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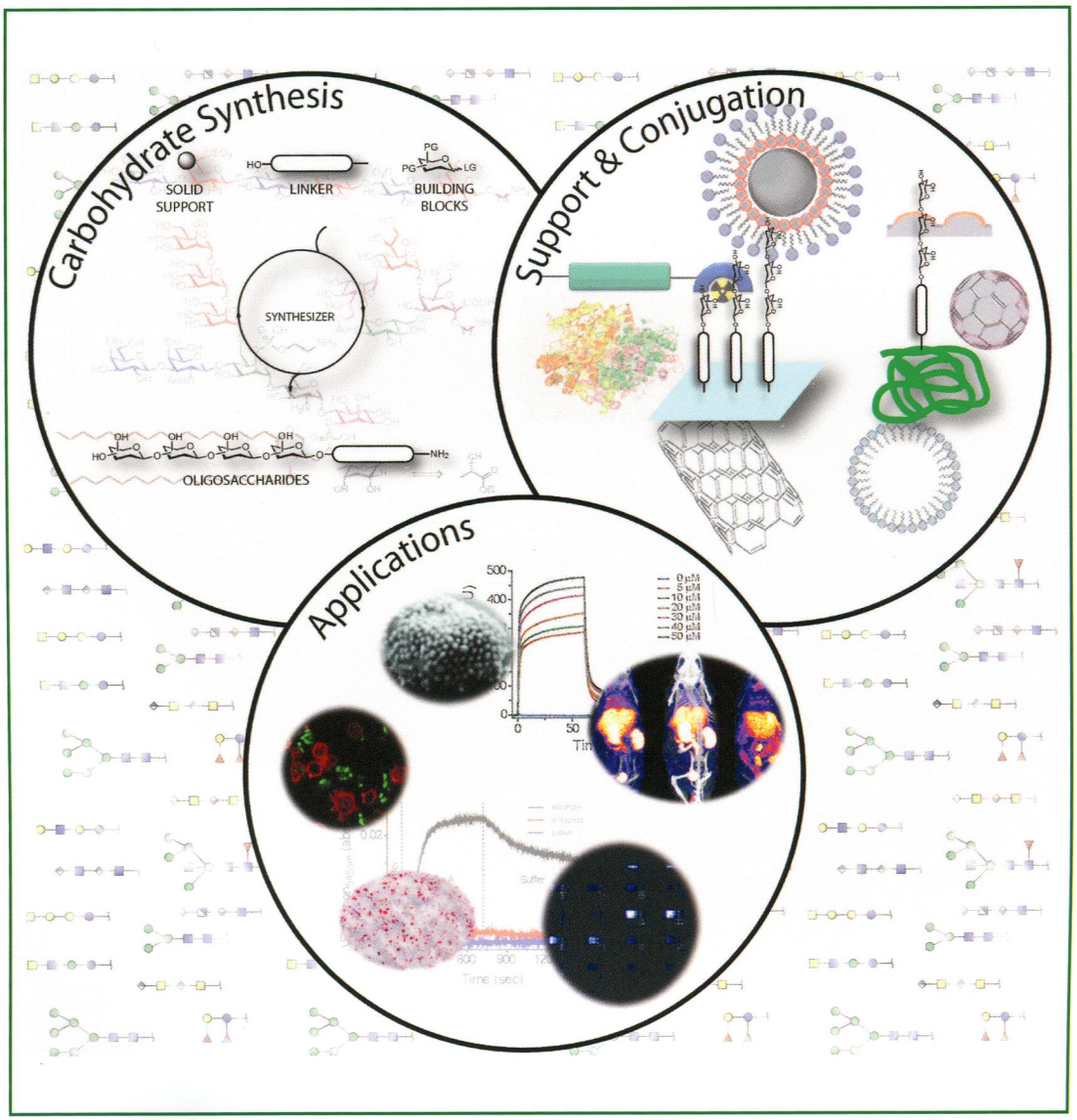
Carbohydrate RESEARCH

An International Journal



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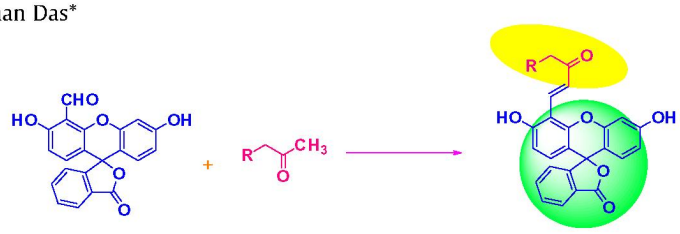
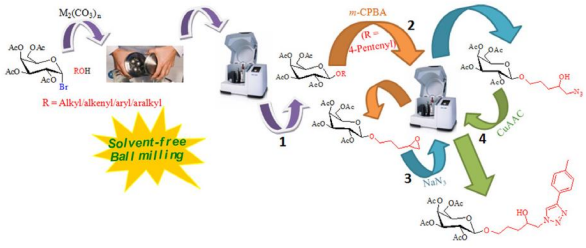
FULL PAPERS

