

Special Issue

Advances in Surfactant Systems: Thermodynamics, Molecular Interactions, and Applications

Message from the Guest Editor

Surfactants are particles that possess both hydrophobic and hydrophilic molecular segments. They come in various architectural forms, including surfactants with rigid hydrophobic or hydrophilic chains, flexible hydrophobic chains, and gemini, bolaform, and polymeric surfactants. Designing and chemically synthesizing a surfactant with a specific architecture and properties is challenging. Similarly, developing a mathematical model that can predict surfactant properties, such as a critical micellar concentration, aggregation number, and micelle geometric shape, presents its own set of difficulties. There is ongoing research into the relationship between the thermodynamic functions of micelle formation and the state functions of surfactants at the interface. The scientific community has discussed applying phase separation theory to micelle formation in conjunction with the association model based on the law of mass action. Consequently, there is a pressing need to develop new theories and state functions for mixed surfactant systems or for theories that are utilized for carryout out validations using the regular solution approach.

Guest Editor

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Deadline for manuscript submissions

30 September 2025



International Journal of Molecular Sciences

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed



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*International Journal of
Molecular Sciences*
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