

Abstract Submitted
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Microfluidic droplet manipulations via modulation of interfacial tension¹ THOMAS CUBAUD, Stony Brook University — The dynamic response of viscous droplets to variations of interfacial tension with the continuous phase is experimentally investigated in microchannels. Microfluidic segmented flows of oil droplets are continuously generated in methanol or ethanol to produce regular patterns that are injected into a focusing section with another alcohol solvent. To probe the role of fluid properties on droplet deformations, a range of fluid combinations are examined with focus on large droplet elongations for vanishing interfacial tension between droplets and continuous phase. This work shows the possibility to process high-viscosity fluid droplets in a variety of solvents in confined microsystems.

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Thomas Cubaud
Stony Brook University

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