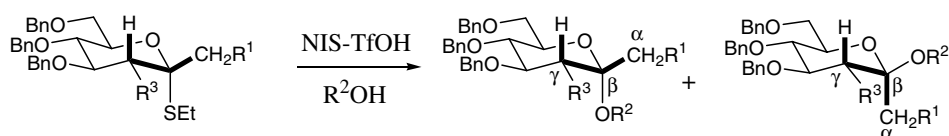


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Synthesis of ketopyranosyl glycosides and determination of their anomeric configuration on the basis of the three-bond carbon–proton couplings pp 1393–1404

Gábor Májer, Anikó Borbás,* Tünde Zita Illyés, László Szilágyi, Attila Csaba Bényei and András Lipták

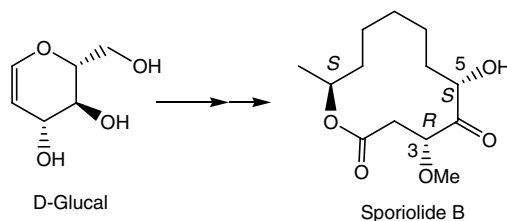


The influence of the $C_{\alpha}-C_{\beta}-C_{\gamma}-H_{\gamma}$ torsion angle and substituent effects on the three-bond carbon–proton couplings was studied for ketopyranosyl glycoside anomeric pairs.



Synthesis of sporiolide B from D-glucal pp 1405–1411

Qi Chen and Yuguo Du*

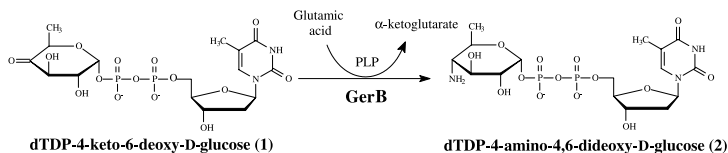


Enzymatic synthesis of dTDP-4-amino-4,6-dideoxy-D-glucose using GerB (dTDP-4-keto-6-deoxy-D-glucose aminotransferase) pp 1412–1418

Young Soo Chung, Dae Hee Kim, Won Min Seo, Hei Chan Lee, Kwangkyoung Liou, Tae-Jin Oh* and Jae Kyung Sohng

Over-expressed GerB (dTDP-4-keto-6-deoxy-D-glucose aminotransferase) of *Streptomyces* sp. GERI-155 was used in the enzymatic synthesis of dTDP-4-amino-4,6-dideoxy-D-glucose (**2**) from dTDP-4-keto-6-deoxy-D-glucose (**1**).

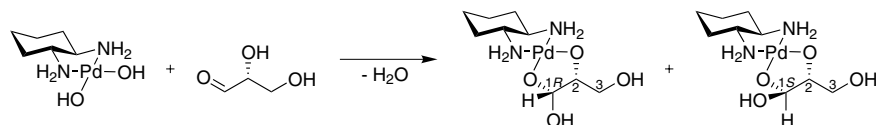
Five enzymes including dTMP kinase (TMK), acetate kinase (ACK), dTDP-glucose synthase (TGS), dTDP-glucose 4,6-dehydratase (DH), and dTDP-4-keto-6-deoxy-D-glucose aminotransferase (GerB) were used to synthesize **2** on a large scale from glucose-1-phosphate and TMP. A conversion yield of up to 57% was obtained by HPLC peak integration given a reaction time of 270 min. After purification by two successive preparative HPLC systems, the final product was identified by HPLC and then analyzed by ^1H , ^{13}C , $^1\text{H}-^1\text{H}$ COSY NMR spectrometry.



