

Supplementary Information

**Indium Turns Tellurium into Ovonic Threshold Switching Selector  
by Stabilizing Amorphous Network**

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Tong,<sup>ab</sup> Zhongrui Wang,<sup>c</sup> Xiangshui Miao,<sup>ab</sup> and Ming Xu,<sup>ab, \*</sup>

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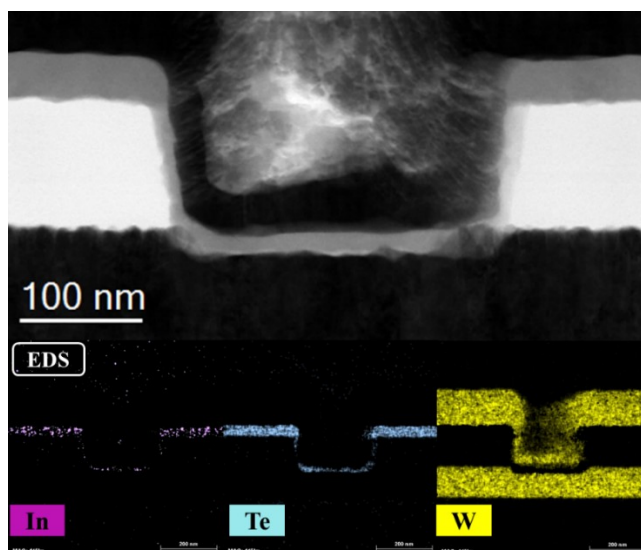
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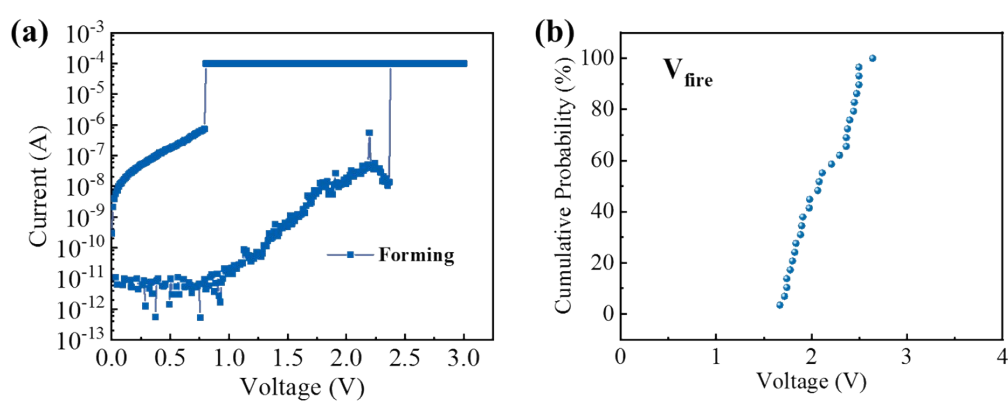
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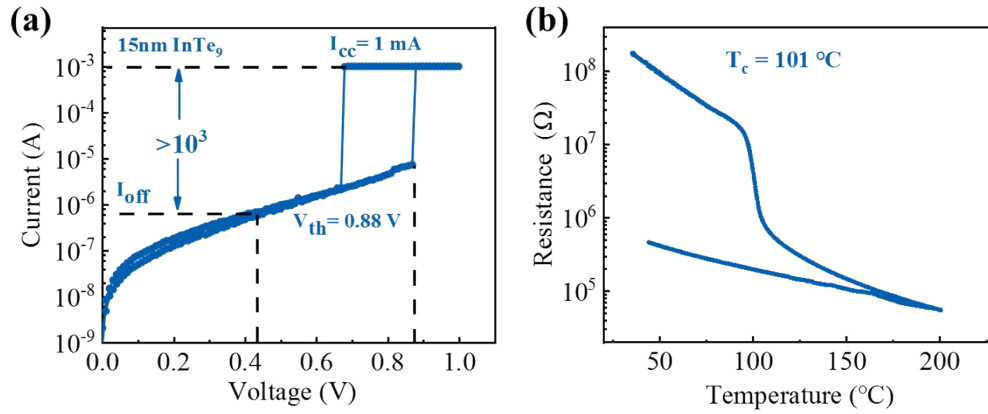
## Figures



