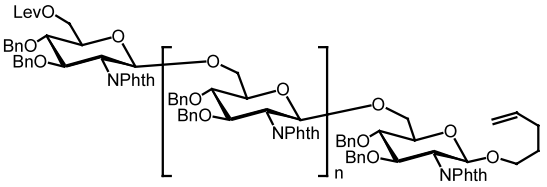
Carbohydr. Res. **2002,** *337*, 1893

Toward the automated solid-phase synthesis of oligoglucosamines: systematic evaluation of glycosyl phosphate and glycosyl trichloroacetimidate building blocks

Luis G. Melean, Kerry R. Love, Peter H. Seeberger

Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA 02139, USA



Carbohydr. Res. **2002,** *337*, 1917

Oxidation of 3-*C*-(2-amino-2-deoxy-D-glucopyranosyl)-1-propene compounds and the structure of 3-*C*-(2-amino-2-deoxy-D-glucopyranosyl)-1,2-propanediol derivatives for a synthesis of 2,3-didehydro-2,7-dideoxy-*N*-acetylneuraminic acid

Tomoya Machinami,[a] Yasuyuki Itaba,[a] Ayumi Kayama,[a] Takashi Fujimoto,[a] Tetsuo Suami[b]

[a]*Department of Chemistry, College of Science and Technology, Meisei University, Hino, Tokyo 191-8506, Japan*
[b]*Department of Chemistry, College of Science and Technology, Keio University, Hiyoshi, Yokohama 223-0061, Japan*

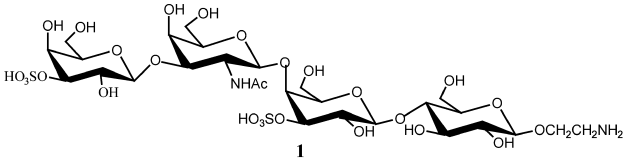
Carbohydr. Res. **2002,** *337*, 1929

Synthesis of a spacer-armed disulfated tetrasaccharide of SB_{1a}, a carbohydrate hapten associated with human hepatocellular carcinoma

Qin Li, Hui Li, Qing Li, Qing-Hua Lou, Bin Su, Meng-Shen Cai, Zhong-Jun Li

Department of Chemical Biology, School of Pharmaceutical Sciences, Peking University, Beijing 100083, China

A disulfated tetrasaccharide fragment with a spacer arm of human hepatocellular carcinoma carbohydrate antigen SB_{1a} was synthesized via a [2 + 1 + 1] block building mode.



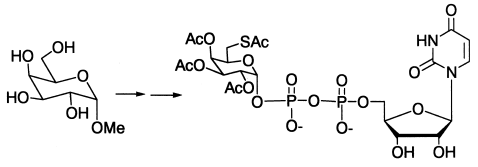
1

Carbohydr. Res. **2002,** *337*, 1935

Thiosugar nucleotide analogs: Synthesis of 5′-(2,3,4-tri-*O*-acetyl-6-*S*-acetyl-6-thio-α-D-galactopyranosyl diphosphate)

Jordan Elhalabi, Kevin G. Rice

Department of Medicinal Chemistry, College of Pharmacy, University of Michigan, Ann Arbor, MI 48109-1065, USA

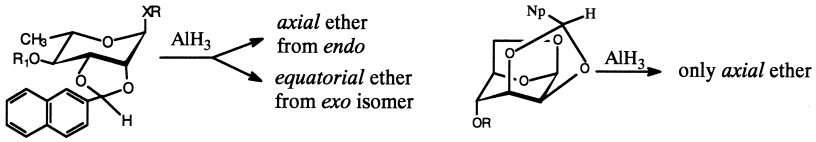


Carbohydr. Res. **2002,** *337*, 1941

Stereoselective (2-naphthyl)methylation of sugar hydroxyls by the hydrogenolysis of diastereoisomeric dioxolane-type (2-naphthyl)methylene acetals

Anikó Borbás,[a] Zoltán B. Szabó,[a] László Szilágyi,[b] Attila Bényei,[c] András Lipták[a,d]

[a]*Research Group for Carbohydrates of the Hungarian Academy of Sciences, Debrecen, PO Box 55, H-4010 Hungary*
[b]*Department of Organic Chemistry, Faculty of Science, University of Debrecen, Debrecen, PO Box 20, H-4010 Hungary*
[c]*Institute of Physical Chemistry, Faculty of Science, University of Debrecen, Debrecen, PO Box 7, H-4010 Hungary*
[d]*Department of Biochemistry, Faculty of Science, University of Debrecen, Debrecen, PO Box 55, H-4010 Hungary*

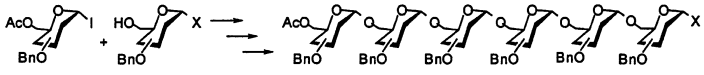


Carbohydr. Res. **2002,** *337*, 1953

Solution- and solid-phase oligosaccharide synthesis using glucosyl iodides: a comparative study

Son N. Lam, Jacquelyn Gervay-Hague

University of California, Davis, Department of Chemistry, Davis, CA 95616, USA

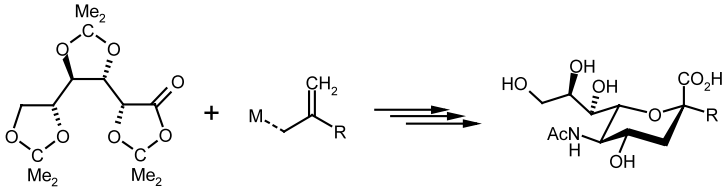


Carbohydr. Res. **2002,** *337*, 1967

Synthesis of *C*-glycosyl compounds of *N*-acetylneuraminic acid from D-gluconolactone

