

푸르푸랄 생산을 위한 신규 바이오 정제 공정의
최적 설계

Le Cao Nhien, Nguyen Van Duc Long, Le Quang Minh,

팜녹트람, 김서은, 이문용[†]

영남대학교

Furfural, which is used as a precursor for the production of many other industrial chemicals, has been identified as one of the major bio-based platform chemicals that can compete with petroleum-based chemicals. On the other hand, the current commercial furfural process has a low yield and intensive energy. Therefore, we undertook a research endeavor to develop a novel biorefinery process to produce furfural from lignocellulosic biomass. The novel furfural process considering both reaction and separation stages were designed and optimized at an industrial scale. All simulations were conducted using Aspen HYSYS. Furthermore, the process was assessed on the basis of economic and environmental performances. The authors wish to acknowledge the financial support from the R&D Convergence Program of NST (National Research Council of Science & Technology) of Republic of Korea and KITECH (Korea Institute of Industrial Technology) (ES150001). This study was also supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (2015R1D1A3A01015621).