Supplementary material (ESI) for Nanoscale

Electronic Supplementary Information

Nonvolatile resistive switching in single crystalline ZnO nanowires

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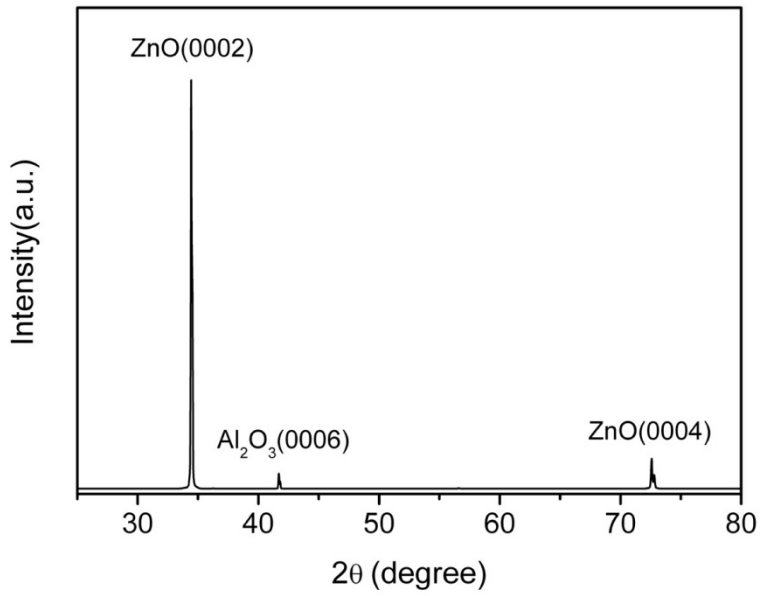

Figure S1. XRD pattern of the as-grown ZnO nanowire arrays. The XRD pattern clearly shows a single crystalline wurtzite structure of the ZnO NWs. Moreover, the (0001) planes are found to be parallel to the substrates, demonstrating that the NWs preferentially grow along [0001] direction.

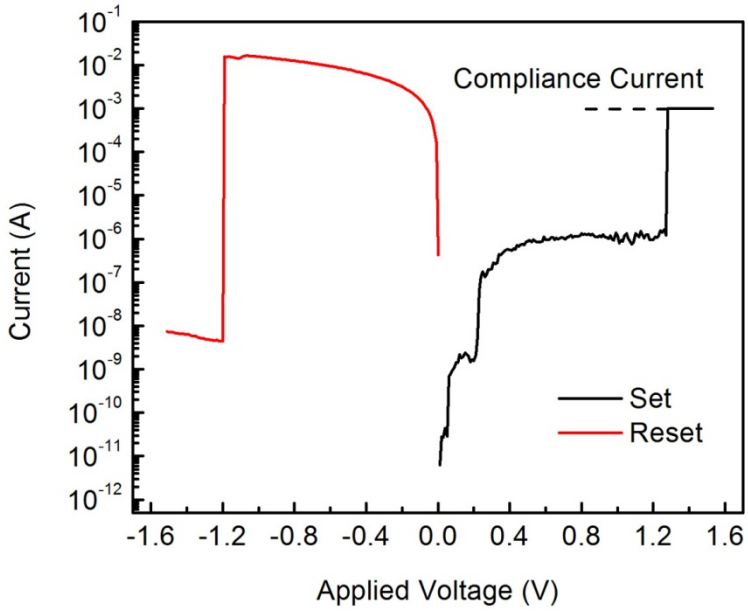

Figure S2. Resistive switching effects observed in Cu/ZnO-NW/Pd devices passivated with HfO_2 dielectric layer (~10 nm). Via this control experiment, the influence of the possible hydroxide layer on resistive switching of Cu/ZnO-NW/Pd devices could be safely eliminated.