Electronic Supplementary Information for

Flexible Triboelectric Nanogenerator Based on Polyester Conductive Cloth for Biomechanical Energy Harvesting and Self-Powered Sensors

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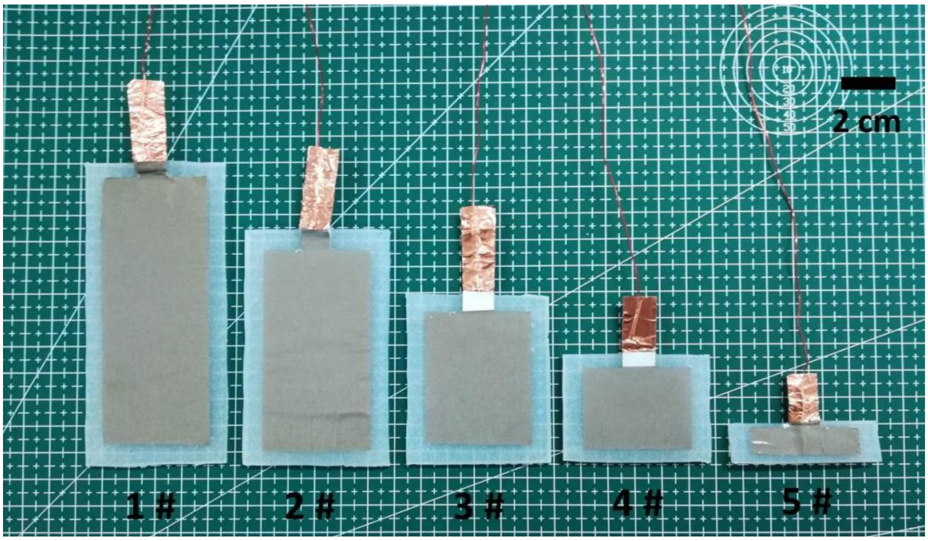

Figure S1. Photograph of the five S-TENGs.

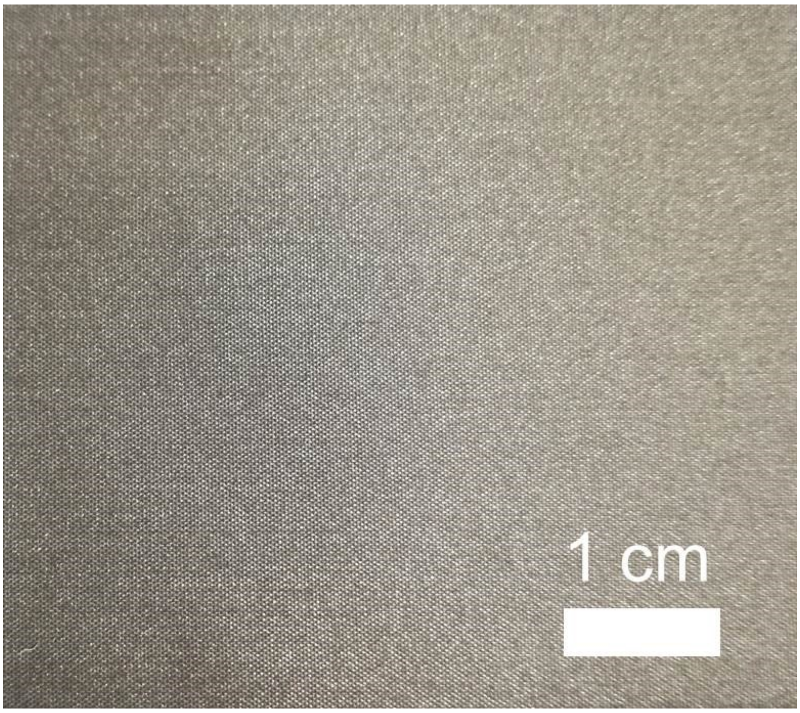

Figure S2. Photograph of the polyester conductive cloth.

