

Supplementary Material

Forward polarization enhanced all-polymer based sustainable triboelectric nanogenerator from oriented electrospinning PVDF/cellulose nanofibers for energy harvesting

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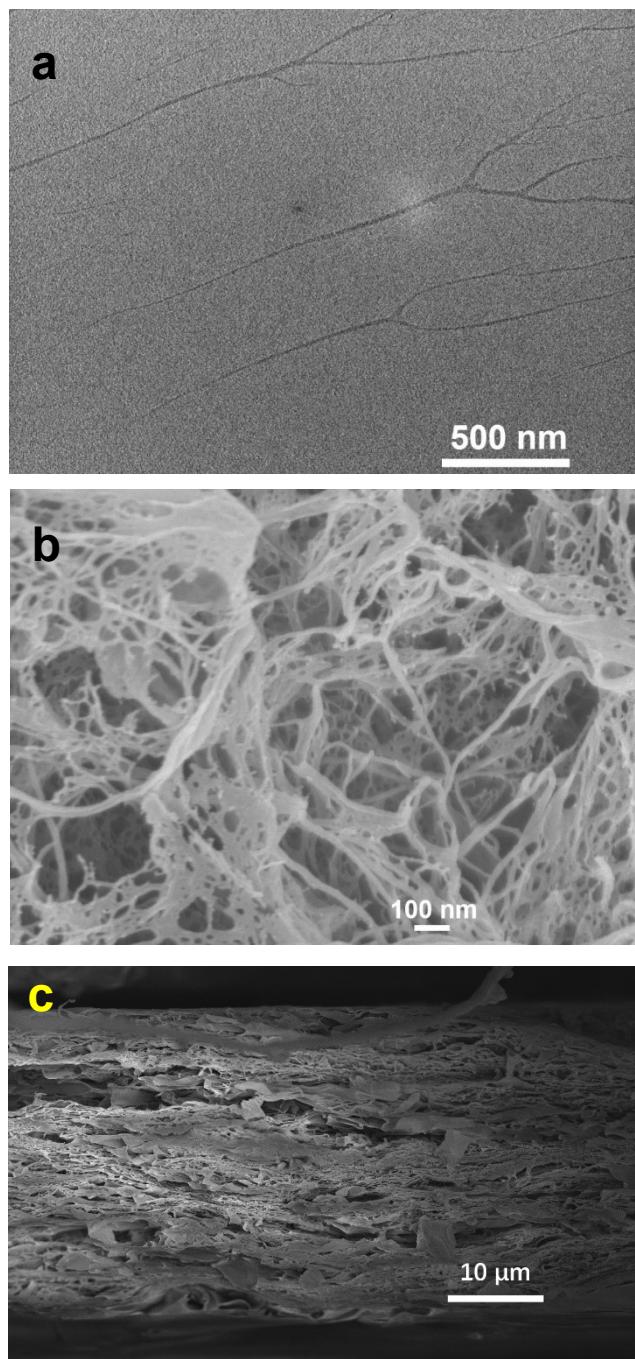


Figure S1 The TEM image of TOCN dispersion (a), the SEM image of TOCN aerogel (b) and the cross-section SEM morphology (c) of TOCN aerogel film after compression.

