

Carbohydrate Research Vol. 372, 2013

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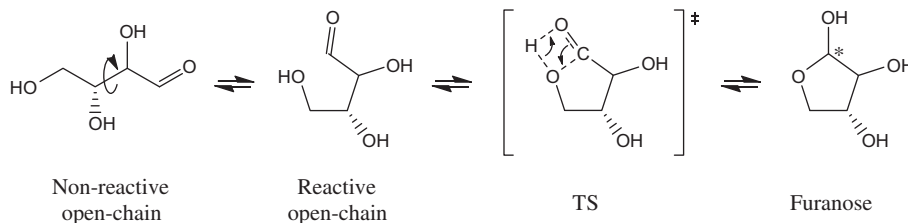
FULL PAPERS

Synthesis

Theoretical study of the mutarotation of erythrose and threose: acid catalysis

Luis Miguel Azofra*, Ibon Alkorta, José Elguero

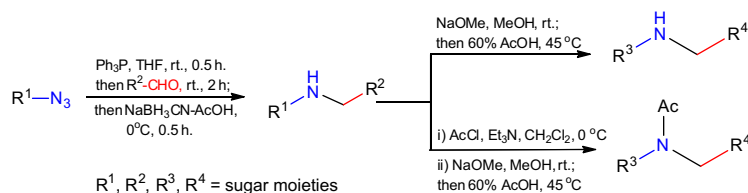
pp 1–8



A convenient synthesis of N-linked diglycose derivatives based on one-pot tandem Staudinger/aza-Wittig/reduction and biological evaluation

Pingzhu Zhang, Yinbo Li, Ming Liu, Yanfei Wang, Cuicui Li, Donglai Ma, Hua Chen, Kerang Wang, Xiaoliu Li*, Jinchao Zhang

pp 15–22

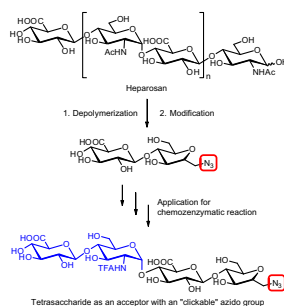


A series of novel N-linked diglycose derivatives were conveniently and directly synthesized based on the key step of one-pot tandem Staudinger/aza-Wittig/reduction reaction followed by deprotection. Some compounds exhibited good cytotoxicity to A-549.

Preparation and application of a 'clickable' acceptor for enzymatic synthesis of heparin oligosaccharides

Chao Cai, Kristi Edgar, Jian Liu, Robert J. Linhardt*

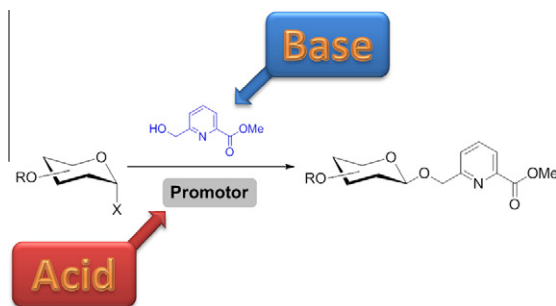
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Glycosylation of 'basic' alcohols: methyl 6-(hydroxymethyl)picolinate as a case study

pp 35–46

Shuai Wang, Dominique Lafont, Jani Rahkila, Benjamin Picod, Reko Leino, Sébastien Vidal*



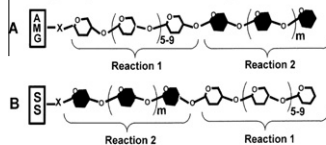
Biochemistry and Enzymes

Tests for the mechanism of starch biosynthesis: de novo synthesis or an amylogenin primer synthesis

pp 55–59

Rupendra Mukerjea, John F. Robyt*

Three reactions were conducted with two potential systems: (A) the putative Amylogenin (AMG) primer-protein and (B) Starch-Synthase (SS). Reaction 1 was with 2 mM ADPGlc to form the amylogenin carbohydrate primer with 7-11 glucose units. Reaction 2 was with 10 mM ADP-[C-14]Glc; and Reaction 3 with 10 mM nonlabeled ADPGlc. The following are the potential products for the two systems, after reactions 1 and 2 where, $m = 20-30$.

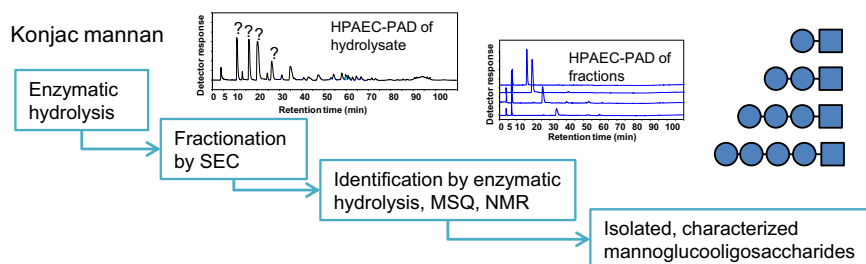


Both products can be removed from the proteins, reduced with NaBH₄, and acid hydrolyzed. Product A can never give C-14-D-glucitol, while B can give C-14-D-glucitol and after Reaction 3, C-14-D-glucitol is decreased.