Ahmed I. Khodair, Richard R. Schmidt

Fachbereich Chemie, Universität Konstanz, Fach M 725, D-78457 Konstanz, Germany



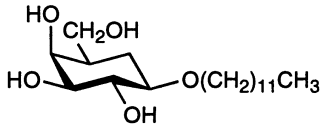
Carbohydr. Res. **2002,** *337*, 1979

Synthesis of an ether-linked alkyl 5a-carba-β-D-glucoside, a 5a-carba-β-D-galactoside, a 2-acetamido-2-deoxy-5a-carba-β-D-glucoside, and an alkyl 5a′-carba-β-lactoside

Seiichiro Ogawa, Hiroshi Aoyama, Toshinori Sato

Department of Applied Chemistry, Faculty of Science and Technology, Keio University, Hiyoshi, Kohoku-ku, Yokohama, 223-8522 Japan

In order to provide the primers for biocombinatorial synthesis using a living cell, four ether-linked alkyl carba-glycosides were synthesized. Interestingly, dodecyl 5a-carba-β-D-galactoside was found to be a good β-galactosidase inhibitor.



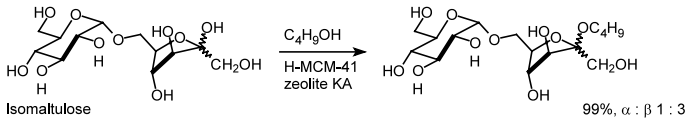
K_i 0.67 μM, β-galactosidase (bovine liver)

Glycosidation of fructose-containing disaccharides using MCM-41 material as the catalyst

Carbohydr. Res. **2002,** *337*, 1993

Anneke M. van der Heijden,[a] Tsz Chung Lee,[b] Fred van Rantwijk,[c] Herman van Bekkum[b]

[a]*Merck Sharp and Dohme BV, Waarderweg 39, NL-2031 BN Haarlem, The Netherlands*
[b]*Laboratory for Applied Organic Chemistry and Catalysis, Julianalaan 136, NL-2628 BL Delft, The Netherlands*
[c]*Laboratory for Biocatalysis and Organic Chemistry, Julianalaan 136, NL-2628 BL Delft, The Netherlands*

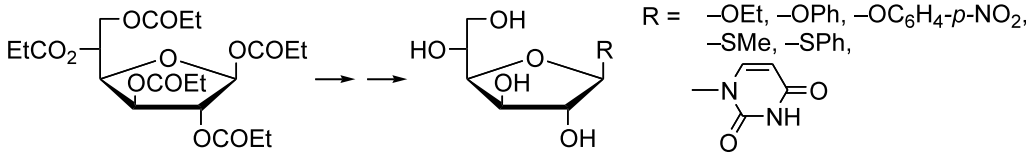


Glucofuranosylation with penta-*O*-propanoyl-β-D-glucofuranose

Carbohydr. Res. **2002,** *337*, 1999

Richard H. Furneaux,[a] Bénédicte Martin,[b] Phillip M. Rendle,[a] Carol M. Taylor[b]

[a]*Industrial Research Limited, PO Box 31-310, Lower Hutt, New Zealand*
[b]*Institute of Fundamental Sciences, Massey University, Private Bag 11-222, Palmerston North, New Zealand*

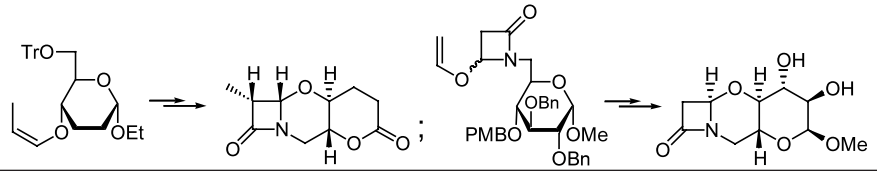


Stereocontrolled formation of oxacephams from carbohydrates

Carbohydr. Res. **2002,** *337*, 2005

Katarzyna Borsuk,[a] Arkadiusz Kazimierski,[a] Jolanta Solecka,[b] Zofia Urbańczyk-Lipkowska,[a] Marek Chmielewski[a]

[a]*Institute of Organic Chemistry, 01-224 Warsaw, Poland*
[b]*Institute of Hygiene, 00-791 Warsaw, Poland*

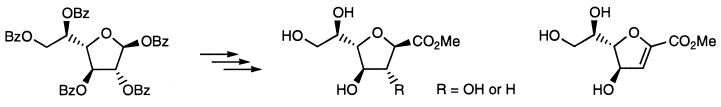


A convenient synthesis of *C*-galactofuranosylic compounds (*C*-galactofuranosides)

Carbohydr. Res. **2002,** *337*, 2017

David J. Owen,[a] Robin J. Thomson,[b] Mark von Itzstein[b]

[a]*Department of Medicinal Chemistry, Monash University (Parkville Campus), 381 Royal Parade, Parkville, Victoria 3052, Australia*
[b]*Centre for Biomolecular Science and Drug Discovery, Griffith University (Gold Coast Campus), PMB 50 Gold Coast Mail Centre, Queensland 9726, Australia*

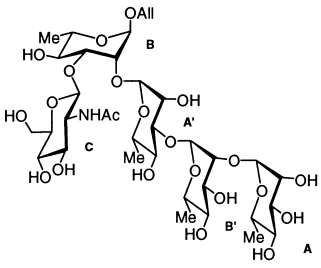


Carbohydr. Res. **2002,** *337*, 2023

Synthesis and conformational analysis of a pentasaccharide corresponding to the cell-wall polysaccharide of the Group A *Streptococcus*

