

## Supporting Information

### Enhanced energy density of polymer nanocomposites at a lower electric field through aligned BaTiO<sub>3</sub> nanowires

Bing Xie<sup>a</sup>, Haibo Zhang<sup>b,c</sup>, Qi Zhang<sup>d</sup>, Jiadong Zang<sup>e</sup>, Chao Yang<sup>f</sup>, Qingping Wang<sup>a</sup>, Mingyu Li<sup>a</sup>, Shenglin Jiang<sup>a,\*</sup>

<sup>a</sup>*School of Optical and Electronic Information, Huazhong University of Science and Technology, Wuhan 430074, P. R. China*

<sup>b</sup>*College of Materials Science and Engineering, State Key Laboratory of Material Processing and Die and Mould Technology, Huazhong University of Science and Technology, Wuhan 430074, P. R. China*

<sup>c</sup>*Research Institute of Huazhong University of Science and Technology in Shenzhen, Shenzhen 518057, P. R. China*

<sup>d</sup>*School of Materials Science and Engineering, The University of New South Wales, New South Wales 2052, Australia*

<sup>e</sup>*School of Materials Science, Technical University of Darmstadt, Darmstadt 64287, Germany*

<sup>f</sup>*School of Physics, Huazhong University of Science and Technology, Wuhan 430074, P. R. China*

Table S1 Comparisons of energy density for different ferroelectric nanocomposites.

Nanofiller	Matrix	$E$ (kV/cm)	$U_e$ (J/cm <sup>3</sup> )	Reference
(3vol.%)BTnws// E	P(VDF-CTFE)	2400	10.8	Our work
(18vol.%)BZT nps	PVDF	2500	7.74	1
(3vol.%)BTnws	P(VDF-CTFE)	2700	8.4	2
(17.5vol.%)BTnws	P(VDF-TrFE-CFE)	3000	10.48	3
(2.5vol.%)BT@SiO <sub>2</sub> nfs	PVDF	3300	6.28	4
(2vol.%)BT@SiO <sub>2</sub> nps	PVDF	3400	6.28	5
(2.5vol.%)BST60 nfs	PVDF	3800	6.4	6
(2.5vol.%)ST@PVP nfs	PVDF	3800	6.8	7
(2.5vol.%)BST nfs	PVDF	3800	6.95	8
(10vol.%)F4CBT nps	PVDF	4000	9.4	9
BTONps+BTONfs	PVDF(Multilayered)	4500	10	10
MgO	PVDF	5000	10.52	11

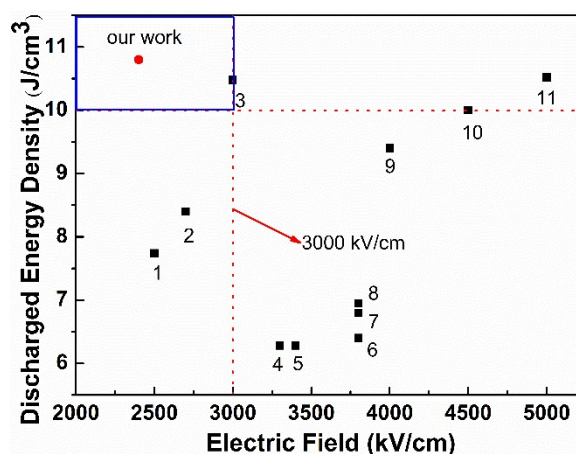


Fig.S1 Comparisons of energy density for different polymer nanocomposites at different electric field.

1. S. Adireddy, V. S. Puli, T. J. Lou, R. Elupula, S. C. Sklare, B. C. Riggs and D. B. Chrisey, *J. Sol-gel Sci. Techn.*, 2014, **73**, 641-646.
2. B. Xie, Q. Zhang, H. Zhang, G. Zhang, S. Qiu and S. Jiang, *Ceram. Int.*, 2016, **42**, 19012-19018.
3. H. Tang, Y. Lin and H. A. Sodano, *Adv. Energy Mater.*, 2013, **3**, 451-456.
4. S. Liu, S. Xue, B. Shen and J. Zhai, *Appl. Phys.Lett.*, 2015, **107**, 032907.
5. K. Yu, Y. Niu, Y. Bai, Y. Zhou and H. Wang, *Appl. Phys. Lett.*, 2013, **102**.
6. L. Shaohui, Z. Jiwei, W. Jinwen, X. Shuangxi and Z. Wenqin, *ACS. Appl. Mater. Interfaces.*, 2014, **6**, 1533-1540.
7. S. Liu and J. Zhai, *J. Mater. Chem. A*, 2015, **3**, 1511-1517.
8. Z. B. Pan, L. M. Yao, J. W. Zhai, S. H. Liu, K. Yang, H. T. Wang and J. H. Liu, *Ceram. Int.*, 2016, **42**, 14667-14674.
9. Y. Niu, K. Yu, Y. Bai, F. Xiang and H. Wang, *Rsc Adv.*, 2015, **5**, 64596-64603.

10. P. Hu, Y. Shen, Y. Guan, X. Zhang, Y. Lin, Q. Zhang and C.-W. Nan, *Adv. Funct. Mater.*, 2014, **24**, 3172-3178.
11. S.-s. Chen, J. Hu, L. Gao, Y. Zhou, S.-m. Peng, J.-l. He and Z.-m. Dang, *RSC Adv.*, 2016, **6**, 33599-33605.