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Carbohydrate
RESEARCH

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Contents

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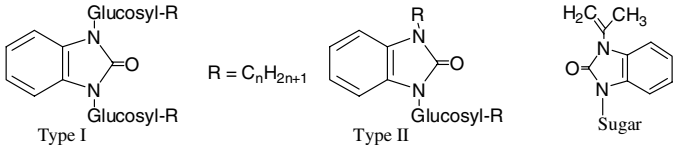
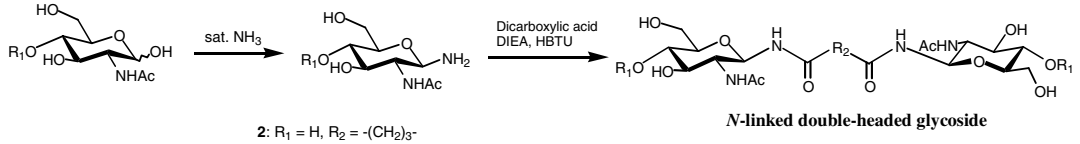
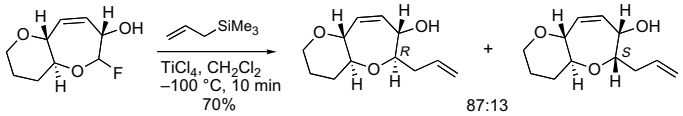
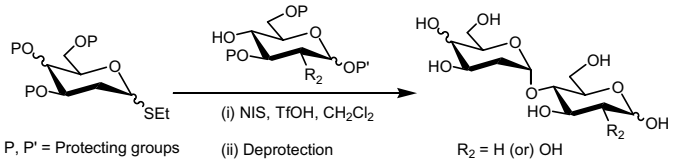
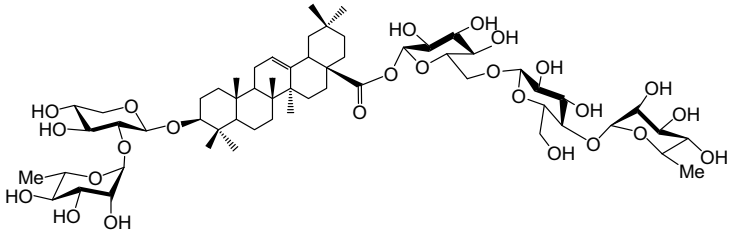


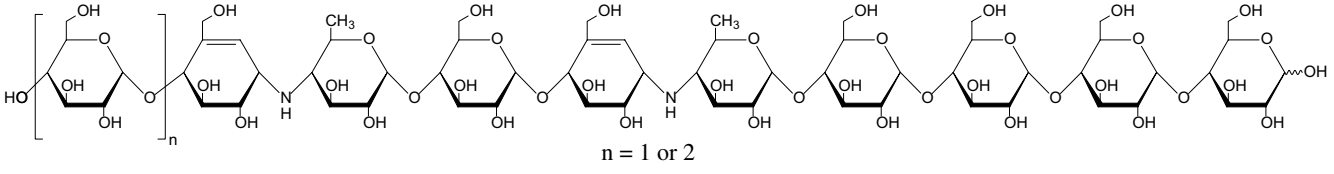


2: R_1 = H, R_2 = -$(CH_2)_3$-
3: R_1 = H, R_2 = -$(CH_2)_4$-
4: R_1 = H, R_2 = -$(CH_2)_5$-
5: R_1 = H, R_2 = -$(CH_2)_2O(CH_2)_2O(CH_2)_2O(CH_2)_2O(CH_2)_2O(CH_2)_2$-
6: R_1 = GlcNAc residue, R_2 = -$(CH_2)_4$-
7: R_1 = GlcNAc residue, R_2 = -$(CH_2)_5$-
8: R_1 = GlcNAc residue, R_2 = -$(CH_2)_2O(CH_2)_2O(CH_2)_2O(CH_2)_2O(CH_2)_2O(CH_2)_2O(CH_2)_2$-

