

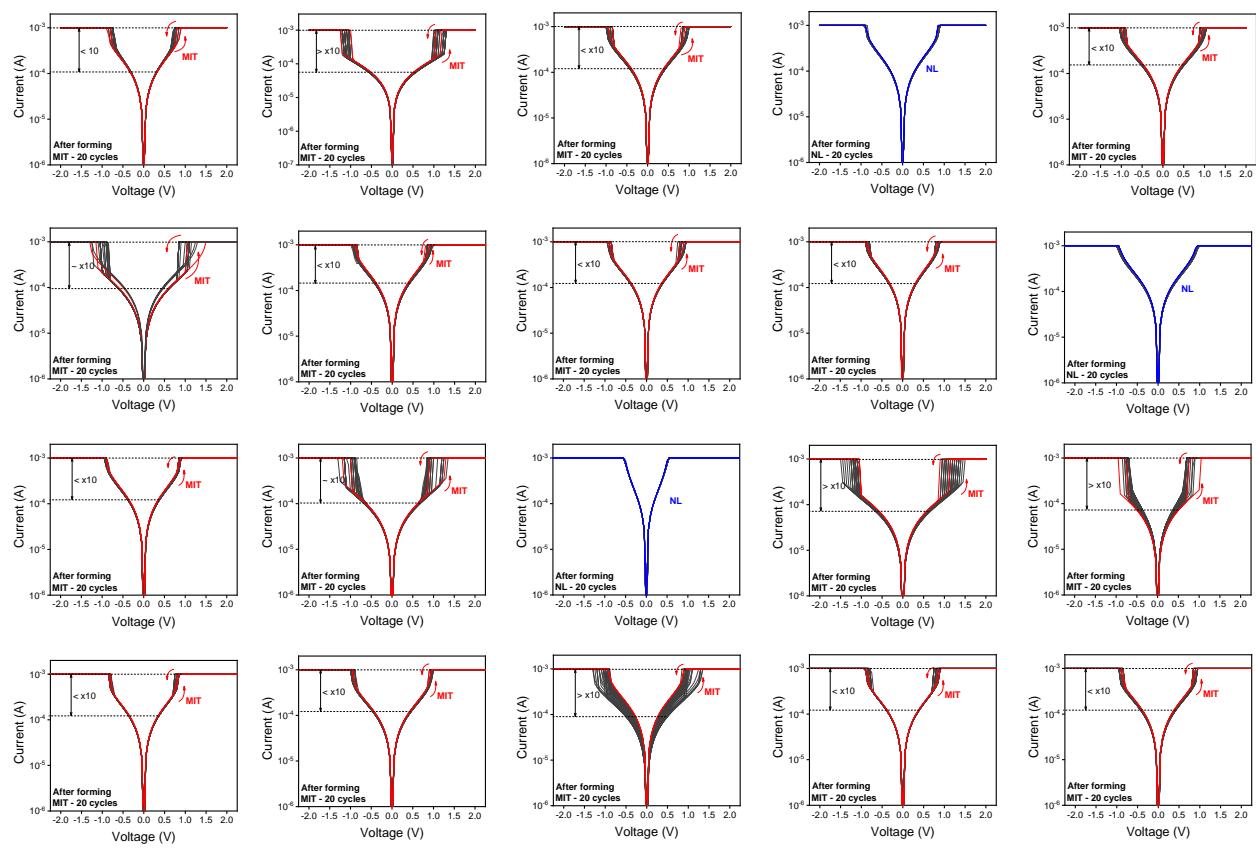
**Supporting information:**

# **Effect of Oxygen Flow Rate on Metal-to-Insulator Transition Characteristics in NbO<sub>x</sub>-Based Selectors**

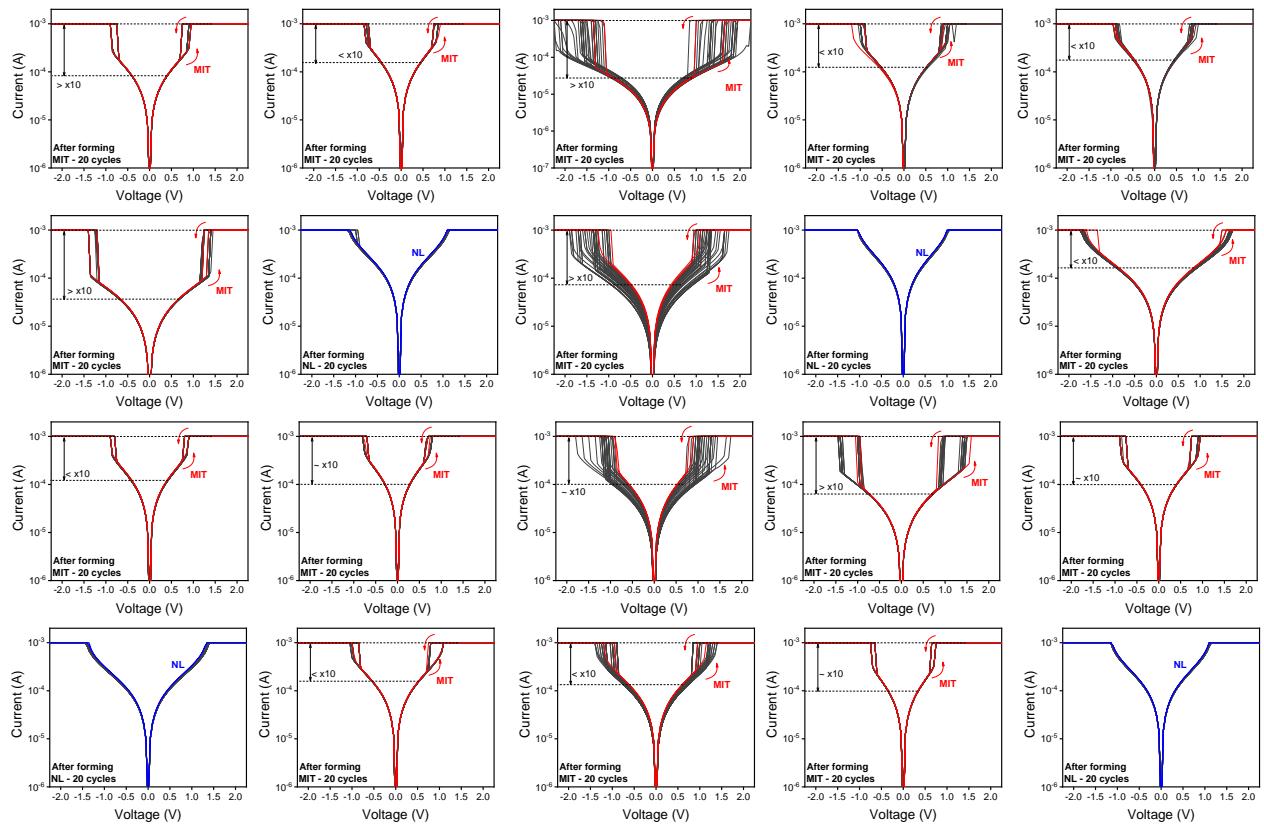
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