

5th World Congress on

CATALYSIS AND CHEMICAL ENGINEERING

September 05-06, 2018 Tokyo, Japan

Deoxygenation reaction by immobilized ionic liquid catalyst**Chul Shin and Yoon-Mo Koo**
Inha University, South Korea

Oximes are used for purification of carbonyl compounds as well as to protect carbonyl compounds in the synthesis of carbonyl compounds. Oximes can be also synthesized from noncarbonyl compounds. Various methods, including acid-catalytic hydrolysis, reductive deoxygenation and oxidative deoxygenation have been developed for these preparations of oximes, ketones and aldehydes as its byproducts. However, these conventional methods pose environmental concerns regarding release of chemical pollutants. Therefore, the development of clean and highly efficient catalytic process for deoxygenation reactions is needed. In this study, immobilized ionic liquid resin (Im-IL-resin) which has carboxylic functional group was synthesized and evaluated for the deoxygenation reaction. The synthesized resins were characterized by FT-IR, SEM and TGA. Im-IL-resin and commercial Amberlyst-15 resin were compared for the deoxygenation both in batch and column reactor. Although deoxygenation yield using Im-IL-resin was similar to that of commercial acidic catalytic resin, Amberlyst-15, the deoxygenation reaction rate obtained was at least two times higher than that of Amberlyst-15 in batch reaction. In addition, the products could be efficiently separated in reactive column packed with Im-IL-resin whereas the products were not able to be separated with commercial Amberlyst-15 resin.

Biography

Chul Shin has graduated from Inha University with BE degree in Biological Engineering in 2017. He is currently enrolled in Master's program at Department of Biological Engineering, Inha University.

tscjfdms13@naver.com

Notes: