

Figure S2 (a) A high resolution TEM image of the HfO₂/ITO core-shell nanowire. (b)The corresponding fast Fourier transform image of the ITO NW. (c) The corresponding fast Fourier transform image of the HfO₂ shell.

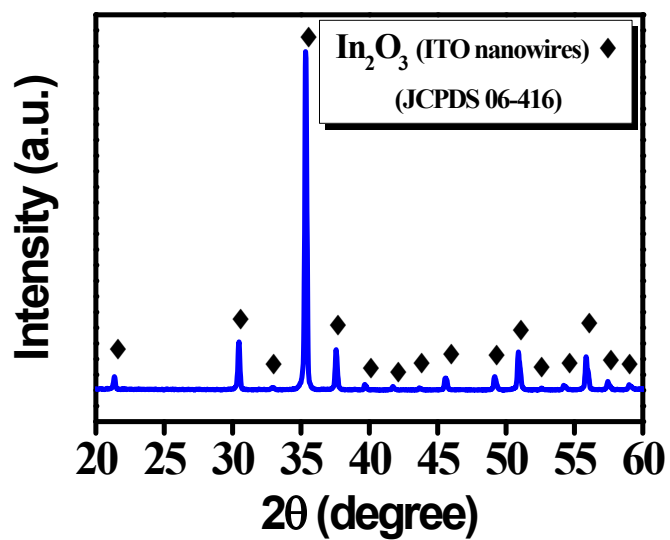


Figure S3 XRD spectra of ITO/HfO₂ core-shell NWs.

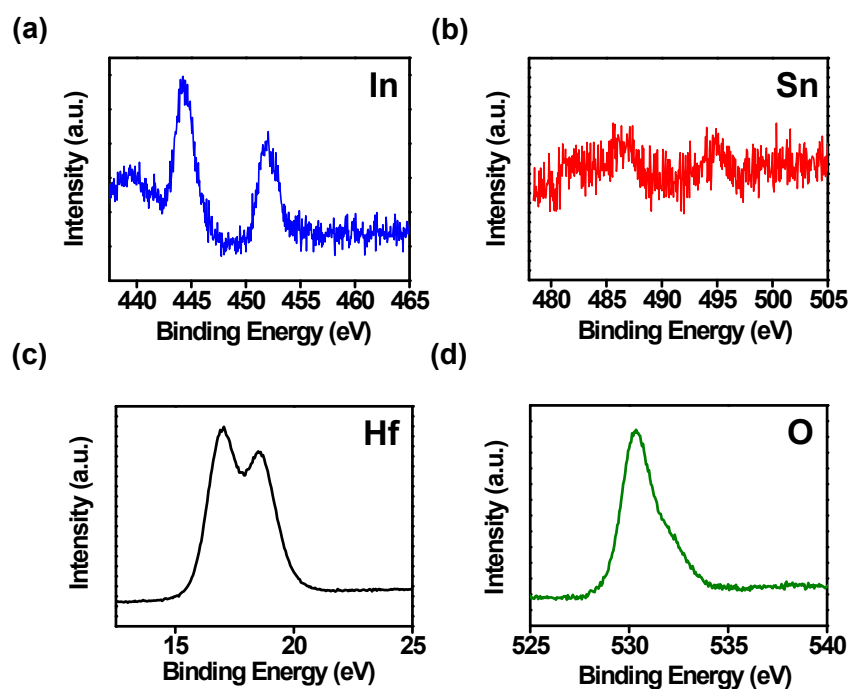


Figure S4 Chemical components of In, Sn, Hf and O on ITO/HfO₂ core-shell nanowires via XPS analysis.

