GRAPHICAL ABSTRACTS

Carbohydr. Res. **1997**, *302*, 13

Synthesis of acylated methyl β-D-xylopyranosides and their enzymic deacylations by rabbit serum esterases

Vesna Petrović [a], Srđanka Tomić [a,*], Đurđica Ljevaković [b], Jelka Tomašić [b]
[a] *Department of Chemistry, Faculty of Science and Mathematics, University of Zagreb, Strossmayerov trg 14, HR-10000 Zagreb, Croatia*
[b] *Institute of Immunology, Inc., Rockefellerova 2, HR-10000 Zagreb, Croatia*

Selective enzymic hydrolyses of newly prepared acylated methyl β-D-xylopyranosides were studied.

Carbohydr. Res. **1997**, *302*, 19

A CP/MAS ^{13}C NMR investigation of molecular ordering in celluloses

Per Tomas Larsson *, Kristina Wickholm, Tommy Iversen
Swedish Pulp and Paper Research Institute, STFI, Box 5604, S-114 86 Stockholm, Sweden

The individual states of order were quantified by non-linear least-squares fitting of the ^{13}C NMR spectra from several native celluloses. A less-ordered or para-crystalline 'in-core' cellulose form was shown to be present in all the investigated samples.

Carbohydr. Res. **1997**, *302*, 27

Direct preparation of cyclodextrin monophosphates

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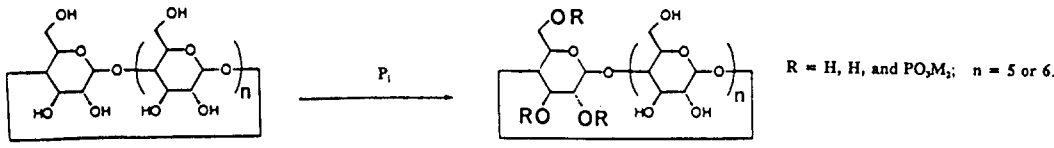
[a] *The Joint Microbiology Research Unit, Kings College School of Medicine and Dentistry, Caldecot Road, Denmark Hill, London SE5 9PJ, UK*
[b] *National Institute for Biological Standards and Control, Blanche Lane, South Mimms, Potters Bar, Herts EN6 3QG, UK*



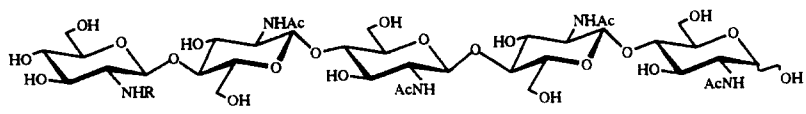
R = H, H, and PO_3M_2; n = 5 or 6.

Carbohydr. Res. **1997**, *302*, 35

Gram-scale synthesis of recombinant chitooligosaccharides in *Escherichia coli*

Eric Samain *, Sophie Drouillard, Alain Heyraud, Hugues Driguez, Roberto A. Geremia
Centre de Recherches sur les Macromolécules Végétales (CERMAV-CNRS), B.P. 53, F-38041 Grenoble cedex 9, France

The microbiological synthesis of penta-*N*-acetyl-chitopentaose (R = Ac) and tetra-*N*-acetyl-chitopentaose (R = H) are described.



Carbohydr. Res. **1997**, *302*, 43

Structure of (±)-1,2;4,5-di-*O*-cyclohexylidene *myo*-inositol and synthesis of *myo*-inositol 3-phosphate via its phosphorylation with (*2R,4S,5R*)-2-chloro-3,4-dimethyl-5-phenyl-1,3,2-oxazaphospholidin-2-one

Ian D. Spiers [a], Carl H. Schwalbe [a], Alexander J. Blake [b], Kevin R.H. Solomons [c], Sally Freeman [c,*]

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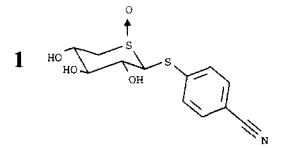
[b] *Department of Chemistry, University of Edinburgh, West Mains Road, Edinburgh EH9 3JJ, UK*
[c] *School of Pharmacy and Pharmaceutical Sciences, University of Manchester, Oxford Road, Manchester M13 9PL, UK*

The X-ray of the title diol showed disordered hydrogen bonding. The diol was reacted with the title phosphorylating agent and the diastereoisomer derived from reaction at position 3 was deprotected to give *myo*-inositol 3-phosphate.

Carbohydr. Res. **1997**, *302*, 53

The crystal and molecular structures of 4-cyanophenyl 1,5-dithio-β-D-xylopyranoside S-5 oxide and 4-ethyl-2-oxo-2*H*-1-benzopyran-7-yl 5-thio-β-D-xylopyranoside S-5 oxide



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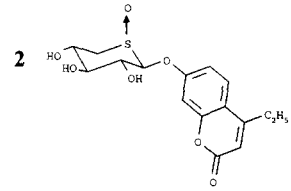


2

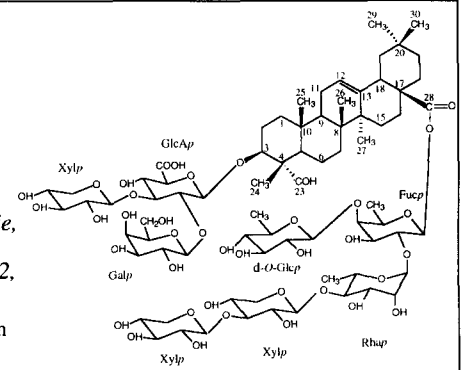
Jean-Yves Le Questel [a], Nadine Mouhous-Riou [a], Benaïssa Boubia [b], Soth Samreth [b], Véronique Barberousse [b], Serge Pérez [a,*]

[a] *Ingénierie Moléculaire, Institut National de la Recherche Agronomique, BP 1627, 44316 Nantes Cédex 03, France*
[b] *Laboratoires Fournier, 50, rue de Dijon, 21121 Daix, France*

The synthesis, crystal structure elucidation of these two thioxylopyranosides are presented.

