## Supplementary information

 $\dagger$  Electronic Supplementary Information (ESI) available: [J-V curve, bending tests, and impedance spectra]. See DOI: 10.1039/b000000x/



Fig. S1. J-V characteristics of transparent flexible OSCs with PANI of 22 nm.



Fig. S2. Bending tests: (a) Inward bending (compressive), (b) outward bending (tensile), and normalized PCE based on (c) physical tensile test and (d) physical compressing test.



**Fig. S3.** (a) Impedance spectra of the transparent flexible OSCs with 18 nm and without PANI buffer layer in the dark at 0 V, and (b) equivalent RC circuit of the transparent flexible OSCs in the dark.