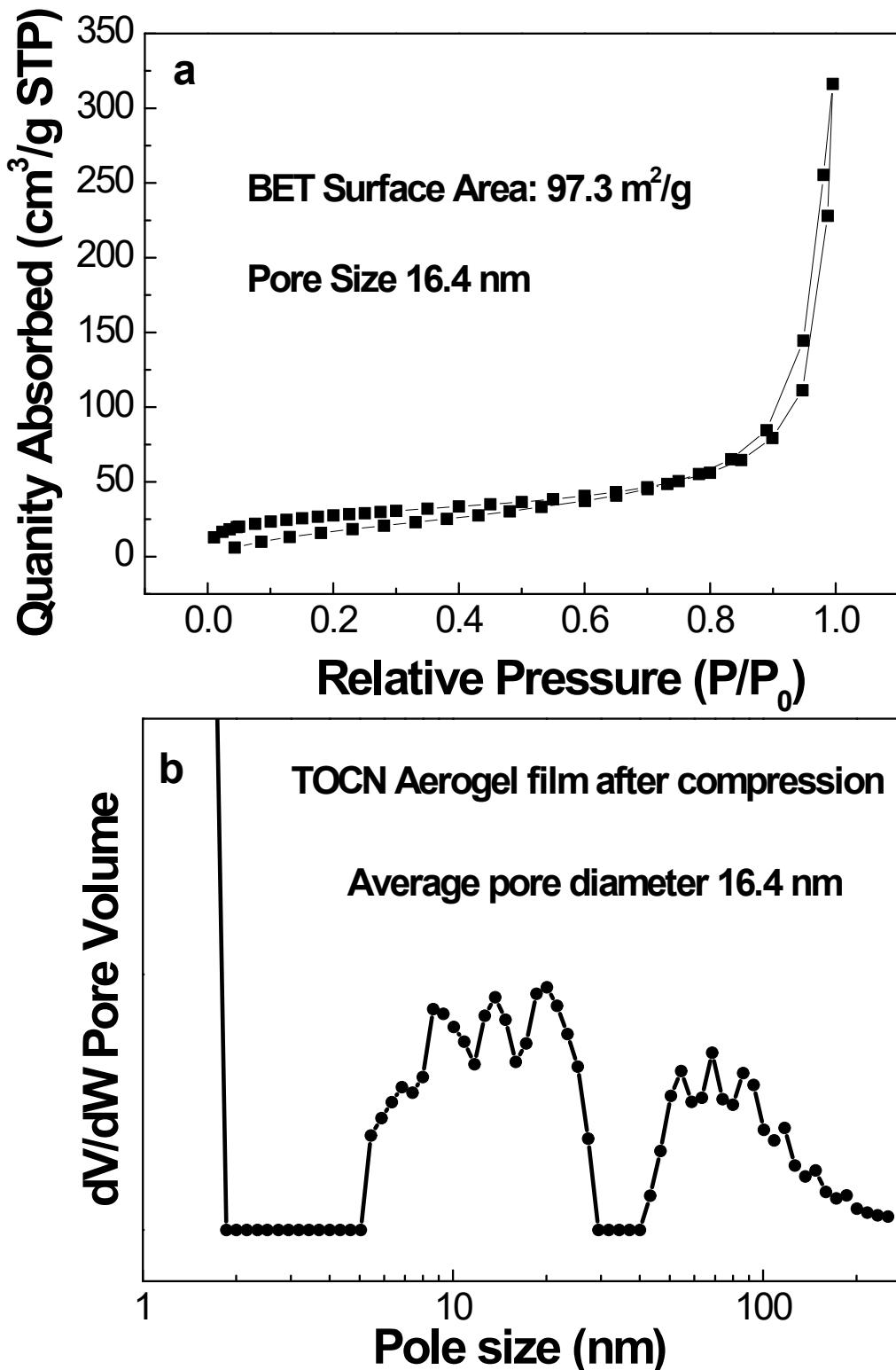


Figure S2 N₂ adsorption/desorption isotherms (a) and pore size distributions (b) of the TOCN aerogel film.

