عنوان مقاله:

Application of Statistical Design in Development of Poorly-Water Soluble Nanoparticles by LASP Method in a Microchannel

محل انتشار:

کنفرانس بین المللی یافته های نوین پژوهشی در شیمی و مهندسی شیمی (سال: 1394)

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خلاصه مقاله:

The combined influence of three independent variables was investigated on reducing the size of curcumin nanoparticles using solvent/anti-solvent precipitation method in a microchannel reactor (MCR). A three-factor, three level Box-Behnken design was applied to optimize the independent variables, volume ratios of anti-solvent to solvent (x1), flow rate of drug solution (x2), and curcumin concentration (x3). The nano-curcumin in the range of 63-335 nm was obtained by addition of absolute ethanol as solvent, water as anti-solvent in presence of PVP as stabilizer.Analysis of variation (ANOVA) with 15 confirmatory runs showed that all of the three variables, and their interaction significantly affected on the size of precipitated particles, as the model response. Under these condition, .the size of curcumin suspension was predicted 63.12 nm

کلمات کلیدی:

Anti-solvent, Curcumin, Particle size, Microchannel reactor