



Full wwPDB Geometry-Only Validation Report i

Jun 22, 2021 – 12:16 PM EDT

PDB ID : 3IRI
Title : Solution Structure of Heparin dp18
Authors : Khan, S.; Gor, J.; Mulloy, B.; Perkins, S.J.
Deposited on : 2009-08-24
Resolution : Not provided

This is a Full wwPDB Geometry-Only 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 i symbol.

The following versions of software and data (see [references \(1\)](#)) were used in the production of this report:

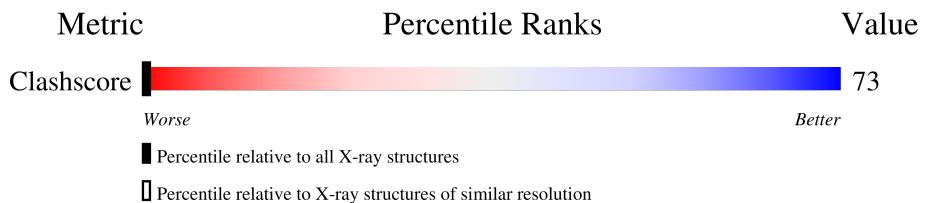
MolProbitY : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.20

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
SOLUTION SCATTERING

The reported resolution of this entry is unknown.

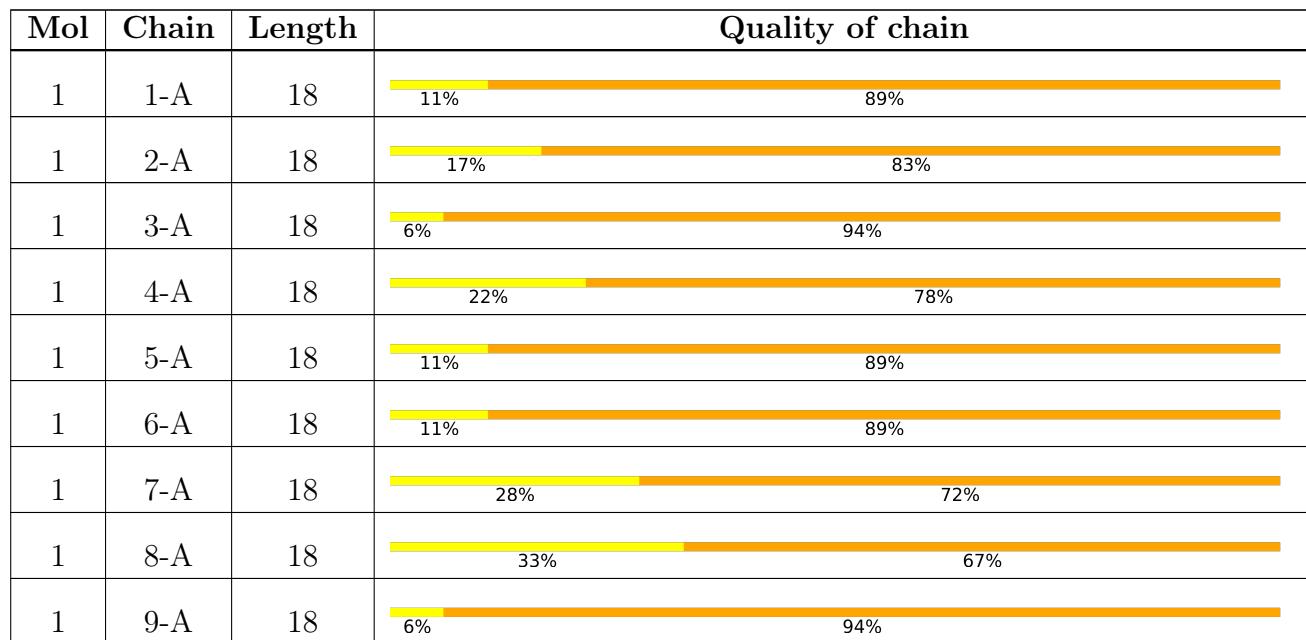
Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	-

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 $\leq 5\%$

Note EDS was not executed.



The following table lists non-polymeric compounds, carbohydrate monomers and non-standard



- Molecule 1: 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-2-(sulfoamino)-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-2-(sulfoamino)-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulf o-2-(sulfoamino)-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deox y-6-O-sulfo-2-(sulfoamino)-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuronic acid-(1 -4)-2-deoxy-6-O-sulfo-2-(sulfoamino)-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-idopyranuro nic acid-(1-4)-2-deoxy-6-O-sulfo-2-(sulfoamino)-alpha-D-glucopyranose-(1-4)-2-O-sulfo-alpha-L-id opyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-2-(sulfoamino)-alpha-D-glucopyranose-(1-4)-2-O-sulfo- alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-2-(sulfoamino)-alpha-D-glucopyranose-(1-4)- 2-O-sulfo-alpha-L-idopyranuronic acid-(1-4)-2-deoxy-6-O-sulfo-2-(sulfoamino)-alpha-D-glucopyra nose

Chain 9-A: 6% 94%



4 Model quality [\(i\)](#)

4.1 Standard geometry [\(i\)](#)

Bond lengths and bond angles in the following residue types are not validated in this section: IDS, SGN

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).

There are no protein, RNA or DNA chains available to summarize Z scores of covalent bonds and angles.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

4.2 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	1-A	315	0	99	36	0
1	2-A	315	0	99	38	0
1	3-A	315	0	96	45	0
1	4-A	315	0	100	26	0
1	5-A	315	0	95	19	0
1	6-A	315	0	100	36	0
1	7-A	315	0	98	17	0
1	8-A	315	0	97	24	0
1	9-A	315	0	98	31	0
All	All	2835	0	882	272	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 73.

All (272) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	IDS	6-A	18	1	-	3/5/22/29	0/1/1/1
1	IDS	6-A	2	1	-	0/5/26/29	0/1/1/1
1	SGN	6-A	3	1	-	6/11/28/31	0/1/1/1
1	IDS	6-A	4	1	-	3/5/26/29	0/1/1/1
1	SGN	6-A	5	1	-	1/11/28/31	0/1/1/1
1	IDS	6-A	6	1	-	0/5/26/29	0/1/1/1
1	SGN	6-A	7	1	-	3/11/28/31	0/1/1/1
1	IDS	6-A	8	1	-	3/5/26/29	0/1/1/1
1	SGN	6-A	9	1	-	5/11/28/31	0/1/1/1
1	SGN	7-A	1	1	-	1/11/31/31	0/1/1/1
1	IDS	7-A	10	1	-	3/5/26/29	0/1/1/1
1	SGN	7-A	11	1	-	4/11/28/31	0/1/1/1
1	IDS	7-A	12	1	-	1/5/26/29	0/1/1/1
1	SGN	7-A	13	1	-	1/11/28/31	0/1/1/1
1	IDS	7-A	14	1	-	2/5/26/29	0/1/1/1
1	SGN	7-A	15	1	-	6/11/28/31	0/1/1/1
1	IDS	7-A	16	1	-	5/5/26/29	0/1/1/1
1	SGN	7-A	17	1	-	3/11/28/31	0/1/1/1
1	IDS	7-A	18	1	-	1/5/22/29	0/1/1/1
1	IDS	7-A	2	1	-	3/5/26/29	0/1/1/1
1	SGN	7-A	3	1	-	3/11/28/31	0/1/1/1
1	IDS	7-A	4	1	-	0/5/26/29	0/1/1/1
1	SGN	7-A	5	1	-	3/11/28/31	0/1/1/1
1	IDS	7-A	6	1	-	1/5/26/29	0/1/1/1
1	SGN	7-A	7	1	-	6/11/28/31	0/1/1/1
1	IDS	7-A	8	1	-	4/5/26/29	0/1/1/1
1	SGN	7-A	9	1	-	4/11/28/31	0/1/1/1
1	SGN	8-A	1	1	-	10/11/31/31	0/1/1/1
1	IDS	8-A	10	1	-	0/5/26/29	0/1/1/1
1	SGN	8-A	11	1	1/1/6/8	3/11/28/31	0/1/1/1
1	IDS	8-A	12	1	-	0/5/26/29	0/1/1/1
1	SGN	8-A	13	1	-	3/11/28/31	0/1/1/1
1	IDS	8-A	14	1	-	5/5/26/29	0/1/1/1
1	SGN	8-A	15	1	-	0/11/28/31	0/1/1/1
1	IDS	8-A	16	1	-	0/5/26/29	0/1/1/1
1	SGN	8-A	17	1	-	10/11/28/31	0/1/1/1
1	IDS	8-A	18	1	-	0/5/22/29	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	IDS	8-A	2	1	-	0/5/26/29	0/1/1/1
1	SGN	8-A	3	1	-	4/11/28/31	0/1/1/1
1	IDS	8-A	4	1	-	0/5/26/29	0/1/1/1
1	SGN	8-A	5	1	-	4/11/28/31	0/1/1/1
1	IDS	8-A	6	1	-	3/5/26/29	0/1/1/1
1	SGN	8-A	7	1	-	6/11/28/31	0/1/1/1
1	IDS	8-A	8	1	-	0/5/26/29	0/1/1/1
1	SGN	8-A	9	1	-	2/11/28/31	0/1/1/1
1	SGN	9-A	1	1	-	3/11/31/31	0/1/1/1
1	IDS	9-A	10	1	-	3/5/26/29	0/1/1/1
1	SGN	9-A	11	1	-	6/11/28/31	0/1/1/1
1	IDS	9-A	12	1	-	0/5/26/29	0/1/1/1
1	SGN	9-A	13	1	-	5/11/28/31	0/1/1/1
1	IDS	9-A	14	1	-	3/5/26/29	0/1/1/1
1	SGN	9-A	15	1	-	6/11/28/31	0/1/1/1
1	IDS	9-A	16	1	-	3/5/26/29	0/1/1/1
1	SGN	9-A	17	1	-	1/11/28/31	0/1/1/1
1	IDS	9-A	18	1	-	0/5/22/29	0/1/1/1
1	IDS	9-A	2	1	-	0/5/26/29	0/1/1/1
1	SGN	9-A	3	1	-	5/11/28/31	0/1/1/1
1	IDS	9-A	4	1	-	3/5/26/29	0/1/1/1
1	SGN	9-A	5	1	-	6/11/28/31	0/1/1/1
1	IDS	9-A	6	1	-	3/5/26/29	0/1/1/1
1	SGN	9-A	7	1	-	4/11/28/31	0/1/1/1
1	IDS	9-A	8	1	-	2/5/26/29	0/1/1/1
1	SGN	9-A	9	1	-	6/11/28/31	0/1/1/1

