Novel Cigar-like TiO_2 Nanofibers: Fabrication, Improved Mechanical and Electrochemical Performances

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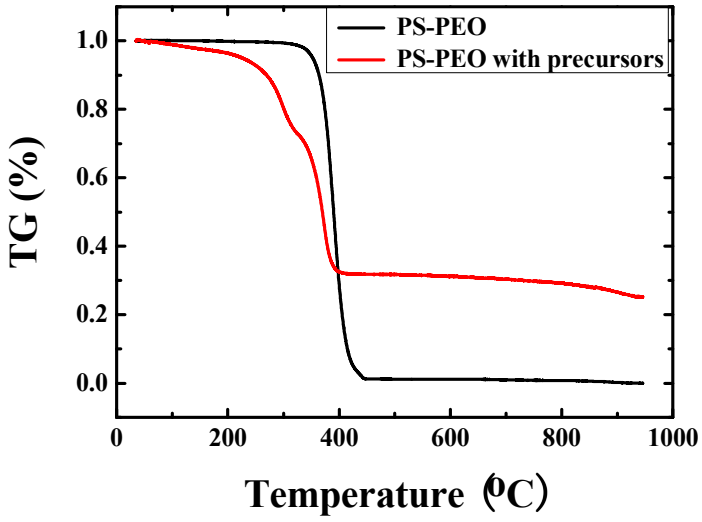

Figure S1, Thermogravimetric analysis showing the weight loss of the degradation of PS-PEO and transition from titanium-tetraisopropoxide to titanium dioxide

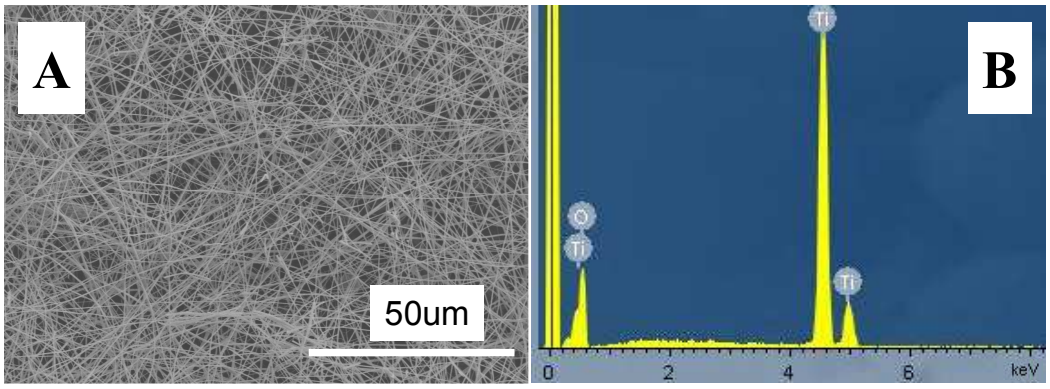

Figure S2, Energy-dispersive X-ray spectrum for the whole scanned area of as-calcined fiber. There are only Ti and O elements in our specimen, confirming the complete degradation of PS-b-PEO.

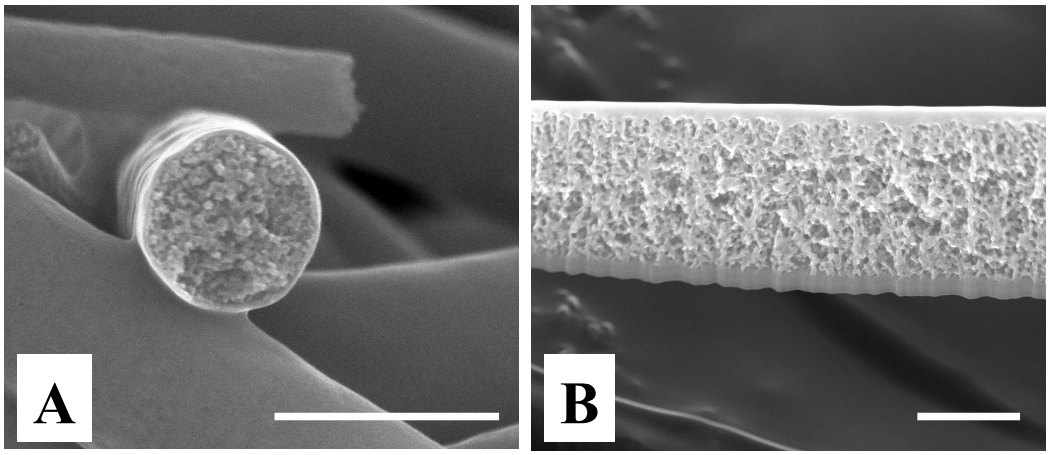

Figure S3, SEM images of fiber profile along radial (A) and axial (B) directions. Scale bars are 500nm. These images show perfect juncture between bicontinuous structure and fiber shell, confirming the absence of PS rich phase in neighboring layer of gyroid in fibers before calcinations.

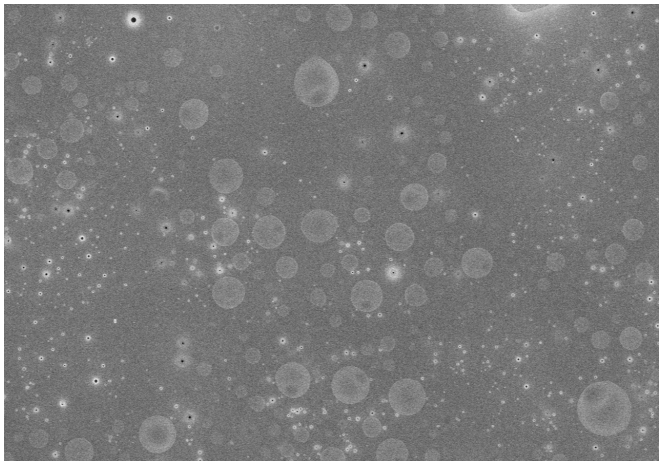

Figure S4, SEM image of fibers of PS-PEO (without TiO_2 precursors) annealed at 120°C for 48 hours on silicon wafer. Scale bar is 50 micron. This image gives evidence of TiO_2 enabling shape fix during calcinations.

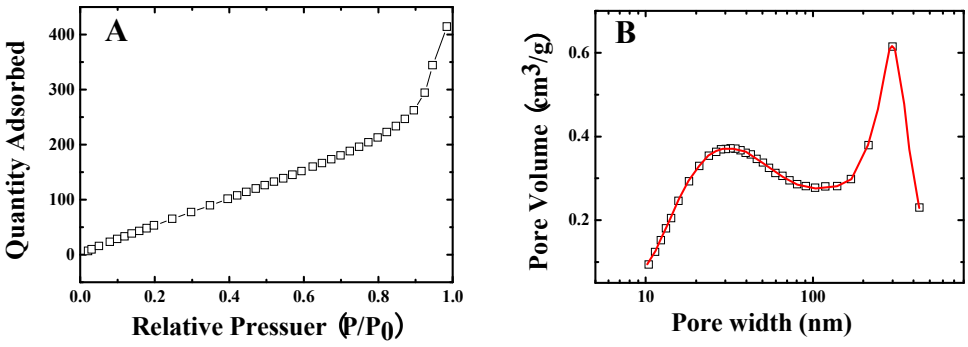

Figure S5, Nitrogen adsorption isotherm test (A) and pore size distribution (B) of as-calcined non-woven fabrics from TiO_2 nanofiber.