

Supplementary Information

Growth of large-scale nanotwinned Cu nanowire arrays from anodic aluminum oxide membrane by electrochemical deposition process: Controllable nanotwin density and growth orientation with enhanced electrical endurance performance

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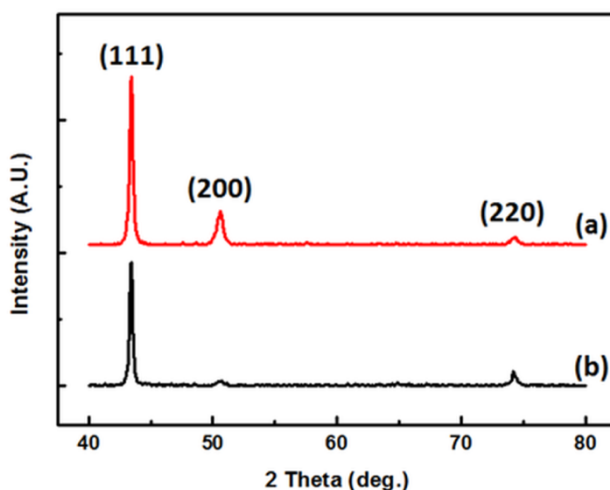


Figure S1 X-ray diffraction spectra of Cu NWs grown by electrochemical deposition with the current density of 1.5 A/cm² (a) at -1 °C. (b) at room temperature.

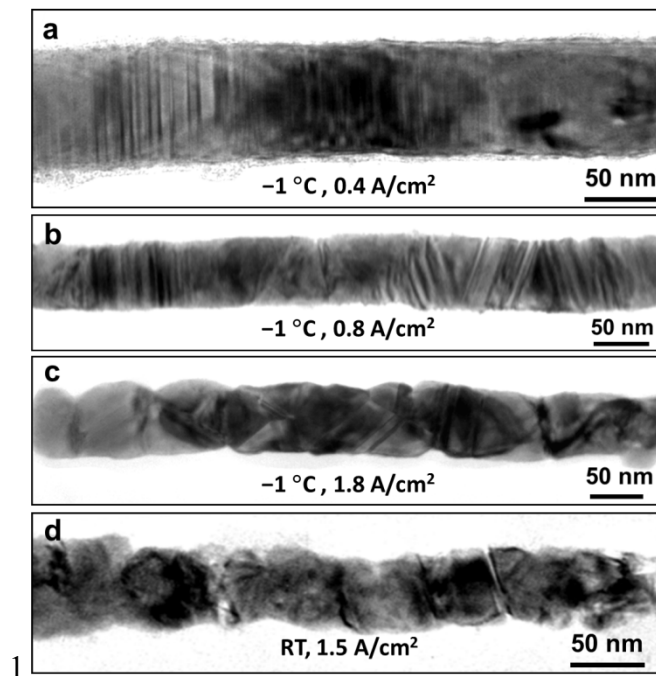


Figure S2 Bright-field TEM images of Cu NWs. (a) A TEM image of a Cu NW deposited at $-1\text{ }^{\circ}\text{C}$ with the current density of 0.4 A/cm^2 . (b) A TEM image of a Cu NW deposited at $-1\text{ }^{\circ}\text{C}$ with the current density of 0.8 A/cm^2 . (c) A TEM image of a Cu NW deposited at $-1\text{ }^{\circ}\text{C}$ with the current density of 1.8 A/cm^2 . (d) A TEM image of a Cu NW deposited at room temperature with the current density of 1.5 A/cm^2 .

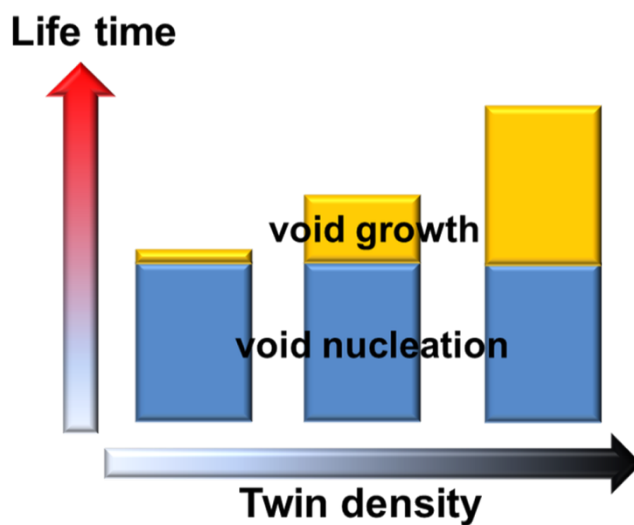


Figure S3 Illustration of effect of twin density on the MTTF of Cu NWs.