All (323) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	9-A	14	IDS	O2-C2	-3.69	1.41	1.47
1	6-A	4	IDS	O2-C2	-3.68	1.41	1.47
1	6-A	14	IDS	O2-C2	-3.68	1.41	1.47
1	5-A	14	IDS	O2-C2	-3.67	1.41	1.47
1	5-A	4	IDS	O2-C2	-3.66	1.41	1.47
1	8-A	14	IDS	O2-C2	-3.66	1.41	1.47
1	8-A	4	IDS	O2-C2	-3.65	1.41	1.47
1	3-A	14	IDS	O2-C2	-3.65	1.41	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	7-A	4	IDS	O2-C2	-3.64	1.41	1.47
1	3-A	4	IDS	O2-C2	-3.64	1.41	1.47
1	2-A	14	IDS	O2-C2	-3.64	1.41	1.47
1	9-A	4	IDS	O2-C2	-3.64	1.41	1.47
1	4-A	14	IDS	O2-C2	-3.63	1.41	1.47
1	4-A	4	IDS	O2-C2	-3.62	1.41	1.47
1	2-A	4	IDS	O2-C2	-3.61	1.41	1.47
1	4-A	18	IDS	O2-C2	-3.61	1.41	1.47
1	7-A	18	IDS	O2-C2	-3.61	1.41	1.47
1	1-A	4	IDS	O2-C2	-3.61	1.41	1.47
1	8-A	18	IDS	O2-C2	-3.61	1.41	1.47
1	1-A	14	IDS	O2-C2	-3.60	1.41	1.47
1	1-A	18	IDS	O2-C2	-3.60	1.41	1.47
1	3-A	12	IDS	O2-C2	-3.59	1.41	1.47
1	6-A	8	IDS	O2-C2	-3.58	1.41	1.47
1	4-A	12	IDS	O2-C2	-3.57	1.41	1.47
1	7-A	14	IDS	O2-C2	-3.57	1.41	1.47
1	7-A	10	IDS	O2-C2	-3.57	1.41	1.47
1	1-A	8	IDS	O2-C2	-3.57	1.41	1.47
1	6-A	10	IDS	O2-C2	-3.57	1.41	1.47
1	9-A	18	IDS	O2-C2	-3.57	1.41	1.47
1	8-A	10	IDS	O2-C2	-3.56	1.41	1.47
1	1-A	10	IDS	O2-C2	-3.56	1.41	1.47
1	9-A	8	IDS	O2-C2	-3.56	1.41	1.47
1	4-A	10	IDS	O2-C2	-3.56	1.41	1.47
1	1-A	16	IDS	O2-C2	-3.55	1.41	1.47
1	7-A	16	IDS	O2-C2	-3.55	1.41	1.47
1	3-A	10	IDS	O2-C2	-3.55	1.41	1.47
1	5-A	18	IDS	O2-C2	-3.55	1.41	1.47
1	3-A	18	IDS	O2-C2	-3.54	1.41	1.47
1	1-A	2	IDS	O2-C2	-3.54	1.41	1.47
1	6-A	12	IDS	O2-C2	-3.54	1.41	1.47
1	2-A	16	IDS	O2-C2	-3.54	1.41	1.47
1	2-A	18	IDS	O2-C2	-3.54	1.41	1.47
1	5-A	8	IDS	O2-C2	-3.54	1.41	1.47
1	2-A	10	IDS	O2-C2	-3.54	1.41	1.47
1	5-A	6	IDS	O2-C2	-3.53	1.41	1.47
1	6-A	2	IDS	O2-C2	-3.53	1.41	1.47
1	8-A	6	IDS	O2-C2	-3.53	1.41	1.47
1	5-A	12	IDS	O2-C2	-3.53	1.41	1.47
1	2-A	8	IDS	O2-C2	-3.53	1.41	1.47
1	6-A	18	IDS	O2-C2	-3.53	1.41	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	4-A	6	IDS	O2-C2	-3.52	1.41	1.47
1	6-A	6	IDS	O2-C2	-3.52	1.41	1.47
1	9-A	10	IDS	O2-C2	-3.52	1.41	1.47
1	7-A	12	IDS	O2-C2	-3.52	1.41	1.47
1	4-A	16	IDS	O2-C2	-3.52	1.41	1.47
1	2-A	6	IDS	O2-C2	-3.52	1.41	1.47
1	8-A	12	IDS	O2-C2	-3.52	1.41	1.47
1	2-A	2	IDS	O2-C2	-3.52	1.41	1.47
1	5-A	2	IDS	O2-C2	-3.51	1.41	1.47
1	5-A	10	IDS	O2-C2	-3.51	1.41	1.47
1	2-A	12	IDS	O2-C2	-3.50	1.41	1.47
1	5-A	16	IDS	O2-C2	-3.50	1.41	1.47
1	4-A	8	IDS	O2-C2	-3.50	1.41	1.47
1	4-A	2	IDS	O2-C2	-3.50	1.41	1.47
1	9-A	12	IDS	O2-C2	-3.50	1.41	1.47
1	7-A	8	IDS	O2-C2	-3.50	1.41	1.47
1	7-A	6	IDS	O2-C2	-3.49	1.41	1.47
1	6-A	16	IDS	O2-C2	-3.49	1.41	1.47
1	3-A	2	IDS	O2-C2	-3.49	1.41	1.47
1	9-A	2	IDS	O2-C2	-3.49	1.41	1.47
1	3-A	8	IDS	O2-C2	-3.49	1.41	1.47
1	3-A	6	IDS	O2-C2	-3.48	1.41	1.47
1	8-A	2	IDS	O2-C2	-3.48	1.41	1.47
1	9-A	6	IDS	O2-C2	-3.48	1.41	1.47
1	1-A	12	IDS	O2-C2	-3.48	1.41	1.47
1	4-A	15	SGN	S1-N2	3.47	1.64	1.59
1	4-A	17	SGN	S1-N2	3.47	1.64	1.59
1	3-A	16	IDS	O2-C2	-3.46	1.41	1.47
1	8-A	8	IDS	O2-C2	-3.46	1.42	1.47
1	7-A	11	SGN	S1-N2	3.46	1.64	1.59
1	8-A	16	IDS	O2-C2	-3.44	1.42	1.47
1	8-A	5	SGN	S1-N2	3.43	1.64	1.59
1	2-A	15	SGN	S1-N2	3.43	1.64	1.59
1	2-A	5	SGN	S1-N2	3.43	1.64	1.59
1	9-A	16	IDS	O2-C2	-3.43	1.42	1.47
1	6-A	17	SGN	S1-N2	3.43	1.64	1.59
1	1-A	6	IDS	O2-C2	-3.43	1.42	1.47
1	4-A	5	SGN	S1-N2	3.42	1.64	1.59
1	7-A	2	IDS	O2-C2	-3.42	1.42	1.47
1	9-A	15	SGN	S1-N2	3.42	1.64	1.59
1	7-A	17	SGN	S1-N2	3.41	1.64	1.59
1	8-A	17	SGN	S1-N2	3.41	1.64	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	2-A	17	SGN	S1-N2	3.40	1.64	1.59
1	1-A	11	SGN	S1-N2	3.40	1.64	1.59
1	5-A	5	SGN	S1-N2	3.40	1.64	1.59
1	4-A	3	SGN	S1-N2	3.39	1.64	1.59
1	1-A	5	SGN	S1-N2	3.39	1.64	1.59
1	9-A	13	SGN	S1-N2	3.39	1.64	1.59
1	6-A	15	SGN	S1-N2	3.39	1.64	1.59
1	6-A	5	SGN	S1-N2	3.39	1.64	1.59
1	5-A	15	SGN	S1-N2	3.39	1.64	1.59
1	8-A	15	SGN	S1-N2	3.39	1.64	1.59
1	6-A	3	SGN	S1-N2	3.38	1.64	1.59
1	5-A	17	SGN	S1-N2	3.38	1.64	1.59
1	7-A	15	SGN	S1-N2	3.38	1.64	1.59
1	5-A	3	SGN	S1-N2	3.38	1.64	1.59
1	3-A	15	SGN	S1-N2	3.37	1.64	1.59
1	3-A	17	SGN	S1-N2	3.37	1.64	1.59
1	4-A	11	SGN	S1-N2	3.37	1.64	1.59
1	9-A	11	SGN	S1-N2	3.37	1.64	1.59
1	3-A	11	SGN	S1-N2	3.36	1.64	1.59
1	9-A	5	SGN	S1-N2	3.36	1.64	1.59
1	2-A	11	SGN	S1-N2	3.36	1.64	1.59
1	1-A	15	SGN	S1-N2	3.36	1.64	1.59
1	9-A	17	SGN	S1-N2	3.36	1.64	1.59
1	1-A	7	SGN	S1-N2	3.35	1.64	1.59
1	1-A	3	SGN	S1-N2	3.35	1.64	1.59
1	9-A	1	SGN	S1-N2	3.35	1.64	1.59
1	3-A	5	SGN	S1-N2	3.34	1.64	1.59
1	1-A	17	SGN	S1-N2	3.34	1.64	1.59
1	5-A	11	SGN	S1-N2	3.34	1.64	1.59
1	7-A	7	SGN	S1-N2	3.34	1.64	1.59
1	8-A	11	SGN	S1-N2	3.33	1.64	1.59
1	7-A	13	SGN	S1-N2	3.33	1.64	1.59
1	2-A	7	SGN	S1-N2	3.33	1.64	1.59
1	7-A	5	SGN	S1-N2	3.32	1.64	1.59
1	2-A	13	SGN	S1-N2	3.32	1.64	1.59
1	4-A	13	SGN	S1-N2	3.31	1.64	1.59
1	8-A	3	SGN	S1-N2	3.31	1.64	1.59
1	3-A	3	SGN	S1-N2	3.31	1.64	1.59
1	2-A	3	SGN	S1-N2	3.30	1.64	1.59
1	1-A	13	SGN	S1-N2	3.30	1.64	1.59
1	6-A	13	SGN	S1-N2	3.30	1.64	1.59
1	9-A	7	SGN	S1-N2	3.30	1.64	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	3-A	13	SGN	S1-N2	3.29	1.64	1.59
1	7-A	1	SGN	S1-N2	3.28	1.64	1.59
1	6-A	1	SGN	S1-N2	3.28	1.64	1.59
1	6-A	7	SGN	S1-N2	3.28	1.64	1.59
1	9-A	3	SGN	S1-N2	3.28	1.64	1.59
1	4-A	7	SGN	S1-N2	3.28	1.64	1.59
1	2-A	1	SGN	S1-N2	3.28	1.64	1.59
1	5-A	7	SGN	S1-N2	3.27	1.64	1.59
1	5-A	9	SGN	S1-N2	3.27	1.64	1.59
1	3-A	7	SGN	S1-N2	3.27	1.64	1.59
1	8-A	7	SGN	S1-N2	3.26	1.64	1.59
1	5-A	13	SGN	S1-N2	3.26	1.63	1.59
1	6-A	11	SGN	S1-N2	3.25	1.63	1.59
1	3-A	1	SGN	S1-N2	3.25	1.63	1.59
1	8-A	13	SGN	S1-N2	3.25	1.63	1.59
1	4-A	1	SGN	S1-N2	3.24	1.63	1.59
1	8-A	1	SGN	S1-N2	3.24	1.63	1.59
1	1-A	1	SGN	S1-N2	3.23	1.63	1.59
1	5-A	1	SGN	S1-N2	3.21	1.63	1.59
1	1-A	9	SGN	S1-N2	3.21	1.63	1.59
1	4-A	9	SGN	S1-N2	3.21	1.63	1.59
1	8-A	9	SGN	S1-N2	3.21	1.63	1.59
1	7-A	3	SGN	S1-N2	3.20	1.63	1.59
1	7-A	9	SGN	S1-N2	3.20	1.63	1.59
1	2-A	9	SGN	S1-N2	3.18	1.63	1.59
1	6-A	9	SGN	S1-N2	3.17	1.63	1.59
1	9-A	9	SGN	S1-N2	3.15	1.63	1.59
1	3-A	9	SGN	S1-N2	3.13	1.63	1.59
1	8-A	17	SGN	O5-C1	-2.32	1.40	1.43
1	5-A	17	SGN	O5-C1	-2.30	1.40	1.43
1	4-A	17	SGN	O5-C1	-2.29	1.40	1.43
1	2-A	17	SGN	O5-C1	-2.28	1.40	1.43
1	2-A	7	SGN	O5-C1	-2.26	1.40	1.43
1	1-A	2	IDS	O5-C1	-2.26	1.40	1.43
1	6-A	3	SGN	O5-C1	-2.25	1.40	1.43
1	1-A	7	SGN	O5-C1	-2.25	1.40	1.43
1	9-A	17	SGN	O5-C1	-2.25	1.40	1.43
1	5-A	11	SGN	O5-C1	-2.25	1.40	1.43
1	2-A	13	SGN	O5-C1	-2.24	1.40	1.43
1	5-A	9	SGN	O5-C1	-2.24	1.40	1.43
1	6-A	9	SGN	O5-C1	-2.24	1.40	1.43
1	1-A	17	SGN	O5-C1	-2.24	1.40	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	4-A	7	SGN	O5-C1	-2.23	1.40	1.43
1	9-A	7	SGN	O5-C1	-2.23	1.40	1.43
1	8-A	3	SGN	O5-C1	-2.23	1.40	1.43
1	6-A	11	SGN	O5-C1	-2.23	1.40	1.43
1	3-A	17	SGN	O5-C1	-2.23	1.40	1.43
1	8-A	7	SGN	O5-C1	-2.23	1.40	1.43
1	7-A	2	IDS	O5-C1	-2.23	1.40	1.43
1	3-A	9	SGN	O5-C1	-2.22	1.40	1.43
1	7-A	17	SGN	O5-C1	-2.22	1.40	1.43
1	7-A	3	SGN	O5-C1	-2.22	1.40	1.43
1	8-A	11	SGN	O5-C1	-2.22	1.40	1.43
1	9-A	9	SGN	O5-C1	-2.21	1.40	1.43
1	7-A	9	SGN	O5-C1	-2.21	1.40	1.43
1	8-A	9	SGN	O5-C1	-2.21	1.40	1.43
1	3-A	7	SGN	O5-C1	-2.21	1.40	1.43
1	1-A	9	SGN	O5-C1	-2.21	1.40	1.43
1	6-A	17	SGN	O5-C1	-2.21	1.40	1.43
1	4-A	11	SGN	O5-C1	-2.20	1.40	1.43
1	6-A	13	SGN	O5-C1	-2.20	1.40	1.43
1	4-A	9	SGN	O5-C1	-2.20	1.40	1.43
1	5-A	7	SGN	O5-C1	-2.20	1.40	1.43
1	5-A	3	SGN	O5-C1	-2.20	1.40	1.43
1	6-A	7	SGN	O5-C1	-2.20	1.40	1.43
1	3-A	2	IDS	O5-C1	-2.19	1.40	1.43
1	1-A	11	SGN	O5-C1	-2.19	1.40	1.43
1	1-A	3	SGN	O5-C1	-2.19	1.40	1.43
1	9-A	5	SGN	O5-C1	-2.19	1.40	1.43
1	2-A	9	SGN	O5-C1	-2.19	1.40	1.43
1	7-A	11	SGN	O5-C1	-2.19	1.40	1.43
1	6-A	15	SGN	O5-C1	-2.19	1.40	1.43
1	8-A	13	SGN	O5-C1	-2.18	1.40	1.43
1	3-A	13	SGN	O5-C1	-2.18	1.40	1.43
1	5-A	13	SGN	O5-C1	-2.18	1.40	1.43
1	2-A	11	SGN	O5-C1	-2.18	1.40	1.43
1	4-A	3	SGN	O5-C1	-2.17	1.40	1.43
1	3-A	3	SGN	O5-C1	-2.17	1.40	1.43
1	8-A	5	SGN	O5-C1	-2.17	1.40	1.43
1	5-A	2	IDS	O5-C1	-2.17	1.40	1.43
1	1-A	13	SGN	O5-C1	-2.17	1.40	1.43
1	9-A	13	SGN	O5-C1	-2.17	1.40	1.43
1	9-A	11	SGN	O5-C1	-2.17	1.40	1.43
1	6-A	2	IDS	O5-C1	-2.17	1.40	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	9-A	16	IDS	O5-C1	-2.16	1.40	1.43
1	4-A	2	IDS	O5-C1	-2.16	1.40	1.43
1	2-A	3	SGN	O5-C1	-2.16	1.40	1.43
1	7-A	7	SGN	O5-C1	-2.16	1.40	1.43
1	4-A	13	SGN	O5-C1	-2.16	1.40	1.43
1	9-A	3	SGN	O5-C1	-2.15	1.40	1.43
1	6-A	12	IDS	O5-C1	-2.15	1.40	1.43
1	6-A	5	SGN	O5-C1	-2.15	1.40	1.43
1	5-A	12	IDS	O5-C1	-2.15	1.40	1.43
1	9-A	14	IDS	O5-C1	-2.15	1.40	1.43
1	7-A	13	SGN	O5-C1	-2.15	1.40	1.43
1	2-A	2	IDS	O5-C1	-2.15	1.40	1.43
1	4-A	8	IDS	O5-C1	-2.14	1.40	1.43
1	3-A	5	SGN	O5-C1	-2.14	1.40	1.43
1	3-A	11	SGN	O5-C1	-2.14	1.40	1.43
1	2-A	16	IDS	O5-C1	-2.14	1.40	1.43
1	4-A	5	SGN	O5-C1	-2.14	1.40	1.43
1	2-A	5	SGN	O5-C1	-2.14	1.40	1.43
1	8-A	2	IDS	O5-C1	-2.14	1.40	1.43
1	8-A	15	SGN	O5-C1	-2.13	1.40	1.43
1	5-A	5	SGN	O5-C1	-2.13	1.40	1.43
1	4-A	14	IDS	O5-C1	-2.13	1.40	1.43
1	4-A	15	SGN	O5-C1	-2.13	1.40	1.43
1	6-A	16	IDS	O5-C1	-2.13	1.40	1.43
1	1-A	5	SGN	O5-C1	-2.12	1.40	1.43
1	1-A	8	IDS	O5-C1	-2.11	1.40	1.43
1	7-A	8	IDS	O5-C1	-2.11	1.40	1.43
1	5-A	15	SGN	O5-C1	-2.11	1.40	1.43
1	2-A	8	IDS	O5-C1	-2.11	1.40	1.43
1	7-A	10	IDS	O5-C1	-2.11	1.40	1.43
1	3-A	8	IDS	O5-C1	-2.11	1.40	1.43
1	2-A	10	IDS	O5-C1	-2.10	1.40	1.43
1	9-A	2	IDS	O5-C1	-2.10	1.40	1.43
1	5-A	8	IDS	O5-C1	-2.10	1.40	1.43
1	6-A	8	IDS	O5-C1	-2.10	1.40	1.43
1	9-A	8	IDS	O5-C1	-2.10	1.40	1.43
1	8-A	12	IDS	O5-C1	-2.10	1.40	1.43
1	9-A	15	SGN	O5-C1	-2.10	1.40	1.43
1	7-A	5	SGN	O5-C1	-2.10	1.40	1.43
1	8-A	8	IDS	O5-C1	-2.10	1.40	1.43
1	2-A	15	SGN	O5-C1	-2.10	1.40	1.43
1	1-A	16	IDS	O5-C1	-2.10	1.40	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	2-A	12	IDS	O5-C1	-2.09	1.40	1.43
1	5-A	14	IDS	O5-C1	-2.09	1.40	1.43
1	5-A	18	IDS	O5-C1	-2.09	1.40	1.43
1	9-A	12	IDS	O5-C1	-2.09	1.40	1.43
1	7-A	16	IDS	O5-C1	-2.09	1.40	1.43
1	2-A	18	IDS	O5-C1	-2.09	1.40	1.43
1	1-A	14	IDS	O5-C1	-2.09	1.40	1.43
1	1-A	15	SGN	O5-C1	-2.09	1.40	1.43
1	3-A	10	IDS	O5-C1	-2.09	1.40	1.43
1	7-A	18	IDS	O5-C1	-2.09	1.40	1.43
1	1-A	10	IDS	O5-C1	-2.09	1.40	1.43
1	3-A	14	IDS	O5-C1	-2.08	1.40	1.43
1	6-A	10	IDS	O5-C1	-2.08	1.40	1.43
1	3-A	16	IDS	O5-C1	-2.08	1.40	1.43
1	5-A	6	IDS	O5-C1	-2.08	1.40	1.43
1	4-A	12	IDS	O5-C1	-2.08	1.40	1.43
1	5-A	16	IDS	O5-C1	-2.08	1.40	1.43
1	8-A	16	IDS	O5-C1	-2.08	1.40	1.43
1	8-A	4	IDS	O5-C1	-2.07	1.40	1.43
1	6-A	6	IDS	O5-C1	-2.07	1.40	1.43
1	7-A	12	IDS	O5-C1	-2.07	1.40	1.43
1	1-A	12	IDS	O5-C1	-2.07	1.40	1.43
1	3-A	12	IDS	O5-C1	-2.07	1.40	1.43
1	4-A	4	IDS	O5-C5	-2.07	1.41	1.43
1	6-A	18	IDS	O5-C1	-2.07	1.40	1.43
1	5-A	14	IDS	O5-C5	-2.07	1.41	1.43
1	7-A	6	IDS	O5-C1	-2.06	1.40	1.43
1	9-A	10	IDS	O5-C1	-2.06	1.40	1.43
1	2-A	4	IDS	O5-C1	-2.06	1.40	1.43
1	7-A	15	SGN	O5-C1	-2.06	1.40	1.43
1	5-A	10	IDS	O5-C1	-2.06	1.40	1.43
1	4-A	18	IDS	O5-C1	-2.06	1.40	1.43
1	6-A	4	IDS	O5-C1	-2.06	1.40	1.43
1	8-A	10	IDS	O5-C1	-2.06	1.40	1.43
1	6-A	4	IDS	O5-C5	-2.06	1.41	1.43
1	4-A	10	IDS	O5-C1	-2.06	1.40	1.43
1	3-A	15	SGN	O5-C1	-2.05	1.40	1.43
1	4-A	16	IDS	O5-C1	-2.05	1.40	1.43
1	8-A	14	IDS	O5-C1	-2.05	1.40	1.43
1	7-A	4	IDS	O5-C1	-2.05	1.40	1.43
1	3-A	6	IDS	O5-C1	-2.04	1.40	1.43
1	3-A	4	IDS	O5-C1	-2.04	1.40	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	9-A	18	IDS	O5-C1	-2.04	1.40	1.43
1	6-A	14	IDS	O5-C5	-2.04	1.41	1.43
1	2-A	6	IDS	O5-C1	-2.04	1.40	1.43
1	2-A	14	IDS	O5-C1	-2.04	1.40	1.43
1	6-A	14	IDS	O5-C1	-2.03	1.40	1.43
1	5-A	4	IDS	O5-C1	-2.03	1.40	1.43
1	7-A	14	IDS	O5-C1	-2.03	1.40	1.43
1	9-A	6	IDS	O5-C1	-2.02	1.40	1.43
1	1-A	6	IDS	O5-C1	-2.02	1.40	1.43
1	3-A	18	IDS	O5-C1	-2.02	1.40	1.43
1	4-A	6	IDS	O5-C1	-2.02	1.40	1.43
1	1-A	18	IDS	O5-C1	-2.01	1.40	1.43
1	7-A	14	IDS	O5-C5	-2.01	1.41	1.43
1	1-A	6	IDS	O5-C5	-2.01	1.41	1.43
1	1-A	4	IDS	O5-C1	-2.01	1.40	1.43
1	8-A	6	IDS	O5-C1	-2.01	1.40	1.43
1	8-A	18	IDS	O5-C1	-2.00	1.40	1.43
1	9-A	14	IDS	O5-C5	-2.00	1.41	1.43
1	9-A	4	IDS	O5-C1	-2.00	1.40	1.43
1	4-A	4	IDS	O5-C1	-2.00	1.40	1.43
1	2-A	4	IDS	O5-C5	-2.00	1.41	1.43

