

*Supplementary Information*

**Metal-electrode-free Window-like Organic Solar Cells with  
p-Doped Carbon Nanotube Thin-film Electrodes**

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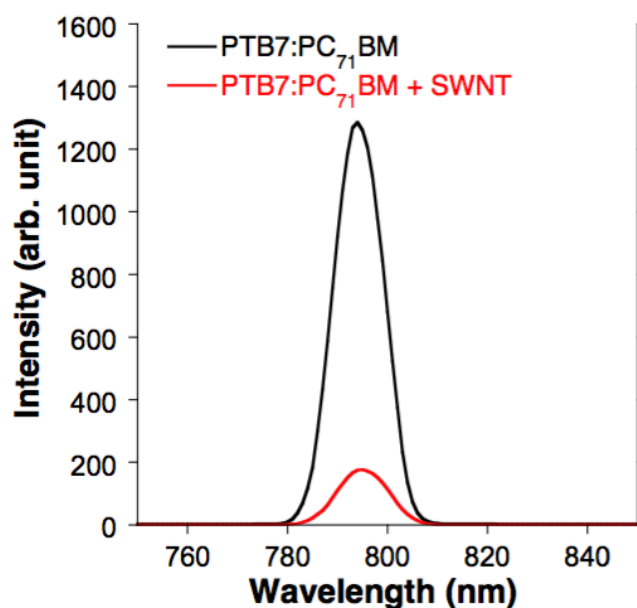
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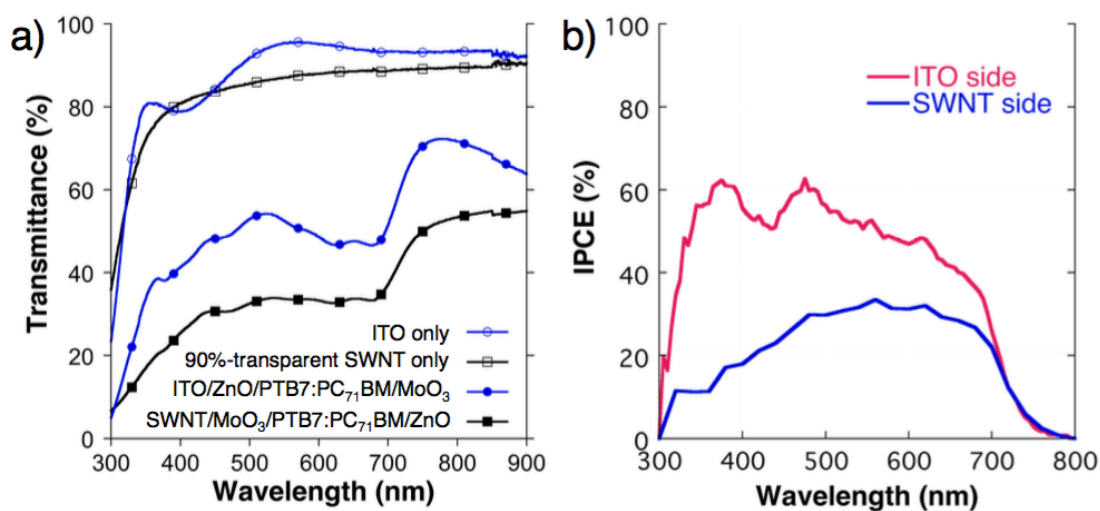
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## 1. Photoluminescence data



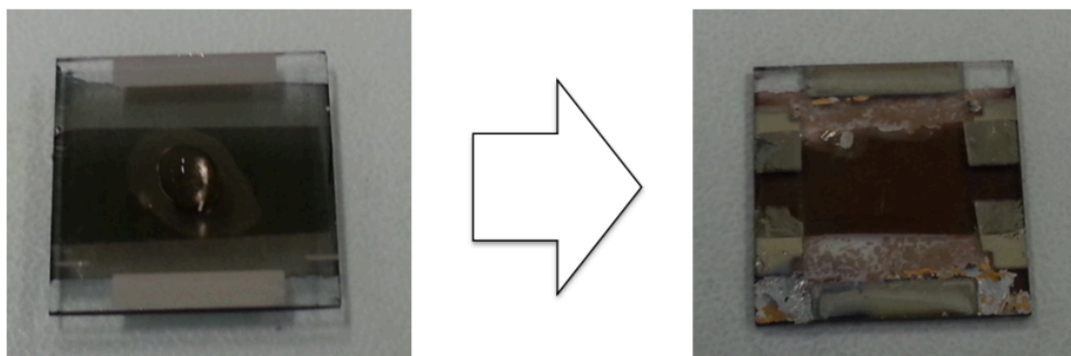
**Figure S1.** Photoluminescence spectrum of PTB7:PC<sub>71</sub>BM active layer is subdued when SWNT film is over-coated on the very same active layer.

