

Supporting Information

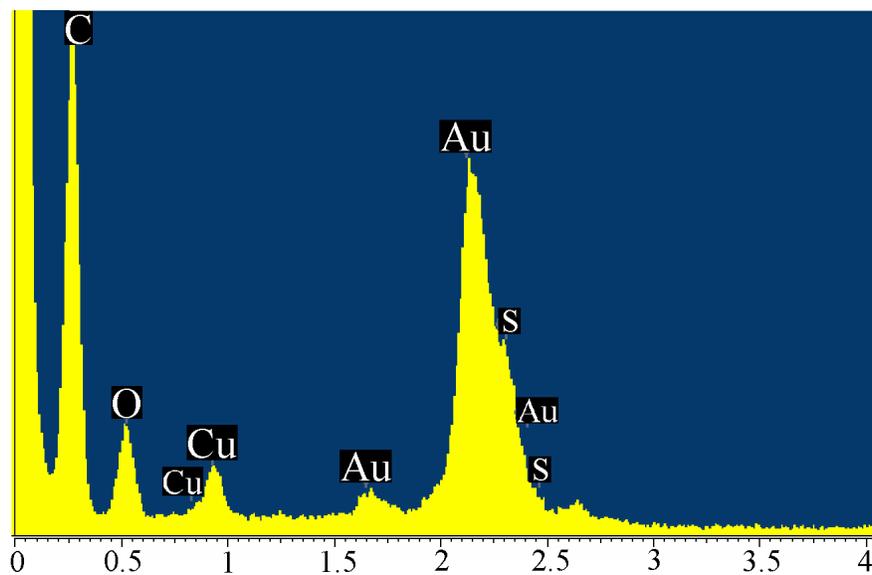


Figure S1. Elemental analysis of the as prepared gold nanostructures by EDS.

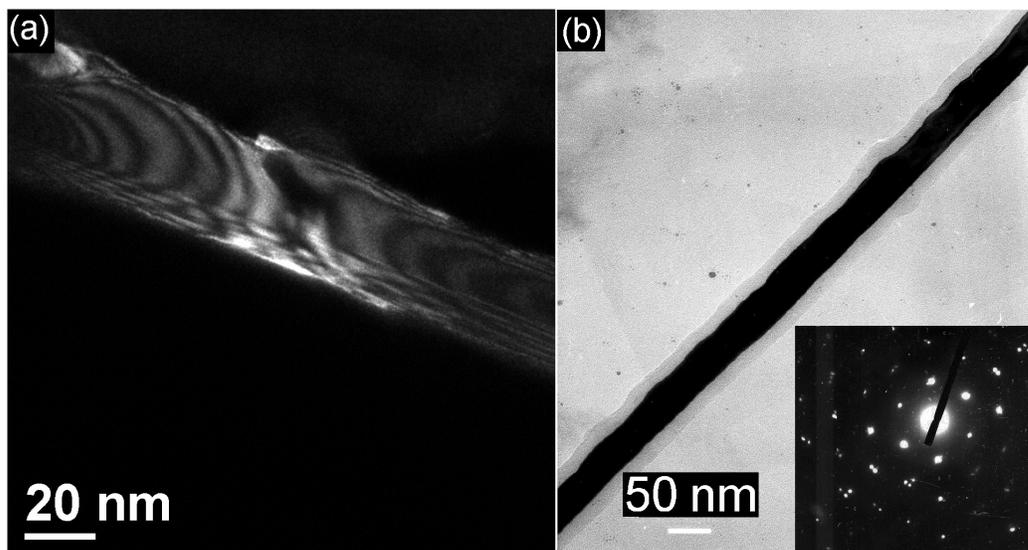


Figure S2. (a) A dark-field TEM image of the Au-PEDOT nanocable; (b) A typical TEM image of Au-PEDOT nanocable and inset shows its SAED pattern.