All (162) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	3-A	12	IDS	C2-O2-S	8.04	128.39	117.91
1	7-A	12	IDS	C2-O2-S	8.03	128.38	117.91
1	5-A	12	IDS	C2-O2-S	8.02	128.37	117.91
1	6-A	12	IDS	C2-O2-S	8.02	128.37	117.91
1	8-A	12	IDS	C2-O2-S	8.01	128.36	117.91
1	9-A	12	IDS	C2-O2-S	8.01	128.35	117.91
1	3-A	14	IDS	C2-O2-S	8.00	128.35	117.91
1	2-A	12	IDS	C2-O2-S	8.00	128.34	117.91
1	2-A	2	IDS	C2-O2-S	8.00	128.34	117.91
1	5-A	4	IDS	C2-O2-S	8.00	128.34	117.91
1	6-A	2	IDS	C2-O2-S	7.99	128.34	117.91
1	1-A	12	IDS	C2-O2-S	7.99	128.33	117.91
1	4-A	14	IDS	C2-O2-S	7.98	128.32	117.91
1	1-A	16	IDS	C2-O2-S	7.98	128.31	117.91
1	5-A	14	IDS	C2-O2-S	7.98	128.31	117.91
1	4-A	12	IDS	C2-O2-S	7.97	128.31	117.91
1	9-A	16	IDS	C2-O2-S	7.97	128.31	117.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1-A	18	IDS	C2-O2-S	7.97	128.30	117.91
1	2-A	4	IDS	C2-O2-S	7.96	128.30	117.91
1	9-A	8	IDS	C2-O2-S	7.96	128.30	117.91
1	5-A	16	IDS	C2-O2-S	7.96	128.29	117.91
1	7-A	16	IDS	C2-O2-S	7.96	128.29	117.91
1	6-A	4	IDS	C2-O2-S	7.96	128.29	117.91
1	6-A	16	IDS	C2-O2-S	7.96	128.29	117.91
1	8-A	16	IDS	C2-O2-S	7.96	128.29	117.91
1	4-A	16	IDS	C2-O2-S	7.96	128.29	117.91
1	8-A	2	IDS	C2-O2-S	7.95	128.28	117.91
1	1-A	10	IDS	C2-O2-S	7.95	128.28	117.91
1	9-A	10	IDS	C2-O2-S	7.95	128.27	117.91
1	4-A	6	IDS	C2-O2-S	7.95	128.27	117.91
1	3-A	16	IDS	C2-O2-S	7.94	128.27	117.91
1	3-A	4	IDS	C2-O2-S	7.94	128.27	117.91
1	4-A	10	IDS	C2-O2-S	7.94	128.27	117.91
1	8-A	8	IDS	C2-O2-S	7.94	128.27	117.91
1	2-A	16	IDS	C2-O2-S	7.94	128.26	117.91
1	6-A	14	IDS	C2-O2-S	7.94	128.26	117.91
1	3-A	8	IDS	C2-O2-S	7.93	128.26	117.91
1	2-A	6	IDS	C2-O2-S	7.93	128.26	117.91
1	2-A	8	IDS	C2-O2-S	7.93	128.25	117.91
1	6-A	8	IDS	C2-O2-S	7.93	128.25	117.91
1	8-A	18	IDS	C2-O2-S	7.93	128.25	117.91
1	8-A	4	IDS	C2-O2-S	7.93	128.25	117.91
1	7-A	18	IDS	C2-O2-S	7.93	128.25	117.91
1	1-A	8	IDS	C2-O2-S	7.93	128.25	117.91
1	7-A	8	IDS	C2-O2-S	7.93	128.25	117.91
1	5-A	8	IDS	C2-O2-S	7.93	128.25	117.91
1	7-A	10	IDS	C2-O2-S	7.93	128.25	117.91
1	9-A	4	IDS	C2-O2-S	7.93	128.25	117.91
1	4-A	2	IDS	C2-O2-S	7.92	128.25	117.91
1	3-A	6	IDS	C2-O2-S	7.92	128.24	117.91
1	4-A	4	IDS	C2-O2-S	7.92	128.24	117.91
1	7-A	4	IDS	C2-O2-S	7.92	128.24	117.91
1	1-A	4	IDS	C2-O2-S	7.92	128.24	117.91
1	2-A	10	IDS	C2-O2-S	7.92	128.24	117.91
1	9-A	2	IDS	C2-O2-S	7.92	128.24	117.91
1	1-A	2	IDS	C2-O2-S	7.92	128.23	117.91
1	3-A	2	IDS	C2-O2-S	7.91	128.23	117.91
1	8-A	6	IDS	C2-O2-S	7.91	128.23	117.91
1	9-A	6	IDS	C2-O2-S	7.91	128.23	117.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1-A	14	IDS	C2-O2-S	7.91	128.23	117.91
1	9-A	18	IDS	C2-O2-S	7.91	128.23	117.91
1	6-A	6	IDS	C2-O2-S	7.91	128.23	117.91
1	3-A	10	IDS	C2-O2-S	7.91	128.23	117.91
1	5-A	2	IDS	C2-O2-S	7.91	128.22	117.91
1	4-A	8	IDS	C2-O2-S	7.91	128.22	117.91
1	8-A	14	IDS	C2-O2-S	7.91	128.22	117.91
1	7-A	6	IDS	C2-O2-S	7.91	128.22	117.91
1	5-A	10	IDS	C2-O2-S	7.91	128.22	117.91
1	9-A	14	IDS	C2-O2-S	7.91	128.22	117.91
1	6-A	10	IDS	C2-O2-S	7.91	128.22	117.91
1	2-A	14	IDS	C2-O2-S	7.91	128.22	117.91
1	3-A	18	IDS	C2-O2-S	7.91	128.22	117.91
1	5-A	6	IDS	C2-O2-S	7.90	128.22	117.91
1	7-A	2	IDS	C2-O2-S	7.90	128.21	117.91
1	6-A	18	IDS	C2-O2-S	7.90	128.21	117.91
1	4-A	18	IDS	C2-O2-S	7.90	128.21	117.91
1	2-A	18	IDS	C2-O2-S	7.89	128.21	117.91
1	8-A	10	IDS	C2-O2-S	7.89	128.20	117.91
1	5-A	18	IDS	C2-O2-S	7.89	128.20	117.91
1	7-A	14	IDS	C2-O2-S	7.87	128.18	117.91
1	1-A	6	IDS	C2-O2-S	7.87	128.18	117.91
1	9-A	9	SGN	O2S-S1-O1S	-2.90	113.30	120.16
1	3-A	9	SGN	O2S-S1-O1S	-2.90	113.30	120.16
1	5-A	15	SGN	O2S-S1-O1S	-2.90	113.30	120.16
1	5-A	7	SGN	O2S-S1-O1S	-2.90	113.31	120.16
1	7-A	9	SGN	O2S-S1-O1S	-2.89	113.32	120.16
1	9-A	7	SGN	O2S-S1-O1S	-2.89	113.33	120.16
1	3-A	7	SGN	O2S-S1-O1S	-2.89	113.33	120.16
1	4-A	9	SGN	O2S-S1-O1S	-2.89	113.33	120.16
1	6-A	7	SGN	O2S-S1-O1S	-2.89	113.33	120.16
1	8-A	7	SGN	O2S-S1-O1S	-2.89	113.34	120.16
1	2-A	9	SGN	O2S-S1-O1S	-2.89	113.34	120.16
1	6-A	9	SGN	O2S-S1-O1S	-2.89	113.34	120.16
1	6-A	11	SGN	O2S-S1-O1S	-2.88	113.35	120.16
1	7-A	3	SGN	O2S-S1-O1S	-2.88	113.35	120.16
1	7-A	7	SGN	O2S-S1-O1S	-2.88	113.35	120.16
1	8-A	13	SGN	O2S-S1-O1S	-2.88	113.35	120.16
1	6-A	17	SGN	O2S-S1-O1S	-2.88	113.35	120.16
1	1-A	7	SGN	O2S-S1-O1S	-2.88	113.36	120.16
1	4-A	1	SGN	O2S-S1-O1S	-2.88	113.36	120.16
1	5-A	3	SGN	O2S-S1-O1S	-2.88	113.36	120.16

