# 고부가 유기산의 연속적 분리정제 공정 개발

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The optimal three-zone simulated moving bed (SMB) process for continuous separation of formic acid from acetic acid and succinic acid was developed in this study. As a first step for this task, the adsorption isotherm and mass-transfer parameters of each organic acid on the qualified adsorbent were determined through a series of multiple frontal experiments. The determined parameters were then used in optimizing the SMB process for the considered separation. During such optimization, an SMB port configuration that could be more advantageous for attaining better process performances was selected between two possible configurations. Finally, the optimized SMB process based on the properly selected port configuration was tested experimentally using a self-assembled SMB unit with three zones. The SMB experimental results and the relevant computer simulation verified that the developed process in this study was successful in continuous recovery of formic acid from a ternary organic-acid mixture of interest with high throughput, high purity, high yield, and high product concentration.