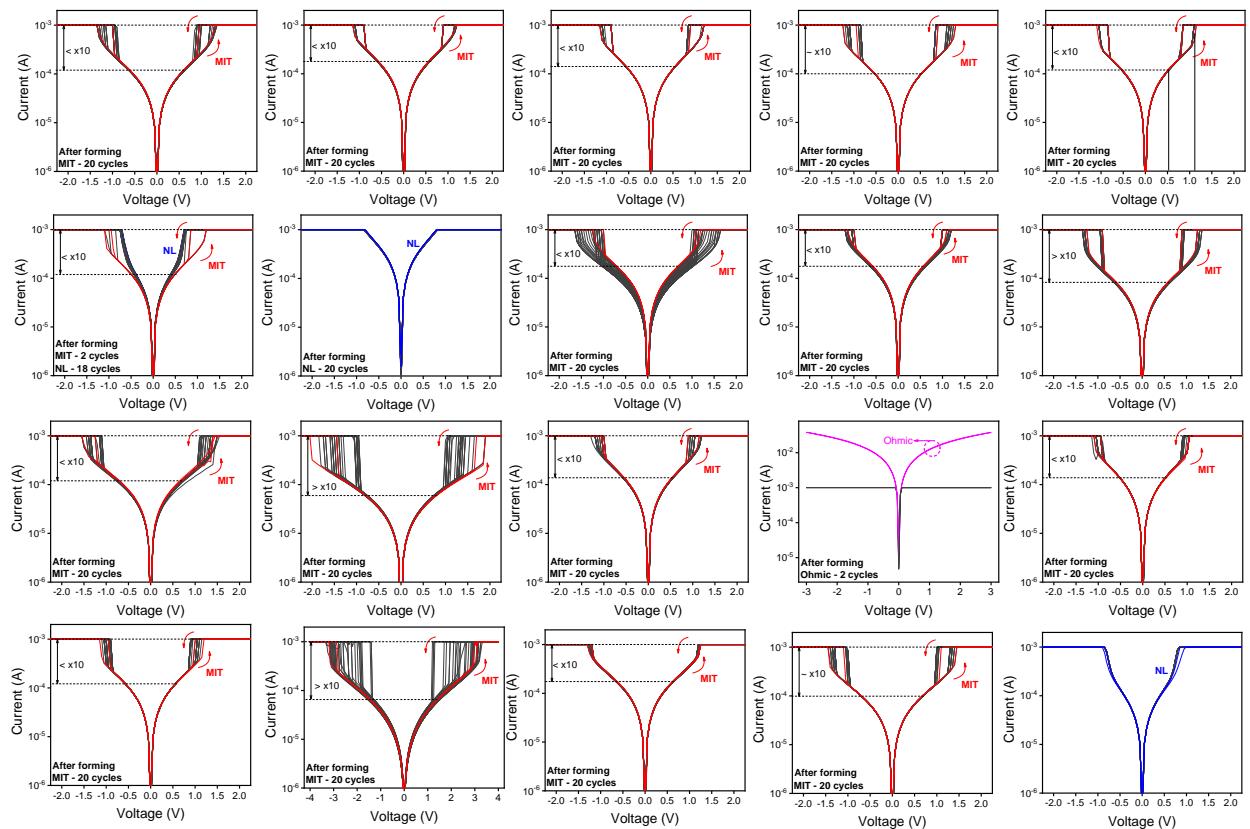
† Correspondence: sungjun@dongguk.edu



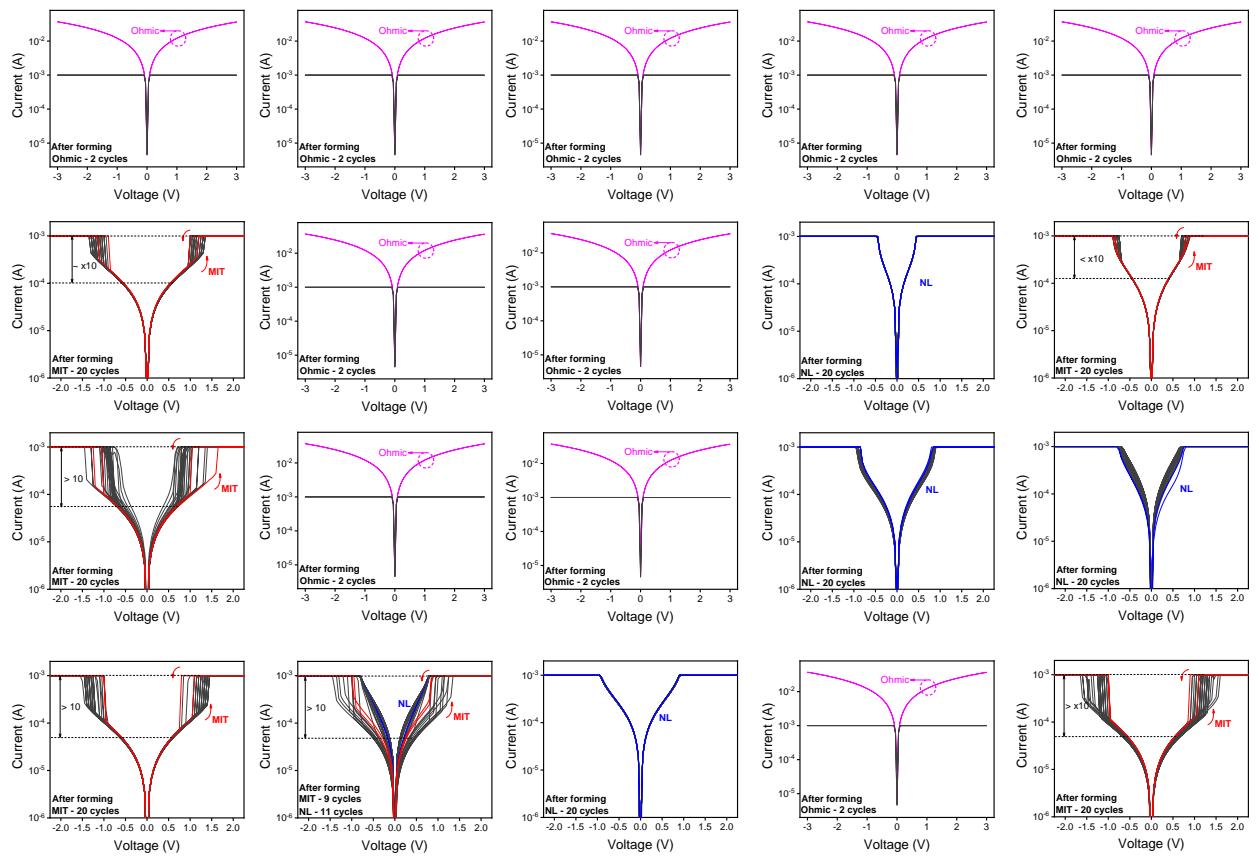
**Figure S1.** I-V curve measuring MIT characteristics in 20 cells of a device fabricated by depositing 3.5 sccm of oxygen flow for 7 min.



