Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Supporting Information

Supporting Videos

Video S1. A triboelectric textile (TET) was repeatedly pressed to lighten up a liquid crystal display.

Video S2. A TET was repeatedly pressed to lighten up forty-nine light-emitting diodes.

Video S3. A TET was integrated into an insole to lighten up a liquid crystal display.

Supporting Figures

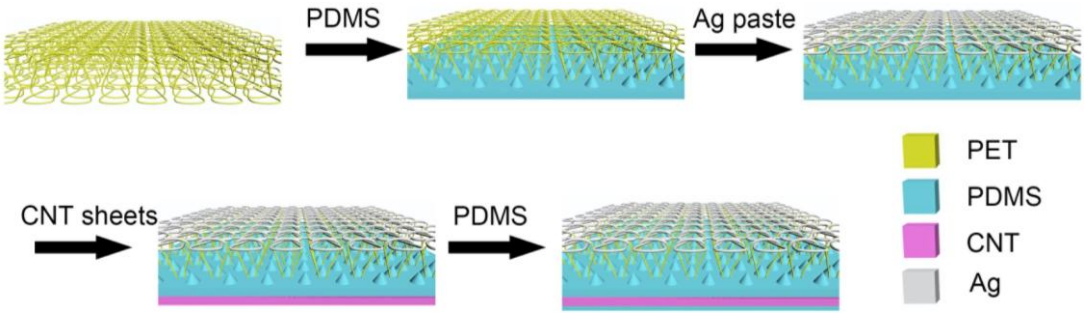

Figure S1. Fabrication process of the triboelectric textile (TET).

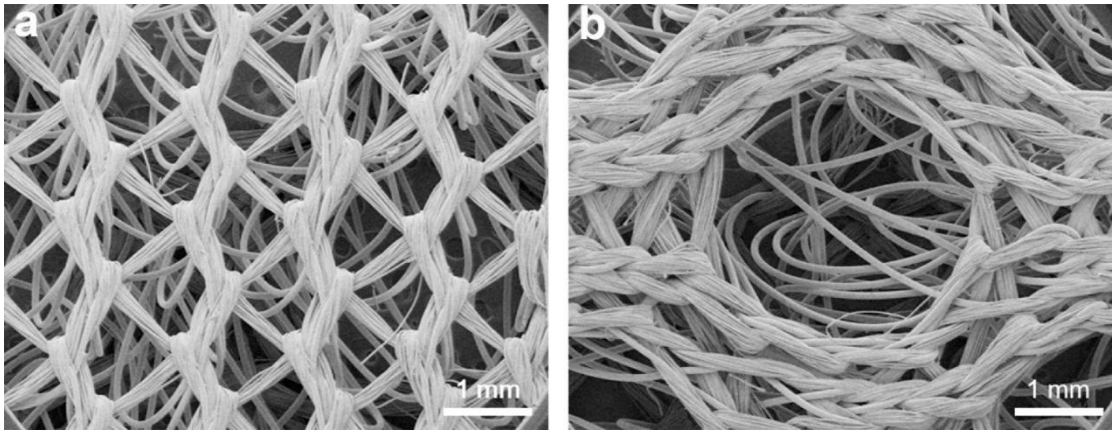

Figure S2. Scanning electron microscopy (SEM) images of the top (a) and bottom (b) surfaces of the fabric from poly (ethylene terephthalate) (PET) fibers.