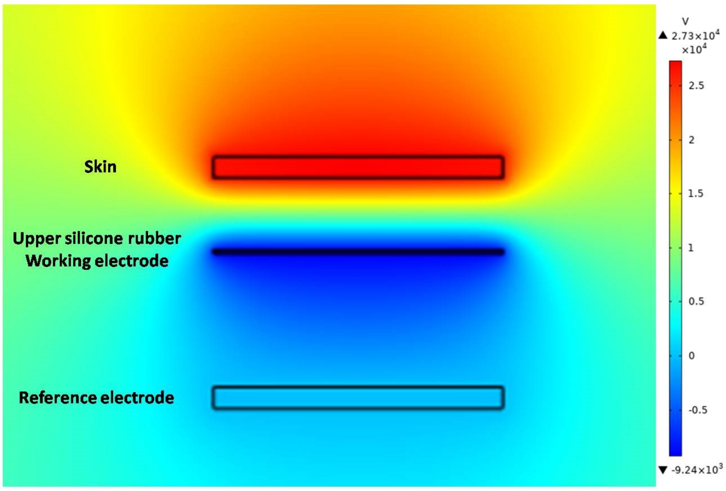

Figure S3. The simulated potential distribution under open circuit condition: Separation distance (d) =10 mm, Electrode length (l) = 40 mm and charge density (σ) = 45 μC/m^2.

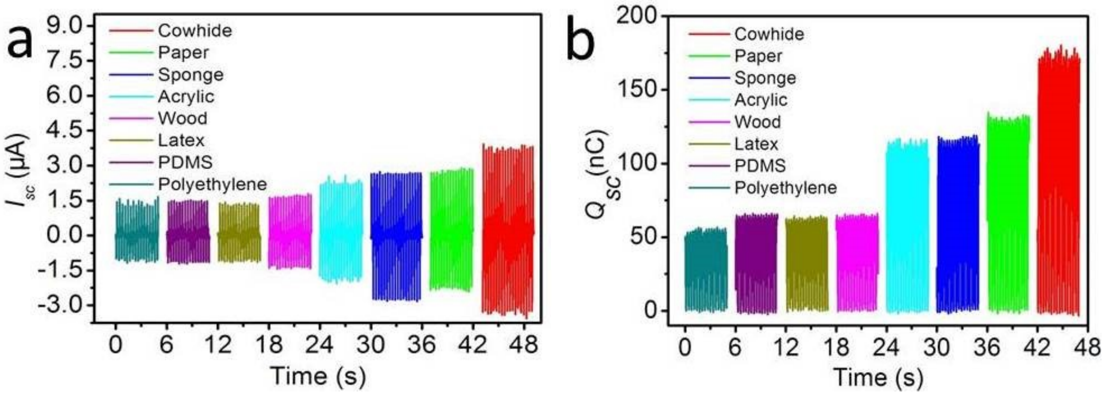

Figure S4. The output of I_{sc} (a), and Q_{sc} (b) of relative contact-separation motion of the 1# S-TENG to different materials.

Figure S5. Photograph of the defatted cowhide.

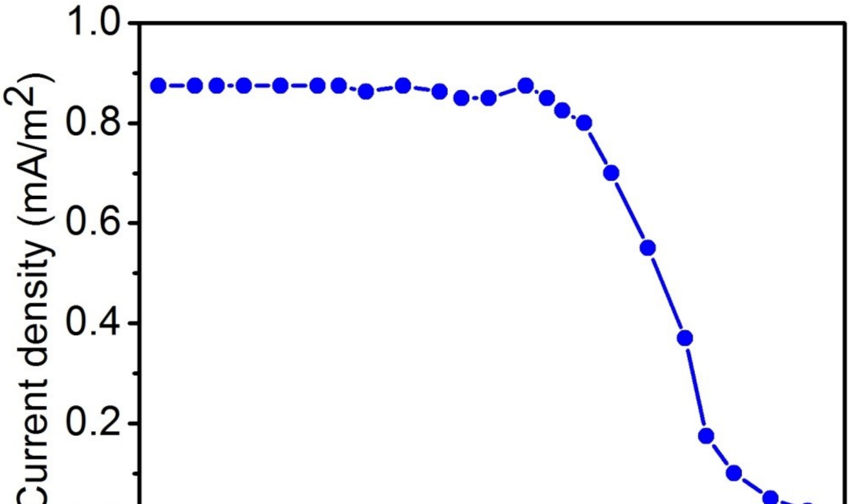

Figure S6. The resistance dependence of the current density of the 1# TENG (3.0 Hz) at different external load resistances.

