

## “Backfill” Strategy for Improving the Separation Performance in Simulated Moving Bed Chromatography

김경민, 이창하\*  
연세대학교 화공생명공학과  
(leech@yonsei.ac.kr\*)

Simulated moving bed (SMB) is a continuous chromatographic separation process and it has been adapted to the petrochemical, fine chemistry and pharmaceuticals. In a conventional SMB, the majority of impurity component for each product node emerged on one side in a switching period. Therefore, many operating strategies improved the separation performance of SMB by periodic modulation of certain operating parameters during a switching period such as VariCol, Partial-feed, ModiCon, and OSS SMB. In the previous work, our group suggested the Partial-Discard (PD) and Recycling Partial-Discard (RPD) operations from discarding and re-feeding the part of impurity in the product. As another re-feeding process, the product was re-fed to the SMB circuit in the “Backfill” operation in this work. Several methods of re-feeding were introduced and compared in the “Backfill” operation. And from the results, the guide line for “Backfill” operation design was suggested.