
Supporting Information

Anisotropic Triboelectric Nanogenerator Based on Ordered Electrospinning

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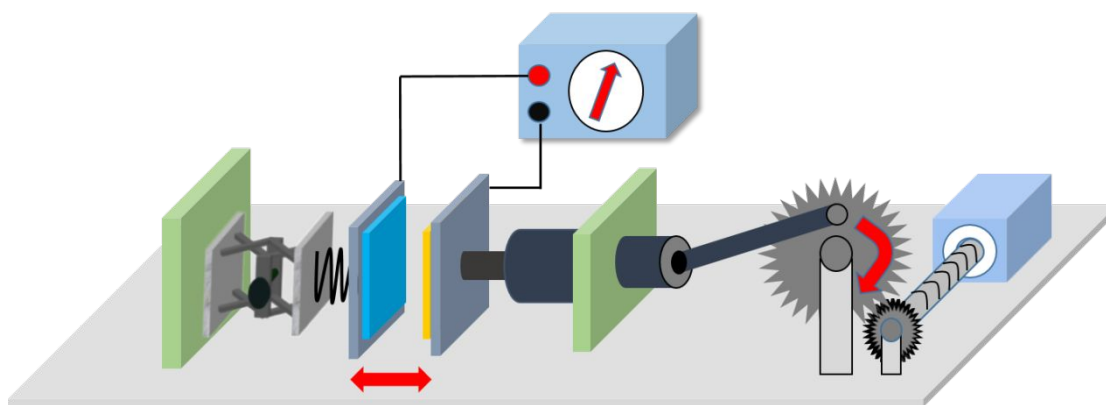


Fig. S1. Schematic diagram of the TENG test set.

Fig. S1 shows the basic equipment for friction nanogenerator to achieve periodic friction. Fix the two friction materials on the lifting platform and the reciprocating device. The motor drives the reciprocating device, which enables repeated contact and separation between the friction materials.

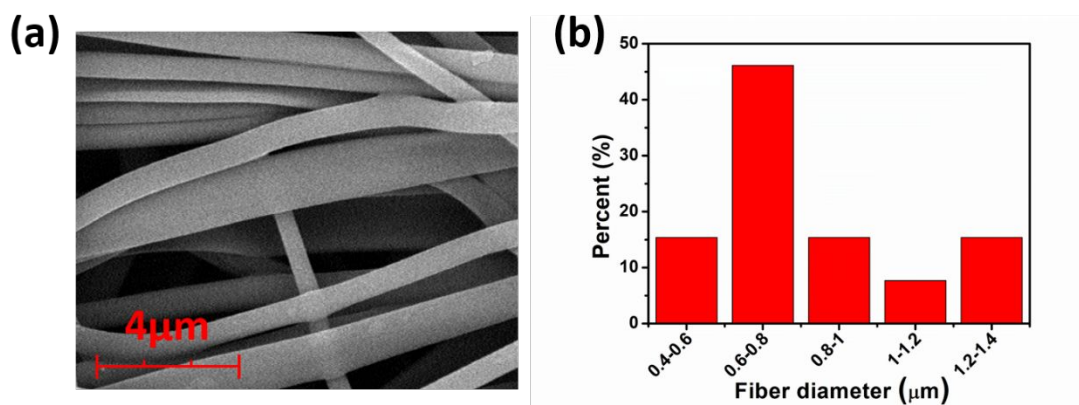


Fig. S2. (a) SEM image and (b) diameter distribution of the electrospun PA6 nanofibers spun by electrospinning when the drum's rotating speed is 4000 rpm.

Direction Thickness (mm)	Transverse direction (//)	Longitudinal direction (⊥)
0 rpm	0.085	0.089
4000 rpm	0.073	0.113

Fig. S3. Thickness of the sample subjected to the tensile test.

