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Carbohydrate
RESEARCH

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Contents

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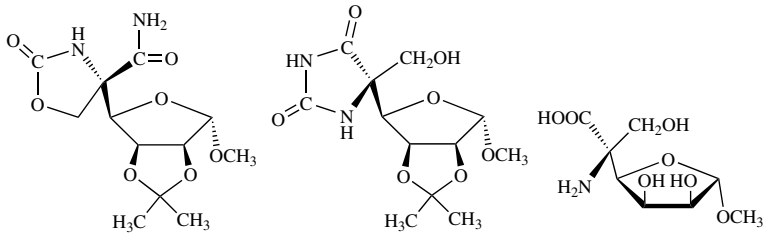

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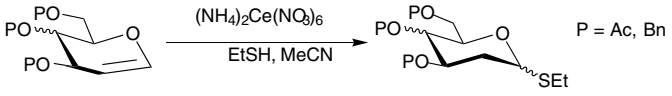
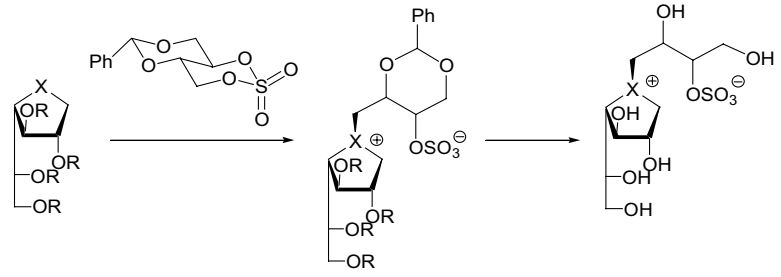
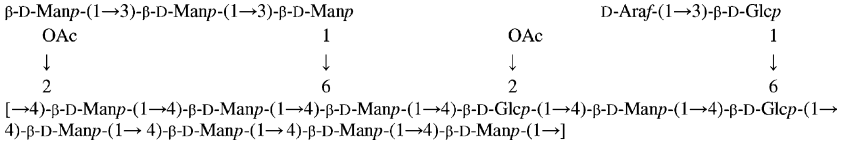
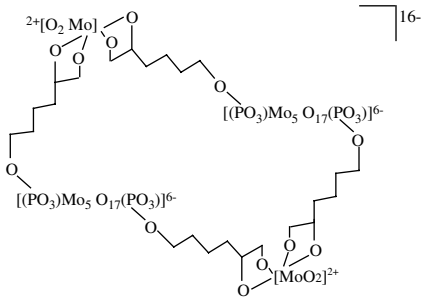


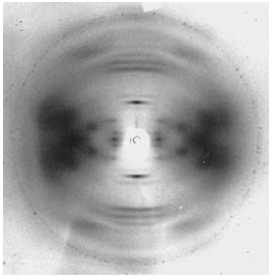
Synthesis of 2-deoxy-1-thioglycosides from glycals, mediated by catalytic amounts of ceric ammonium nitrate is reported. Glycosylation reactions of the thioglycosides with both aglycosyl and glycosyl acceptors afford α-anomeric glycosides exclusively.







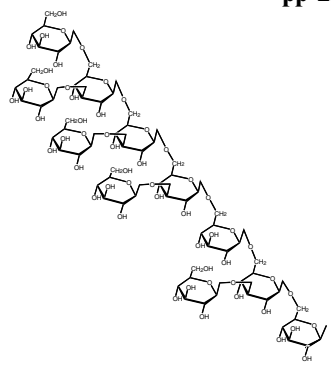
Three and six complexes have been identified with tungstate and molybdate, respectively, in aqueous solution, depending on pH and concentration; the structure of an important species formed with Mo(VI) is shown.



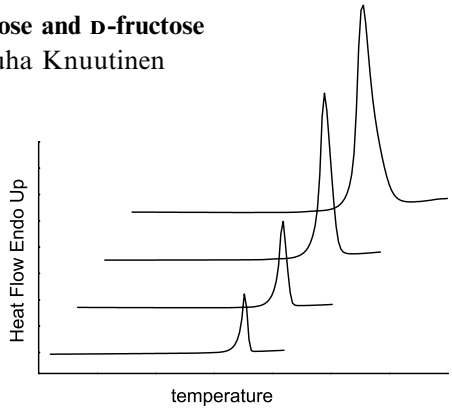
X-ray patterns of deacetylated polysaccharide P2 and glucomannan were used to investigate their synergistic interactions.

