Supporting Information

Plasmon-Enhanced All Organic Ultraviolet Photodetectors with High Sensitivity and Long-Term Stability

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Figure S1. The physical diagram of the all Organic ultraviolet photodetectors device. The upper left corner is a bare ITO glass. The upper right corner is the gold nanoparticle film. The lower left corner is the Ph/BTBT-12/C_{60} device. The lower right corner is the Au NPs/Ph-BTBT-12/C_{60} device.

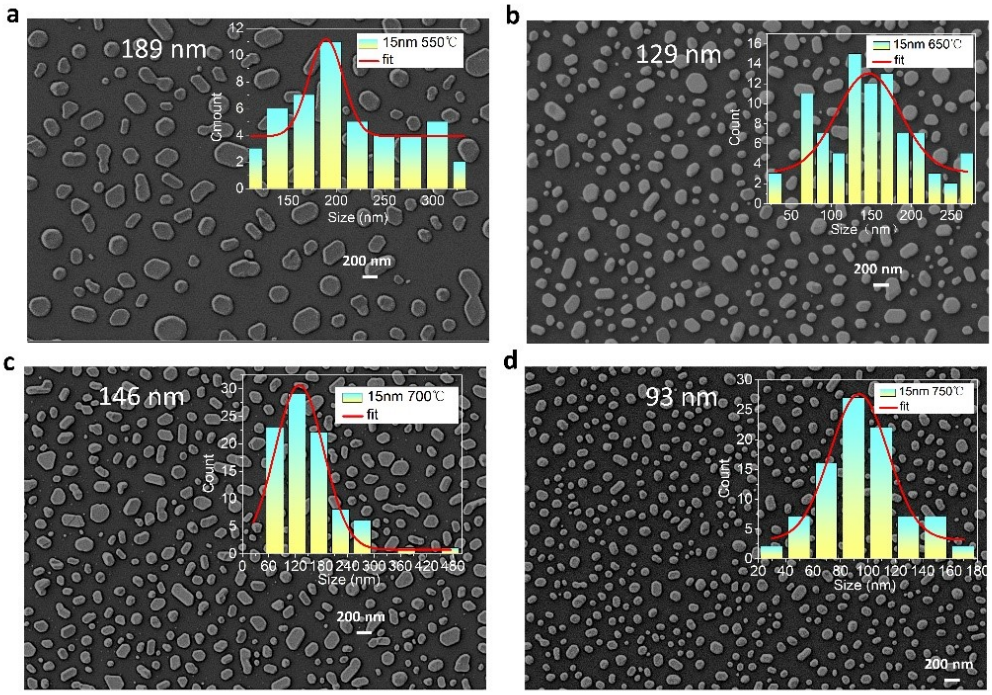

Figure S2. Evolution of Au NPs by the control of temperature between 550 °C and 750 °C for 10 min with the 15 nm Au film.

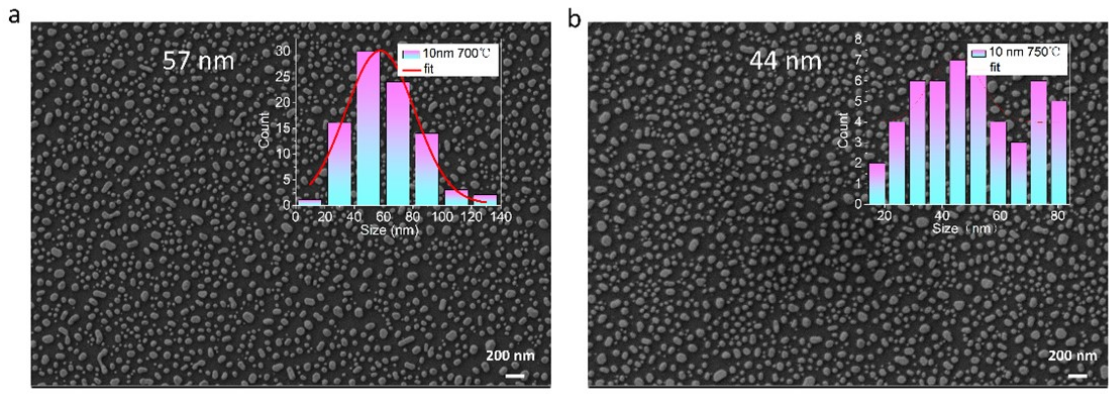

Figure S3. Evolution of Au NPs by the control of temperature between 700 °C and 750 °C for 10 min with the 10 nm Au film. It can be seen from the SEM images and the size distribution histograms that as the annealing temperature increases and the Au film becomes thinner, the size of the gold particles gradually becomes smaller.

