Supporting Information

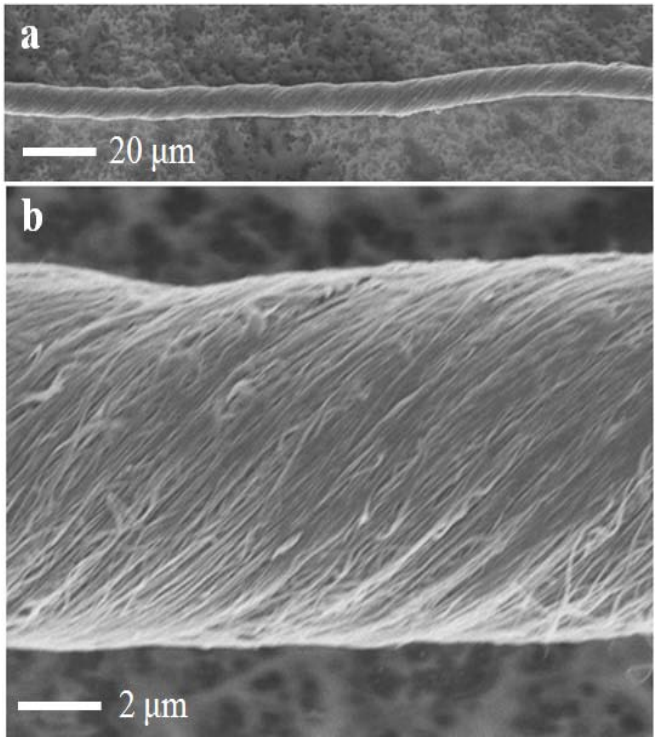

Figure S1. SEM images of an as-prepared CNT fiber at (a) low and (b) high magnifications.

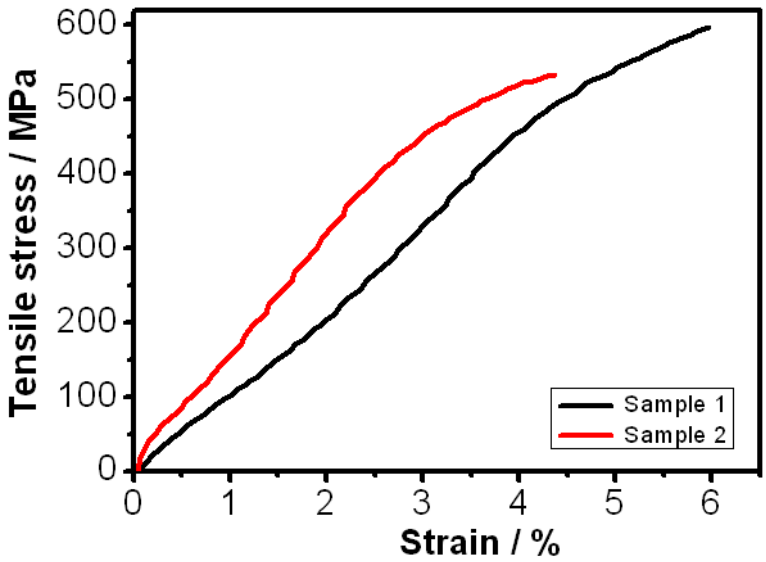

Figure S2. Tensile stress–strain curve of a typical CNT fiber.

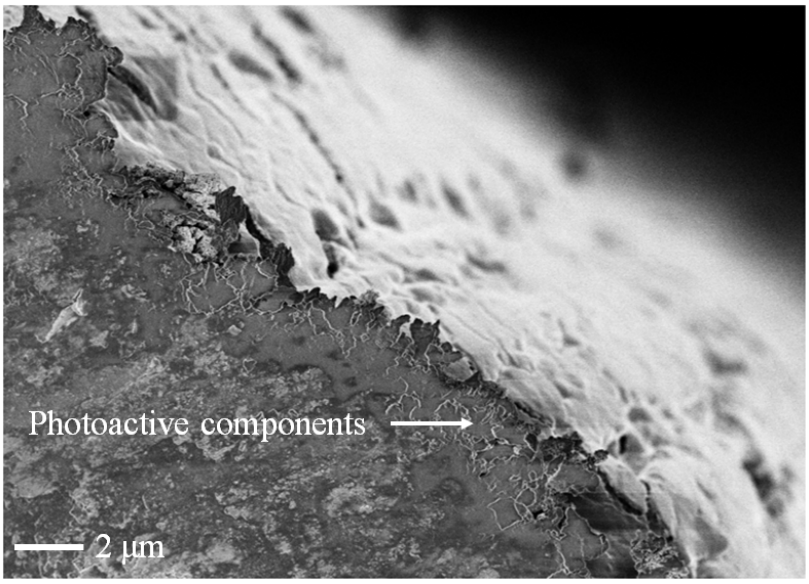

Figure S3. Cross-sectional SEM image of an anodized Ti wire after being coated with photoactive components of P3HT/$PC_{70}BM$.