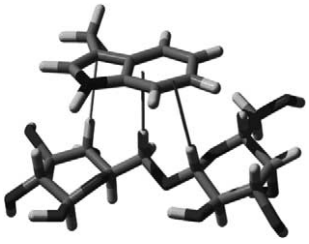
β-QuiN-(3←1)-α-ΔGulNA
1
↓
3
α-Rha-(1→3)-α-GlcN-(1→3)-α-GalN-(1→3)-Inner Core-Lipid A Region
4
β-Glc-(1→2)-α-Glc-(1┘

→4)-α-D-Glc*p*-(1→ 6)-β-D-Glc*p*-(1→
A **B**



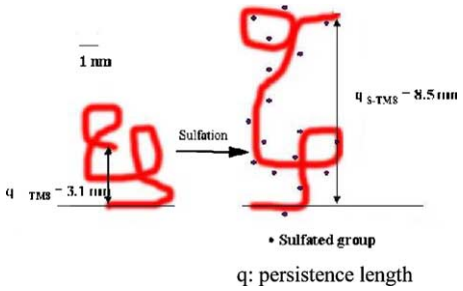
The structure of the highly branched (1→6)-β-D-glucan of *S. pombe*.



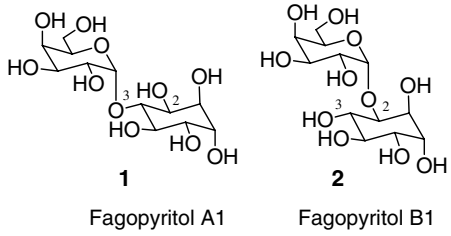


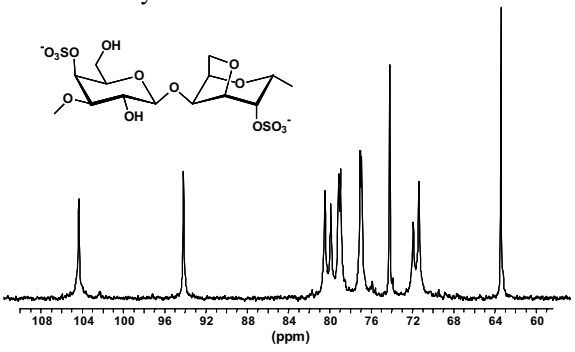
Clade	Enzyme	Region I	Region II	Region III	Region IV	Region V	C-term.
Plant 1	P83218_DAUCA	44 GVYREN	112 HQAVALR	134 YQDTLYV	157 DFIFG	223 LGRPWK	319
Plant 1a	O81415_ARATH39	257 GVYFEN	325 AQAVAFR	347 YQDTLYV	370 DFIFG	436 LGRPWR	532
Plant 2	Q96576_LYCES3	268 GIYKEN	335 DQAVALR	357 YQDTLYA	380 DFIFG	446 LGRPWK	544
Plant 2a	Q42935_NICPL	41 GIYKEN	109 HQAVALR	131 FQDTLYT	154 DFIFG	220 LGRPWK	315
Plant 3	Q43867_ARATH65	316 GTYVEN	384 HQAVAFR	406 FQDTLYP	429 DFIFG	490 LGRPWK	586
Plant 4	O80722_ARATH18	312 GLYREQ	380 HQAAAIR	402 YQDTLYV	425 DFIFG	492 LGRPWK	586
Plant X1	Q96497_SILPR	105 GVYEET	174 HQAVAFR	196 NQDTIYV	219 DFIFG	293 LGRPWK	379
Plant X2	Q9CAS7_ARATH9	77 GDYKEK	149 AQALSMR	171 FQDTIGD	194 DFIFG	244 LGRAWM	338
Fungi	Q12535_ASPAC	62 GTYDEQ	138 HQALALS	160 YQDTLLA	183 DFIFG	246 LGRPWS	331
Bacteria	P07863_ERWCH2	66 GVYNER	152 TQAVALY	177 YQDTLYV	199 DFIFG	265 LGRPWH	366

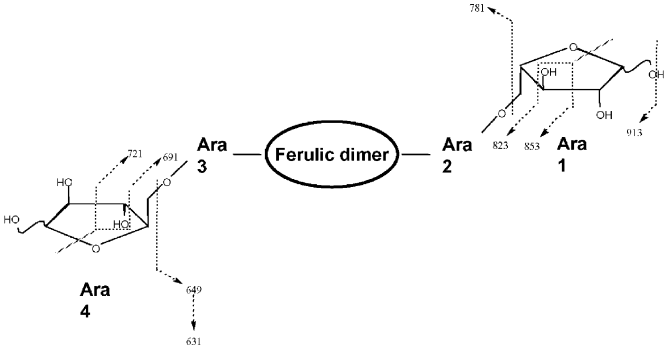
Conserved sequence segments of selected pectin methylesterases representing the individual clades. The three catalytic residues are highlighted in blue. Conserved Gly are highlighted in black. Cys, His, and Phe (Tyr) residues are highlighted in pink, turquoise, and yellow, respectively.



NOTES







*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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