

Ellipsometry studies to follow the adsorption at the oil aqueous phase and the formation of a liquid crystalline phase.

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The use of ellipsometry to study adsorption at liquid-liquid interfaces will be discussed. Apart from studying adsorption, ellipsometry can be used to study the initial process when a two phase system consisting of a water and an oil phase is transformed into a three phase system or eventually to a one phase system. As an example a recent study on the adsorption of phospholipid (DOPC) and formation of a surface phase at the oil-water interface will be presented. The properties of the interfacial phase were found to depend strongly on whether phospholipid was added to the oil phase or to the aqueous phase as liposomal structures. In the latter case a monolayer formed, while if the phospholipid was supplied from the oil phase a lamellar phase appeared at the interface. The observations are important for understanding stabilizing properties of surface-active compounds commonly used to stabilize emulsions.