Electronic Supplementary Material (ESI) for Soft Matter.

Supplementary information for Capillary detachment of a microparticle from a liquid-liquid interface

Sazzadul A. Rahat,[a] Krishnaroop Chaudhuri,[b] and Jonathan T. Pham,*[a,b]

[a]Mechanical and Materials Engineering, [b]Chemical and Environmental Engineering, University of Cincinnati, Cincinnati, OH 45221

Email: Jonathan.Pham@uc.edu

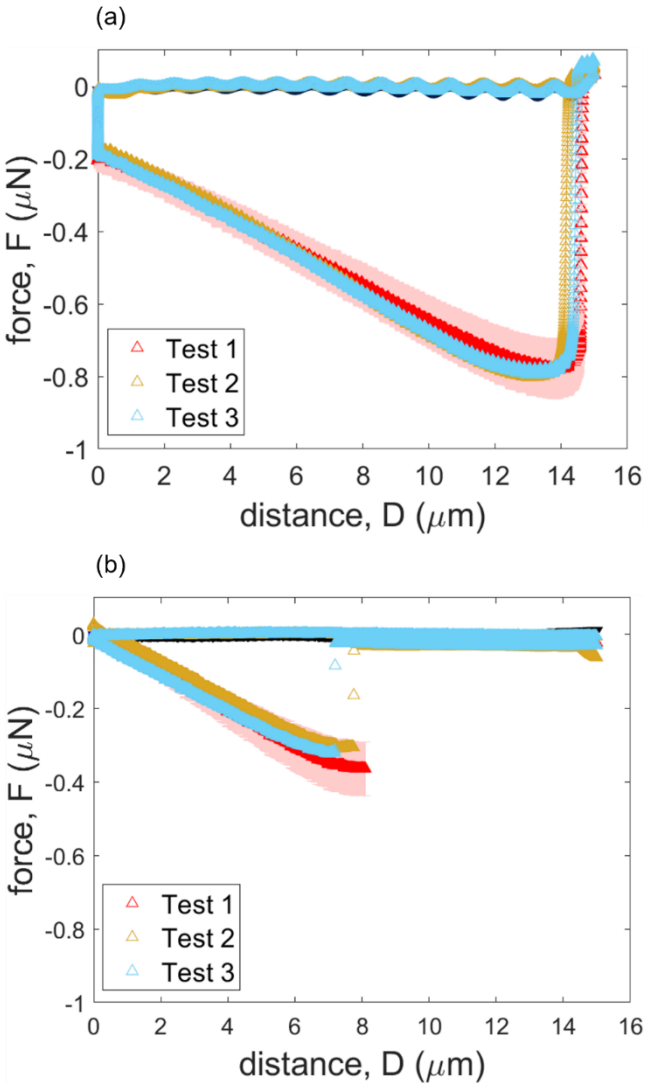

Figure S1: Three force-distance curves for (a) the unmodified case, and (b) the fluorinated case. The red shaded region denotes 10% error, shown only for one data set for clarity.

