

Hydrolysis of Phosphorylated Cellulose for Glucose Synthesis

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New cellulose derivative which has good water solubility was synthesized by the phosphorylation of crystalline cellulose using phosphite-anionic ionic liquid. Phosphorylated cellulose was hydrolyzed to glucose using various heterogeneous catalysts. Among the tested catalysts, sulfonated active carbon showed the highest yield of glucose. Many reaction parameters were investigated to achieve the highest yield of glucose. The reusability of catalyst was tested and found that the catalytic activity maintained after several time reuses.