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# PERSILYLATED MONOSACCHARIDES: NOVEL METHODS AND APPLICATIONS

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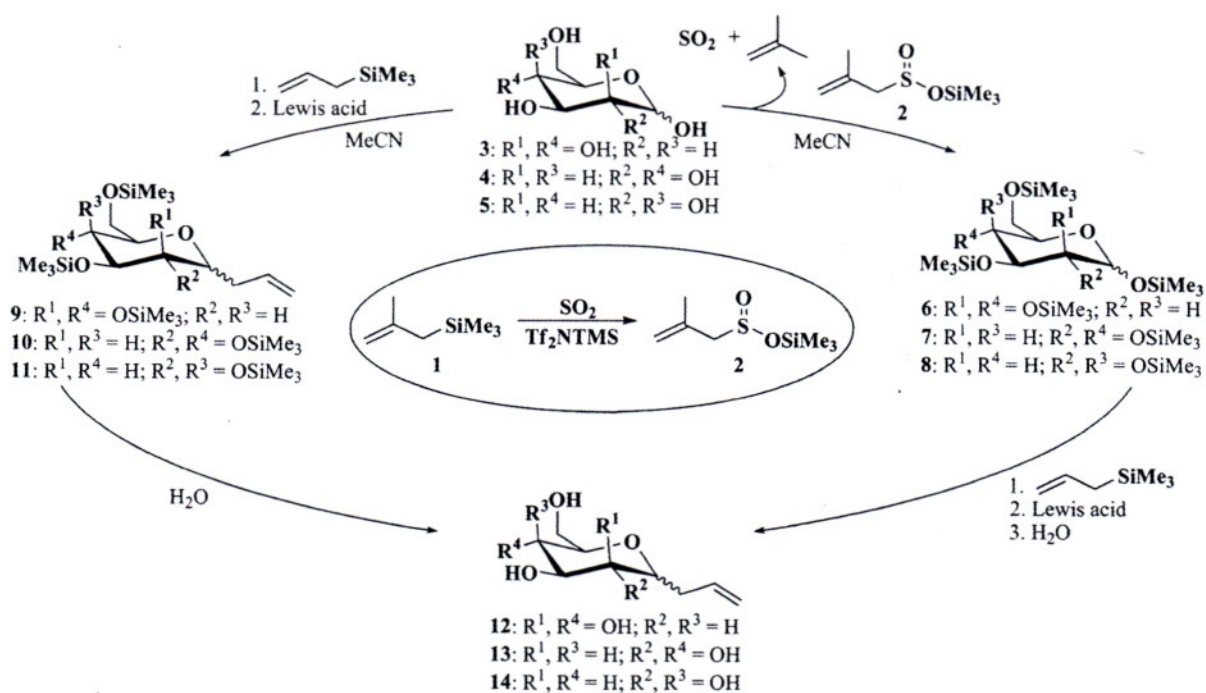
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Carbohydrates are the principal elements of living cells.

Carbohydrates display a high polarity and low volatility, therefore they are not applicable in GC analysis without derivatization.

In 2002, trimethylsilyl 2-methylprop-2-ene-1-sulfinate **2** as new derivatization reagent was produced in sila-ene reaction between methallylsilane **1** and sulfur dioxide in the presence of Lewis acid.<sup>1, 2, 3</sup> We used obtained silylsulfinate **2** in derivatization of D(+)-glucose, D(+)-mannose, D(+)-galactose and their mixtures. Persilylated sugars were used in GC-MS analysis. Experimental conditions of the latter were optimized.

Persilylated carbohydrates are also excellent starting materials for organic synthesis. The advantages of using them include their distinct absolute configuration.<sup>4</sup> Thus, per-*O*-silylated sugars have been used for synthesis of *C*-allyl glycosides.<sup>5, 6, 7, 8</sup> Therefore, we focus our attention to *in situ* silylation and allylation with new silylating reagent **2** and allylsilane.



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