Supporting Information

Tough and Thermosensitive Poly(*N*-isopropylacrylamide)/Graphene Oxide Hydrogels with Macroscopically Oriented Liquid Crystalline Structures

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Supporting Figures

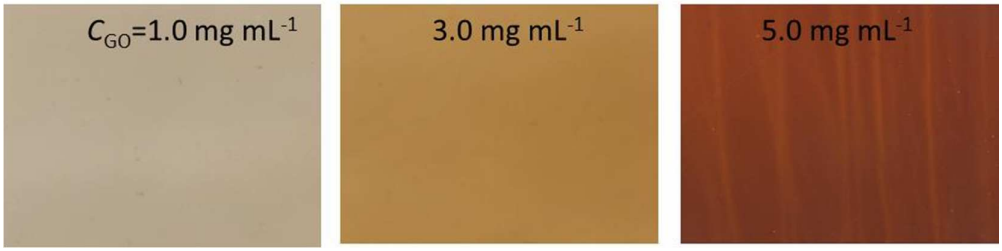

Figure S1. Photographs of PNIPAM/GO nanocomposite hydrogels with different GO concentrations.

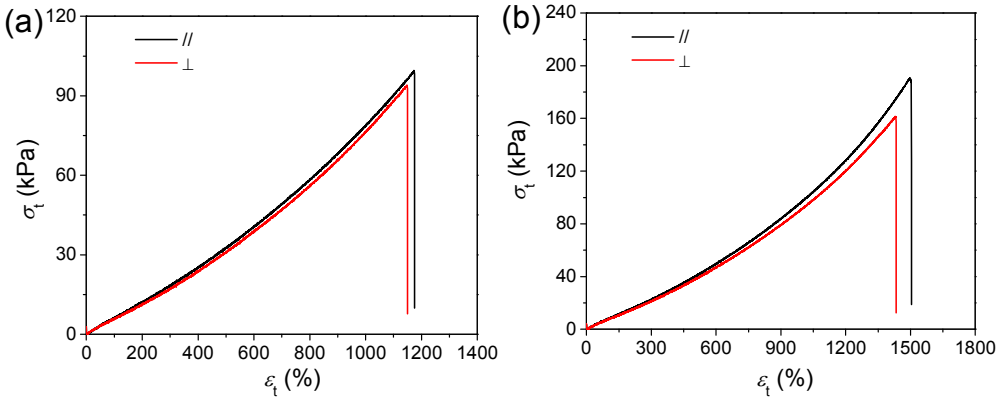

Figure S2. Tensile strain-stress curves of PNIPAM/GO hydrogels prepared with GO concentrations of 1.0 (a) and 3.0 mg mL^{-1} (b) in the directions parallel and perpendicular to flow field direction.

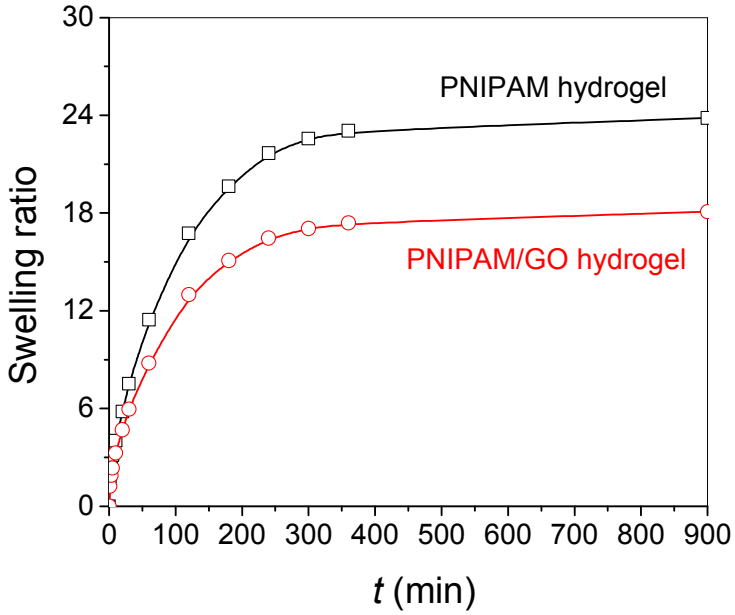

Figure S3. The swelling curves of the PNIPAM gel and the PNIPAM/GO gel (C_{GO}= 5.0 mg mL^{-1}) at 20°C.

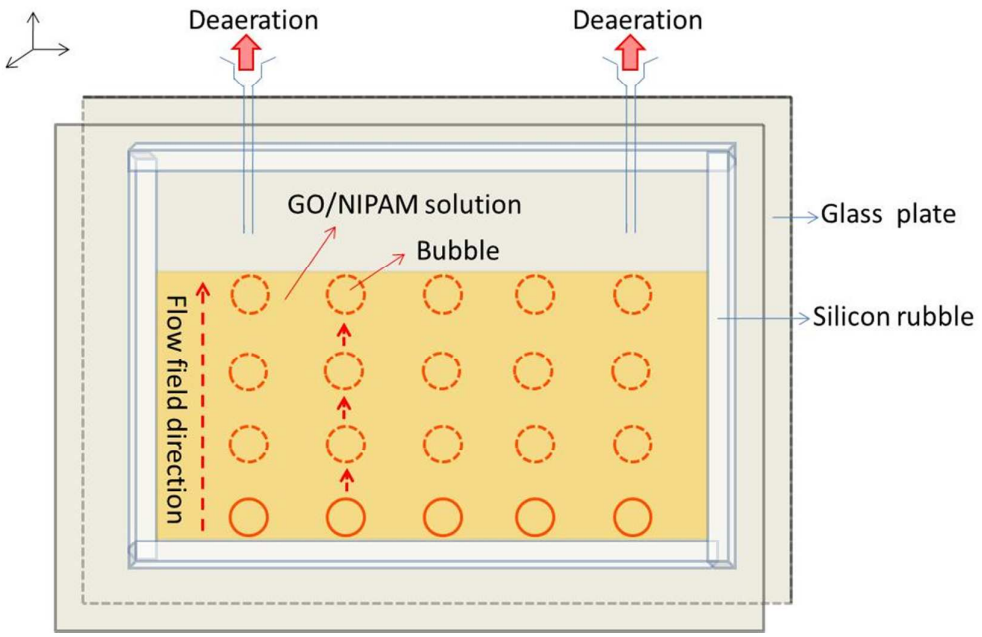

Figure S4. Schematic diagram of preparation of PNIPAM/GO nanocomposite hydrogels.

