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ABSTRACTS

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Practical Use of Silyl Sulfinate in Synthesis and Analysis of Persilylated Monosaccharides

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GC analyses of sugars require chemical derivatization to produce a volatile material. Many derivatization methods for sugars exist, but the simplest and most rapid for routine analysis is silylation to produce trimethylsilyl derivatives.

There we report a novel process for silylation of D(-)-ribose, D(+)-mannose, D(+)-xylose, D(+)-glucose, D(-)-arabinose and D(+)-galactose. We have used silyl sulfinate for derivatization which we obtained in silane reaction.

A quantitative analysis of monosaccharides has been represented on example of persilylated D(+)-mannopyranose and persilylated D(-)-ribopyranose (Fig.1). Calibration curves are generally characterized by a linear relationship between the value of correlation area and the concentration of prepared solution.

Persilylated carbohydrates are also excellent starting materials for organic synthesis. The advantages of using them include their distinct absolute configuration [1]. Thus, per-*O*-silylated sugars have been used for synthesis of C-allyl glycosides [2, 3, 4, 5]. Therefore, we focus our attention to *in situ* silylation and allylation with new obtained silyl sulfinate and allylsilane.

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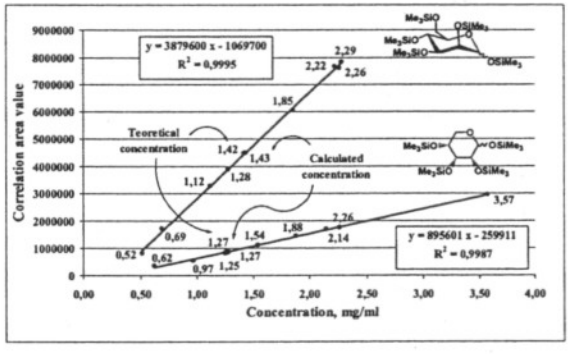

Fig.1 Calibration curves of per-*O*-silylated D(+)-mannopyranose and per-*O*-silylated D(-)-ribopyranose