

## Supporting Information

### Filament theory based WORM memory devices using aluminum/poly (9-vinylcarbazole)/aluminum structures

Aswin Suresh, Govind Krishnakumar, Manoj A G Namboothiry\*

Indian Institute of Science Education and Research Thiruvananthapuram (IISER TVM),

Thiruvananthapuram-695016, India

Corresponding author E mail: [manoj@iisertvm.ac.in](mailto:manoj@iisertvm.ac.in)

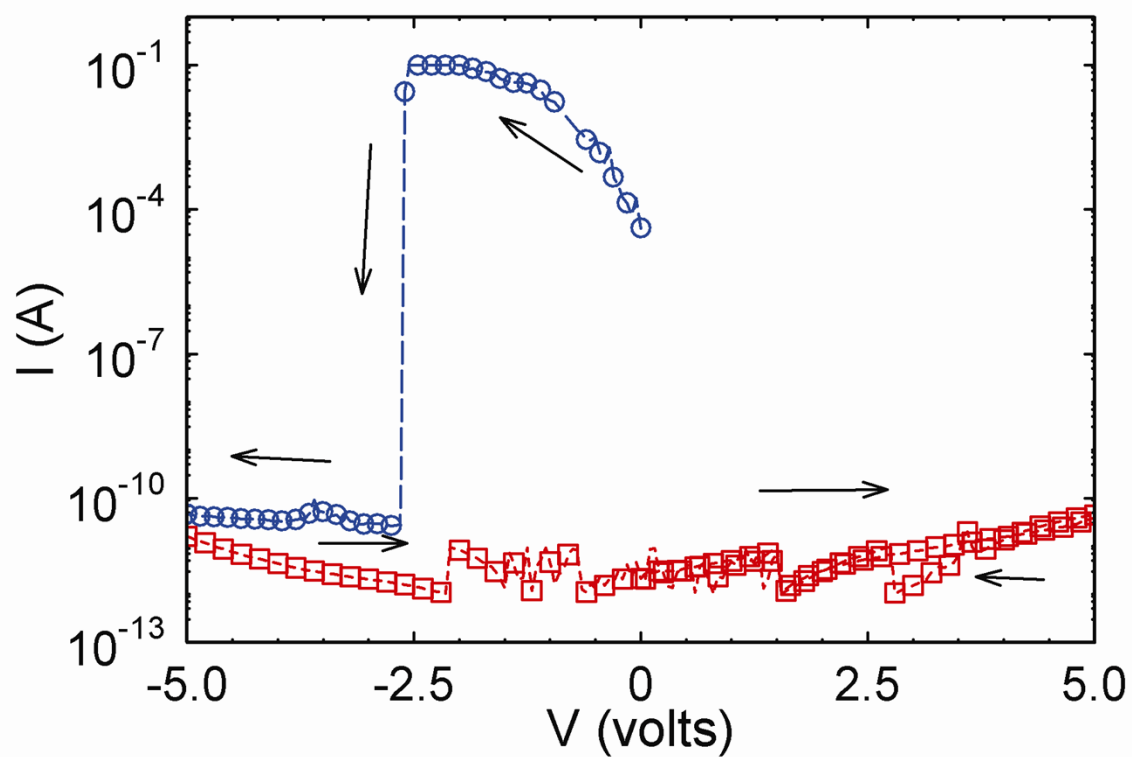
#### Figures

**Figure S1.** IV characteristic of Al/PVK/Al device with voltage sweeping sequentially from 0 V to - 5 V, -5 V to +5 V and then +5 V to 0 V

