Mulling over Nanoemulsions: Interfacial Molecular Structure, Stabilization and Assembly

Nanoemulsions are finding numerous applications in the fields of pharmaceuticals, food production, materials synthesis and cosmetics. With the search for broader and improved usage of these unique droplets comes the need to better understand the molecular interactions at the surface that lead to their stabilization. This presentation will focus on our most recent efforts to understand the molecular assembly and structuring present at an oil-water droplet surface that contributes to the stabilization of these nano-sized oil droplets in water, and similarly sized water droplets in oil. The studies are a combination of spectroscopic and thermodynamic measurements coupled with theoretical simulations.

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