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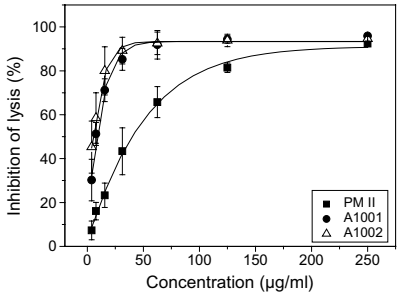
Carbohydrate Research Vol. 339, No. 4, 2004

Contents

FULL PAPERS

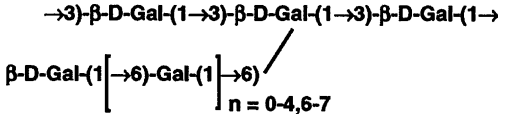
Bioactive polysaccharides from the stems of the Thai medicinal plant *Acanthus ebracteatus*: their chemical and physical features **pp 753–762**

Sanya Hokputsa,* Stephen E. Harding, Kari Inngjerdingen, Kornelia Jumel, Terje E. Michaelsen, Thomas Heinze, Andreas Koschella and Berit S. Paulsen



Structure of oligosaccharide side chains of an intestinal immune system modulating arabinogalactan isolated from rhizomes of *Atractylodes lancea* DC **pp 763–770**

Ikue Taguchi, Hiroaki Kiyohara, Tsukasa Matsumoto and Haruki Yamada*

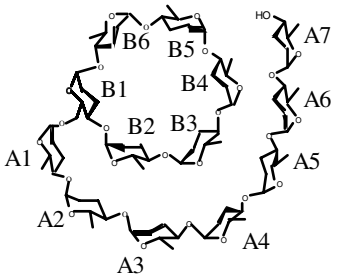


Complexation of vanadium(V) oxyanions with hexopyranose- and mannopyranoseuronic acid-containing polysaccharides: stereochemical considerations **pp 771–775**

Cesar A. Tischer, Maria Benigna M. Oliveira, Fany Reicher, Marcello Iacomini, Carmem L. O. Petkowicz, Maria Eugênia R. Duarte and Philip A. J. Gorin*

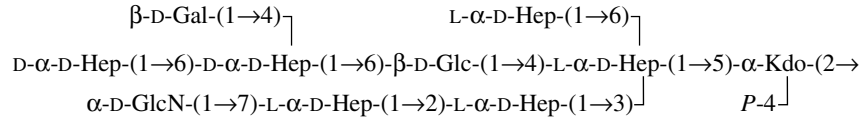
^{51}V NMR spectroscopy showed that in D_2O, $NaVO_3$ complexed with *cis*-3,4-diols of α- and β-Gal*p*, and *cis*-2,3-diols of α-Man*p* units, present in various polysaccharides, but barely with β-Man*p* and β-Man*p* A units, as with experiments on related methyl glycosides. Stereochemical factors are involved in ester formation.

^{1}H NMR spectra of branched-chain cyclomaltohexaoses (α-cyclodextrins) **pp 777–785**
Yasuko Ishizuka,* Tadashi Nemoto, Kenji Kanazawa and Hiroshi Nakanishi

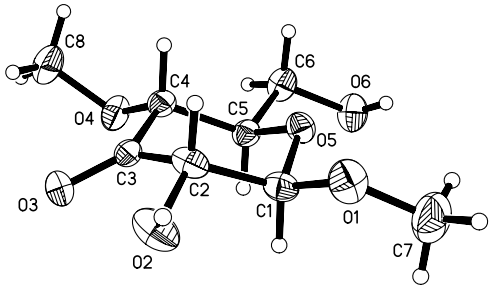


^{1}H NMR spectra of seven branched-chain cyclomaltohexaoses (α-CDs) were analyzed intensively using a high-resolution NMR spectrometer.