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1-A	15	SGN	O2S-S1-O1S	-2.88	113.36	120.16
1	8-A	17	SGN	O2S-S1-O1S	-2.88	113.36	120.16
1	2-A	13	SGN	O2S-S1-O1S	-2.88	113.36	120.16
1	7-A	13	SGN	O2S-S1-O1S	-2.88	113.36	120.16
1	2-A	7	SGN	O2S-S1-O1S	-2.87	113.37	120.16
1	7-A	17	SGN	O2S-S1-O1S	-2.87	113.37	120.16
1	8-A	9	SGN	O2S-S1-O1S	-2.87	113.37	120.16
1	1-A	13	SGN	O2S-S1-O1S	-2.87	113.37	120.16
1	4-A	7	SGN	O2S-S1-O1S	-2.87	113.37	120.16
1	5-A	9	SGN	O2S-S1-O1S	-2.87	113.37	120.16
1	2-A	17	SGN	O2S-S1-O1S	-2.87	113.37	120.16
1	6-A	15	SGN	O2S-S1-O1S	-2.87	113.38	120.16
1	8-A	15	SGN	O2S-S1-O1S	-2.87	113.38	120.16
1	1-A	17	SGN	O2S-S1-O1S	-2.87	113.38	120.16
1	7-A	5	SGN	O2S-S1-O1S	-2.87	113.38	120.16
1	1-A	9	SGN	O2S-S1-O1S	-2.87	113.38	120.16
1	1-A	3	SGN	O2S-S1-O1S	-2.87	113.38	120.16
1	8-A	5	SGN	O2S-S1-O1S	-2.87	113.39	120.16
1	4-A	11	SGN	O2S-S1-O1S	-2.86	113.39	120.16
1	5-A	17	SGN	O2S-S1-O1S	-2.86	113.39	120.16
1	7-A	15	SGN	O2S-S1-O1S	-2.86	113.40	120.16
1	3-A	1	SGN	O2S-S1-O1S	-2.86	113.40	120.16
1	3-A	13	SGN	O2S-S1-O1S	-2.86	113.40	120.16
1	3-A	3	SGN	O2S-S1-O1S	-2.86	113.40	120.16
1	3-A	17	SGN	O2S-S1-O1S	-2.86	113.40	120.16
1	9-A	5	SGN	O2S-S1-O1S	-2.86	113.40	120.16
1	9-A	11	SGN	O2S-S1-O1S	-2.86	113.40	120.16
1	9-A	17	SGN	O2S-S1-O1S	-2.86	113.40	120.16
1	4-A	17	SGN	O2S-S1-O1S	-2.86	113.41	120.16
1	8-A	1	SGN	O2S-S1-O1S	-2.86	113.41	120.16
1	4-A	3	SGN	O2S-S1-O1S	-2.86	113.41	120.16
1	5-A	1	SGN	O2S-S1-O1S	-2.86	113.41	120.16
1	6-A	13	SGN	O2S-S1-O1S	-2.86	113.41	120.16
1	4-A	5	SGN	O2S-S1-O1S	-2.86	113.41	120.16
1	9-A	13	SGN	O2S-S1-O1S	-2.86	113.41	120.16
1	6-A	1	SGN	O2S-S1-O1S	-2.86	113.41	120.16
1	7-A	11	SGN	O2S-S1-O1S	-2.85	113.41	120.16
1	2-A	15	SGN	O2S-S1-O1S	-2.85	113.42	120.16
1	8-A	3	SGN	O2S-S1-O1S	-2.85	113.42	120.16
1	1-A	1	SGN	O2S-S1-O1S	-2.85	113.42	120.16
1	3-A	15	SGN	O2S-S1-O1S	-2.85	113.42	120.16
1	8-A	11	SGN	O2S-S1-O1S	-2.85	113.42	120.16

