Electronic Supplementary Material (ESI) for Soft Matter.

Supporting Information

Magnetically-active Pickering Emulsions Stabilized by Hybrid Inorganic/Organic Networks

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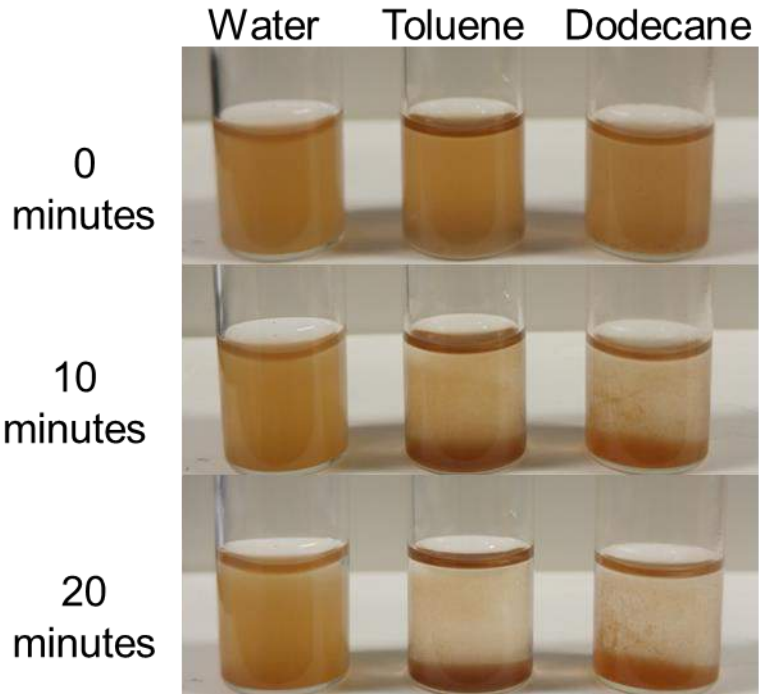

Figure S1. Pictographic representation of a suspension of MHNs in water (left), toluene (center) and dodecane (right) immediately after resuspension, and the stability of the resuspension over a period of 20 minutes.

