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Carbohydrate
RESEARCH

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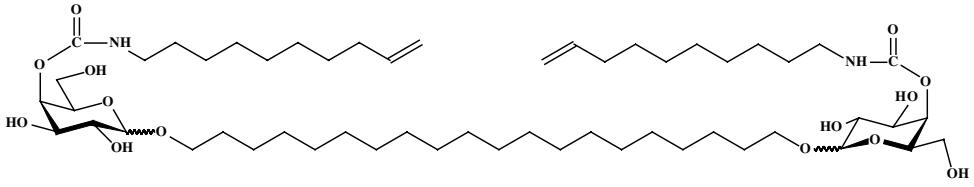
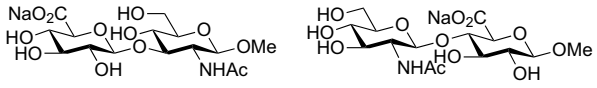
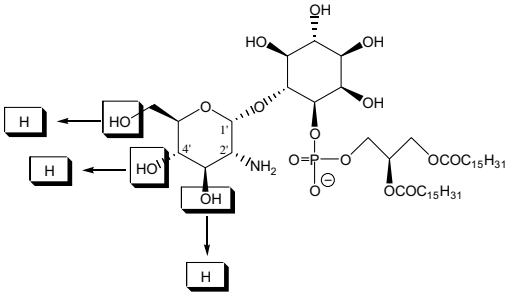
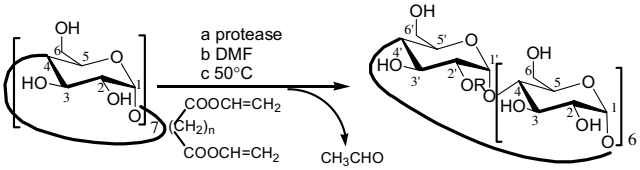
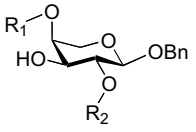






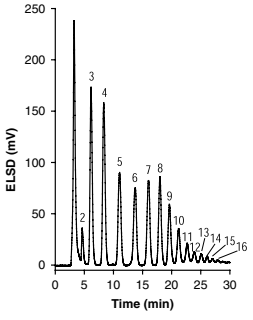


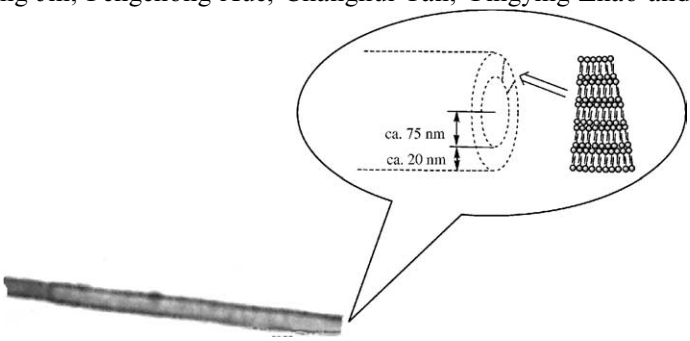
1. R: $CO(CH_2)_2COOCH=CH_2$ Mono-(2-*O*-vinylbutanedioyl)-βCD
2. R: $CO(CH_2)_4COOCH=CH_2$ Mono-(2-*O*-vinylhexanedioyl)-βCD
3. R: $CO(CH_2)_8COOCH=CH_2$ Mono-(2-*O*-vinyldecanedioyl)-βCD



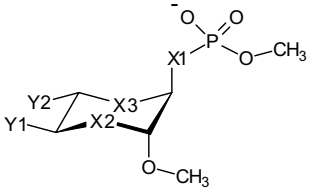
1 R_1 = H, R_2 = β-Glc*p*
2 R_1 = β-Glc*p*, R_2 = H
3 R_1 = R_2 = β-Glc*p*

Syntheses of allyl 2,3,4-tri-*O*-benzyl-α-D-gluco- and D-galactopyranosyluronate-(1→3)-2-acetamido-4,6-*O*-benzylidene-2-deoxy-α-D-glucopyranosides are described.

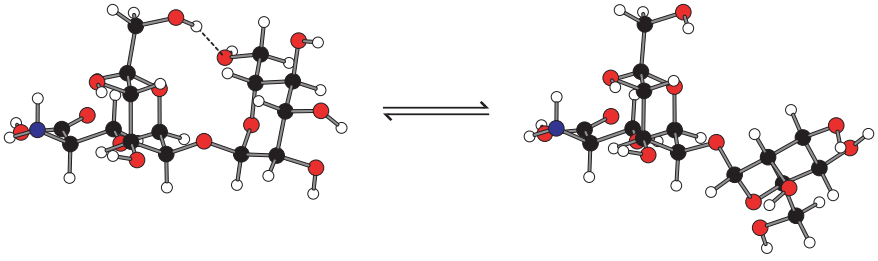




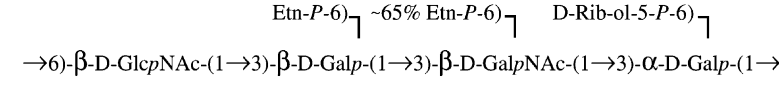
Pectin films were allowed to hydrate, at constant osmotic stress, to produce pectin networks of a concentration similar to that found in the plant cell wall. The observed swelling of the film was dependent on counterion type and concentration. The tensile modulus of the film increased with decreasing swelling.