Structural studies on the R-type lipopolysaccharide of *Aeromonas hydrophila* **pp 787–793**
Yuriy A. Knirel,* Evgeny Vinogradov, Natalia Jimenez, Susana Merino and Juan M. Tomás

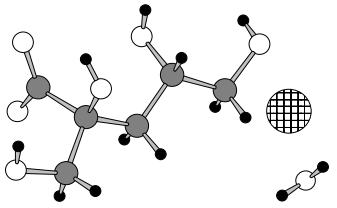


Crystal and molecular structure of methyl 4-*O*-methyl-β-D-*ribo*-hex-3-ulopyranoside **pp 795–799**
Immanuel Adorjan, Thomas Rosenau, Antje Potthast, Paul Kosma,* Kurt Mereiter, Jutta Pauli and Christian Jäger

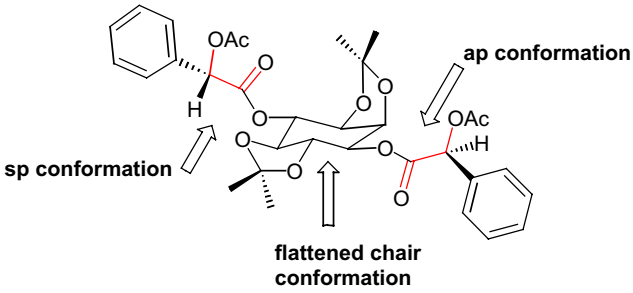


Crystal structure, ^{13}C CPMAS data, and hydrogen bonding of the title compound are discussed.

Crystal structure of sodium isosaccharate, $NaC_6H_{11}O_6 \cdot H_2O$ **pp 801–805**
Ranko P. Bontchev and Robert C. Moore*



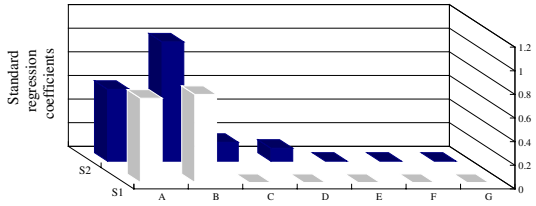
Crystal structure, solid state and solution conformation of 1D-1,4-di-*O*-[(*S*)-*O*-acetylmandeloyl]-2,3:5,6-di-*O*-isopropylidene-*myo*-inositol **pp 807–811**
Kana M. Sureshan, Tomomi Miyasou and Yutaka Watanabe*



The association of water to cellulose and hemicellulose in paper examined by FTIR spectroscopy **pp 813–818**
Anne-Mari Olsson* and Lennart Salmén

The nature of water sorption to cellulose and hemicellulose is examined by FTIR spectroscopy. The moisture was found to be adsorbed homogeneously to all sorbing sites. The dynamic sorption process was also evaluated.

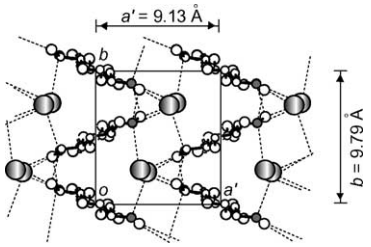
Quantitative estimate of the effect of cellulase components during degradation of cotton fibers **pp 819–824**
Lu-Shan Wang, Yu-Zhong Zhang, Hong Yang and Pei-Ji Gao*



(A) CBHI+EGI, (B) (CBHI+EGI)*Glucosidase, (C) EGI, (D) EGI+Glucosidase, (E) CBHI, (F) Glucosidase, (G) CBHI+Glucosidase

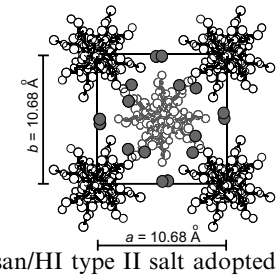
The results demonstrate that the effects of each of three cellulase components (CBHI, EGI, and β-glucosidase) either alone or in combination in two heterogeneous processes, glucose formation and cellulose solubilization, can be quantitatively distinguished by multivariate stepwise regression analysis.

