Supplementary Information

Achieving Secondary Dispersion of Modified Nanoparticles by Hot-Stretching to Enhance Dielectric and Mechanical Properties of Polyarylene Ether Nitrile Composites



Figure S1. The DSC curves of PEN/PANI-*f*-BT nanocomposite films with different stretching ratios: (**a**) PEN/PANI-*f*-BT nanocomposites; (**b**) PEN/PANI-*f*-BT nanocomposites hot-stretched by 50%; (**c**) PEN/PANI-*f*-BT nanocomposites hot-stretched by 100%; (**d**) PEN/PANI-*f*-BT-a nanocomposites hot-stretched by 100%; (**e**) PEN/PANI-*f*-BT-b nanocomposites hot-stretched by 100%; (**f**) PEN/PANI-*f*-BT-c nanocomposites hot-stretched by 100%.



Figure S2. The DSC curves of PEN/PANI-*f*-BT-b nanocomposite films with different stretching ratios: (**a**) PEN/PANI-*f*-BT-b nanocomposites; (**b**) PEN/PANI-*f*-BT-b nanocomposites hot-stretched by 50%; (**c**) PEN/PANI-*f*-BT-b nanocomposites hot-stretched by 100%; (**d**) PEN/PANI-*f*-BT-b nanocomposites hot-stretched by 100% after treatment at 300 °C.



Figure S3. The electrical conductivity of (**a**) PEN/PANI-*f*-BT nanocomposites and (**b**) PEN/PANI-*f*-BT-b nanocomposites with different stretching ratios.