Supporting Information

Controlling the Distribution of Nanoparticles in Hydrogels via Interfacial Synthesis

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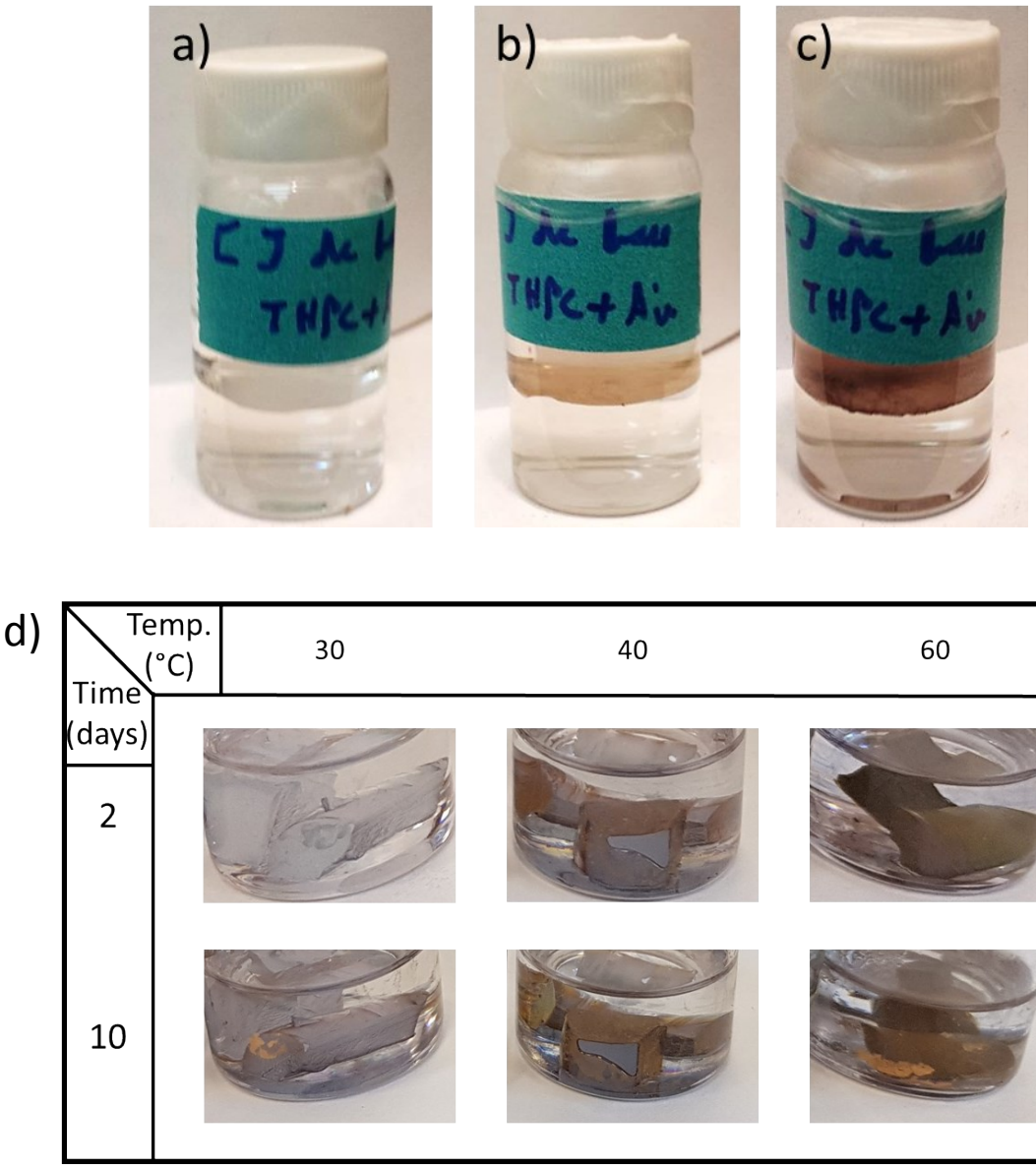

Figure S1. Au nanoparticles (AuNPs) film growth at room temperature at the water/toluene (liquid/liquid) interface (1.5 mM $Au(PPh)_3Cl$ in toluene organic solution; 2 mM THPC aqueous solution): a) right after contact between water and toluene (0 h); b) 3 h of reaction time; c) 24 h. d) AuNPs film growth at the alginate hydrogel/toluene interface (hydrogel loaded with 2 mM THPC, in contact with 1.5 mM $AuPPh_3Cl$ in toluene solution), for various reaction times and temperatures.

