Supporting Information

Flexible wearable sensor based on anti-swelling conductive hydrogel for underwater motion posture visualization assisted by deep learning

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Figure captions

Figure S1. (a) Loading/unloading curves of hydrogel at 100% tensile strain for 30 consecutive cycles. (b) Cyclic loading/unloading energy dissipation at 100% tensile strain. (c) Loading/unloading curves of hydrogel at 50% compressive strain for 30 consecutive cycles. (d) Loading/unloading energy dissipation at 50% compressive strain.

Figure S2. (a) Ionic conductivity of hydrogels with different SBMA contents. (b) Electrochemical impedance spectroscopy (EIS) of hydrogels with different SBMA contents.

Figure S3. Repeated response curves of PABC strain sensor under different strains.

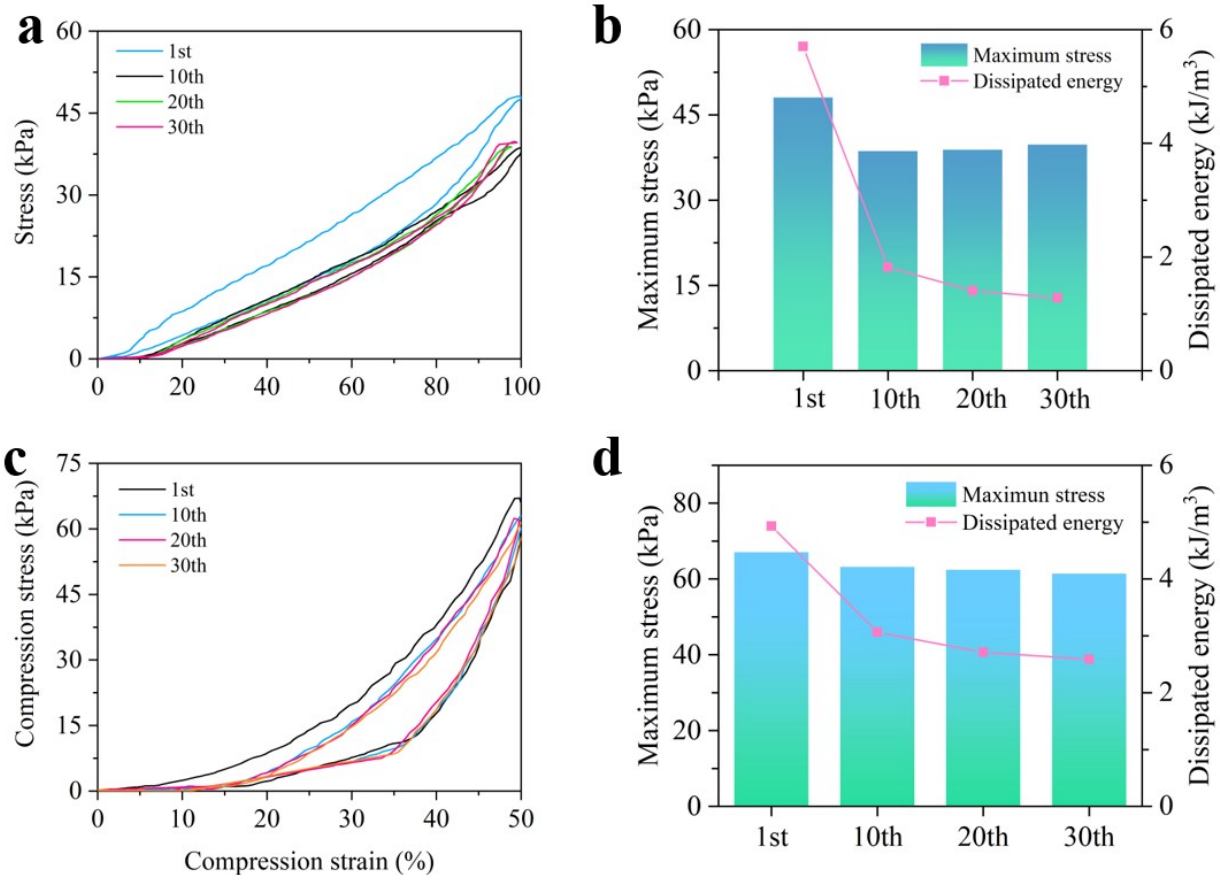
Figure S4. Schematic diagram of the effect of hydrogel stretching on the brightness variation of LED bulbs.

Figure S5. Brightness change of LED bulb after cutting and self-healing hydrogel connected to a circuit.

Figure S6. (a) Loading/unloading curves of hydrogels immersed for five days at 100% tensile strain for 30 consecutive cycles. (b) Tensile release response curves of hydrogels in the 0-100% strain range after five days of immersion.

Supporting Movie

Movie 1. Real-time wireless sensing testing of PABC hydrogel sensors in air and underwater environments.