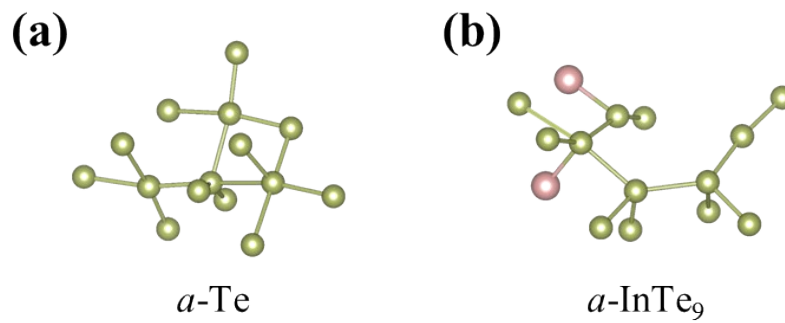
**Fig. S1.** Cross-sectional TEM image of the fabricated InTe<sub>9</sub> OTS device, with EDS mapping of In, Te, and W.



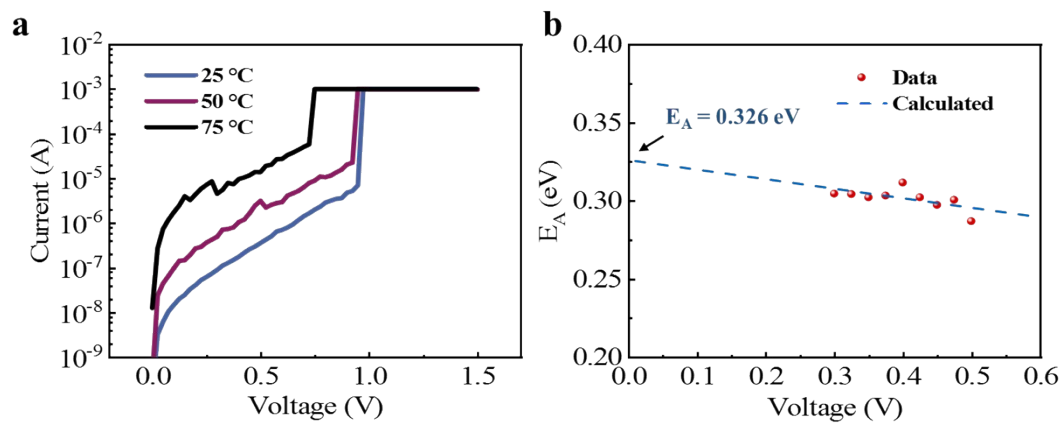
**Fig. S2.** (a) DC I-V sweep of the first-fire operation with a 100  $\mu$ A compliance current. (b) The distribution of the first-fire voltage ( $V_{ff}$ ), centered around 2.2 V.



**Fig. S3.** (a) DC I-V sweep of the 15 nm-thick InTe<sub>9</sub> device, showing  $V_{th}$  and  $I_{off}$  of 0.88 V and 0.5  $\mu$ A, respectively. (b) The R-T relation of InTe<sub>9</sub> film, demonstrating that the crystallization temperature is  $\sim 100^{\circ}\text{C}$ .



**Fig. S4.** MSGs projected to the real space. (a-b) The over-coordinated Te atoms in  $a\text{-Te}$  and  $a\text{-InTe}_9$ , respectively.



**Fig. S5.** (a) I-V-T measurement of OTS devices with a 1 mA compliance current. As the temperature increases,  $I_{\text{off}}$  and  $V_{\text{th}}$  decrease. (b) The voltage dependence of the activation energy for conduction ( $E_A$ ).