Electronic Supplementary Material (ESI) for Nanoscale.

Supporting information

Utilization of magnetic field-driven microscopic motion for piezoelectric energy harvesting

Sanggon Kim[1,2,4], Gerardo Ico[1], Yaocai Bai[3], Steve Yang[4], Jung-Ho Lee[5], Yadong Yin[3,4], Nosang V. Myung[2,4*], and Jin Nam[1,4*].

Addresses:

[1]*Department of Bioengineering, University of California, Riverside, California 92521, United States*

[2]*Department of Chemical and Environmental Engineering, University of California, Riverside, California 92521, United States*

[3]*Department of Chemistry, University of California, Riverside, California 92521, United States*

[4]*Program of Materials Science and Engineering, University of California, Riverside, California 92521, United States*

[5]*Department of Materials Science and Chemical Engineering, Hanyang University, Ansan, Korea*

*Corresponding authors: jnam@engr.ucr.edu and myung@engr.ucr.edu

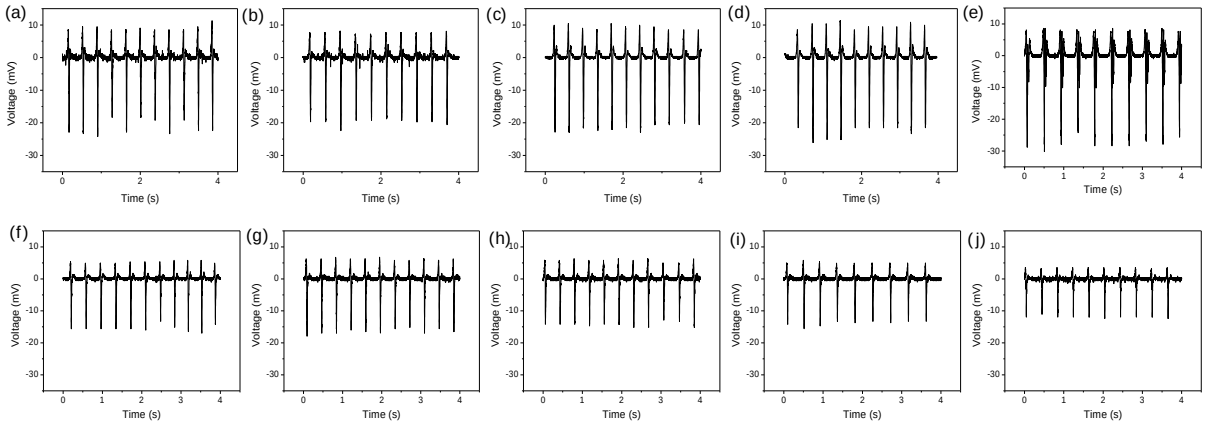

Figure S1. Reproducibility test of the piezoelectric output voltage measured from five independent P(VDF-TrFE) nanofiber mats with MNRs (a-e) and MNSs (f-j).

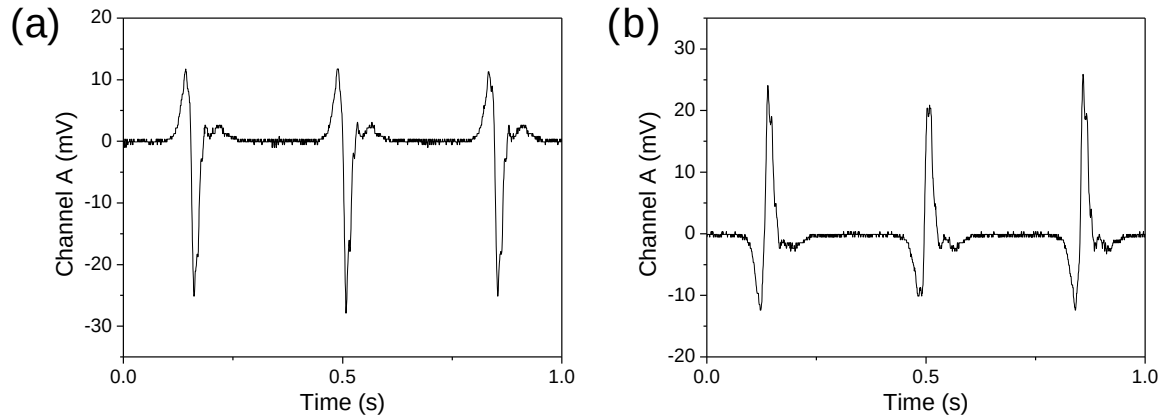

Figure S2. Piezoelectric output voltage measured from the magnetic Fe_3O_4@SiO_2 nanorodes embedded P(VDF-TrFE) nanofiber mats by (a) forward and (b) reverse connections.

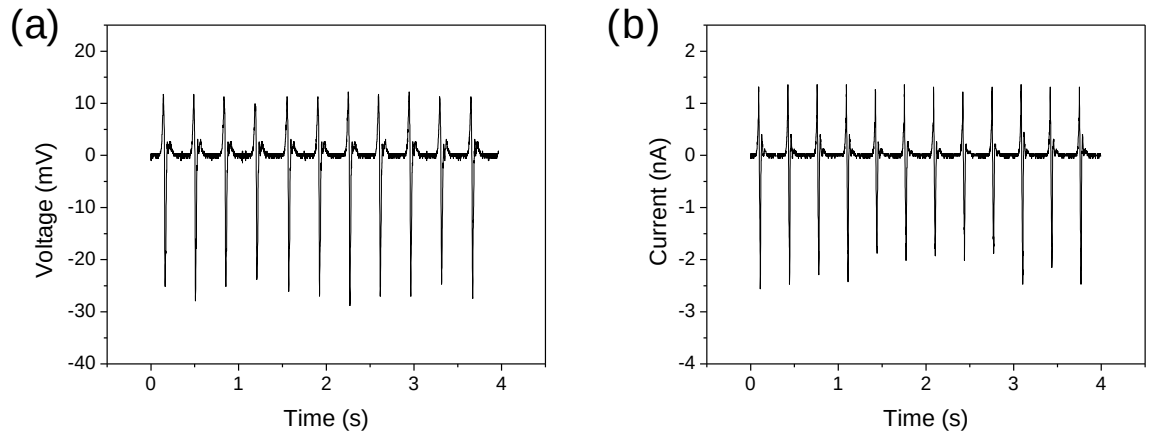

Figure S3. Piezoelectric (a) open-circuit voltage and (b) short-circuit current measured from the magnetic Fe_3O_4@SiO_2 nanorodes embedded P(VDF-TrFE) nanofiber mats.