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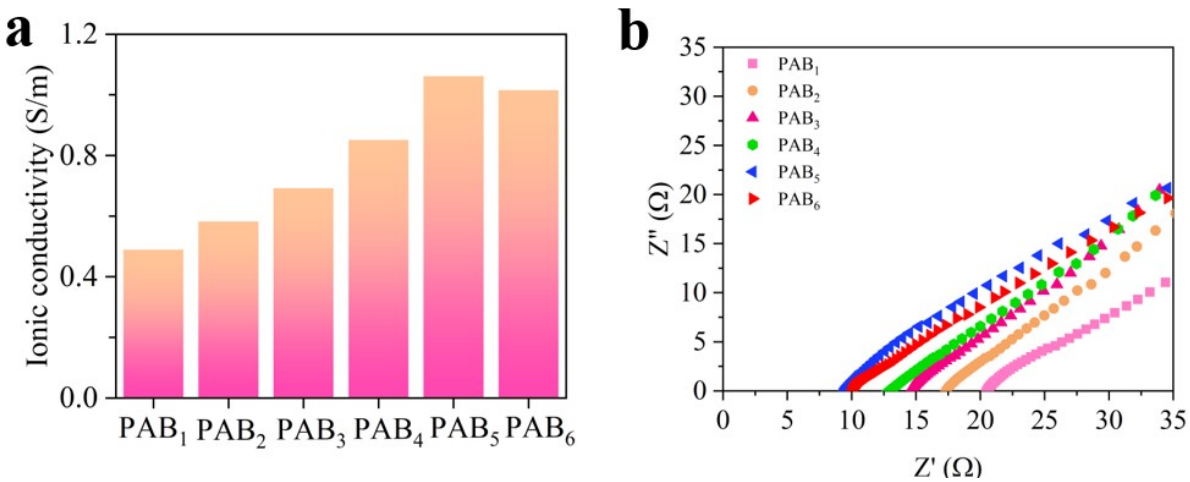

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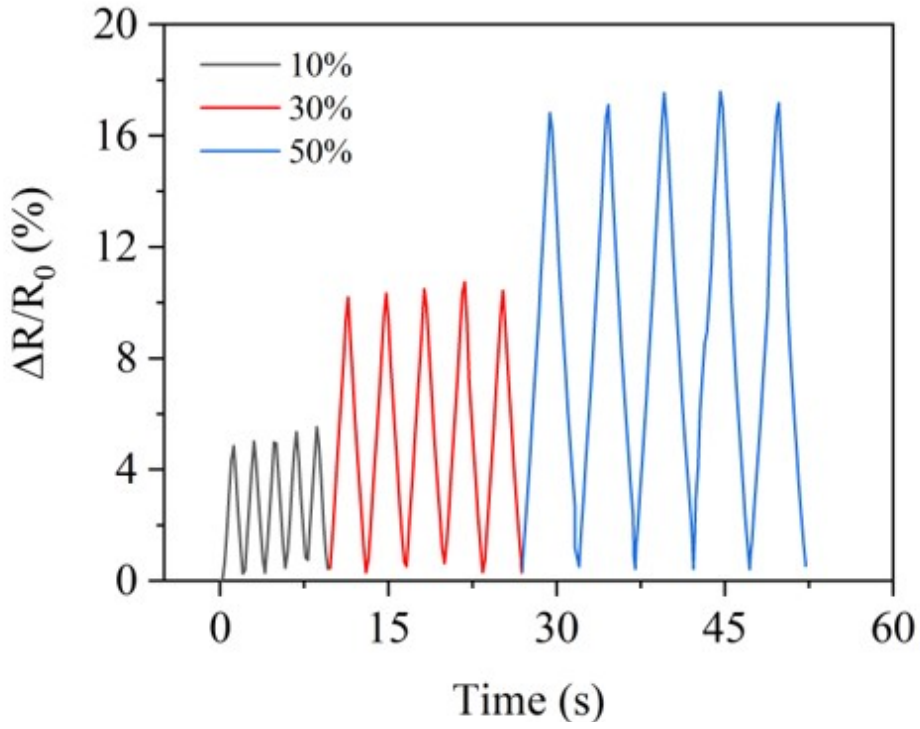

Figure S3. Repeated response curves of PABC strain sensor under different strains.

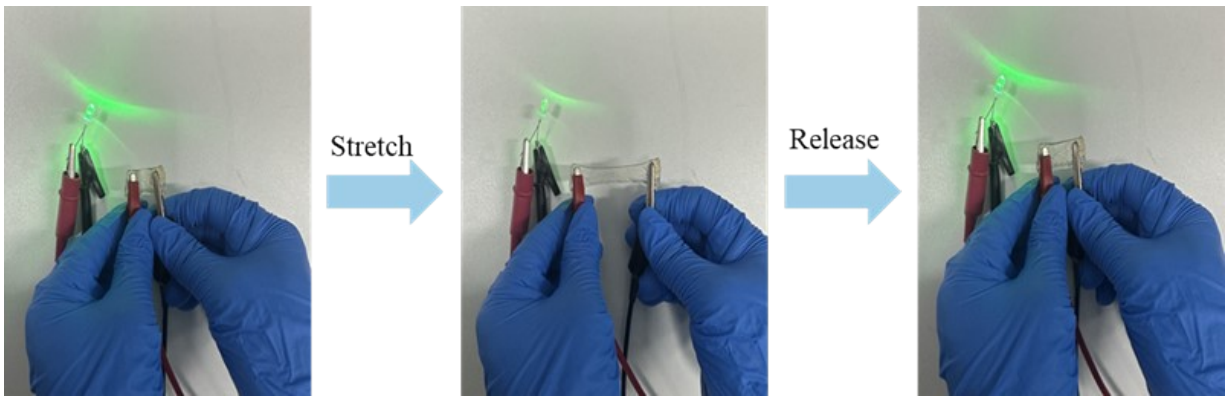

Figure S4. Schematic diagram of the effect of hydrogel stretching on the brightness variation of LED bulbs.