Carbohydr. Res. **1997**, *302*, 67

Isolation and structure elucidation of a highly haemolytic saponin from the Merck saponin extract using high-field gradient-enhanced NMR techniques



Corinne Delay [b], José A. Gavin [c], André Aumelas [a], Pierre-Antoine Bonnet [b], Christian Roumestand [a,*]

[a] *Centre de Biochimie Structurale, CNRS-UMR 9955 et INSERM-U414, Université de Montpellier I, Faculté de Pharmacie, 15 Avenue Charles Flahault, F-34060 Montpellier, France*
[b] *Laboratoire de Chimie Organique, Université de Montpellier I, Faculté de Pharmacie, 15 Avenue Charles Flahault, F-34060 Montpellier, France*
[c] *Instituto Universitario Bio-Organica "Antonio Gonzalez", Carretera La Esperanza 2, E-38206 La Laguna (Tenerife), Spain*

Saponin SAPO50 has been isolated from the commercial Merck Saponin and its structure has been determined exclusively by high-field gradient-enhanced NMR methods.

Carbohydr. Res. **1997**, *302*, 79

The structure of the capsular polysaccharide from *Klebsiella* type 52, using the computerised approach CASPER and NMR spectroscopy

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[b] *Clinical Research Centre, Analytical unit, Karolinska Institute, Hudding Hospital, NOVUM, S-141 86 Huddinge, Sweden*
[c] *Institut für Medizinische Mikrobiologie, Universität Rostock, D-18055 Rostock, Germany*

The structure of the capsular polysaccharide from *Klebsiella* type 52 has been reinvestigated using an improved and extended version of the computerised approach CASPER and NMR spectroscopy. It has the following structure

→3)-α-D-Gal*p*-(1→4)-α-L-Rha*p*-(1→3)-β-D-Gal*p*-(1→2)-α-L-Rha*p*-(1→4)-β-D-Glc*p*A-(1→
2
↑
1
α-D-Gal*p*

Carbohydr. Res. **1997**, *302*, 85

Differential release of proteoglycans during human B lymphocyte maturation

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We compared structures of proteolgycans released by three B lymphocyte lines which correspond to different maturation stages. Plasma cell type U266 cells secreted the largest proteoglycans (150 kDa), followed by mature B cells JOK-1 (130 kDa) and pre-B cells Nalm 6 (90 kDa). All three cell lines secreted more than 90% of their proteoglycans possessing chondroitin sulfate chains having chondroitin-4-sulfate (ΔDi-4S) as the prevalent disaccharide unit. In these proteochondroitin sulfates, unsulfated chondroitin (ΔDi-0S) was present in smaller quantities and chondroitin-6-sulfate (ΔDi-6S)-containing proteoglycan was released only by Nalm 6 and U266 cells. Our results indicate that released proteoglycans may undergo modulations in their glycosaminoglycan moieties during B cell differentiation. This may have functional consequences at the level of growth factor regulation.

Carbohydr. Res. **1997**, *302*, 97

Interaction mechanism in sol–gel transition of alginate solutions by addition of divalent cations

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The interaction mode between divalent cations and alginate in aqueous solutions during sol–gel transition has been experimentally examined. Different interaction modes were found existing between Ca–alginate systems and Cu–alginate systems. Intramolecular cross-linking clusters of Cu–alginate systems were found to pass through a conformational transformation with increasing temperature.

Carbohydr. Res. **1997**, *302*, 103

Modifications under basic conditions of the minor sequences of heparin containing 2,3 or 2,3,6 sulfate D-glucosamine residues

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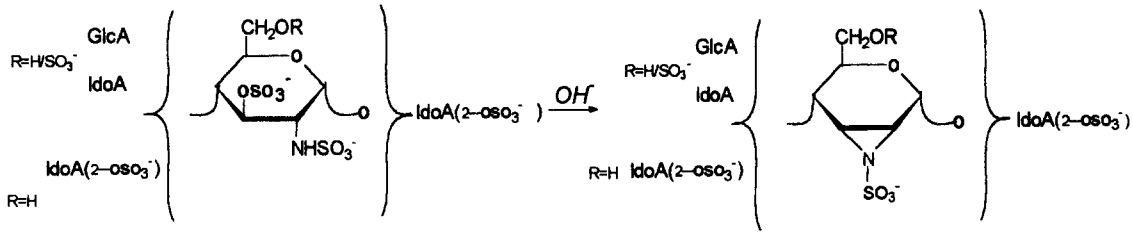
Istituto di Chimica e Biochimica "G. Ronzoni", Via G. Colombo 81, Milan 20133, Italy



Carbohydr. Res. **1997**, *302*, 109

Benzylation of aldonolactones with benzyl trichloroacetimidate

Hanne Stampe Jensen, Gerrit Limberg, Christian Pedersen *

Technical University of Denmark, Department of Organic Chemistry, DK-2800 Lyngby, Denmark