

Feasibility study of feed characteristic on the energy savings level by using a fully thermally coupled distillation in a ternary mixture separation

홍재민, Le Quang Minh, 구웬룡, 김종환, 이문용<sup>†</sup>  
영남대학교

Distillation column is widely used in chemical industry for separating the mixture. Nevertheless its significant energy requirement can generate more than 50% of the plant operating cost. The increasing cost of energy have intensively forced the scientists to reduce its energy consumption by adopting enhanced distillation methods. The thermally coupled distillation (TCD) has been shown to be useful in decreasing the energy consumption in which a fully thermally coupled configuration brings the lowest energy demand. However, the energy saving of TCD definitely depends on the feed characteristic such as the feed composition and the relativities. This study aims to investigate the effect of feed characteristics on energy savings level by using a fully TCD in comparison with the conventional distillation sequence. This research was supported by Priority Research Centers Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (2014R1A6A1031189) and Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (2015R1D1A3A01015621).