

Synthesis of high internal phase Pickering emulsions

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High internal phase emulsion (HIPE) offers a superior template for a variety of applications. Despite a lot of advantages, it requires special strategies to form stable HIPEs, in particular, for particle covered HIPEs. In this talk, we present an extremely versatile technique to produce a stable high internal phase Pickering emulsion (HIPPE) by controlling the interaction between a droplet and a particle. The attractive interaction between an emulsion droplet and a particle facilitates adsorption of the particles onto the interface of droplets, and simultaneously suppresses desorption of particles from the surface. This enhanced adsorption and suppressed desorption allows a stable HIPPE to be formed with the minimal use of colloidal particles, but with no use of additional surfactant nor any surface modification of colloids.