

Nanoporous gold-Copper Oxide based all-solid-state Micro-Supercapacitors

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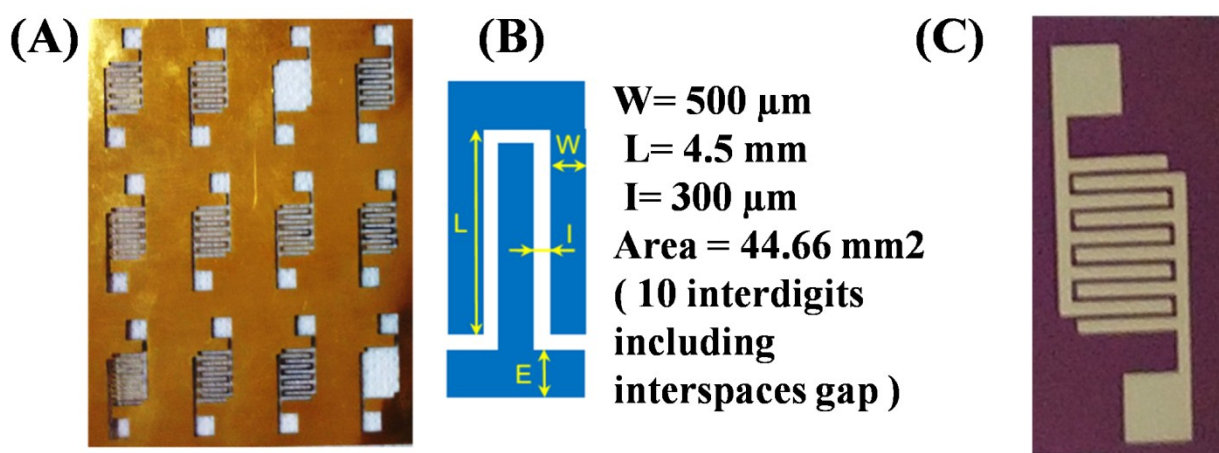


Fig. S1. (A) The shadow mask used to prepare micro-supercapacitor devices. Multiple devices with ten interdigits were laser patterned on a 0.15 mm brass foil, through which elements were deposited on the substrate (B) The dimension of a single device and (C) one interdigital pattern after deposition and thermal annealing at 150 °C for 15min.

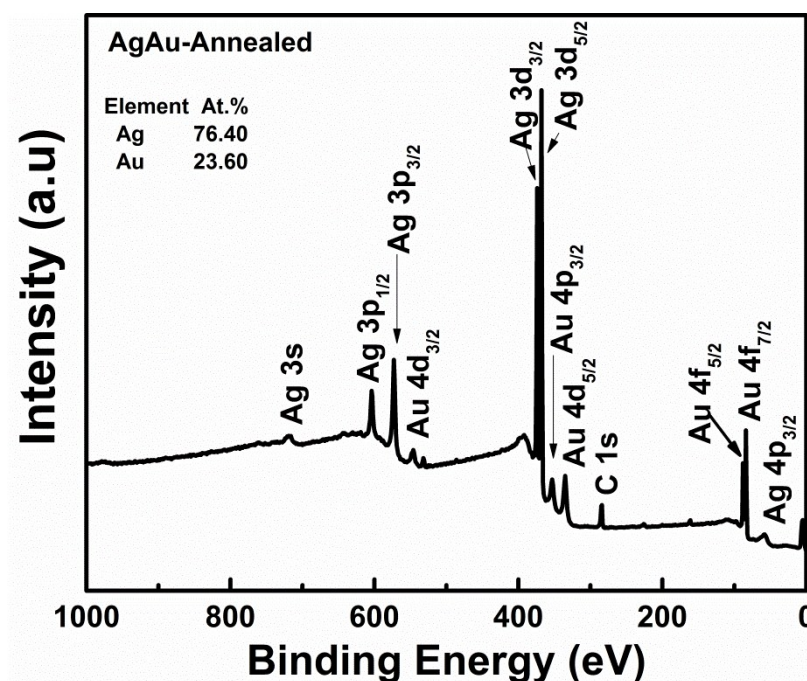


Fig.S2 XPS spectrum showing composition of AgAu alloy formed after annealing at 150°C for 15 minutes.