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	3-A	5	SGN	O2S-S1-O1S	-2.85	113.42	120.16
1	5-A	5	SGN	O2S-S1-O1S	-2.85	113.42	120.16
1	9-A	15	SGN	O2S-S1-O1S	-2.85	113.43	120.16
1	9-A	3	SGN	O2S-S1-O1S	-2.85	113.43	120.16
1	1-A	5	SGN	O2S-S1-O1S	-2.85	113.43	120.16
1	3-A	11	SGN	O2S-S1-O1S	-2.85	113.43	120.16
1	6-A	5	SGN	O2S-S1-O1S	-2.85	113.43	120.16
1	4-A	15	SGN	O2S-S1-O1S	-2.85	113.43	120.16
1	2-A	3	SGN	O2S-S1-O1S	-2.85	113.43	120.16
1	5-A	13	SGN	O2S-S1-O1S	-2.85	113.44	120.16
1	2-A	1	SGN	O2S-S1-O1S	-2.84	113.44	120.16
1	6-A	3	SGN	O2S-S1-O1S	-2.84	113.44	120.16
1	5-A	11	SGN	O2S-S1-O1S	-2.84	113.45	120.16
1	2-A	11	SGN	O2S-S1-O1S	-2.84	113.45	120.16
1	7-A	1	SGN	O2S-S1-O1S	-2.84	113.46	120.16
1	4-A	13	SGN	O2S-S1-O1S	-2.84	113.46	120.16
1	9-A	1	SGN	O2S-S1-O1S	-2.83	113.47	120.16
1	2-A	5	SGN	O2S-S1-O1S	-2.83	113.48	120.16
1	1-A	11	SGN	O2S-S1-O1S	-2.83	113.48	120.16

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	8-A	11	SGN	C1

All (487) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	1-A	1	SGN	C4-C5-C6-O6
1	1-A	1	SGN	O5-C5-C6-O6
1	2-A	1	SGN	C1-C2-N2-S1
1	2-A	1	SGN	C3-C2-N2-S1
1	2-A	1	SGN	C2-N2-S1-O2S
1	5-A	1	SGN	C2-N2-S1-O2S
1	6-A	1	SGN	O5-C5-C6-O6
1	8-A	1	SGN	C1-C2-N2-S1
1	8-A	1	SGN	C3-C2-N2-S1
1	8-A	1	SGN	C4-C5-C6-O6
1	8-A	1	SGN	C2-N2-S1-O2S
1	8-A	1	SGN	C2-N2-S1-O3S
1	9-A	1	SGN	C1-C2-N2-S1
1	9-A	1	SGN	C3-C2-N2-S1

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Mol	Chain	Res	Type	Atoms
1	9-A	1	SGN	C2-N2-S1-O2S
1	3-A	2	IDS	C1-C2-O2-S
1	3-A	2	IDS	C3-C2-O2-S
1	3-A	2	IDS	C2-O2-S-O1S
1	3-A	2	IDS	C2-O2-S-O2S
1	3-A	2	IDS	C2-O2-S-O3S
1	5-A	2	IDS	C1-C2-O2-S
1	7-A	2	IDS	C2-O2-S-O3S
1	1-A	3	SGN	C4-C5-C6-O6
1	1-A	3	SGN	O5-C5-C6-O6
1	1-A	3	SGN	C2-N2-S1-O2S
1	1-A	3	SGN	C2-N2-S1-O3S
1	2-A	3	SGN	C2-N2-S1-O2S
1	3-A	3	SGN	C4-C5-C6-O6
1	3-A	3	SGN	O5-C5-C6-O6
1	3-A	3	SGN	C2-N2-S1-O2S
1	3-A	3	SGN	C2-N2-S1-O3S
1	5-A	3	SGN	O5-C5-C6-O6
1	5-A	3	SGN	C2-N2-S1-O2S
1	6-A	3	SGN	C4-C5-C6-O6
1	6-A	3	SGN	O5-C5-C6-O6
1	6-A	3	SGN	C2-N2-S1-O2S
1	6-A	3	SGN	C2-N2-S1-O3S
1	7-A	3	SGN	C4-C5-C6-O6
1	7-A	3	SGN	O5-C5-C6-O6
1	7-A	3	SGN	C2-N2-S1-O2S
1	8-A	3	SGN	C2-N2-S1-O2S
1	8-A	3	SGN	C2-N2-S1-O3S
1	1-A	4	IDS	C2-O2-S-O1S
1	1-A	4	IDS	C2-O2-S-O2S
1	1-A	4	IDS	C2-O2-S-O3S
1	3-A	4	IDS	C2-O2-S-O3S
1	4-A	4	IDS	C2-O2-S-O1S
1	4-A	4	IDS	C2-O2-S-O2S
1	4-A	4	IDS	C2-O2-S-O3S
1	5-A	4	IDS	C1-C2-O2-S
1	5-A	4	IDS	C3-C2-O2-S
1	5-A	4	IDS	C2-O2-S-O3S
1	6-A	4	IDS	C2-O2-S-O3S
1	9-A	4	IDS	C2-O2-S-O2S
1	1-A	5	SGN	O5-C5-C6-O6
1	2-A	5	SGN	C2-N2-S1-O2S

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Mol	Chain	Res	Type	Atoms
1	2-A	5	SGN	C2-N2-S1-O3S
1	3-A	5	SGN	O5-C5-C6-O6
1	4-A	5	SGN	C4-C5-C6-O6
1	4-A	5	SGN	O5-C5-C6-O6
1	4-A	5	SGN	C2-N2-S1-O1S
1	5-A	5	SGN	C4-C5-C6-O6
1	5-A	5	SGN	O5-C5-C6-O6
1	5-A	5	SGN	C2-N2-S1-O2S
1	5-A	5	SGN	C2-N2-S1-O3S
1	6-A	5	SGN	C2-N2-S1-O2S
1	7-A	5	SGN	C4-C5-C6-O6
1	7-A	5	SGN	O5-C5-C6-O6
1	8-A	5	SGN	C2-N2-S1-O1S
1	9-A	5	SGN	O5-C5-C6-O6
1	9-A	5	SGN	C2-N2-S1-O2S
1	1-A	6	IDS	C2-O2-S-O1S
1	1-A	6	IDS	C2-O2-S-O3S
1	2-A	6	IDS	C2-O2-S-O1S
1	2-A	6	IDS	C2-O2-S-O2S
1	2-A	6	IDS	C2-O2-S-O3S
1	7-A	6	IDS	C2-O2-S-O3S
1	9-A	6	IDS	C2-O2-S-O2S
1	2-A	7	SGN	C2-N2-S1-O1S
1	3-A	7	SGN	C2-N2-S1-O2S
1	4-A	7	SGN	C4-C5-C6-O6
1	4-A	7	SGN	O5-C5-C6-O6
1	4-A	7	SGN	C2-N2-S1-O2S
1	4-A	7	SGN	C2-N2-S1-O3S
1	5-A	7	SGN	C2-N2-S1-O2S
1	5-A	7	SGN	C2-N2-S1-O3S
1	6-A	7	SGN	C4-C5-C6-O6
1	6-A	7	SGN	O5-C5-C6-O6
1	8-A	7	SGN	C4-C5-C6-O6
1	8-A	7	SGN	O5-C5-C6-O6
1	8-A	7	SGN	C2-N2-S1-O2S
1	9-A	7	SGN	C4-C5-C6-O6
1	1-A	8	IDS	C2-O2-S-O3S
1	4-A	8	IDS	C1-C2-O2-S
1	4-A	8	IDS	C3-C2-O2-S
1	6-A	8	IDS	C2-O2-S-O1S
1	6-A	8	IDS	C2-O2-S-O2S
1	6-A	8	IDS	C2-O2-S-O3S