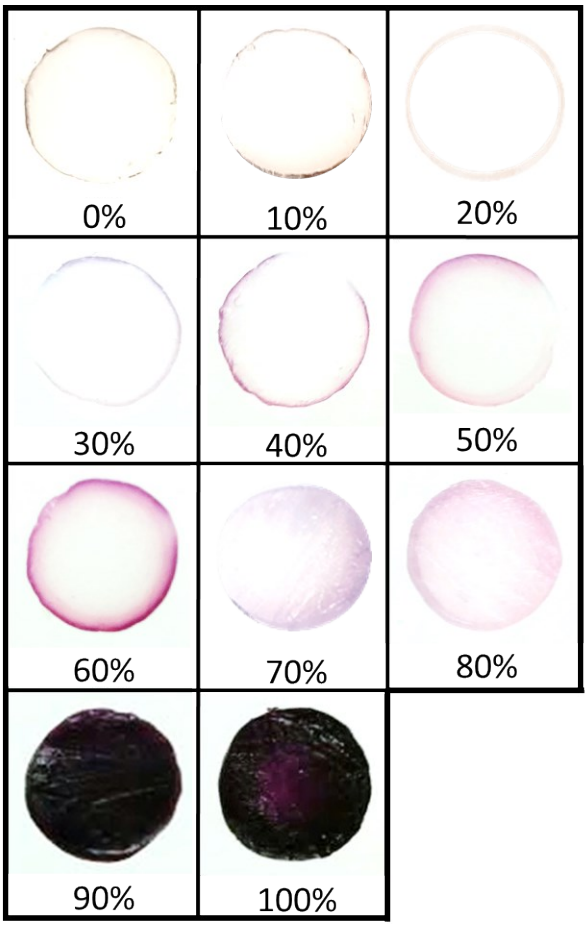

Figure S2. Cross sections of alginate/AuNPs hydrogel cylinders, prepared in toluene/acetone mixtures (synthesis time: 48 h; T = 60°C), in increasing order of acetone content (vol%).

Figure S3. Cross section of alginate/palladium NPs gel cylinder prepared in a 70/30 vol% acetonitrile/toluene solution (48 h at 60°C).

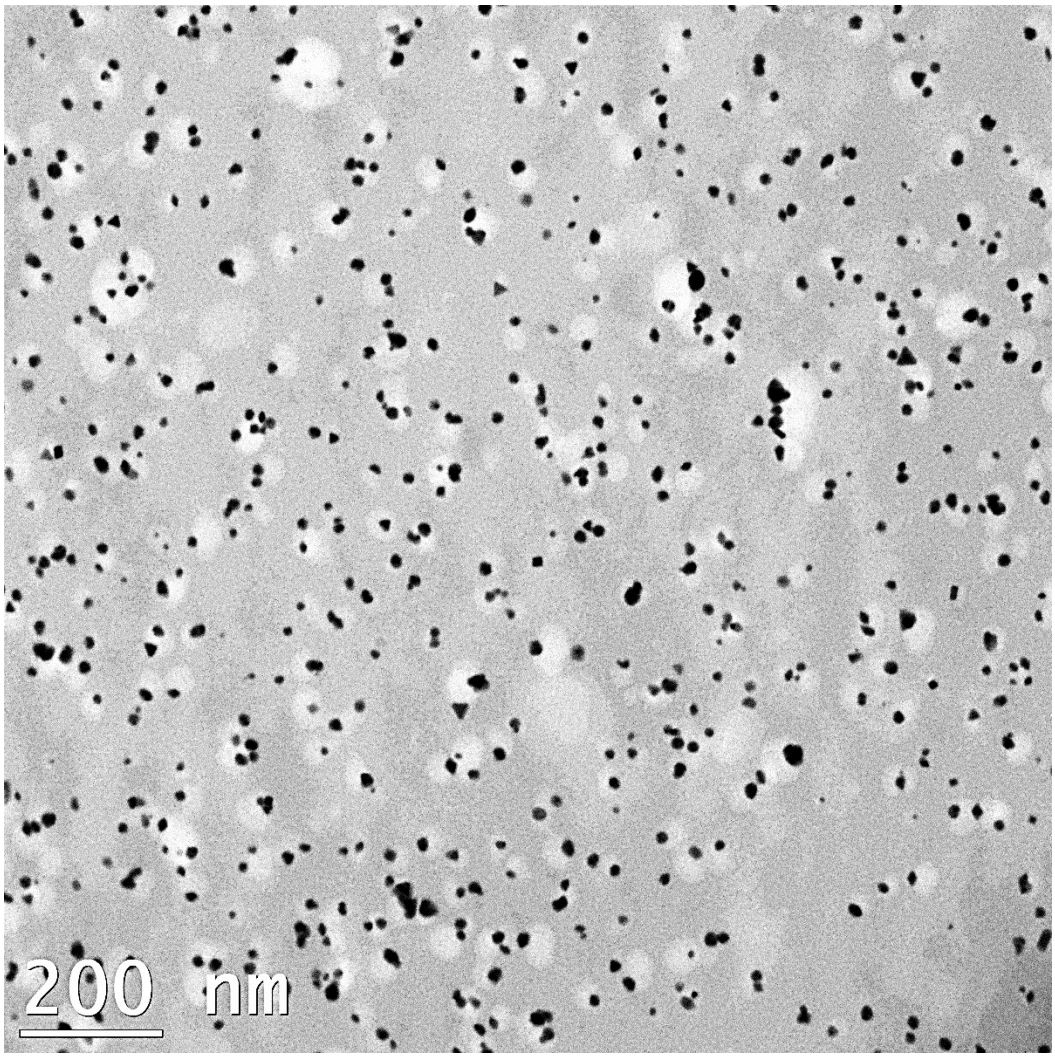

Figure S4. TEM micrograph of an ultramicrotomed gel sample, displaying a uniform distribution of AuNPs without significant aggregates (synthesised in acetonitrile, 48 h at 60°C).