

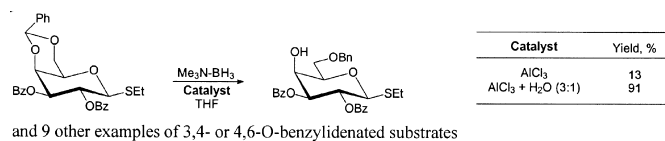
The presence of water improves reductive openings of benzylidene acetals with trimethylaminoborane and aluminium chloride

Carbohydr. Res. **2003**, 338, 697

Andrei A. Sherman,^a Yuri V. Mironov,^b Olga N. Yudina,^a Nikolay E. Nifantiev^a

^a*N.D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, Leninsky prospect 47, Moscow 119991, Russia*

^b*Higher Chemical College, Russian Academy of Science, Miusskaya sq. 9, Moscow, Russia*

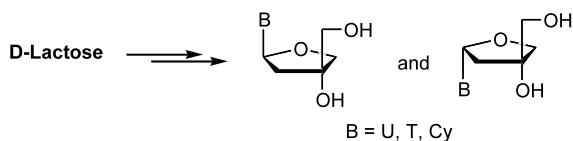


Synthesis of novel apionucleosides: a short and concise synthesis of 2-deoxyapio-L-furanosyl acetate from D-lactose

Carbohydr. Res. **2003**, 338, 705

Jihee Kim, Joon Hee Hong

College of Pharmacy, Chosun University, Kwangju 501-759, Republic of Korea



Inhibition of the D-fructose transporter protein GLUT5 by fused-ring glyco-1,3-oxazolidin-2-thiones and -oxazolidin-2-ones

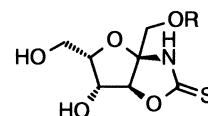
Carbohydr. Res. **2003**, 338, 711

Jolanta Girniene,^a Arnaud Tatibouët,^{a,*} Algirdas Sackus,^c Jing Yang,^b Geoffrey D. Holman,^b Patrick Rollin^a

^a*ICOA, UMR 6005, Université d'Orléans, BP 6759, F-45067 Orléans, France*

^b*Department of Biology and Biochemistry, University of Bath, Bath BA2 7AY, UK*

^c*Department of Organic Chemistry, Kaunas University of Technology, LT-3028 Kaunas, Lithuania*



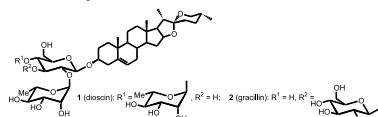
The synthesis of gracillin and dioscin: two typical representatives of spirostanol glycosides

Carbohydr. Res. **2003**, 338, 721

Chuan-Chun Zou, Shu-Jie Hou, Yang Shi, Ping-Sheng Lei, Xiao-Tian Liang

Institute of Materia Medica, Peking Union Medical College and Chinese Academy of Medical Sciences, Beijing 100050, PR China

A general procedure has been developed for the synthesis of two representative spirostanol saponins (gracillin and dioscin) with the typical carbohydrate moiety.



Biotransformation of low-molecular-weight alcohols by *Coleus forskohlii* hairy root cultures

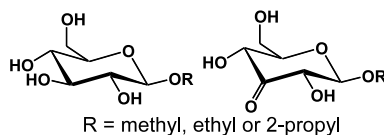
Carbohydr. Res. **2003**, 338, 729

Wei Li,^a Kazuo Koike,^a Yoshihisa Asada,^b Takafumi Yoshikawa,^b Tamotsu Nikaido^a

^aFaculty of Pharmaceutical Sciences, Toho University, 2-2-1 Miyama, Funabashi-City, Chiba 274-8510, Japan

^bSchool of Pharmaceutical Sciences, Kitasato University, 5-9-1, Minato-ku, Tokyo 108-8641, Japan

Coleus forskohlii hairy root cultures were shown to biotransform methanol and ethanol to the corresponding β -D-glucopyranosides and β -D-ribo-hex-3-ulopyranosides, and 2-propanol to its β -D-glucopyranoside.



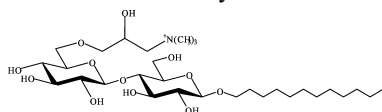
Determination of the DS and substituent distribution of cationic alkyl polyglycosides and cationic starch ethers by GLC after dealkylation with morpholine

Carbohydr. Res. **2003**, 338, 733

Vera Goclik, Petra Mischnick

TU Braunschweig, Institut für Lebensmittelchemie, Schleinitzstr. 20, D-38106 Braunschweig, Germany

The total DS and the DS distribution of starch and alkyl polyglycosides functionalised as *O*-(2-hydroxy-3-trimethylammonium)propyl ethers were determined by GLC after N-demethylation with morpholine and *O*-trimethylsilylation.



Preparation of sulfoacetate derivatives of cellulose by direct esterification

Carbohydr. Res. **2003**, 338, 743

Gaëlle Chauvelon, Alain Buléon, Jean-François Thibault, Luc Saulnier

INRA Centre de Recherche Agro-Alimentaire, BP 71627, 44316 Nantes Cedex 03, France

Acetylation and sulfation of cellulose were carried out simultaneously, using a mixture of acetic anhydride and sulfuric acid in glacial acetic acid. The method provided water-soluble esters.

