

Supporting Information

A simple and effective strategy to enhance the stability and solid-liquid interfacial interaction of emulsion by the interfacial dilational rheological properties

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1. Dilational rheological properties of emulsifiers with different HLB values

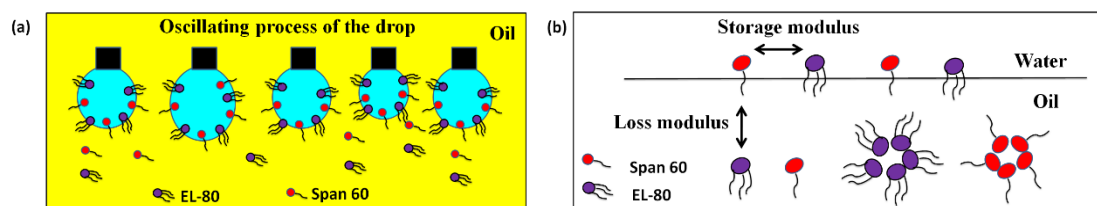


Fig. S1. (a) Oscillating process of the drop with changing interfacial area. (b) Schematic of dilational rheological parameters for emulsifiers at the solvent naphtha 150#/water interface.

2. Stability of emulsions with different HLB values and dilational modulus

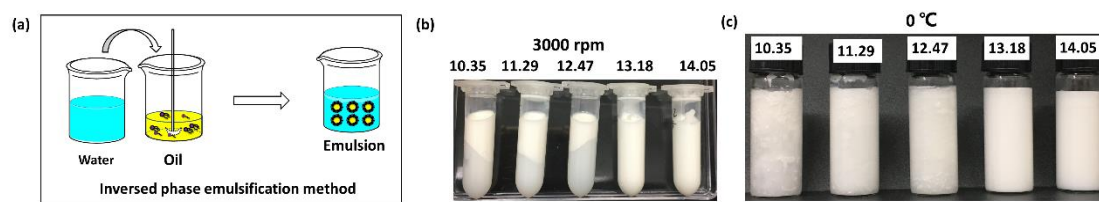


Fig. S2. (a) Schematic of the phase inversion emulsification technique. (b) Centrifugal stability at 3000 rpm, and (c) storage stability at 0°C for emulsions prepared with different HLB values (10.35, 11.29, 12.47, 13.18 and 14.05) of EL-80/Span 60.

3. Dilational rheological properties and solid-liquid interaction of emulsion diluents with different HLB values

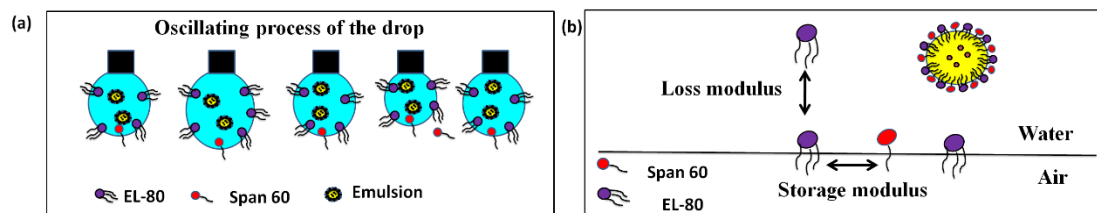


Fig. S3. (a) Oscillating process of the drop with changing surface area. (b) Schematic of dilational rheological parameters for emulsions at air/water interface.

4. Dilational modulus and stability of emulsion with different contents emulsifiers

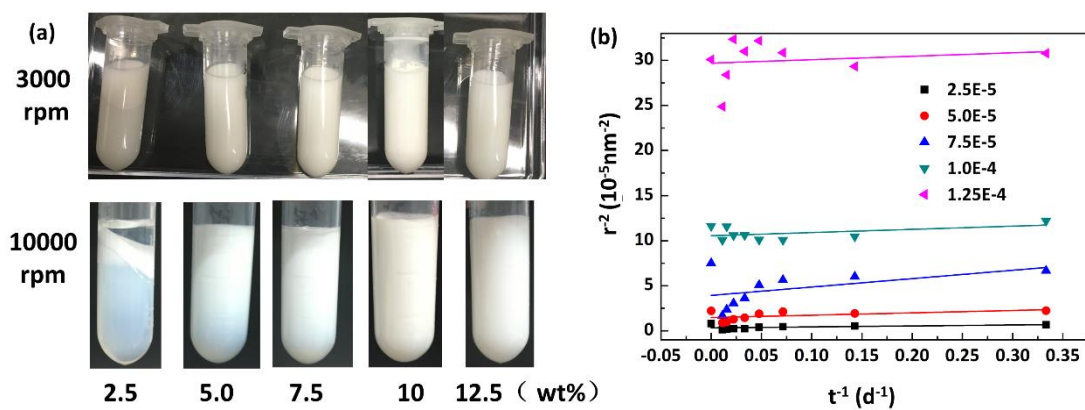


Fig. S4. (a) Centrifugal stability at 3000 rpm and 10000 rpm and (b) r^2 as a function of t^{-1} for emulsions prepared by different weight percent of EL-80/Span 60.