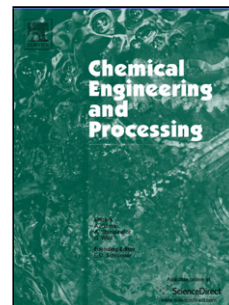


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A combination of pressure-swing and extractive distillation for separating complex binary azeotropic system

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Highlights

- The double column pressure-swing with extractive distillation(DCPSED) was proposed.
- The triple column pressure-swing with extractive distillation were proposed.
- The heat integration and MVR heat pump distillations were also tested.
- The DCPSED with MVR process is used to separate complex binary azeotropic system.

ABSTRACT: Methyl acetate/methanol/water mixture forms more than one different azeotrope, whereas its triangular diagram presents a distillation boundary at atmospheric pressure. The two different simulation processes of the double column pressure-swing with extractive distillation (DCPSED) and triple column pressure-swing with extractive distillation (TCPSED) were proposed to separate the complex ternary system. Furthermore, the heat integration and

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