

Direct methanol preparation from methylcellulose by radical reaction in high pressure reactor

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We have studied that on the depolymerization methylcellulose(MC) for methanol preparation from ligno cellulose by chemical degradation using Fenton reaction. In this work, optimal conditions for the methanol production were studied by two way. First method, the MC(50g), water(50mL), 30% hydrogen peroxide(55.55mL) and iron(III) sulfate (0.223g) were reacted at room temperature for 24 hours, and then put it in a batch reactor by controlling the reaction temperature and pressure was carried out at 100 to 170°C. Another method, the MC(50g), water(50mL), 30% hydrogen peroxide(55.55 mL) and iron (III) sulfate(0.223g) were reacted in a batch reactor by controlling the reaction temperature and pressure was carried out at 100 to 170°C. The each other two way was named to Method I, and Method II. All product after batch reaction(reaction temperature from 100 to 170°C for 6 hours) according to MC 50wt% concentrations were analyzed by GC-FID. The methanol yield by Method I was 5% at temperature of 150°C, and in case of Method II was obtained to methanol yield of 24.3% at temperature of 150°C.