

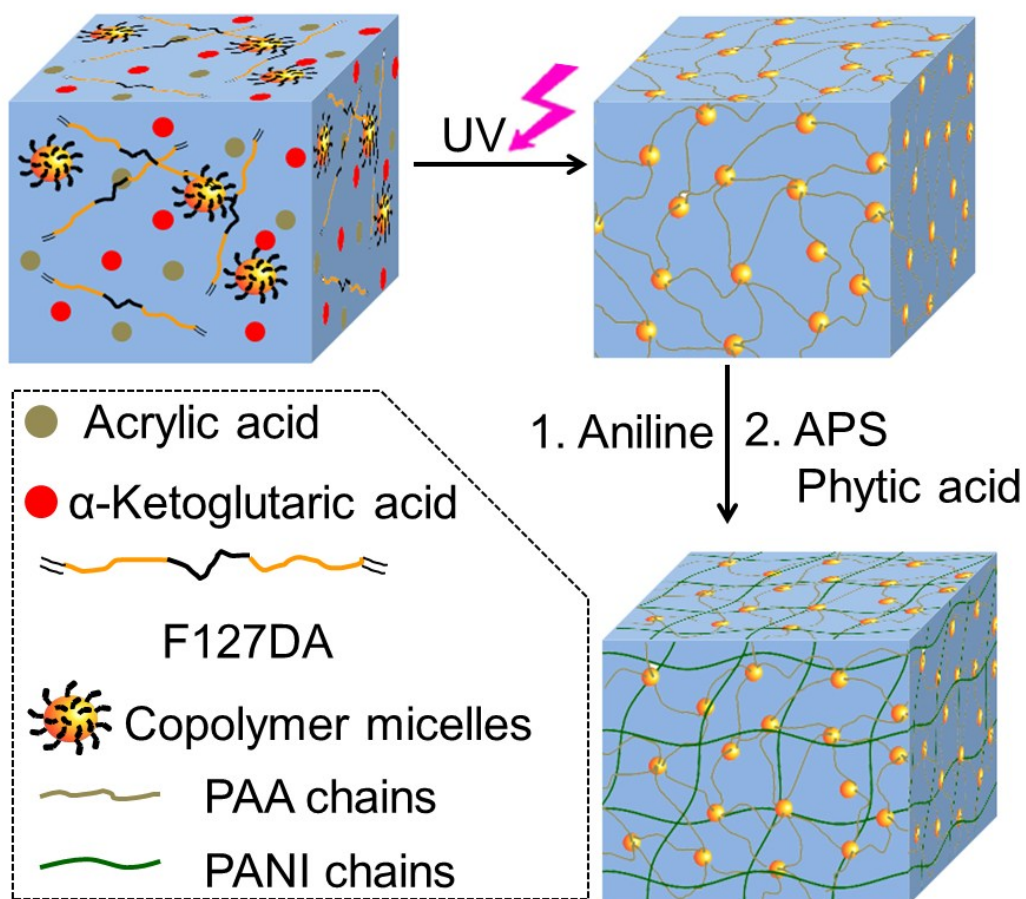
Supporting Information for

Extremely Stretchable and Electrically Conductive Hydrogels with Dually Synergistic Network for Wearable Strain Sensors

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Scheme S1. Illustration of the two-step approach to PAA/PANI hydrogels.

