Supporting information

Dopamine Induced Multiple Bonding in Hyaluronic Acid Network to Construct Particle-free Conductive Hydrogel for Reliable Electro-biosensing

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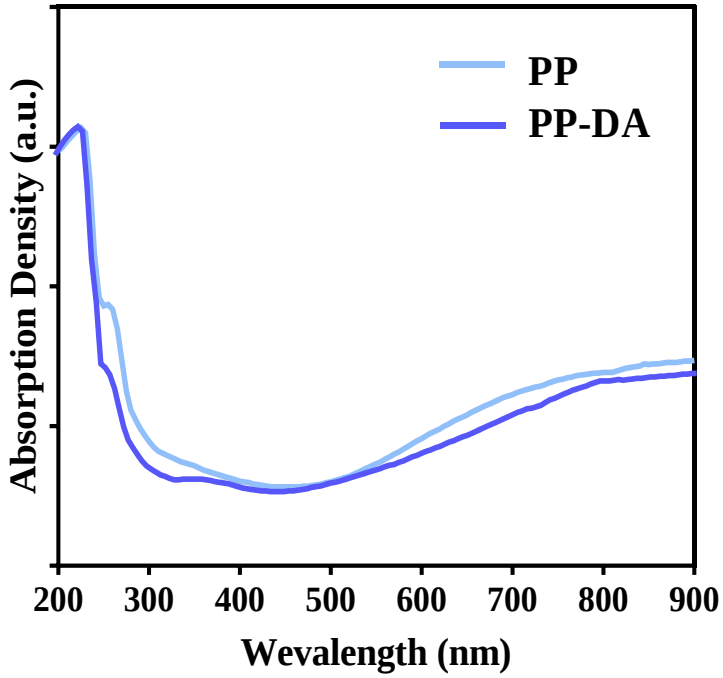


Figure S1. UV-vis absorption spectra of PP and PP-DA.

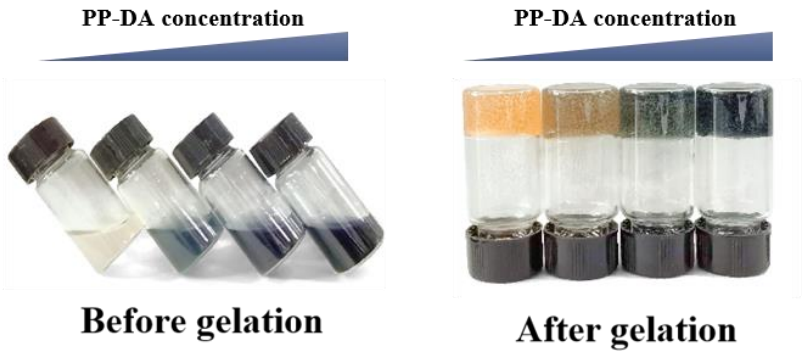


Figure S2. Images of HA-DA-PP hydrogels with different PP-DA concentrations (0, 0.25, 0.5 and 1 mg/mL, respectively) before and after gelation.

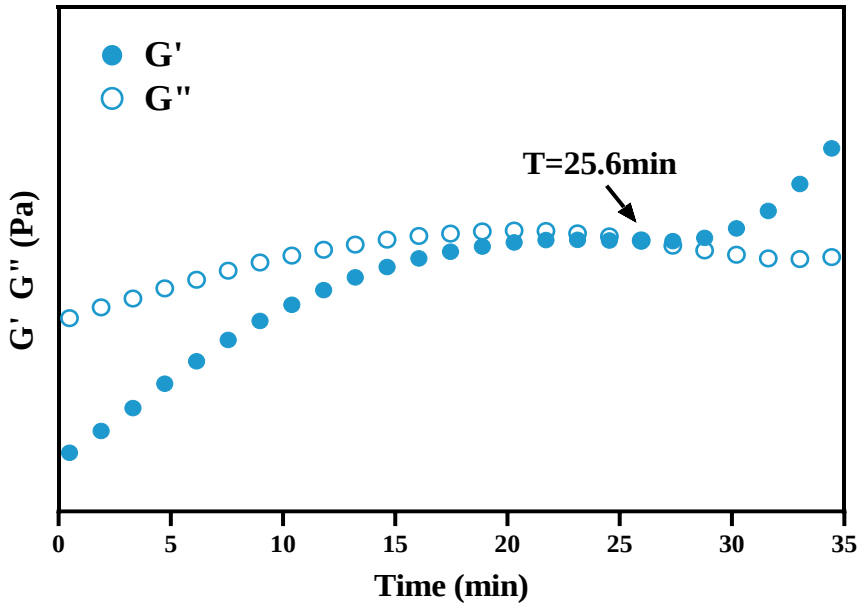


Figure S3. Rheological behavior of HA-DA@PP0.5 hydrogel.

