

Supporting Information

A stable and flexible FP-RRAM with in-situ covalently constructed 3D dendrimer framework

Mengru Liu,^{a†} Xueqing Ma,^{a†} Qianyu Zhao,^a Zhenya Li,^a Yingliang Liu,^{a,b*}

Shengang Xu^{a,b} and Shaokui Cao^{a,b}

^aSchool of Materials Science and Engineering, Zhengzhou University,
Zhengzhou, P. R. China

^bHenan Key Laboratory of Advanced Nylon Materials and Application,
Zhengzhou University, Zhengzhou, P. R. China

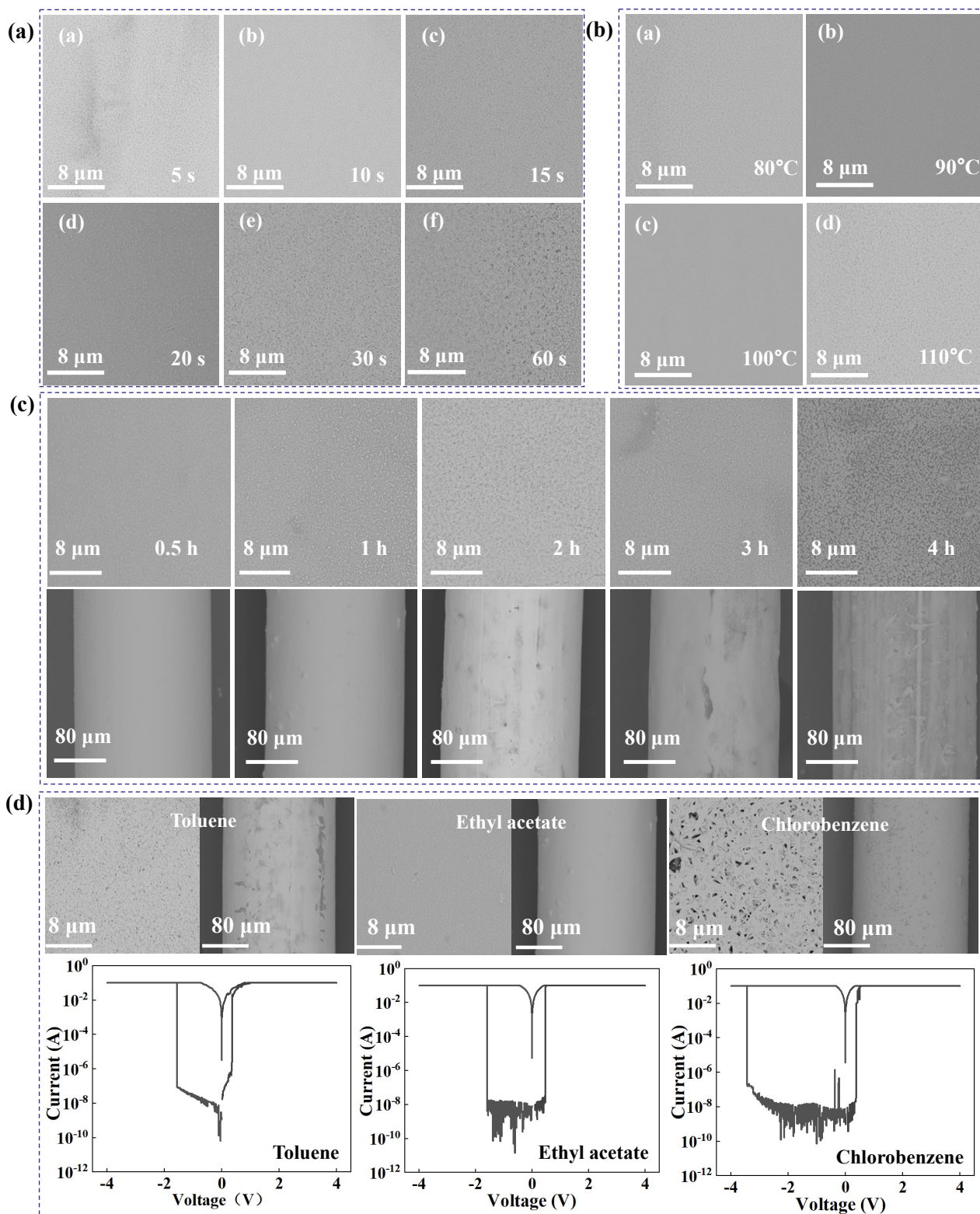


Fig. S1 Preparation parameters of PAMAM-modified FP-RRAM: (a) antisolvent time; (b) annealing temperature; (c) annealing time; (d) antisolvent type