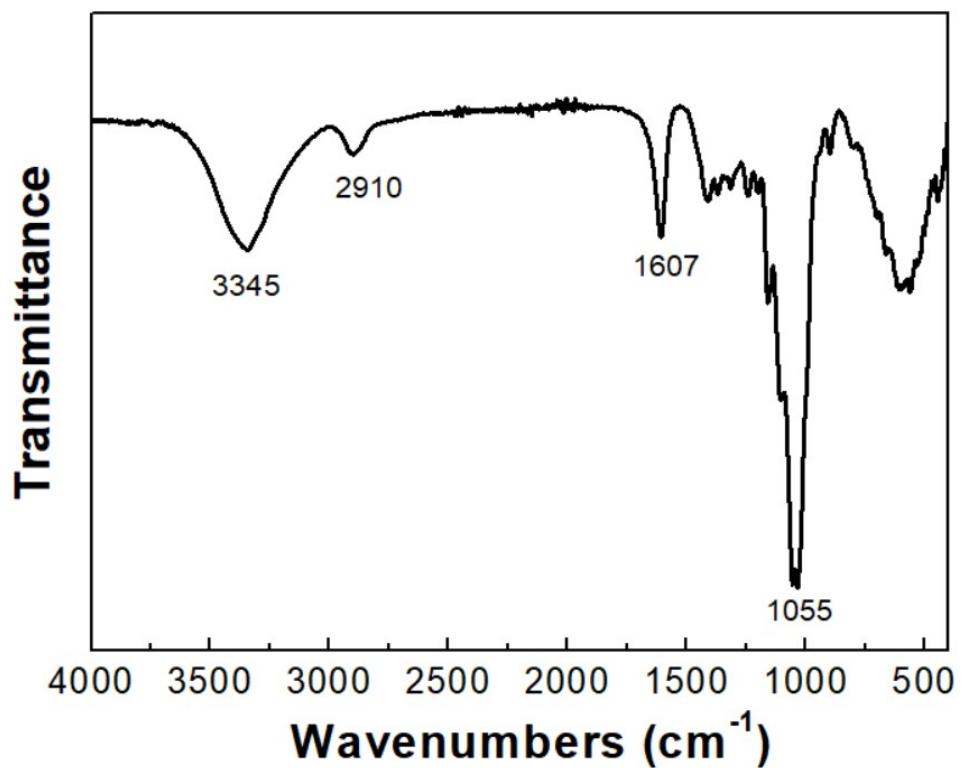


Figure S3 FTIR spectra of TOCN aerogel film

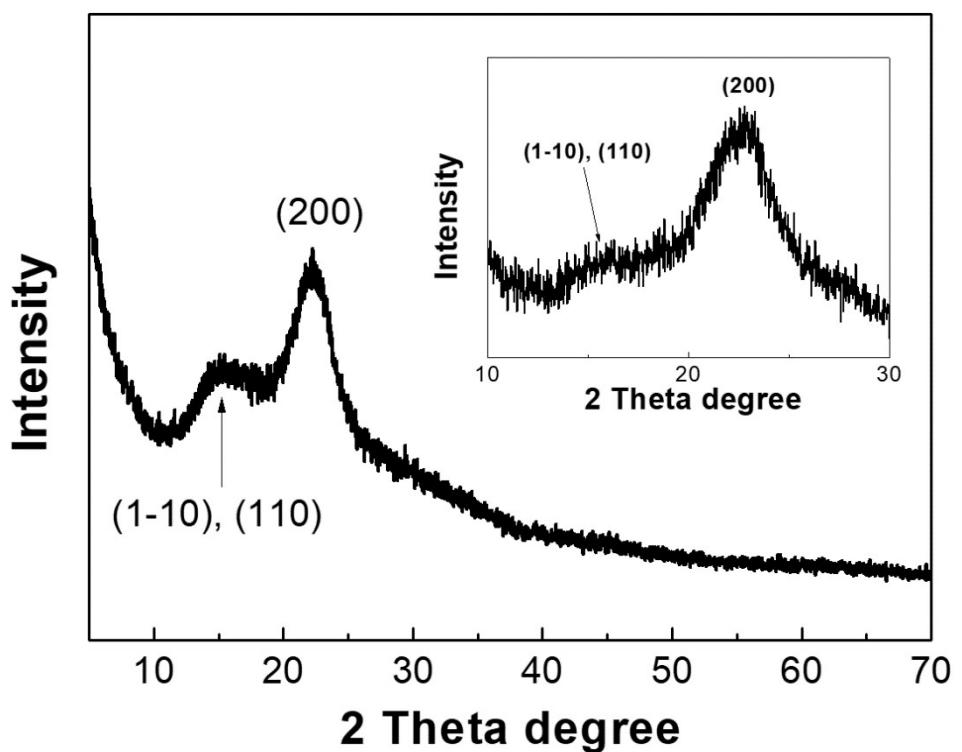


Figure S4 X-ray diffraction