

Comparison of Linear and Nonlinear Isotherms in the FeedCol Operation

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

Simulated moving bed (SMB) chromatography is an advanced technology for separation of various valuable substances. And its adoption is being expanded to the fine chemistry such as separation of natural products and pharmaceuticals.

In the previous study, our group suggested “FeedCol” strategy to improve the separation efficiency in the SMB chromatography. In the “FeedCol” operation, a small column (which is named ‘feed column’) is added and pre-separates the pulse input. As the result, All the performance parameters was improved even the extra adsorbent was used. And the injection length and injection time played key role to operate the FeedCol strategy. In that study, the nonlinear isotherm was applied, and the skewed peak from the nonlinear isotherm with high concentration strongly affected to the results of performance parameters.

In this study, the effects of nonlinearity in the isotherm were reported in the “FeedCol” operation. And from the results, the guide line for “FeedCol” operation design was suggested.