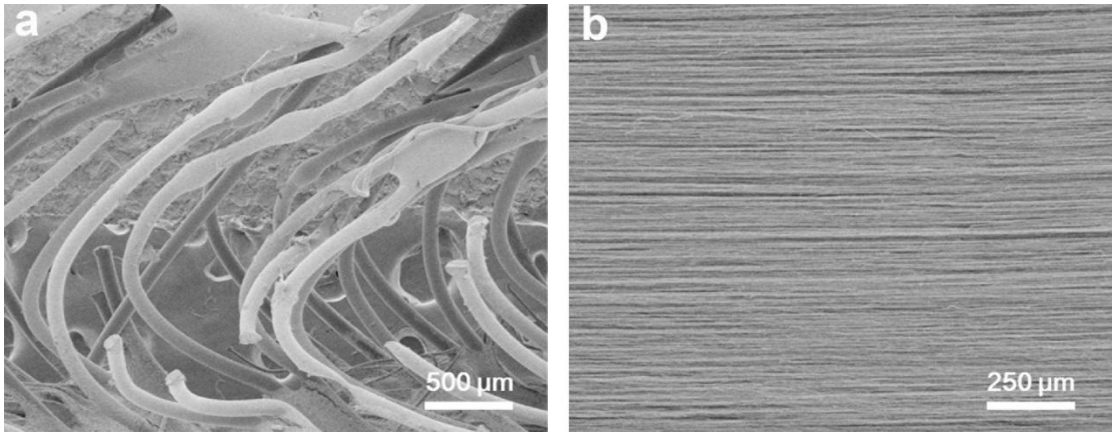

Figure S3. SEM images of the middle part of a pressed TET (a) and aligned carbon nanotube (CNT) sheet (b).

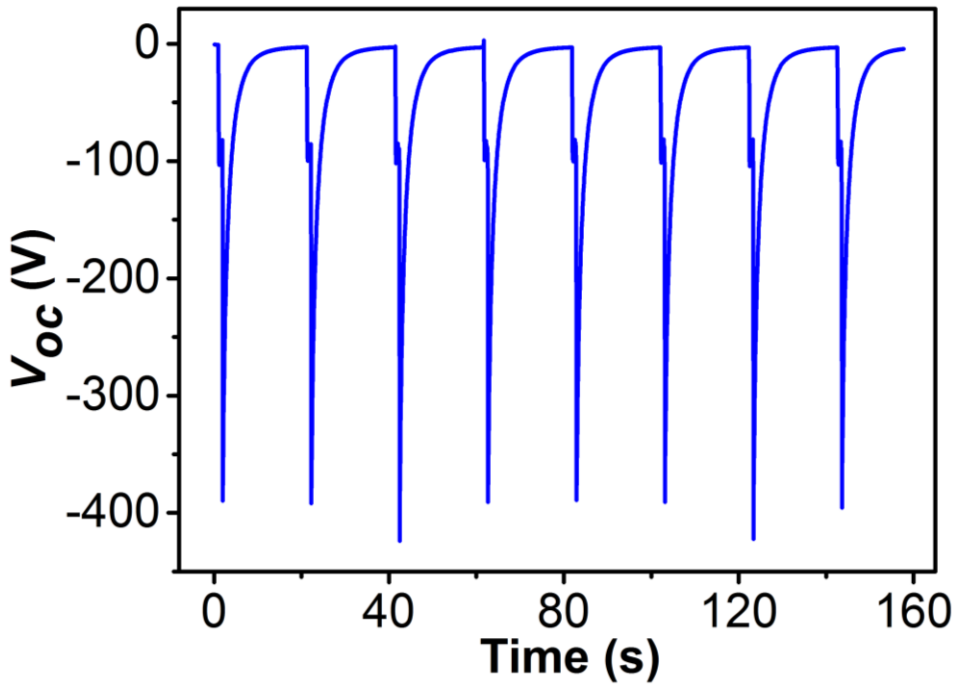

Figure S4. Open-circuit voltage of a TET where the output voltage returned to 0. The TET showed a thickness of 8 mm and size of 5×5 cm^2.