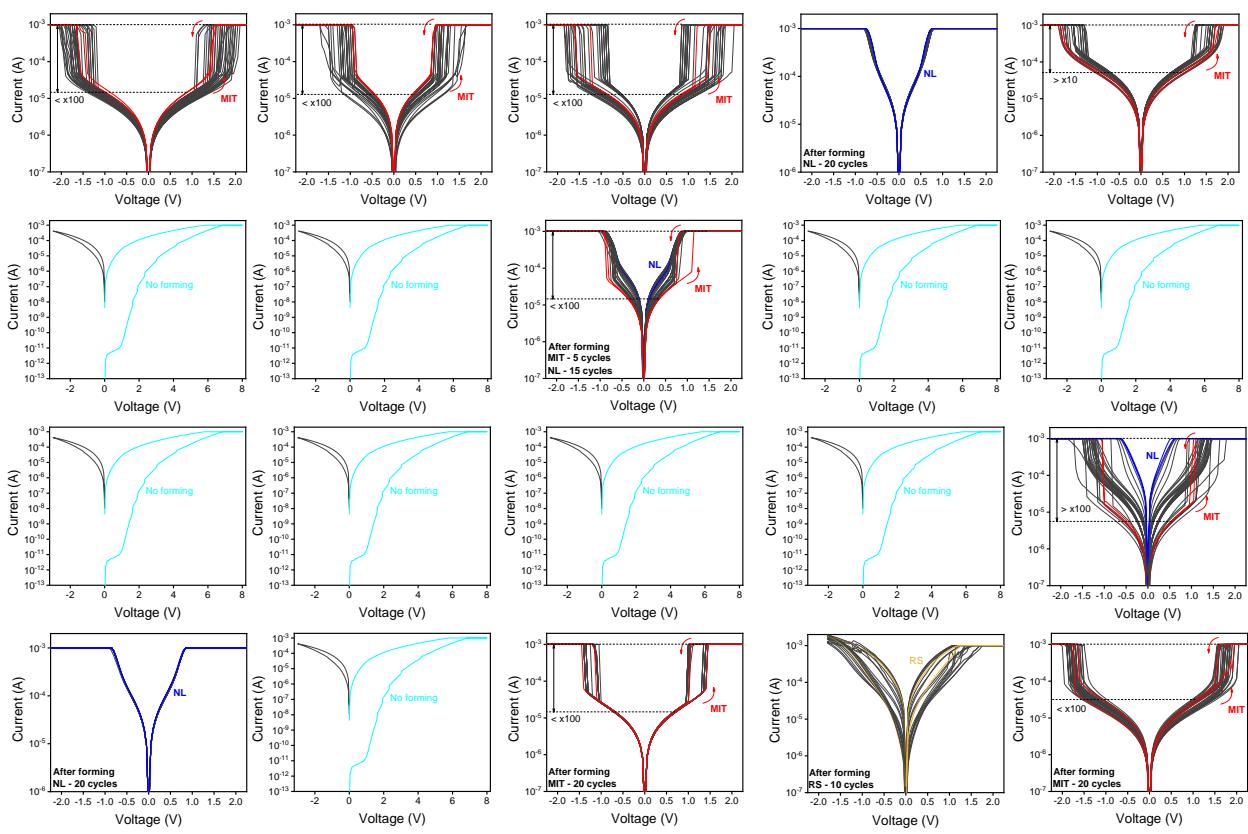
**Figure S2.** I-V curve measuring MIT characteristics in 20 cells of a device fabricated by depositing 3.5 sccm of oxygen flow for 10 min.