On the basics of carbohydrate–metal chemistry: complexes of palladium(II) with hydroxyaldehyde and -ketone hydrates

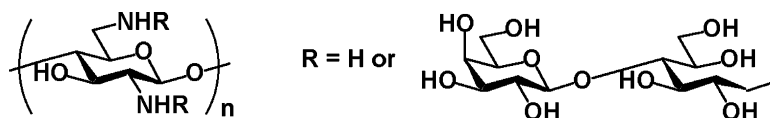
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Thorsten Allscher, Peter Klüfers* and Oliver Labisch


In vitro gene delivery to HepG2 cells using galactosylated 6-amino-6-deoxychitosan as a DNA carrier

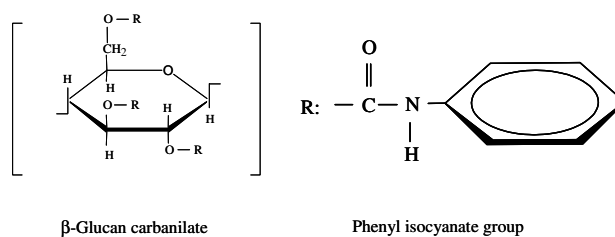
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Taku Satoh,* Shinji Kakimoto, Hiroshi Kano, Mika Nakatani, Seiji Shinkai and Takeshi Nagasaki


Carbanilation of cereal β -glucans for molecular weight determination and conformational studies

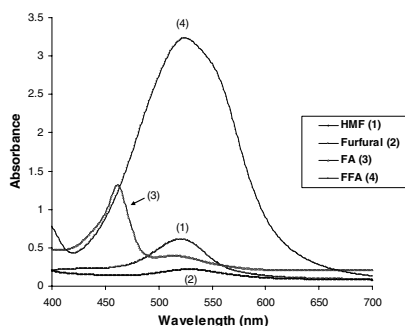
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Wei Li, Qi Wang,* Steve W. Cui, Walther Burchard and Rickey Yada


An improved methodology for the quantification of uronic acid units in xylans and other polysaccharides

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Jiebing Li,* Koki Kisara, Sverker Danielsson, Mikael E. Lindström and Göran Gellerstedt

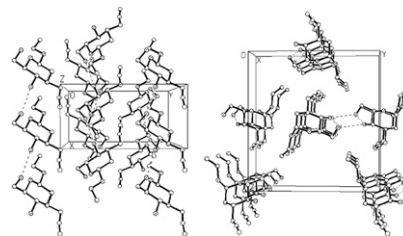


Crystal structures of ethyl 3-azido-2,3-dideoxy-D-arabino-hexopyranoside anomers

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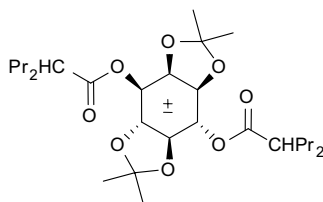
Aleksandra Dąbrowska,* Dagmara Jacewicz, Agnieszka Chylewska, Andrzej Wojtczak and Lech Chmurzyński

Both title compounds belong to the orthorhombic space group of $P2_12_12_1$ with cell dimensions $a = 5.6450(5) \text{ \AA}$, $b = 13.538(1) \text{ \AA}$, $c = 14.427(1) \text{ \AA}$, $D_c = 1.309 \text{ Mg cm}^{-3}$ and $V = 1102.5(2) \text{ \AA}^3$ for $Z = 4$ (anomer α) and with cell dimensions $a = 5.836(1) \text{ \AA}$, $b = 11.383(2) \text{ \AA}$, $c = 17.628(4) \text{ \AA}$, $D_c = 1.232 \text{ Mg cm}^{-3}$ and $V = 1107.9(2) \text{ \AA}^3$ for $Z = 4$ (anomer β). Compounds studied have typical 4C_1 chair conformations. The hydrogen bonding linkages between sugar molecules form the network lattices through the crystals.

**Crystal structure and anticonvulsant activity of (\pm)-1,2:4,5-di-O-isopropylidene-3,6-di-O-(2-propylpentanoyl)-myo-inositol**

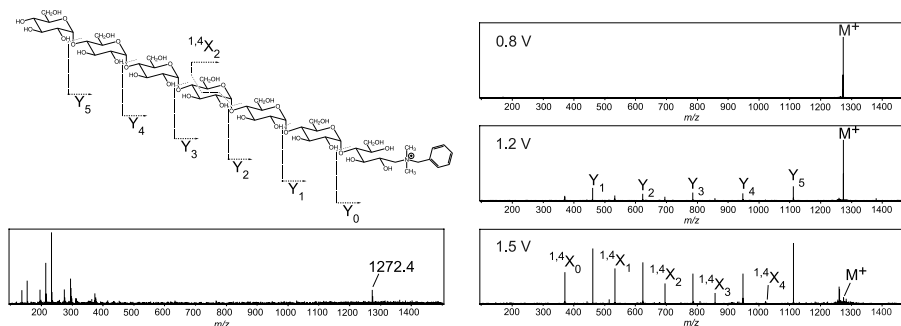
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Sung C. Moon, Gustavo A. Echeverría,* Graciela Punte, Javier Ellena and Luis E. Bruno-Blanch

