

Supplementary materials

High energy harvesting performance in flexible piezocomposites by synergistic design of piezoelectric phase and conductive phase

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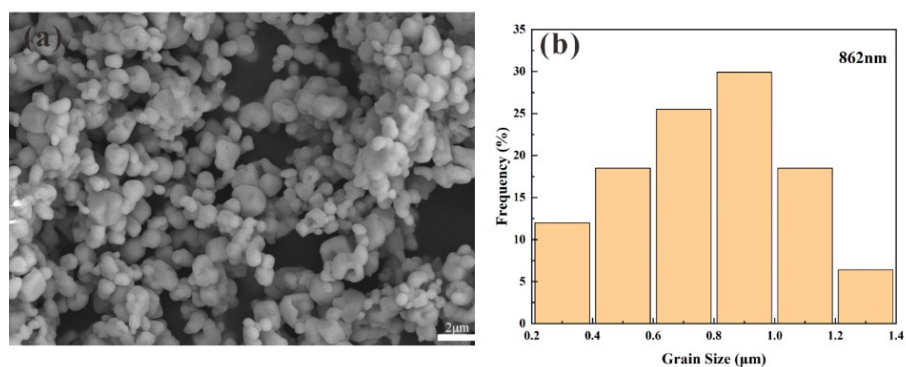


Figure S1. (a) SEM image and (b) average particle size of BCZT powders

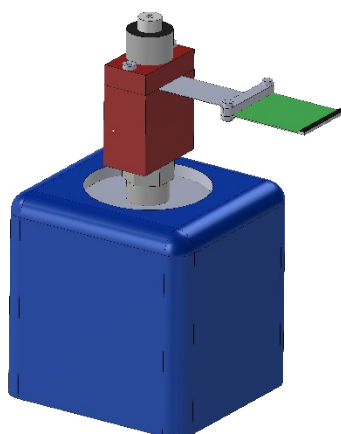


Figure S2. Device schematic of piezoelectric energy harvester with cantilever beam structure

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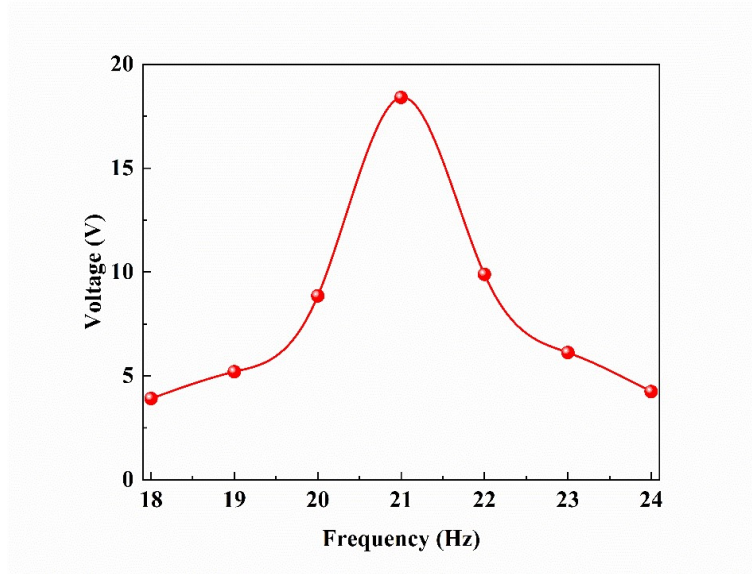


Figure S3. Relationship between open circuit voltage and vibration frequency of 5BCZT/0.1CNTs/PVDF FPEH.

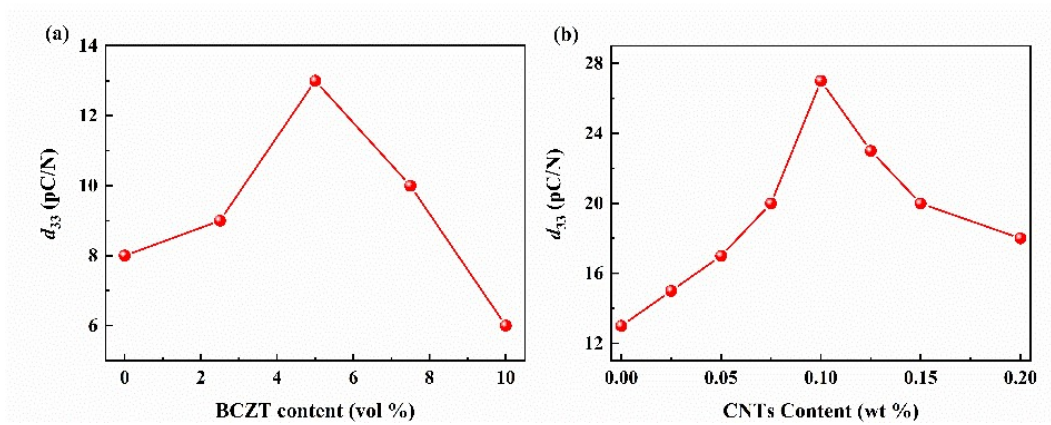


Figure S4. d_{33} of (a) x BCZT/PVDF and (b) 5BCZT/ y CNTs/PVDF PCs.

Table S1. Fundamental parameters of materials setting in FEA.^{1,2}

	Mechanical parameters		Piezoelectric parameters	
	Density (kg/m ³)	Young's modulus (kPa)	d_{33} (pC/N)	ϵ_r
PVDF	1800	5×10^3	10	10
BT	5700	-	190	1700
CNTs	1400	1.8×10^9	-	-

Table S2. Parameters of composites setting in FEA.

	Length (mm)	Wide (mm)	Poling electric field (kV/mm)	Edge load (N/m ²)
Piezocomposites	50	20	20	10000

Reference:

1. M. M. J. Treacy, T. W. Ebbesen and J. M. Gibson, *Nature*, 1996, **381**, 678-680.
2. P. G. Collins and P. Avouris, *Sci. Am.*, 2000, **283**, 62-69.