

Supporting Information

**A Fingerprintable Hydrogel from Dual Reversible Cross-linking Networks with Different Relaxation Time**

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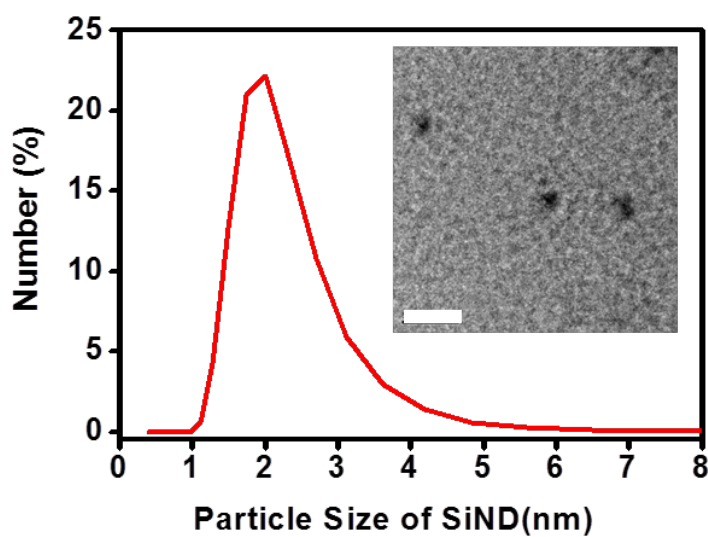
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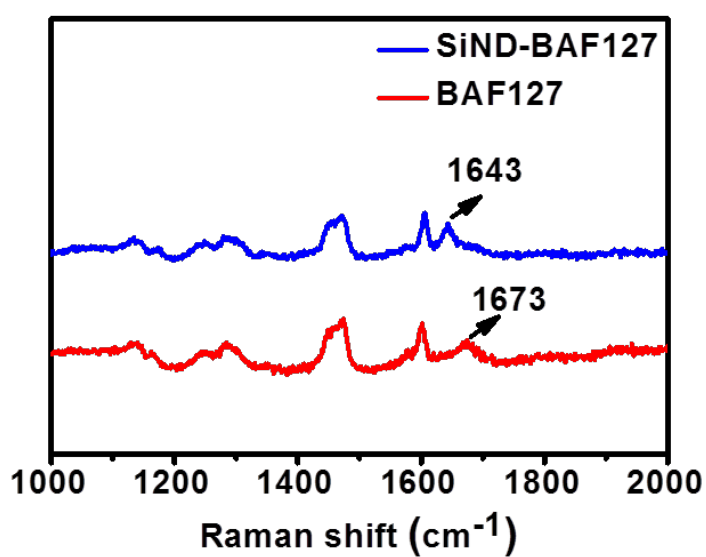
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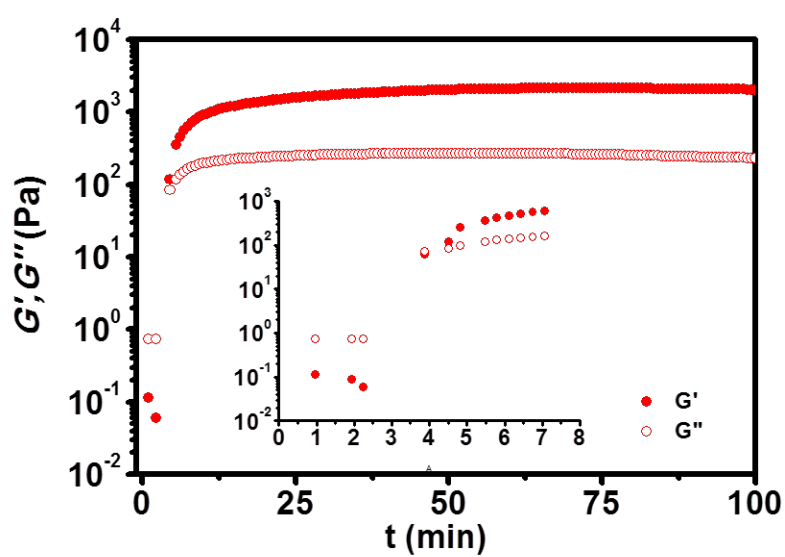
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**Figure S1.** Transmission electron microscopy (TEM) image of silica nanodots (SiND) and particle size distribution of 0.1 wt% SiND in ethanol recorded by dynamic light scattering (DLS). Scale bars: 50 nm.



**Figure S2.** Raman spectra of BAF127 and hydrogel consisting of 19 wt% BAF127 and 1 wt% SiND was obtained at pH=12 (Gel<sub>12</sub>).



**Figure S3.** Storage modulus ( $G'$ ) and loss modulus ( $G''$ ) of Gel<sub>12</sub> as a function of incubation time at a strain = 5 %, frequency = 1 rad/s, and  $T = 5\text{ }^{\circ}\text{C}$ .