/313 (96%)	271 (90%)	29 (10%)	1 (0%)	36	67
2	E	301/313 (96%)	275 (91%)	24 (8%)	2 (1%)	18	49
3	C	289/311 (93%)	267 (92%)	21 (7%)	1 (0%)	36	67
3	F	291/311 (94%)	265 (91%)	21 (7%)	5 (2%)	7	29
4	G	2/4 (50%)	2 (100%)	0	0	100	100
4	H	2/4 (50%)	2 (100%)	0	0	100	100
4	I	2/4 (50%)	2 (100%)	0	0	100	100
4	J	2/4 (50%)	2 (100%)	0	0	100	100
All	All	1308/1396 (94%)	1199 (92%)	99 (8%)	10 (1%)	16	46

5 of 10 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	E	157	VAL
3	F	335	TRP
3	F	338	LYS
1	A	160	SER
2	E	396	LYS

### 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	56/61 (92%)	52 (93%)	4 (7%)	13	40
1	D	56/61 (92%)	55 (98%)	1 (2%)	51	74
2	B	261/271 (96%)	255 (98%)	6 (2%)	44	70
2	E	261/271 (96%)	259 (99%)	2 (1%)	73	83
3	C	245/259 (95%)	243 (99%)	2 (1%)	73	83
3	F	247/259 (95%)	244 (99%)	3 (1%)	63	79
4	G	3/3 (100%)	3 (100%)	0	100	100
4	H	3/3 (100%)	3 (100%)	0	100	100
4	I	3/3 (100%)	3 (100%)	0	100	100
4	J	3/3 (100%)	3 (100%)	0	100	100
All	All	1138/1194 (95%)	1120 (98%)	18 (2%)	55	76

5 of 18 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	E	428	LYS
3	F	339	CYS
3	F	198	LEU
2	B	300	SER
2	E	280	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 40 such sidechains are listed below:

Mol	Chain	Res	Type
2	E	408	HIS
3	F	146	HIS
3	F	103	HIS
3	F	119	GLN
3	F	239	GLN

### 5.3.3 RNA

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](#)

6 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 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	NAG	K	1	2,5	14,14,15	0.51	0	17,19,21	0.81	0
5	NAG	K	2	5	14,14,15	0.78	0	17,19,21	2.51	6 (35%)
5	FUC	K	3	5	10,10,11	0.63	0	14,14,16	0.63	0
5	NAG	L	1	5	14,14,15	0.55	0	17,19,21	0.96	1 (5%)
5	NAG	L	2	5	14,14,15	0.64	0	17,19,21	1.55	2 (11%)
5	FUC	L	3	5	10,10,11	0.61	0	14,14,16	0.67	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
5	NAG	K	1	2,5	-	0/6/23/26	0/1/1/1
5	NAG	K	2	5	-	5/6/23/26	0/1/1/1
5	FUC	K	3	5	-	-	0/1/1/1
5	NAG	L	1	5	-	2/6/23/26	0/1/1/1
5	NAG	L	2	5	-	4/6/23/26	0/1/1/1
5	FUC	L	3	5	-	-	0/1/1/1

There are no bond length outliers.

The worst 5 of 9 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	K	2	NAG	C2-N2-C7	7.28	132.66	122.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	K	2	NAG	C4-C3-C2	4.28	117.29	111.02
5	L	2	NAG	C2-N2-C7	3.88	128.10	122.90
5	K	2	NAG	C8-C7-N2	3.67	122.21	116.12
5	L	2	NAG	C4-C3-C2	3.26	115.80	111.02

There are no chirality outliers.

5 of 11 torsion outliers are listed below:

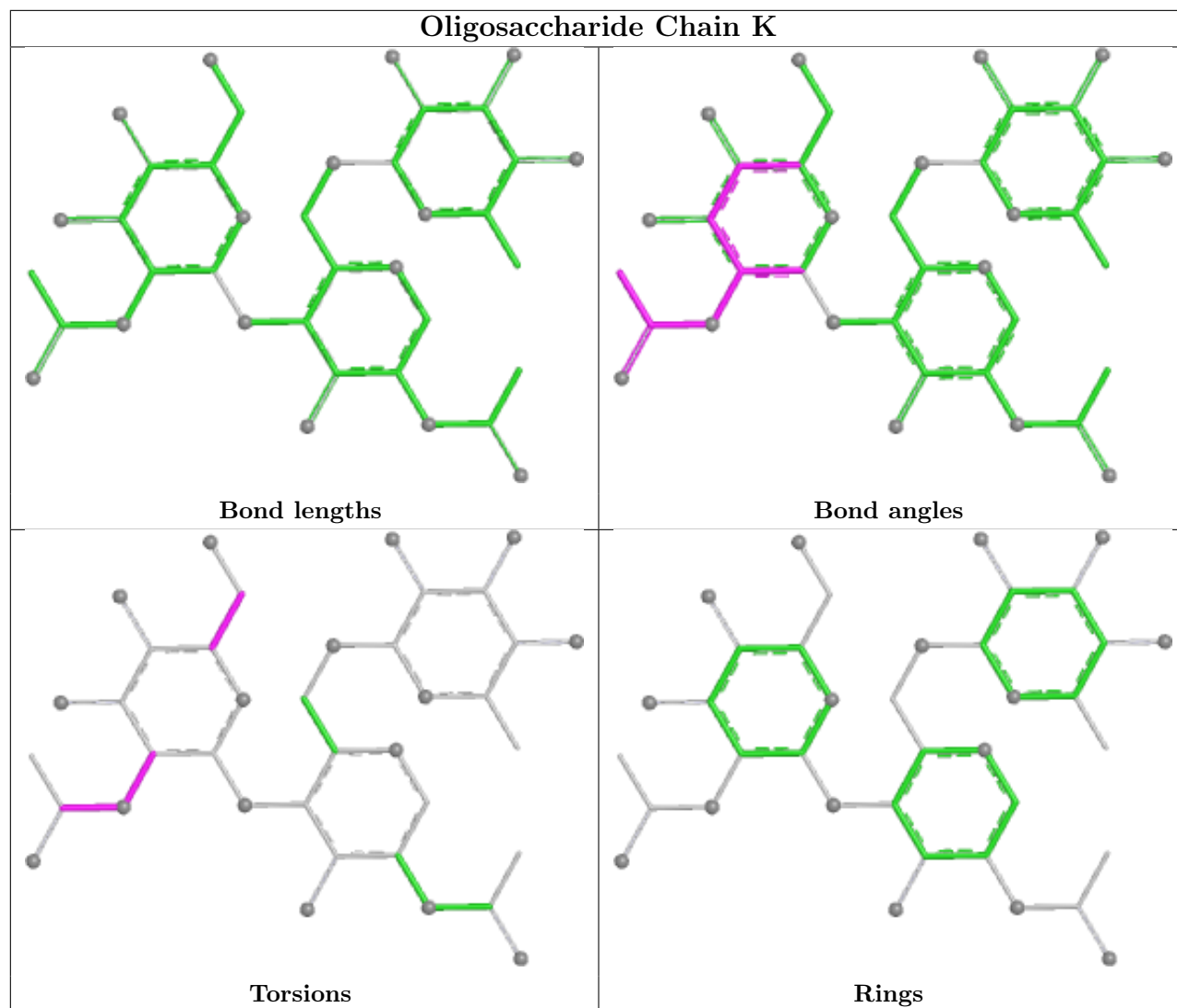
Mol	Chain	Res	Type	Atoms
5	L	1	NAG	O5-C5-C6-O6
5	L	1	NAG	C4-C5-C6-O6
5	K	2	NAG	C8-C7-N2-C2
5	K	2	NAG	O7-C7-N2-C2
5	K	2	NAG	C1-C2-N2-C7

