Local Piezoelectric Response of Polymer/Ceramic Nanocomposite Fibers

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Supplementary material

Figure S1. Thermogravimetric analysis (in air flux) of the composite nanofiber sample.

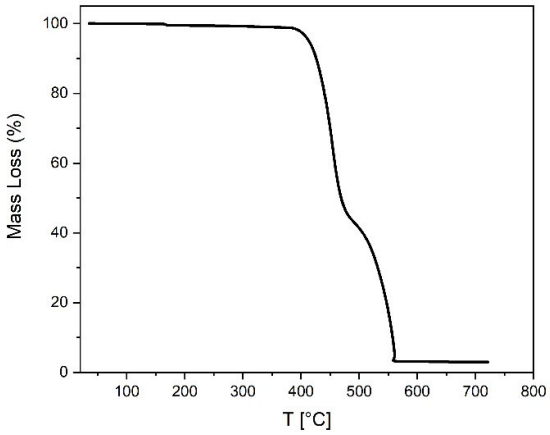

Figure S2. Differential scanning calorimetry analysis of the composite nanofiber sample.

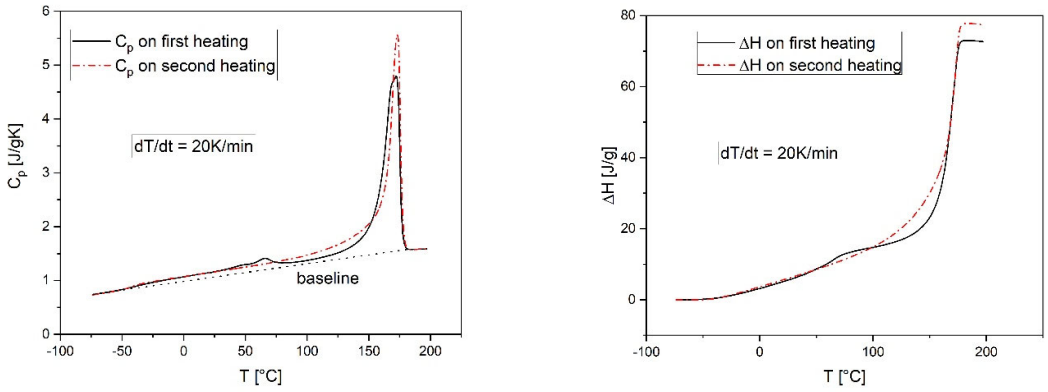

Figure S3. PFM amplitude scan of an electrospun PVDF/$BaTiO_3$ composite nanofiber transferred on a doped silicon substrate (Figure 2), with indications of three different regions: substrate (1), domain (2), nanofiber (3).

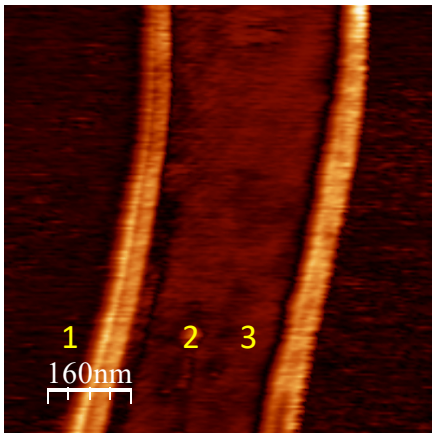

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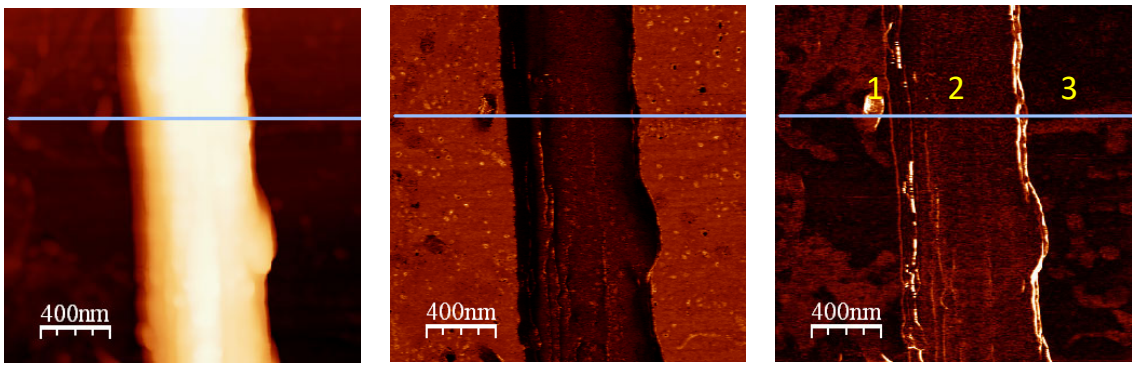
Table S3. Average piezoresponse on three different regions indicated in Figure S3.

Position	Piezoelectric coefficient
Zone 1: substrate	6 pm/V
Zone 2: domain	31 pm/V
Zone 3: nanofiber	13 pm/V

Figure S4. Topography, resonance frequency shift (Dw) and piezoresponse (DA) scan of an electrospun PVDF/$BaTiO_3$ composite nanofiber as deposited on the rotating electrospinning aluminum substrate, on which a $BaTiO_3$ nanoparticle is also visible. Figure 4 was extracted from these topography and PFM amplitude full scans.



Topography Dw DA

Table S4. average piezoelectric coefficients on nanoparticle, nanofiber, and substrate in Figure S4.

Position	Piezoelectric coefficient
Zone 1: nanoparticle	60 ± 20 pm/V
Zone 2: nanofiber	17 ± 6 pm/V
Zone 3: substrate	7 ± 3 pm/V