Supporting Information for:

Effects of Controlling Polymer Nanostructure using Photopolymerization within Lyotropic Liquid Crystalline Templates

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Water swelling experiments

The water uptake was measured as a function of time for LLC-templated polyacrylamide hydrogels and their isotropic counterparts, obtained with various amount of reactive surfactant C12A.

**Figure S-1.** Mass percentage water content as a function of time for polyacrylamide hydrogels photopolymerized in the hexagonal LLC phase formed using varying concentrations of unreactive CTAB and polymerizable C12A surfactants. Also included is the transient water uptake of isotropic polyacrylamide controls with the same basic chemical composition of LLC templated systems. Shown are 0/50 wt % C12A/CTAB (○, phase separated), 0/0 wt % C12A/CTAB (●, isotropic), 5/45 wt % C12A/CTAB (○, phase separated), 5/0 wt % C12A/CTAB (●, isotropic), 10/40 wt % C12A/CTAB (△, hexagonal), 10/0 wt % C12A/CTAB (●, isotropic), 15/35 wt % C12A/CTAB (□, hexagonal), and 15/0 wt % C12A/CTAB (■, isotropic). CTAB surfactant was removed by solvent exchange prior to analysis. The lines are guides for the eye.