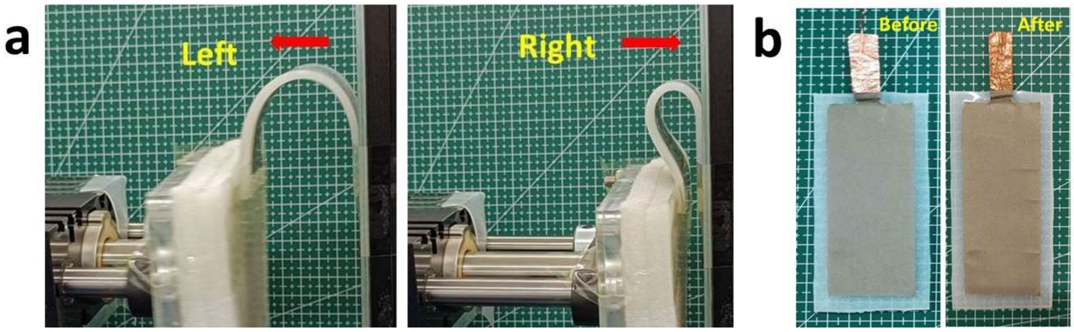

Figure S7. The cyclic bending stability of the 1# S-TENG. (a) Photographs of the experiment process. (b) Photographs of samples before and after bending experiments

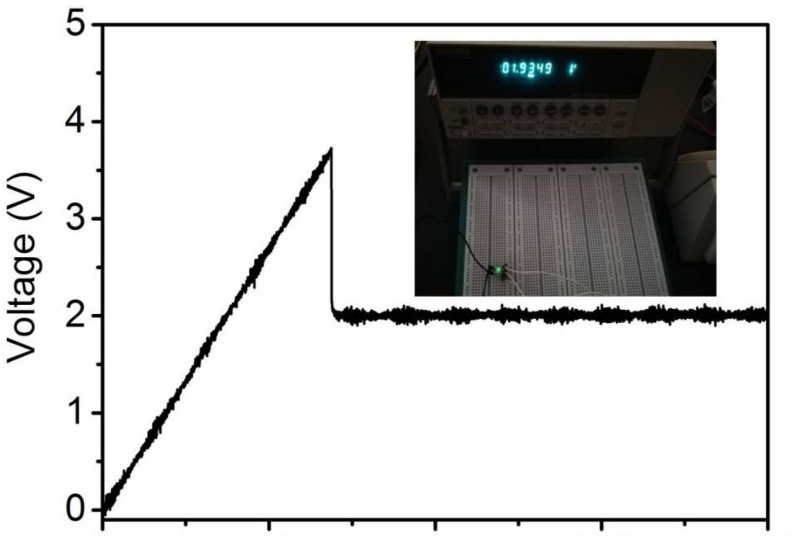

Figure S8. The real-time charging and discharging curve of a 10 μF capacitor for lighting up an LED.

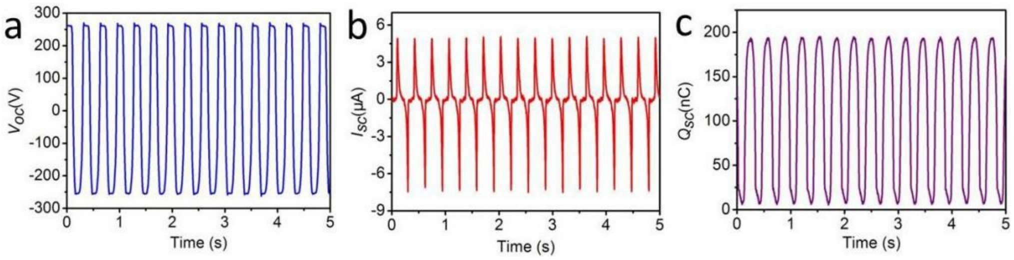

Figure S9. The V_{oc} (a), I_{sc}(b), and Q_{sc}(c) of the 1# S-TENG with sponge as a triboelectrically positive material (3.0 Hz).

