Title: A strategy to extend reactive distillation column performance under catalyst deactivation

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Abstract: This work addresses the effects of catalyst deactivation and investigates methods to reduce their impact on the reactive distillation columns performance. The use of variable feed quality and reboil ratio are investigated using a rigorous dynamic model developed in gPROMS and applied to an illustrative example, i.e., the olefin metathesis system, wherein 2-pentene reacts to form 2-butene and 3-hexene. Three designs and different strategies on column energy supply to tackle catalyst deactivation are investigated and the results compared.

Author Keywords: Reactive Distillation; Catalyst Deactivation; Feed Quality; Modeling; Simulation

KeyWords Plus: Feasible Regions; Design

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