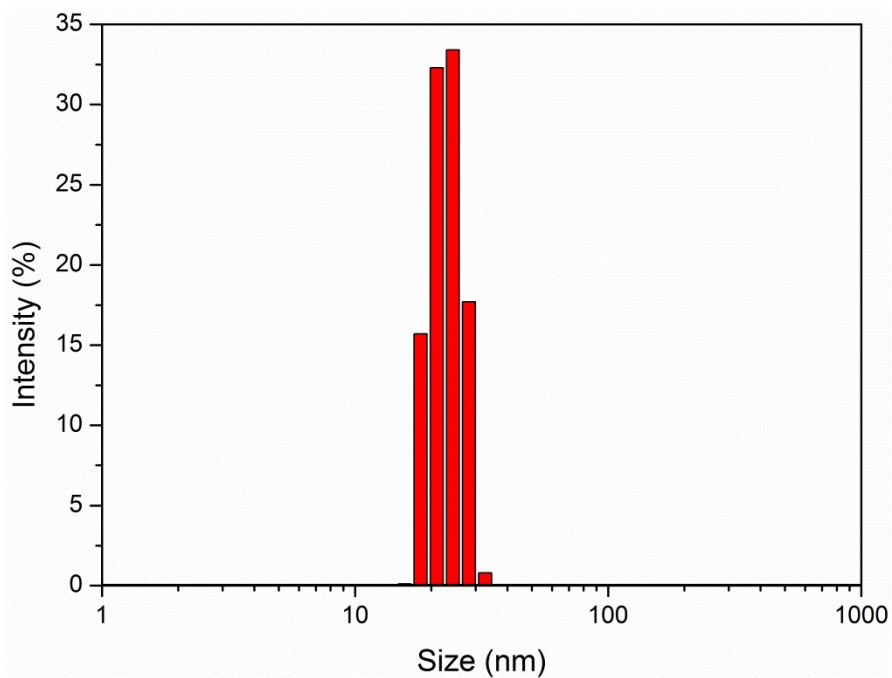


Figure S1. The size distribution of F127DA micelles measured by dynamic light scattering (DLS).

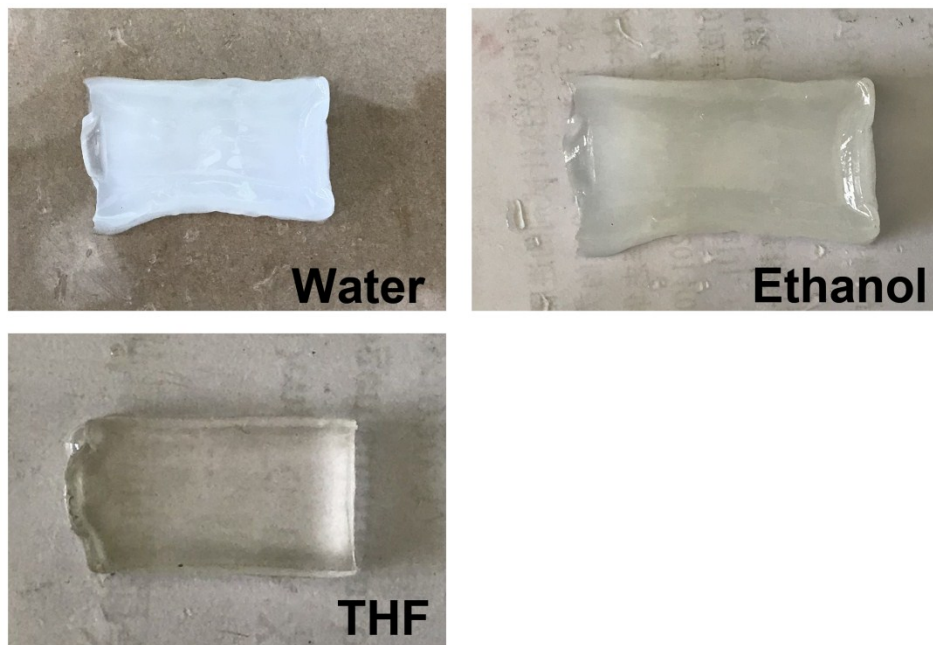


Figure S2. Photographs of PAA hydrogels in water, ethanol and THF.