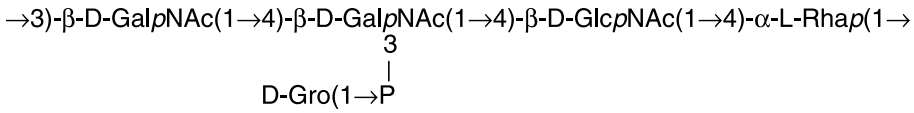




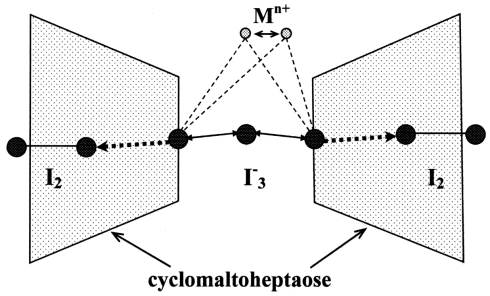


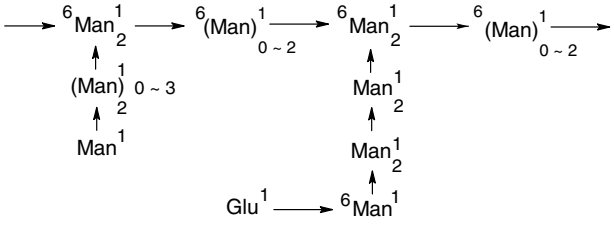


→2)-α-L-6dTal*p*-(1→3)-α-L-6dTal*p*4Ac-(1→2)-α-L-Rha*p*-(1→
3
⋮
(~25%) OMe

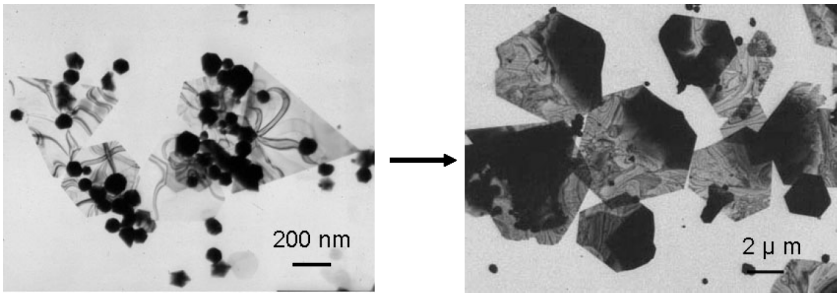


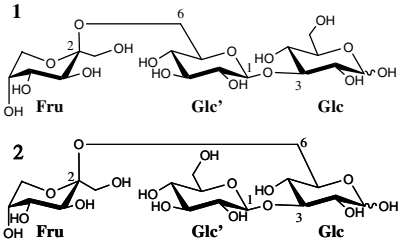
where Gro represents glycerol and P represents a phosphate group.



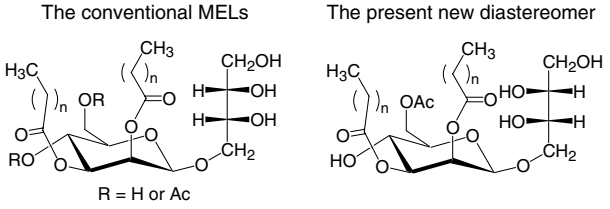


Both in vitro and in vivo studies revealed glucomannan isolated from *Candida utilis* prevented the UV-induced damage of human keratinocytes and skin.

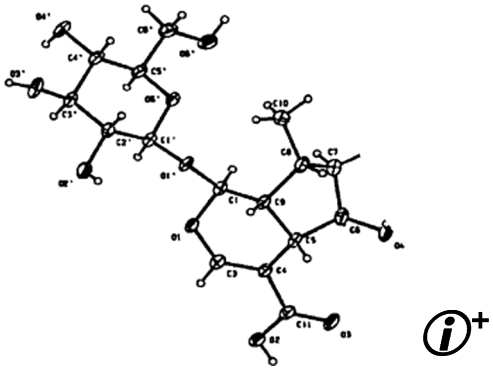




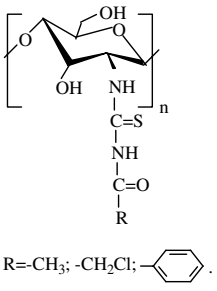
1: β-D-Fructopyranosyl-(2→6)-β-D-glucopyranosyl-(1→3)-D-glucopyranose. **2**: β-D-Fructopyranosyl-(2→6)-[β-D-glucopyranosyl-(1→3)]-D-glucopyranose.

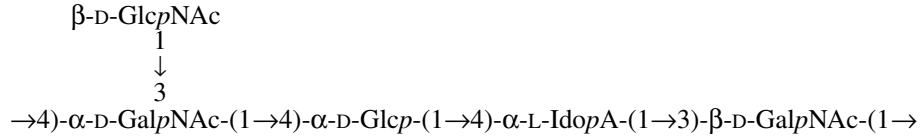


8-Deoxyshanzhiside was extracted from *Lamiophlomis rotata* (Benth.) Kudo. Extensive NMR spectroscopy techniques were used to fully assign the ^{1}H and ^{13}C spectra. X-ray investigation was used to identify its conformation, and absolute configuration.



Acyl thiourea derivatives of chitosan were synthesized and characterized. The antimicrobial behavior of them against four species of bacteria and four crop-threatening pathogenic fungi were investigated in this paper.





*Corresponding author
ⓘ+ Supplementary data available via ScienceDirect

COVER

The graphic represents a molecular dynamics simulation of water density around the disaccharide α-D-Ara*f*-(1→5)-α-D-Ara*f*-OCH_3, highlighting the interglycosidic linkage. The red clouds represent regions where the probability of finding an oxygen atom is high while the gray clouds are for hydrogen atoms. This work is the result of a collaboration in the Alberta Ingenuity Centre for Carbohydrate Science and Department of Chemistry at the University of Alberta between the groups of Pierre-Nicolas Roy and Todd L. Lowary (Castillo, N.; Roy, P. N.; Lowary, T. L. Manuscript in Preparation).

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