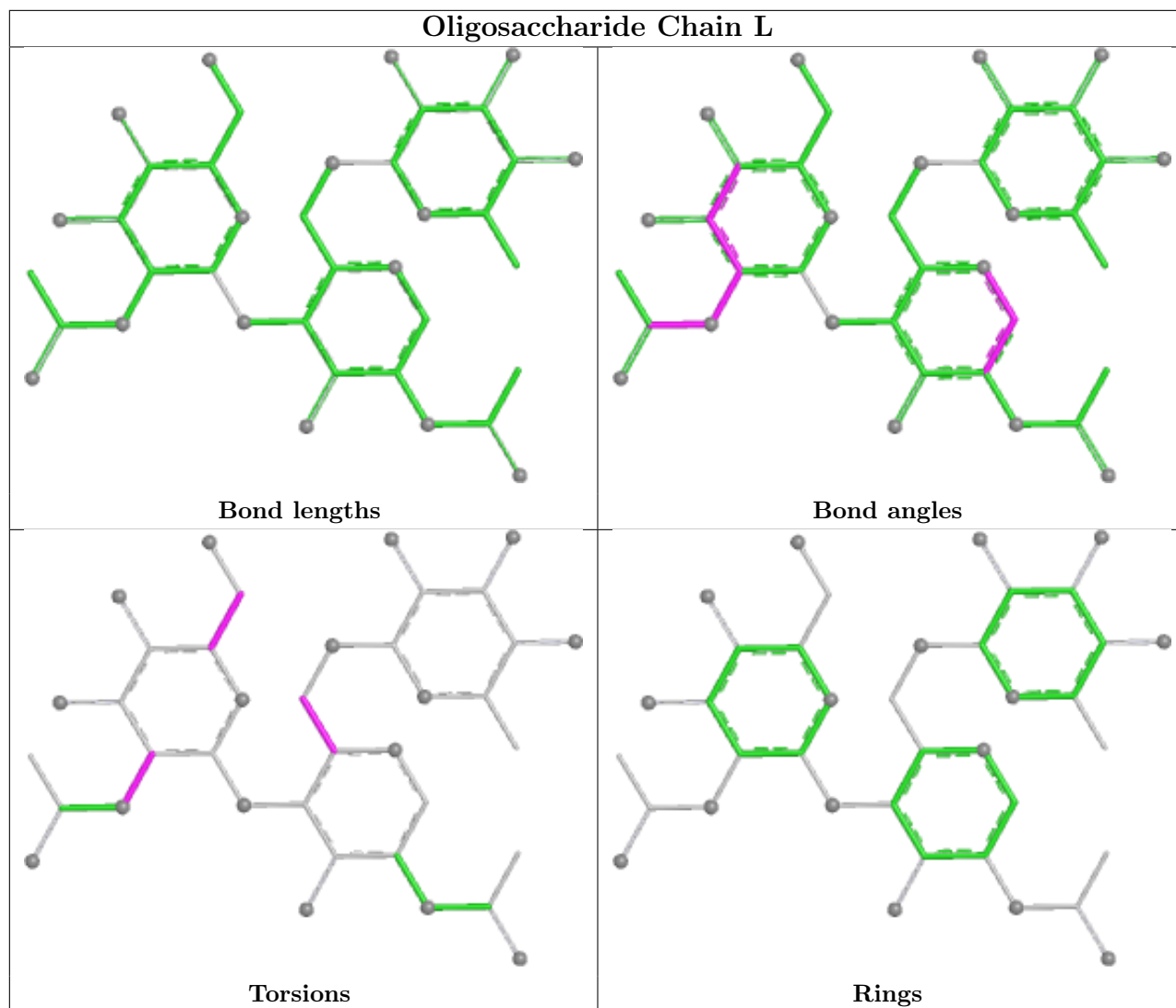
There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	L	1	NAG	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](#)

Of 4 ligands modelled in this entry, 4 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 [i](#)

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 [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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	61/66 (92%)	2.13	28 (45%) 0 0	72, 87, 102, 102	0
1	D	61/66 (92%)	1.26	8 (13%) 7 4	60, 67, 78, 78	0
2	B	303/313 (96%)	1.18	43 (14%) 6 4	49, 58, 75, 88	0
2	E	303/313 (96%)	0.99	31 (10%) 12 6	46, 55, 68, 81	0
3	C	291/311 (93%)	0.90	21 (7%) 21 10	50, 59, 72, 83	0
3	F	293/311 (94%)	0.92	31 (10%) 11 6	50, 61, 73, 87	0
4	G	4/4 (100%)	1.41	1 (25%) 2 1	85, 85, 86, 86	0
4	H	4/4 (100%)	2.91	3 (75%) 0 0	88, 88, 88, 89	0
4	I	4/4 (100%)	2.51	4 (100%) 0 0	95, 95, 96, 96	0
4	J	4/4 (100%)	2.23	2 (50%) 0 0	78, 78, 78, 80	0
All	All	1328/1396 (95%)	1.08	172 (12%) 7 4	46, 59, 82, 102	0

The worst 5 of 172 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	E	395	SER	7.8
2	B	157	VAL	5.6
3	F	394	ILE	5.5
4	H	1	GLY	5.0
2	B	397	GLU	4.9