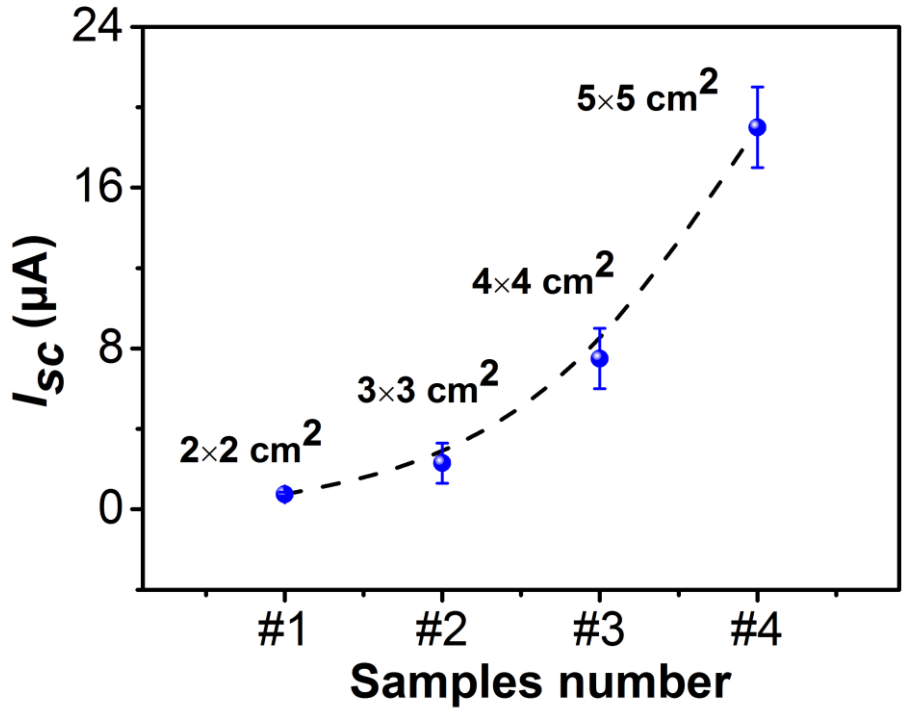

Figure S5. Dependence of short-circuit current on size of the TET with the same thickness of 8 mm at a pressing frequency of 1 Hz and force of 16 N per square centimeter.

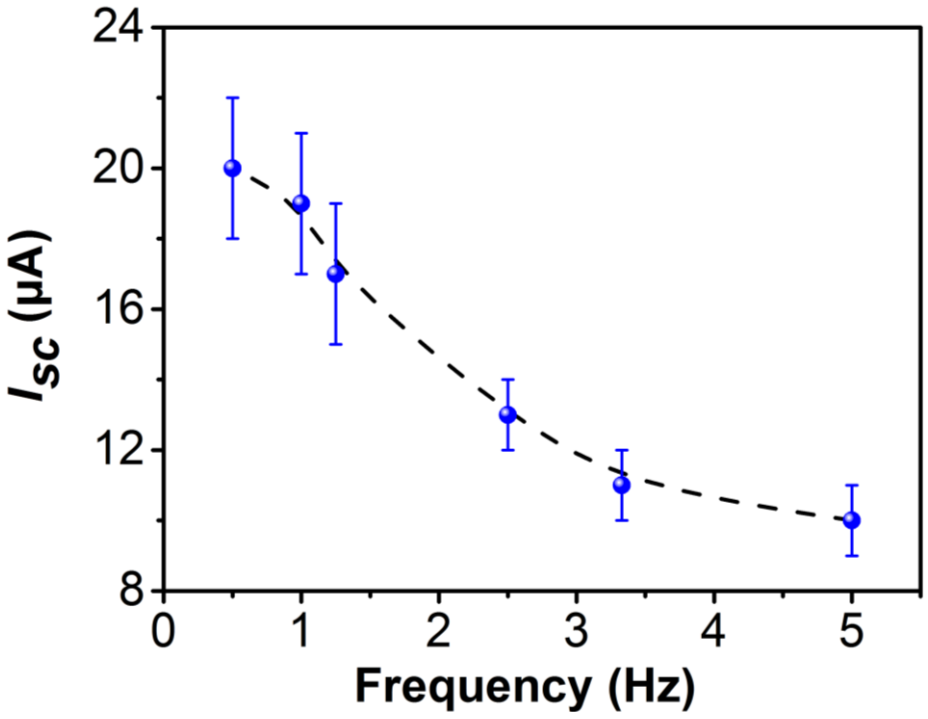

Figure S6. Dependence of short-circuit current on pressing frequency at a pressing force of 400 N for a TET with thickness of 8 mm and size of 5×5 cm^2.