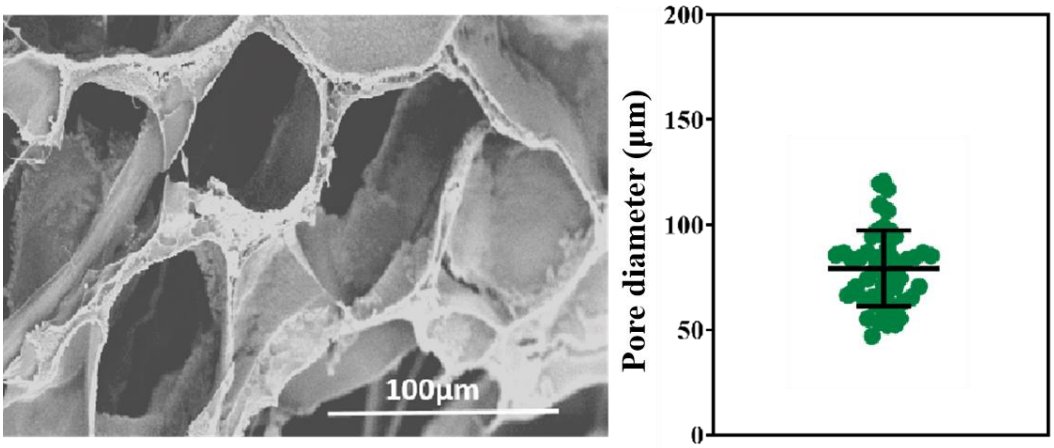


Figure S4. SEM image and pore size distribution of HA-DA@PP0.5 hydrogel.

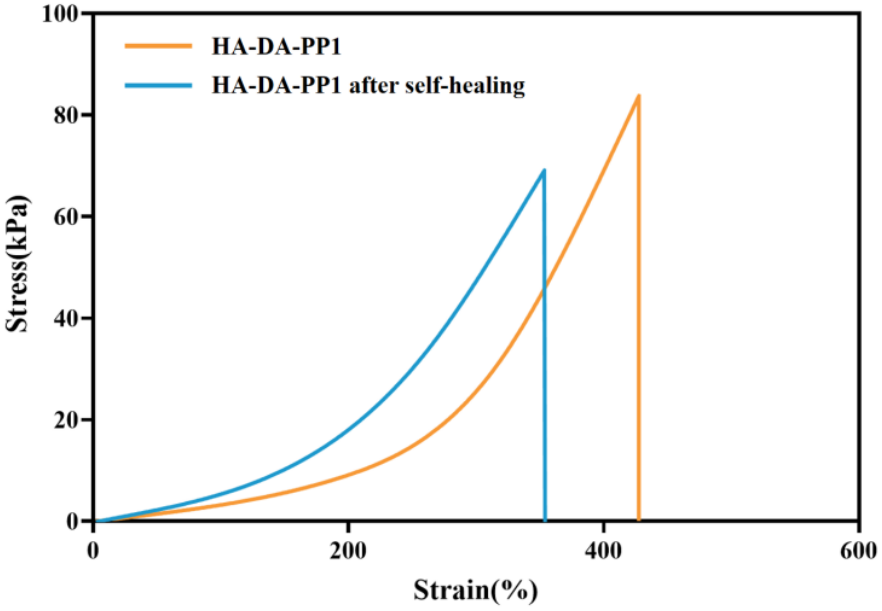


Figure S5. The stress-strain curves of HA-DA-PP1 hydrogel after self-healing and original hydrogel under tensile mode.