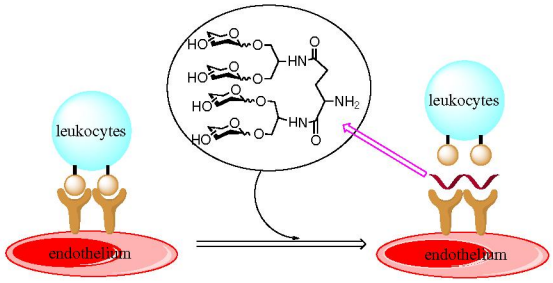
Synthesis



A series of fluorescein-based β-C-glycosyl ketones were synthesized through aldol condensation of β-C-glycosyl ketones with fluorescein monoaldehyde under ambient reaction conditions in good yields. Formation of the expected product has been confirmed through different spectral techniques. Fluorescein-based β-C-glycosides show moderate anti-oxidant activities with maximum inhibitory activity of 60%.

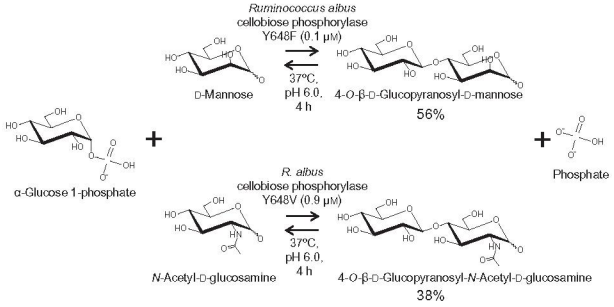


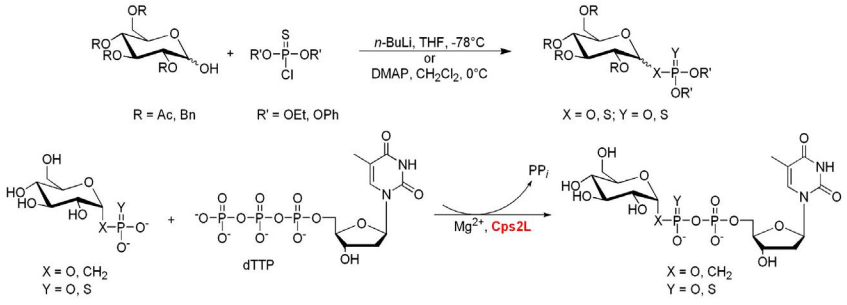
Solvent-free mechanochemical glycosylation in the presence of metal carbonates as promoters has been optimized for application to reactions of poorly nucleophilic alcohol acceptors with glycosyl halides and is reported for the first time and on preparative scale. $CdCO_3$ and $ZnCO_3$ have been found to be the best promoters. A pentenyl glycoside thus prepared was converted into the corresponding β-hydroxy triazole derivative in three successive additional steps in the same pot.



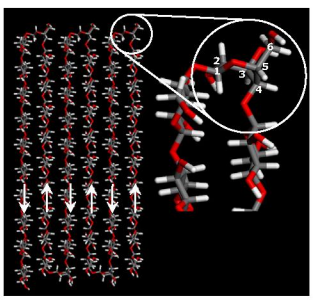
20 Multivalent homo-, and heteroglycosides have been synthesized and their inhibition of leukocyte-endothelial cell adhesion has been assessed.