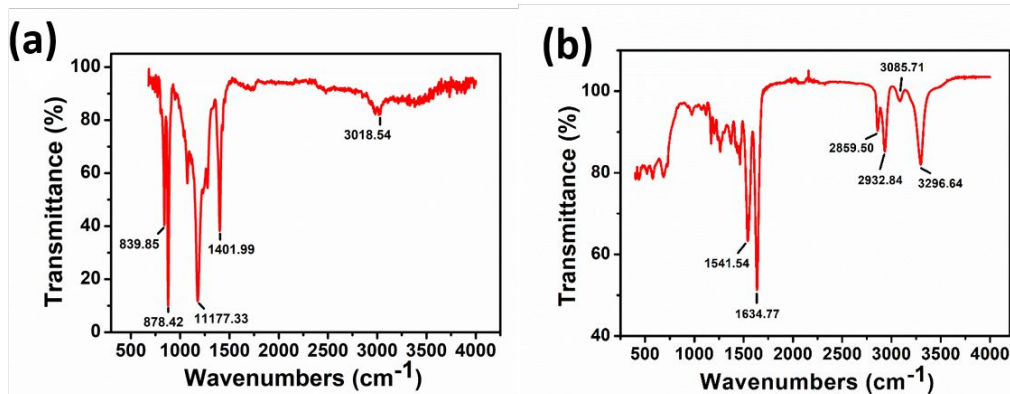


Fig. S4. (a) The FTIR of PVDF fiber membranes. (b) The FTIR of PA6 fiber membranes.

Fig. S4a shows the FTIR spectrum of PVDF, the CH stretching vibration peak at 3018.54 cm^{-1} ; the deformation rocking vibration peak of CH₂ at 1401.99 cm^{-1} ; the CF₂ stretching vibration peak at 11177.33 cm^{-1} ; 878.42 cm^{-1} is the C-C skeleton vibration peak; the sharp absorption at 839.85 cm^{-1} is the vibration absorption peak of the crystal phase. From the FTIR spectrum (Fig. S4b), we can obtain the chemical structure of PA6, for example, the absorption peak of amide I at 1634.77 cm^{-1} , the absorption peak of amide II at 1541.54 cm^{-1} , and the absorption peak of amine at 3296.64 cm^{-1} . There are absorption peaks of methylene at 3085.71 , 2932.84 , and 2859.50 cm^{-1} .

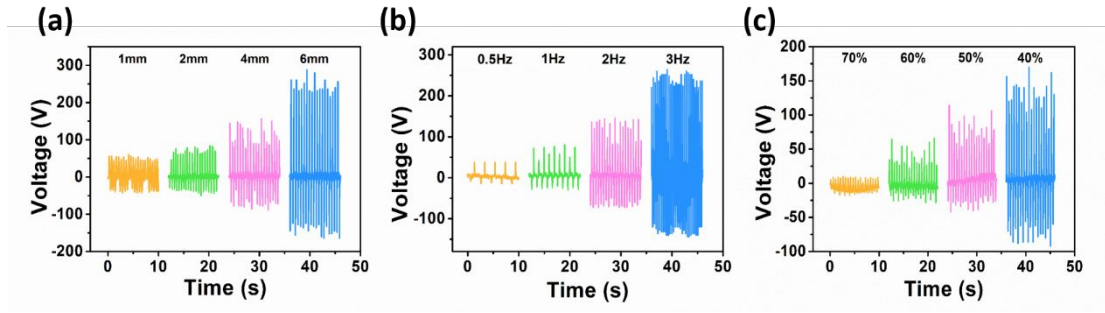


Fig. S5. The open circuit voltage of TENG under different (a) separation distance between triboelectric layers, (b) impact frequency, (c) ambient humidity.

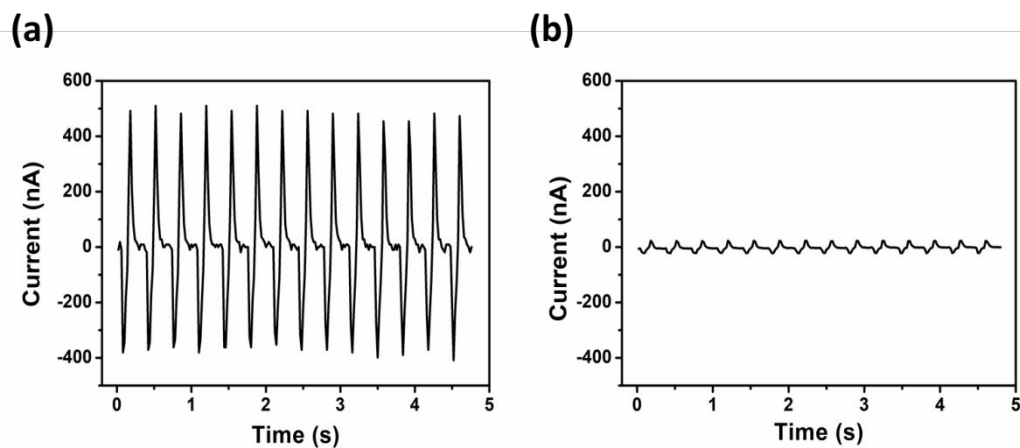


Fig. S6. Current output of the embedded A-TENG. (a) The normal state of the A-TENG. (b) The locked state of the A-TENG, in which the electrodes were placed vertically.