

5-Hydroxymethylfurfural production from agarose by using Amberlyst 36

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5-Hydroxymethylfurfural (HMF), one of the valuable intermediates derived from biomass, could be produced from agarose, which is basic component of red algae. HMF production from agarose could be realized in micro-aqueous environment, that is, in a polar aprotic solvent with rather low water content. Amberlyst-36 was employed as solid acidic catalyst. Among several solvents tested dimethyl sulfoxide (DMSO) showed the best performance in terms of HMF yield. The effect of initial moisture content at 140 °C was investigated to find 7.2% of water content to be the optimum to produce HMF at a yield of 62 mol%.