

Solution-Processed Copper-Nickel Nanowire Anodes for Organic Solar Cells

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Table S-1. Palladium Cost Calculation.

g Cu/ g Pd^a	g m⁻² Cu^b	g m⁻² Pd	Bulk \$ Pd g⁻¹	\$ Pd m⁻²
10.2	0.0493	0.00482	26.6	0.13

^a Determined by AAS.

^b Mass of Cu per coated slide was determined by Equation S-1

$$m_{\text{Cu}} = V_{\text{NW}} \times \rho_{\text{Cu}} \times \#NW \quad \text{S-1}$$

where m_{Cu} is the mass of copper nanowires, V_{NW} is the average volume of a nanowire determined by the average diameter and length of the nanowire and assuming a cylindrical shape, ρ_{Cu} is the bulk density of copper, and $\#NW$ is the number of nanowires m⁻² as determined by Equation S-2

$$\#NW = \frac{AF}{D_{\text{NW}} \times L_{\text{NW}}} \quad \text{S-2}$$

where AF is the area covered by the nanowires per m², D_{NW} is the average diameter of the nanowires, and L_{NW} is the average length of the nanowires. Here, the fractional area coverage corresponding to a %T of 91.5 with nanowire aspect ratio $L/D = 300$ is roughly 0.09 m⁻².³⁰

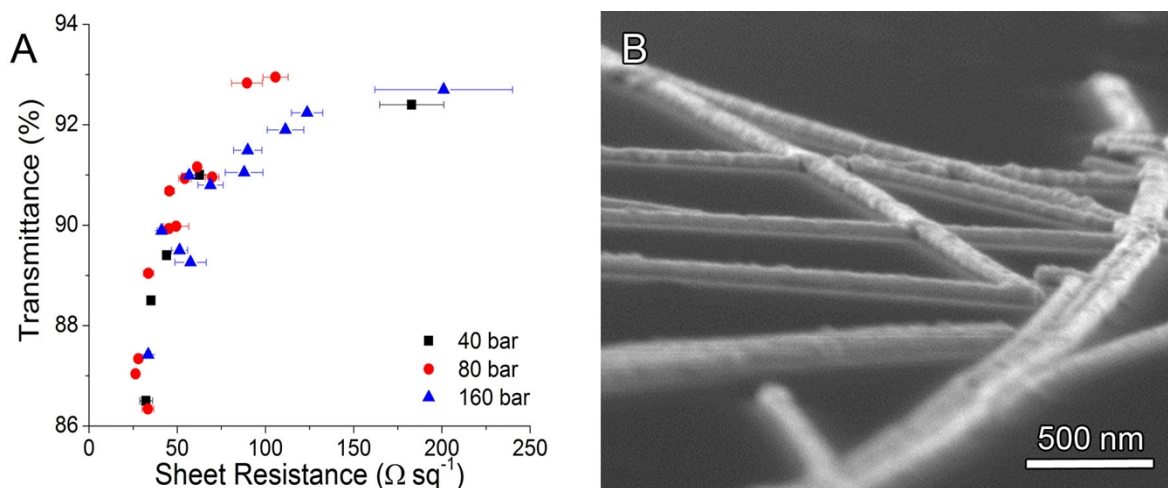


Figure S-1. (A) Plot of transmittance vs. sheet resistance of CuNW films treated with glacial acetic acid and pressed at various pressures. (B) SEM image of a Cu NW film pressed at 160 bar.

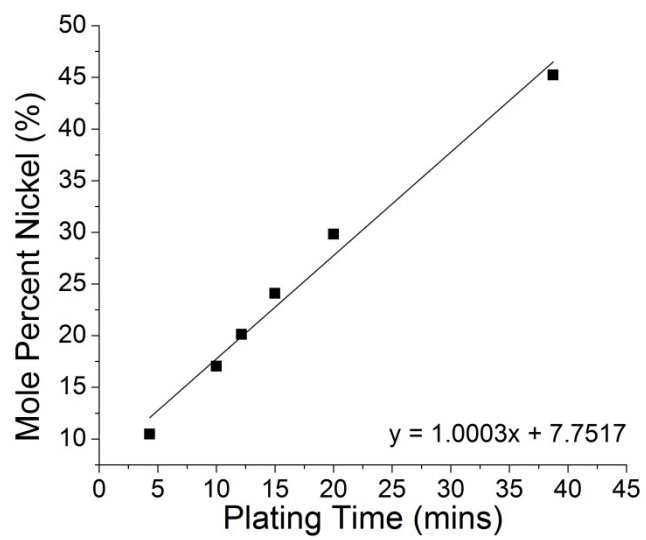


Figure S-2. The mole percent of Ni plated onto the Cu NWs versus time in the plating solution.

Table S-2. Film and Device Characteristics ($\lambda = 550$ nm).

Anode	R_s (Ω sq⁻¹)	%T of Film and Substrate	%T of Device	% Light Absorbed by Device
ITO	20	88	10.6	77.4
Ag NW	14	67	4.3	62.7
CuNi NW	36	71	6.7	64.3