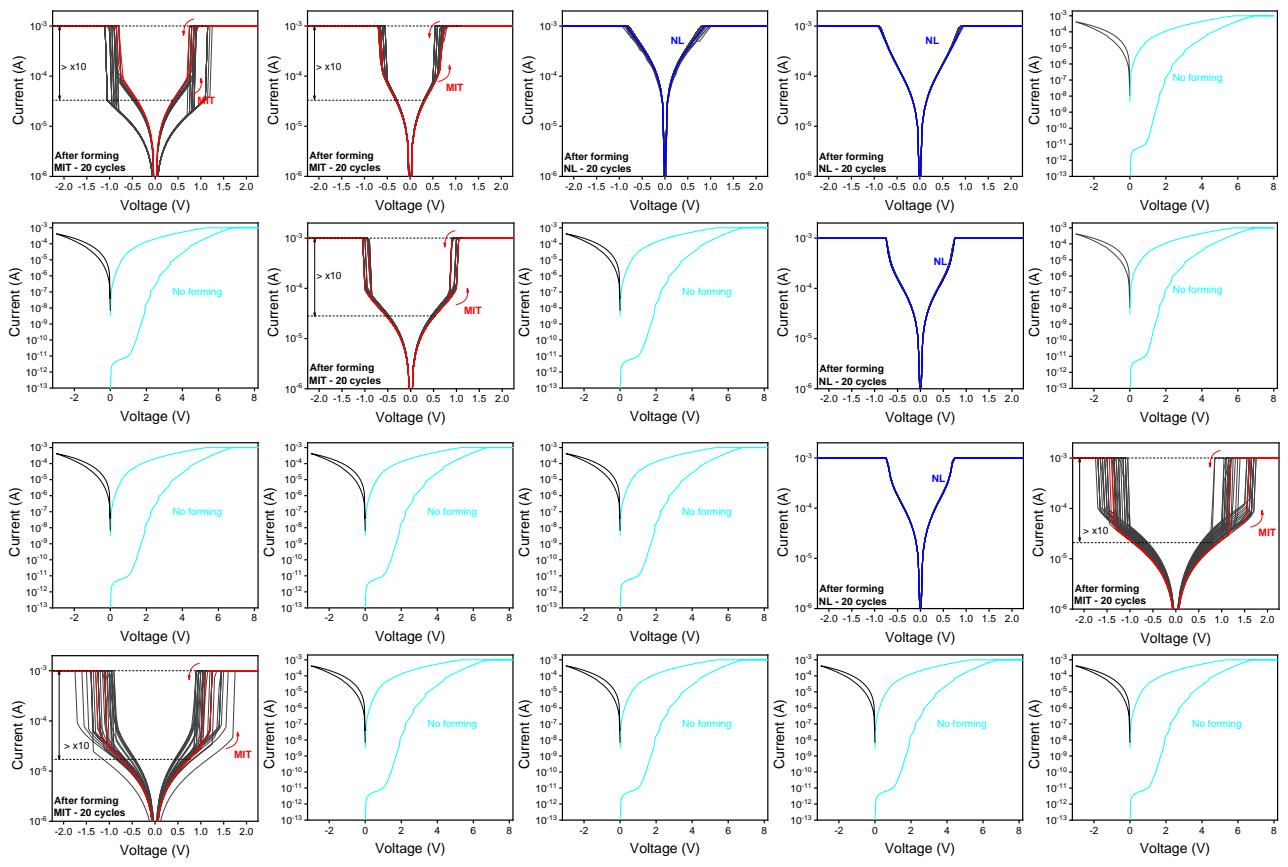
**Figure S3.** I-V curve measuring MIT characteristics in 20 cells of a device fabricated by depositing 3.5 sccm of oxygen flow for 13 min.



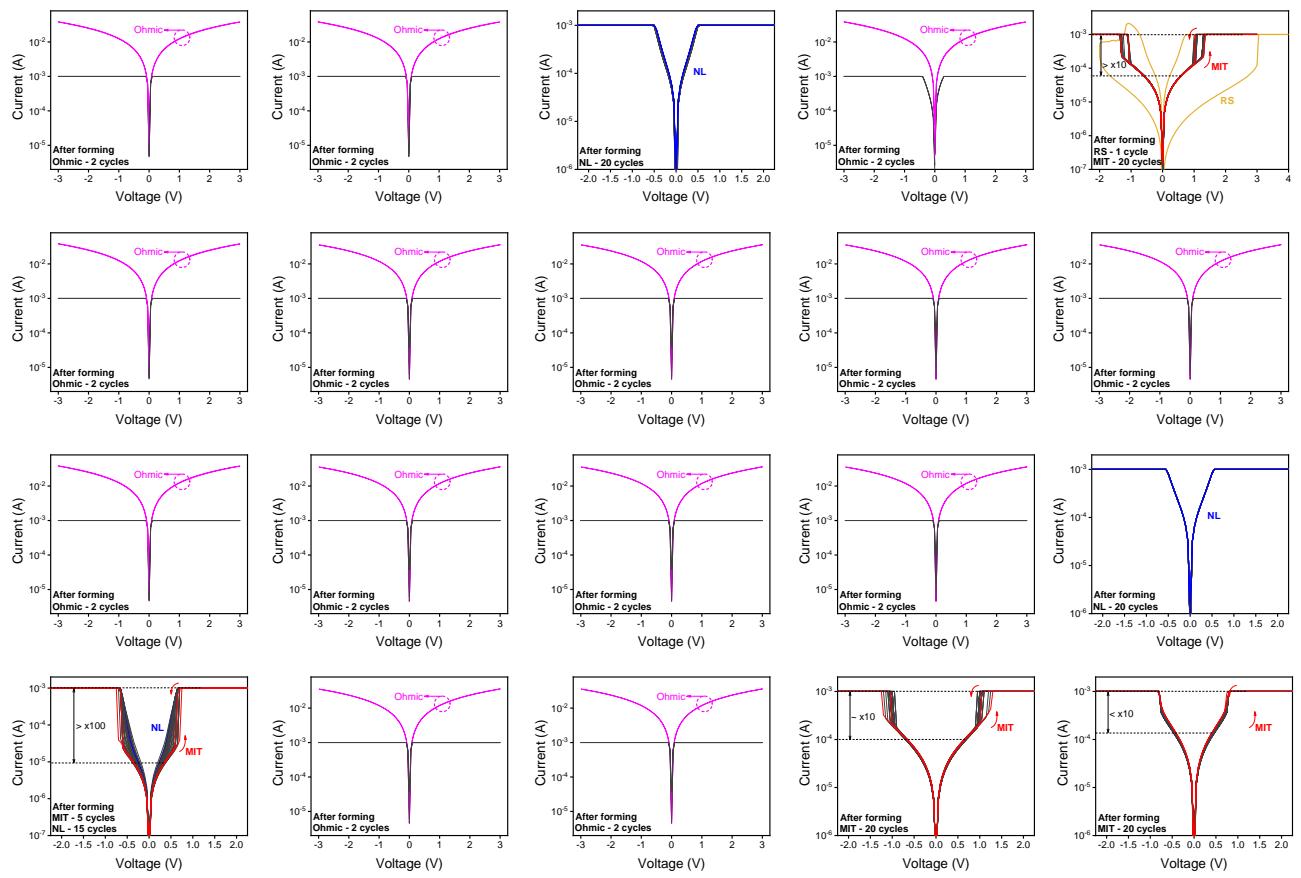
**Figure S4.** I-V curve measuring MIT characteristics in 20 cells of a device fabricated by depositing 4.5 sccm of oxygen flow for 7 min.