patterns of TOCN aerogel film

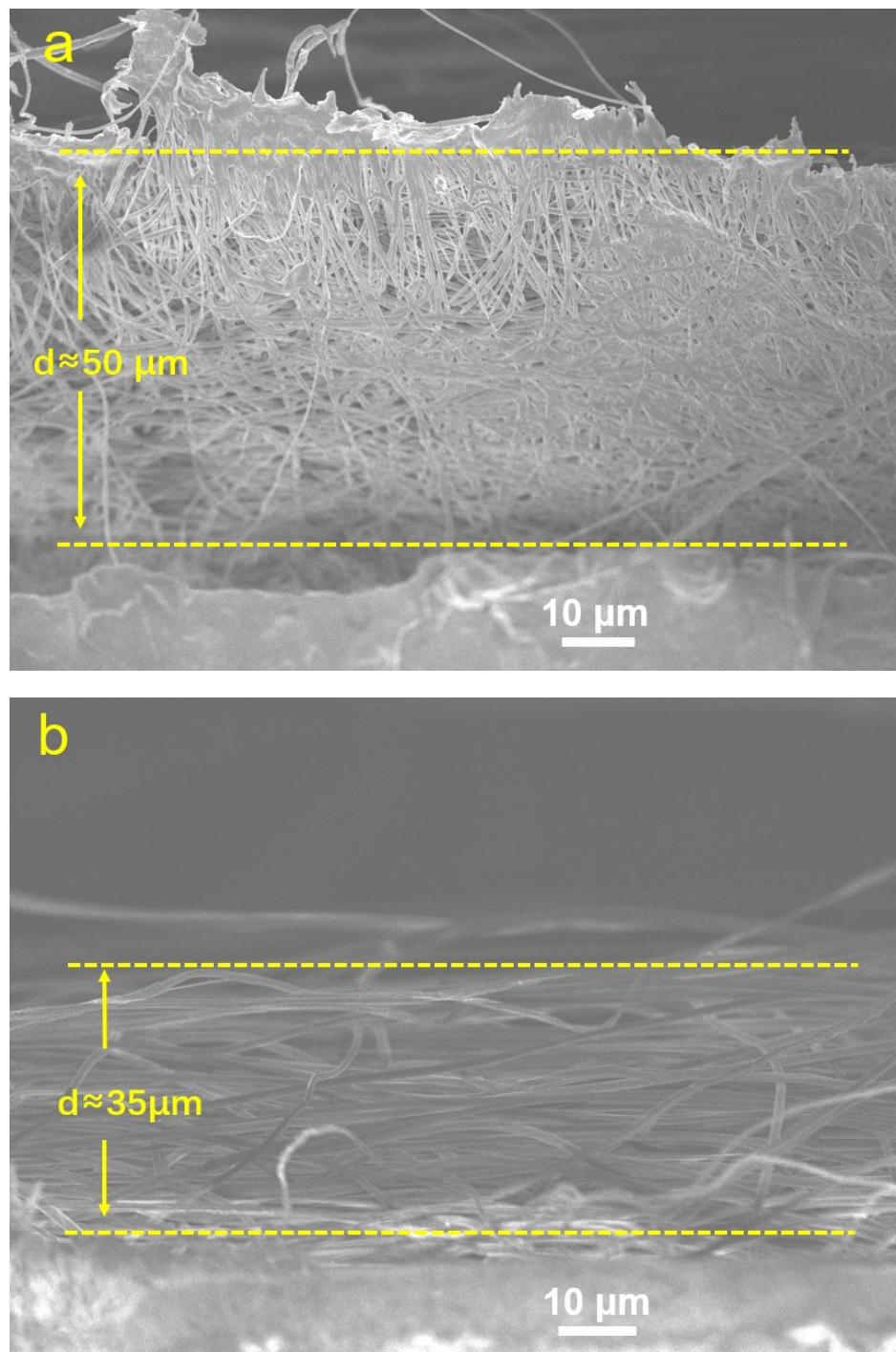


Figure S5 Cross-sectional SEM images of the RE PVDF (a) and OE PVDF film (b).