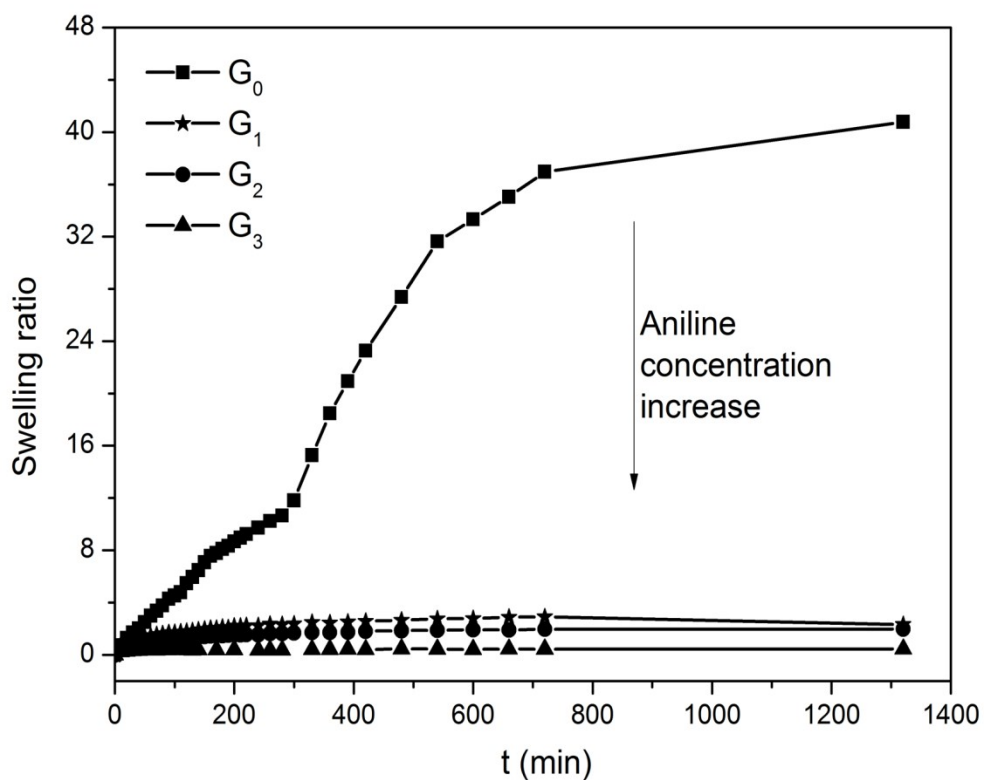
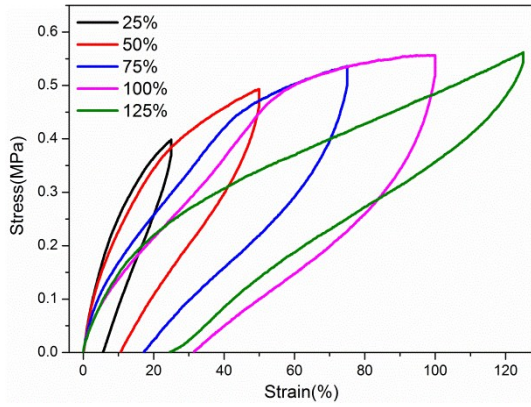
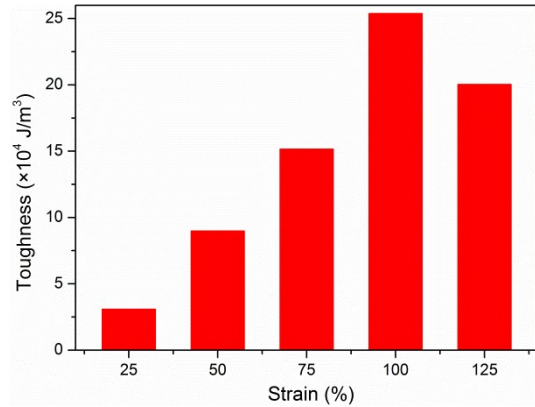


