

Supplementary material

Video S1: The video shows the behavior of CS mode TENG and LS mode TENG with the size of 20 mm × 10 mm in the reciprocating motion.

Video S2: The video shows the voltage measurement of the CS mode TENG under the open circuit condition and the energy collecting process using the capacitor.

Video S3: The video shows the voltage measurement of the CS mode TENG with the 200 nm thick BaTiO₃ film under the open circuit condition and the energy collecting process using the capacitor.

Video S4: The video shows the voltage measurement of the CS mode TENG with the PDMS-BaTiO₃ composite film in which the mass fraction of BaTiO₃ is 24% and the mass fraction of Dy₂O₃ is 1% under the open circuit condition and the energy collecting process using the capacitor.

Video S5: The video shows the voltage measurement of the CS mode TENG with the PDMS-BaTiO₃ composite film as the negative triboelectric layer under the open circuit condition and the energy collecting process using the capacitor.