

Title (en)
PROGRAMMABLE ONE-POT OLIGOSACCHARIDE SYNTHESIS

Title (de)
PROGRAMMIERBARE EINTOPF-SYNTHESE FÜR OLIGOSACCHARIDE

Title (fr)
SYNTHESE D'OLIGOSACCHARIDES PROGRAMMABLE MONOTOPE

Publication
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Application
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Priority

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Abstract (en)
[origin: WO0009527A1] The reactivity of a number of p-methylphenyl thioglycoside (STol) donors which are either fully protected or have one hydroxyl group exposed has been quantitatively determined by HPLC in conjunction with the development of a broadly applicable approach for a facile one-pot synthesis of oligosaccharides. The influence on reactivity of the structural effects of different monosaccharide cores and different protecting groups on each glycoside donor is characterized and quantified. In addition, a correlation between glycosyl donor reactivity and the chemical shift of the anomeric proton by ^1H NMR has been established. A database of thioglycosides as glycosyl donors has been created using this reactivity data. The utility is demonstrated by the easy and rapid one-pot assembly of various linear and branched oligosaccharide structures. In addition, a computer program as been described for use as a database search tool and guide for the selection of building blocks for the one-pot assembly of a desired oligosaccharide or a library of individual oligosaccharides.

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