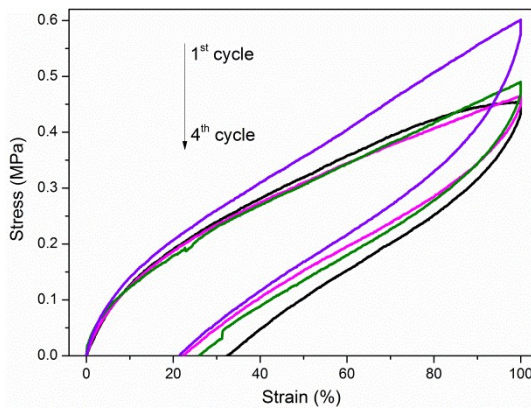
Figure S3. Swelling behaviors of dried PAA hydrogel and PAA/PANI hydrogels prepared under different initial concentration of aniline.



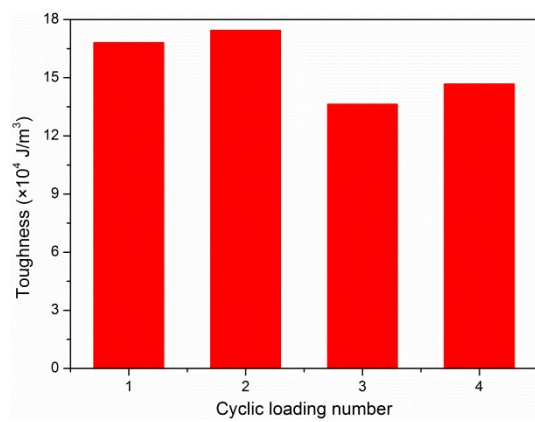
(a)



(b)



(c)



(d)

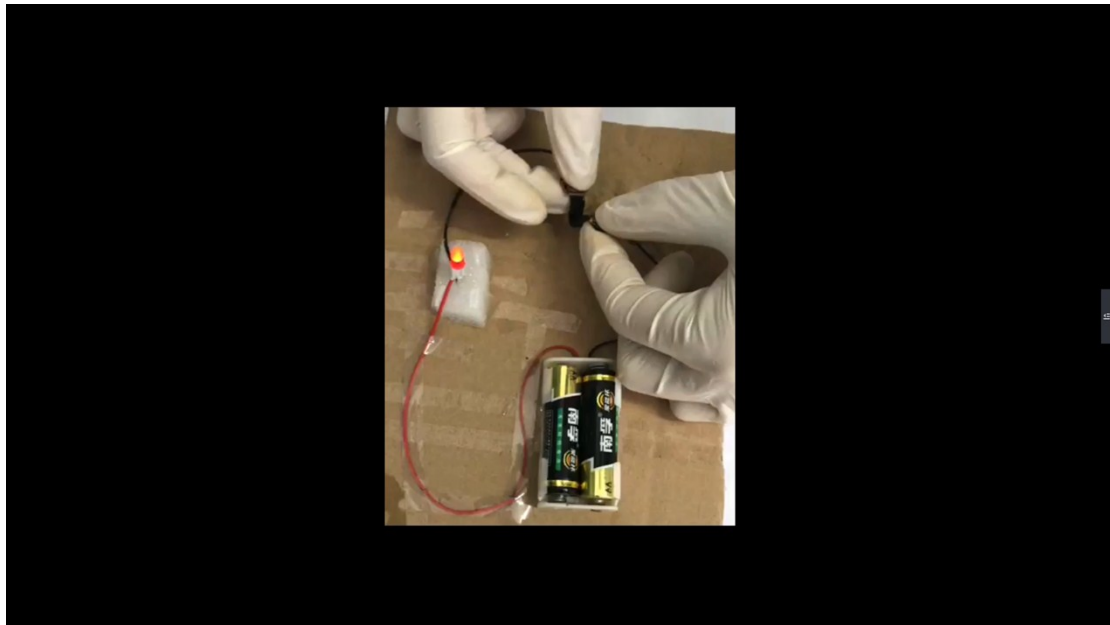
Figure S4. (a) Tensile loading–unloading curves of G2 at different strains (25%, 50%, 75%, 100%, and 125%). (b) The calculated energy dissipation in (a). (c) Tensile loading–unloading curves of G2 at a constant strain of 100%. (d) The calculated energy dissipation in (c).



