

Determination of the critical micelle concentration of 12-4-12 gemini cationic surfactant in the presence of methacrylamide by different methods

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ABSTRACT:

In this study, after synthesizing gemini cationic surfactant 12-4-12, its interaction with methacrylamide by conductometry, viscometry and UV-Vis spectroscopy were investigated. The results showed that, in the presence of methacrylamide, the Critical Micelle Concentration (CMC) was decreased. Thermodynamic parameters such as enthalpy, entropy and surface free gibbs energy at 298 K was calculated. The results of viscometry and colorimetry confirmed that these techniques can be used as drastic and simple methods for CMC determination.

Keywords:

Surfactant , Critical micelle concentration, Thermodynamic parameters