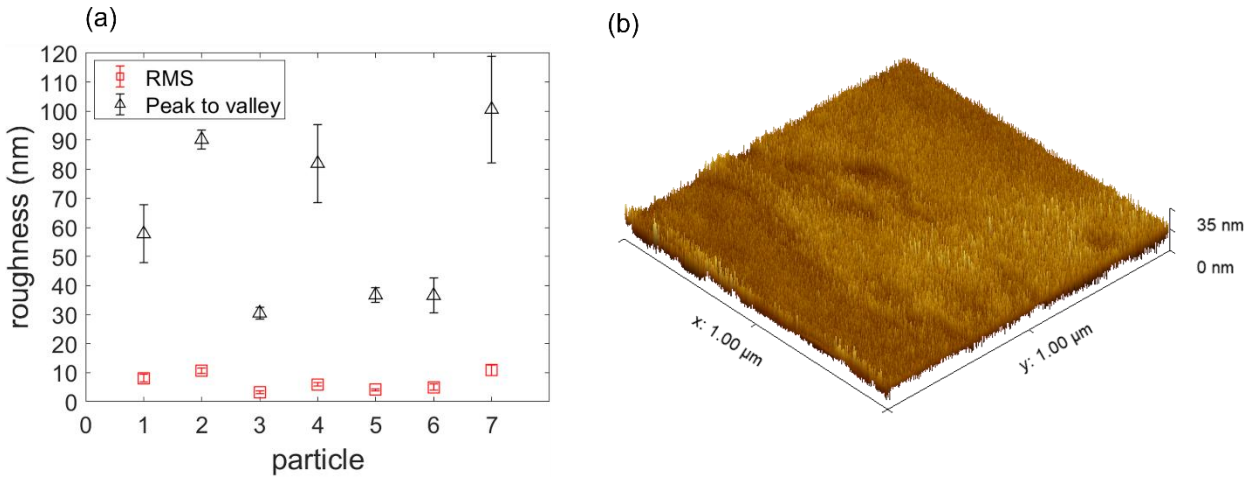

Figure S2: (a) RMS and peak-to-valley roughness of glass microspheres used as colloidal probes. (b) Example of AFM height image of surface roughness for a glass microsphere.

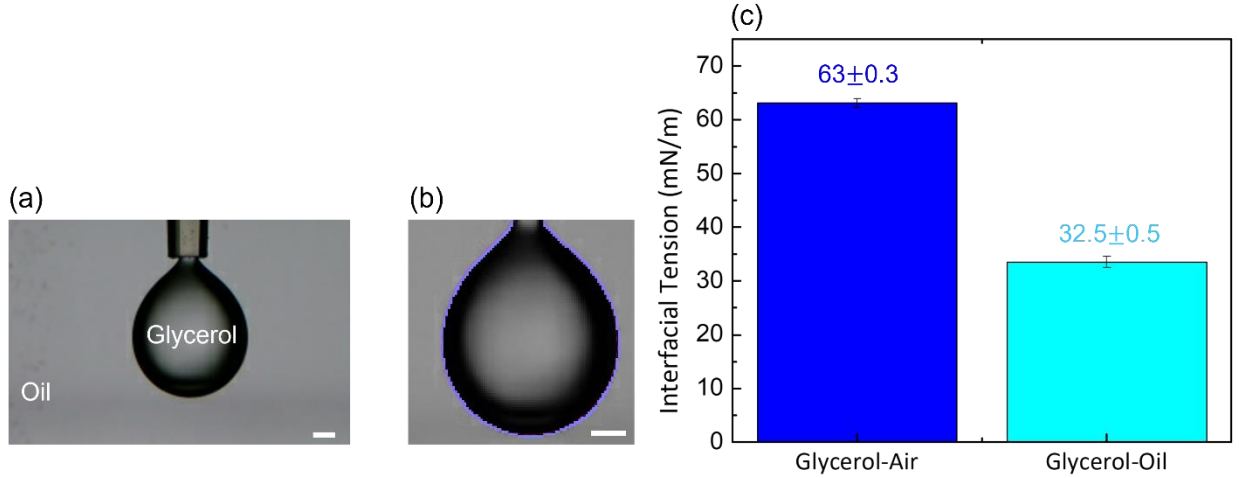

Figure S3: Measuring interfacial tension of glycerol-oil interface (scale bar: 1mm): (a) pendant drop method, (b) image analysis using OpenDrop, (c) a bar plot showing the interfacial tension of glycerol-air and glycerol-oil interface.

Description of Supplementary Movie Files

File name: Supplementary Movie 1

Description: Measuring capillary force on an untreated (hydrophilic) microparticle at a glycerol-oil interface.

File name: Supplementary Movie 2

Description: Measuring capillary force on a fluorinated (hydrophobic) microparticle at a glycerol-oil interface.