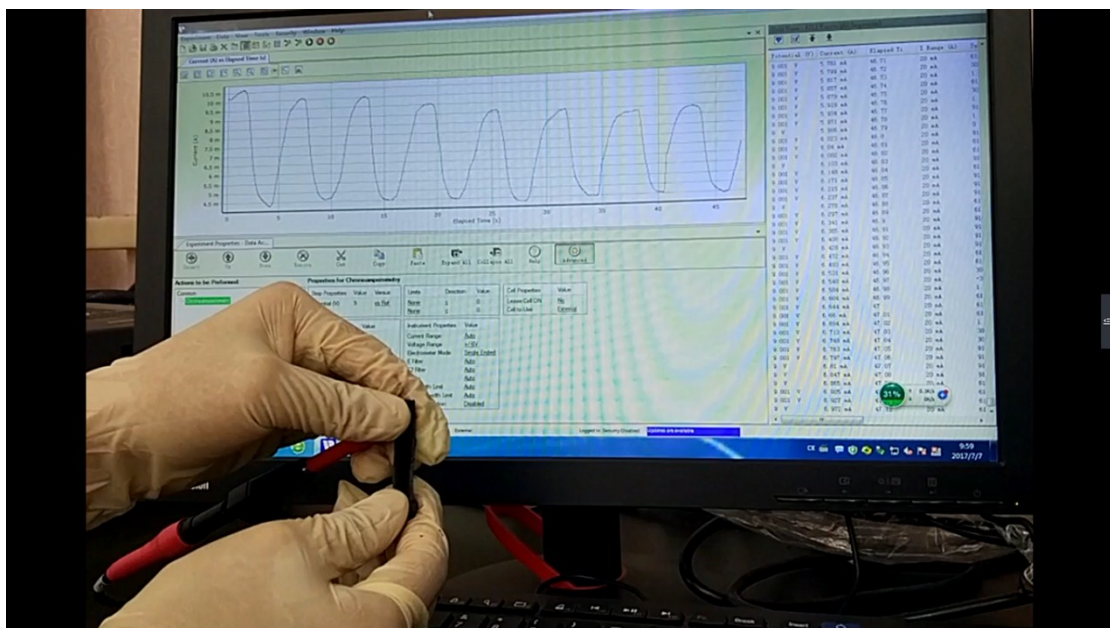
Video S1. This video displays the resilience process of G1 in one cyclic stretch.



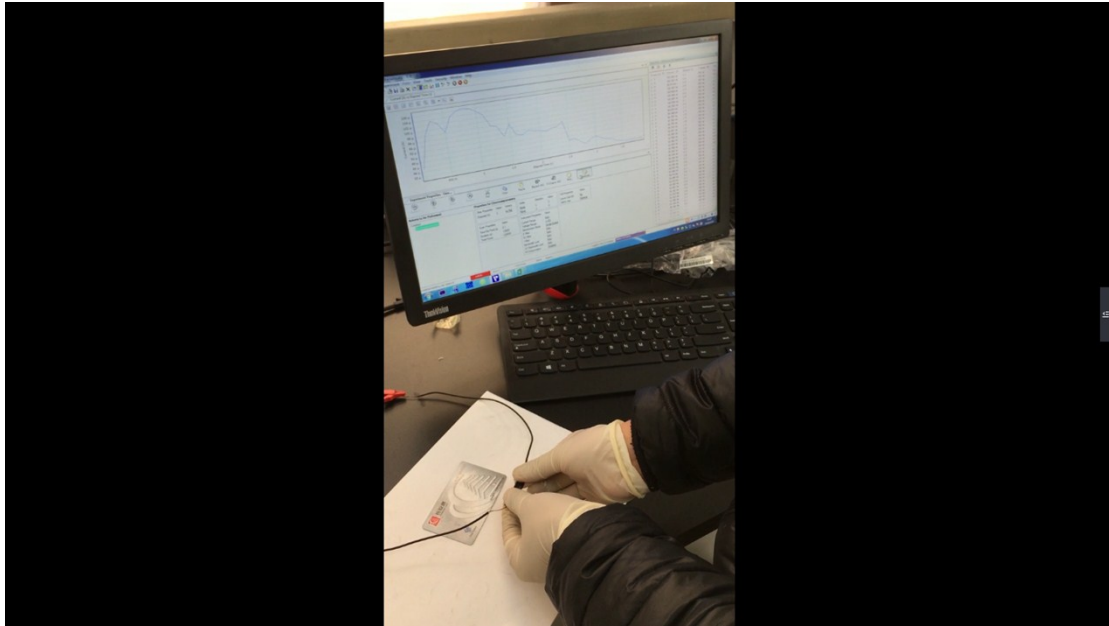
Video S2. This video displays the resilience process of G1 after five cyclic stretch.