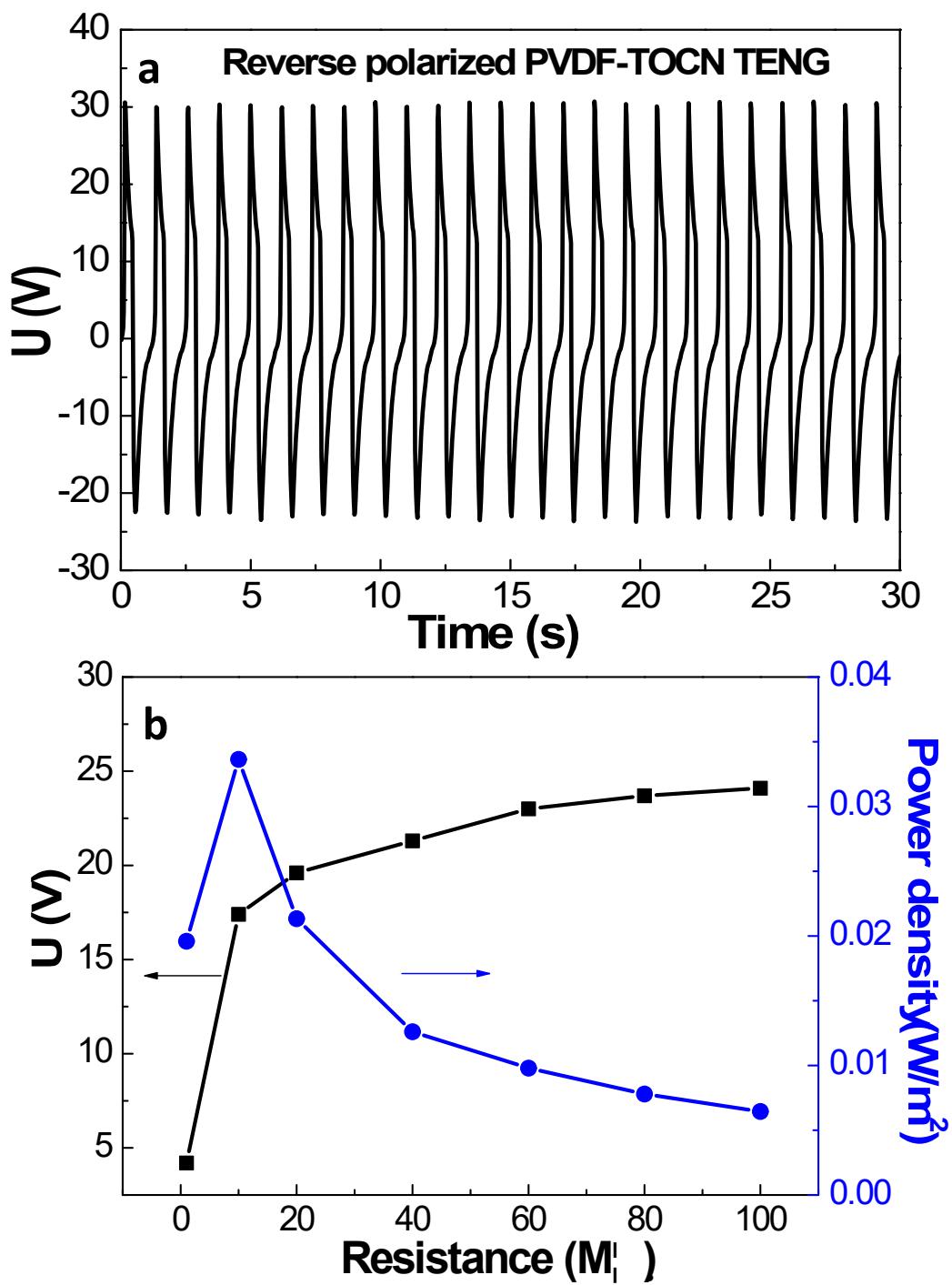


Figure S6 The outputted U_{oc} (a) and the power density (b) of reverse polarized PVDF-TOCN TENG with an area of 9 cm², the external force condition is 10 N at 1 Hz.