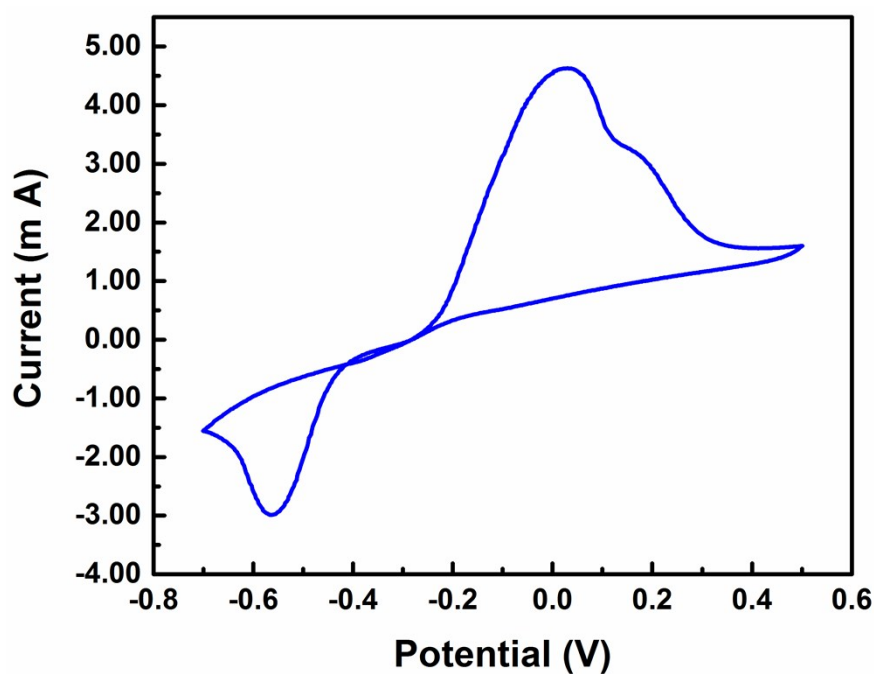


Fig.S3. The cyclic voltammetry of as-deposited CuO after the electrodeposition showing the signature redox peaks of the CuO.

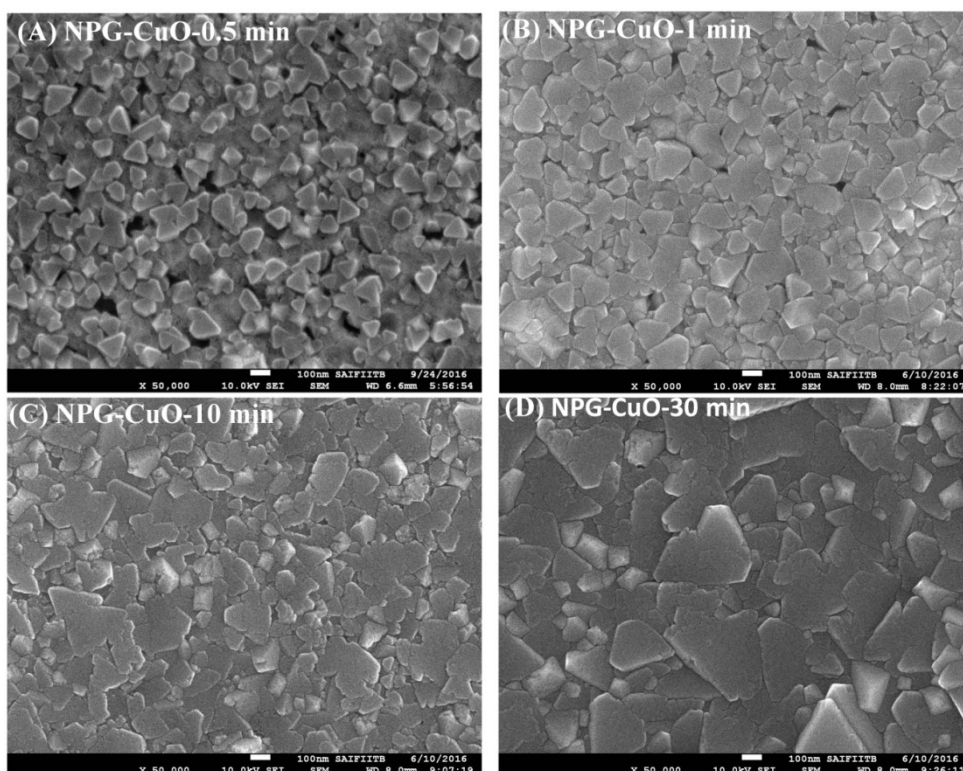


Fig.S4 Top view FEG-SEM image of copper oxide deposited on NPG for (A) 0.5 minute, (B) 1 minute, (C) 10 minutes, and (D) 30 minutes.

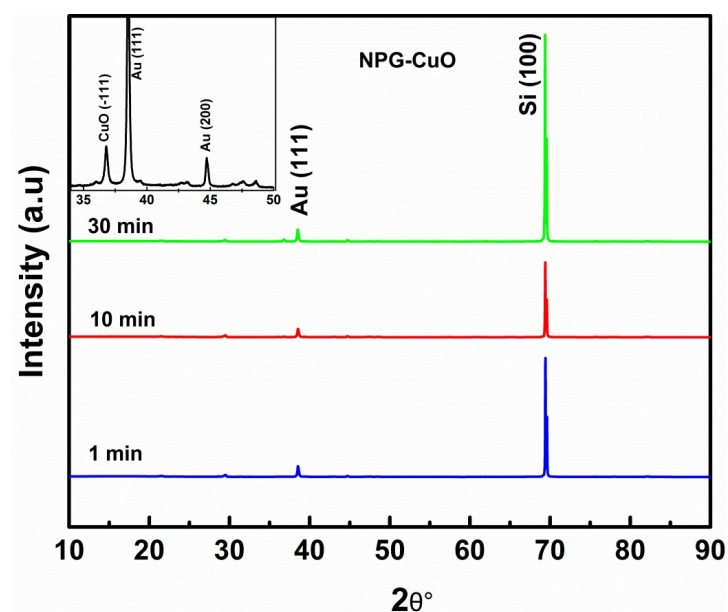


Fig.S5 XRD spectrum of NPG-CuO after different deposition time.

XRD of samples after various deposition times. As seen in the 30 min coated sample (-111) peak of CuO is visible (JCPDS - 050-6601) along with Au and Si peaks, which is in agreement with previous reported literature.^{1,2,3,4} This is also in conformity with HRTEM data (Fig. 4B). The lattice spacing calculated from HRTEM matches with XRD. This indicates that there is a preferential (-111) orientation.

References:

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