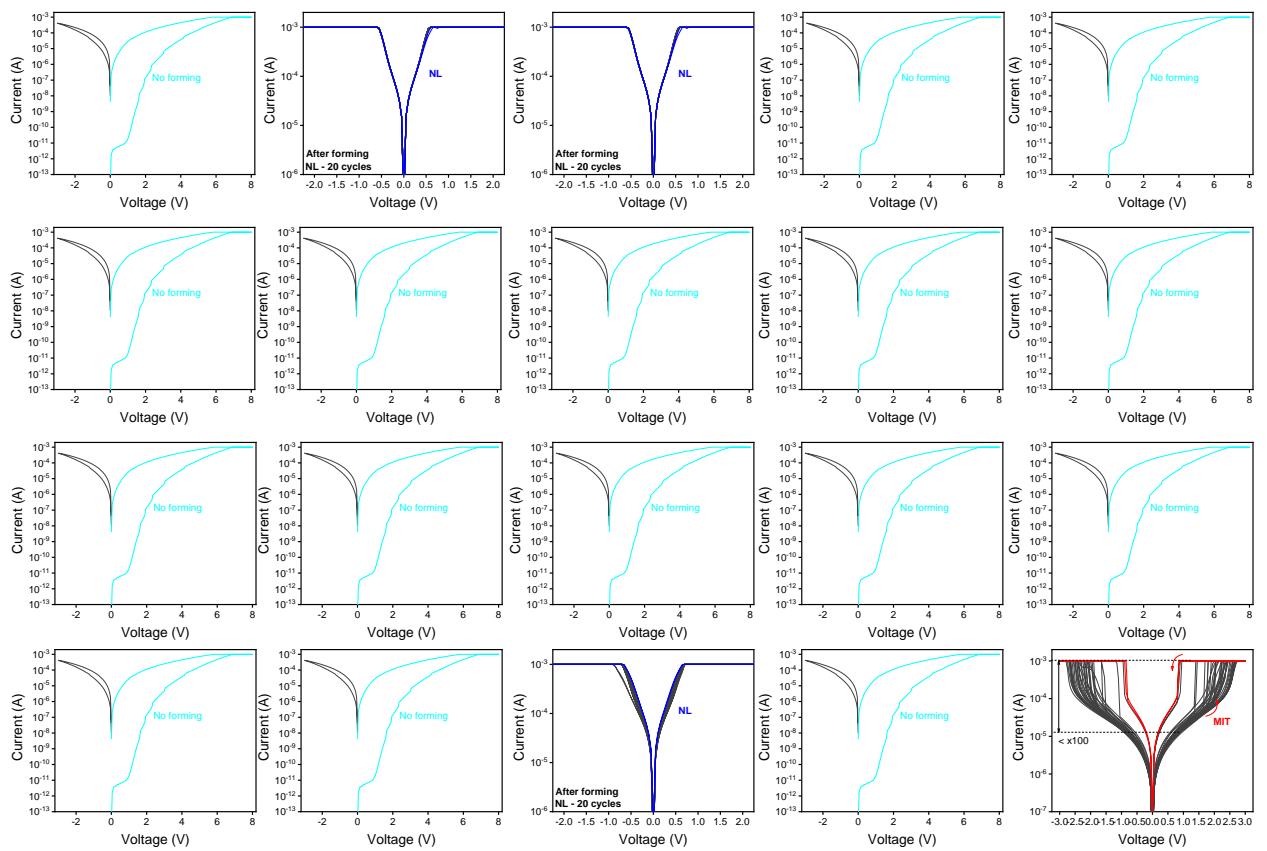
**Figure S5.** I-V curve measuring MIT characteristics in 20 cells of a device fabricated by depositing 4.5 sccm of oxygen flow for 10 min.



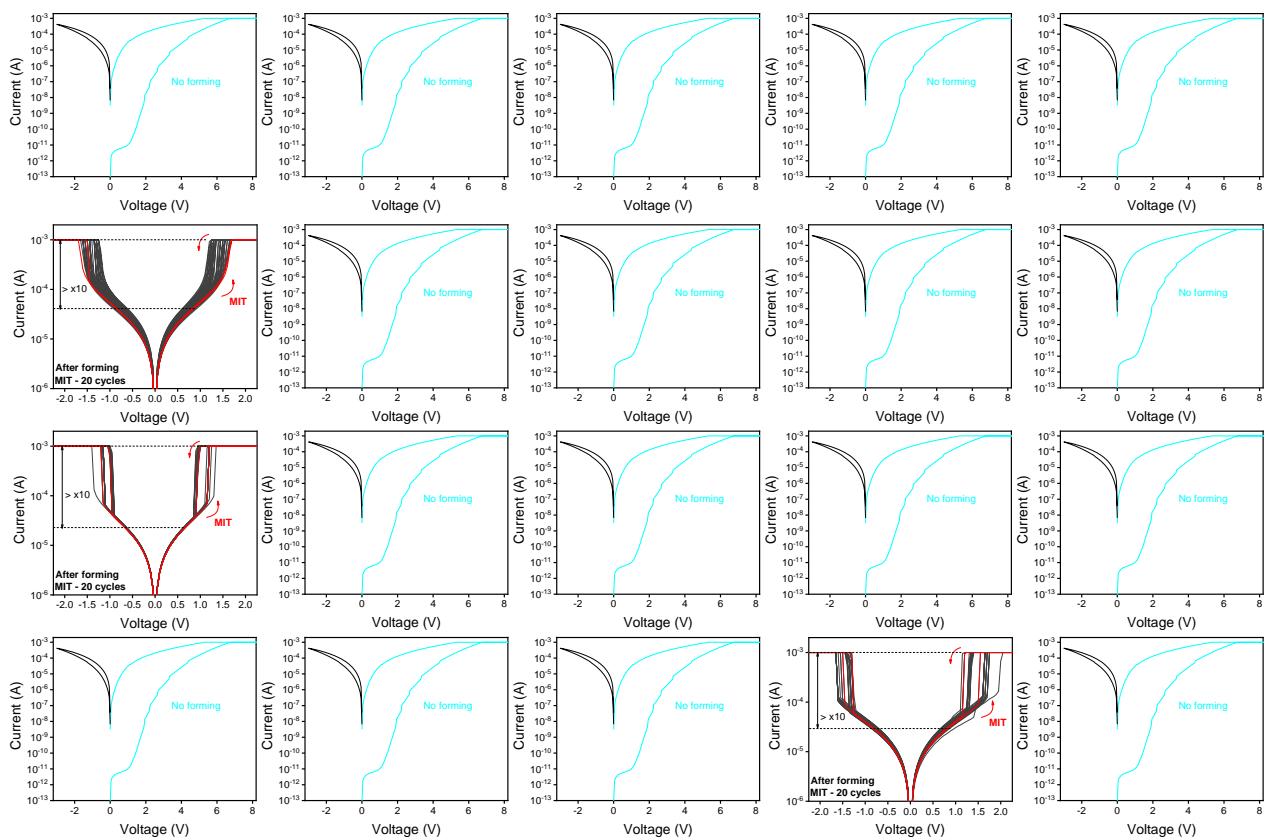
**Figure S6.** I-V curve measuring MIT characteristics in 20 cells of a device fabricated by depositing 4.5 sccm of oxygen flow for 13 min.