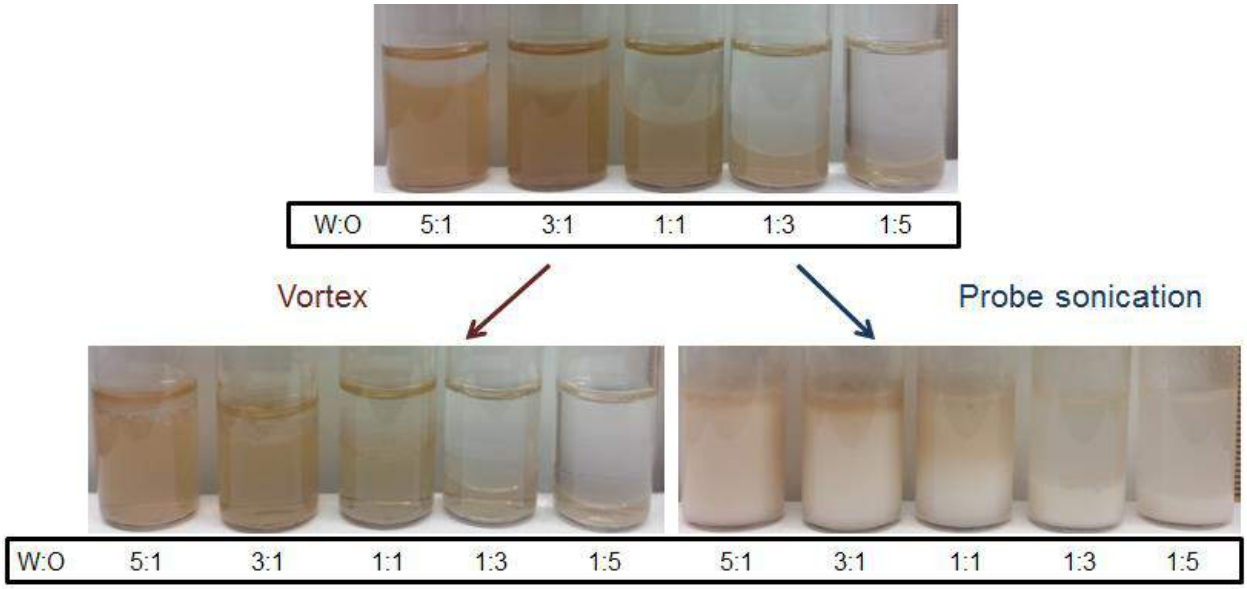

Figure S2. Dodecane-water emulsions prepared at different W : O ratios before (top) and after (bottom) emulsification *via* two different methods: Vortex (left) and probe sonication (right).

Table S1. Interfacial tension (γ) values. MHN aqueous suspension [0.5 mg/mL].

Interfacial Tension (γ)		
	Media	
Drop Solvent	**Toluene (mN/m)**	**Dodecane (mN/m)**
Distilled Water	35.4 ± 0.1	53.7 ± 0.3
Nanopure Water	31.4 ± 1.6	51.7 ± 0.6
Supernatant of MHNs	30.8 ± 0.1	51.6 ± 0.8
Suspension of MHNs	21.3 ± 2.2	51.5 ± 0.7
% Reduction in the Interfacial Tension	32.2	0

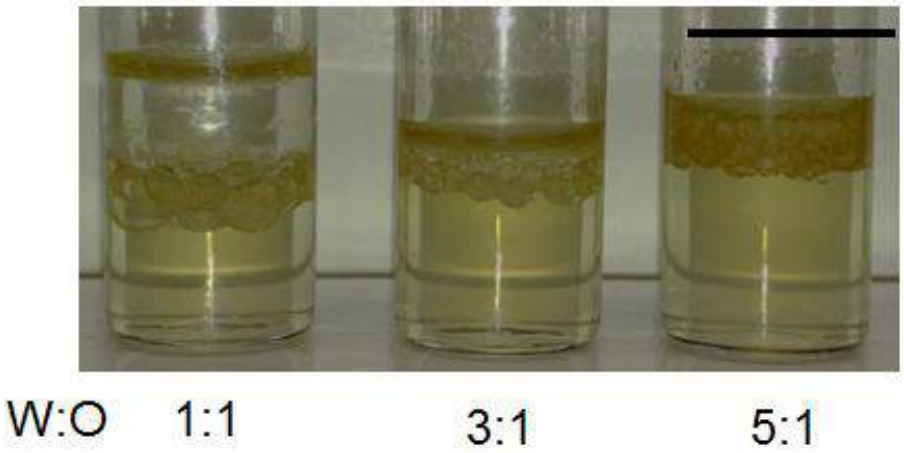

Figure S3. Pictographic representation of toluene-water emulsions prepared *via* vortex at three different W : O ratios. Scale bar = 1 inch.

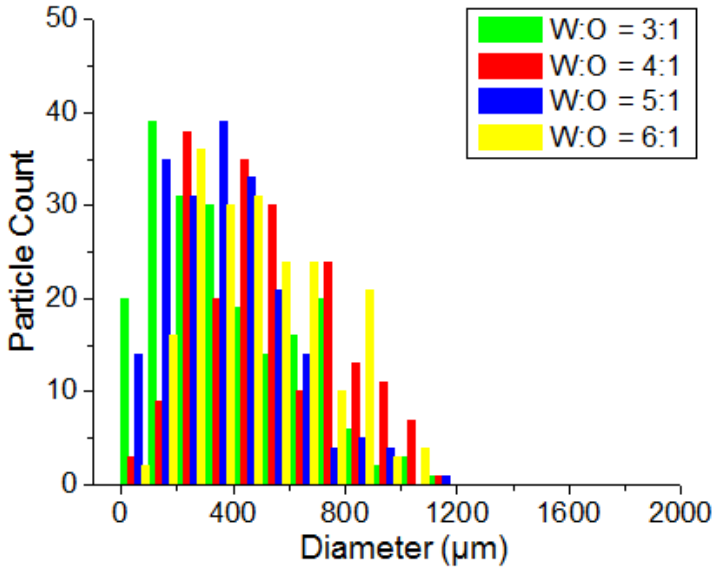

Figure S4. Histogram of the droplet size distribution of toluene-water emulsions prepared *via* probe sonication at various W : O ratios.