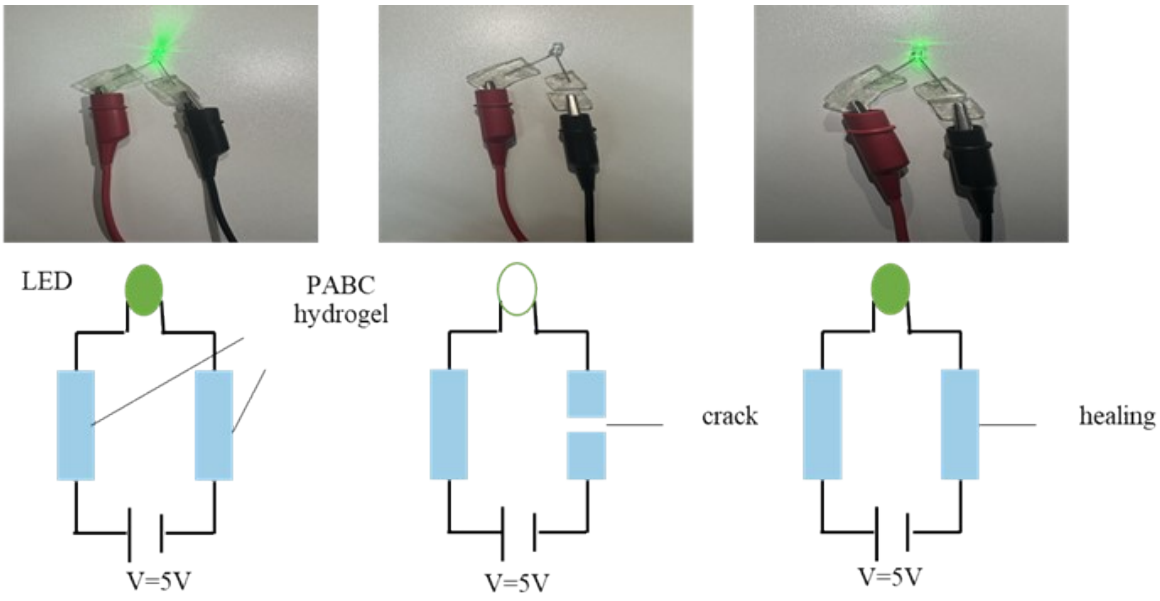

Figure S5. Brightness change of LED bulb after cutting and self-healing hydrogel connected to a circuit.

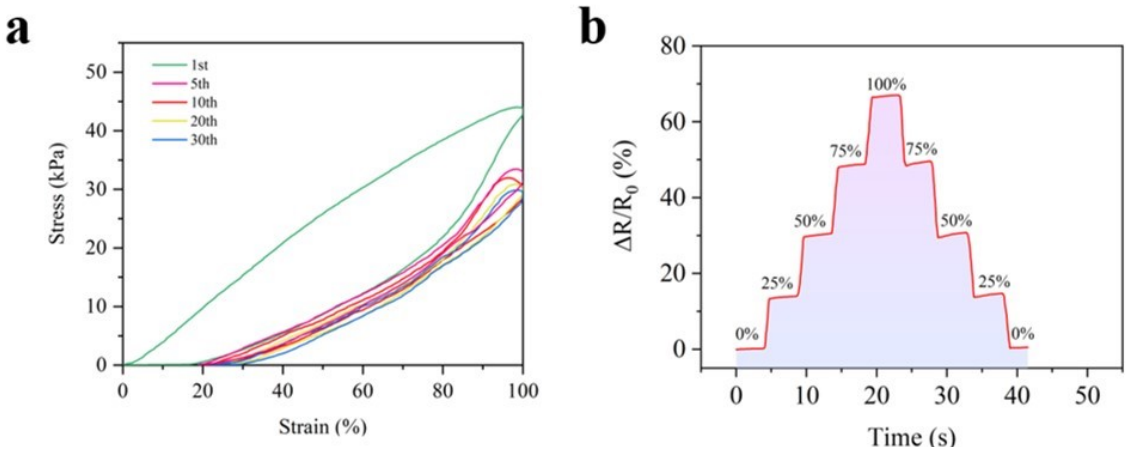

Figure S6. (a) Loading/unloading curves of hydrogels immersed for five days at 100% tensile strain for 30 consecutive cycles. (b) Tensile release response curves of hydrogels in the 0-100% strain range after five days of immersion.