

Separation of Ibuprofen Enantiomers by SMB(Simulated Moving Bed) Chromatography

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Abstract

A lab-scale SMB chromatography with 4 HPLC columns and 4 multi-position rotary valves were designed. Our design has characteristics of low cost for assembly of SMB chromatography and easy repair of unit, differing from the design suggested by other investigators. calculation of operating parameters for ibuprofen separation was performed by a frontal analysis to determine the switching time(Δt). When feed concentration was 1 mg/ml, we could determinate $\Delta t = 4.5$ min. A dead volume generated by recycle pump interferes steady state operation, and so modification of Δt has to be performed by a Δt delay when each zone passes through the last column.

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References

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