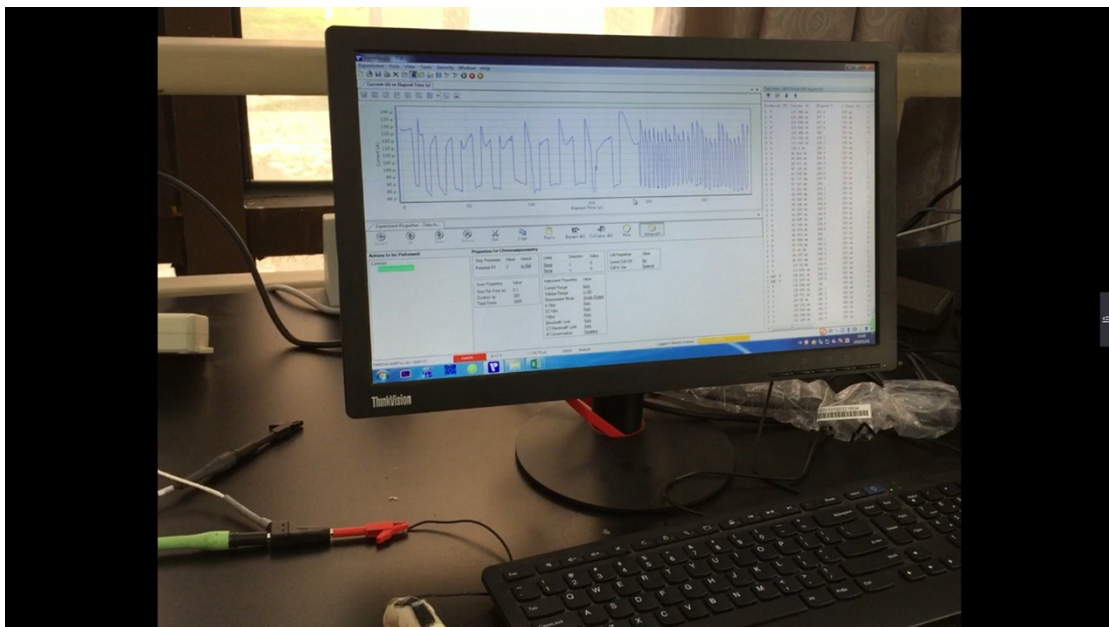
Video S3. This video displays the brightness change of LED connected into a circuit when the PAA/PANI hydrogel strip is periodically stretched.



Video S4. This video displays the periodical variation of current signal induced by uniaxial tensile deformation of strain sensor.



Video S5. This video displays the current signal variation induced by gradual uniaxial tensile deformation of strain sensor. Speed up: 4X.



Video S6. This video displays the periodical variation of current signal induced by bending motion of index finger.