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Carbohydrate
RESEARCH

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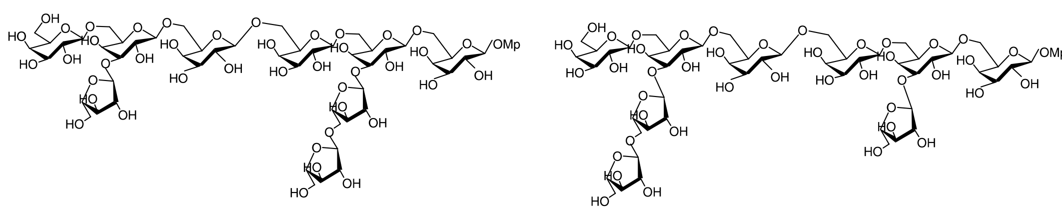
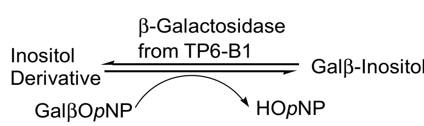
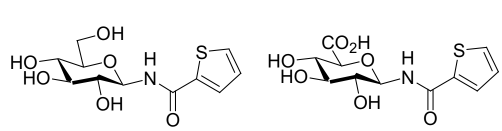
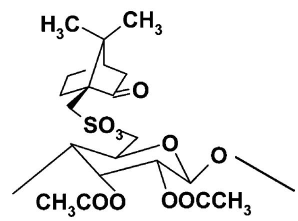
Contents

FULL PAPERS



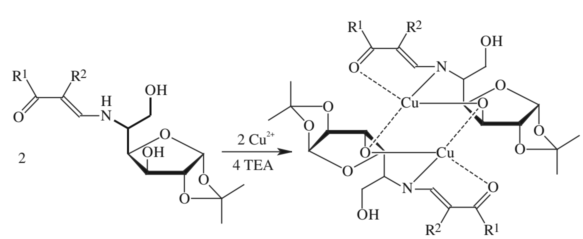


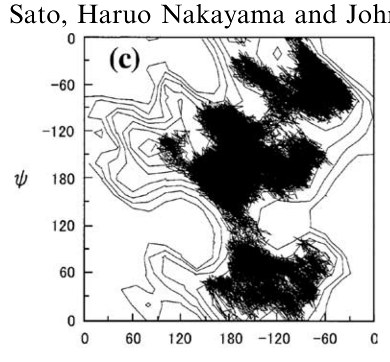


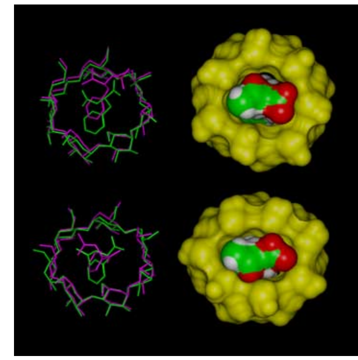


Camphorsulfonyl acetate of cellulose was synthesized and characterized. Compared with cellulose acetate, novel cellulose derivatives exhibited decreased thermal stability, improved solubility in organic solvents and enhanced enantioselectivity.

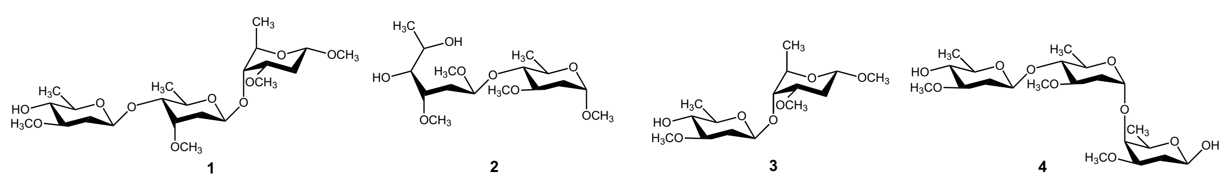
The effect of chitosan concentration on the gelation of pectins differing in charge density and distribution was examined, through the determination of gel stiffness and the binding of chitosan to the gel network.







