عنوان مقاله:

Simulation of separation of a racemic mixture of Bupivacaine by simulated moving bed

محل انتشار:

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خلاصه مقاله:

Separation of a racemic mixture of Bupivacaine by simulated moving bed chromatography was simulated using Aspen Chromatography based on literature experimental data. The simulation results showed that separation of Bupivacaine enantiomers is feasible by this method and products with a purity of about 99% could be obtained. In this study, the discretization method and mathematical solution is different from that of previous literature and results are more consistent with experimental data.Higher order orthogonal collocation in the solution scheme provides more accurate simulationresults. With the actual mathematical tools are corporate within Aspen chromatography there would be no need to external mathematical tools like gPROMS to get better results. For this study, the triangular theory was used to find the operating conditions. The operating point conditions such as streams flow rates and beds switching time were obtained. In addition, the effect of feed concentration on the triangular region and operating conditions such as switching time, recycle and desorbent flow rate were also investigated. The simulation confirms that the higher feed concentration leads tosmaller triangular region, the switching time decrease and desorbent and recycle flow rates .increase

کلمات کلیدی:

Adsorption, Bupivacaine, Simulated moving bed, Simulation