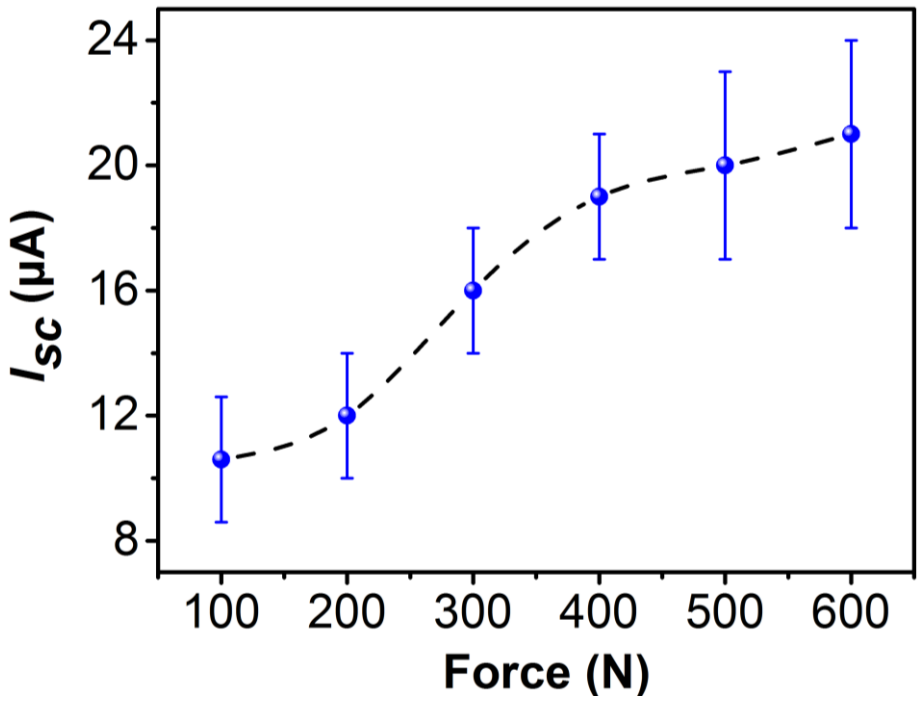

Figure S7. Dependence of short-circuit current on pressing force at a pressing frequency of 1 Hz for a TET with thickness of 8 mm and size of 5×5 cm^2.

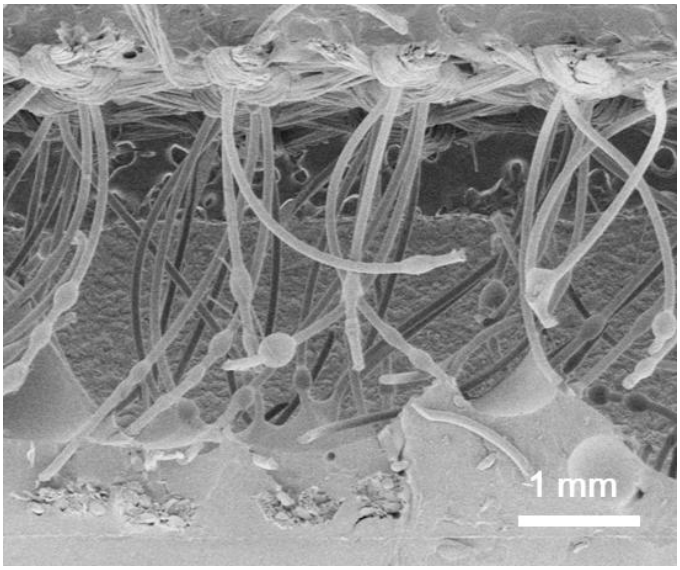

Figure S8. SEM image of a TET after pressing for over 3000 cycles.

