

Levulinic acid production from pretreated oak wood biomass

김준석[†], 이다운, 채수인, 이승민, 김태현¹

경기대학교; ¹한양대학교

(jskim84@kgu.ac.kr[†])

MTHF(methyltetrahydrofuran) is an organic compound with the molecular formula . It is a highly flammable mobile liquid. It is derived from sugars via levulinic acid(LA) and is occasionally touted as a biofuel. MTHF can be a new solution and it can be mixed with gasoline up to 30% and can be an alternative to THF.

An in-depth experiment study on the glucose(cellulosic biomass) decomposition in acid catalyzed hydrolysis from 170°C to 210°C was conducted. (used Oak wood in this study.)

This study was performed for comparison of LA production characteristic of raw and pretreated cellulosic biomass at high reaction temperature. For comparison, raw oak wood was treated with NaOH 5wt% solution for solid/liquid ratio 1g/10ml and 180°C for 1 hour. Through this pre-treatment process, it is possible to obtain biomass rich in C6 component.

In the previous experiments, the optimal LA production process in raw Oak wood using acid catalysts(sulfuric acid) was 190°C and 3wt%, so we compared this as a focus.