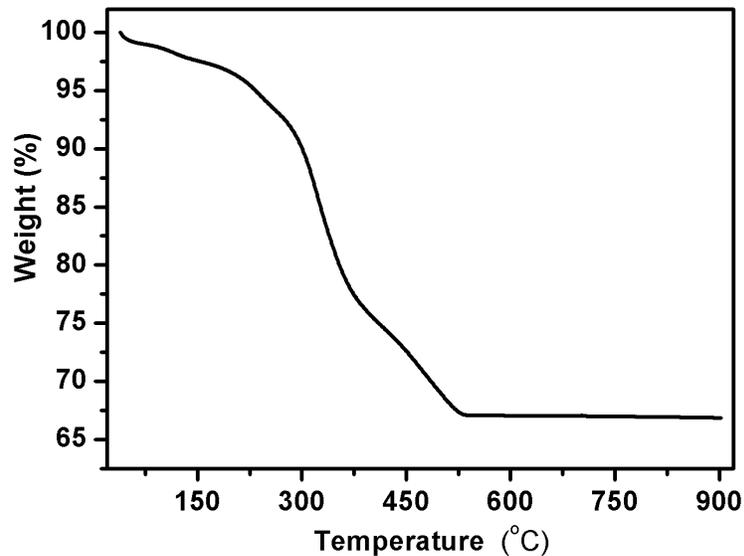


Figure S3. TGA curve of the Au-PEDOT composite powder

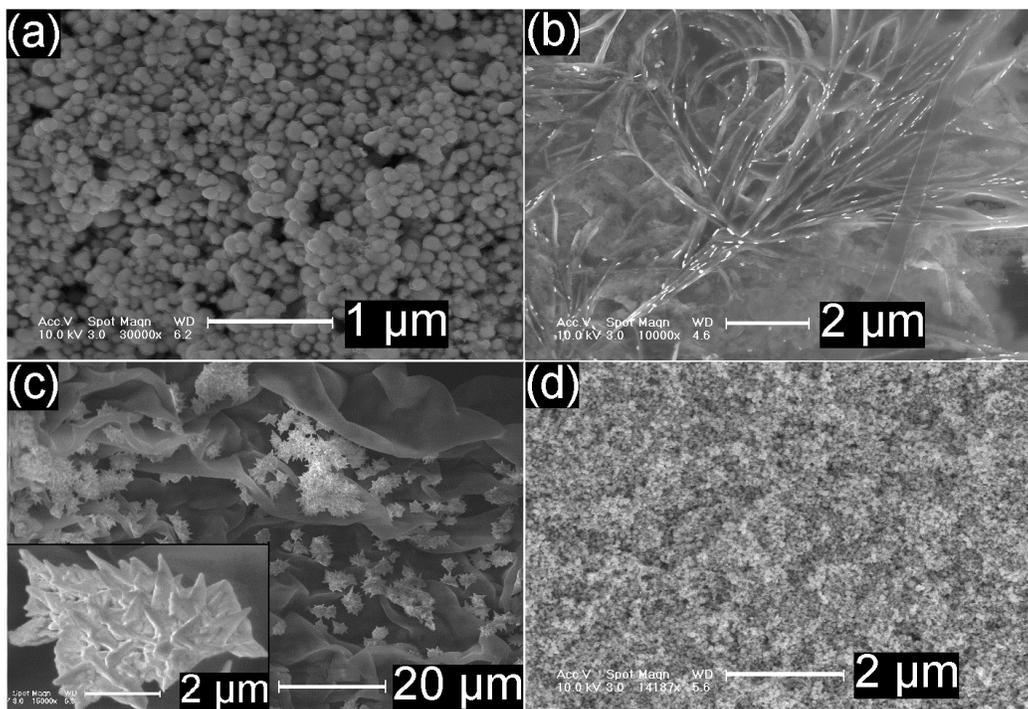


Figure S4. SEM images of the sample synthesized by various interfacial reactions: (a) pyrrole, (b) aniline or (c) pyrene in organic phase and HAuCl_4 in water phase, (d) EDOT in organic phase and PdCl_2 in water phase. The other synthesis conditions are the same to those used for preparing Au-PEDOT nanocables.