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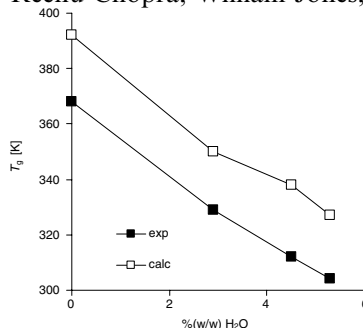
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**The glass transition temperatures of amorphous trehalose–water mixtures and the mobility of water: an experimental and in silico study**

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Alexandra Simperler, Andreas Kornherr,* Reenu Chopra, William Jones,* W. D. Samuel Motherwell and Gerhard Zifferer

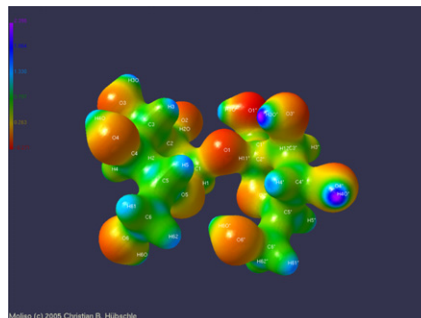


Experimental charge density of sucrose at 20 K: bond topological, atomic, and intermolecular quantitative properties

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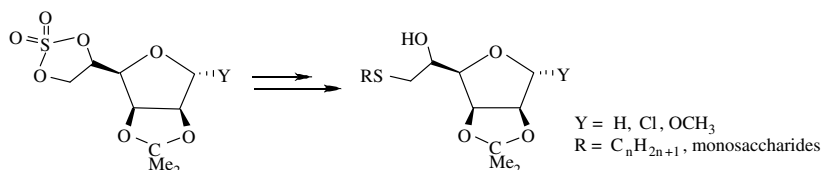
Da'san M. M. Jaradat, Stefan Mebs, Lilianna Chęcińska and Peter Luger*

The electrostatic potential of sucrose, mapped on the isosurface of the experimental electron density at $0.5 \text{ e } \text{\AA}^{-3}$, makes the polarization of this density visible.

**NOTES****Regioselective synthesis of 6-*S*-alkyl and 6-*S*-glycosyl-6-thio-*D*-mannofuranose derivatives from 5,6-*O*-cyclic sulfate precursors**

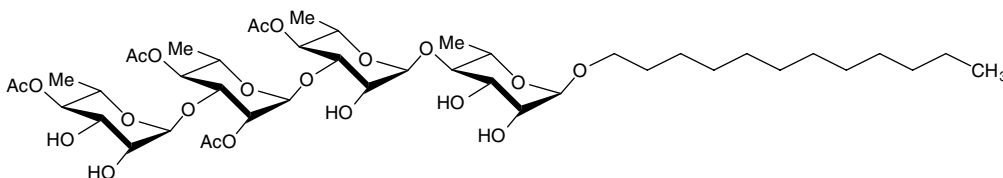
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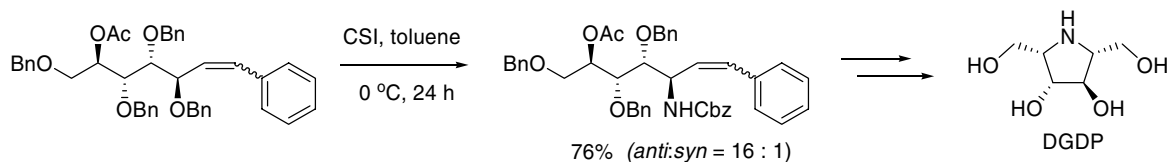
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Lijian Cheng, Qi Chen and Yuguo Du*