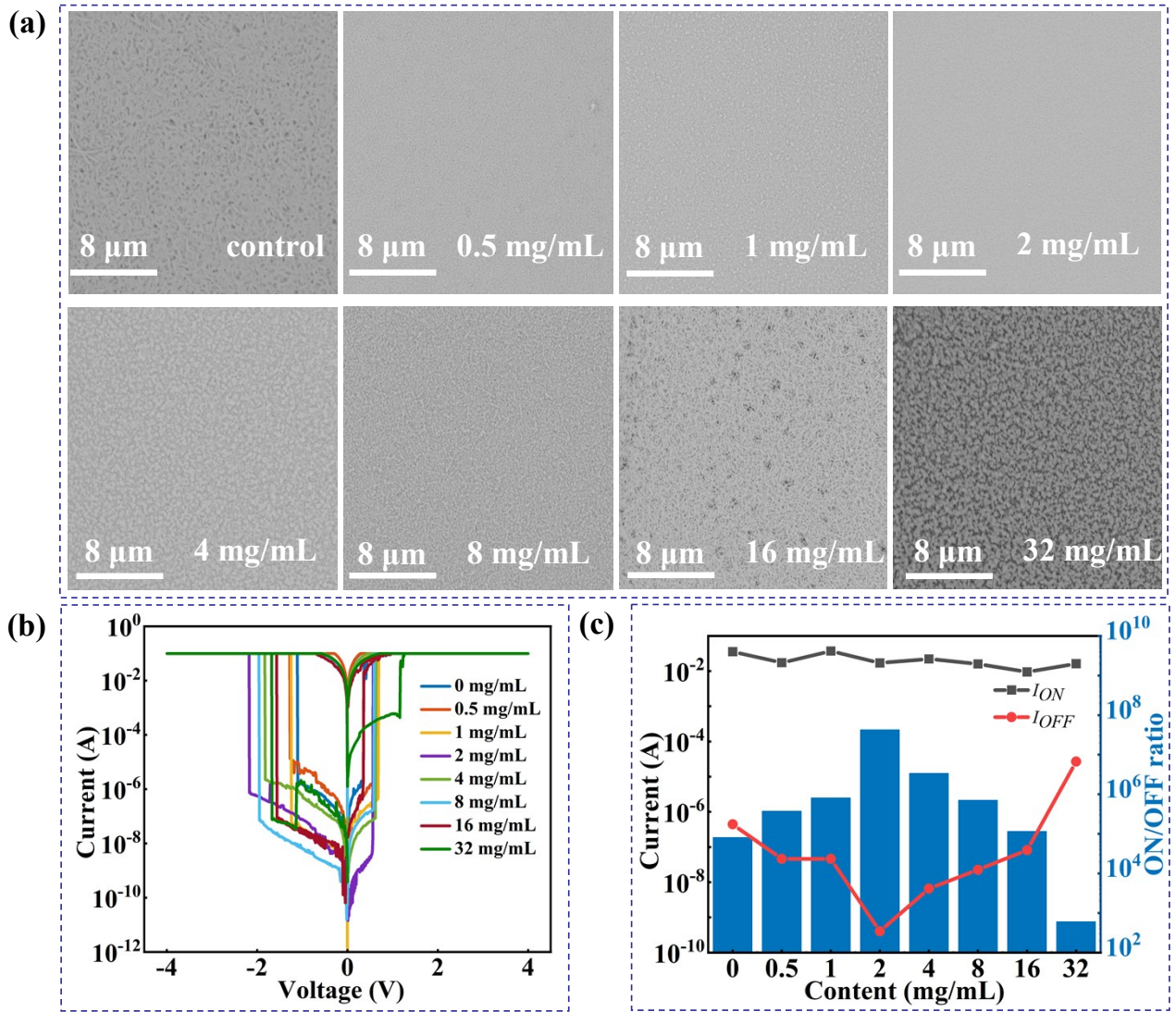


Figure S2 (a) SEM images; (b) I-V curves; (c) HRS current, LRS current, and switching ratio of FP-RRAM modified with 5.0 G PAMAM at different concentrations