### 6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

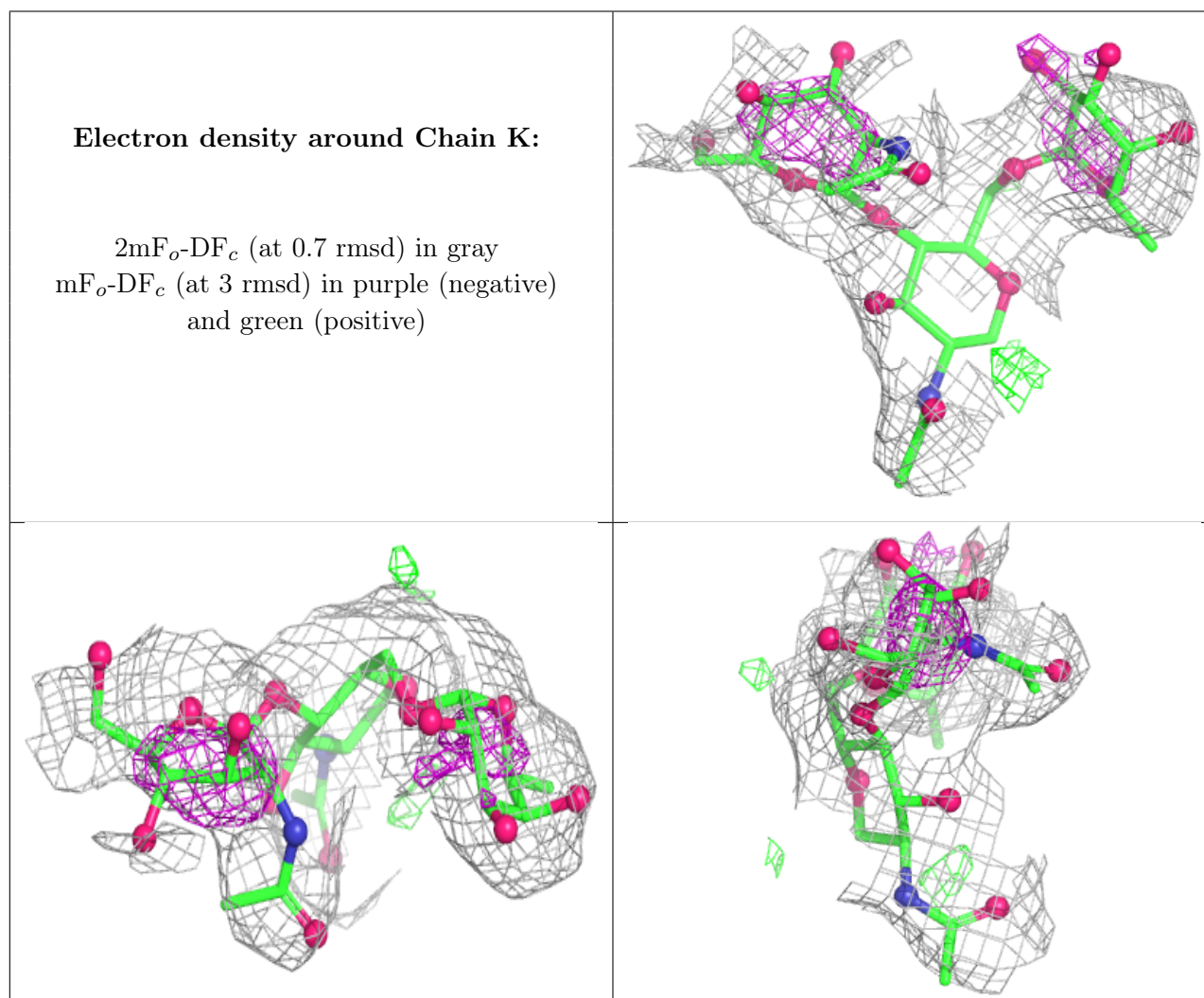
There are no non-standard protein/DNA/RNA residues in this entry.