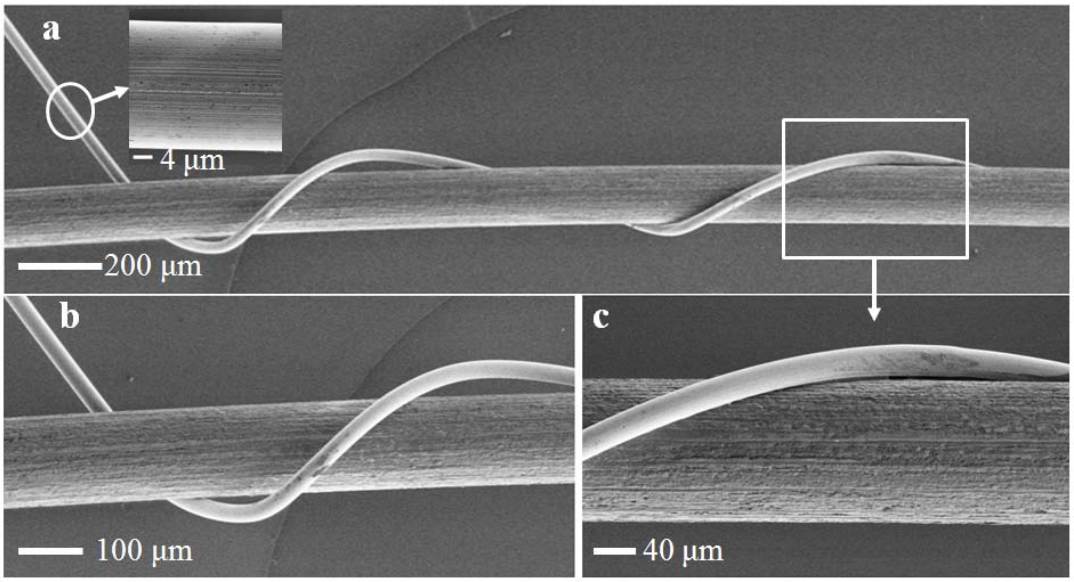

Figure S4. SEM images of a polymer photovoltaic wire by using aluminum wire in replacement of the CNT fiber. (a) Low magnification (the inserted image showing the surface of an aluminum wire). (b) and (c) Higher magnifications of (a) at different locations.

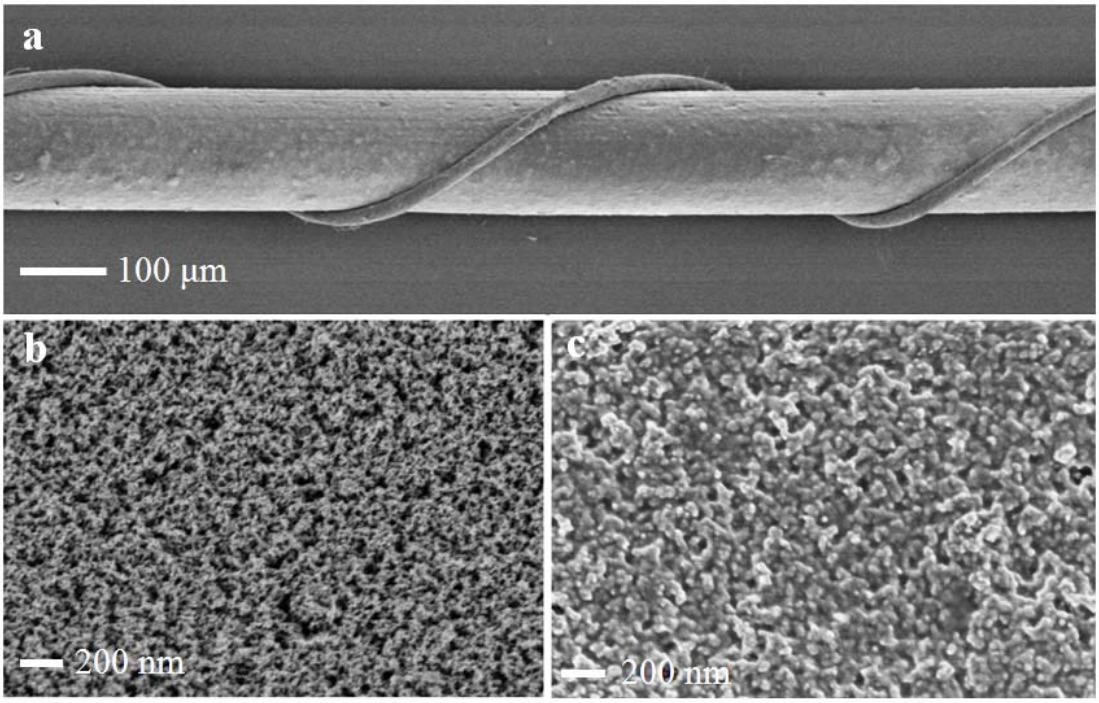

Figure S5. SEM image of a polymer photovoltaic wire fabricated by twining a Ti wire being coated with a layer of TiO_2 nanoparticles and a CNT fiber (the photoactive layer of P3HT:$PC_{70}BM$ was coated on the modified Ti wire). (a) A typical wire cell. (b) and (c) The modified Ti wire before and after being coated with P3HT:$PC_{70}BM$, respectively.

