Abstract Submitted
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Adsorption Of Surfactants At the Water-Oil Interface By Short-Time Diffusion[1] ALDO CORTES-ESTRADA, LAURA IBARRA-BRACAMONTES, ALICIA AGUILAR-CORONA, GONZALO VIRAMONTES-GAMBOA, Univ Michoacana de San Nicolas de Hidalgo — Surface tension is an important parameter for different industrial processes. The addition of surfactants can modify the interfacial tension between two fluids. As the surfactant molecules reach and are adsorbed at a fluid interface, the surface tension or interfacial tension is reduced until the interface is saturated. Dynamic Interfacial tension measurements were carried out using an optical tensiometer by the Pendant Drop technique at a room temperature of 25 C for a period of 250 sec. A drop of surfactant solution was deposited and allowed to diffuse into a water–oil interface, and then the adsorption rate at the interface was calculated. Sodium Dodecyl Sulfate (SDS) was used as the surfactant, hexane and dodecane were tested as the oil phase. A linear decay in the interfacial tension was observed for the lower initial concentrations of the order of 0.0001 to 0.01 mM, and an exponential decay was observed for initial concentrations of the order of 0.1 to 1 mM.

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