

Carbohydrate Research Vol. 344, No. 1, 2009

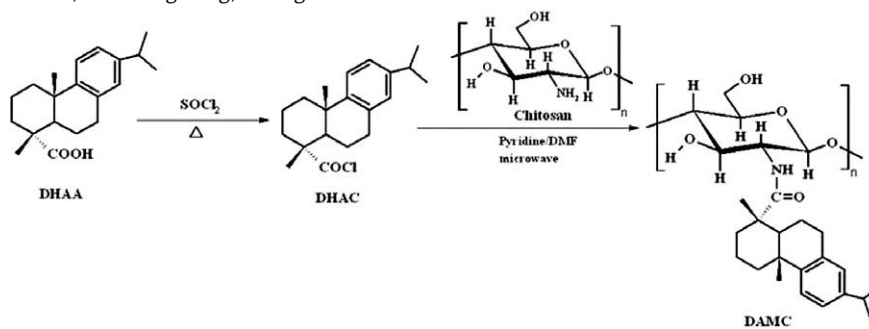
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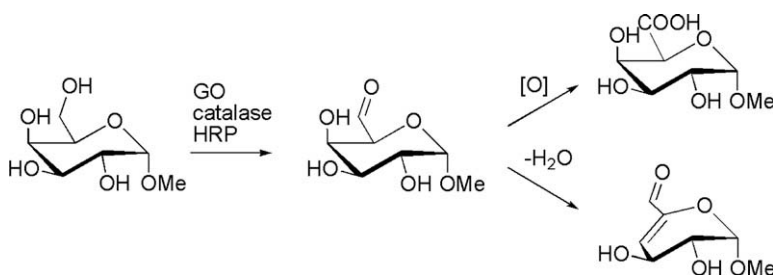
Wengui Duan ^{*}, Changmao Shen, Huaxiang Fang, Guang Hua Li



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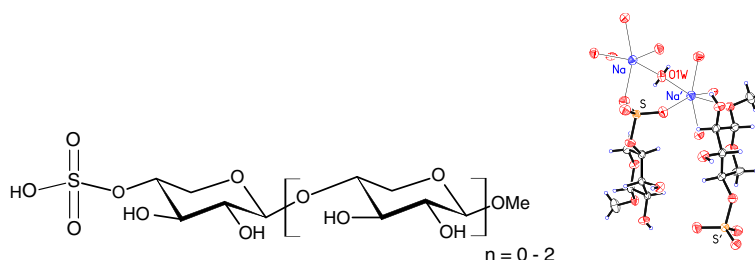
Kirsti Parikka ^{*}, Maija Tenkanen



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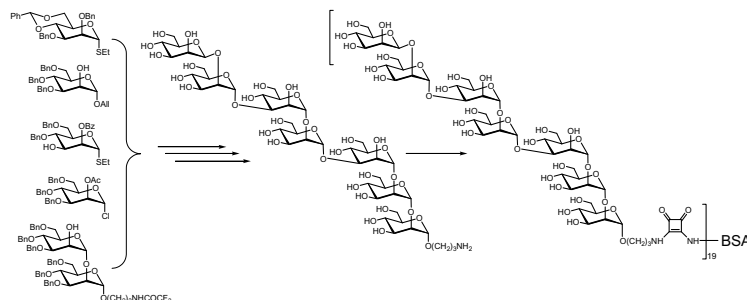
Beatriz Abad-Romero, Kurt Mereiter, Herbert Sixta, Andreas Hofinger, Paul Kosma ^{*}



Synthesis of a heptasaccharide fragment of the mannan from *Candida guilliermondii* cell wall and its conjugate with BSA

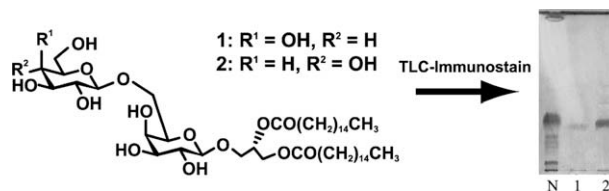
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**Synthesis and absolute structures of *Mycoplasma pneumoniae* β -glyceroglycolipid antigens**