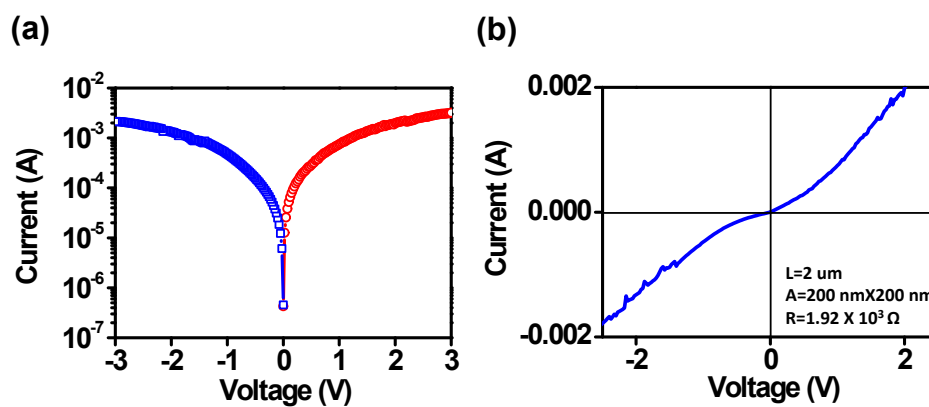


Figure S5 (a) Typical I - V characteristics of an ITO NW in semi-log scale. (b) Typical I - V characteristics of an ITO NW in linear scale.

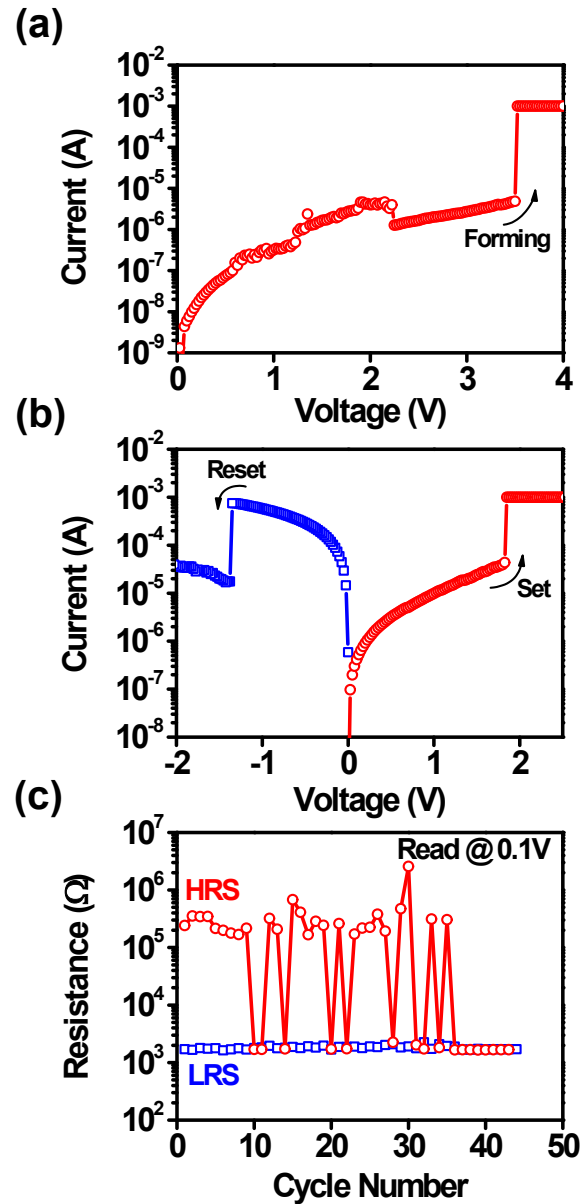


Figure S6 (a) Typical I - V characteristics of the Au/Ti/ITO-HfO₂ (10 nm) NW/Ti/Au device operated at the forming process. (b) Typical I - V characteristics of resistive switching behavior for the Au/Ti/ITO-HfO₂ (10 nm) NW/Ti/Au in semi-log scale. (c) Endurance test of the Au/Ti/ITO-HfO₂ (10 nm) NW/Ti/Au device under the DC switching sweep mode at the read voltage of 0.1 V.