Molecular and crystal structures of chitosan/HI type I salt determined by X-ray fiber diffraction **pp 825–833**
Amornrat Lertworasirikul, Shingo Yokoyama, Keiichi Noguchi, Kozo Ogawa and Kenji Okuyama*



X-ray fiber diffraction analysis indicated that chitosan/HI type I salt adopted an extended 2/1-helix with a fiber repeat of 10.33 Å. The helix was strengthened by O-3···O-5 intramolecular hydrogen bonds. The salt was stabilized by hydrogen bonds between iodide ions and N-2, O-6 of polymer chains together with an electrostatic interaction.

Plausible molecular and crystal structures of chitosan/HI type II salt **pp 835–843**
Amornrat Lertworasirikul, Keiichi Noguchi, Kozo Ogawa and Kenji Okuyama*

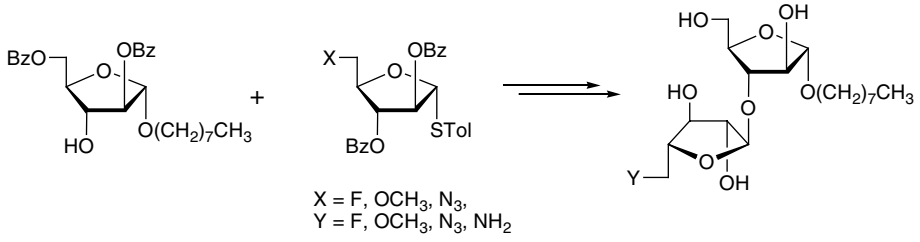


X-ray fiber diffraction analysis revealed that chitosan/HI type II salt adopted 4/1-helical conformation having a disaccharide as a helical asymmetric unit. One of the O-3···O-5 intramolecular hydrogen bonds is weakened by interacting with iodide ions. This seems to cause the polymer to take the newly found conformation rather than a typical extended 2/1 helix.

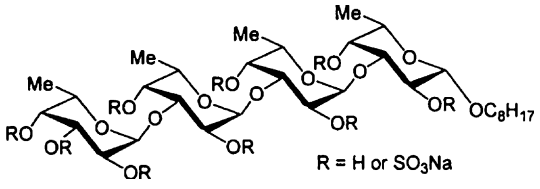
Synthesis and characterization of a brush-like copolymer of polylactide grafted onto chitosan **pp 845–851**
Y. Liu,* F. Tian and K. A. Hu

A brush-like poly(DL)-lactide is grafted onto chitosan as the backbone using Et_3Al as the catalyst.

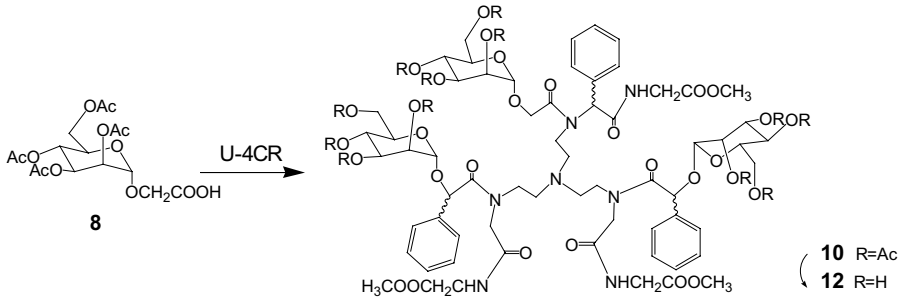
Synthesis of oligosaccharides as potential inhibitors of mycobacterial arabinosyltransferases. Di- and trisaccharides containing C-5 modified arabinofuranosyl residues **pp 853–865**
Oana M. Cociorva and Todd L. Lowary*



Synthesis and biological activities of octyl 2,3,4-tri-*O*-sulfo-α-L-fucopyranosyl-(1 → 3)-2,4-di-*O*-sulfo-α-L-fucopyranosyl-(1 → 3)-2,4-di-*O*-sulfo-α-L-fucopyranosyl-(1 → 3)-2,4-di-*O*-sulfo-β-L-fucopyranoside **pp 867–872**
Yuxia Hua, Guofeng Gu and Yuguo Du*