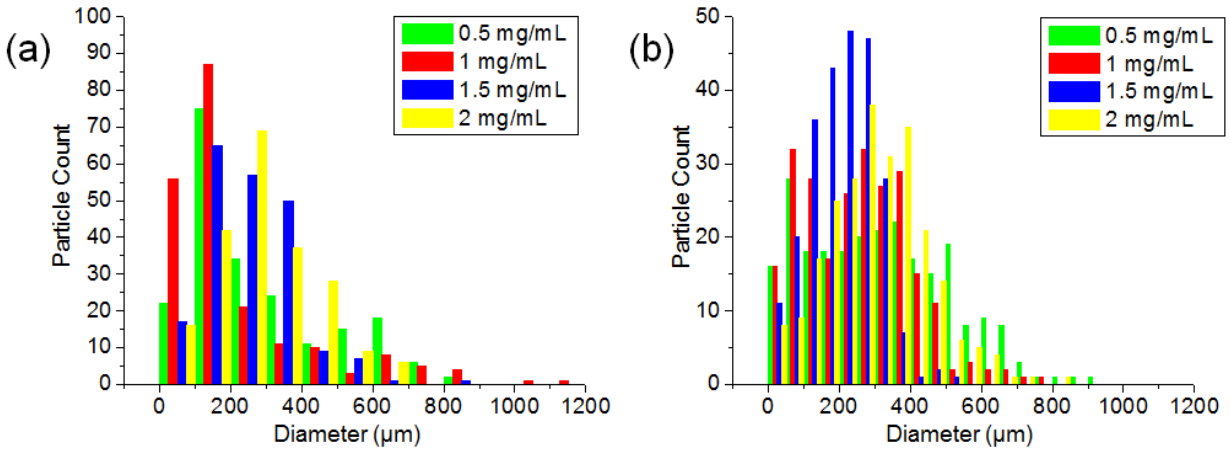

Figure S5. Histograms of the droplet size distribution of toluene-water emulsions prepared *via* vortex (a) and probe sonication (b), at a W : O = 3 : 1 and varying concentrations of MHNs.

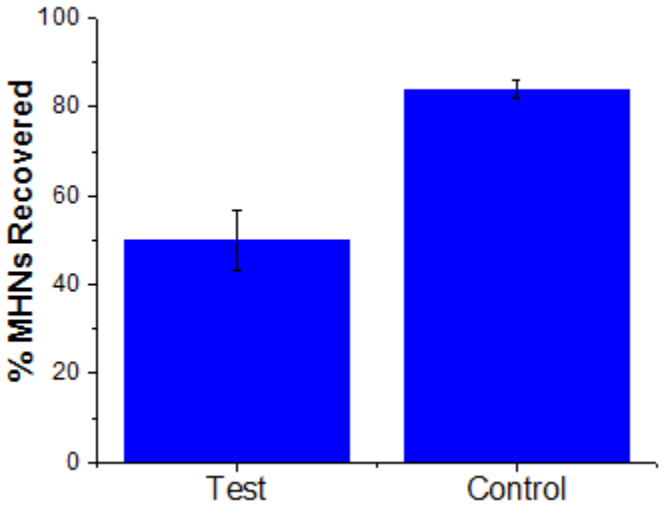

Figure S6. Recovery of MHNs after probe sonication *via* magnetic action, where the test sample was subjected to probe sonication, whereas the control sample was not.