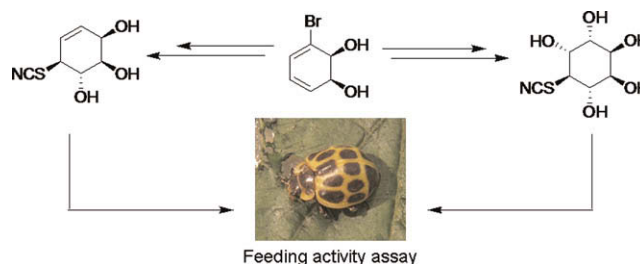
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Akira Miyachi, Atsushi Miyazaki, Yuko Shingu, Kazuhiro Matsuda, Hirofumi Dohi, Yoshihiro Nishida *

**Enantiospecific synthesis and insect feeding activity of sulfur-containing cyclitols**

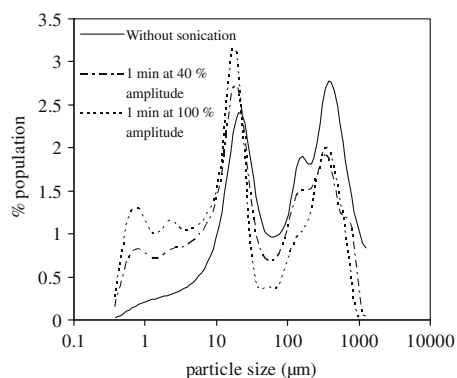
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Ana Bellomo, Soledad Camarano, Carmen Rossini, David Gonzalez *

**Enzymatic production of glucose from different qualities of grain sorghum and application of ultrasound to enhance the yield**

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Satish D. Shewale, Aniruddha B. Pandit *



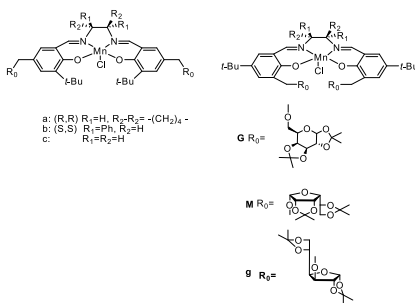
Use of ultrasound shows an enhancement in the per cent saccharification.



Asymmetric epoxidation of unfunctionalized alkenes catalyzed by sugar moiety-modified chiral salen–Mn(III) complexes

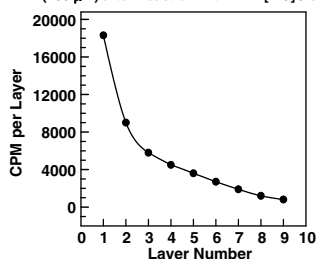
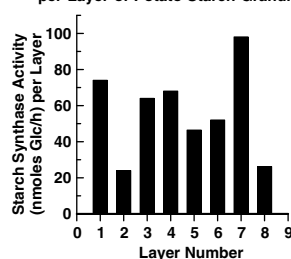
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Jiquan Zhao *, Yuecheng Zhang, Furong Han, Shanshan Zhao

**Starch biosynthesis: experiments on how starch granules grow in vivo**

pp 67–73

Romila Mukerjee, Rupendra Mukerjee, John F. Robyt *

A. Distribution of ^{14}C in Potato Starch Granules (>53 μm) after Reaction with ADP-[^{14}C]Glc**B. Starch Synthase Activity (nmoles Glc/h) per Layer of Potato Starch Granules****C. SEM Potato Starch Granule****Structure–function relationship in cyclodextrin glycosyltransferase from *Bacillus circulans* DF 9R**

pp 74–79

Hernán Costa, Sergio del Canto, Susana Ferrarotti, Mirtha Biscoglio de Jiménez Bonino *

Cyclodextrin glycosyltransferases catalyze cyclodextrin production allowing major industrial applications. This work is a contribution to the knowledge of structural and functional aspects of these enzymes, special emphasis being cast on product specificity; besides, a single modification in the highly conserved –6 subsite—involved in the induced-fit mechanism—was found.