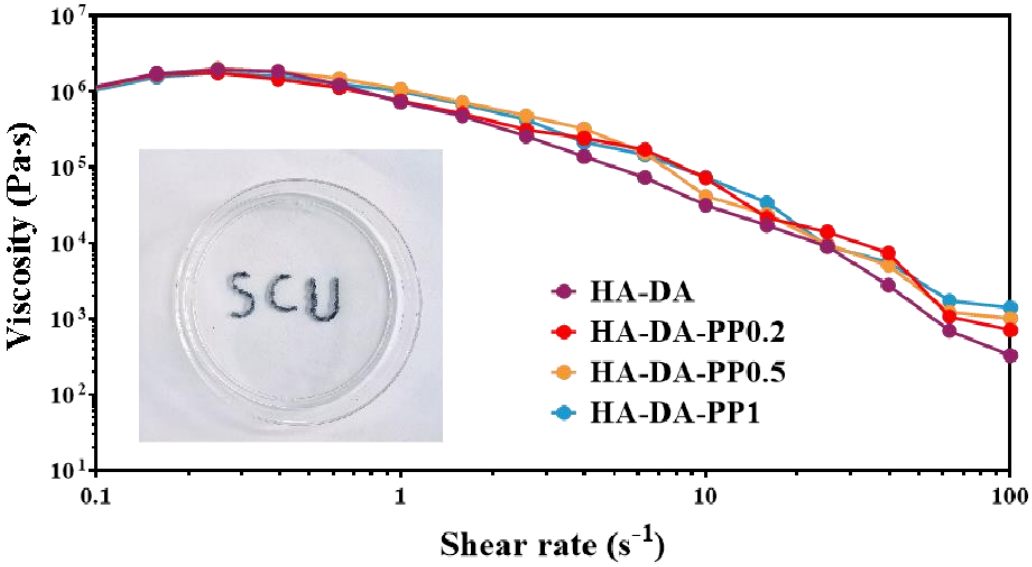


Figure S6. Viscosity curve of different HA-DA-PP hydrogels with the shear rate increasing from 0.1 to 100 s^{-1}. Inset: a pattern obtained by injecting HA-DA-PP1 hydrogel through a syringe.

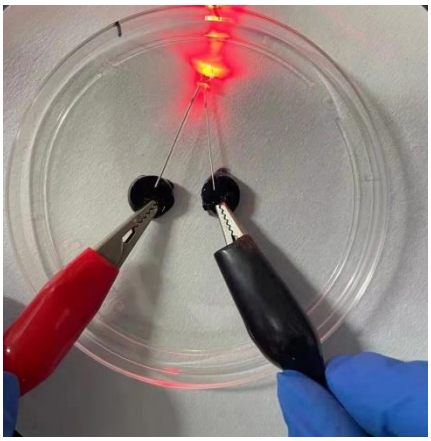


Figure S7. Photograph of a DC 9V circuit conducted using two HA-DA-PP1 hydrogels to light up a LED.