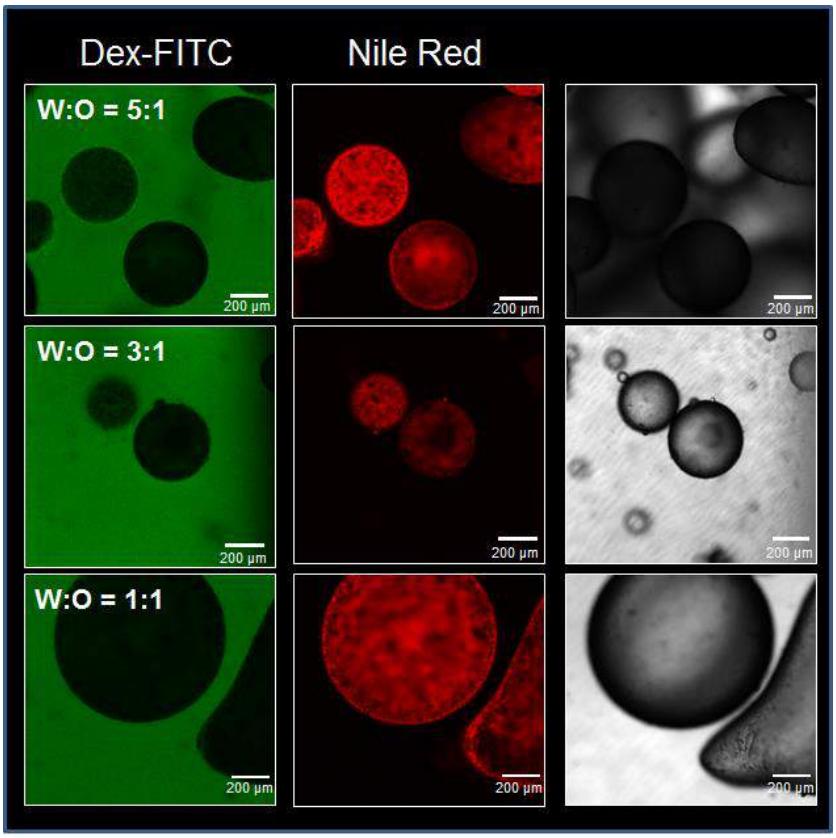

Figure S7. Confocal laser micrographs depicting the type of toluene-water emulsions formed *via* vortexing at a [MHN] = 1 mg/mL and varying W : O ratios.

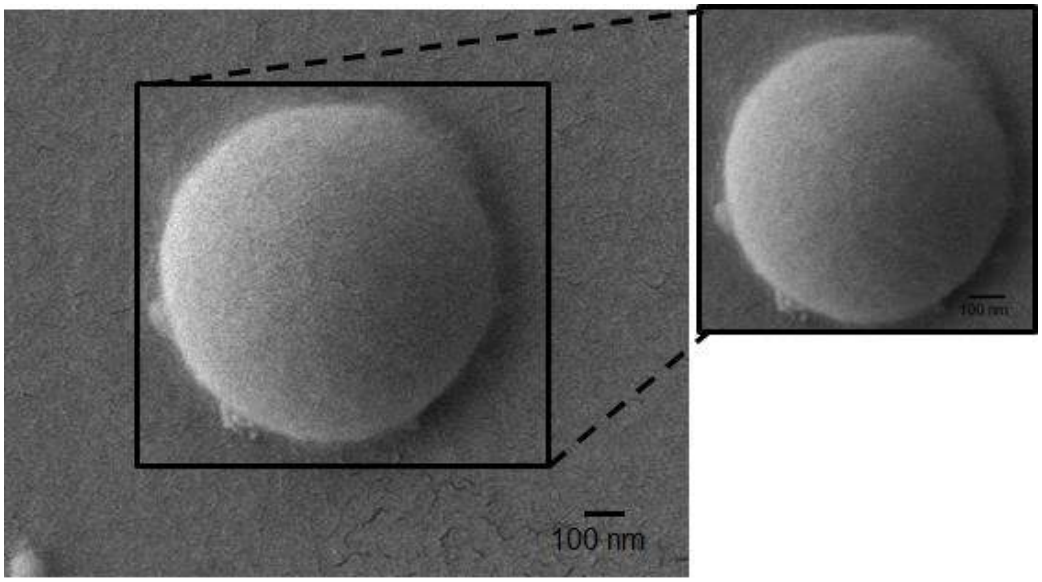

Figure S8. Scanning electron microscopy (SEM) image of polystyrene beads synthesized from the emulsion polymerization of styrene droplets stabilized by amine-IONs in water.

