

Process design of recovering levulinic acid from biomass

Le Cao Nhien, Nguyen Van Duc Long, Le Quang Minh, Pham Ngoc Tram, Yuli Amalia

Husnil, 김서은, 이문용<sup>†</sup>

영남대학교

(mynlee@ynu.ac.kr<sup>†</sup>)

Levulinic acid (LA) recognized in a large number of applications has frequently been suggested as a beginning material for the production of many industrial and pharmaceutical compounds. Nevertheless, the capability of its process in industrial scale has been limited due to high-cost raw materials and the lack of detailed design methodologies. Hence, this work focuses on simulation, detailed design and process analysis of an economically and environmentally safe process in order to produce LA. The detailed base case of recovering LA from a renewable and inexpensive feedstock, biomass, was proposed. Several analyses were conducted to show the influence of various parameters on process performance and economic point of view. This work was supported by Priority Research Centers Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (2014R1A6A1031189). This work was supported by the Development of 300MW class Korean IGCC demonstration plant technology of the Korea Institute of Energy Technology Evaluation and Planning(KETEP) and Doosan Heavy Industries and Construction grant funded by the Korea government Ministry of Knowledge Economy.