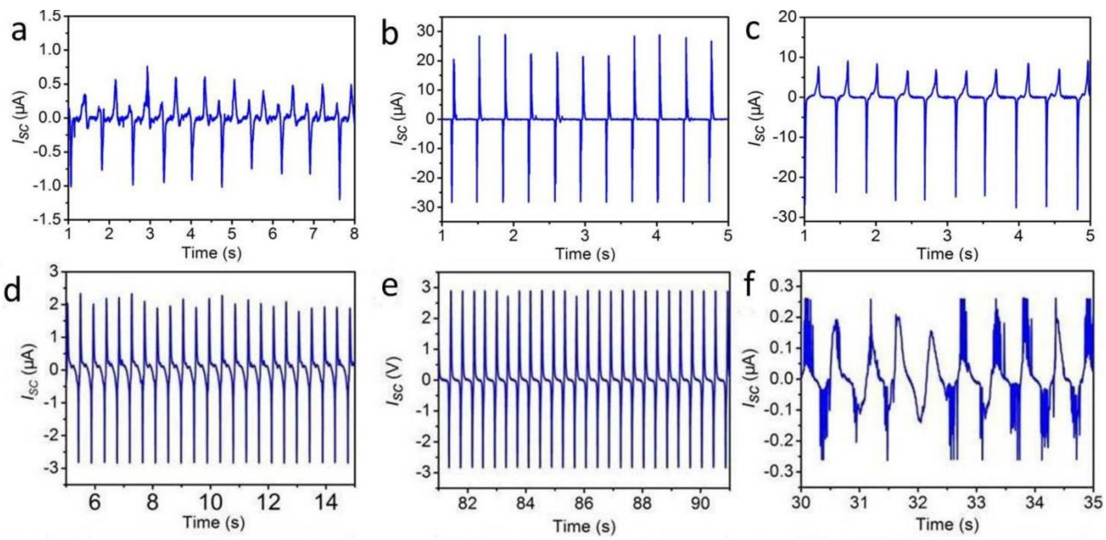

Figure S10. Biomechanical energy-harvesting performances of S-TENG. The I_{sc} generated by (a) bending and releasing of wrist, (b)hand tapping, (c) walking of a human volunteer,(d) cuff tapping of coat, and cuff (e)tapping and (f) swing of polyamide sweater.

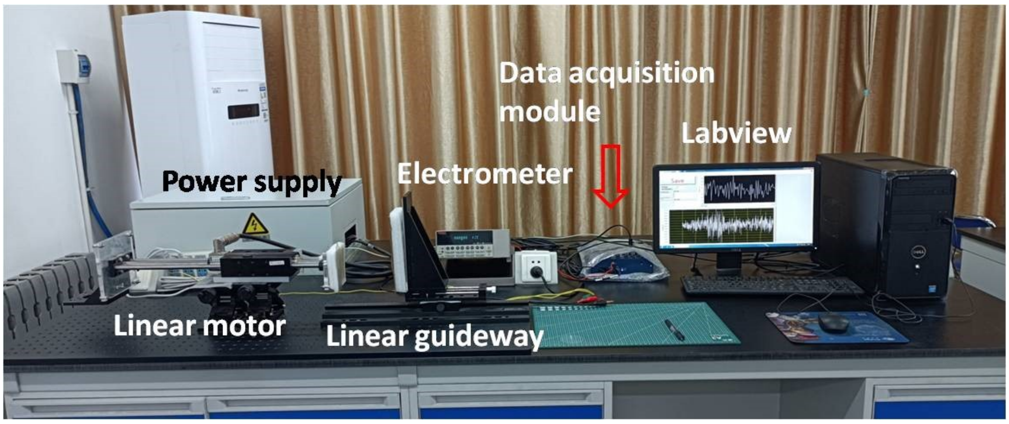

Figure S11. Photograph of testing system.

Supporting Movies

Supporting Movie S1. Demonstration of 240 LEDs lighted up by the 1# S-TENG after rectification (3.0 Hz).

Supporting Movie S2. Two green LEDs can be continuously lighted up by a charged 10 μF capacitor.

Supporting Movie S3. Sustainably driving an electronic watch with a capacitor (10 μF) charged by the 1# TENG.

Supporting Movie S4. Sustainably driving a calculator with a capacitor (33μF) charged by the 1# TENG.

Supporting Movie S5. 150 LEDs powered by the 1# TENG harvesting energy from simulated walking.

Supporting Movie S6. 90 LEDs powered by the 1# TENG harvesting energy from cuff tapping of wool coat.

Supporting Movie S7. 90 LEDs powered by the 1# TENG harvesting energy from cuff tapping of polyamide sweater.

Supporting Movie S8. 30 LEDs powered by the 1# TENG harvesting energy from cuff swing of polyamide sweater.

Supporting Movie S9. The real-time voltage signals for monitoring finger motion.

Supporting Movie S10. The real-time voltage signals for monitoring occlusal muscle motion.

Supporting Movie S11. The real-time voltage signals for monitoring diaphragmatic breathing.