Relevance of the capacity of phosphorylated fructose to scavenge the hydroxyl radical

pp 80–84

Ivan Spasojević *, Miloš Mojović, Duško Blagojević, Snežana D. Spasić, David R. Jones, Aleksandra Nikolić-Kokić, Mihajlo B. Spasić

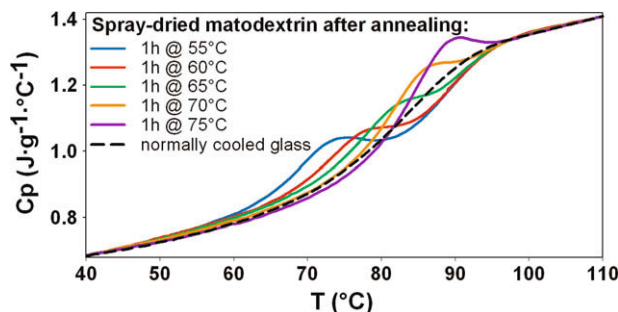
Rank order of inhibition of OH generation in the Fenton reaction:



The amorphous state of spray-dried maltodextrin: sub-sub- T_g enthalpy relaxation and impact of temperature and water annealing

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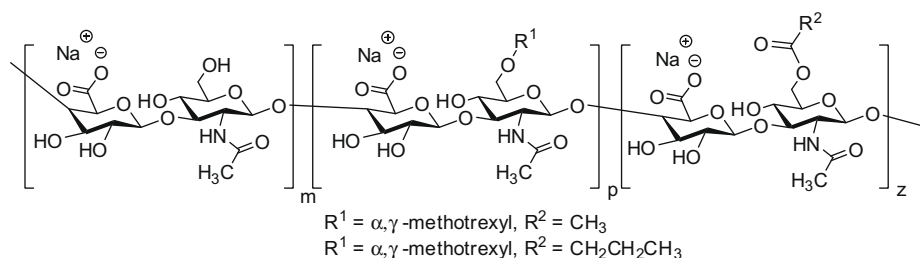
Nicolas Descamps *, Stefan Palzer, Ulrich Zuercher



Synthesis of 6-O-methotrexylhyaluronan as a drug delivery system

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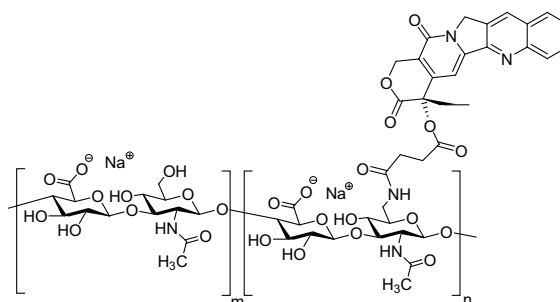
Claudia Sorbi, Massimo Bergamin, Susanna Bosi, Francesca Dinon, Vincent Aroulmoji, Riaz Khan, Erminio Murano, Stefano Norbedo *



Synthesis of 6-amino-6-deoxyhyaluronan as an intermediate for conjugation with carboxylate-containing compounds: application to hyaluronan–camptothecin conjugates

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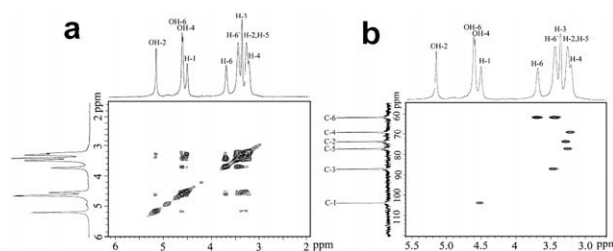
Stefano Norbedo *, Francesca Dinon, Massimo Bergamin, Susanna Bosi, Vincent Aroulmoji, Riaz Khan, Erminio Murano



Structure and chain conformation of five water-soluble derivatives of a β -D-glucan isolated from *Ganoderma lucidum*

pp 105–112

Jianguo Wang, Lina Zhang *



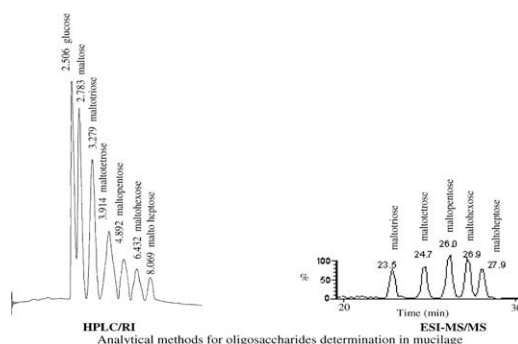
Chain conformation and rheological behavior of an extracellular heteropolysaccharide Erwinia gum in aqueous solution pp 113–119