Christer Höög, Archimede Rotondo, Blair D. Johnston, B. Mario Pinto

Department of Chemistry, Simon Fraser University, Burnaby, British Columbia, Canada V5A 1S6



Carbohydr. Res. **2002,** *337*, 2037

Synthetic studies on glycosphingolipids from the Protostomia phyla: syntheses of arthro-series glycosphingolipids

Isao Ohtsuka,[a] Noriyasu Hada,[a] Mutsumi Sugita,[b] Tadahiro Takeda[a]

[a]*Kyoritsu College of Pharmacy, 1-5-30 Shibakoen, Minato-ku, Tokyo 105-8512, Japan*
[b]*Department of Chemistry, Faculty of Liberal Arts and Education, Shiga University, 2-5-1, Hiratsu, Otsu-shi, Shiga-ken 520-0862, Japan*

We have synthesized the above two glycosphingolipids containing β-mannosidic linkages, which are from the larvae of green-bottle fly, *Lucilia caesar* in arthro-series.

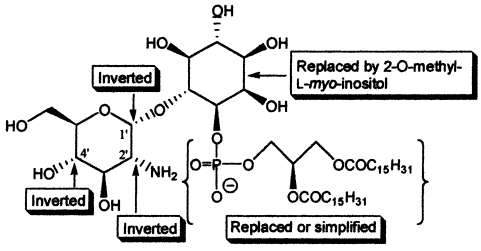
β-D-GlcNAc*p*-(1→3)-β-D-Man*p*-(1→4)-β-D-Glc*p*-(1→1)-Cer (**1**)
β-D-GalNAc*p*-(1→4)-β-D-GlcNAc*p*-(1→3)-β-D-Man*p*-(1→4)-β-D-Glc*p*-(1→1)-Cer (**2**)

Carbohydr. Res. **2002,** *337*, 2049

Further probing of the substrate specificities and inhibition of enzymes involved at an early stage of glycosylphosphatidylinositol (GPI) biosynthesis

Arthur Crossman Jr.,[a] Michael J. Paterson,[a] Michael A.J. Ferguson,[b] Terry K. Smith,[b] John S. Brimacombe[a]

[a]*School of Life Sciences (Chemistry), Carnelley Building, University of Dundee, Dundee DD1 4HN, UK*
[b]*School of Life Sciences (Biochemistry), Wellcome Trust Building, University of Dundee, Dundee DD1 5EH, UK*

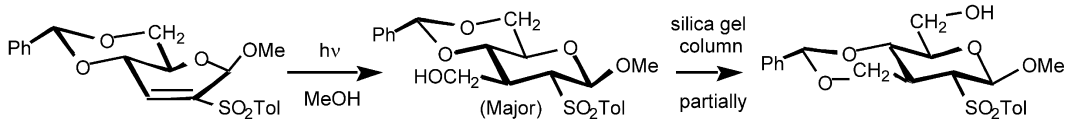


Carbohydr. Res. **2002,** *337*, 2061

Photoreaction of methyl and phenyl 4,6-*O*-benzylidene-2,3-dideoxy-2-*C*-*p*-tolylsulfonyl-β-D-*erythro*-hex-2-enopyranosides in methanol

Tohru Sakakibara, Tetsuya Shindo, Hiroshi Hirai

Graduate School of Integrated Science, Yokohama City University, 22-2, Seto, Kanazawa-ku, Yokohama 236-0027, Japan

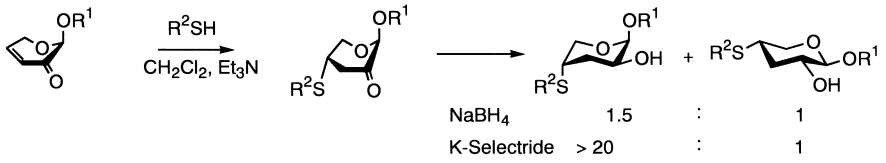


Carbohydr. Res. **2002,** *337*, 2069

Synthesis of glycosides of 3-deoxy-4-thiopentopyranosid-2-uloses and their reduction products: 3-deoxy-4-thiopentopyranosides

María Laura Uhrig, Oscar Varela

CIHIDECAR-CONICET, Departamento de Química Orgánica, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires. Pabellón II, Ciudad Universitaria, 1428, Buenos Aires, Argentina



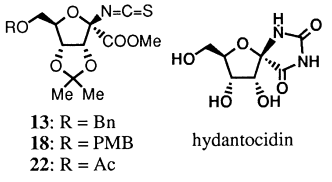
Carbohydr. Res. **2002,** *337*, 2077

Syntheses of hydantocidin and C-2-thioxohydantocidin

Masao Shiozaki

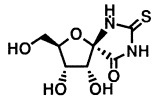
Exploratory Chemistry Research Laboratories, Sankyo Co., Ltd., Hiromachi 1-2-58, Shinagawa-ku, Tokyo 140-8710, Japan

2,3-*O*-Isopropylidene-D-ribono-1,4-lactone was converted to hydantocidin in good yield and C-2-thioxohydantocidin via isothiocyanates **13**, **18**, or **22**.