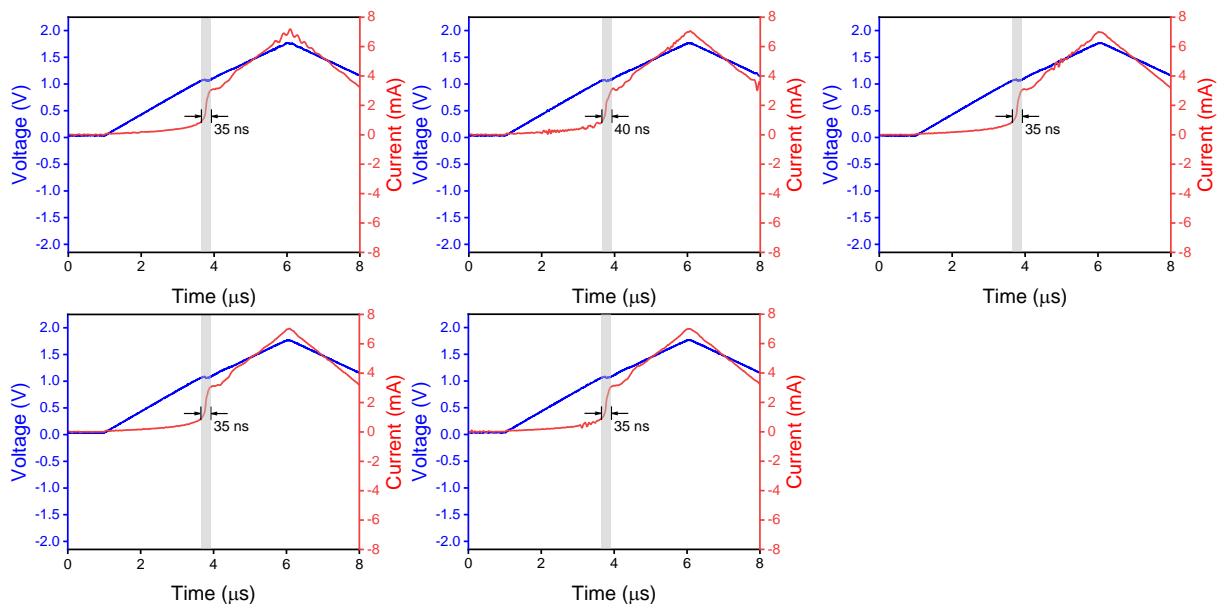
**Figure S7.** I-V curve measuring MIT characteristics in 20 cells of a device fabricated by depositing 5.5 sccm of oxygen flow for 7 min.



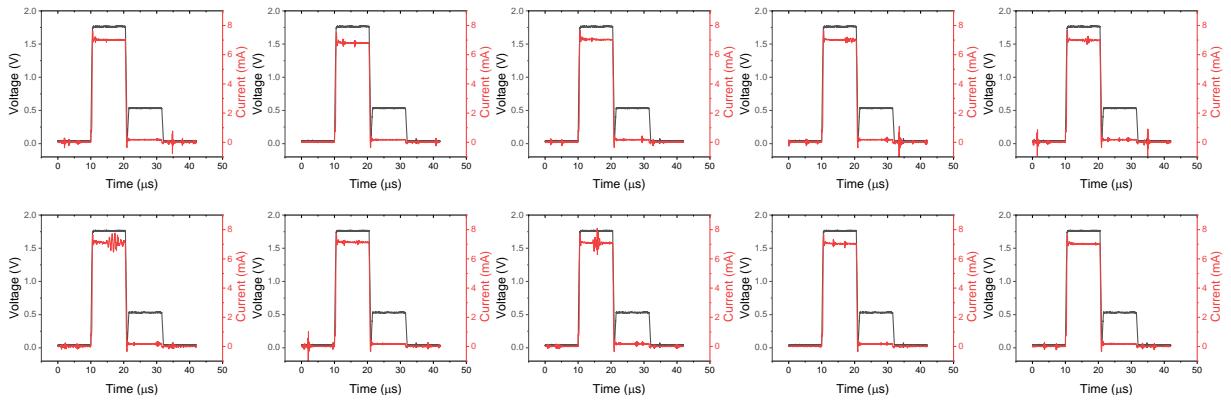
**Figure S8.** I-V curve measuring MIT characteristics in 20 cells of a device fabricated by depositing 5.5 sccm of oxygen flow for 10 min.



