

## Sonochemistry of carbohydrate compounds

*Carbohydr. Res.* **2001**, 332, 115

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A review of reactions performed under sonication in the field of carbohydrate chemistry is presented. It includes the more significant contributions to the common processes of depolymerization of natural polysaccharides, glycosylation and acetalization of protected or unprotected mono- and disaccharides. It also overviews more sophisticated transformations such as oxidations, and formations of C–C and C–heteroatom bonds.

## Synthesis of C-3 nitrogen-containing derivatives of *N*-acetyl- $\alpha,\beta$ -D-mannosamine as substrates for *N*-acetylneuraminic acid aldolase

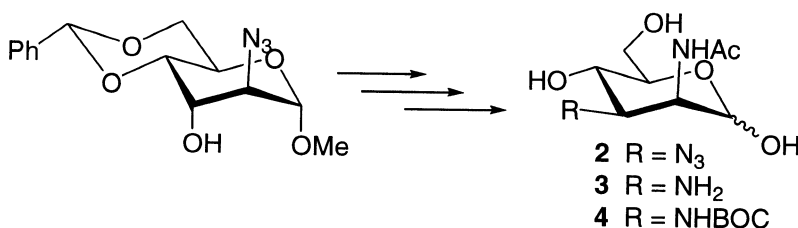
*Carbohydr. Res.* **2001**, 332, 133

Gaik B. Kok,<sup>a</sup> Michael Campbell,<sup>a</sup> Brendan L. Mackey,<sup>a</sup> Mark von Itzstein<sup>a,b</sup>

<sup>a</sup>*Department of Medicinal Chemistry, Monash University (Parkville Campus), 381 Royal Parade, Parkville 3052, Victoria, Australia*

<sup>b</sup>*Centre for Biomolecular Science and Drug Discovery, Griffith University (Gold Coast Campus), PMB 50 Gold Coast Mail Centre, Queensland 9726, Australia*

A number of C-3 N-substituted derivatives of ManNAc were synthesised and found not to be substrates for Neu5Ac aldolase.



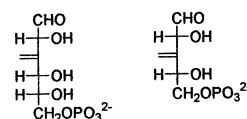
## Di-*tert*-butyl diethylphosphoramidite as the phosphitylating reagent in the preparation of 3-deoxy-3-*C*-methylene-D-ribo-hexose-6-phosphate and 3-deoxy-3-*C*-methylene-D-erythro-pentose-5-phosphate

*Carbohydr. Res.* **2001**, 332, 141

Alain Burger, Denis Tritsch, Jean-François Biellmann

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The preparation of the phosphorylated unsaturated sugars employed di-*tert*-butyl diethylphosphoramidite as the phosphitylating reagent. All the protecting groups were removed under acidic conditions in the ultimate step.



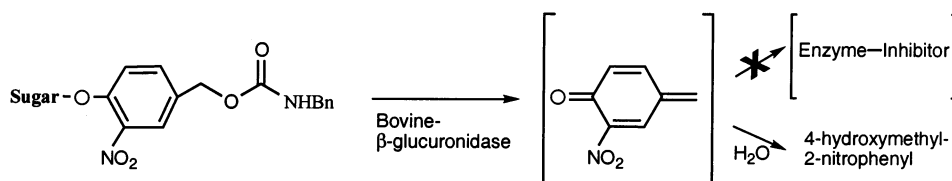
## 2-Nitro and 4-nitro-quinone-methides are not irreversible inhibitors of bovine $\beta$ -glucuronidase

*Carbohydr. Res.* **2001**, 332, 151

Michel Azoulay,<sup>a</sup> Frédéric Chalard,<sup>b</sup> Jean-Pierre Gesson,<sup>b</sup> Jean-Claude Florent,<sup>a</sup> Claude Monneret<sup>a</sup>

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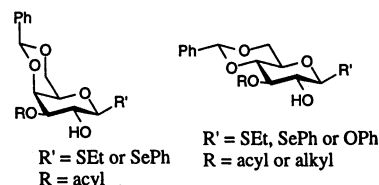
**Regioselective C-3-O-acylation and O-methylation of 4,6-O-benzylidene-β-D-gluco- and galactopyranosides displaying a range of anomeric substituents**

*Carbohydr. Res.* **2001**, *332*, 157

Helen M.I. Osborn, Victoria A. Brome, Laurence M. Harwood, William G. Suthers

Department of Chemistry, University of Reading, Whiteknights, Reading RG6 6AD, UK

Efficient methodology for the synthesis of the highlighted compounds is described.



