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Carbohydrate
RESEARCH

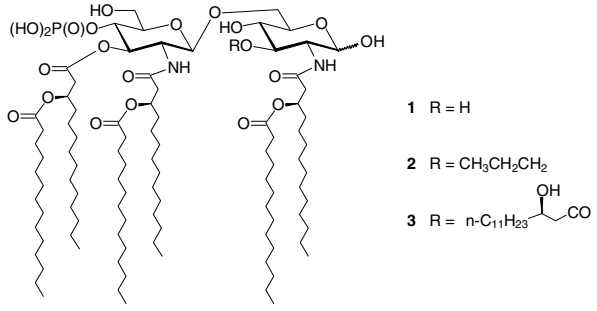
Carbohydrate Research Vol. 342, No. 6, 2007

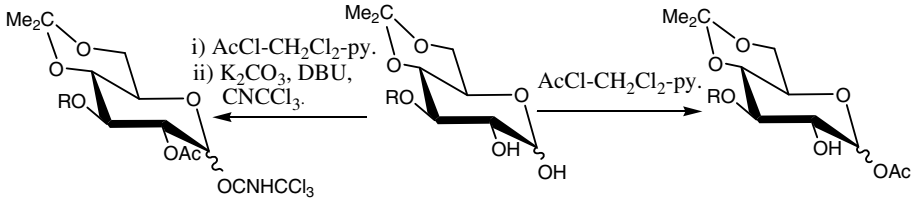
Contents

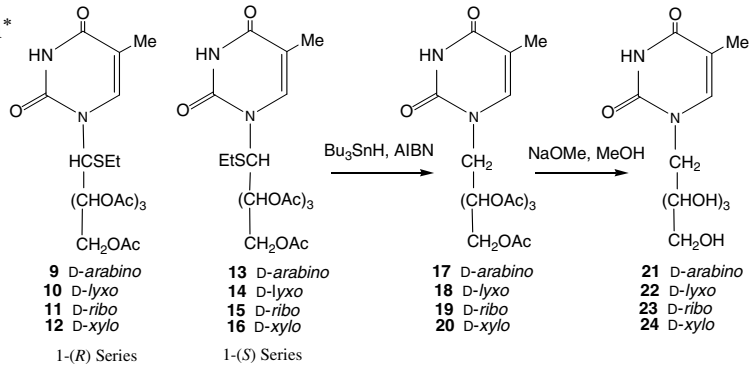
RAPID COMMUNICATION

3D Structures and three-bond proton–proton spin–spin coupling constants ($^3J_{H–C–C–H}$) were determined using theoretical methods in various glycosaminoglycan (GAG) molecules. The computed $^3J_{H–C–C–H}$ values showed a strong dependence on the molecular geometry. This dependence was expressed in a simple analytical form relating $^3J_{H–C–C–H}$ and torsion angles in GAGs: $^3J_{H–C–C–H} = 9.6\cos^2\phi - 0.6\cos\phi + 0.2$.