Synthesis of cluster mannosides via a Ugi four-component reaction and their inhibition against the binding of yeast mannan to concanavalin A **pp 873–879**
Yingxia Li,* Xiaoru Zhang, Shidong Chu, Kunyu Yu and Huashi Guan

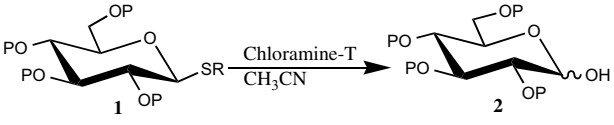


NOTES

Structures of two O-polysaccharides of the lipopolysaccharide of *Citrobacter youngae* PCM 1538 (serogroup O9) **pp 881–884**
Olga G. Ovchinnikova, Nina A. Kocharova, Ewa Katzenellenbogen, George V. Zatonsky, Alexander S. Shashkov, Yuriy A. Knirel,* Tomasz Lipiński and Andrzej Gamian

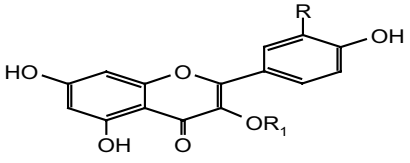
Polysaccharide chain I: → 2)-α-D-Rha*p*4NAc-(1 →
Polysaccharide chain II: → 3)-α-D-Rha*p*4NAc-(1 → 3)-β-D-Rha*p*4NAc-(1 →

Chloramine-T-mediated chemoselective hydrolysis of thioglycosides into glycosyl hemiacetals under neutral conditions **pp 885–890**
Anup Kumar Misra* and Geetanjali Agnihotri



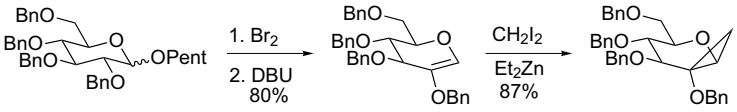
A mild, efficient and chemoselective hydrolysis of thioalkylglycosides (**1**) into their corresponding 1-hydroxy sugars (**2**) using chloramine-T without affecting other functional groups is reported.

Two new flavonol glycosides from *Gymnema sylvestre* and *Euphorbia ebracteolata* **pp 891–895**
Xin Liu, Wencai Ye,* Biao Yu,* Shouxun Zhao, Houming Wu and Chuntao Che



1: R = H, R_1 = β-D-Glc*p*-(1→4)-α-L-Rha*p*-(1→6)-β-D-Gal*p*
2: R = OH, R_1 = 6-*O*-(3-OH-3-Me-glutaroyl)-β-D-Glc*p*

Synthesis of 2,3,4,6-tetra-*O*-benzyl-D-glucal on the gram scale. A convenient method for its facile synthesis and subsequent stereoselective cyclopropanation **pp 897–899**
Corin M. Storkey, Anna L. Win and John O. Hoberg*



A new, facile synthesis of 2,3,4,6-tetra-*O*-benzyl-D-glucal and its subsequent cyclopropanation has been accomplished by bromination and then base-induced elimination of pent-4-enyl 2,3,4,6-tetra-*O*-benzyl-D-glucopyranoside. Yields and selectivities are excellent in addition to the ease of formation of the glycal.

*Corresponding author

COVER

Well-defined glycoforms of glycoproteins can easily be obtained by oxidative coupling of synthetic thioaldoses with proteins that have a cysteine moiety in lieu of an asparagine residue carrying natural N-linked oligosaccharides. In vitro glycosylation offers several advantages such as quantitative conjugation, incorporation of oligosaccharides that display high bioactivities and the possibility of using convenient bacterial or yeast protein expression systems. The figure is related to Geert-Jan Boons' *Carbohydrate Research Award* paper, Carbohydr. Res., **2004**, *339*, 181–193.

Indexed/Abstracted in: Chem. Abstr.: Curr. Contents: Phys., Chem. & Earth Sci. Life Sci. Current Awareness in Bio. Sci (CABS). Full texts are incorporated in CJELSEVIER, a file in the Chemical Journals Online database which is availabe on STN® International.

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ISSN 0008-6215