## 2. UV-vis and IPCE data



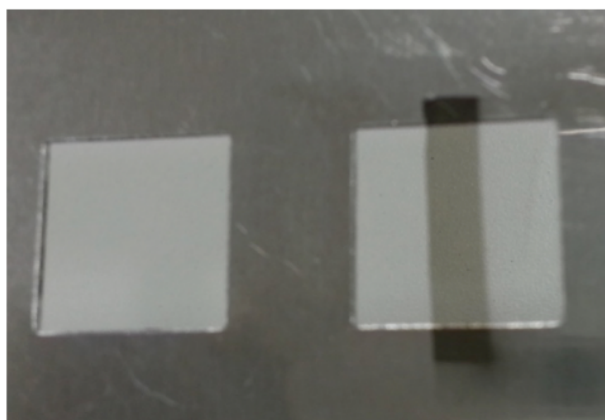
**Figure S2.** a) UV-vis transmittance measurement spectra of glass/ITO, glass/90%-SWNT, glass/ITO/ZnO/PTB7:PC<sub>71</sub>BM/MoO<sub>3</sub>, and glass/90%-SWNT/MoO<sub>3</sub>/PTB7:PC<sub>71</sub>BM/ZnO. b) IPCE measurement spectra of transparent OSCs when light is shone from ITO side and when light is shone from SWNT side.

### 3. Direct application of $\text{HNO}_3(\text{aq})$ on SWNT-based transparent OSC



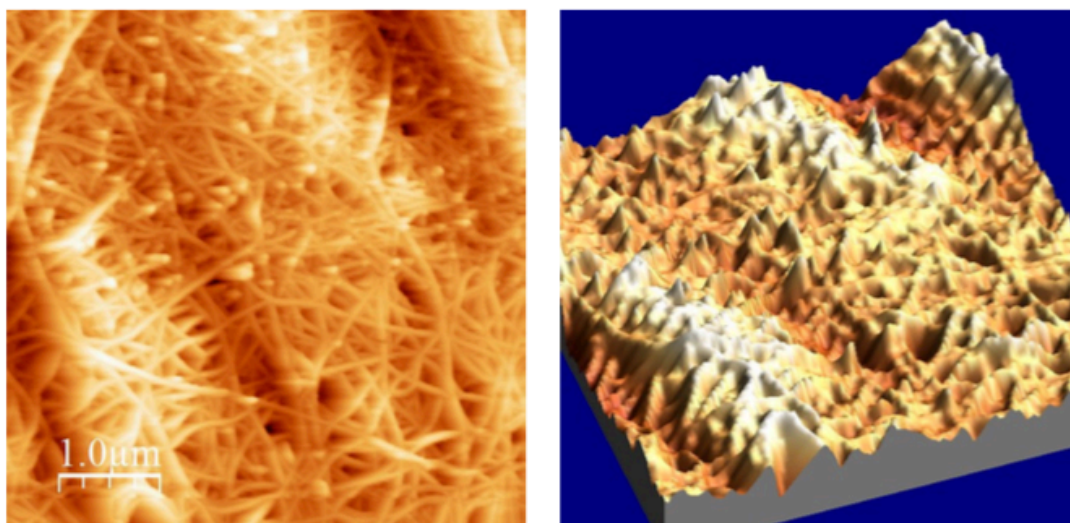
**Figure S3.** Application of  $\text{HNO}_3(\text{aq})$  directly onto a SWNT-based transparent OSC (left) will lead to a holistic destruction of the device system (right) within 5 h.