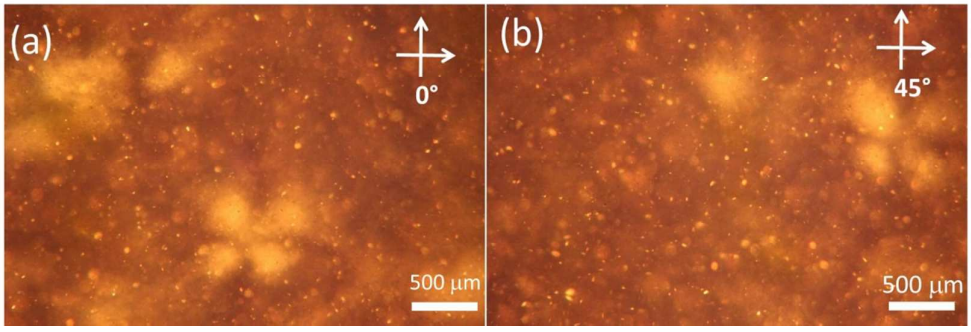

Figure S5. Crossed POM images of the PNIPAM/GO hydrogel (C_{GO}= 5.0 mg mL^{-1}) prepared without degassing process at the rotation angles of 0° (a) and 45° (b).

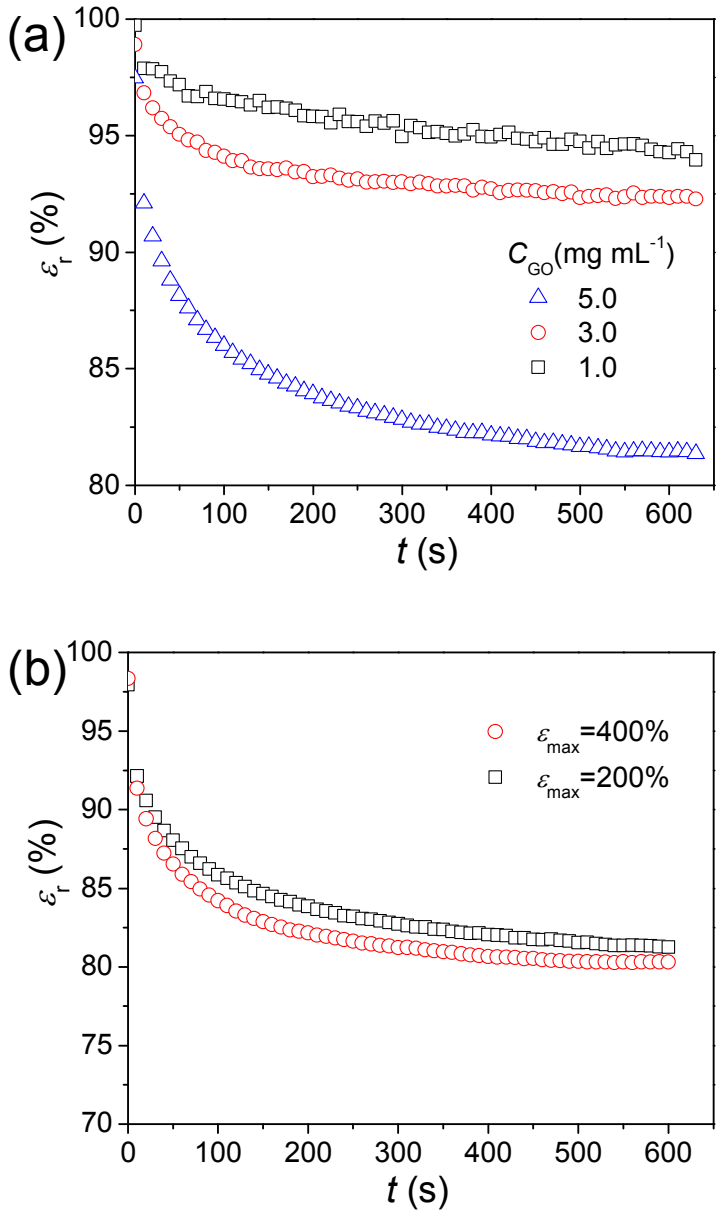

Figure S6. (a) Stress relaxation curves of the PNIPAM/GO hydrogels prepared with different GO concentrations elongated to the maximum strain (ε_{max}) of 200%, and (b) those for the PNIPAM/GO hydrogel (C_{GO}= 5.0 mg mL^{-1}) elongated to different ε_{max}. ε_r is defined as the ratio of remaining stress at time (t) (σ_t) to the original stress (σ_0) at a given ε_{max} [$100\times(\sigma_t/\sigma_0)$ (%)].

Supporting Movies

Movie S1. Very fast real time reversible LC behavior under laser irradiation (532 nm, 5 mW).

Movie S2. The real time thermoresponsive and reversible LC behavior in the elongated gel.

Movie S3. Rotation of the dried elongated gel under polarized light.