GRAPHICAL ABSTRACTS

Carbohydr. Res. **1997**, *299*, 209

NMR spectroscopy study of the complexation of L-mannonic acid with tungsten(VI) and molybdenum(VI)

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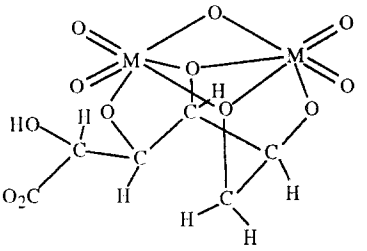
Department of Chemistry, University of Combra, P-3049 Coimbra, Portugal

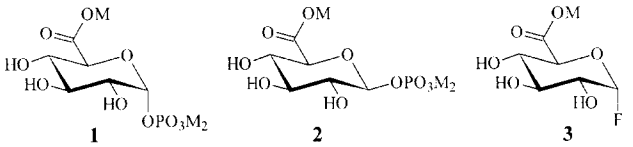
Nine complexes have been identified in aqueous solution, depending on pH and concentration conditions, three of which at high pH; the structure of the dominant one is shown.



Carbohydr. Res. **1997**, *299*, 221

Synthesis of α- and β-D-glucopyranuronate 1-phosphate and α-D-glucopyranuronate 1-fluoride: Intermediates in the synthesis of D-glucuronic acid from starch

André Heeres [a], Henk A. van Doren [a,*], Kees F. Gotlieb [b], Ido P. Bleeker [c]
[a] *Netherlands Institute for Carbohydrate Research TNO, Rouaanstraat 27, NL-9723 CC Groningen, The Netherlands*
[b] *Wildervankstraat 12, NL-9648 LC Wildervank, The Netherlands*
[c] *AVEBE B.A., Avebeweg 1, NL-9607 PT Foxhol, The Netherlands*



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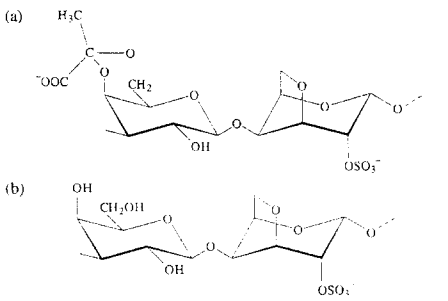
Carbohydr. Res. **1997**, *299*, 229

Cell-wall polysaccharides from Australian red algae of the family Solieriaceae (Gigartinales, Rhodophyta): novel, highly pyruvated carrageenans from the genus *Callophycus*

Anthony Chiovitti [a], Antony Bacic [a], David J. Craik [b], Sharon L.A. Munro [c], Gerald T. Kraft [a], Ming-Long Liao [a,*]
[a] *CRC for Industrial Plant Biopolymers, School of Botany, University of Melbourne, Parkville, Victoria 3052, Australia*
[b] *Centre for Drug Design and Development, University of Queensland, St. Lucia, Queensland 4072, Australia*
[c] *Russell Grimwade School of Biochemistry and Molecular Biology, University of Melbourne, Parkville, Victoria 3052, Australia*

The title polysaccharides are shown to have the dominant repeating disaccharide (a) [4′,6′-*O*-(1-carboxyethylidene)carrabiose 2-sulfate] and the minor repeating disaccharide (b) [carrabiose 2-sulfate].

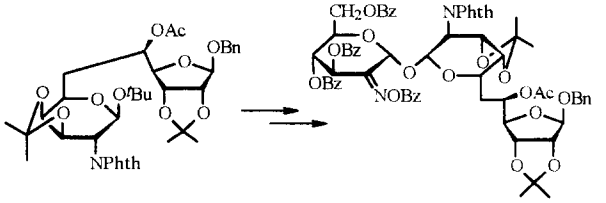


Carbohydr. Res. **1997**, *299*, 245

Stereoselective syntheses of the *O*,*N*-protected subunits of the tunicamycins

Wojciech Karpiesiuk, Anna Banaszek *
Institute of Organic Chemistry, Polish Academy of Sciences, Kasprzaka 44 / 52, 01-224 Warsaw, Poland

Wittig coupling of the ylide of protected *N*-phthaloyl-D-galactosamine with D-*ribo* aldehyde "tail to tail" followed by hydration of the olefinic linkage led to tunicamine. With this sugar as acceptor and 2-oxymino-2-deoxy-α-D-*arabino*-hexopyranosyl bromide as donor. α,β-Disaccharide related to tunicanycins was obtained with high stereoselectivity.

