

Synthesis and antibacterial activities of quaternary ammonium salt of chitosan

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Chitosan derivatives with quaternary ammonium salt, such as *N,N,N*-trimethyl chitosan, *N*-*N*-propyl-*N,N*-dimethyl chitosan and *N*-furfuryl-*N,N*-dimethyl chitosan were prepared using 96% deacetylated chitosan of M_v 2.14×10^5 , 1.9×10^4 and 7.8×10^3 . The antibacterial activities of quaternized chitosan against *Escherichia coli* were explored.

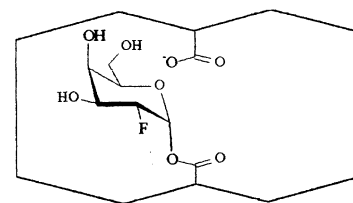
The identification of the catalytic nucleophiles of two β -galactosidases from glycoside hydrolase family 35

Carbohydr. Res. **2001**, *333*, 7

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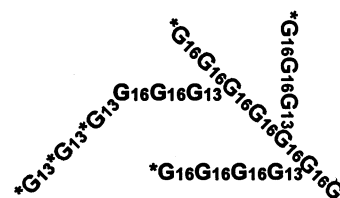
Dextran acceptor reaction of *Streptococcus sobrinus* glucosyltransferase GTF-I as revealed by using uniformly ¹³C-labeled sucrose

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GTF-I transferred the ^{13}C -labeled glucosyl residue (*G) to the nonreducing-end of dextran mostly by α -(1 \rightarrow 6) linkages and partially by α -(1 \rightarrow 3) linkages, and then preferentially to the elongated α -(1 \rightarrow 3)-linked terminal.



Purification and characterization of a β -glucuronidase from *Aspergillus niger*

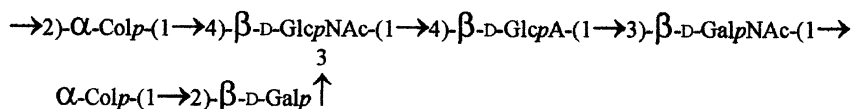
Carbohydr. Res. **2001**, *333*, 27

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A fungal β -glucuronidase released uronic acids from *p*-nitrophenyl β -glucosiduronate and acidic galactooligosaccharides carrying either β -D-glucosyluronic or 4-*O*-methyl- β -D-glucosyluronic residues at the nonreducing termini through β -(1 \rightarrow 6)-glycosidic linkages. The enzyme liberated non-reducing terminal uronic acids from an arabinogalactan-protein. The enzyme showed the transglycosylation action.

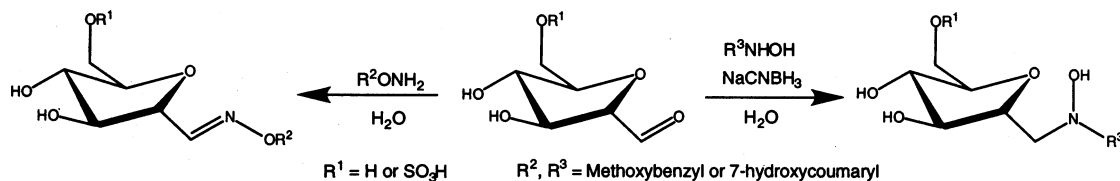
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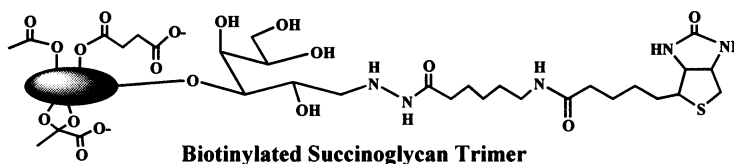
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The methyl esterified galacturonic acid residues of pectins are converted to hydroxamic acid residues. These are specifically degraded via a carbodiimide-mediated Lossen rearrangement, to liberate the unesterified residues as oligomeric blocks. This allows a determination of the pattern of esterification of the pectin.

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Structural features of arabinogalactan–proteins from the fruit of *Lycium chinense* Mill.

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Arabinogalactan–proteins (AGPs) from the fruit of *Lycium chinense* Mill. were characterized by the ratio of 6-*O*- and 3,6-di-*O*-substituted galactosyl residues: (1) AGP being predominant in the linear domain; (2) AGP being predominant in the branching domain; and (3) AGP almost equal in quantity for both domains.

Structural analysis of a new glycosphingolipid from the lipopolysaccharide-lacking bacterium *Sphingomonas adhaesiva*

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A new glycosphingolipid, (GSL-4B) was isolated from *Sphingomonas adhaesiva* having the following glycosyl part:

α -D-Glcp-(1 → 4)- α -D-Galp-(1 → 6)- α -D-Glcp-(1 → 4)- α -D-GlcpA-(1 → 1)-Cer.

and Cer being *erythro*-2-amino-1,3-octadecanediol (sphinganine), (13*Z*)-*erythro*-2-amino-13-eicosene-1,3-diol, and (13*Z*)-*erythro*-2-amino-13,14-methylene-1,3-eicosanediol present in the ratios 1.1:1.0:1.1, with all sphinganine bases bearing amide-linked (*S*)-2-hydroxymyristic acid.