

Supporting Information

**Molecular Dynamics Simulation Insight into Interfacial Stability and
Fluidity Properties of Microemulsions**

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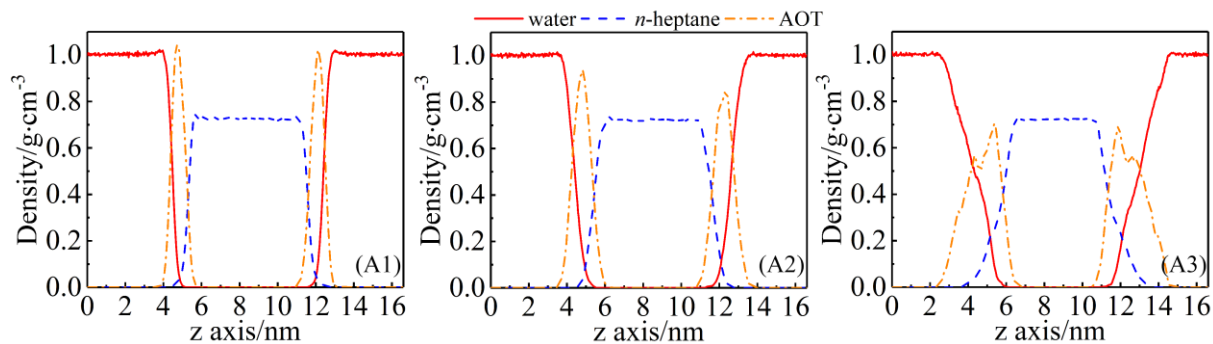


Figure S1. Density distribution profiles along the z axis direction with different interfacial coverages in biphasic interface system: (A1) IC =1.264 molecule·nm⁻², (A2) IC =1.408 molecule·nm⁻², and (A3) IC =2.120 molecule·nm⁻².

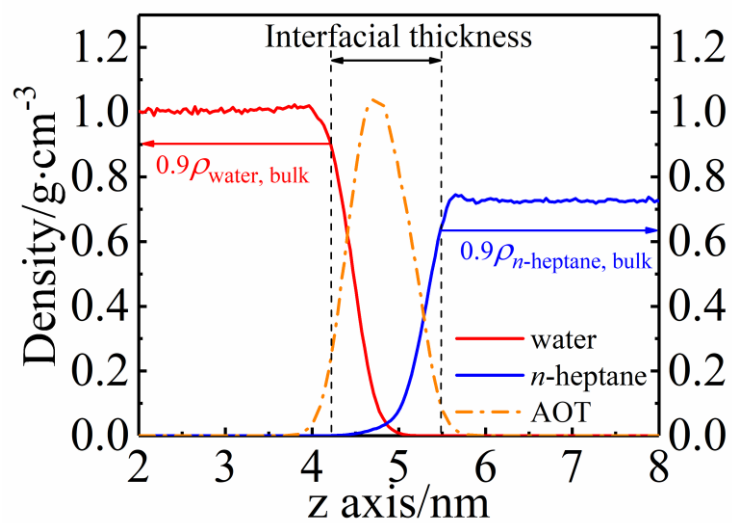


Figure S2. Density profiles of different molecule species at the oil-water interface. The definition of interfacial thickness is intuitively depicted by the black dashed lines.

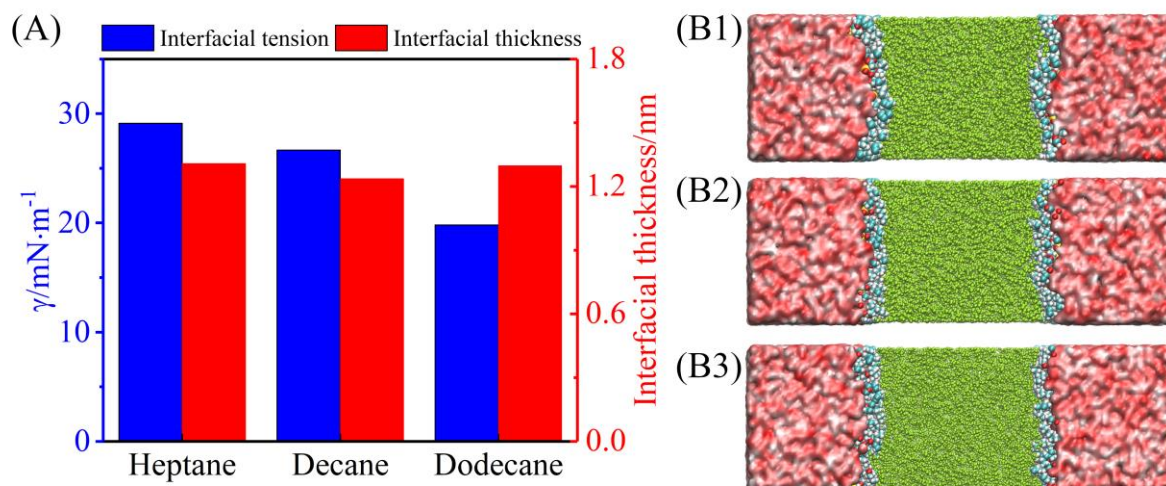


Figure S3. (A) The comparisons of interfacial tension and thickness with the similar interfacial coverage ($\text{IC} = 1.262 \pm 0.004 \text{ molecule}\cdot\text{nm}^{-2}$) and (B) the morphological snapshots in biphasic interface systems with different oil components (B1 for heptane, B2 for decane and B3 for dodecane).

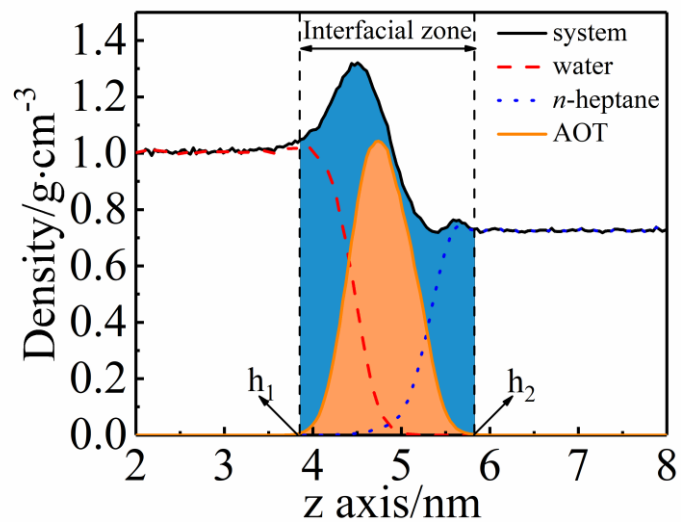


Figure S4. Density profiles of different molecule species at the oil-water interface. The definition of interfacial zone and its emulsification rate are intuitively depicted by the black dashed lines. The integration area of AOT density is in orange, while the integration area of all components has an extra area in dodger blue.