**Structure of a polysaccharide from a *Rhizobium* species containing 2-deoxy-β-D-arabino-hexuronic acid**

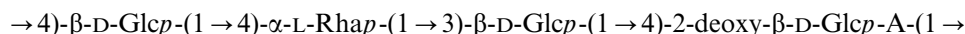
*Carbohydr. Res.* **2001**, *332*, 167

Linda Guentas,<sup>a,b</sup> Patrice Pheulpin,<sup>a</sup> Philippe Michaud,<sup>a</sup> Alain Heyraud,<sup>b</sup> Claude Gey,<sup>b</sup> Bernard Courtois,<sup>a</sup> Josiane Courtois<sup>a</sup>

<sup>a</sup>Laboratoire des Polysaccharides Microbiens et Végétaux, Département de Génie Biologique, Institut Universitaire de Technologie, Université de Picardie Jules Verne, Avenue des Facultés, F-80025 Amiens, France

<sup>b</sup>Centre de Recherches sur les Macromolécules Végétales, UPR CNRS 5301, BP 53 F-38041, Grenoble, France

The following structure of *Rhizobium* sp. B polysaccharide was established:



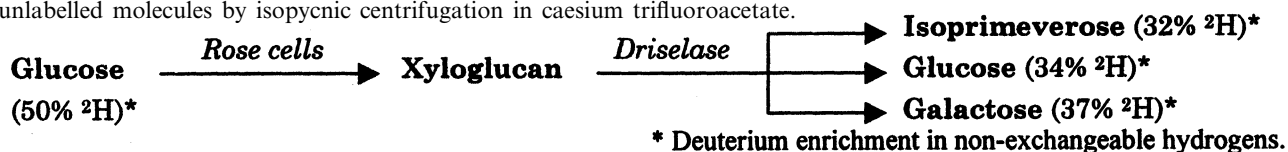
**Density-labelling of cell wall polysaccharides in cultured rose cells: comparison of incorporation of <sup>2</sup>H and <sup>13</sup>C from exogenous glucose**

*Carbohydr. Res.* **2001**, *332*, 175

James E. Thompson, Stephen C. Fry

The Edinburgh Cell Wall Group, ICMB, Daniel Rutherford Building, The King's Buildings, The University of Edinburgh, Edinburgh EH9 3JH, UK

Cultured *Rosa* cells incorporated D-[<sup>13</sup>C<sub>6</sub>,<sup>2</sup>H<sub>7</sub>]glucose into cell wall polysaccharides, e.g., xyloglucan, with excellent retention of <sup>13</sup>C and ~70% retention of <sup>2</sup>H. This enabled in vivo density-labelling of a population of xyloglucans, separable from unlabelled molecules by isopycnic centrifugation in caesium trifluoroacetate.

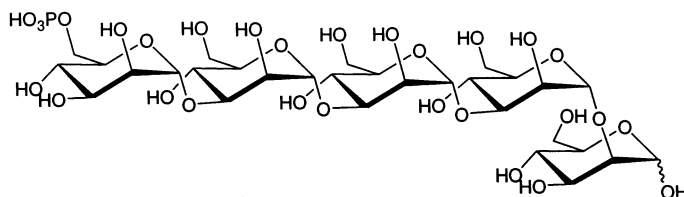


**Large-scale preparation of the oligosaccharide phosphate fraction of *Pichia holstii* NRRL Y-2448 phosphomannan for use in the manufacture of PI-88**

*Carbohydr. Res.* **2001**, *332*, 183

Vito Ferro, Kym Fewings, Maria C. Palermo, Caiping Li

Department of Research and Development, Progen Industries Ltd, PO Box 28, Richlands BC, Qld 4077, Australia



## Determination of carbohydrates as their *p*-sulfophenylhydrazones by capillary zone electrophoresis

*Carbohydr. Res.* **2001**, 332, 191

Xiaoyan Wang, Yi Chen

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Carbohydrates were reacted with *p*-hydrazinobenzenesulfonic acid, and the resulting *p*-sulfophenylhydrazones were analyzed by capillary zone electrophoresis.