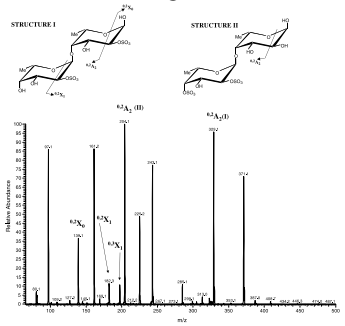
FULL PAPERS

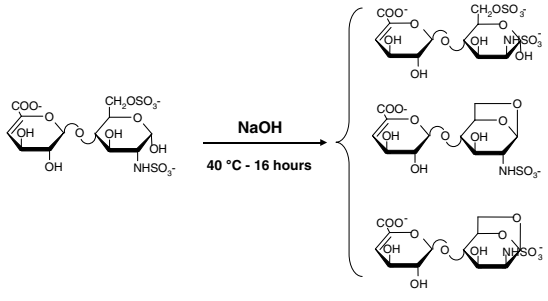


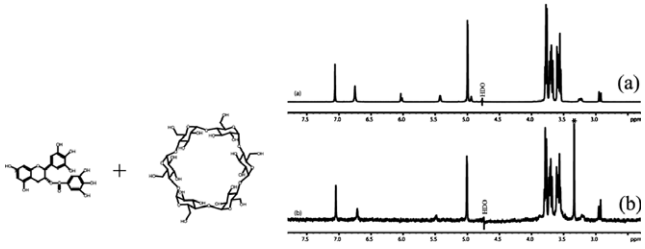




The crystal transformation of dihydrate trehalose to anhydrous trehalose was investigated using ethanol and a new type of crystal particle with porous structure could be obtained. The crystal transformation was monitored by measuring the crystal moisture content.

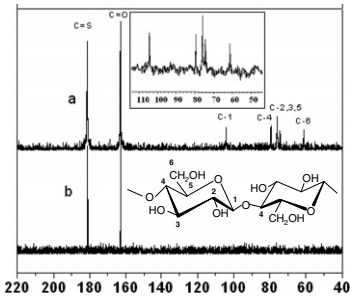


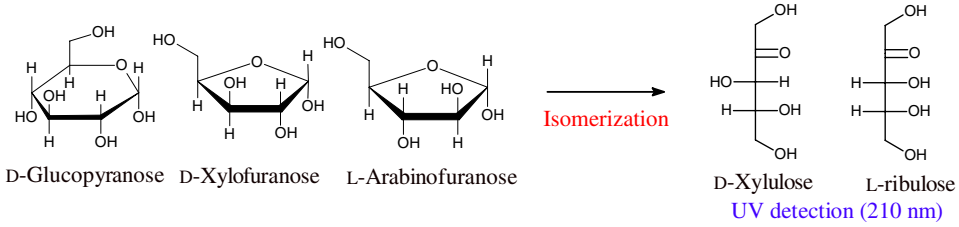




1H HR-MAS NMR of (a) EGCG/free β-CD,
(b) EGCG/β-CD bonded to silica beads

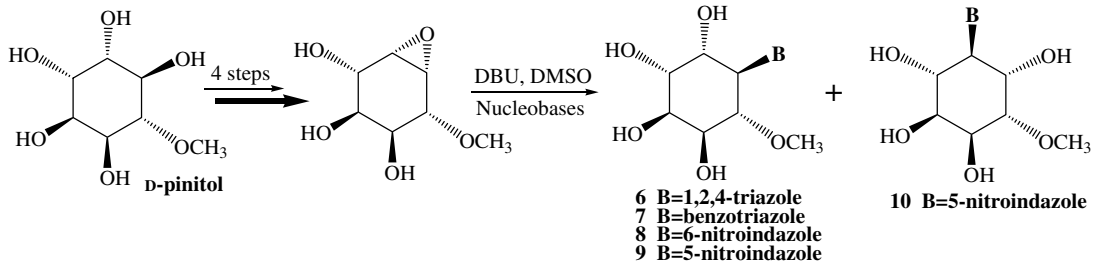
The ^{13}C NMR spectroscopy shows that the interactions between NaOH and urea, as well as between NaOH and thiourea, play an important role in improving the dissolution of cellulose, and that NaOH, thiourea, and urea were bound to cellulose molecules, which brings cellulose molecules into aqueous solution to a certain extent, and prevents cellulose macromolecules from associating.

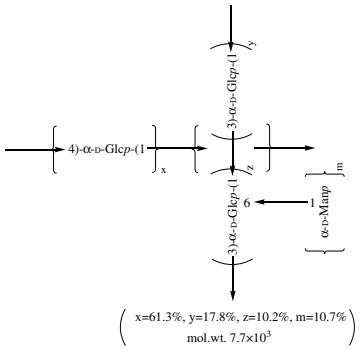




This paper describes a chromatographic method for the detection of low ketose concentrations in a complex syrup containing high concentration of carbohydrates such as glucose and pentoses by UV detection at 210 nm.

NOTES





*Corresponding author
ⓘ+ 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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