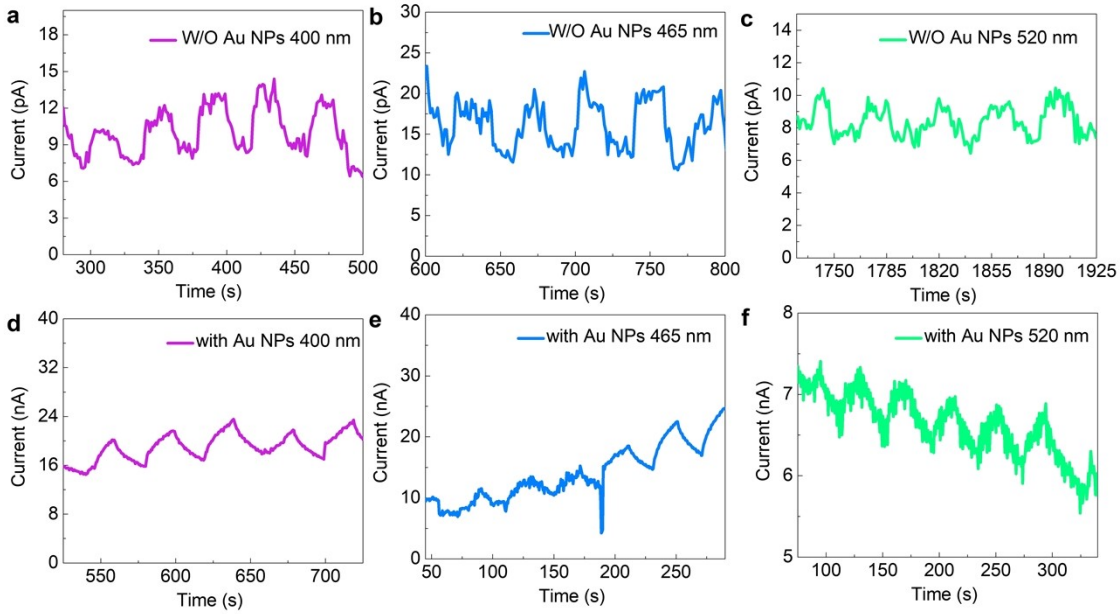

Figure S4. Time-dependent response of the device under irradiated light (400 nm, 465 nm and 520 nm).

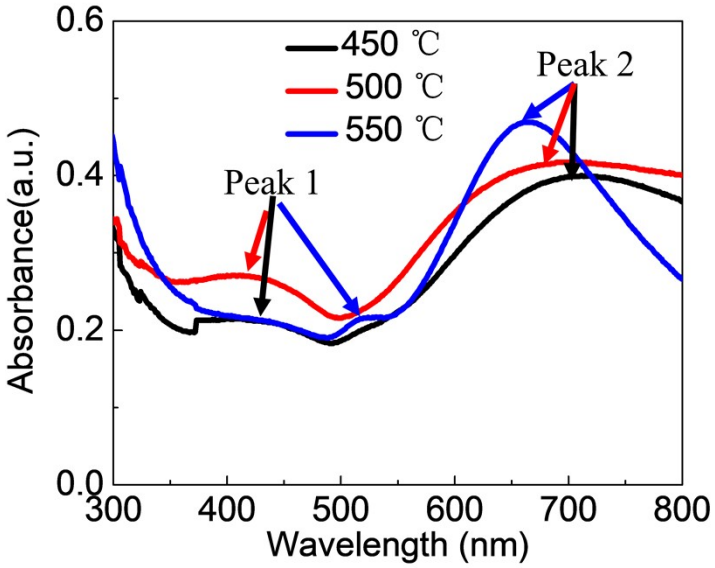

Figure S5. The absorption spectra of Au NPs at different annealing temperatures.

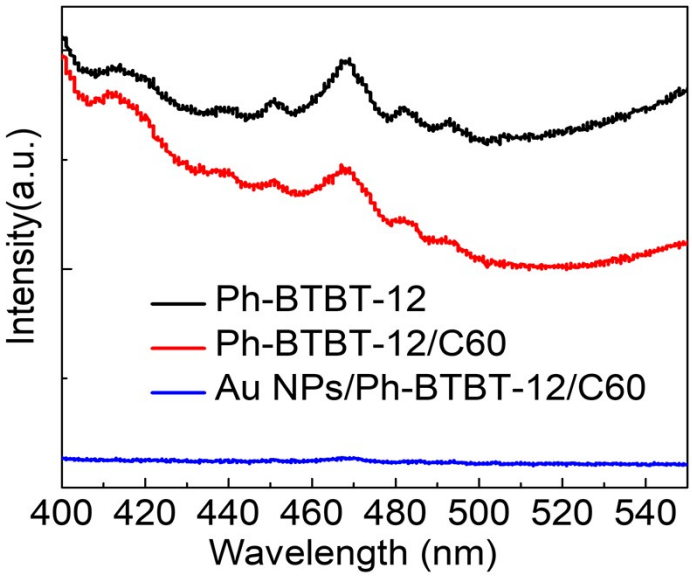

Figure S6. The PL spectra of the Ph-BTBT-12, Ph-BTBT-12/C_{60} and Au NPs/Ph-BTBT-12/C_{60} films.

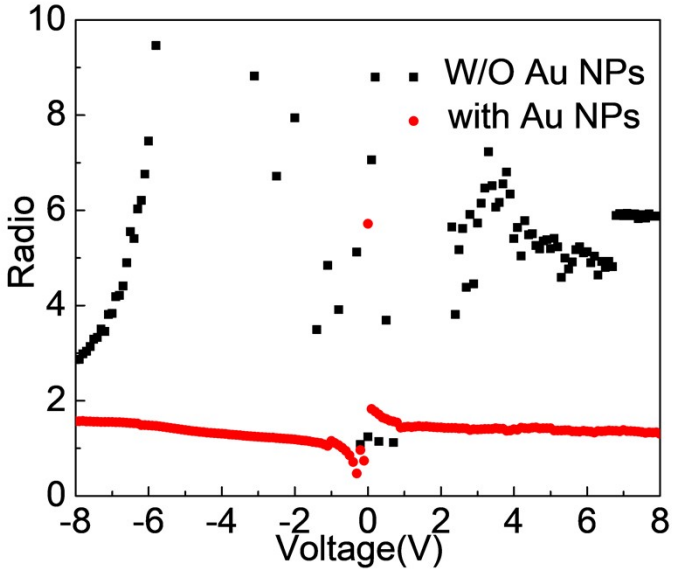

Figure S7. The photo-to-dark current ratio for the devices with Au NPs and without Au NPs.