Hydrolysis of konjac glucomannan by *Trichoderma reesei* mannanase and endoglucanases Cel7B and Cel5A for the production of glucomannooligosaccharides

pp 60–68

Atte Mikkelsen, Hannu Maaheimo, Terhi K. Hakala*

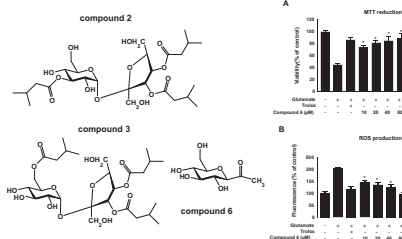


Characterization, Natural products

Carbohydrate derivatives from the roots of *Brassica rapa* ssp. *campestris* and their effects on ROS production and glutamate-induced cell death in HT-22 cells

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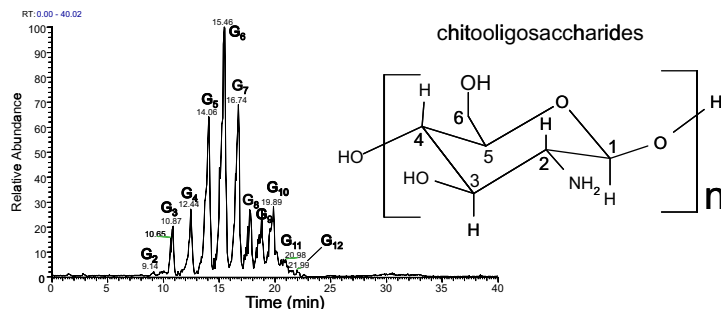
Qian Wu, Jin-Gyeong Cho, Dong-Sung Lee, Dae-Young Lee, Na-Young Song, Youn-Chul Kim, Kyung-Tae Lee, Hae-Gon Chung, Myung-Sook Choi, Tae-Sook Jeong, Eun-Mi Ahn, Geum-Soog Kim, Nam-In Baek*



LC-MS/MS analysis of chitoooligosaccharides

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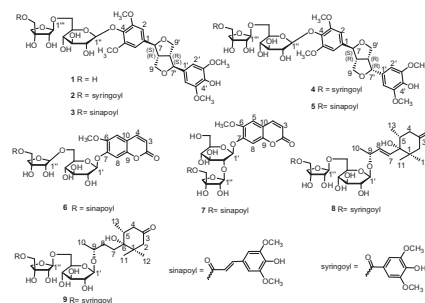
Jaehyun Kim, Jinhee Kim, Jangmi Hong, Sunyoung Lee, Sehwan Park, Ji-Hye Lee, Jeongkwon Kim*



Acyl glycosides lignans, coumarins, and terpenes from the stems of *Erycibe obtusifolia*

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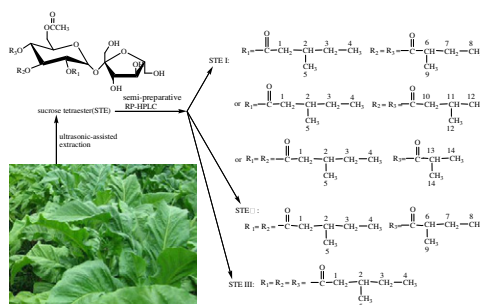
Zhao-zhen Liu, Zhi-lai Zhan, Fu Liu, Ya-nan Yang, Zi-ming Feng, Jian-shuang Jiang, Pei-cheng Zhang*



Preparative isolation and structural characterization of sucrose ester isomers from oriental tobacco

pp 73–77

Chunxiao Jia, Yingying Wang, Yonghua Zhu, Chungping Xu, Duobin Mao*



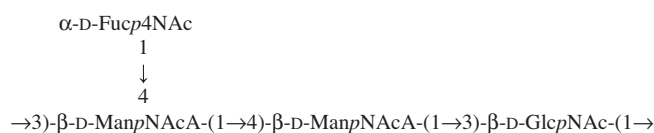
NOTES

Polysaccharides


Structure of the O-specific polysaccharide from a marine bacterium *Cellulophaga pacifica* containing rarely occurred sugars, Fuc4NAc and ManNAcA

pp 69–72

Andrei V. Perepelov, Alexander S. Shashkov, Svetlana V. Tomshich*, Nadezhda A. Komandrova, Ol'ga I. Nedashkovskaya



*Corresponding author

* Supplementary data available via SciVerse ScienceDirect

COVER

Multi-functionalisation of cyclodextrins (CD) has entered a new era thanks to the regioselective chemistry developed by M. Sollogoub's group. As illustrated on the cover, many applications can now be reached using CDs with various functions on specific positions. An example of functionalisation of CDs is given in the first issue of this journal. Image realised by Mickaël Ménand.

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