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Development of the Reaction/Distillation Matrix to include more complicated reaction/distillation systems and performance evaluation using an ethylene hydration case study

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Highlights

- An algorithm for synthesis of reaction-separation system alternatives is presented
- The algorithm is an expansion of previously presented, Reaction/Distillation matrix
- The algorithm includes multiple reactions with any number of components
- The presented algorithm supports systems having binary azeotropes
- The algorithm has been implemented on an ethylene hydration process

Abstract

Reaction/Separation systems are very important in chemical industries and synthesis of all possible configurations for these systems is necessary for finding the best process alternative. An algorithm for synthesis of different alternatives for reaction-distillation systems is presented in this paper. The presented algorithm is a developed version of the Separation Matrix which has been introduced for generation of

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