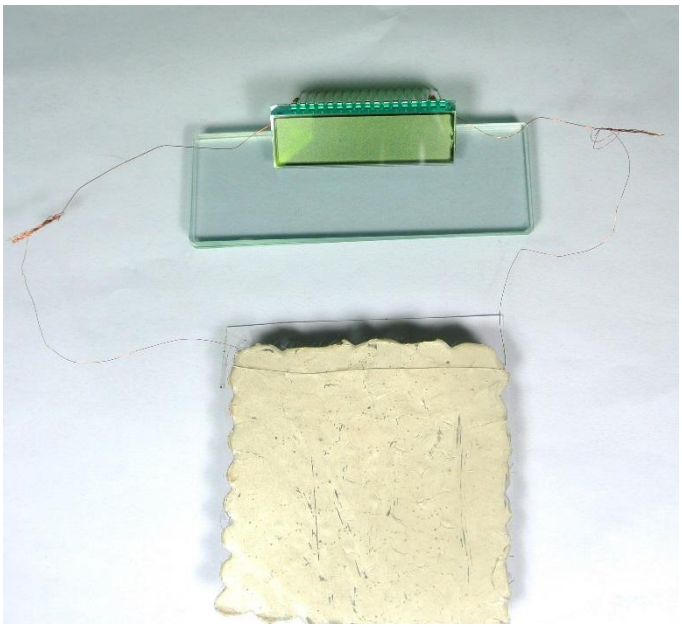

Figure S9. Photograph of a LCD being connected with a TET directly.

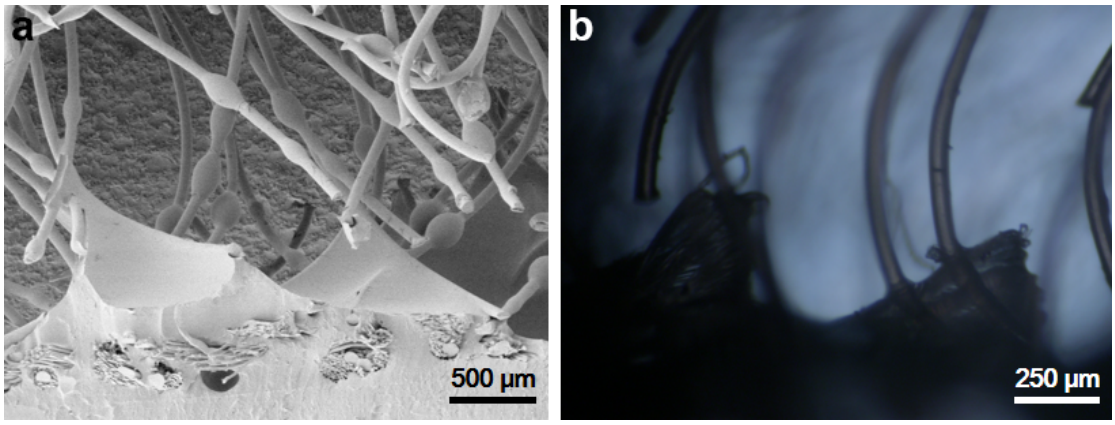

Figure S10. SEM image and optical micrograph of the PDMS pyramids.