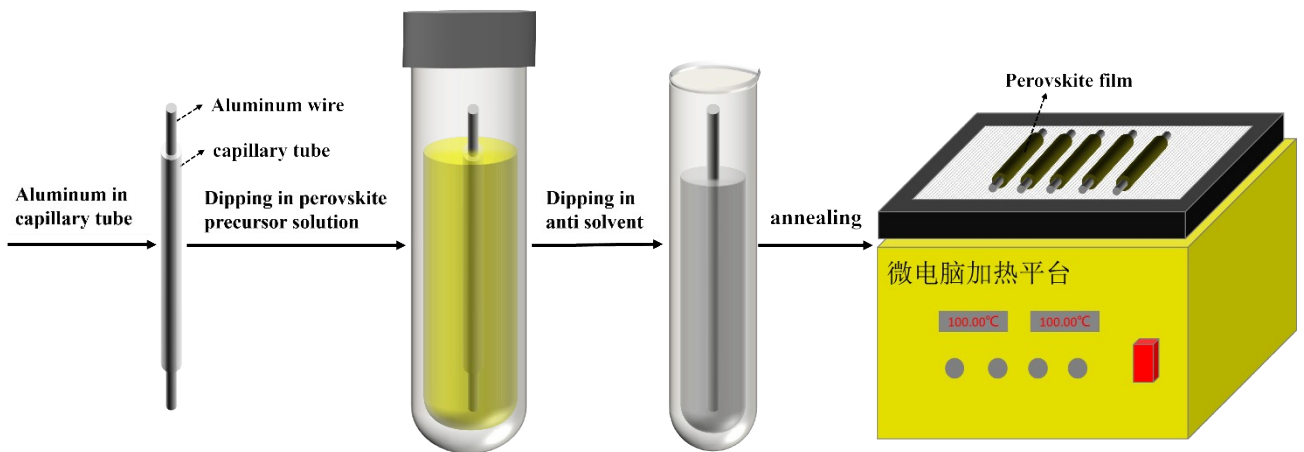


Fig. S3 Preparation process of FP-RRAM

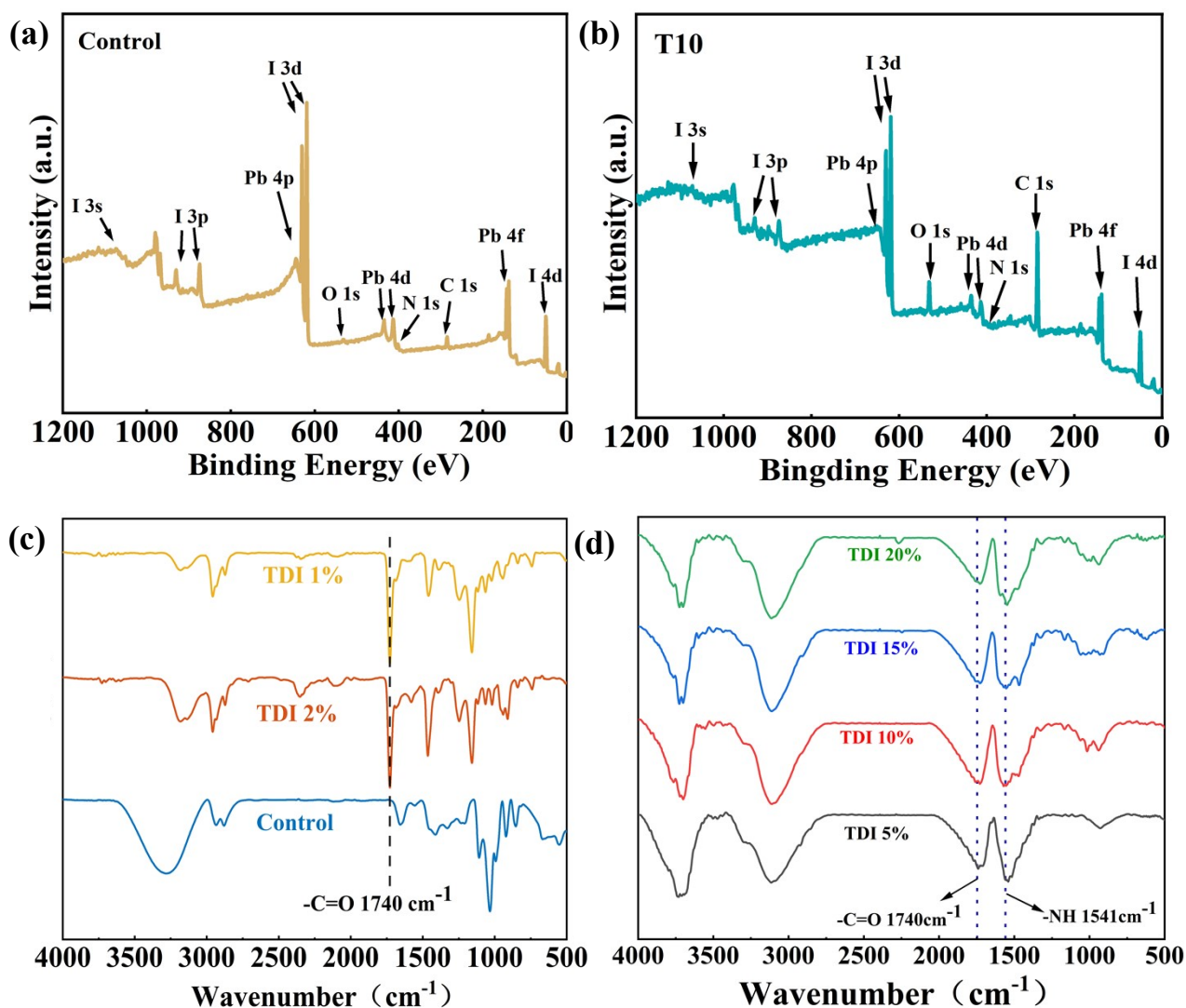


Fig. S4 (a) X-ray photoelectron spectroscopy of pure perovskite; (b) X-ray photoelectron spectroscopy after *cf*-modification; (c) and (d) Fourier transform infrared spectrogram of FP-RRAM with different contents of TDI