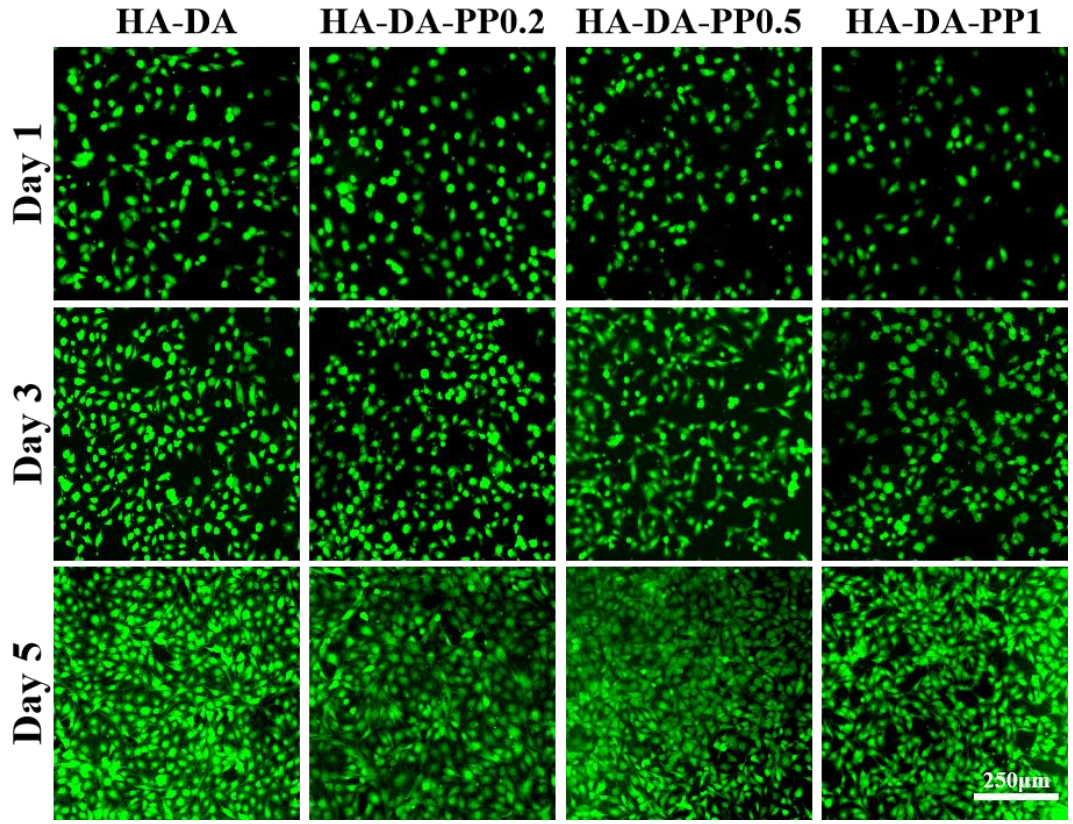


Figure S8. Live/dead staining of 3T3 cells after co-culture with various hydrogels for 1, 3 and 5 days. Scale bar: 250 μm.

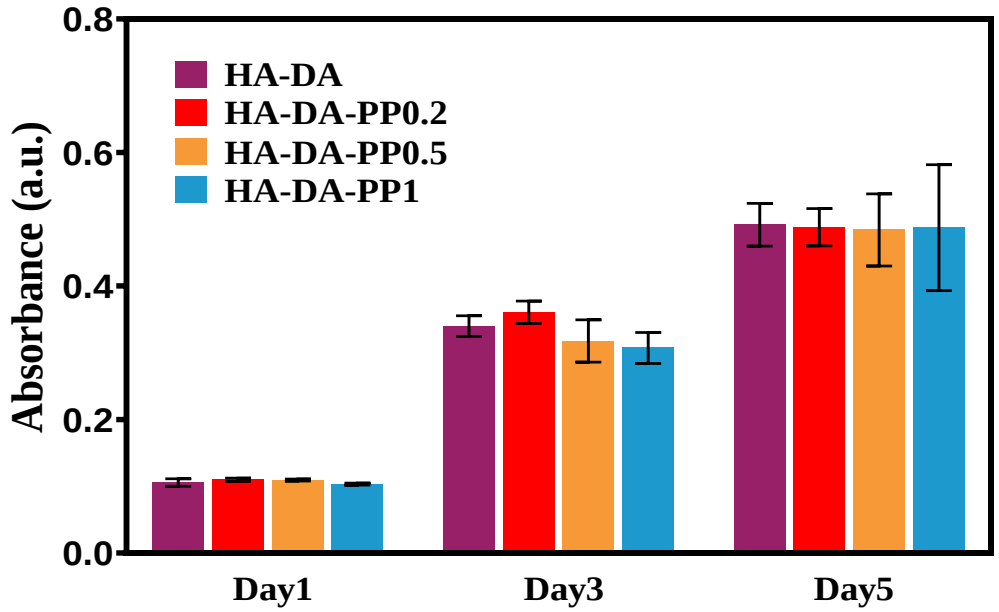


Figure S9. MTT of 3T3 co-cultured with different hydrogels after 1, 3, and 5 days.

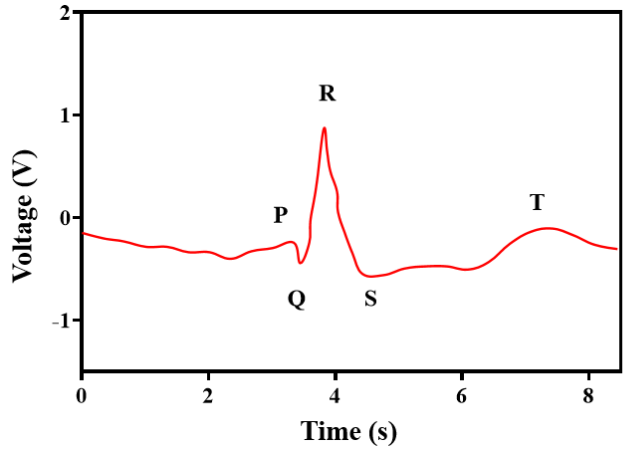
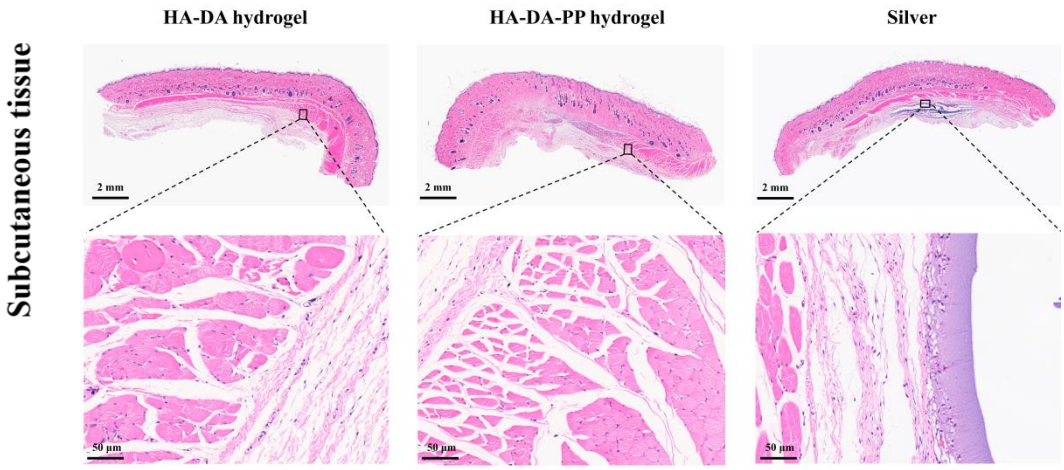