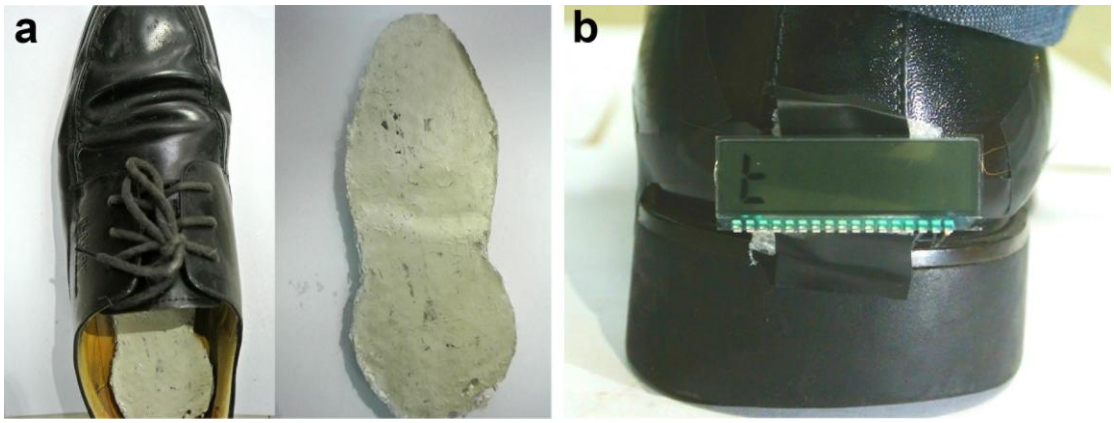

Figure S11. An insole made from a TET (a) and a LCD lightened by people walking (b).

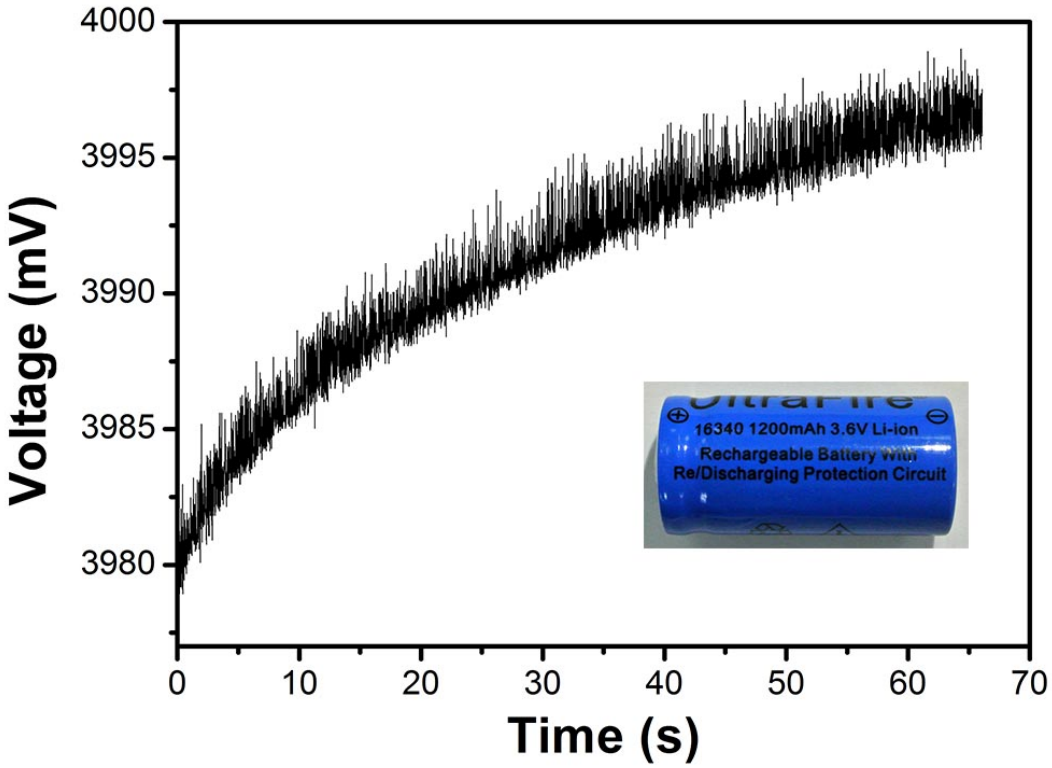

Figure S12. The charging curves of a lithium ion battery with a capacity of 1200 mAh by pressing a TET (inset, photograph of the lithium ion battery).