13: R = Bn
18: R = PMB
22: R = Ac

hydantocidin



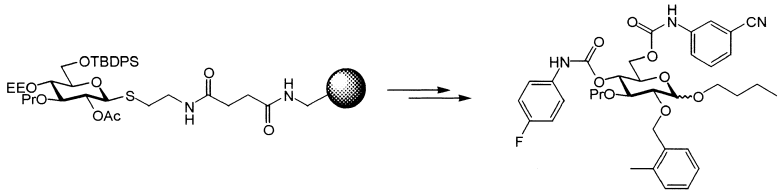
C-2-thioxo-hydantocidin

Carbohydr. Res. **2002,** *337*, 2089

D-Glucose as a multivalent chiral scaffold for combinatorial chemistry

Till Opatz,[a] Christopher Kallus,[a] Tobias Wunberg,[a] Wolfgang Schmidt,[b] Stefan Henke,[b] Horst Kunz[a]

[a]*Institut für Organische Chemie, Universität Mainz, Duesbergweg 10-14, 55128 Mainz, Germany*
[b]*Aventis Pharma Deutschland GmbH, Industriepark Höchst, Frankfurt, Germany*



Carbohydr. Res. **2002,** *337*, 2111

Synthesis and selectin-binding activity of *N*-deacetylsialyl Lewis X ganglioside

Masanori Yamaguchi,[a] Hideharu Ishida,[a] Christine Galustian,[b] Ten Feizi,[b] Makoto Kiso[a]

[a]*Department of Applied Bioorganic Chemistry, Gifu University, Gifu 501-1193, Japan*
[b]*The Glycoscience Laboratory, Imperial College School of Medicine, Northwick Park Hospital, Watford Road, Harrow, Middlesex HA1 3UJ, UK*

A novel analogue (below) of sialyl Lewis X ganglioside, *N*-deacetylsialyl Lewis X ganglioside, was synthesized. L-Selectin bound more strongly to *N*-deacetylsialyl Lewis X ganglioside than to the sialyl Lewis X ganglioside.

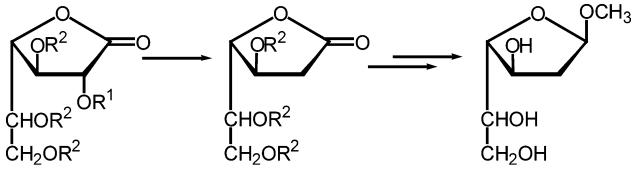
α-Neu*p*NH_2-(2 → 3)-β-D-Gal*p*-(1 → 4)-[α-L-Fuc*p*-(1 → 3)]-β-D-Glc*p*NAc-(1 → 3)-β-D-Gal*p*-(1 → 4)-β-D-Glc*p*-1 → 1)-Cer

Carbohydr. Res. **2002,** *337*, 2119

Photoinduced electron transfer and chemical α-deoxygenation of D-galactono-1,4-lactone. Synthesis of 2-deoxy-D-*lyxo*-hexofuranosides

Alejandro Chiocconi, Carla Marino, Eugenio Otal, Rosa M. de Lederkremer

CIHIDECAR, Departamento de Química Orgánica, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires. Pabellón II, Ciudad Universitaria, 1428 Buenos Aires, Argentina

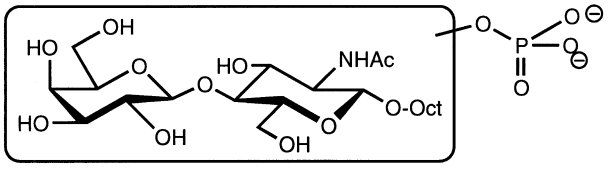


Carbohydr. Res. **2002,** *337*, 2127

Synthesis and NMR characterization of the six regioisomeric monophosphates of octyl β-D-galactopyranosyl-(1→4)-2-acetamido-2-deoxy-β-D-glucopyranoside

David Rabuka, Ole Hindsgaul

Department of Chemistry, University of Alberta, Edmonton, AB, Canada T6G 2G2

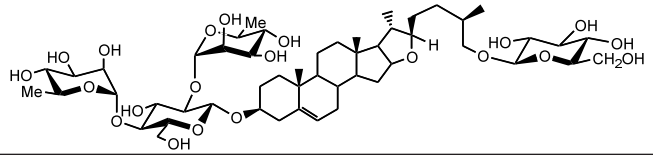


Carbohydr. Res. **2002,** *337*, 2153

A facile approach to diosgenin and furostan type saponins bearing a 3β-chacotriose moiety

Martina Lahmann,[a] Helena Gybäck,[a] Per J. Garegg,[a] Stefan Oscarson,[a] René Suhr,[b] Joachim Thiem[b]

[a]*Department of Organic Chemistry, Stockholm University, S-10691 Stockholm, Sweden*
[b]*Department of Organic Chemistry, University of Hamburg, D-20146 Hamburg, Germany*



Carbohydr. Res. **2002,** *337*, 2161

Resonance-stabilized phenylazo-ene-phenylimine cations of cyclobutanetetraone derivatives

Hassan S. El Khadem,[a] Bruce Coxon[b]

[a]*Department of Chemistry, The American University, 4400 Massachusetts Avenue, N. W., Washington, DC 20016, USA*
[b]*National Institute of Child Health and Human Development, 6 Center Drive, MSC 2720, National Institutes of Health, Bethesda, MD 20892, USA*

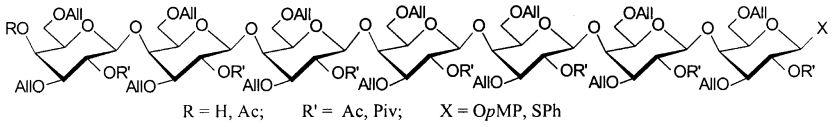
Cyclobutenedione phenylazo-phenylamines were found to exhibit bathochromic shifts in acidic media and hypsochromic shifts in basic media, like phenylazo-phenylhydrazones, a phenomenon attributed, respectively, to the formation of resonance-stabilized cations and to enolization.

