

Figure 1. Ag-based threshold switching layer in a selector device. (a) Conceptual sketch showing how filamentary Ag-based threshold switching selector works. (b) DC I-V curve showing ultra-steep threshold characteristics for ALD grown ZnO switching layer.

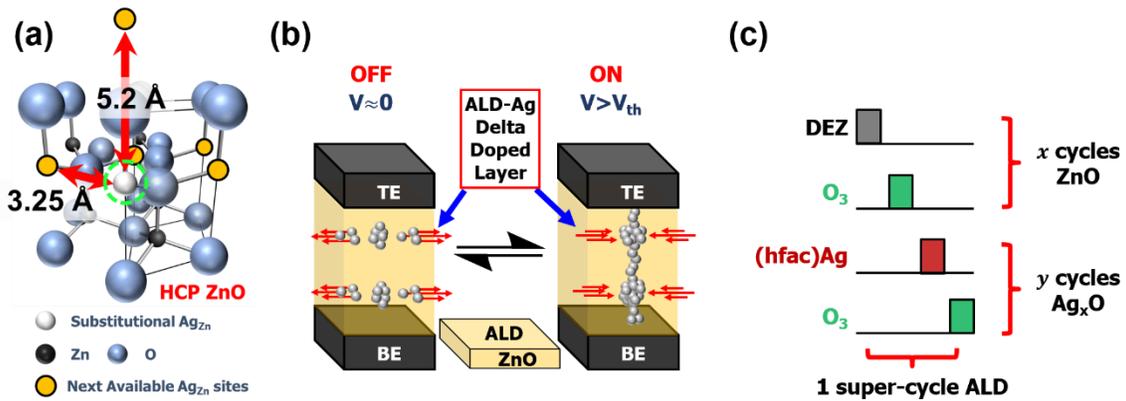


Figure 2. Ag-doped threshold switching layer in a selector device proposed in this work. (a) Illustration depicts shorter distance of next available in-plane substitutional Ag on Zn sites (Ag_{Zn}). (b) Proposed conceptual sketch showing how anisotropic diffusion of Ag atoms favor in-plane migration, when forming filament, under the Ag-doped threshold switching selector. (c) Schematic flow of super-cycle ALD sequence proposed for depositing Ag-doped ZnO switching layer.

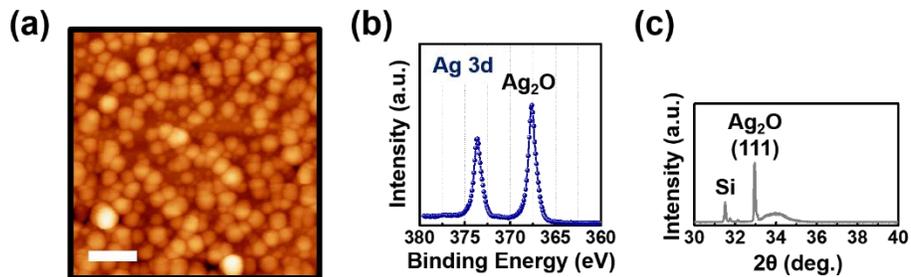


Figure 3. Demonstration of Ag_xO thin film deposition by ALD. (a) Atomic force microscopy (AFM) image, (b) X-ray photoelectron spectroscopy (XPS) analysis and (c) X-ray diffraction (XRD) patterns for ALD grown Ag_xO thin film. Scale bar: 200 nm.