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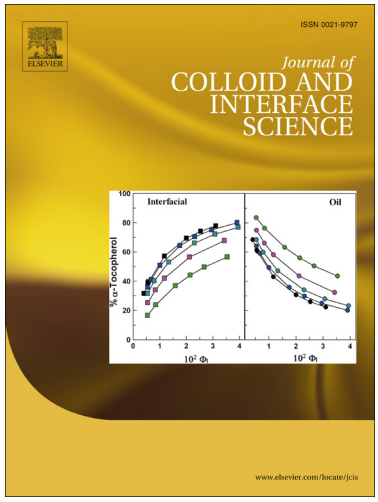

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Hydrolysis Driven Surface Activity of Esterquat Surfactants

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KEYWORDS: cationic amphiphiles, esterquats, hydrolysis, cleavable surfactants, adsorption, water/air interface

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Hypothesis

Surface activity of selected cleavable esterquat cationic surfactants is determined by the synergistic effect of surface active products of their hydrolysis.

Experiments

Interfacial behavior of two classes of esterquat surfactants, quaternary alkylammmonium esters and amino acid betaine (trimethylglycine) esters of fatty acids were examined both experimentally and theoretically. The surface tension measurements at air/water interface were performed by the pendant drop shape analysis method, then the obtained isotherms were theoretically described by the model of adsorption of ionic/non-ionic surfactants mixtures taking into account the presence of surface active products of surfactant hydrolysis.

Findings