Carbohydr. Res. **2002,** *337*, 2171

Synthesis of linear β-(1→4)-*galacto*-hexa- and heptasaccharides and studies directed towards cyclogalactans

Markus Oberthür, Siegfried Peters, Saibal Kumar Das, Frieder W. Lichtenthaler

Institut für Organische Chemie, Technische Universität Darmstadt, Petersenstraße 22, D-64287 Darmstadt, Germany

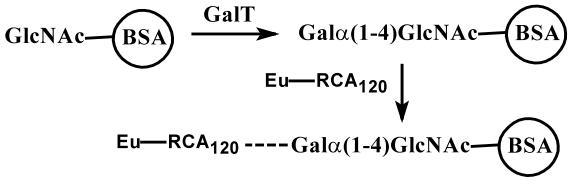


Carbohydr. Res. **2002,** *337*, 2181

β-(1→4)-Galactosyltransferase activity in native and engineered insect cells measured with time-resolved europium fluorescence

Badarulhisam Abdul-Rahman,[a] Erik Ailor,[b] Donald Jarvis,[c] Michael Betenbaugh,[b] YuanChuan Lee[a]

[a]*Department of Biology, Johns Hopkins University, Baltimore, MD 21218, USA*
[b]*Department of Chemical Engineering, Johns Hopkins University, Baltimore, MD 21218, USA*
[c]*Department of Molecular Biology, University of Wyoming, Laramie, WY 82071, USA*

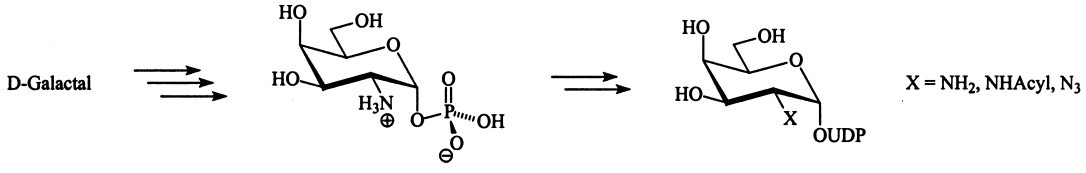


Carbohydr. Res. **2002,** *337*, 2187

Syntheses of unnatural N-substituted UDP-galactosamines as alternative substrates for *N*-acetylgalactosaminyl transferases

Daniel Lazarevic, Joachim Thiem

Institut für Organische Chemie, Universität Hamburg, Martin-Luther-King-Platz 6, D-20146 Hamburg, Germany



Carbohydr. Res. **2002,** *337*, 2195

Characterization of cyanobacterial glycogen isolated from the wild type and from a mutant lacking of branching enzyme†

Sang-Ho Yoo,[a] Martin H. Spalding,[b] Jay-lin Jane[a]

[a]*Department of Food Science and Human Nutrition, 2312 Food Science Building, Iowa State University, Ames, IA 50011, USA*
[b]*Department of Botany, 353 Bessey Hall, Iowa State University, Ames, IA 50011, USA*

A GBE$^-$ mutant strain of *Synechocystis* sp. PCC6803 was generated by homologous recombination. The mutant produced less α-D-glucan that was primarily linear and water-insoluble.

Carbohydr. Res. **2002,** *337*, 2205

New structural features of the polysaccharide from gum ghatti (*Anogeissus latifola*)

Cesar A. Tischer, Marcello Iacomini, Ricardo Wagner, Philip A. J. Gorin

Departamento de Bioquímica, Universidade Federal do Paraná, Caixa Postal 19046, 81.531-990, Curitiba-PR, Brazil

The gum contains free α-Ara*f*-(1→2)-Ara*f* and β-Ara*f*-[β-Ara*f*]$_n$-Ara with $n = 4$ and 7 which corresponds with 2-*O*- and 3-*O*-substituted Ara*f* side-chain structures in the polysaccharide, along with α-Rha*p*-(1→4)-Glc*p*A, α-Rha*p*-(1→4)-β-Glc*p*A-(1→6)-Gal, and α-Rha*p*-(1→4)-β-Glc*p*A-(1→6)-β-Gal*p*-(1→6)-Gal. On three successive, controlled Smith degradations, a product was formed with consecutive (1→3)-linked β-Gal*p* units.

Carbohydr. Res. **2002,** *337*, 2211

Morphology of Western larch arabinogalactan

Rengaswami Chandrasekaran, Srinivas Janaswamy

Whistler Center for Carbohydrate Research, Food Science Building, Purdue University, West Lafayette, IN 47907-1160, USA

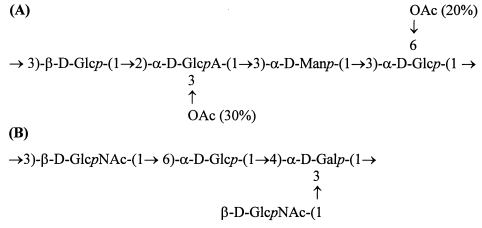
A molecular modeling study reveals that (1→3)-β-D-galactan can adopt a triple helical structure similar to that of the corresponding glucan and accommodate β-D-Gal-(1→6)-β-D-Gal disaccharide moiety as a side group 6-linked to every galactosyl unit in the main chain. The triple helix, applicable to Western larch arabinogalactan, can assume distinct morphologies since the side group has access to several conformational states. The preferred modes of association between these helices have been visualized using preliminary X-ray fiber diffraction data.