Xiaojuan Xu *, Pan Chen, Yin Wang, Lina Zhang

Chain conformation of an extracellular heteropolysaccharide Erwinia gum in aqueous solution was evaluated to be semi-stiff-like chains according to the Smidsrød's 'B-value' method and hydrodynamic factor ρ and Flory-Fox factor ϕ by using viscometry and light scattering. The rheological results also reflected its semi-stiff chain conformation.

Study on the maltooligosaccharide composition of mucilage samples collected along the northern Adriatic coast pp 120–126

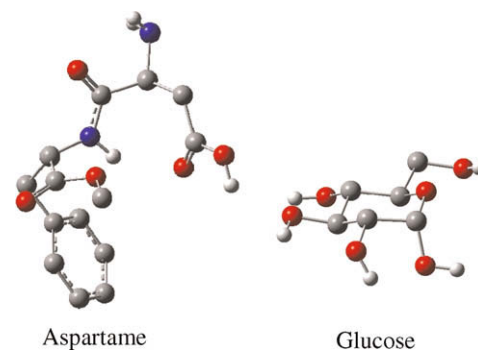
Nunzio Penna *, Samuela Capellacci, Fabio Ricci, Marco Giorgi, Antonella Penna, Giorgio Famigliini, Elisabetta Pierini, Helga Trufelli, Achille Cappiello

**Comparison of thermochemistry of aspartame (artificial sweetener) and glucose**

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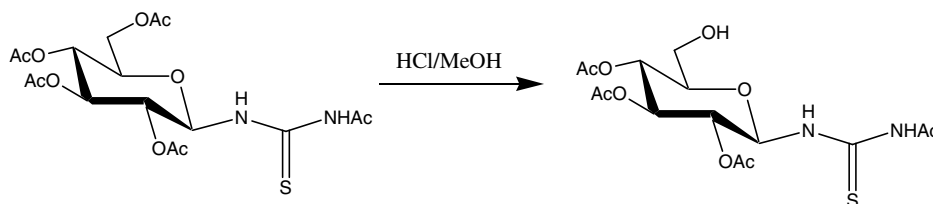
Mohammad Rashidian, Alireza Fattahi *

We have compared the gas phase thermochemical properties of aspartame (artificial sweetener) and α - and β -glucose. These parameters include metal ion affinities with Li^+ -, Na^+ -, K^+ -, Mg^{+2} -, Ca^{+2} -, Fe^{+2} -, Zn^{+2} -ions, and chloride ion affinity by using DFT calculations. For example, for aspartame, the affinity values for the above described metal ions are, respectively, 86.5, 63.2, 44.2, 255.4, 178.4, 235.4, and 300.4, and for β -glucose are 65.2, 47.3, 32.9, 212.9, 140.2, 190.1, and 250.0 kcal mol⁻¹, respectively. The study shows differences between the intrinsic chemistry of aspartame and glucose.

**Formation and structure elucidation of *N*-(2,3,4-tri-*O*-acetyl- β -D-glucopyranosyl)-*N'*-acetylthiourea**

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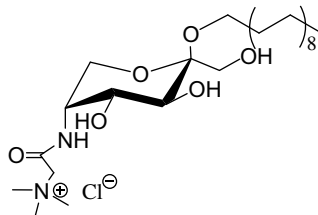
László Somogyi *, Gyula Batta



Synthesis of 1-octadecyl 5-betainylamino-5-deoxy- β -D-fructopyranoside hydrochloride as a new long-chain cationic sugar-based surfactant

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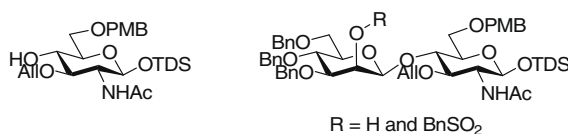
Fabrice Goursaud, Thierry Benvegnu *



