

## The Simulation Study of Three-Zone SMB/Chromatography Hybrid System for Purification of Ternary Products

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With the current extensive studies of SMB process, the studies to separate multi-components mixture using SMB process are actively performed recently. Because the conventional SMB is suitably designed to separate binary components, the cascade of two or more SMB rings is necessary to separate multi-components. Consequently, the cost to install SMB apparatus become increased. Also, the operation condition and the control of practical SMB become more complex.

The SMB process has difficulties to find a cause, when the product has any problem. Because the novel SMB can not has "lot" numbers. Several researches has been studied to overcome this disadvantage of SMB process. It has been, however, reported little researches.

In this study, a new hybrid system was considered to solve complexity of the cascade-SMB process and the problem of lot number. The complete ternary pure components could be purified using a SMB/Chromatography hybrid system. The purities of each product were obtained over 90% by the simulation results.