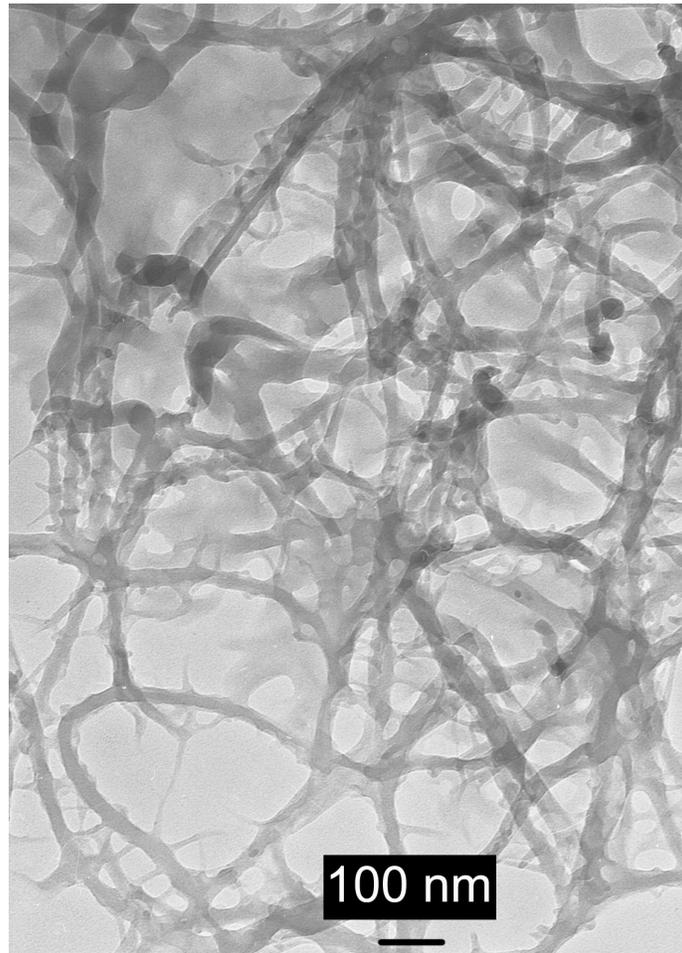


Figure S5. PEDOT nanofibers obtained by dissolution Au from the core.

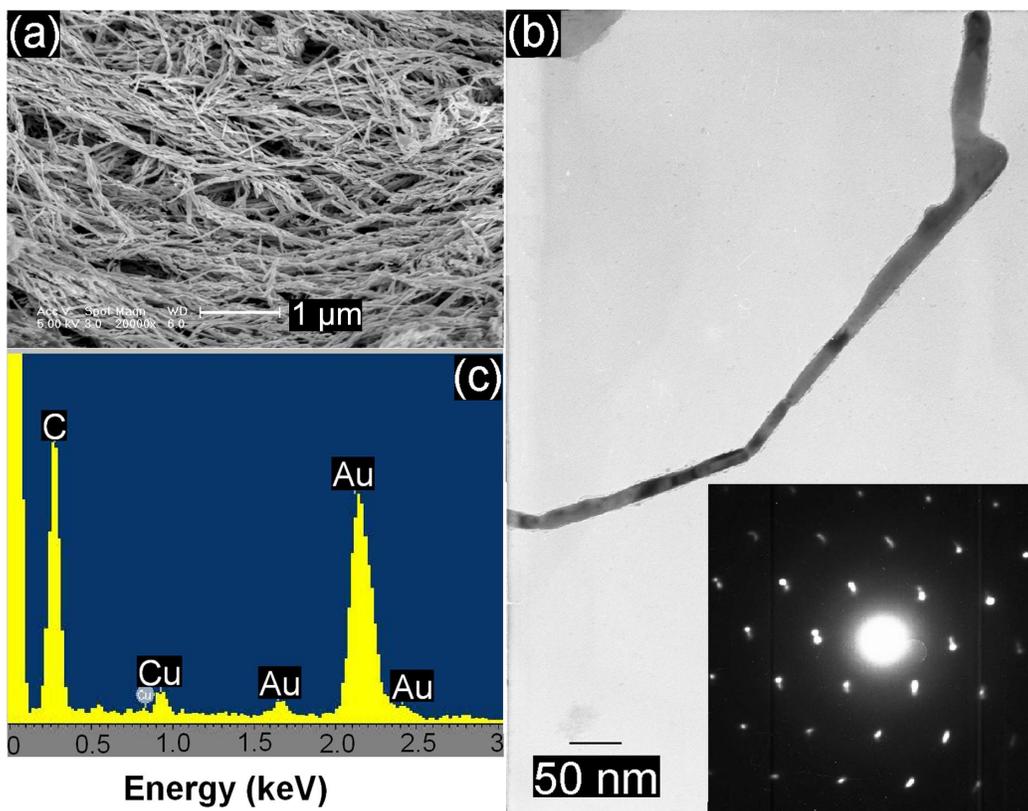


Figure S6. SEM (a) and TEM (b) of Au nanowires obtained by oxygen plasma treatment, inset of b is a SEAD pattern; (c) Elemental analysis of the as-prepared nanowires by EDS.