Supporting Information

Spinnable MWCNT arrays were synthesized according to the following experimental parameter. Fe (1.2 nm)/Al₂O₃ (5 nm) on a silicon wafer served as the catalyst, and ethylene was used as the carbon source with a flowing rate of 90 sccm. A mixture of Ar (480 sccm) and H₂ (30 sccm) was used as the carrier gas. The growth temperature was 750°C, and the thickness of the resulting spinnable MWCNT array was appropriately 200 μm.

The structures were characterized by scanning electron microscopy (Hitachi FE-SEM S-4800 operated at 1 kV). J-V curves were produced by a Keithley 2400 Source Meter under illumination (100 mW/cm²) of simulated AM1.5 solar light derived from a solar simulator (Oriel-Sol3A 94023A equipped with a 450 W Xe lamp and an AM1.5 filter). The light intensity was calibrated using a reference Si solar cell (Oriel-91150). The transmittance had been measured by UV-vis spectrophotometer (SHIMADZU UV-2550) with different thicknesses of MWCNT sheets being attached on clean glass slides.
Figure S1. UV-vis spectra of MWCNT sheets with thicknesses of 20, 40, and 60 nm.
**Figure S2.** SEM image of a twisted DSC wire from two fiber electrodes with the modified Ti wire and MWCNT fiber as working and counter electrodes, respectively.
**Figure S3.** Photographs of a coaxial DSC fiber before and after bending. The arrows show the DSC fiber.