

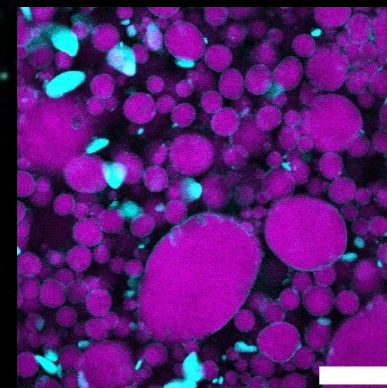
## Emulsion Evolution: Mapping Rheology to Microstructure

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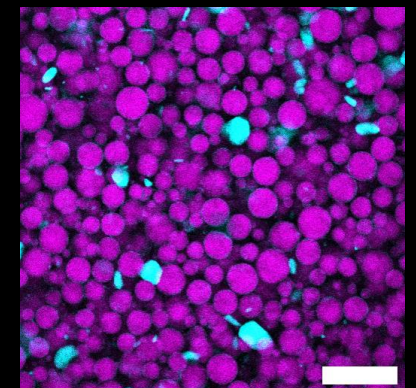
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We stabilize oil (magenta) in water/glycerol emulsions using cellulose acetate nanoparticles (cyan). Using a fluorescent dye, we capture the evolution of the 3D microstructure of this model Pickering emulsion system using a confocal rheometer. Here, we image the evaporated edge of the system at its interface with air.

Combining image processing, network science, and real-time microscopy data, we correlate the evolution of the emulsion microstructure with strain-rate frequency superposition (SRFS) and large amplitude oscillatory sweeps (LAOS).



Yielding  
→



Scale = 100  $\mu$ m