### 4. Bridged SWNT



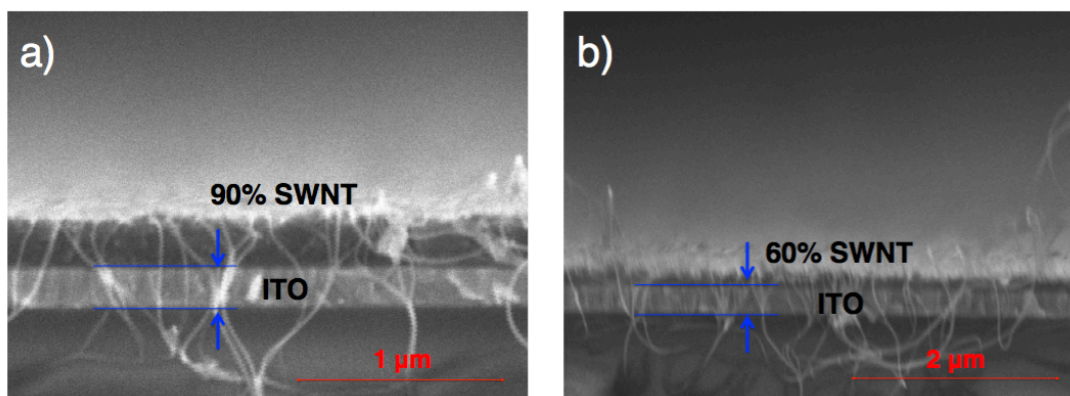
**Figure S4.** A picture of a SWNT film bridged on a holder.

## 5. AFM images of micro-wrinkles



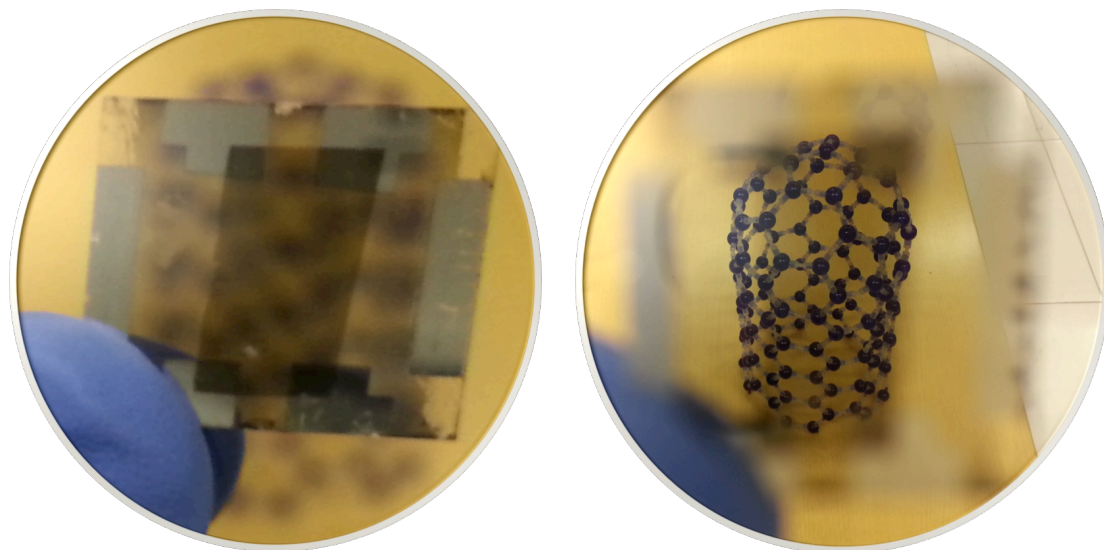
**Figure S5.** AFM 2D image (left) and 3D image (right) of micro wrinkles formed on bridge-transferred SWNT.

## 6. Cross-sectional SEM images



**Figure S6.** Cross-sectional SEM images of transparent OSC devices with a) a 90%-SWNT film and b) a 60%-SWNT film.

## 7. Device pictures



**Figure S7.** Pictures of 60% transparent SWNT-based transparent OSC when focused on the device (left) and on a behind object, the SWNT plastic model (right).