## **Supplementary Information for**

## Transparent organic thin-film transistors and nonvolatile memory devices fabricated on flexible plastic substrates

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Figure S1. (a) UV-visible absorption spectrum of the Au<sub>NP</sub> solution that was synthesised using the citrate reduction method. (b) The transmittance spectra of the OTFTs and organic memory devices. The transmittance was 86% for the PES/ITO/PVP/APTES/ PVP/pentacene/MoO<sub>3</sub>/ITO device and 67% for the PES/ITO/PVP/APTES/Au<sub>NP</sub>/PVP/ pentacene/MoO<sub>3</sub>/ITO device (at a wavelength of 500 nm).



Figure S2. The change of normalized memory window according to the retention time at different temperatures (room temperature (R.T.), 50°C, and 85°C). The normalized memory window was calculated by using the following equation  $(\Delta V_{th} \text{ (retained)}/\Delta V_{th} \text{ (initial)}).$