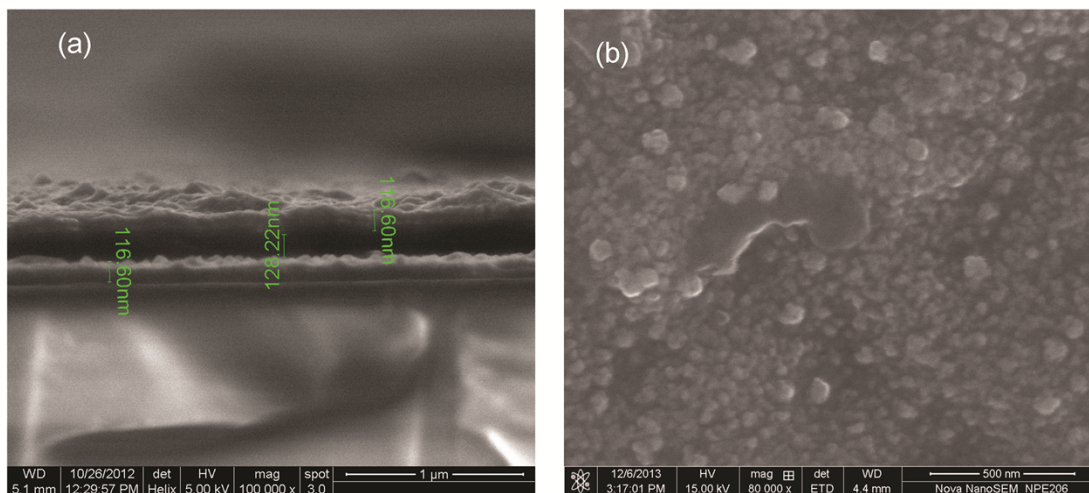
**Figure S2.** (a) Cross sectional (before biasing) and (b) top electrode view (after biasing) SEM images of Al/PVK/Al device

**Figure S3** (a)Energy level diagram of the Al/PVK/Al structure and (b) I-V characteristic of the device within the ON region from -1 V to +1 V

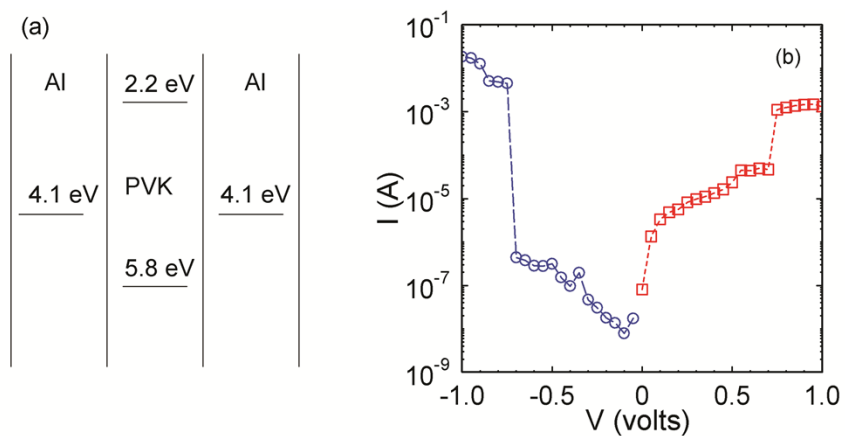
**Figure S4.** Schematic of the filament formation and rupturing resulting in the (a) ON and (b) OFF state respectively



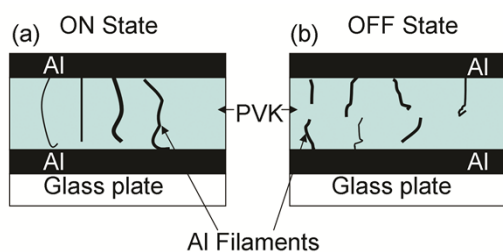
**Figure S1.** IV characteristic of Al/PVK/Al device with voltage sweeping sequentially from 0 V to -5 V, -5 V to +5 V and then +5 V to 0 V.



**Figure S2.** (a) Cross sectional (before biasing) and (b) top electrode view (after biasing) SEM images of Al/PVK/Al device.



**Figure S3** (a) Energy level diagram of the Al/PVK/Al structure and (b) I-V characteristic of the device within the ON region from -1 V to +1 V



**Figure S4.** Schematic of the filament formation and rupturing resulting in the (a) ON and (b) OFF state respectively