Interfacial Behavior of Ferrocene- and 1,4-Naphthoquinone-based Compounds, and Their Mixtures with Monoolein at the Air/Water Interface

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In this work, a study of the interfacial properties of redox-active novel ferrocene- and 1,4-naphthoquinone-based compounds containing an alkenyl chain is presented. The miscibility of these compounds with 1-monooleoylglycerol (monoolein, MO), a well-known and much studied substance because of its rich polymorphism in water, at the air/water interfaces was investigated by using the Langmuir surface film balance to get a better understanding of the interaction between MO and the new derivatives. The influence of temperature on the monolayer structure was also studied. It has been demonstrated that the monolayers of all compounds have a liquid-expanded structure, and that the mixed films are more stable compared to the layers of the individual compounds.

Key words: Monolayers, Air/Water, Redox-active Compounds, Ferrocene, 1,4-Naphthoquinone