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Complexation in Surfactant Solutions: II. Complexation of Cu(II) and Fe(III) Salicylates in Sodium Alkyl Sulfate Solutions

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Abstract

The effect of sodium dodecyl sulfate and sodium tetradecyl sulfate on the composition and stability of Cu(II) and Fe(III) complexes with salicylic acid was studied by the NMR relaxation and pH-metric titration methods. For copper(II), it was found that micelles formed by the surfactants competitive with the complex for association with the cation without formation of mixed species. For Fe(III), the schemes of formation of metal-ligand-surfactant compounds were elucidated and the corresponding constants were evaluated by computer simulation. It was found that for two selected surfactants, the composition and stability of mixed species are the same.
