

Salting-out effect induced by temperature cycling on a water/nonionic surfactant/oil system

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R�sum� en anglais	<p>This paper presents original effects induced by temperature cycling on the transitional phase inversion of emulsions, stabilized by a nonionic polyethoxylated C18E6 surfactant model. The phase inversion follow-up is performed by electrical conductivity measurements, which involves focusing the study on the shape and location of the emulsion inversion region. In that way, new observations are brought out as a gradual evolution of the emulsion inversion along the cycling process. Two alternative approaches are considered for tackling these results: (i) first, a molecular approach regarding the particular organization and rearrangement of water clusters surrounding the surfactant polymer polar head, and (ii) second, a thermodynamic approach only considering the whole Gibbs free energy of the system. The volumic approaches are transposed, here, to the water/oil interface, and disclose that the phase inversion zone is included in a metastable region, able to stabilize for a given temperature, either metastable O/W emulsions or stable W/O ones. In that way, this study proposes novel and complementary insights into the phenomena governing the emulsion phase inversion.</p>
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- [3] [http://okina.univ-angers.fr/publications?f\[author\]=24780](http://okina.univ-angers.fr/publications?f[author]=24780)
- [4] <http://okina.univ-angers.fr/j.benoit/publications>
- [5] <http://okina.univ-angers.fr/publications/ua14672>
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