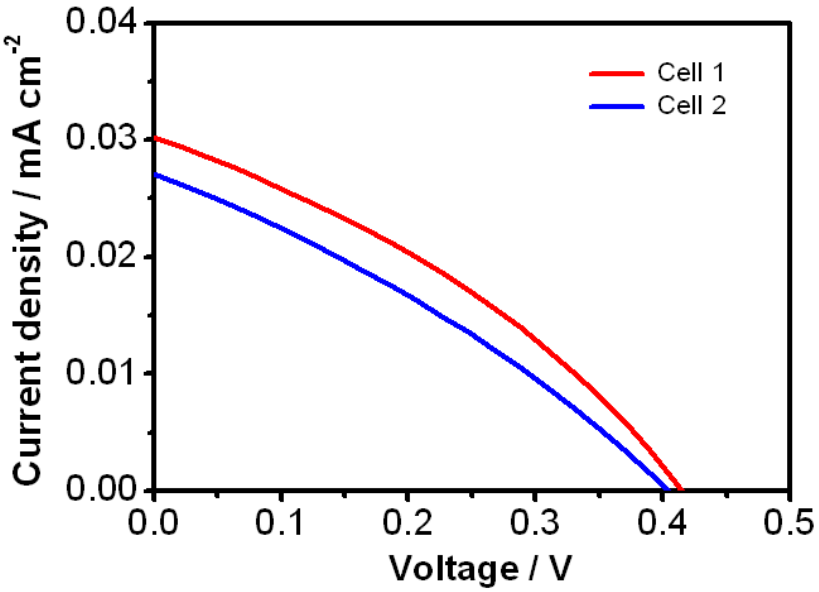

Figure S6. *J-V* curves of two typical polymer photovoltaic wires in Figure S5.

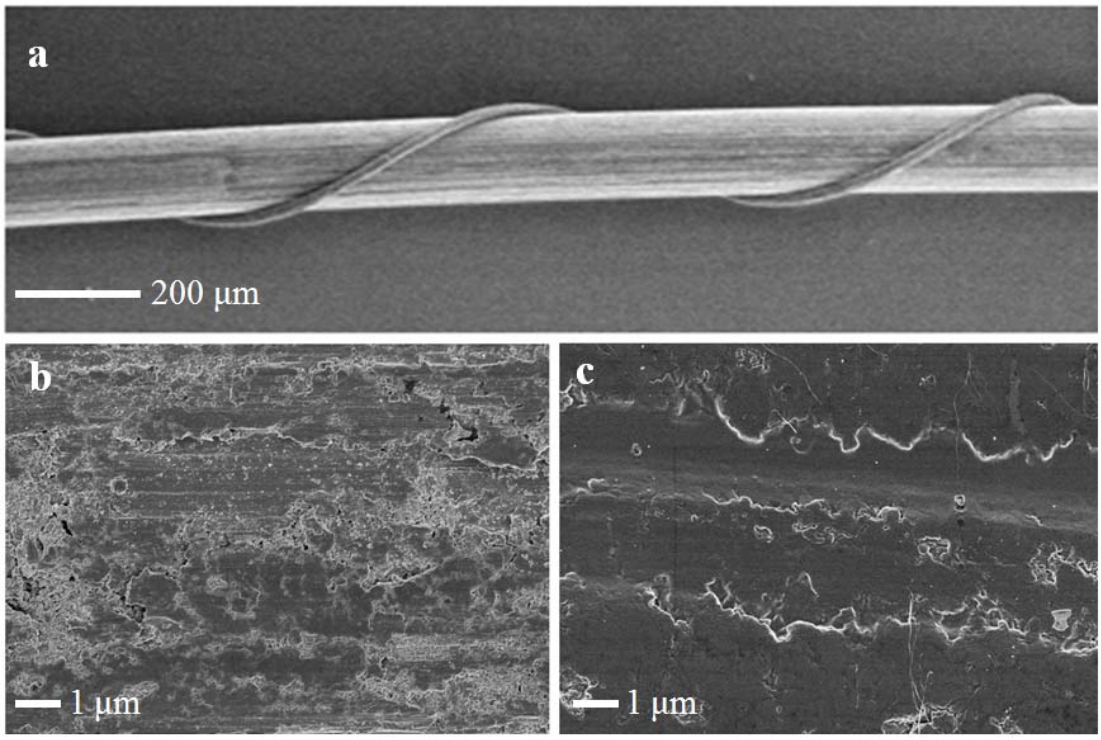

Figure S7. SEM images of a polymer photovoltaic wire by twining a bare Ti wire being coated with P3HT:$PC_{70}BM$ and a CNT fiber. (a) A typical wire cell. (b) and (c) The Ti wire (b) before and (c) after being coated with P3HT:$PC_{70}BM$.