

## Electronic Supplementary Material

### Nanostructured ionic hydrogel with integrated conductivity, stretchability and thermal responsiveness for high-performance strain and temperature sensor

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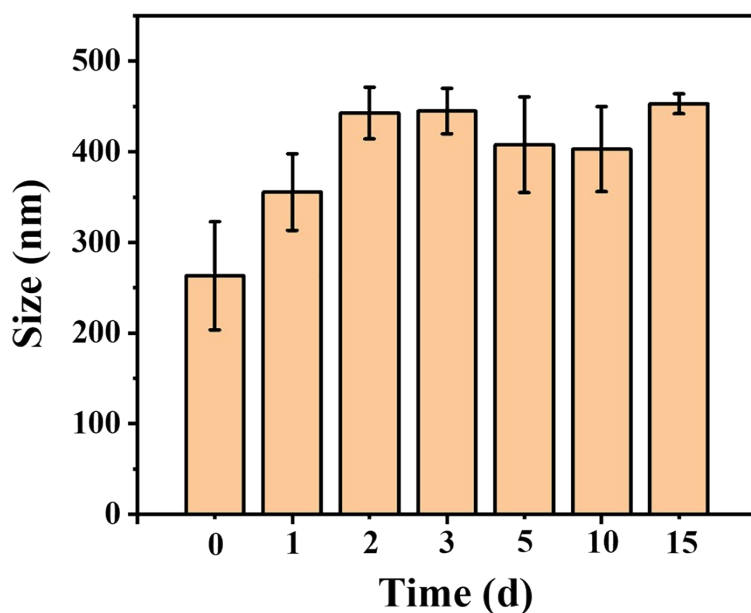
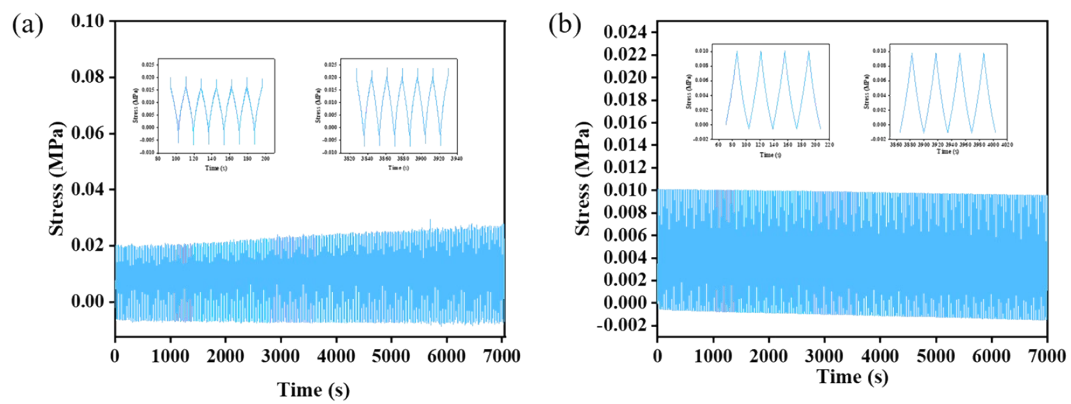


Fig.S1. The average change in the hydrated size of the PNI NG-5:1 sample within half a month.



**Fig. S2.** (a) 500 consecutive tensile cycles of PNI NG@PSI-100 hydrogel under 100% strain and (b) 500 consecutive compressive loading-unloading cycles at a maximum strain of 50%.