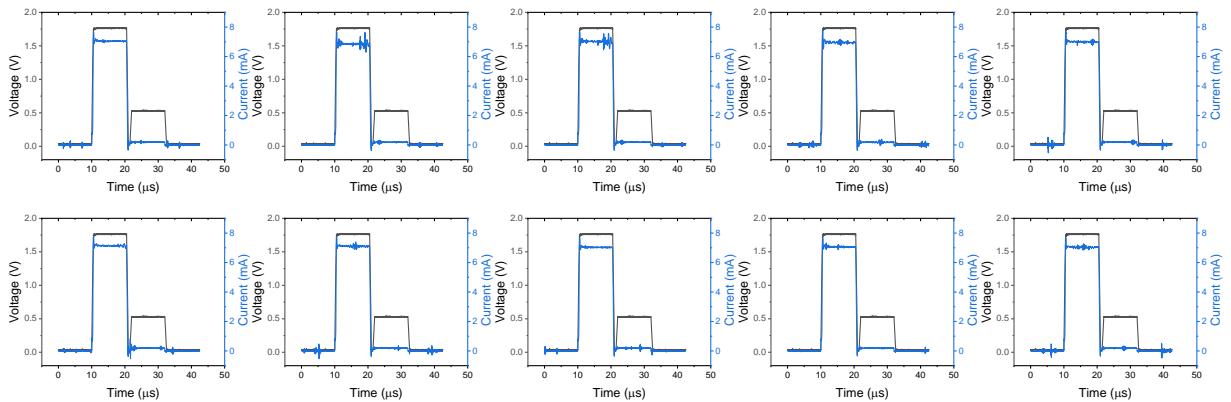
**Figure S9.** I-V curve measuring MIT characteristics in 20 cells of a device fabricated by depositing 5.5 sccm of oxygen flow for 13 min.



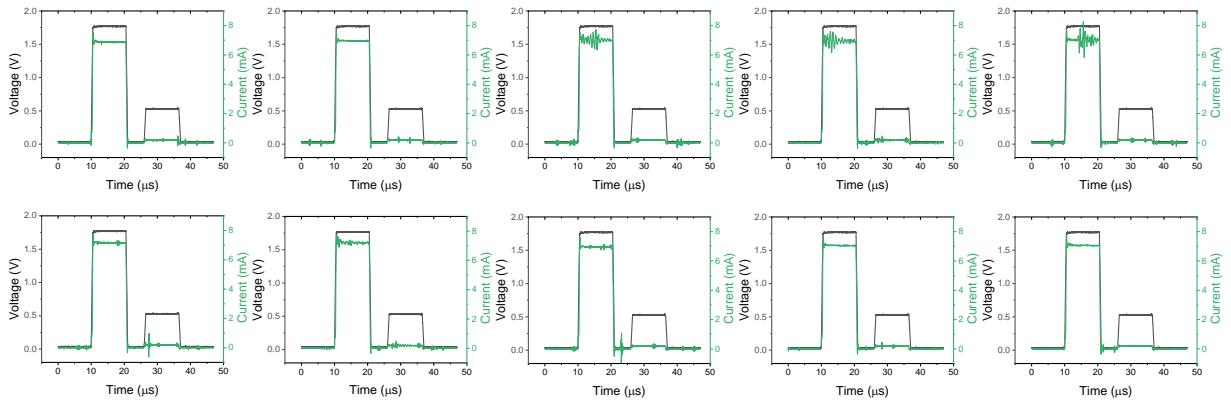
**Figure S10.** Switching time at 5 cells of a device deposited at oxygen flow rate of 3.5 sccm for 7 min.



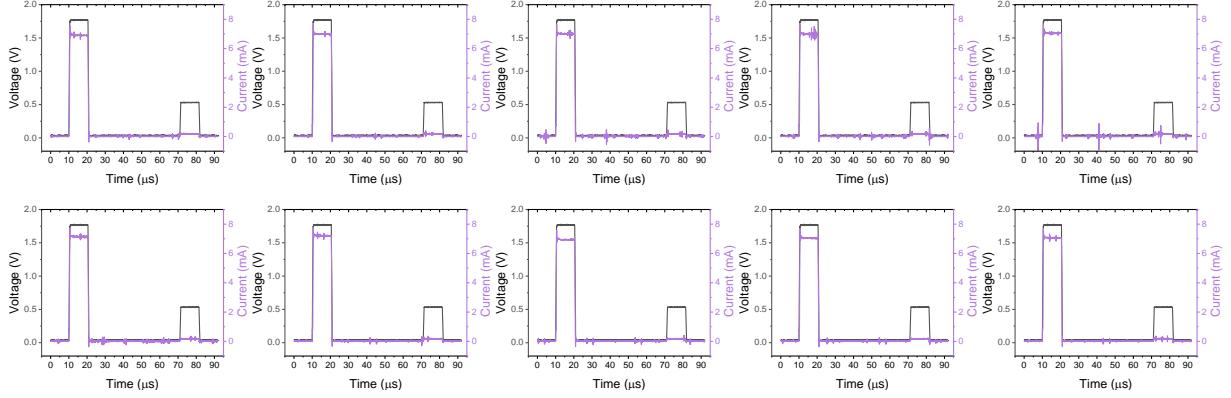
**Figure S11.** Recovery characteristics (50 ns) in 20 cells of a device fabricated by depositing 3.5 sccm of oxygen flow for 7 min.



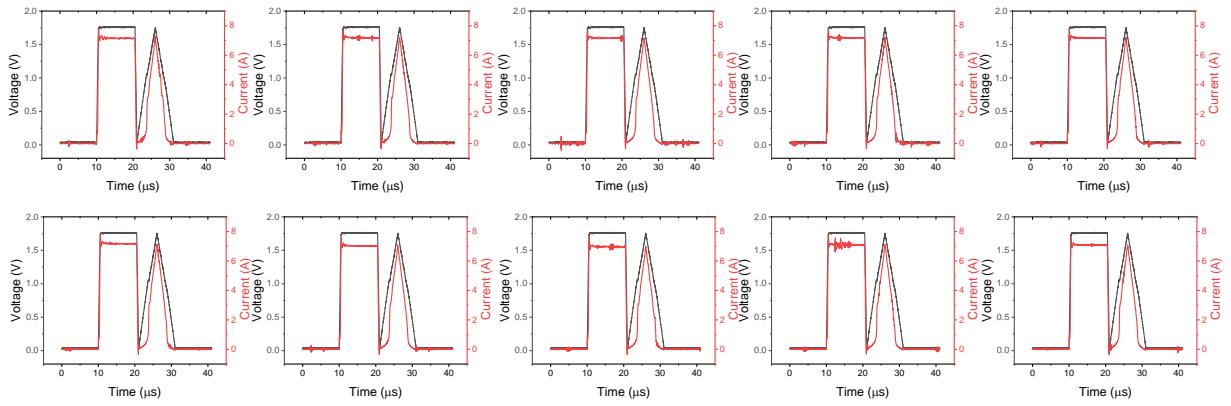
**Figure S12.** Recovery characteristics (500 ns) in 20 cells of a device fabricated by depositing 3.5 sccm of oxygen flow for 7 min.