Carbohydr. Res. **2002,** *337*, 2223

Structures of two polysaccharides of *Campylobacter jejuni* 81116

Jimmy Muldoon,[a] Alexander S. Shashkov,[b] Anthony P. Moran,[c] John A. Ferris,[c] Sof'ya N. Senchenkova,[b] Angela V. Savage[a]

[a]*Department of Chemistry, National University of Ireland, Galway, Ireland*
[b]*N.D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, Moscow 117913, Russia*
[c]*Department of Microbiology, National University of Ireland, Galway, Ireland*



Carbohydr. Res. **2002,** *337*, 2231

A 2-sulfated, 3-linked α-L-galactan is an anticoagulant polysaccharide

Mariana S. Pereira,[a] Ana-Cristina E.S. Vilela-Silva,[a] Ana-Paula Valente,[b] Paulo A.S. Mourão[a]

[a]*Laboratório de Tecido Conjuntivo, Hospital Universitário Clementino Fraga Filho and Departamento de Bioquímica Médica, Centro de Ciências da Saúde, Universidade Federal do Rio de Janeiro, Caixa Postal 68041, Rio de Janeiro RJ 21941-590, Brazil*
[b]*Centro Nacional de Ressonância Nuclear Magnética de Macromoléculas, Departamento de Bioquímica Médica, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil*

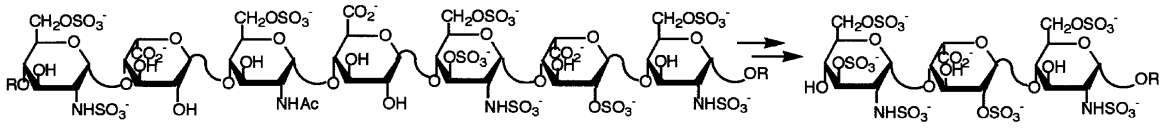
A 2-sulfated, 3-linked α-L-galactan, but not an α-L-fucan, is a potent thrombin inhibitor mediated by antithrombin or heparin cofactor II. This observation indicates that the structural requirements for interaction of sulfated polysaccharides with coagulation cofactors are stereospecific and has no relation with the charge density of the polysaccharide.

Carbohydr. Res. **2002,** *337*, 2239

Further evidence that periodate cleavage of heparin occurs primarily through the antithrombin binding site

Tasneem Islam,[a] Melissa Butler,[a] Sulthan A. Sikkander,[a] Toshihiko Toida,[b] Robert J. Linhardt[a]

[a]*Department of Chemistry, Division of Medicinal and Natural Products Chemistry and Department of Chemical and Biochemical Engineering, PHAR S 328, University of Iowa, Iowa City, IA 52242, USA*
[b]*Department of Analytical Chemistry, Faculty of Pharmaceutical Sciences, Chiba University, 1-33 Yayoi, Inage, Chiba 263-8522 Japan*



Carbohydr. Res. **2002,** *337*, 2245

Bacillus macerans cyclomaltodextrin glucanotransferase transglycosylation reactions with different molar ratios of D-glucose and cyclomaltohexaose

Seung-Heon Yoon, John F. Robyt

Laboratory of Carbohydrate Chemistry and Enzymology, 4252 Molecular Biology Bldg., Iowa State University, Ames, IA 50011, USA

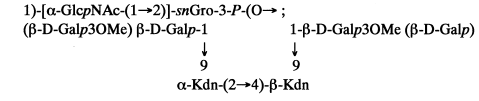
The products from the reaction of cyclomaltodextrin glucanotransferase with cyclomaltohexaose (α-CD) and Glc acceptor in different molar ratios from 1:100 to 100:1 were studied qualitatively and quantitatively. At low ratios, CDs containing 6–60 Glc units were the major products. As the ratio increased, CDs progressively decreased and MDs proportionally increased, and at a ratio of 10:1, CDs were completely absent.

Carbohydr. Res. **2002,** *337*, 2255

Cell wall anionic polymers of *Streptomyces* sp. MB-8, the causative agent of potato scab

Alexander S. Shashkov,[a] Elena M. Tul'skaya,[b] Ludmila I. Evtushenko,[c] Viktor A. Denisenko,[d] Vladimir G. Ivanyuk,[d] Andrey A. Stomakhin,[e] Irina B. Naumova,[b] Erko Stackebrandt[f]

[a]*N.D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, Leninsky Prospect 47, Moscow 117334, Russia*
[b]*School of Biology, M.V. Lomonosov Moscow State University, Moscow 119899, Russia*
[c]*Institute of Biochemistry and Physiology of Microorganisms, Russian Academy of Sciences, Pushchino, Moscow Region, 142292, Russia*
[d]*Belarussian Research Institute for Potato Growing, 2a Kovaleva St., Samokhvalovitchi, Minsk Region 223013, Belarus*
[e]*B.A. Engelhardt Institute of Molecular Biology, Russian Academy of Science, 32 Vavilov St., Moscow 119991, Russia*
[f]*DSMZ-Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH, Mascheroder Weg 1b, D-38124 Braunschweig, Germany*



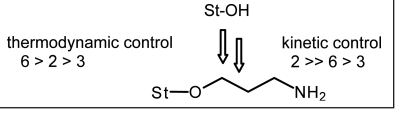
Carbohydr. Res. **2002,** *337*, 2263

Preparation and structural characterisation of *O*-aminopropyl starch and amylose

Antje Gonera, Vera Goclik, Marita Baum, Petra Mischnick

TU Braunschweig, Institut für Lebensmittelchemie, Schleinitzstrasse 20, D-38106 Braunschweig, Germany

O-Aminopropyl starch was prepared using two different reaction pathways: (i) addition of acrylonitrile followed by reduction; and (ii) by direct etherification with an *N*-protected aminopropyl halide and subsequent deprotection. While the regioselectivity in the thermodynamically controlled reaction was O-6 > O-2 > O-3 (50:37:13), the kinetically controlled process showed strongly preferred O-2-etherification and could be influenced by a choice of solvent and base.