Figure S10. One single waveform of ECG signal.



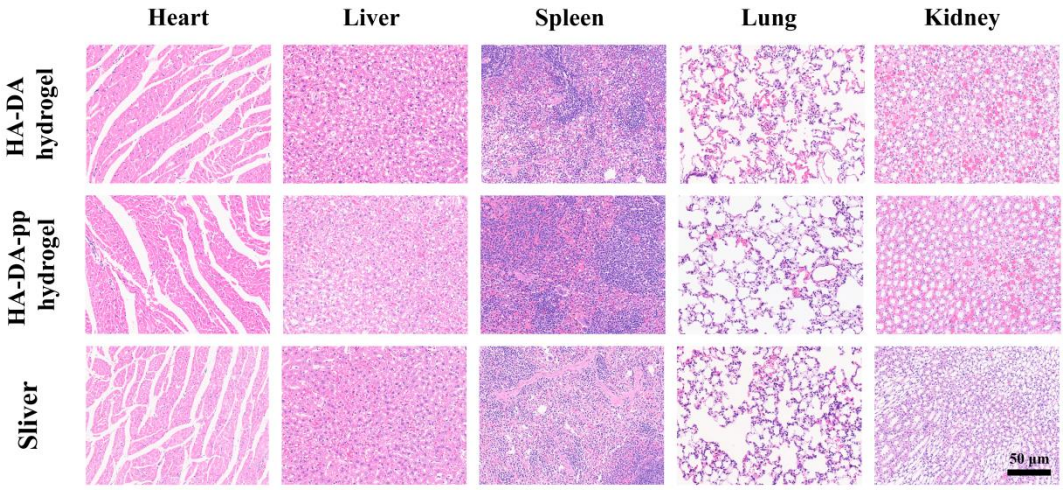


Figure S11. H&E of subcutaneous tissue and dissected major organs (heart, liver, spleen, lung and kidney) after subcutaneous implantation of rat for 14 days.

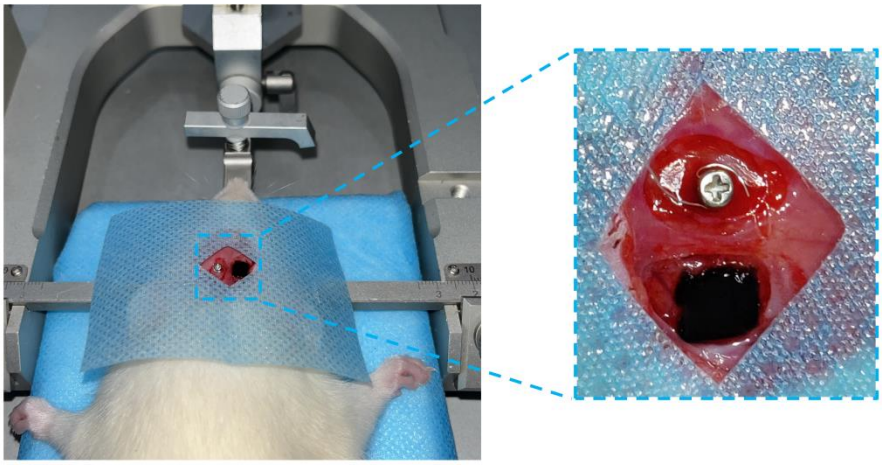


Figure S12. The surgical operation and location of HDP hydrogel and screw electrodes.