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Oil Induced Spontaneous Flow in Water- Bis(2-ethylhexyl)Sulfosuccinat (AOT) system PARVATHALU KALAKONDA, King Abdulla University of Science and Technolgy — Instability and evaporation rates of oils within the layers of vesicles of a surfactants trigger the spontaneous (second flow) flow. The incorporation of oils into bis(2-ethylhexyl)sulfosuccinat (AOT) system remains incompletely characterized. We show that the second flow has a finite size that show a minimum at a particular concentration (mM) of surfactant solution. As a result, the layers are destabilized lead to explode and create the second flow. The fluorescence emission spectra and evaporation rates show that the oil diffuses into the layers of vesicles of a surfactant. We have characterized evaporation rates of oils on various concentrations (mM) of surfactant solution and observed that oils evaporation rates depend on volume and remain constant as the function of concentration of surfactant. We believe that second flow is new feature and brings a new insight into the fluid flow dynamics.

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