Biochemistry and Enzymes



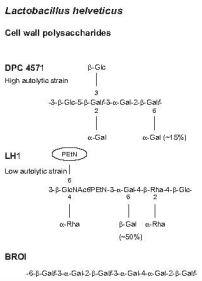


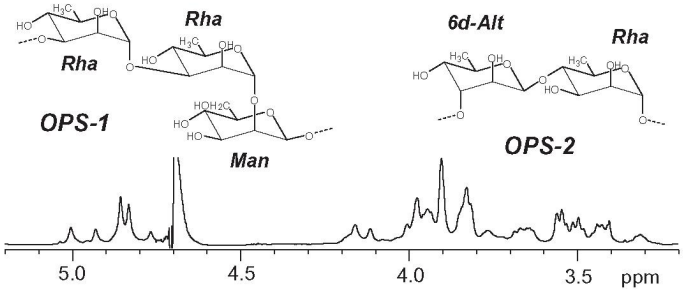
Characterization, Naturalproducts

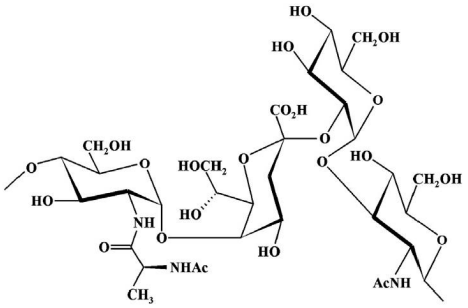


The folded chain structure was successfully modeled when one glucose residue with a $B_{1,4}$ conformer was attached to the ends of up and down cellulose molecules without any changes in their molecular distance. We also confirmed that other conformers such as $^{1,4}B$, $^{1}S_{3}$, $^{1}S_{5}$, and $^{3}S_{1}$, $^{5}S_{1}$ could also form folded chain structures. Here, B and S were known to be boat and skew boat ring conformers. These ring conformers must be rearranged during molecular dynamics simulation into the most suitable conformation; therefore, $B_{1,4}$ and $^{1,4}B$ were used as the starting conformers and finally rearranged to $^{5}S_{1}$ and $^{1}S_{5}$, respectively.

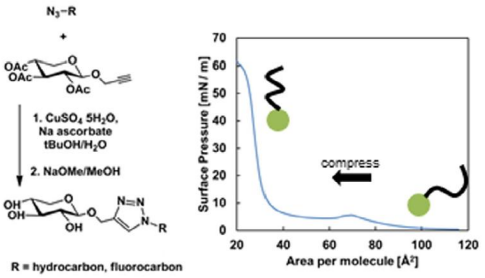
Polysaccharides





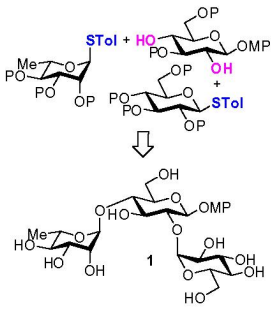


Physical, X-Ray, Chromatography

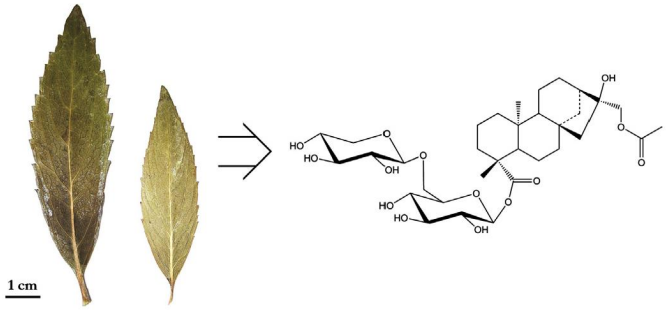


NOTES

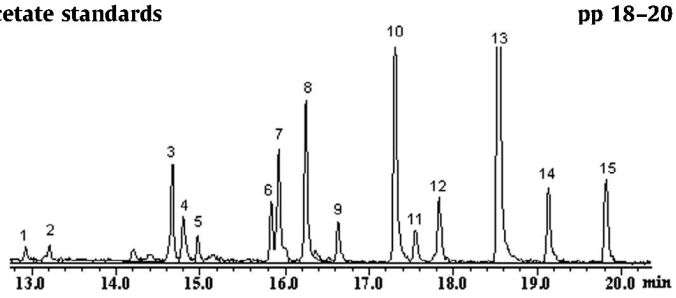
Synthesis



Characterization, Naturalproducts

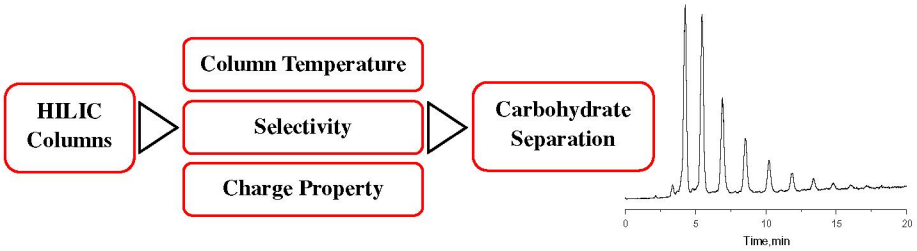


Polysaccharides



EIMS of partially O-methylated alditol acetate derivatives obtained mainly from methyl galactofuranoside.

α-D-Man*p*NAc
1
↓
3
→2)-α-L-Rha*p*-(1→3)-α-L-Rha*p*-(1→3)-α-L-Rha*p*-(1→3)-α-D-Gal*p*NAc-(1→



A strategy was developed to rapidly evaluate chromatographic properties of hydrophilic interaction chromatography (HILIC) columns for separation of carbohydrates by using three monosaccharide and seven disaccharides as probes.

*Corresponding author

ⓘ+ Supplementary data available via ScienceDirect

COVER

Multi-functionalisation of cyclodextrins (CD) has entered a new era thanks to the regioselective chemistry developed by M. Sollogoub's group. As illustrated on the cover, many applications can now be reached using CDs with various functions on specific positions. An example of functionalisation of CDs is given in the first issue of this journal. Image realised by Mickaël Ménand.

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