

Simulated Moving Bed Operation Strategy-Partial Discard

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A new “partial-discard” operation strategy was developed to improve the performance, especially purity, achievable in simulated moving bed chromatography (SMB). This strategy was applied to the four-zone SMB process with two columns per zone for binary separation within the linear range. The “partial-discard” strategy significantly enhanced the purity or enrichment when the discard time and discard length were controlled. In addition, the “partial-feed with partial-discard” strategy improved remarkably the extract and raffinate purities at an intermediate feed time compared with the “partial-feed” operation. Adjustments of the discard length and discard time played key roles in achieving the desired product purity in SMB chromatographic performance.