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Mol	Chain	Res	Type	Atoms
1	7-A	8	IDS	C1-C2-O2-S
1	7-A	8	IDS	C2-O2-S-O3S
1	9-A	8	IDS	C1-C2-O2-S
1	9-A	8	IDS	C3-C2-O2-S
1	1-A	9	SGN	C4-C5-C6-O6
1	1-A	9	SGN	O5-C5-C6-O6
1	1-A	9	SGN	C2-N2-S1-O2S
1	1-A	9	SGN	C2-N2-S1-O3S
1	1-A	9	SGN	C6-O6-S2-O6S
1	2-A	9	SGN	C2-N2-S1-O2S
1	3-A	9	SGN	C4-C5-C6-O6
1	3-A	9	SGN	O5-C5-C6-O6
1	3-A	9	SGN	C6-O6-S2-O6S
1	4-A	9	SGN	O5-C5-C6-O6
1	4-A	9	SGN	C2-N2-S1-O2S
1	5-A	9	SGN	C2-N2-S1-O1S
1	6-A	9	SGN	C4-C5-C6-O6
1	6-A	9	SGN	C2-N2-S1-O2S
1	7-A	9	SGN	C4-C5-C6-O6
1	7-A	9	SGN	C2-N2-S1-O2S
1	7-A	9	SGN	C2-N2-S1-O3S
1	8-A	9	SGN	C4-C5-C6-O6
1	8-A	9	SGN	O5-C5-C6-O6
1	9-A	9	SGN	O5-C5-C6-O6
1	9-A	9	SGN	C2-N2-S1-O2S
1	4-A	10	IDS	C2-O2-S-O1S
1	4-A	10	IDS	C2-O2-S-O2S
1	4-A	10	IDS	C2-O2-S-O3S
1	5-A	10	IDS	C2-O2-S-O3S
1	7-A	10	IDS	C2-O2-S-O1S
1	7-A	10	IDS	C2-O2-S-O2S
1	7-A	10	IDS	C2-O2-S-O3S
1	9-A	10	IDS	C2-O2-S-O1S
1	9-A	10	IDS	C2-O2-S-O2S
1	9-A	10	IDS	C2-O2-S-O3S
1	1-A	11	SGN	C2-N2-S1-O2S
1	3-A	11	SGN	C2-N2-S1-O1S
1	4-A	11	SGN	C4-C5-C6-O6
1	4-A	11	SGN	O5-C5-C6-O6
1	5-A	11	SGN	C2-N2-S1-O2S
1	5-A	11	SGN	C2-N2-S1-O3S
1	7-A	11	SGN	C2-N2-S1-O2S

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Mol	Chain	Res	Type	Atoms
1	7-A	11	SGN	C2-N2-S1-O3S
1	9-A	11	SGN	C4-C5-C6-O6
1	9-A	11	SGN	C2-N2-S1-O2S
1	9-A	11	SGN	C6-O6-S2-O6S
1	2-A	12	IDS	C1-C2-O2-S
1	2-A	12	IDS	C3-C2-O2-S
1	5-A	12	IDS	C2-O2-S-O1S
1	5-A	12	IDS	C2-O2-S-O2S
1	5-A	12	IDS	C2-O2-S-O3S
1	7-A	12	IDS	C2-O2-S-O3S
1	2-A	13	SGN	O5-C5-C6-O6
1	3-A	13	SGN	O5-C5-C6-O6
1	3-A	13	SGN	C6-O6-S2-O4S
1	4-A	13	SGN	C2-N2-S1-O2S
1	4-A	13	SGN	C2-N2-S1-O3S
1	5-A	13	SGN	C4-C5-C6-O6
1	5-A	13	SGN	O5-C5-C6-O6
1	5-A	13	SGN	C2-N2-S1-O2S
1	5-A	13	SGN	C6-O6-S2-O6S
1	8-A	13	SGN	O5-C5-C6-O6
1	9-A	13	SGN	C2-N2-S1-O2S
1	9-A	13	SGN	C2-N2-S1-O3S
1	1-A	14	IDS	C2-O2-S-O1S
1	1-A	14	IDS	C2-O2-S-O2S
1	1-A	14	IDS	C2-O2-S-O3S
1	2-A	14	IDS	C2-O2-S-O3S
1	7-A	14	IDS	C1-C2-O2-S
1	7-A	14	IDS	C3-C2-O2-S
1	8-A	14	IDS	C1-C2-O2-S
1	9-A	14	IDS	C2-O2-S-O3S
1	2-A	15	SGN	C4-C5-C6-O6
1	2-A	15	SGN	O5-C5-C6-O6
1	3-A	15	SGN	C2-N2-S1-O1S
1	4-A	15	SGN	O5-C5-C6-O6
1	5-A	15	SGN	C4-C5-C6-O6
1	5-A	15	SGN	O5-C5-C6-O6
1	5-A	15	SGN	C2-N2-S1-O2S
1	5-A	15	SGN	C2-N2-S1-O3S
1	6-A	15	SGN	C4-C5-C6-O6
1	6-A	15	SGN	O5-C5-C6-O6
1	6-A	15	SGN	C2-N2-S1-O2S
1	7-A	15	SGN	C2-N2-S1-O1S

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Mol	Chain	Res	Type	Atoms
1	9-A	15	SGN	C4-C5-C6-O6
1	9-A	15	SGN	O5-C5-C6-O6
1	1-A	16	IDS	C1-C2-O2-S
1	1-A	16	IDS	C3-C2-O2-S
1	1-A	16	IDS	C2-O2-S-O3S
1	2-A	16	IDS	C1-C2-O2-S
1	2-A	16	IDS	C3-C2-O2-S
1	4-A	16	IDS	C2-O2-S-O3S
1	5-A	16	IDS	C1-C2-O2-S
1	5-A	16	IDS	C3-C2-O2-S
1	7-A	16	IDS	C1-C2-O2-S
1	7-A	16	IDS	C3-C2-O2-S
1	2-A	17	SGN	C2-N2-S1-O1S
1	3-A	17	SGN	C4-C5-C6-O6
1	3-A	17	SGN	O5-C5-C6-O6
1	3-A	17	SGN	C2-N2-S1-O1S
1	4-A	17	SGN	C2-N2-S1-O2S
1	4-A	17	SGN	C2-N2-S1-O3S
1	5-A	17	SGN	C4-C5-C6-O6
1	5-A	17	SGN	O5-C5-C6-O6
1	5-A	17	SGN	C2-N2-S1-O2S
1	5-A	17	SGN	C2-N2-S1-O3S
1	6-A	17	SGN	C2-N2-S1-O1S
1	7-A	17	SGN	C4-C5-C6-O6
1	7-A	17	SGN	O5-C5-C6-O6
1	8-A	17	SGN	O5-C5-C6-O6
1	8-A	17	SGN	C2-N2-S1-O2S
1	8-A	17	SGN	C2-N2-S1-O3S
1	8-A	17	SGN	C6-O6-S2-O6S
1	9-A	17	SGN	C2-N2-S1-O2S
1	1-A	18	IDS	C1-C2-O2-S
1	1-A	18	IDS	C3-C2-O2-S
1	3-A	18	IDS	C2-O2-S-O3S
1	5-A	18	IDS	C1-C2-O2-S
1	5-A	18	IDS	C3-C2-O2-S
1	6-A	18	IDS	C2-O2-S-O3S
1	7-A	18	IDS	C2-O2-S-O3S
1	1-A	1	SGN	C6-O6-S2-O4S
1	4-A	1	SGN	C6-O6-S2-O4S
1	8-A	1	SGN	C6-O6-S2-O4S
1	4-A	3	SGN	C6-O6-S2-O4S
1	3-A	7	SGN	C6-O6-S2-O4S

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Mol	Chain	Res	Type	Atoms
1	6-A	13	SGN	C6-O6-S2-O5S
1	7-A	15	SGN	C6-O6-S2-O5S
1	4-A	17	SGN	C6-O6-S2-O4S
1	3-A	1	SGN	C6-O6-S2-O4S
1	3-A	1	SGN	C6-O6-S2-O5S
1	6-A	1	SGN	C6-O6-S2-O4S
1	9-A	3	SGN	C6-O6-S2-O4S
1	3-A	5	SGN	C6-O6-S2-O4S
1	5-A	5	SGN	C6-O6-S2-O4S
1	7-A	7	SGN	C6-O6-S2-O4S
1	8-A	7	SGN	C6-O6-S2-O4S
1	8-A	7	SGN	C6-O6-S2-O5S
1	9-A	9	SGN	C6-O6-S2-O4S
1	4-A	11	SGN	C6-O6-S2-O4S
1	5-A	11	SGN	C6-O6-S2-O5S
1	6-A	13	SGN	C6-O6-S2-O4S
1	5-A	15	SGN	C6-O6-S2-O4S
1	7-A	15	SGN	C6-O6-S2-O4S
1	8-A	1	SGN	O5-C5-C6-O6
1	2-A	3	SGN	O5-C5-C6-O6
1	2-A	5	SGN	O5-C5-C6-O6
1	7-A	7	SGN	O5-C5-C6-O6
1	9-A	7	SGN	O5-C5-C6-O6
1	7-A	9	SGN	O5-C5-C6-O6
1	2-A	11	SGN	O5-C5-C6-O6
1	7-A	11	SGN	O5-C5-C6-O6
1	8-A	11	SGN	O5-C5-C6-O6
1	9-A	11	SGN	O5-C5-C6-O6
1	6-A	13	SGN	O5-C5-C6-O6
1	9-A	13	SGN	O5-C5-C6-O6
1	7-A	15	SGN	C1-C2-N2-S1
1	1-A	1	SGN	C6-O6-S2-O6S
1	3-A	1	SGN	C6-O6-S2-O6S
1	4-A	1	SGN	C6-O6-S2-O6S
1	6-A	1	SGN	C6-O6-S2-O6S
1	8-A	1	SGN	C6-O6-S2-O6S
1	4-A	3	SGN	C6-O6-S2-O6S
1	9-A	3	SGN	C6-O6-S2-O6S
1	3-A	7	SGN	C6-O6-S2-O6S
1	7-A	7	SGN	C6-O6-S2-O6S
1	8-A	7	SGN	C6-O6-S2-O6S
1	2-A	9	SGN	C6-O6-S2-O6S