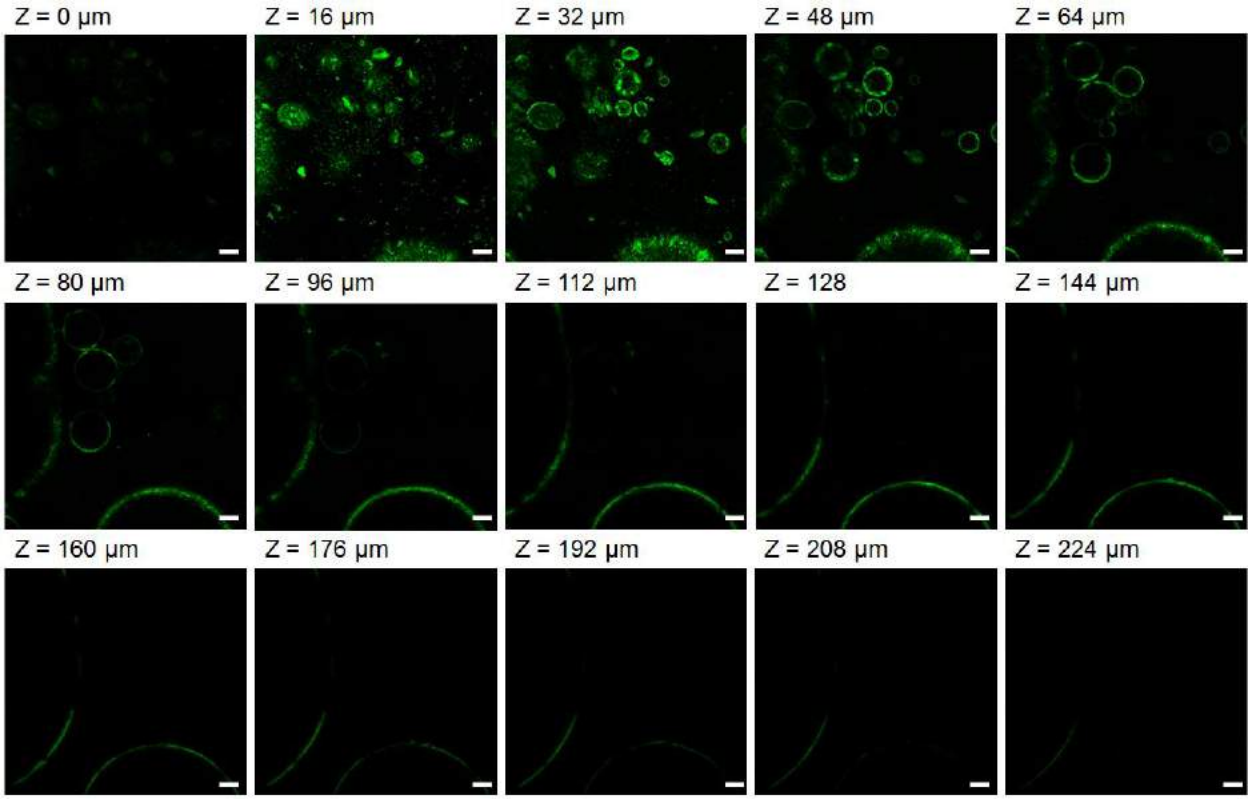

Figure S9. Confocal laser micrographs of a toluene-water emulsion formed *via* vortexing at a [FITC-MHN] = 1 mg/mL and W : O = 3 : 1, stabilized by FITC-MHNs. Images were taken at various positions along the z axis, beginning from the bottom (upper left image) and progressively moving to the top (bottom right). Scale bar = 100 µm.

Figure S10. By clicking the .mp4 file above, or on the next page, see a video of magnetically-active toluene-in-water emulsion droplets produced from MHNs in W : O at a ratio of 3 : 1.


61A