Molecular dynamics (MD) simulations based on the MM–PBSA (molecular mechanics Poisson–Boltzmann/surface area) approach were performed for the prediction of chiral discrimination of *N*-acetylphenylalanine enantiomers by β-cyclodextrin (β-CD), where the calculated relative difference ($\Delta\Delta G_{\text{binding}}$) of binding free energy was in fine agreement with the experimentally determined value.




```
              R'                      α-Glc II-(1
              ↓                                 ↓
              6                                 6
R→4)-D-α-D-Hep IV-(1→6)-β-Glc I-(1→4)-L-α-D-Hep I-(1→5)-α-Kdo
                                                3
                                                ↑
              L-α-D-Hep III-(1→2)-L-α-D-Hep II-(1
```



```
                β-Gal-(1→7)-α-Hep3P-(1→5)-α-Kdo4P-(2→6)-Lipid A
α-Glc-(1→4)-β-Gal-(1→4)┘
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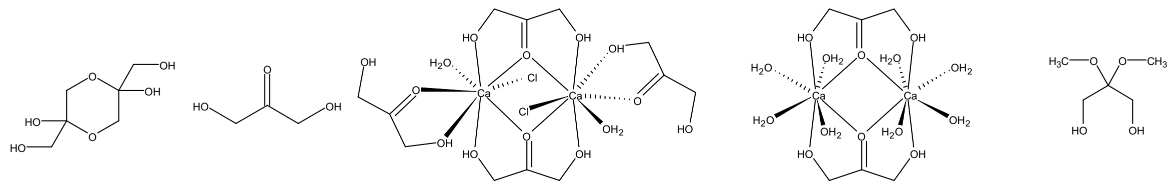
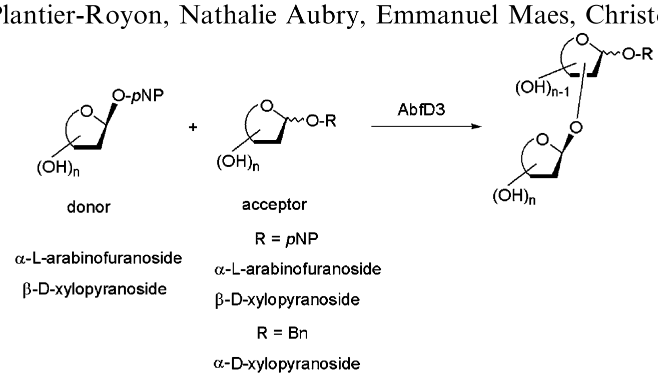


(DHA-dimer) DHA complex cations in $CaCl_2(DHA)_2 \cdot H_2O$ and $CaCl_2(DHA) \cdot 4H_2O$ $(MeO)_2DHA$

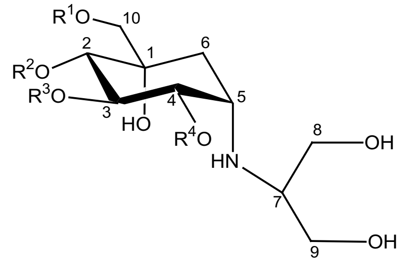
D-Xyl*p*(1 ↓ 2 →4)D-Xyl*p*β(1→

L-Ara*f*α(1→3)D-Xyl*p*β(1→3)L-Ara*f*(1 ↓ 3 →4)D-Xyl*p*β(1→

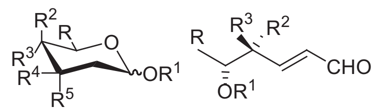
The physiologically active component of psyllium husk is shown to be a highly branched, neutral arabinoxylan with the suggested partial structures.

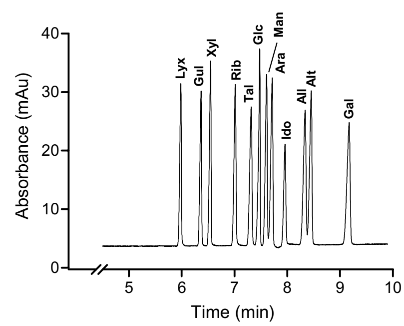


NOTES



Compd.
1 (voglibose): $R^1, R^2, R^3, R^4 = H$;
2: $R^2, R^3, R^4 = H$; $R^1 = C_6H_{11}CH_2–$
3: $R^1, R^3, R^4 = H$; $R^2 = C_6H_{11}CH_2–$
4: $R^1, R^2, R^4 = H$; $R^3 = C_6H_{11}CH_2–$
5: $R^1, R^2, R^3 = H$; $R^4 = C_6H_{11}CH_2–$




Absorbance (mAu)
Time (min)
0
10
20
30
40
5
6
7
8
9
10
Lyx
Gul
Xyl
Rib
Tal
Glc
Man
Ara
Ido
All
Alt
Gal

*Corresponding author
ⓘ+ Supplementary data available via ScienceDirect

COVER

Well-defined glycoforms of glycoproteins can easily be obtained by oxidative coupling of synthetic thioaldoses with proteins that have a cysteine moiety in lieu of an asparagine residue carrying natural N-linked oligosaccharides. In vitro glycosylation offers several advantages such as quantitative conjugation, incorporation of oligosaccharides that display high bioactivities and the possibility of using convenient bacterial or yeast protein expression systems. The figure is related to Geert-Jan Boons' *Carbohydrate Research Award* paper, Carbohydr. Res., **2004**, *339*, 181–193.

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