

عنوان مقاله:

Cosolvent effects on the spontaneous formation of aggregates in cationic mixtures in the rich anionic region

محل انتشار:

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نویسندگان:

F Golmohammadi - *Department of Chemistry, Faculty of Science, Tabiat Modares University, Tehran, Iran*

H Gharibi - *Department of Chemistry, Faculty of Science, Tabiat Modares University, Tehran, Iran*

S Javadian - *Department of Chemistry, Faculty of Science, Tabiat Modares University, Tehran, Iran*

A yousefi - *Department of Chemistry, Faculty of Science, Tabiat Modares University, Tehran, Iran*

خلاصه مقاله:

The aggregation behavior of anion-rich cationic mixtures of sodium dodecyl sulfate (SDS) and cetyltrimethyl ammonium bromide (CTAB) was investigated in water-ethylene glycol (EG) solutions by performing surface tension, electrical conductivity, zeta potential measurements, dynamic light scattering (DLS). Different physicochemical properties such as the critical micelle concentration, degree of counterion dissociation (α), interfacial properties, aggregation numbers, morphology of aggregates, and interparticle interaction parameters were determined. Cosolvent effects on the interactions between the two surfactants SDS and CTAB were analyzed on the basis of regular solution theory, both for mixed monolayers at the air/liquid interface (A) and for mixed micelles (B). The interparticle interactions were assessed in terms of cosolvent effects on the micellar surface charge density and the spherical to cylindrical morphology change. The zeta potential and the size of the aggregates were determined using dynamic light scattering and confirmed the suggested models for the processes happening in each system.

کلمات کلیدی:

anion-rich cationic mixtures, zeta potential measurements, dynamic light scattering

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