

## Supplementary Information

### **Enhanced resistive switching characteristics in Pt/BaTiO<sub>3</sub>/ITO structures through insertion of HfO<sub>2</sub>:Al<sub>2</sub>O<sub>3</sub> (HAO) dielectric thin layer**

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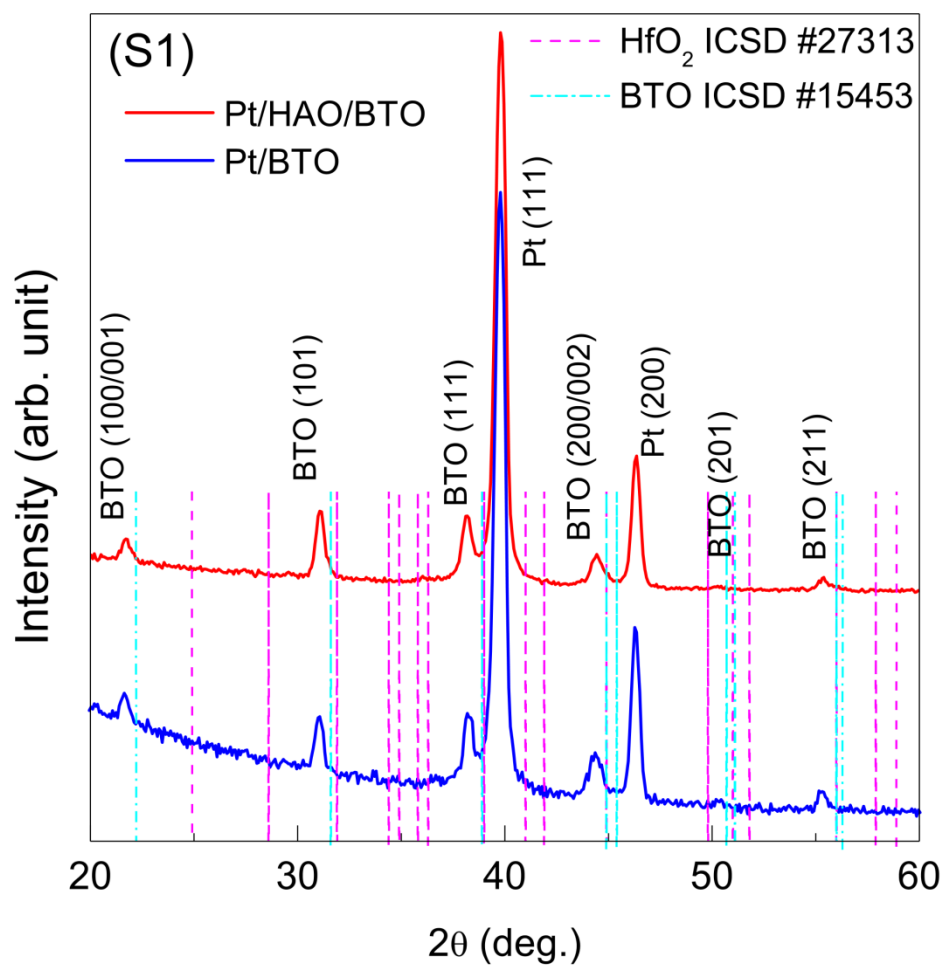
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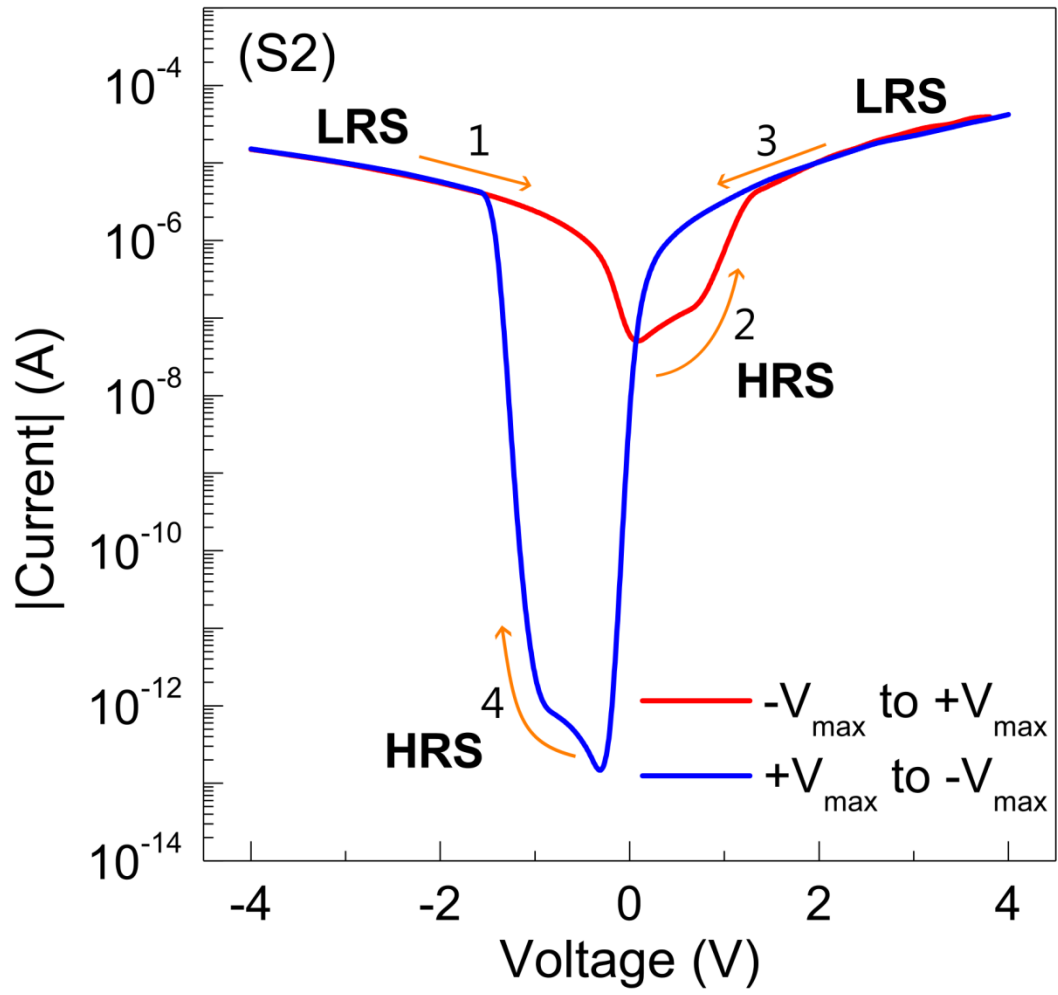