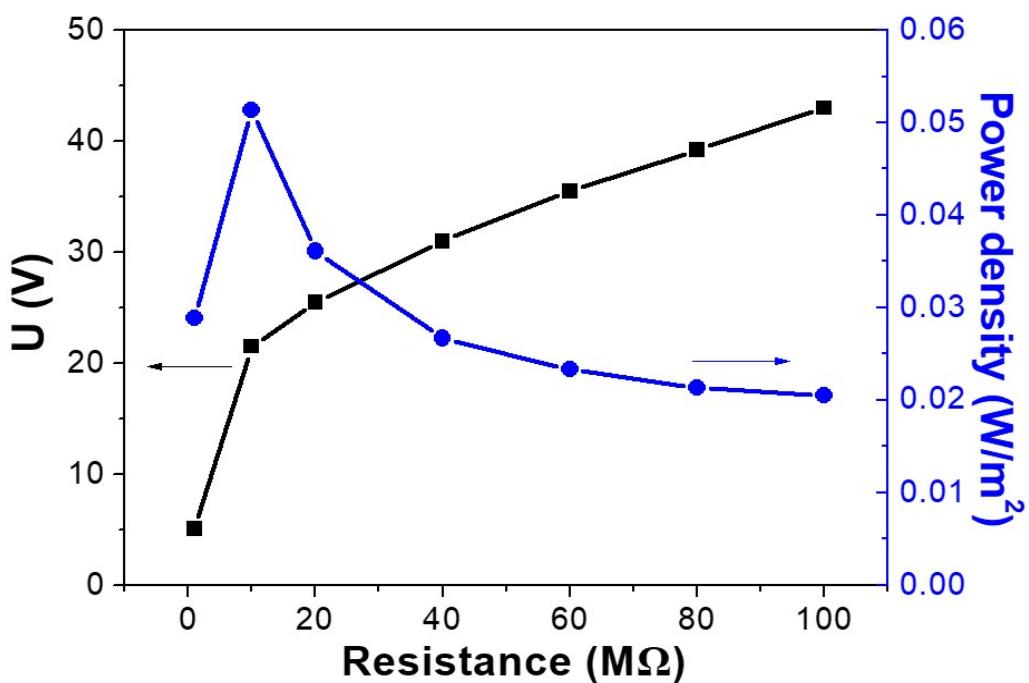


Figure S7 Open circuit voltage and power density of the RE PVDF-TOCN TENG varies with external resistances range from 1 $\text{M}\Omega$ to 100 $\text{M}\Omega$.

