# Conventions for Pictorial Representation

## Description

The representation of monosaccharides can be concatenated using a limited number of structural descriptors to achieve a fairly exhaustive nomenclature which can be further used in constructing three dimensional structures of glycans. The conventions used for the pictorial/pictorial representations of monosaccharides are the following.

**Residue Letter Name:** Rib, Ara, Xyl, Lyx, All, Alt, Glc, Man, Gul, Ido, Gal, Tal,â?¦. and abbreviated trivial name.

**O-ester and ethers:** (when present) are shown attached to the symbol with a number, e.g.

- 6Ac for 6-O-acetyl group.
- 3S for 3-O-sulfate group.
- 6P for 6-O-phosphate group.
- 6Me for 6-O-Methyl group.
- 36Anh for 3,6-anhydro group.
- Pyr for pyruvate group.

**Absolute Configuration: D or L**
The D-configuration for monosaccharide and the L configuration for Fucose and Idose are implicit and does not appear in the symbol. Otherwise the L configuration, is indicated in the symbol, as in the case of Arabinose or L-Galactose.
For those occurring in the furanose form, a letter N or S is inserted in the symbol, indicating the northern (N) or Southern (S) conformation of the five membered ring.

**Anomeric configuration:** The nature of the glycosidic configuration (Î± or Î²) is explicitly set within the symbol.

**Ring conformation:**
All pyranoses in the D-configuration are assumed to have 4C1 chair conformation; those in the L configuration are assumed to have 1C4 chair conformation. Otherwise, the ring conformation is indicated in the symbol, as 2S0 in the case of Î±-L-Idopyranose.
N or S indicates the conformation of the five membered rings on the conformational wheel.

While maintaining the spirit of using the symbolic representation for monosaccharides (and towards glycans) this set of rules provides the necessary extension to the construction of three-dimensional structures, allowing encoding for computational manipulation whilst maintaining IUPAC nomenclature.

**Category**

1. News