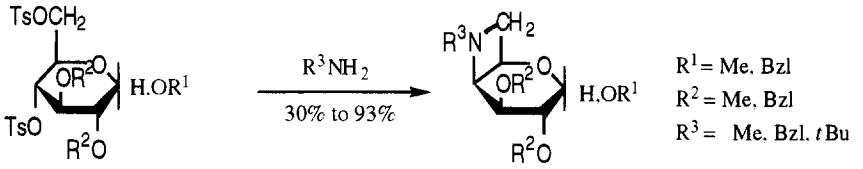


Carbohydr. Res. **1997**, *299*, 253

Synthesis of monosaccharide-fused azetidines

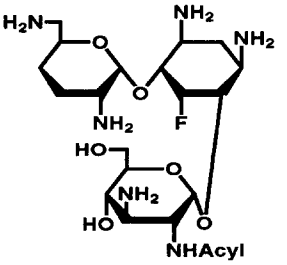
Thierry Michaud, Josette Chanet-Ray, Sithan Chou, Jacques Gelas *
Ecole Nationale Supérieure de Chimie de Clermont-Ferrand, B.P. 187, 63174 Aubière Cedex, France

Reaction of 4,6-ditosylates of glucopyranosides with primary amines lead to fused azetidines.



Carbohydr. Res. **1997**, *299*, 271

Synthesis of 2″-acylamido derivatives of 2″-amino-5,2″-dideoxy-5-epi-5-fluorodibekacin and a study on the structures of 5-fluorinated dibekacin analogs by ^{13}C NMR



Ryuji Kuwahara, Tsutomu Tsuchiya *
Institute of Bioorganic Chemistry, 3-34-17 Ida, Nakahara-ku, Kawasaki 211, Japan

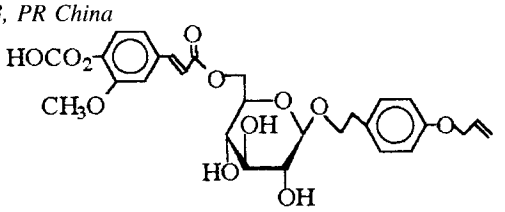
Several 2″-amino-2″-deoxy and 2″-acylamido-2″-deoxy derivatives (**15–21**) of 5-deoxy-5-epi-5-fluorodibekacin have been prepared. The difference in ^{13}C-4 and -6 chemical shifts in some 5-fluorinated kanamycin analogs have been examined and explained on the basis of F-5–O-4 and F-5–O-6 distances which were estimated by MOPAC93/PM3 calculations.

Carbohydr. Res. **1997**, *299*, 281

Total synthesis of the phenylpropanoid glycoside, grayanoside A

San-Qi Zhang [a], Zhong-Jun Li [a], An-Bang Wang [a], Meng-Shen Cai [a,*], Rui Feng [b]
[a] *School of Pharmaceutical Sciences, Beijing Medical University, Beijing 100083, PR China*
[b] *Academy of Military Medical Sciences, Beijing 100850, PR China*

The title glycoside, 2-(4-hydroxyphenyl)ethyl 6-*O*-feruloyl-β-D-glucopyranoside, was synthesised.



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Carbohydr. Res. **1997**, *299*, 287

Effects of ultrasonic conditions and storage in acidic solutions on changes in molecular weight and polydispersity of treated chitosan

Rong Huei Chen *, Jaan Rong Chang, Ju Shii Shyur
National Taiwan Ocean Univeristy, Department of Marine Food Science, Keelung 202, Taiwan, ROC

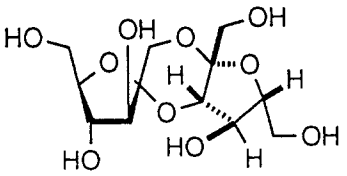
The effects of ultrasonic treatment and acidic solutions on the stability of chitosan were investigated. Parameters studied were molecular weight and polydispersity.

Carbohydr. Res. **1997**, *299*, 301

Isolation and NMR studies of di-D-fructose anhydride III from *Lycoris radiata* Herbert by supercritical extraction with carbon dioxide

Hong-yu Li, Hisahiro Hagiwara *, Weiran Zhu, Chiaki Yokoyama, Nobuyuki Harada
Institute for Chemical Reaction Science, Tohoku University, Katahira 2-1-1, Aoba, Sendai 980-77, Japan

The first isolation of di-D-fructofuranose 1,2′ : 2,3′ dianhydride (DFA III) from *L. radiata* Herbert by supercritical CO_2 extraction, first conformational analysis in solution, and full assignment of ^{1}H and ^{13}C NMR signals by modern 2D NMR studies have been reported.



Carbohydr. Res. **1997**, *299*, 307

Preparation of 2-deoxyaldoses from aldose phenylhydrazones

Christal Jørgensen, Christian Pedersen *
Technical University of Denmark, Department of Organic Chemistry, DK-2800 Lyngby, Denmark