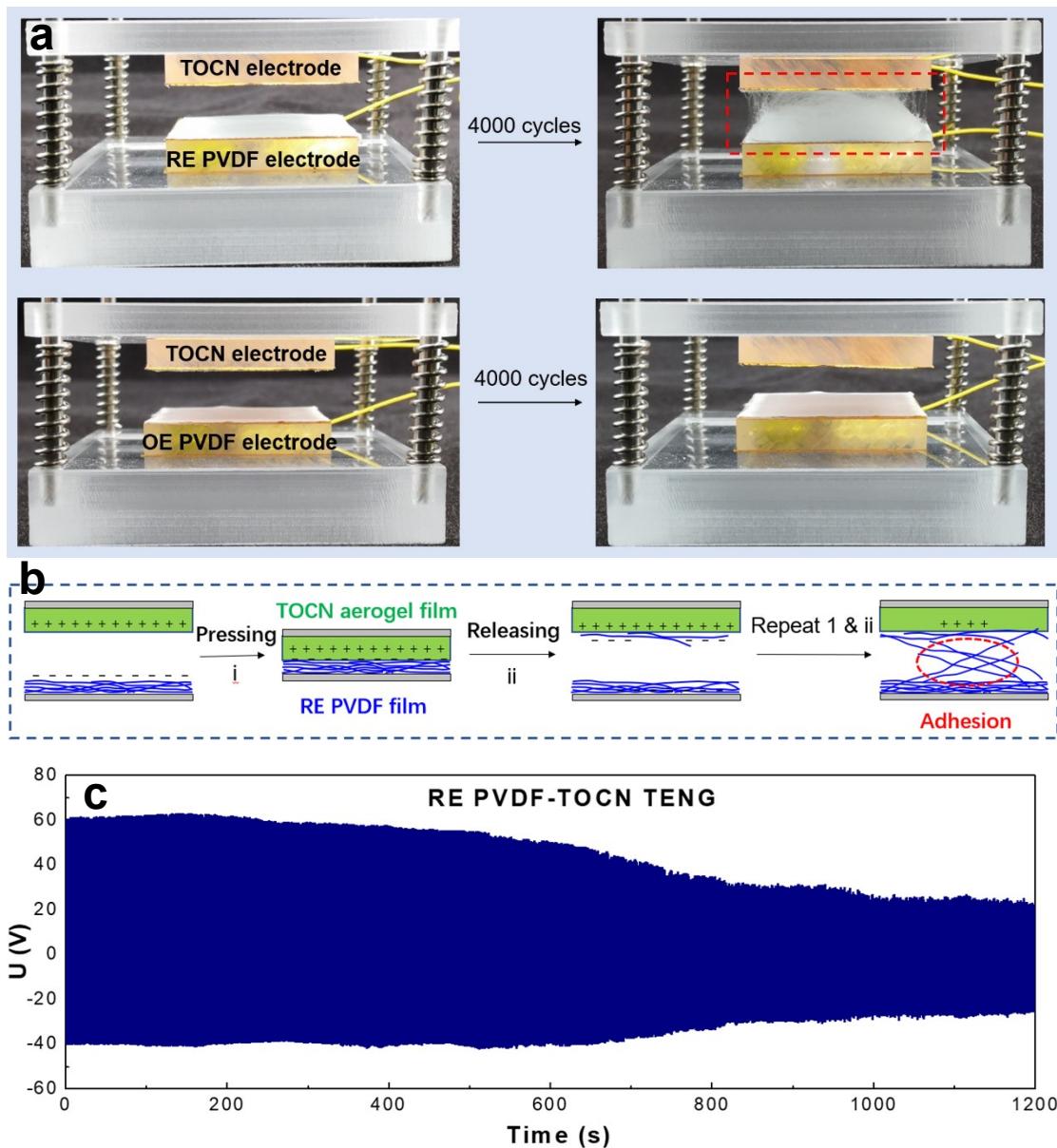


Figure S8 Photograph of the OE/RE PVDF-TOCN TENG devices before and after 4000 cycles (a); Schematic diagram of the formation of fibrous adhesion of the RE PVDF-TOCN TENG under longtime operation (b); Output voltage of the RE PVDF-TOCN TENG during 4000 cycles at a frequency of 3 Hz (c).