Catalytic upgrading pyrolysis of Larch(*Larix Kaemferi Carr.*) over modified ZSM-5 by analyzing GC/MS

이수민, 박진원†
연세대
(jwpark@yonsei.ac.kr†)

Catalytic upgrading pyrolysis of Larch was performed by using modified ZSM-5 in semi-batch reactor. The bi-functional catalysts used were synthesized by impregnation and ion-exchange methods. All the experiment used a nitrogen with a flow rate of 150 ml/min for the anaerobic condition. The weight ratio of catalysts to biomass was 0, 1, 2, 3 wt% in the reactor. The modified ZSM-5 were scattered on the biomass as called In-bed system. The enhanced hydrocarbons targeted for high heating values were investigated by analyzing GC/MS in the wild ranges from 350℃ to 550℃. Then, chemical compositions in pyrolysis oil were craked into light moleculars over modified ZSM-5. It suggested that the effect of weight ratio have improved the pyrolysis oil into the chemical stability as well as high heating values at the optimized temperature.