삼성분계 혼합물 분리를 위한 일반 증류 구조의 경제적 개조 방안

홍재민, 팜녹트람, Le Cao Nhien, Yus Donald Chaniago, Le Quang Minh[1], 이문용†
영남대학교; [1]영남대학교
(mynlee@ynu.ac.kr†)

A dividing wall column is considered as one of the most appealing distillation technologies to the process intensification of chemical industries. This study targets on the use of DWC technology to the retrofit of an existing distillation columns sequence while minimizing the modification costs. A combination of a coordinate descent methodology with an optimizer BOX programming method from Aspen HYSYS is exploited for optimizing the structure of the proposed configurations. The result shows that the proposed configurations can reduce the operating costs significantly regarding the minimum modification cost. Two industrial examples involving a gasoline fractionation process and a naphtha splitter process were used to illustrate a new opportunity to retrofit the existing distillation sequences. This study was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (2015R1D1A3A01015621) and also supported by Priority Research Centers Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (2014R1A6A1031189).