Carbohydr. Res. **2002,** *337*, 2273

The role of the anion in the reaction of reducing sugars with ammonium salts

Kwasi Agyei-Aye, May X. Chian, John H. Lauterbach, Serban C. Moldoveanu

Research and Development Department, Brown and Williamson Tobacco Corporation, PO Box 1056, Macon, GA 30202-1056, USA

This research shows the unique nature of diammonium phosphate vis-a-vis other ammonia sources in the conversion of glucose to melanoidins as monitored by the yields of 2,6-deoxyfructosazine.

Carbohydr. Res. **2002,** *337*, 2279

Conformational analysis of two xylose-containing N-glycans in aqueous solution by using ^{1}H NMR ROESY and NOESY spectroscopy in combination with MD simulations

Jos P.M. Lommerse,[a] Johannes J.M. van Rooijen,[a] Loes M.J. Kroon-Batenburg,[b] Johannis P. Kamerling,[a] Johannes F.G. Vliegenthart[a]

[a]*Bijvoet Center, Department of Bio-Organic Chemistry, Section of Glycoscience and Biocatalysis, Utrecht University, Padualaan 8, NL-3584 CH Utrecht, The Netherlands*

[b]*Bijvoet Center, Department of Crystal and Structural Chemistry, Utrecht University, Padualaan 8, NL-3584 CH Utrecht, The Netherlands*

The conformational behavior of the synthetic hexa- and heptasaccharide methyl β-glycosides α-D-Man*p*-(1→6)-[α-D-Man*p*-(1→3)-][β-D-Xyl*p*-(1→2)-]β-D-Man*p*-(1→4)-β-D-Glc*p*NAc-(1→4)-[(±)-α-L-Fuc*p*-(1→6)-]β-D-Glc*p*NAc-(1→OMe, representing the xylosylated and the xylosylated α-(1→6)-fucosylated core structures of N-glycans in α_D-hemocyanin of the snail *Helix pomatia*, respectively, were investigated by ^{1}H NMR spectroscopy in combination with molecular dynamics (MD) simulations in water.

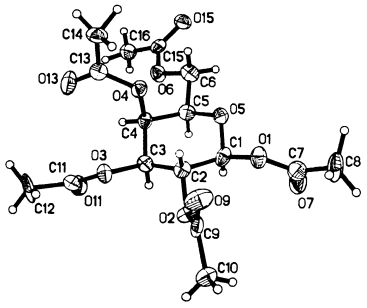
Carbohydr. Res. **2002,** *337*, 2301

Crystal structure of penta-*O*-acetyl-β-D-galactopyranose with modeling of the conformation of the acetate groups

Devron P. Thibodeaux,[a] Glenn P. Johnson,[a] Edwin D. Stevens,[b] Alfred D. French[a]

[a]*Southern Regional Research Center, US Department of Agriculture, 1100 Robert E. Lee Boulevard, New Orleans, LA 70124, USA*

[b]*Department of Chemistry, University of New Orleans, New Orleans, LA 70148, USA*



The single-crystal X-ray structure of penta-*O*-acetyl-β-D-galactopyranose was determined with Mo K_α radiation. The orientations and conformations of the acetate substituents were modeled with MM3 and quantum mechanics.

Carbohydr. Res. **2002,** *337*, 2311

Potential energy surfaces of carrageenan models: carrabiose, β-(1→4)-linked D-galactobiose, and their sulfated derivatives

Carlos A. Stortz

Departamento de Química Orgánica-CIHIDECAR, Facultad de Ciencias Exactas y Naturales, UBA, Pab. 2 Ciudad Universitaria, 1428 Buenos Aires, Argentina

The adiabatic potential energy surfaces of 15 β-(1→4)-linked disaccharides representing the repeating structures of carrageenans were obtained using MM3.

Carbohydr. Res. **2002,** *337*, 2325

Access to aldehydo acetals of sugars via palladium-catalyzed oxidation of α,β-unsaturated cyclic acetals

Catherine Fayet, Jacques Gelas, Kateřina Daňková, Alexandre Yokaris

Laboratoire de Chimie des Hétérocycles et Glucides, EA 987, École Nationale Supérieure de Chimie de Clermont-Ferrand, Ensemble Scientifique des Cézeaux, BP 187, F-63174 Aubière Cedex, France

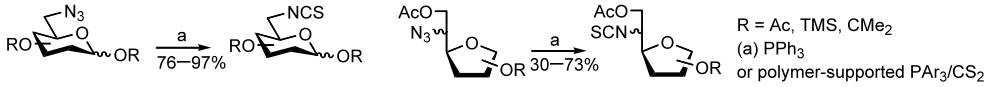
The palladium(II)-catalyzed oxidation of α,β-unsaturated cyclic acetals derived from mono- and disaccharides leads to new aldehydo acetals which results in a reverse regioselection of the reaction.

Carbohydr. Res. **2002,** *337*, 2329

One-step synthesis of non-anomeric sugar isothiocyanates from sugar azides

M. Isabel García-Moreno,[a] Paula Díaz-Pérez,[a] Juan M. Benito,[a] Carmen Ortiz Mellet,[a] Jacques Defaye,[b] José M. García Fernández[c]

[a]*Departamento de Química Orgánica, Facultad de Química, Universidad de Sevilla, Aptdo. 553, E-41071 Sevilla, Spain*
[b]*CNRS and Université Joseph Fourier-Grenoble I (UMR 5063), Département de Pharmacochimie Moléculaire-Glucides, BP 138, F-38243 Meylan, France*
[c]*Instituto de Investigaciones Químicas, CSIC, Américo Vespucio s/n, Isla de la Cartuja, E-41092 Sevilla, Spain*

