Abstract Submitted
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A Comparative Study of the Effect of Surfactant and Temperature in Fluid Interfaces.[1] ALDO H. CORTES-ESTRADA, LAURA A. IBARRA-BRACAMONTES, ALICIA AGUILAR-CORONA, GONZALO VIRAMONTES-GAMBOA, Universidad Michoacana De San Nicolas De Hidalgo — A fluid interface is the boundary region formed when two immiscible fluids come into contact. One of the most important properties of fluid interfaces is the interfacial tension. The interfacial tension between two fluids can be modified by the presence of surfactant. In addition, the temperature is a relevant factor that can also modify the interfacial properties. In this work the behavior of the interface formed by oil and water in the presence of surfactant at different temperatures is presented. Interfacial tension measurements were obtained by the Pendant Drop technique. Two types of surfactant were tested, Sodium Dodecyl Sulfate (SDS) as a hydrophilic surfactant, and Sorbitan Monooleate (Span 80) as a lipophilic surfactant. The range of variations in temperature was from 25 to 60 Celsius degree. Hexane or Dodecane was used as the oil phase. The main results showed that the lipophilic surfactant showed a greater efficiency with respect to the hydrophilic surfactant used. As the temperature increased in the range considered an exponential decay for the interfacial tension was observed. This decay was dominated by the surfactant concentration.

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