

# Supplementary Materials

## **Dominant Role of Young's Modulus for Electric Power Generation in PVDF-BaTiO<sub>3</sub> Composite-based Piezoelectric Nanogenerator**

**Hyun Soo Kim<sup>1</sup>, Dong Woo Lee<sup>1</sup>, Do Hyung Kim<sup>1</sup>, Dae Sol Kong<sup>1</sup>, Jinhyeok Choi<sup>1</sup>, Minbaek Lee<sup>1</sup>, Gonzalo Murillo<sup>2</sup> and Jong Hoon Jung<sup>1,\*</sup>**

<sup>1</sup>Department of Physics, Inha University, Incheon 22212, Republic of Korea

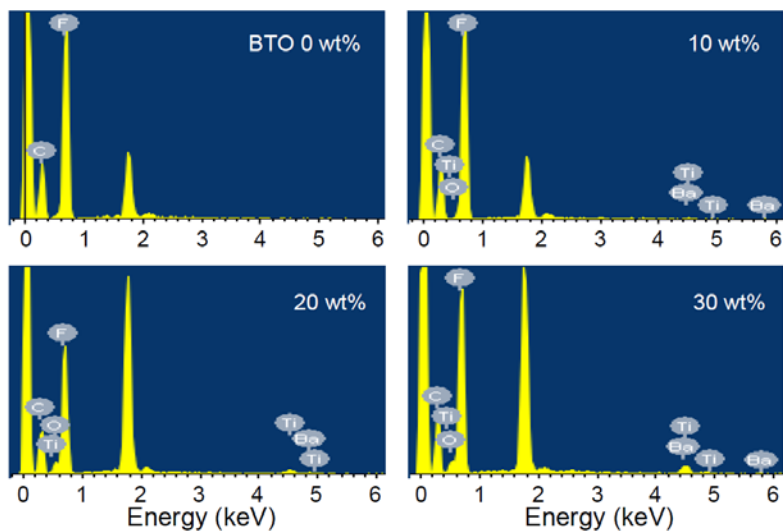
<sup>2</sup>Department of Nano and Microsystems, Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC), Bellaterra 08193, Spain

\*Corresponding author

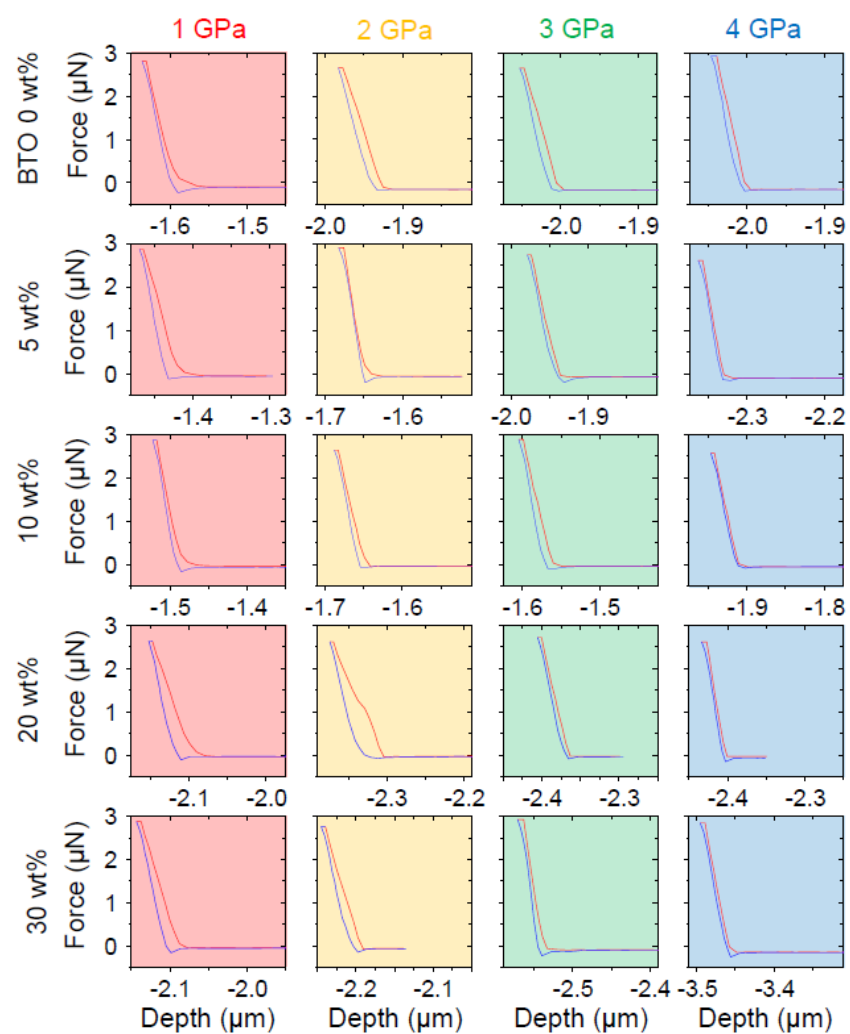
Email: [jhjung@inha.ac.kr](mailto:jhjung@inha.ac.kr);

Tel: +82-32-860-7659;

