

Purification of Fructo Oligosaccharides by Simulated Moving Bed

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SMB operation condition usually is determined by using triangle theory or standing wave design regardless of reaction within columns during experiment. But some of reactions really happen in columns so this factor sometimes considerably has more impact on results than adsorption isotherm and mass transfer. The SMB chromatography is used to obtain high purity (>95%) fructo oligosaccharides(FOS)from syrup. The syrup is mixture of about glucose, sucrose and FOS. Because all components have different affinity to the resin, each isotherm parameter of the component is determined by multiple frontal chromatography. Mass transfer coefficient was obtained by the best-fit values comparing simulation with experimental pulse data. Operation condition for SMB was optimized by using Standing wave design. The concentration of each component in the simulation were considered at steady state after hydrolysis. This simulation is well matched experimental result except sucrose. Sucrose profile is different from expected result because of reaction rate and intermediate component.