Dimethylthexylsilyl 2-acetamido-3-O-allyl-2-deoxy-6-O-(4-methoxybenzyl)- β -D-glucopyranoside, dimethylthexylsilyl 3,4,6-tri-O-benzyl- β -D-mannopyranosyl-(1 $\rightarrow$ 4)-2-acetamido-3-O-allyl-2-deoxy-6-O-(4-methoxybenzyl)- β -D-glucopyranoside, and dimethylthexylsilyl 2-O-(benzylsulfonyl)-3,4,6-tri-O-benzyl- β -D-mannopyranosyl-(1 $\rightarrow$ 4)-2-acetamido-3-O-allyl-2-deoxy-6-O-(4-methoxybenzyl)- β -D-glucopyranoside: synthesis of authentic samples

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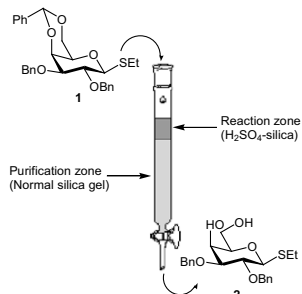
David Crich *, Ming Li, Prasanna Jayalath



H₂SO₄-silica-promoted 'on-column' removal of benzylidene, isopropylidene, trityl and *tert*-butyldimethylsilyl groups

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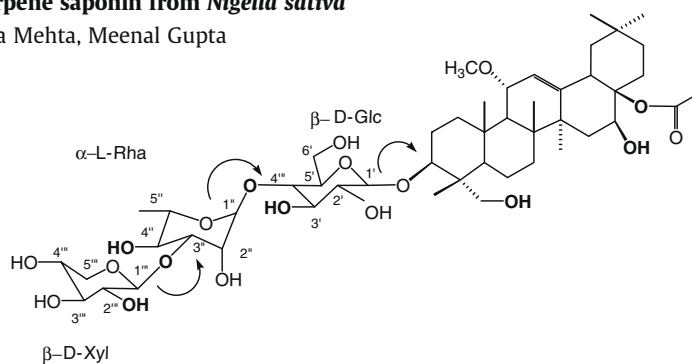
Bimalendu Roy, Priya Verma, Balaram Mukhopadhyay *



A new naturally acetylated triterpene saponin from *Nigella sativa*

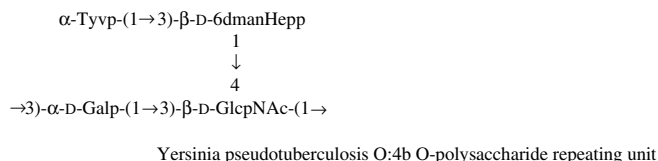
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Bhupendra Kumar Mehta *, Prabha Mehta, Meenal Gupta



Structure of the O-antigen of *Yersinia pseudotuberculosis* O:4b**pp 152–154**

Anna N. Kondakova *, Olga V. Bystrova, Rima Z. Shaikhutdinova, Sergey A. Ivanov, Svetlana V. Dentovskaya, Alexander S. Shashkov, Yuriy A. Knirel, Andrey P. Anisimov



*Corresponding author

 Supplementary data available via ScienceDirect

COVER

Shown is a fluorescence image of cell-surface glycans in a 3-day old zebrafish larva. Different colors represent glycans biosynthesized at different times in development. The glycans were imaged in live zebrafish using a two-step approach termed the bioorthogonal chemical reporter strategy. Embryos were first metabolically labeled with the unnatural monosaccharide *N*-azidoacetylgalactosamine, which targets the core position of mucin-type O-glycans; subsequently, the azide-containing glycans were reacted with a cyclooctyne–fluorophore conjugate by copper-free click chemistry, a step that was repeated multiple times to target temporally distinct glycan pools with different fluorophores. This work is the result of a collaboration between the Departments of Chemistry and Molecular and Cell Biology at the University of California, Berkeley [Laughlin, S. T.; Baskin, J. M.; Amacher, S. L.; Bertozzi, C. R. *Science* **2008**, 320, 664].

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