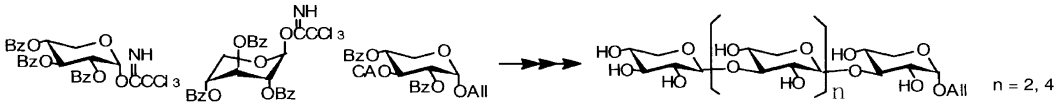


Carbohydr. Res. **2002,** *337*, 2335

An efficient and practical synthesis of β-(1 → 3)-linked xylooligosaccharides

Langqiu Chen, Fanzuo Kong

Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, PO Box 2871, Beijing 100085, China

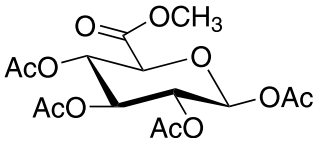


Carbohydr. Res. **2002,** *337*, 2343

Crystal structure of methyl 1,2,3,4-tetra-*O*-acetyl-β-D-glucopyranuronate

Yuriko Y. Root, Timothy R. Wagner, Peter Norris

Department of Chemistry, Youngstown State University 1 University Plaza, Youngstown, OH 44555-3663, USA



Carbohydr. Res. **2002,** *337*, 2347

Fungal cell-wall galactomannans isolated from *Geotrichum* spp. and their teleomorphs *Dipodascus* and *Galactomyces*

Oussama Ahrazem,[a] Alicia Prieto,[a] Juan Antonio Leal,[a] Jesús Jiménez-Barbero,[b] Manuel Bernabé[b]

[a]*Centro de Investigaciones Biológicas, CSIC, Velázquez 144, 28006 Madrid, Spain*
[b]*Departamento de Química Orgánica Biológica, Instituto de Química Orgánica, CSIC, Juan de la Cierva 3, 28006 Madrid, Spain*

The repeating unit of the polysaccharide isolated from *Geotrichum* spp is:

$$\{[\rightarrow 6)\text{-}\alpha\text{-D-Man}p\text{-}(1\rightarrow]_{10}\rightarrow 6)\text{-}\alpha\text{-D-Man}p\text{-}(1\rightarrow\}_{\sim 12}$$
$$\begin{array}{c} 2 \\ \uparrow \end{array}$$
$$\alpha\text{-D-Gal}p\text{-}(1\rightarrow 2)\text{-}\alpha\text{-D-Man}p\text{-}1$$

Carbohydr. Res. **2002,** *337*, 2353

Confirmation of the D configuration of the 2-substituted arabinitol 1-phosphate residue in the capsular polysaccharide from *Streptococcus pneumoniae* Type 17F

Christopher Jones,[a] Begoña Aguilera,[b] Jacques H. van Boom,[b] J. Grant Buchanan[c]

[a]*Laboratory for Molecular Structure, National Institute for Biological Standards and Control, Blanche Lane, South Mimms, Herts EN6 3QG, UK*
[b]*Gorlaeus Laboratories, Leiden Institute of Chemistry, Leiden University, Einsteinweg 55/PO Box 9502, NL-2300RA Leiden, The Netherlands*
[c]*Department of Chemistry, University of Bath, Claverton Down, Bath BA2 7AY, UK*

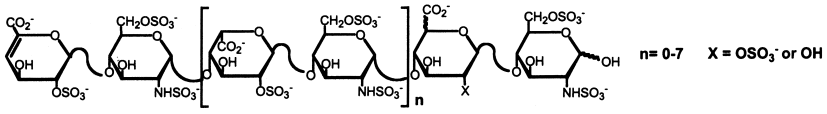
Comparison of NMR spectra of a synthetic oligosaccharide and a degradation product of the polysaccharide allowed the configuration of the alditol residue to be unambiguously defined.

Carbohydr. Res. **2002,** *337*, 2359

Heparin oligosaccharide sequence and size essential for inhibition of pulmonary artery smooth muscle cell proliferation

Hari G. Garg,[a] Naiyaratana Cindhuchao,[a] Deborah A. Quinn,[a] Charles A. Hales,[a] Charuwan Thanawiroon,[b] Ishan Capila,[b] Robert J. Linhardt[b,c]

[a]*Department of Medicine, Pulmonary/Critical Care Unit, Massachusetts General Hospital, Harvard Medical School, Boston, MA 02114, USA*
[b]*Division of Medicinal and Natural Products Chemistry, University of Iowa, Iowa City, IA 52242, USA*
[c]*Departments of Chemistry and Chemical and Biochemical Engineering, University of Iowa, Iowa City, IA 52242, USA*



Carbohydr. Res. **2002,** *337*, 2365

Somatic antigens of pseudomonads: structure of the O-specific polysaccharide of *Pseudomonas fluorescens* IMV 2366 (biovar C)

George V. Zatonsky,[a] Nina A. Kocharova,[a] Stanislav P. Veremeychenko,[b] Evelina L. Zdorovenko,[a] Alexander S. Shashkov,[a] Galina M. Zdorovenko,[b] Yuriy A. Knirel[a]

[a]*N.D. Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences, Leninsky Prospekt 47, 119991 Moscow, Russian Federation*
[b]*D.K. Zabolotny Institute of Microbiology and Virology, National Academy of Sciences of Ukraine, ul. Zabolotnogo 154, 03143 Kiev, Ukraine*

$$\rightarrow 2)\text{-}\beta\text{-D-Qui}p3\text{NAcyl-}(1\rightarrow 3)\text{-}\alpha\text{-L-Rha}p\text{-}(1\rightarrow 3)\text{-}\alpha\text{-D-Fuc}p\text{NAc-}(1\rightarrow$$

Acyl = 3-hydroxy-2,3-dimethyl-5-oxoprolyl