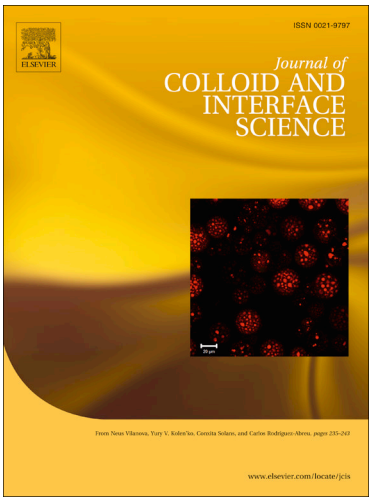

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Abstract

Solvent exchange is a flow process to induce a transient oversaturation for forming nanobubbles or nanodroplets on solid surfaces by displacing the solution of gases or droplet liquids with a controlled flow of a poor solvent. In this work, we experimentally and numerically investigate the effect of the flow rate and other control parameters on the formation of microbubbles on hydrophobic cavity arrays during the solvent exchange process. We find that the growth rate, location, and number density of microbubbles are closely related to flow rate, solvent concentration, cavity distance, and spatial arrangement. Higher growth rates and number densities of the bubbles were obtained for

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