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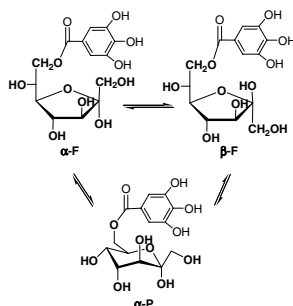
In Su Kim, Sin Jung Kim, Jae Koo Lee, Qing Ri Li and Young Hoon Jung*



Synthesis of 7-*O*-galloyl-*D*-sedoheptulose

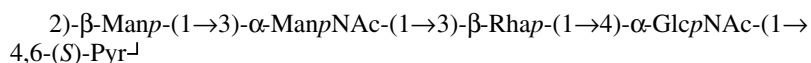
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Yupeng Xie and Yimin Zhao*

**The O-specific polysaccharide structure from the lipopolysaccharide of the Gram-negative bacterium *Raoultella terrigena***

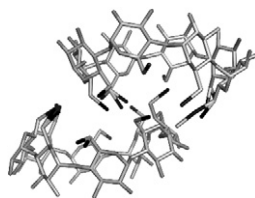
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Serena Leone, Antonio Molinaro,* Ian Dubery, Rosa Lanzetta and Michelangelo Parrilli

**Crystal and molecular structure of octakis(6-bromo-6-deoxy)- γ -cyclodextrin. A novel stacking of a distorted macrocycle**

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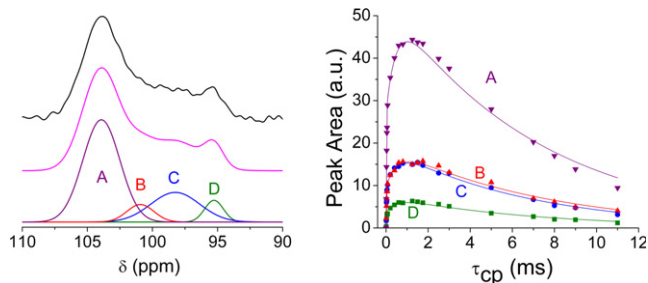
Anastasia Paulidou, Petros Giasas, Nikolaos Mourtzis, Konstantina Yannakopoulou and Irene M. Mavridis*

**Study of hydration of cross-linked high amylose starch by solid state ^{13}C NMR spectroscopy**

pp 1525–1529

H  lo  se Th  rien-Aubin, Florence Janvier, Wilms E. Baille, X. X. Zhu* and Robert H. Marchessault

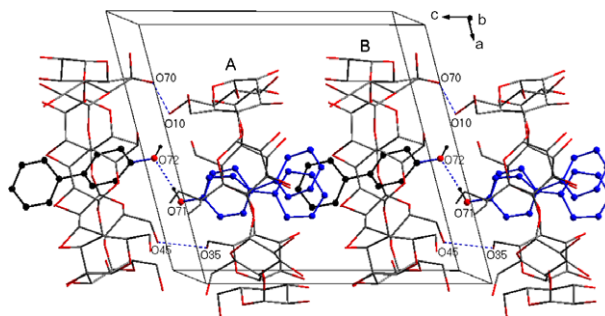
High amylose starch cross-linked by two methods is studied in the dry and hydrated states by solid state CP/MAS ^{13}C NMR spectroscopy with variable contact times. The contribution of the polymorphs present in the starch is analyzed by the decomposition of the NMR spectra.



Crystal structure of a cyclomaltoheptaose–4-hydroxybiphenyl inclusion complex

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En-Ju Wang, Zier Yan and Jiwen Cai*

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*Corresponding author

i* Supplementary data available via ScienceDirect

COVER

The image shows the ball-and-stick representation of a potent *n*-butyl thiazoline inhibitor of *Q*-GlcNAcase, bound in the active centre of the enzyme. The work is the result of collaboration between the groups of Professors David Vocadlo (Simon Fraser University, British Columbia, Canada) and Gideon Davies (University of York, UK). The image, generated with PYMOL (DeLano Scientific LLC, <http://pymol.sourceforge.net/>), shows the observed electron density as a blue “wire-cage” inside the active centre pocket represented by the smooth surface.

Professor Davies was presented with the Roy L Whistler Award of the International Carbohydrate Organization at the XXIIIrd International Carbohydrate Symposium in Whistler in 2006.

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