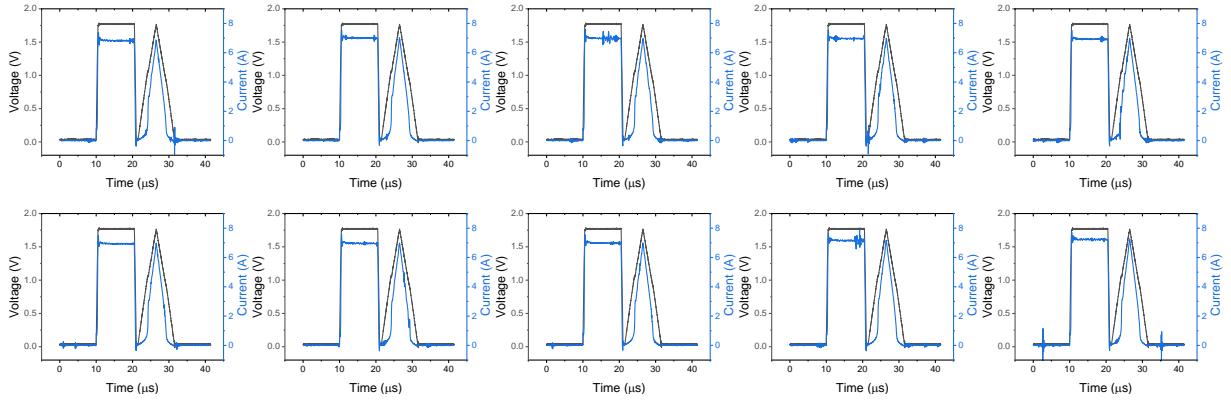
**Figure S13.** Recovery characteristics (5  $\mu$ s) in 20 cells of a device fabricated by depositing 3.5 sccm of oxygen flow for 7 min.



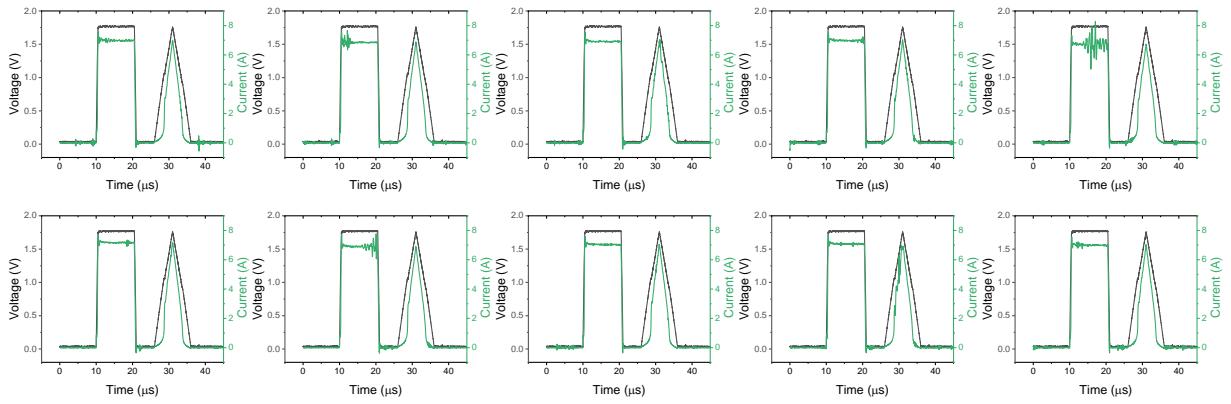
**Figure S14.** Recovery characteristics (50  $\mu$ s) in 20 cells of a device fabricated by depositing 3.5 sccm of oxygen flow for 7 min.



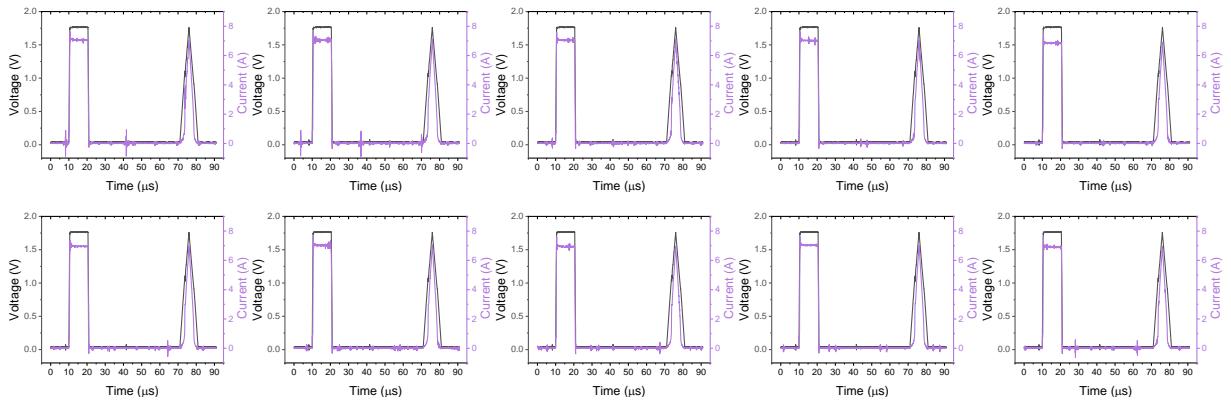
**Figure S15.** Drift characteristics (50 ns) in 20 cells of a device fabricated by depositing 3.5 sccm of oxygen flow for 7 min.



**Figure S16.** Drift characteristics (500 ns) in 20 cells of a device fabricated by depositing 3.5 sccm of oxygen flow for 7 min.



**Figure S17.** Drift characteristics (5  $\mu$ s) in 20 cells of a device fabricated by depositing 3.5 sccm of oxygen flow for 7 min.



**Figure S18.** Drift characteristics (50  $\mu$ s) in 20 cells of a device fabricated by depositing 3.5 sccm of oxygen flow for 7 min.