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Synthesis of hydroxyphenyl carboxylic acids, hydroxyethyl starch and inulin esters

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Abstract

Using carbodiimide method, inulin and hydroxyethyl starch were chemically modified to incorporate vanillic, ferulic and coumaric acid moiety. Polysachcharide esters with phenolic parts in the range from about 0.5 to 3.8 % wt were obtained. FTIR, NMR and ultraviolet light spectra (UV) were used for structural characterization of modified polysaccharides. It is shown that solubility of polysaccharide esters in water falls with increasing content of phenolic acids moiety.