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Mol	Chain	Res	Type	Atoms
1	1-A	11	SGN	C6-O6-S2-O6S
1	5-A	11	SGN	C6-O6-S2-O6S
1	3-A	13	SGN	C6-O6-S2-O6S
1	6-A	13	SGN	C6-O6-S2-O6S
1	7-A	15	SGN	C6-O6-S2-O6S
1	9-A	15	SGN	C6-O6-S2-O6S
1	4-A	17	SGN	C6-O6-S2-O6S
1	7-A	2	IDS	C2-O2-S-O1S
1	3-A	4	IDS	C2-O2-S-O1S
1	9-A	4	IDS	C2-O2-S-O1S
1	1-A	6	IDS	C2-O2-S-O2S
1	8-A	6	IDS	C2-O2-S-O1S
1	8-A	6	IDS	C2-O2-S-O2S
1	9-A	6	IDS	C2-O2-S-O1S
1	1-A	8	IDS	C2-O2-S-O1S
1	7-A	8	IDS	C2-O2-S-O1S
1	1-A	10	IDS	C2-O2-S-O1S
1	1-A	10	IDS	C2-O2-S-O2S
1	5-A	10	IDS	C2-O2-S-O1S
1	4-A	14	IDS	C2-O2-S-O1S
1	4-A	14	IDS	C2-O2-S-O2S
1	8-A	14	IDS	C2-O2-S-O1S
1	9-A	14	IDS	C2-O2-S-O1S
1	1-A	16	IDS	C2-O2-S-O1S
1	1-A	16	IDS	C2-O2-S-O2S
1	7-A	16	IDS	C2-O2-S-O1S
1	7-A	16	IDS	C2-O2-S-O2S
1	9-A	16	IDS	C2-O2-S-O1S
1	9-A	16	IDS	C2-O2-S-O2S
1	3-A	18	IDS	C2-O2-S-O1S
1	3-A	18	IDS	C2-O2-S-O2S
1	6-A	18	IDS	C2-O2-S-O1S
1	6-A	18	IDS	C2-O2-S-O2S
1	4-A	9	SGN	C3-C2-N2-S1
1	5-A	9	SGN	C3-C2-N2-S1
1	7-A	15	SGN	C3-C2-N2-S1
1	8-A	17	SGN	C3-C2-N2-S1
1	6-A	1	SGN	C6-O6-S2-O5S
1	4-A	3	SGN	C6-O6-S2-O5S
1	5-A	3	SGN	C6-O6-S2-O5S
1	9-A	3	SGN	C6-O6-S2-O5S
1	3-A	5	SGN	C6-O6-S2-O5S

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Mol	Chain	Res	Type	Atoms
1	5-A	5	SGN	C6-O6-S2-O5S
1	8-A	5	SGN	C6-O6-S2-O5S
1	9-A	5	SGN	C6-O6-S2-O5S
1	4-A	7	SGN	C6-O6-S2-O5S
1	7-A	7	SGN	C6-O6-S2-O5S
1	4-A	9	SGN	C6-O6-S2-O5S
1	9-A	9	SGN	C6-O6-S2-O5S
1	1-A	11	SGN	C6-O6-S2-O4S
1	1-A	11	SGN	C6-O6-S2-O5S
1	4-A	11	SGN	C6-O6-S2-O5S
1	6-A	11	SGN	C6-O6-S2-O5S
1	1-A	15	SGN	C6-O6-S2-O5S
1	5-A	15	SGN	C6-O6-S2-O5S
1	9-A	15	SGN	C6-O6-S2-O4S
1	9-A	15	SGN	C6-O6-S2-O5S
1	4-A	17	SGN	C6-O6-S2-O5S
1	1-A	3	SGN	C2-N2-S1-O1S
1	1-A	9	SGN	C2-N2-S1-O1S
1	1-A	13	SGN	C2-N2-S1-O2S
1	9-A	13	SGN	C2-N2-S1-O1S
1	1-A	15	SGN	C2-N2-S1-O2S
1	4-A	15	SGN	C2-N2-S1-O2S
1	5-A	15	SGN	C2-N2-S1-O1S
1	1-A	1	SGN	C6-O6-S2-O5S
1	4-A	1	SGN	C6-O6-S2-O5S
1	8-A	1	SGN	C6-O6-S2-O5S
1	1-A	3	SGN	C6-O6-S2-O4S
1	1-A	3	SGN	C6-O6-S2-O5S
1	5-A	3	SGN	C6-O6-S2-O4S
1	8-A	5	SGN	C6-O6-S2-O4S
1	9-A	5	SGN	C6-O6-S2-O4S
1	3-A	7	SGN	C6-O6-S2-O5S
1	4-A	7	SGN	C6-O6-S2-O4S
1	1-A	9	SGN	C6-O6-S2-O4S
1	2-A	9	SGN	C6-O6-S2-O4S
1	4-A	9	SGN	C6-O6-S2-O4S
1	6-A	9	SGN	C6-O6-S2-O5S
1	5-A	11	SGN	C6-O6-S2-O4S
1	6-A	11	SGN	C6-O6-S2-O4S
1	3-A	13	SGN	C6-O6-S2-O5S
1	1-A	15	SGN	C6-O6-S2-O4S
1	5-A	17	SGN	C6-O6-S2-O5S

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Mol	Chain	Res	Type	Atoms
1	4-A	9	SGN	C1-C2-N2-S1
1	5-A	9	SGN	C1-C2-N2-S1
1	6-A	9	SGN	O5-C5-C6-O6
1	6-A	13	SGN	C1-C2-N2-S1
1	6-A	1	SGN	C4-C5-C6-O6
1	2-A	3	SGN	C4-C5-C6-O6
1	5-A	3	SGN	C4-C5-C6-O6
1	1-A	5	SGN	C4-C5-C6-O6
1	3-A	5	SGN	C4-C5-C6-O6
1	9-A	5	SGN	C4-C5-C6-O6
1	4-A	9	SGN	C4-C5-C6-O6
1	9-A	9	SGN	C4-C5-C6-O6
1	2-A	11	SGN	C4-C5-C6-O6
1	2-A	13	SGN	C4-C5-C6-O6
1	3-A	13	SGN	C4-C5-C6-O6
1	6-A	13	SGN	C4-C5-C6-O6
1	8-A	13	SGN	C4-C5-C6-O6
1	9-A	13	SGN	C4-C5-C6-O6
1	4-A	15	SGN	C4-C5-C6-O6
1	8-A	17	SGN	C4-C5-C6-O6
1	5-A	2	IDS	C3-C2-O2-S
1	8-A	14	IDS	C3-C2-O2-S
1	5-A	3	SGN	C6-O6-S2-O6S
1	3-A	5	SGN	C6-O6-S2-O6S
1	5-A	5	SGN	C6-O6-S2-O6S
1	8-A	5	SGN	C6-O6-S2-O6S
1	4-A	7	SGN	C6-O6-S2-O6S
1	4-A	9	SGN	C6-O6-S2-O6S
1	9-A	9	SGN	C6-O6-S2-O6S
1	6-A	11	SGN	C6-O6-S2-O6S
1	1-A	15	SGN	C6-O6-S2-O6S
1	5-A	15	SGN	C6-O6-S2-O6S
1	9-A	11	SGN	C6-O6-S2-O4S
1	5-A	13	SGN	C6-O6-S2-O4S
1	9-A	4	IDS	C2-O2-S-O3S
1	8-A	6	IDS	C2-O2-S-O3S
1	9-A	6	IDS	C2-O2-S-O3S
1	1-A	10	IDS	C2-O2-S-O3S
1	4-A	14	IDS	C2-O2-S-O3S
1	8-A	14	IDS	C2-O2-S-O3S
1	7-A	16	IDS	C2-O2-S-O3S
1	9-A	16	IDS	C2-O2-S-O3S

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Mol	Chain	Res	Type	Atoms
1	9-A	3	SGN	C3-C2-N2-S1
1	3-A	9	SGN	C3-C2-N2-S1
1	5-A	11	SGN	C3-C2-N2-S1
1	9-A	7	SGN	C6-O6-S2-O5S
1	2-A	9	SGN	C6-O6-S2-O5S
1	3-A	9	SGN	C6-O6-S2-O4S
1	8-A	17	SGN	C6-O6-S2-O4S
1	9-A	3	SGN	C1-C2-N2-S1
1	3-A	9	SGN	C1-C2-N2-S1
1	5-A	11	SGN	C1-C2-N2-S1
1	3-A	13	SGN	C1-C2-N2-S1
1	8-A	17	SGN	C1-C2-N2-S1
1	1-A	4	IDS	C1-C2-O2-S
1	4-A	14	IDS	C1-C2-O2-S
1	2-A	1	SGN	C4-C5-C6-O6
1	2-A	5	SGN	C4-C5-C6-O6
1	5-A	7	SGN	C4-C5-C6-O6
1	7-A	7	SGN	C4-C5-C6-O6
1	6-A	3	SGN	C6-O6-S2-O5S
1	1-A	9	SGN	C6-O6-S2-O5S
1	9-A	11	SGN	C6-O6-S2-O5S
1	5-A	13	SGN	C6-O6-S2-O5S
1	2-A	15	SGN	C6-O6-S2-O5S
1	1-A	3	SGN	C6-O6-S2-O6S
1	9-A	5	SGN	C6-O6-S2-O6S
1	4-A	11	SGN	C6-O6-S2-O6S
1	1-A	1	SGN	C2-N2-S1-O1S
1	8-A	1	SGN	C2-N2-S1-O1S
1	7-A	2	IDS	C2-O2-S-O2S
1	3-A	3	SGN	C2-N2-S1-O1S
1	6-A	3	SGN	C2-N2-S1-O1S
1	8-A	3	SGN	C2-N2-S1-O1S
1	6-A	4	IDS	C2-O2-S-O1S
1	2-A	5	SGN	C2-N2-S1-O1S
1	5-A	5	SGN	C2-N2-S1-O1S
1	7-A	5	SGN	C2-N2-S1-O1S
1	1-A	7	SGN	C2-N2-S1-O1S
1	4-A	7	SGN	C2-N2-S1-O1S
1	5-A	7	SGN	C2-N2-S1-O1S
1	7-A	7	SGN	C2-N2-S1-O1S
1	1-A	8	IDS	C2-O2-S-O2S
1	7-A	8	IDS	C2-O2-S-O2S

