

Manipulation of Column Profiles in Zones II-III or I-IV of Four-Zone Simulated Moving Bed for High Purity Product

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Recently, the study of simulated moving bed (SMB) process modification for high purity product is steadily increasing by many researchers. The reason of interest in these researches is that purity of product is the most important accomplishment in SMB. In the conventional SMB process, histories of product stream usually have periodic elution of impurity. To reduce this weak point, the concentration profiles of four-zone SMB were manipulated by periodic closing and opening of each product ports system. The advantage of this strategy is very simple to operate. In other words, complex additional equipment is not necessary to apply to the conventional SMB process. There are two kind of different paired zone profile manipulation ways. One is zone II and III profile manipulation and another is zone I and IV profile manipulation by the control of recycle flow-rate. From the simulation results, it is assure that both of two manipulated SMB are more efficient than conventional SMB for high purity product.