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Esterification of Polysaccharides

Polysaccharide esters (e.g. cellulose and starch) are among the first polymeric materials applied commercially. The way of producing these technically relevant derivatives, mainly the carboxylic acid esters of C₂ to C₄ acids, have not been changed significantly during their history of manufacture. The investigation of new acylation methods and strategies of analysis was revived during the last decade by the search for tailored, biocompatible material for specific fields of application, e.g., biotechnology, sensor technique and medicine. Unconventional solvents were developed for completely homogeneous acylation reaction applying state of the art techniques of modern organic chemistry for polysaccharide modification. This book will provide a first comprehensive summary of acylation methods in a very practical manner.

Detailed structure analysis is indispensable for the evaluation of structure-property-relationships. Spectroscopic methods in particular FTIR- and NMR spectroscopy including two dimensional methods are of increasing importance. A variety of FTIR-, ¹H NMR- and ¹³C NMR spectra are collected on the supplemented CD-ROM.

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