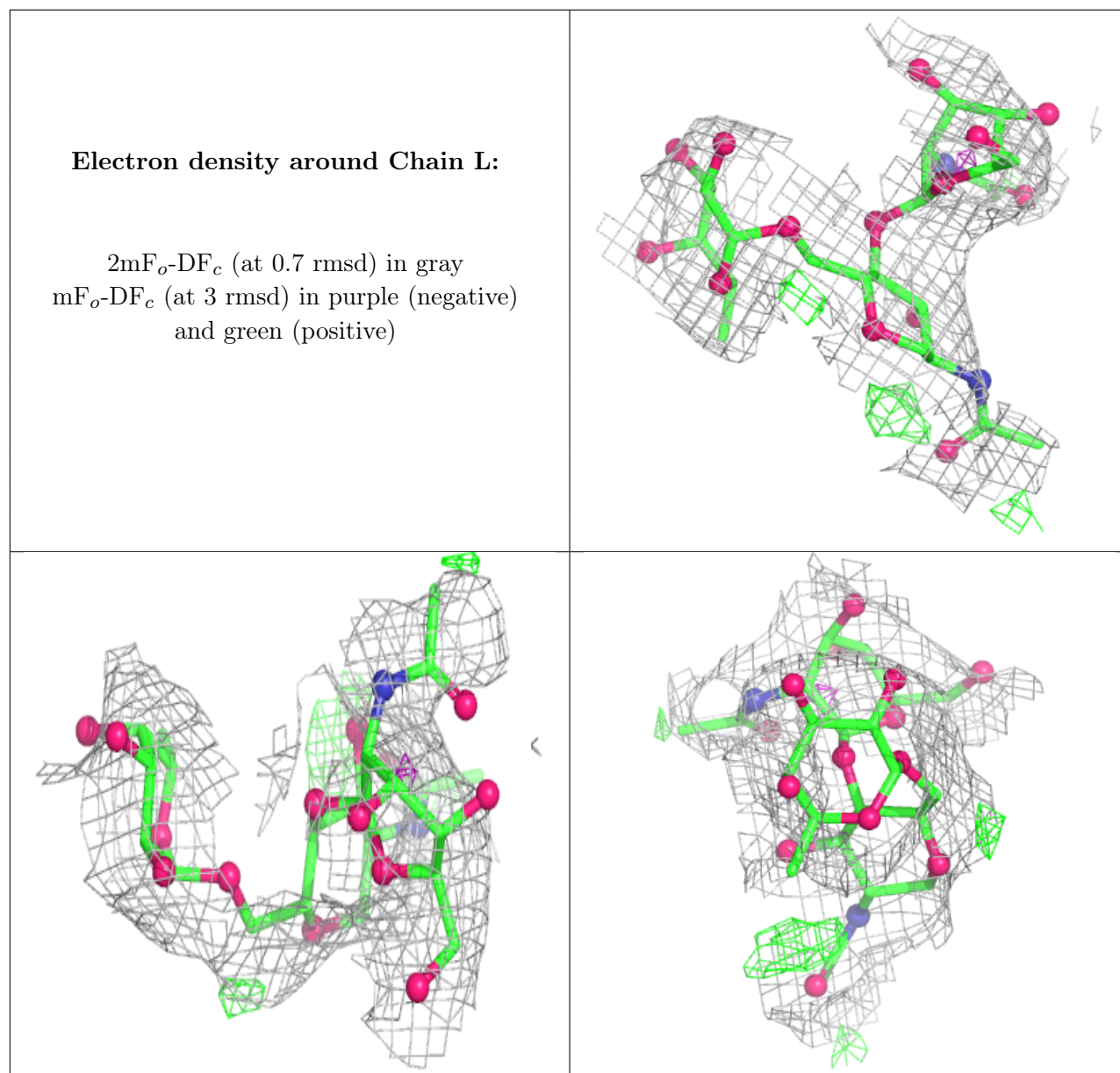
### 6.3 Carbohydrates [i](#)

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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
5	NAG	K	2	14/15	0.25	0.18	100,101,102,102	0
5	NAG	L	2	14/15	0.48	0.18	134,135,135,135	0
5	FUC	L	3	10/11	0.49	0.17	135,135,135,135	0
5	NAG	K	1	14/15	0.52	0.17	89,92,97,97	0
5	FUC	K	3	10/11	0.53	0.20	99,99,100,100	0
5	NAG	L	1	14/15	0.55	0.20	132,134,135,135	0

The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.





## 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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
6	CA	C	1	1/1	0.35	0.17	68,68,68,68	0
6	CA	F	1	1/1	0.36	0.21	90,90,90,90	0
6	CA	B	2	1/1	0.43	0.22	69,69,69,69	0
6	CA	E	2	1/1	0.53	0.21	64,64,64,64	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.