## Supporting Information

## Resistive switching behavior in α-In<sub>2</sub>Se<sub>3</sub> nanoflakes modulated by ferroelectric polarization and interface defects

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Figure R1. Current of  $Pt/\alpha$ -In<sub>2</sub>Se<sub>3</sub>/Pt device at various applied voltage in dark.



Figure R3. I-V curves under dark and light illumination.



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Figure R2. Current of  $Pt/\alpha$ -In<sub>2</sub>Se<sub>3</sub>/Pt device as a function of time in dark.

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