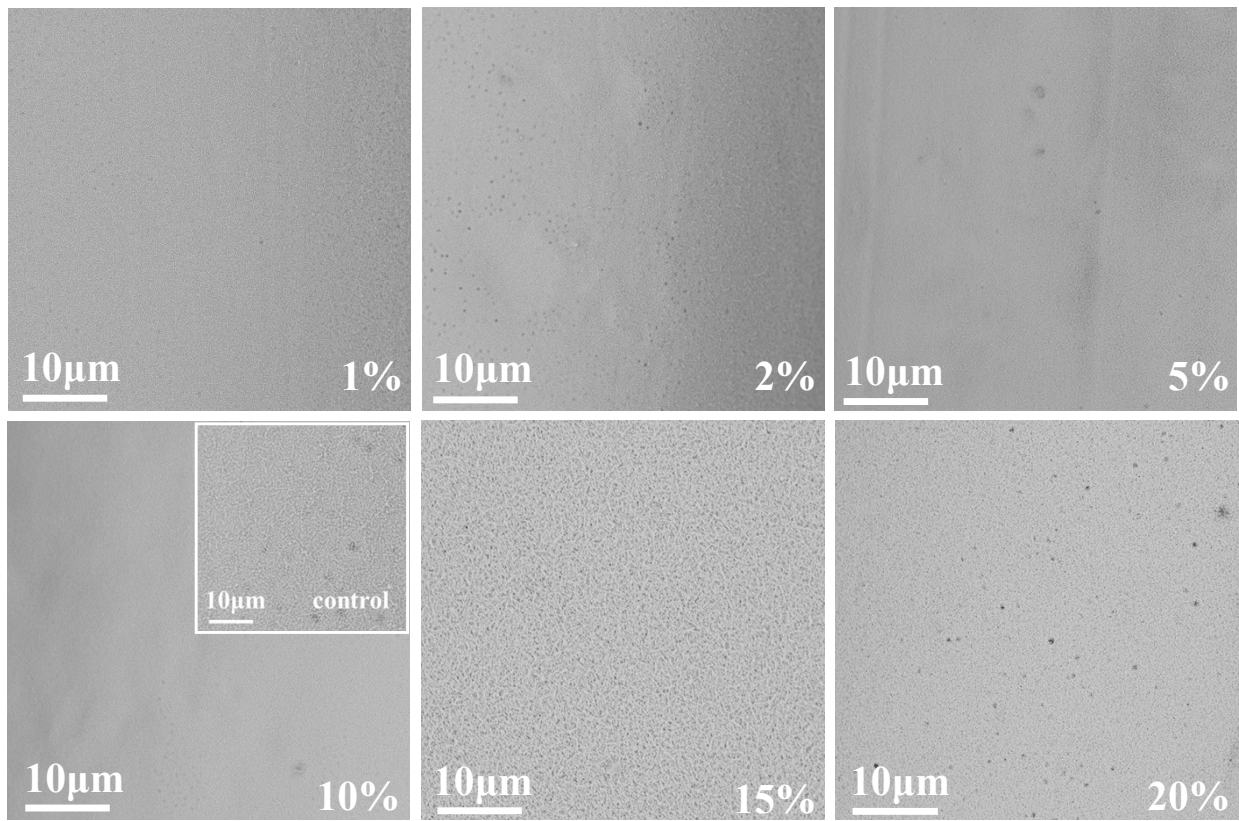


Fig. S5 SEM images of FP-RRAM with different contents of TDI

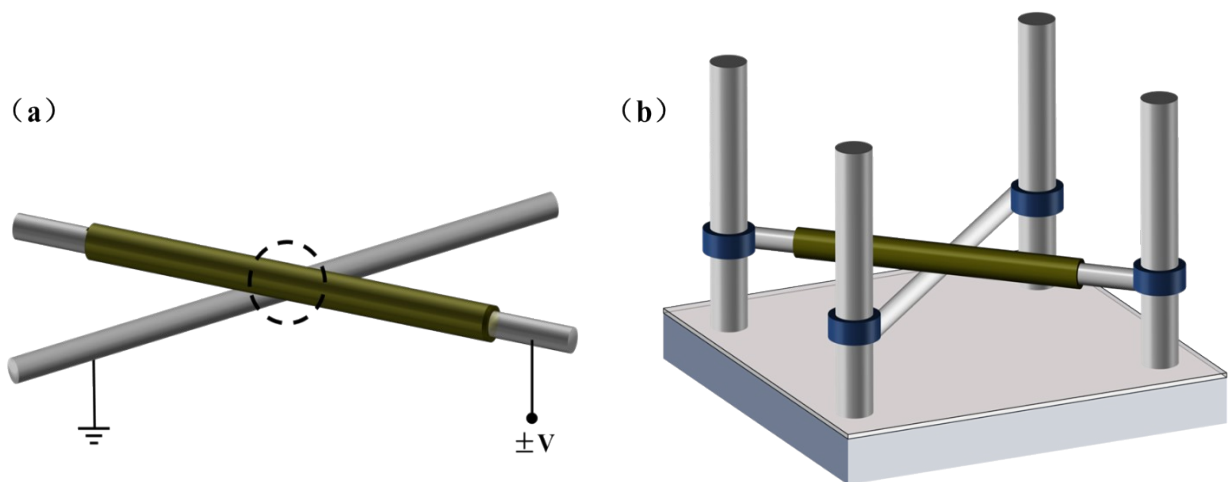


Fig. S6 Device structure (a) and testing schematic diagram (b)