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Mol	Chain	Res	Type	Atoms
1	5-A	10	IDS	C2-O2-S-O2S
1	5-A	11	SGN	C2-N2-S1-O1S
1	6-A	11	SGN	C2-N2-S1-O2S
1	4-A	13	SGN	C2-N2-S1-O1S
1	9-A	14	IDS	C2-O2-S-O2S
1	1-A	17	SGN	C2-N2-S1-O1S
1	4-A	17	SGN	C2-N2-S1-O1S
1	5-A	17	SGN	C2-N2-S1-O1S
1	8-A	17	SGN	C2-N2-S1-O1S
1	5-A	7	SGN	C6-O6-S2-O5S
1	3-A	9	SGN	C6-O6-S2-O5S
1	8-A	17	SGN	C6-O6-S2-O5S
1	2-A	1	SGN	O5-C5-C6-O6
1	2-A	7	SGN	C1-C2-N2-S1
1	5-A	7	SGN	O5-C5-C6-O6
1	1-A	15	SGN	O5-C5-C6-O6
1	5-A	17	SGN	C1-C2-N2-S1
1	2-A	7	SGN	C3-C2-N2-S1
1	3-A	13	SGN	C3-C2-N2-S1
1	6-A	13	SGN	C3-C2-N2-S1
1	7-A	11	SGN	C4-C5-C6-O6
1	8-A	11	SGN	C4-C5-C6-O6
1	6-A	9	SGN	C6-O6-S2-O4S
1	5-A	17	SGN	C6-O6-S2-O4S
1	3-A	4	IDS	C2-O2-S-O2S
1	5-A	4	IDS	C2-O2-S-O1S
1	6-A	4	IDS	C2-O2-S-O2S
1	5-A	8	IDS	C2-O2-S-O1S
1	1-A	12	IDS	C2-O2-S-O3S
1	8-A	14	IDS	C2-O2-S-O2S
1	1-A	15	SGN	C4-C5-C6-O6
1	1-A	5	SGN	C3-C2-N2-S1
1	5-A	17	SGN	C3-C2-N2-S1
1	9-A	7	SGN	C6-O6-S2-O4S
1	3-A	1	SGN	C2-N2-S1-O1S
1	4-A	1	SGN	C2-N2-S1-O1S
1	6-A	1	SGN	C2-N2-S1-O2S
1	7-A	1	SGN	C2-N2-S1-O2S
1	4-A	3	SGN	C2-N2-S1-O1S
1	6-A	7	SGN	C2-N2-S1-O1S
1	3-A	9	SGN	C2-N2-S1-O2S
1	4-A	11	SGN	C2-N2-S1-O1S

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Mol	Chain	Res	Type	Atoms
1	8-A	11	SGN	C2-N2-S1-O1S
1	2-A	13	SGN	C2-N2-S1-O1S
1	3-A	13	SGN	C2-N2-S1-O1S
1	6-A	13	SGN	C2-N2-S1-O2S
1	7-A	13	SGN	C2-N2-S1-O2S
1	8-A	13	SGN	C2-N2-S1-O2S
1	9-A	15	SGN	C2-N2-S1-O2S
1	7-A	17	SGN	C2-N2-S1-O1S
1	3-A	17	SGN	C6-O6-S2-O4S
1	8-A	3	SGN	O5-C5-C6-O6
1	1-A	5	SGN	C1-C2-N2-S1

There are no ring outliers.

136 monomers are involved in 272 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	8-A	8	IDS	4	0
1	9-A	13	SGN	2	0
1	2-A	9	SGN	7	0
1	8-A	1	SGN	5	0
1	1-A	11	SGN	2	0
1	6-A	13	SGN	12	0
1	2-A	3	SGN	9	0
1	2-A	11	SGN	7	0
1	9-A	12	IDS	3	0
1	1-A	14	IDS	5	0
1	1-A	2	IDS	3	0
1	5-A	16	IDS	3	0
1	4-A	8	IDS	13	0
1	5-A	6	IDS	1	0
1	9-A	2	IDS	10	0
1	3-A	8	IDS	4	0
1	9-A	11	SGN	3	0
1	3-A	5	SGN	2	0
1	3-A	1	SGN	5	0
1	3-A	4	IDS	1	0
1	3-A	10	IDS	5	0
1	8-A	2	IDS	3	0
1	7-A	8	IDS	1	0
1	9-A	14	IDS	1	0
1	5-A	7	SGN	2	0
1	3-A	16	IDS	5	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	6-A	15	SGN	1	0
1	1-A	15	SGN	6	0
1	2-A	7	SGN	5	0
1	3-A	7	SGN	7	0
1	2-A	8	IDS	1	0
1	7-A	5	SGN	2	0
1	9-A	8	IDS	5	0
1	7-A	7	SGN	1	0
1	4-A	18	IDS	1	0
1	4-A	12	IDS	1	0
1	9-A	7	SGN	6	0
1	2-A	5	SGN	1	0
1	3-A	6	IDS	8	0
1	6-A	3	SGN	6	0
1	4-A	11	SGN	1	0
1	8-A	17	SGN	1	0
1	8-A	6	IDS	5	0
1	9-A	9	SGN	5	0
1	4-A	13	SGN	1	0
1	9-A	3	SGN	6	0
1	1-A	18	IDS	4	0
1	4-A	14	IDS	1	0
1	4-A	9	SGN	6	0
1	8-A	14	IDS	5	0
1	5-A	17	SGN	1	0
1	1-A	6	IDS	9	0
1	5-A	12	IDS	6	0
1	3-A	13	SGN	6	0
1	5-A	11	SGN	5	0
1	6-A	11	SGN	7	0
1	3-A	9	SGN	7	0
1	7-A	15	SGN	5	0
1	7-A	13	SGN	1	0
1	3-A	12	IDS	5	0
1	5-A	14	IDS	3	0
1	4-A	7	SGN	12	0
1	5-A	5	SGN	1	0
1	5-A	4	IDS	1	0
1	7-A	3	SGN	4	0
1	9-A	10	IDS	2	0
1	3-A	14	IDS	4	0
1	6-A	9	SGN	6	0

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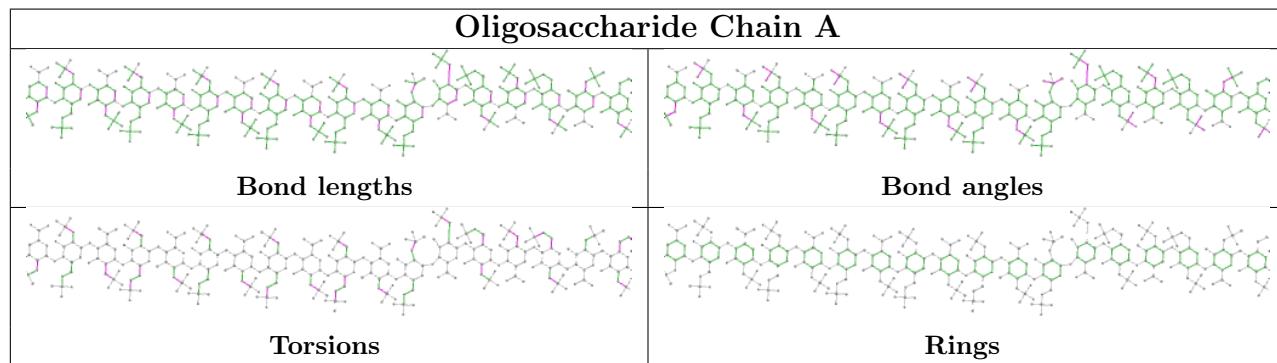
Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	3-A	15	SGN	3	0
1	7-A	9	SGN	1	0
1	6-A	12	IDS	11	0
1	1-A	5	SGN	8	0
1	2-A	6	IDS	6	0
1	6-A	14	IDS	6	0
1	4-A	17	SGN	1	0
1	7-A	12	IDS	1	0
1	2-A	16	IDS	2	0
1	7-A	6	IDS	1	0
1	6-A	7	SGN	1	0
1	7-A	16	IDS	8	0
1	1-A	7	SGN	3	0
1	6-A	4	IDS	6	0
1	1-A	1	SGN	3	0
1	9-A	15	SGN	1	0
1	9-A	5	SGN	1	0
1	6-A	1	SGN	1	0
1	8-A	9	SGN	2	0
1	3-A	17	SGN	10	0
1	2-A	12	IDS	2	0
1	3-A	2	IDS	5	0
1	9-A	16	IDS	3	0
1	3-A	11	SGN	5	0
1	4-A	3	SGN	3	0
1	9-A	4	IDS	1	0
1	8-A	7	SGN	7	0
1	8-A	11	SGN	1	0
1	4-A	2	IDS	4	0
1	2-A	4	IDS	3	0
1	2-A	1	SGN	5	0
1	1-A	8	IDS	1	0
1	9-A	1	SGN	5	0
1	5-A	3	SGN	1	0
1	4-A	1	SGN	1	0
1	1-A	17	SGN	8	0
1	4-A	6	IDS	5	0
1	1-A	12	IDS	2	0
1	6-A	16	IDS	1	0
1	1-A	16	IDS	8	0
1	5-A	13	SGN	3	0
1	7-A	17	SGN	3	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	5-A	18	IDS	1	0
1	5-A	9	SGN	1	0
1	5-A	15	SGN	5	0
1	8-A	16	IDS	4	0
1	6-A	8	IDS	2	0
1	1-A	10	IDS	2	0
1	6-A	17	SGN	2	0
1	6-A	10	IDS	7	0
1	6-A	2	IDS	1	0
1	9-A	6	IDS	5	0
1	4-A	5	SGN	1	0
1	3-A	18	IDS	8	0
1	2-A	17	SGN	4	0
1	2-A	2	IDS	10	0
1	7-A	4	IDS	5	0
1	7-A	10	IDS	1	0
1	6-A	18	IDS	2	0
1	8-A	12	IDS	1	0
1	1-A	13	SGN	7	0
1	2-A	18	IDS	2	0
1	5-A	8	IDS	2	0
1	1-A	4	IDS	1	0
1	9-A	17	SGN	2	0
1	5-A	10	IDS	2	0
1	2-A	10	IDS	11	0
1	8-A	15	SGN	8	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.



4.6 Ligand geometry (i)

There are no ligands in this entry.

4.7 Other polymers [\(i\)](#)

There are no such residues in this entry.

4.8 Polymer linkage issues [\(i\)](#)

There are no chain breaks in this entry.