Rheological properties of sulfoacetate derivatives of cellulose

Carbohydr. Res. **2003**, 338, 751

Gaëlle Chauvelon, Jean-Louis Doublier, Alain Buléon, Jean-François Thibault, Luc Saulnier

INRA Centre de Recherche Agro-Alimentaire, BP 71627, 44316 Nantes Cedex 03, France

Water soluble of sulfoacetate derivatives of cellulose exhibit weak gel-like properties at elevated concentration (typically above 7–8 g/L). The system also exhibit thixotropic properties.

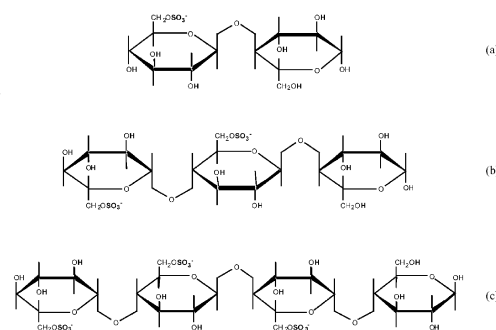
Location of sulfate groups on sulfoacetate derivatives of cellulose

Maud Thomas, Gaëlle Chauvelon, Marc Lahaye, Luc Saulnier

INRA, Unité de Recherche sur les Polysaccharides,
leurs Organisations et Interactions, BP 71627, F44316 Nantes, France

Sulfoacetate derivatives of cellulose have been de-acetylated and submitted to endoglucanase treatment. Glucose and three oligomers (a, b, c) have been identified as hydrolysis products.

Carbohydr. Res. **2003**, 338, 761



Characterisation of heterogeneous arabinoxylans by direct imaging of individual molecules by atomic force microscopy

Elizabeth L. Adams, Paul A. Kroon, Gary Williamson, Victor J. Morris

Norwich Laboratory, Institute of Food Research, Norwich Research Park, Colney, Norwich NR4 7UA, UK

Atomic force microscopy has been used to characterise populations of extracted water-soluble wheat endosperm arabinoxylans. The adsorbed molecules are extended partially branched structures with an estimated Kuhn statistical segment length of 128 nm, suggesting that they adopt an ordered helical structure.

Carbohydr. Res. **2003**, 338, 771

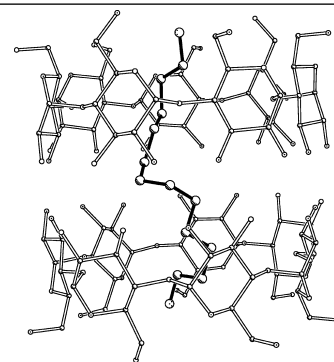
Crystal structure of the dimeric β -cyclodextrin complex with 1,12-dodecanediol

Tzvetana Bojinova,^a Heinz Gornitzka,^b Nancy Lauth-de Viguerie,^a
Isabelle Rico-Lattes^a

^aLaboratoire des Interactions Moléculaires et Réactivité Chimique et Photochimique (UMR 5623), Bâtiment 2R1, Université Paul Sabatier, 118 route de Narbonne, F-31062 Toulouse, France

^bLaboratoire d'Hétérochimie Fondamentale et Appliquée (UMR 5069), Bâtiment 2R1, Université Paul Sabatier, 118 route de Narbonne, F-31062 Toulouse, France

Carbohydr. Res. **2003**, 338, 781



Testing the validity of comparisons between the rheological and the calorimetric glass transition temperatures

Stefan Kasapis,^a Insaf M. Al-Marhoobi,^a John R. Mitchell^b

^aDepartment of Food Science & Nutrition, College of Agricultural and Marine Sciences, Sultan Qaboos University, PO Box 34, Al-Khod 123, Oman

^bDivision of Food Sciences, University of Nottingham, Sutton Bonington Campus, Loughborough LE12 5RD, UK

The nature of the rheological T_g is discussed and its frequency dependence is established with a view to facilitating comparisons with calorimetric data. Despite claims made in the literature, results on high sugar- κ -carrageenan mixtures, hydrated gelatin films and thermoset epoxy resins demonstrate that there is no clear reference point for comparison of the glass transition temperatures derived with the two techniques.

Carbohydr. Res. **2003**, 338, 787

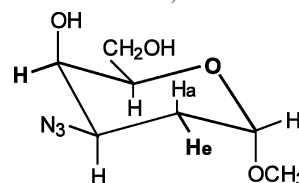
X-ray diffraction and high-resolution NMR spectroscopy of methyl 3-azido-2,3-dideoxy- α -D-lyxo-hexopyranoside

Beata Liberek,^a Artur Sikorski,^a Anna Melcer,^a Antoni Konitz^{a,b}

^aFaculty of Chemistry, University of Gdansk, Sobieskiego 18, PL-80-952 Gdansk, Poland

^bDepartment of Inorganic Chemistry, Technical University of Gdansk, G. Narutowicza 11/12, PL-80-952 Gdansk, Poland

The single-crystal X-ray diffraction analysis and high-resolution ¹H and ¹³C NMR spectral data for the title compound are reported. The influence of the ring oxygen atom on the $J_{1,2e}$ and $J_{4,5}$ coupling constants for 2-deoxy-D-lyxo- and -D-xylo-hexopyranosides is discussed.



First crystallographic evidence for the formation of β -D-ribopyranosylamine from the reaction of ammonia with of D-ribose

Gudneppanavar Rajsekhar,^a Chebrolu P. Rao,^a Philippe Guionneau^b

^aDepartment of Chemistry, Bioinorganic Laboratory, Indian Institute of Technology, Powai, Mumbai 400 076, India

^bInstitut de Chimie de la Matiere Condensee de Bordeaux, UPR 9048 CNRS, Pessac, France

