

Preparation and Study of Pluronic F127 Monolayers at Air-Water Interface

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Abstract : Properties of mono layers of Pluronic F127 at air/water interface have been investigated by using Langmuir trough method. Pluronic F127 is a triblock copolymer of poly (ethyleneoxide) (PEO groups)- poly (propylene oxide) (PO groups)-poly(ethylene oxide) (PEO groups). Surface pressure versus mean molecular area isotherms is studied. The isotherm of the mono layer showed the characteristics of a pancake-to-brush transition upon compression of the mono layer. The effect of adding surfactant (SDS) to polymer and the effect of increasing loading on polymer was also studied. The effect of repeated compression and expansion cycle (or hysteresis curve) is investigated to know about stability of the film formed. Static elasticity of mono layer gives information about molecular arrangement, phase structure and phase transition.

Keywords : surface-pressure, mean molecular area isotherms, hysteresis, static elasticity

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