

Supporting Information

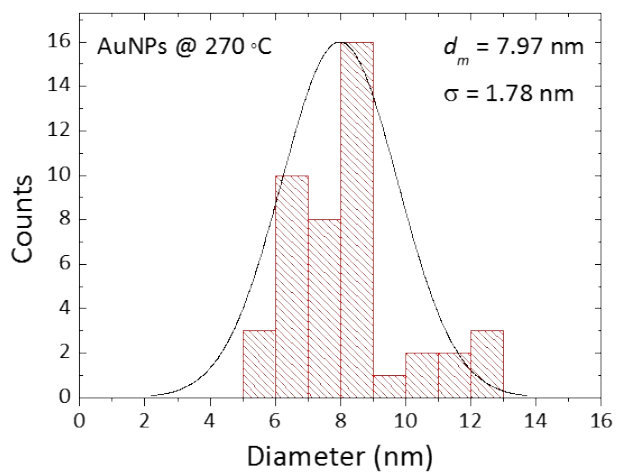


Figure S1. Histogram of the synthesized gold nanoparticles at 270 °C.

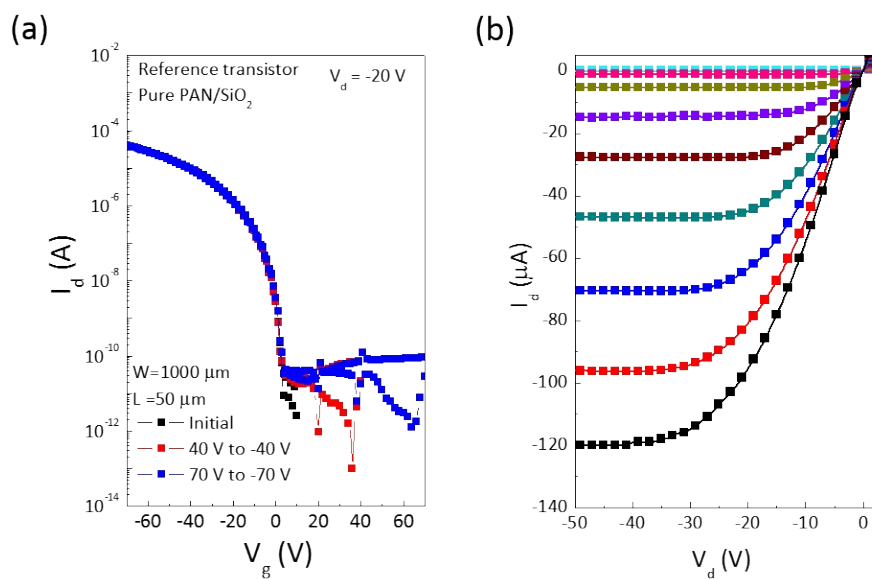


Figure S2. (a) Transfer and (b) output characteristics of reference organic transistors. Transfer curves were measured by a gate double sweep with ranges of $\pm 10 \text{ V}$, $\pm 40 \text{ V}$ and $\pm 70 \text{ V}$ at $V_d = -20 \text{ V}$. Output curves were obtained with a gate bias from 10 V to -30 V and a -5 V step.

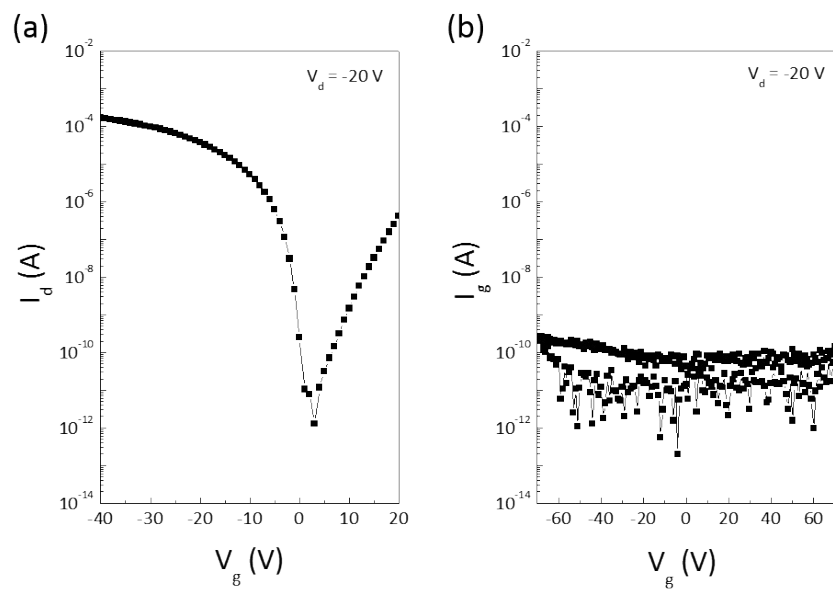


Figure S3. (a) Transfer curve during the measurement of output characteristics. (b) Gate leakage current while the transfer curve was measured with dual swept gate bias from 70V to -70V.

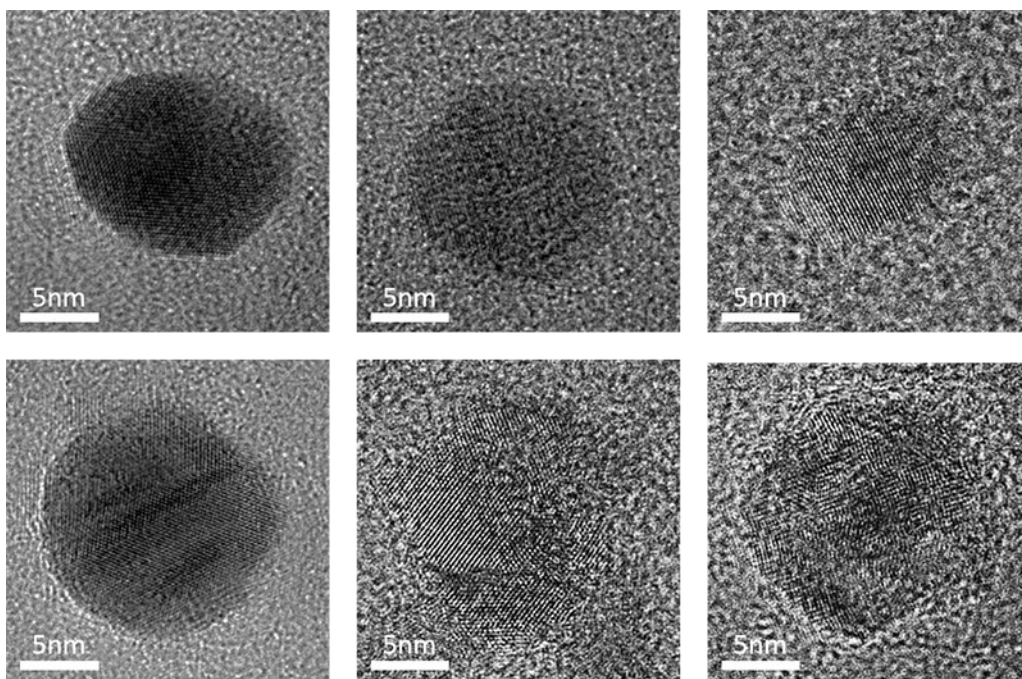


Figure S4. The HRTEM images of the synthesized gold nanoparticles in a PAN matrix that were obtained by the simple annealing method.