

## Sensitivity Analysis of Amino Acids in Simulated Moving Bed Chromatography

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The difficulty of simulated moving bed (SMB) design is that the optimization of the operation conditions relies on the determination of accurate adsorption isotherms. Most SMB chromatograph is carried out under nonlinear conditions, and the nonlinear behavior should be considered properly in the equilibrium isotherms. The other difficulty is the SMB operation which has the characteristics of continuous process, all flow rates and switching time of valves should be maintained during the operation of SMB. If the disturbances of operating conditions and isotherm parameters are occurred, it affects the zone flow rates and the migration velocity of the solutes, and these effects change the internal profiles of the solutes. Therefore, it is the reason of decreasing the purity and the yield of products. The objective of this work is to consider the sensitivity of isotherm parameters and operating parameters in SMB chromatography process. Two amino acids, phenylalanine and tryptophan, separation by SMB process is selected as control system.