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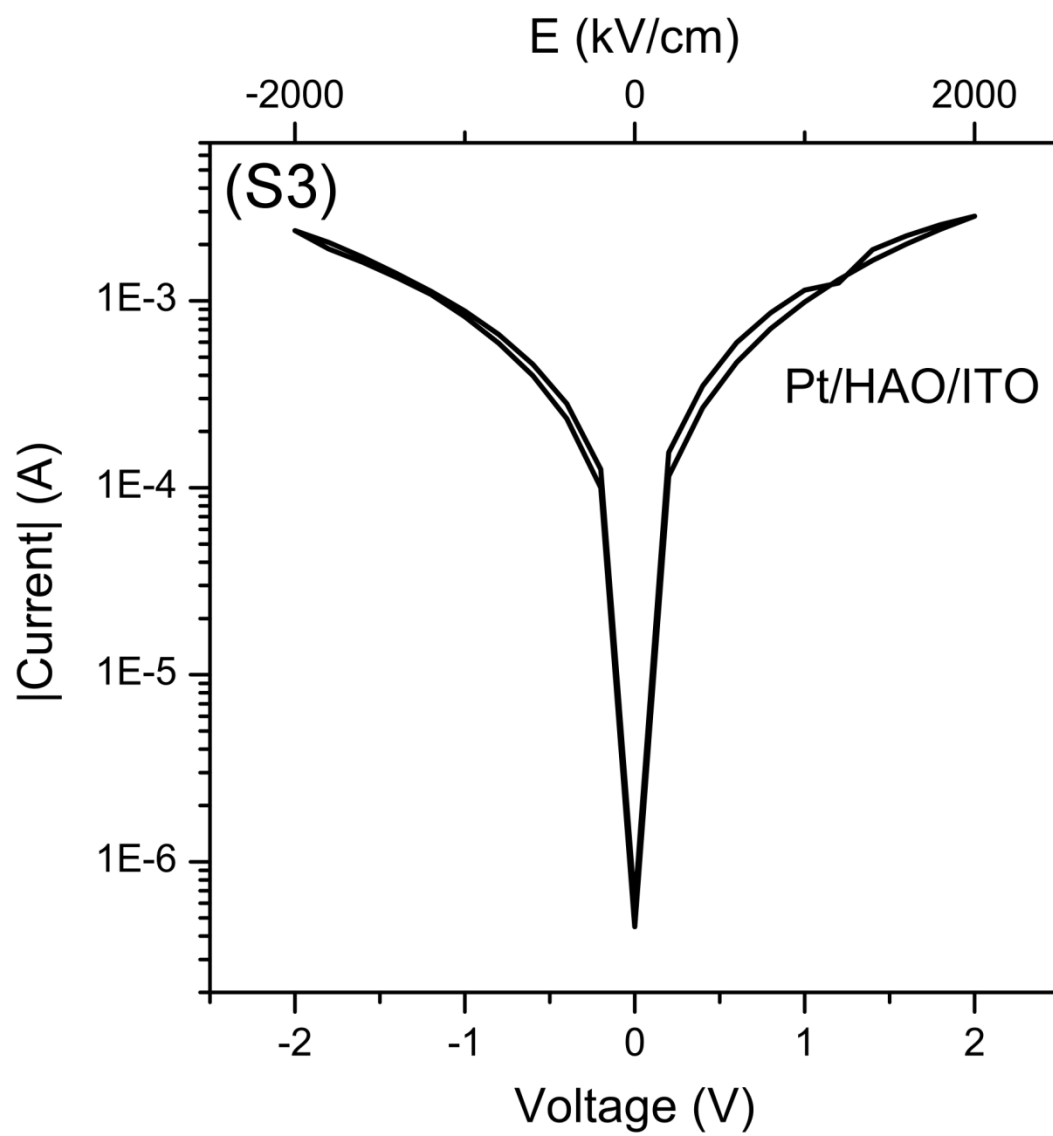
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**Figure S1.** XRD patterns of the Pt/BTO and Pt/HAO/BTO structures.



**Figure S2.** I-V curve with  $V_{\text{max}} = 4$  V for the Pt/HAO/BTO/ITO structure. The red curve was measured on forward sweep and the blue curve was measured on reverse sweep.



**Figure S3.** I-V curve for the Pt/HAO (10nm)/ITO structure.