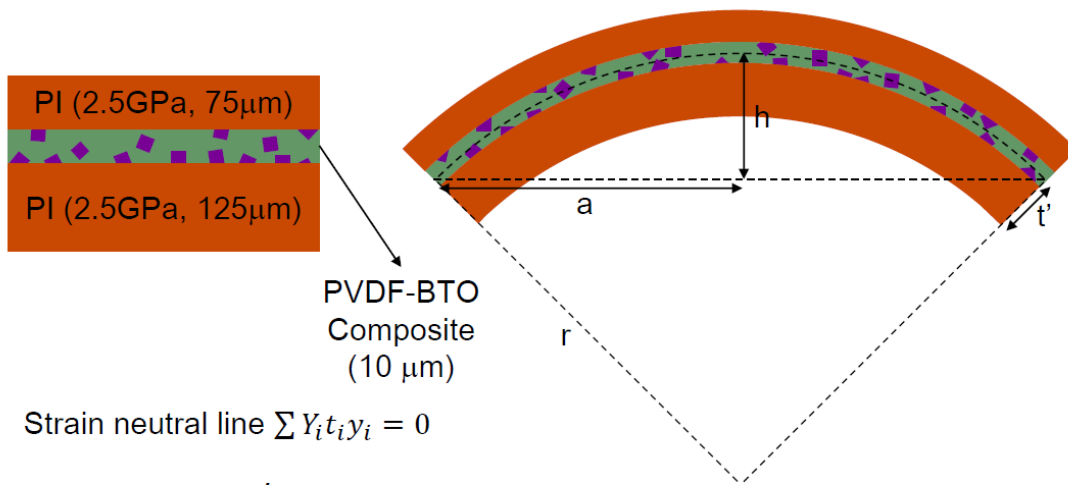
Fax: +82-32-872-7562



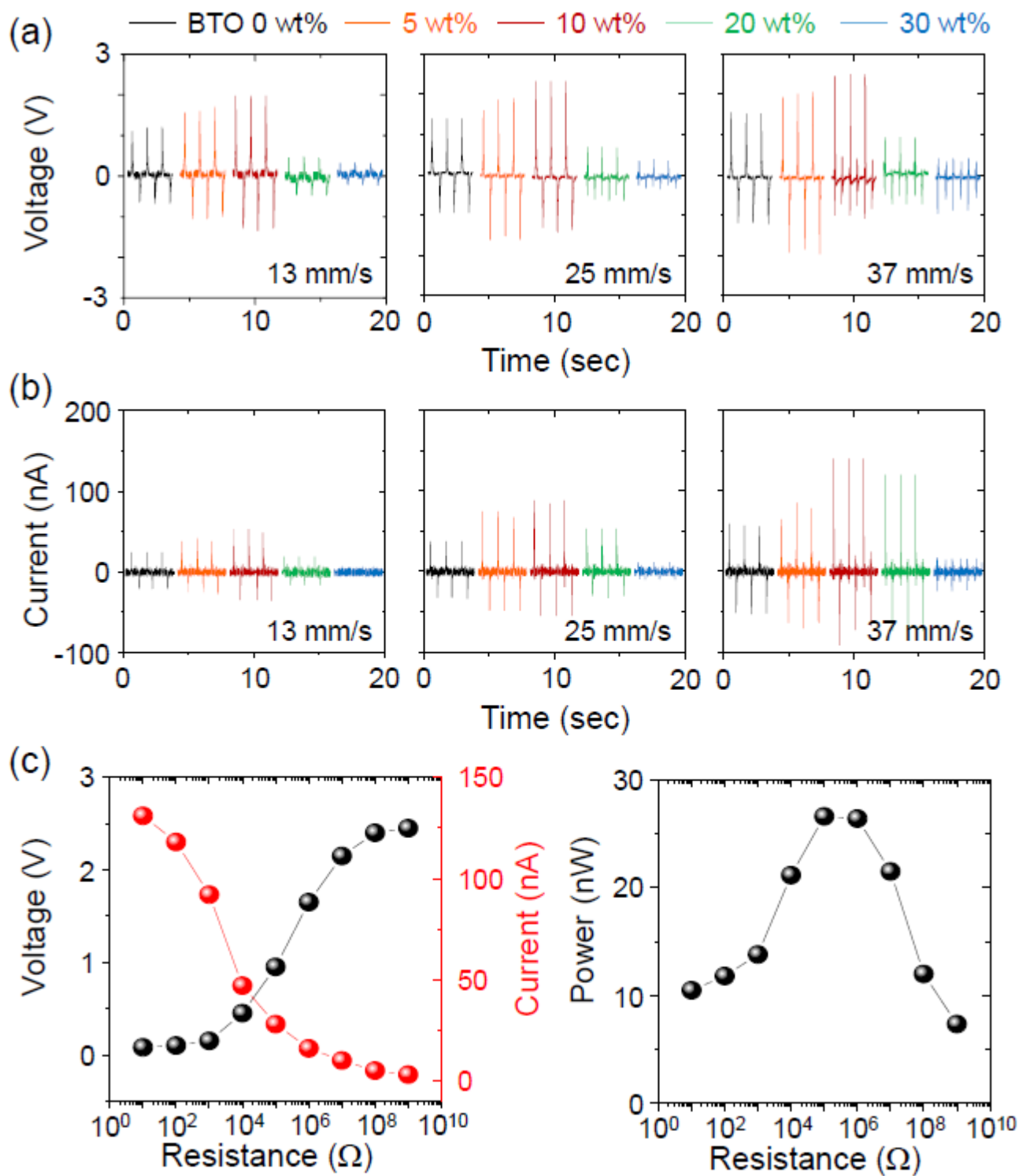
**Figure S1.** Energy-dispersive X-ray (EDX) spectra of the poly(vinylidene fluoride)–BaTiO<sub>3</sub> (PVDF-BTO) composite.



**Figure S2.** Detailed force–displacement curves at various BTO contents and Young’s modulus.



**Figure S3.** Schematic illustration of the strain calculation.



**Figure S4.** (a) Open-circuit voltage and (b) closed-circuit current of the PVDF–BTO composite based PENG as a function of BTO content and bending speed. (c) Load-resistance dependent piezoelectric power. The maximum power outputs occur at the load resistance of  $1 \text{ M}\Omega$ .