## Metal ion coordination of macromolecular bioligands: formation of zinc(II) complex of hyaluronic acid

*Carbohydr. Res.* **2001**, 332, 197

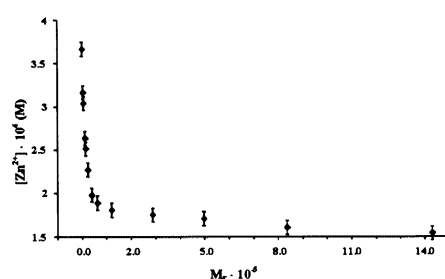
Kálmán Burger,<sup>a</sup> János Illés,<sup>b</sup> Béla Gyurcsik,<sup>a</sup> Mária Gazdag,<sup>b</sup> Erika Forrai,<sup>b</sup> Imre Dékány,<sup>c</sup> Katalin Mihályfi<sup>b</sup>

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The binding of Zn(II) by Hya and the rearrangement of the polymer chain, i.e., a size decrease because of the globular structure of the ZnHya molecule, as a consequence of the complex formation was proved.



## Analysis of mono- and oligosaccharides by multi-wavelength surface plasmon resonance (SPR) spectroscopy

*Carbohydr. Res.* **2001**, 332, 209

Wang Zhen, Chen Yi

Center for Molecular Science, Institute of Chemistry, Chinese Academy of Sciences, Group 205, PO Box 2709, Beijing 100080, People's Republic of China

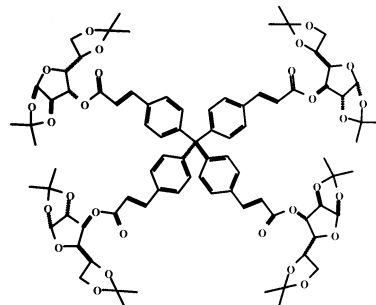
SPR spectra of different saccharides were collected using a home-made multiwavelength SPR apparatus. Pentoses, hexoses, disaccharides and a trisaccharide were distinguished from one another according to their SPR spectra collected at the same concentration. The spectra were also used for the quantitation of sugars by exploring the linear relationship between resonance wavelength and solute concentration. The SPR spectrum of a mixture of two components was investigated.

## Synthetic studies on dendritic glycoclusters: a convergent palladium-catalyzed strategy

*Carbohydr. Res.* **2001**, 332, 215

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**LiBF<sub>4</sub>-mediated C-glycosylation of glycals with allyltrimethylsilane: a facile synthesis of allyl C-glycosylic compounds**

*Carbohydr. Res.* **2001**, 332, 221

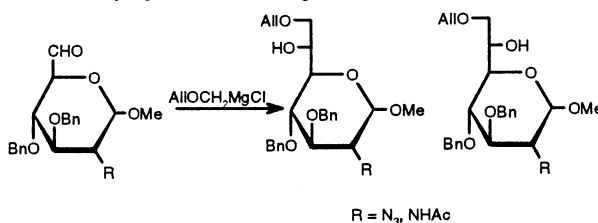
Jhillu S. Yadav, Basi V. Subba Reddy, Lagisetty Chandraiah, Katham Srinivasa Reddy  
*Organic Chemistry Division-1, Indian Institute of Chemical Technology, Hyderabad-500007, India*

**Homologation of methyl 2-azido- and 2-acetamido-3,4-di-O-benzyl-2-deoxy-D-hexopyranosides with allyloxymethylmagnesium chloride**

*Carbohydr. Res.* **2001**, 332, 225

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**Crystal structures of cyclomaltohexaose ( $\alpha$ -cyclodextrin) complexes with *p*-bromophenol and *m*-bromophenol**

*Carbohydr. Res.* **2001**, 332, 235

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