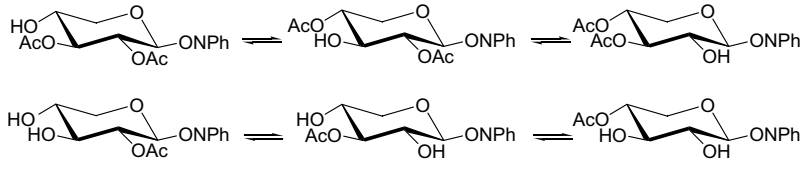


	X1	X2	X3	Y1	Y2
2	O	CHOH	O	OH	CH_3
3	CH_2	CHOH	O	OH	CH_3
4	O	CHOH	CH_2	OH	CH_3
5	O	O	CHOH	CH_3	OH
6	-	CHOH	O	OH	CH_3



Fucan sulfates were isolated from sea cucumber *Stichopus japonicus*. One type consists of (1→3)-linked linear fucosyl residues that are substituted at C-4 with fucosyl residues. Another type is largely composed of unbranched (1→3)-linked fucosyl residues. Both types were substituted at C-2 and/or C-4 with sulfates and shown to be potent inhibitors of osteoclastogenesis.





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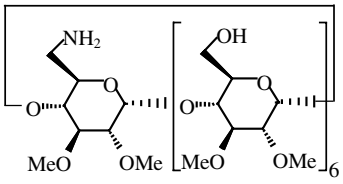

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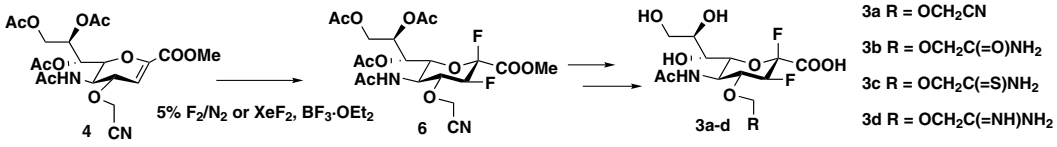
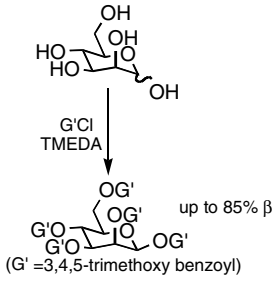
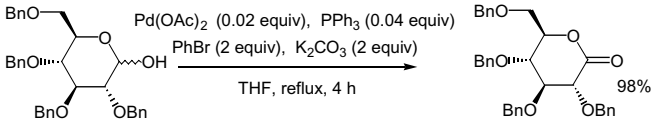
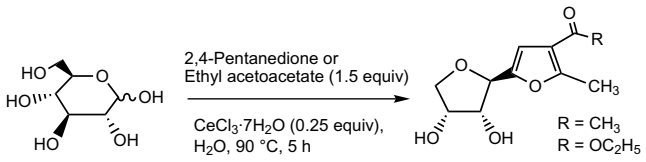
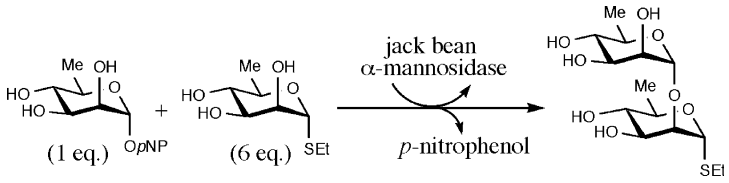


The synthesis of some novel 4-*O*-substituted analogues of 2β,3β-difluorosialic acid **3a**–**d** via a key intermediate **6** was achieved by the electrophilic *syn* addition of fluorine to the double bond in glycal **4** using molecular fluorine or xenon difluoride in the presence of $BF_3{\cdot}OEt_2$. Compound **3c** showed the most potent activity against sialidase of hPIV-1.







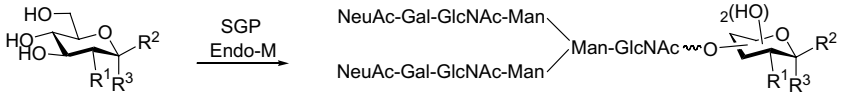


Using *p*NP α-D-rhamnopyranoside as a donor and ethyl α-D-thiorhamnopyranoside as a acceptor, ethyl α-D-rhamnopyranosyl-(1→2)-1-thio-α-D-rhamnopyranoside was synthesized by transglycosylation reaction of jack bean α-mannosidase, in 32.1% isolated yield (based on donor substrate).

→ 3)-β-D-Glc*p*NAc6Ac-(1 → 2)-β-D-Gal*p*A4Ac-(1 → 3)-α-D-Gal*p*NAc-(1 → 4)-α-D-Gal*p*A-(1 →

Based on the unique structure of the O-polysaccharide and serological data, it is proposed to classify *Proteus mirabilis* CCUG 10701 (OB) into a new *Proteus* serogroup, O74.

→ 5)-β-D-Gal*f*-(1→
2
↑
1
α-D-Gal*p*



(*N*-acylated glucosamine,*C*-glucosyl derivative, etc)

OTHER CONTENTS

*Corresponding author

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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