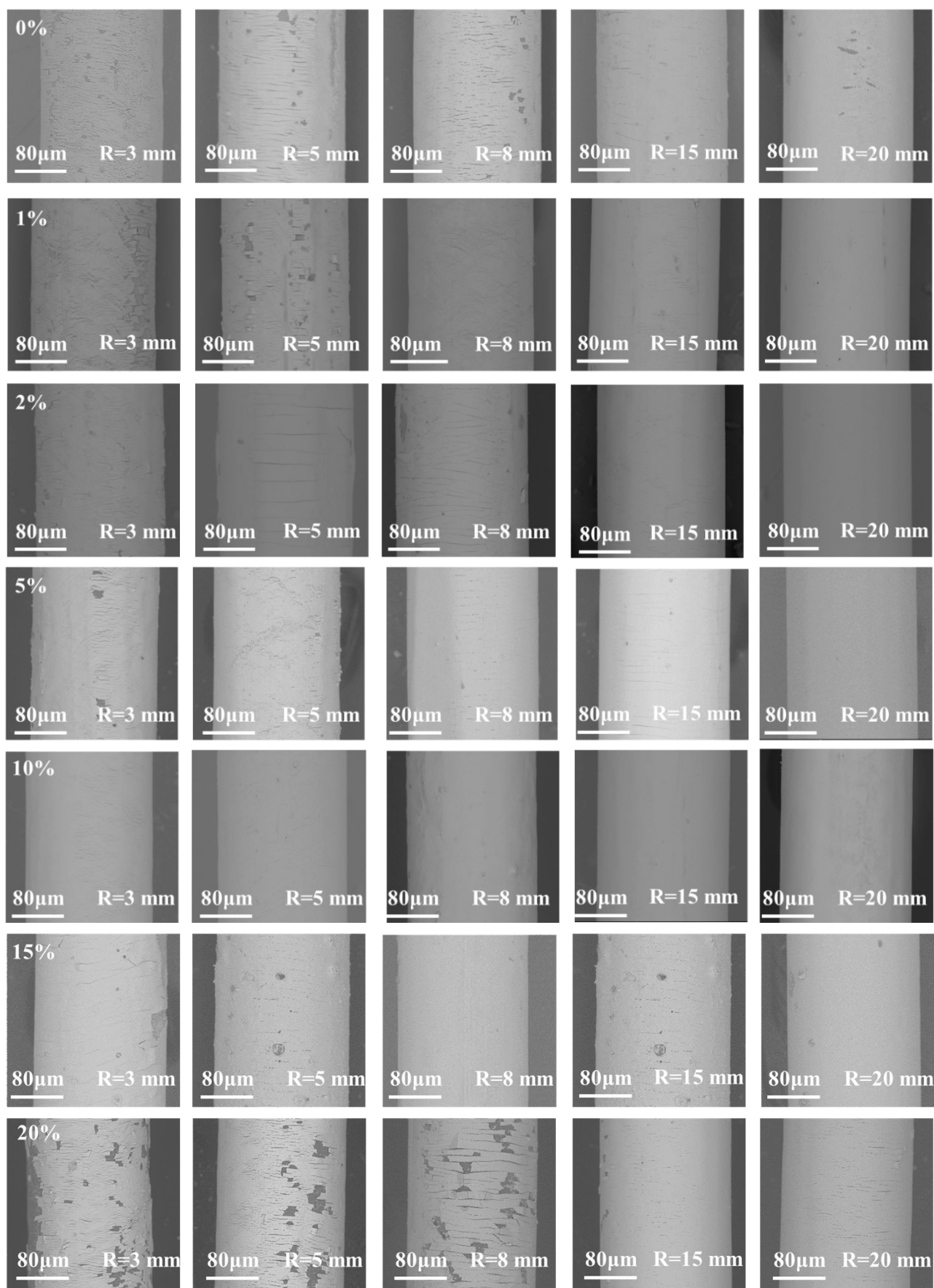


Figure. S7 SEM images of FP-RRAM with different contents of TDI after 100-times bending with different radii

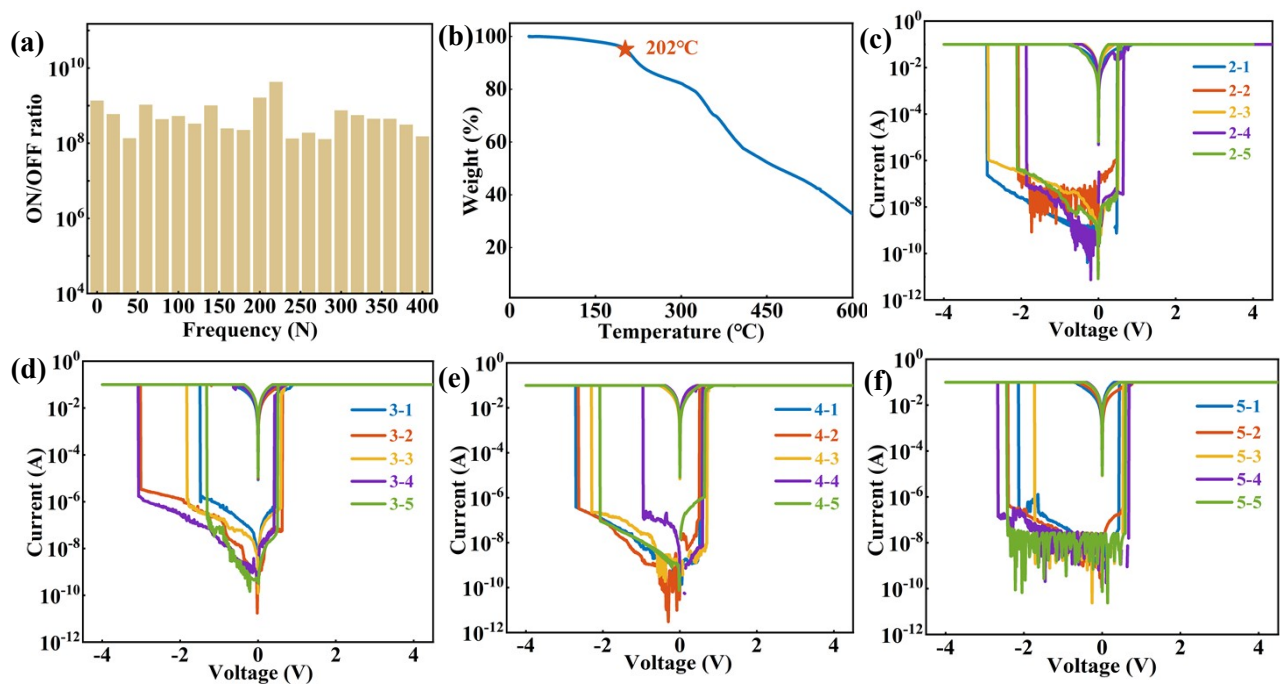


Figure. S8 (a) Statistical charts of ON/OFF ratio of T10 after bending at different times with a radius of 5mm; (b) Glass transition temperature of T10; (c-f) I-V curves of storage units in a 5×5 woven T10-FP-RRAM device