

Supplementary Information

Impact of moisture absorption on the resistive switching characteristics of a polyethylene-based atomic switch

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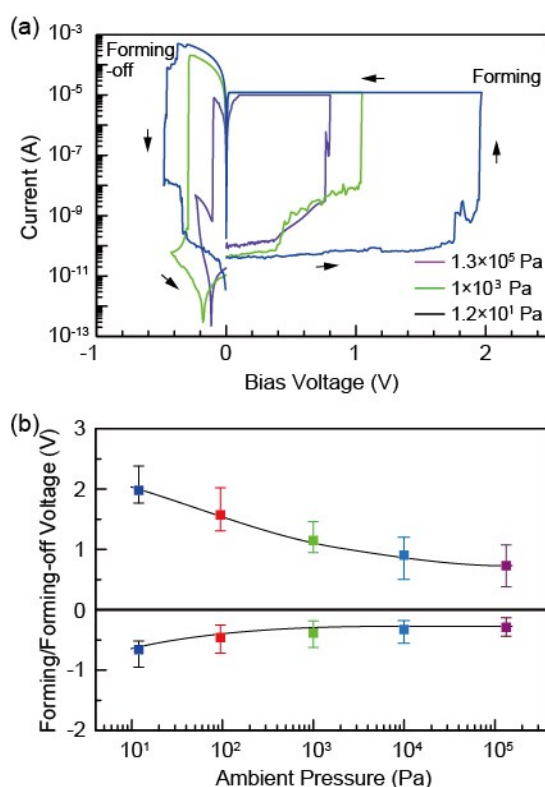


Fig. S1 The ambient pressure dependence of the switching behavior of a Ag/Ag-PEO/Pt atomic switch. (a) Typical I - V curves measured under varied ambient pressures. (b) The forming and forming-off voltages plotted as a function of the ambient pressure, evaluated from the measured I - V curves. The solid curves are a guide to the eye.

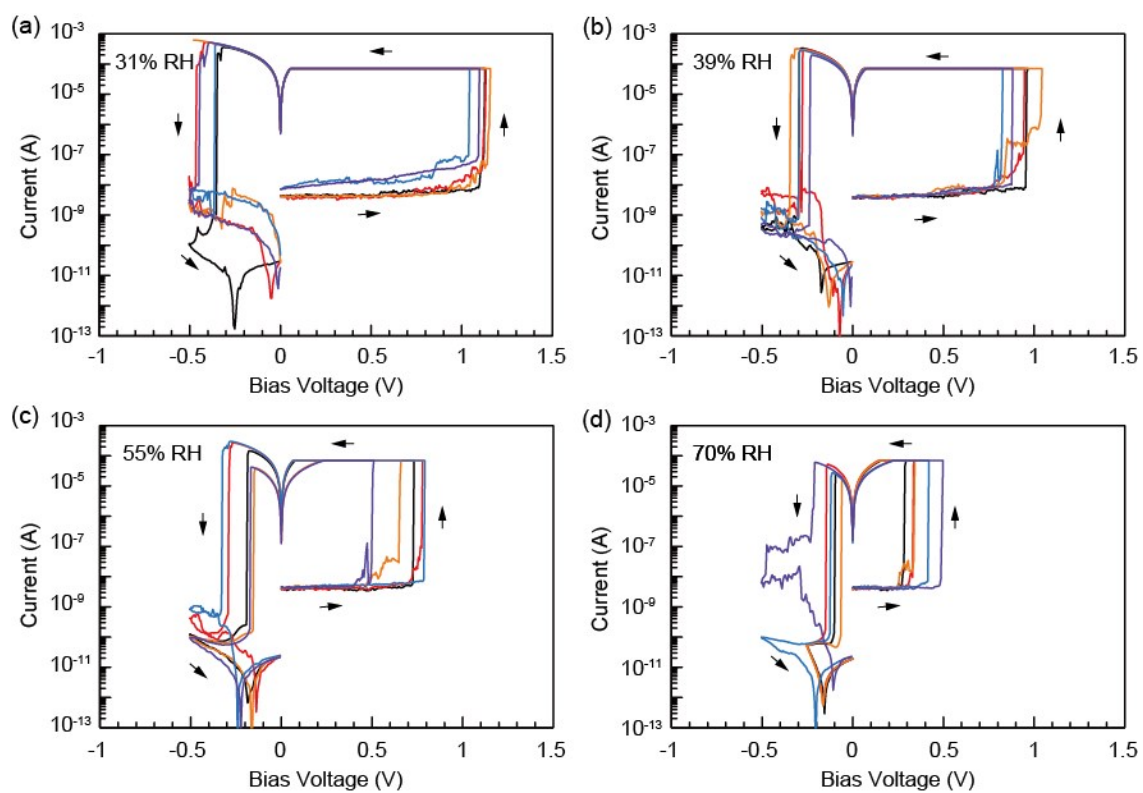


Fig. S3 I - V curves measured at each RH level: (a) 31%, (b) 39%, (c) 55%, and (d) 70%. The results show the reproducibility (and cycle-to-cycle variations) of the switching behaviour.

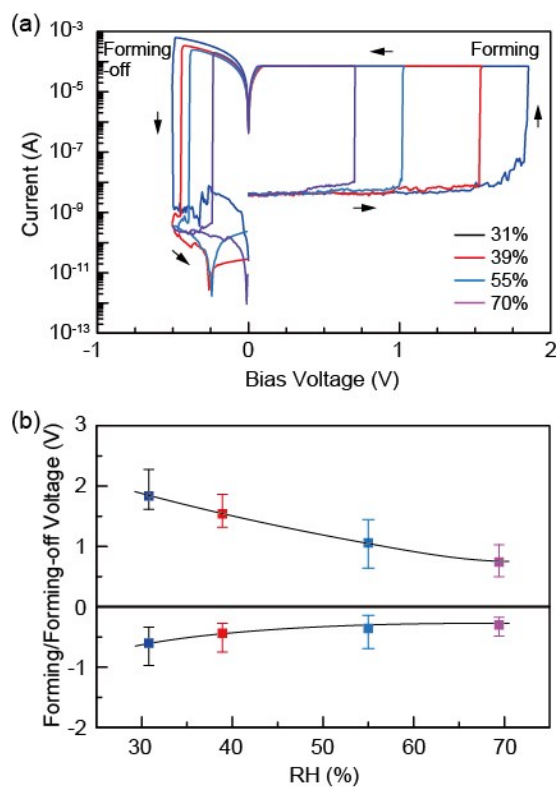


Fig. S2 The humidity dependence of the switching behavior of a Ag/Ag-PEO/Pt atomic switch. (a) Typical I - V curves measured under varied relative humidities (RH). (b) The forming and forming-off voltages plotted as a function of the RH level, evaluated from the measured I - V curves. The solid curves are a guide to the eye.

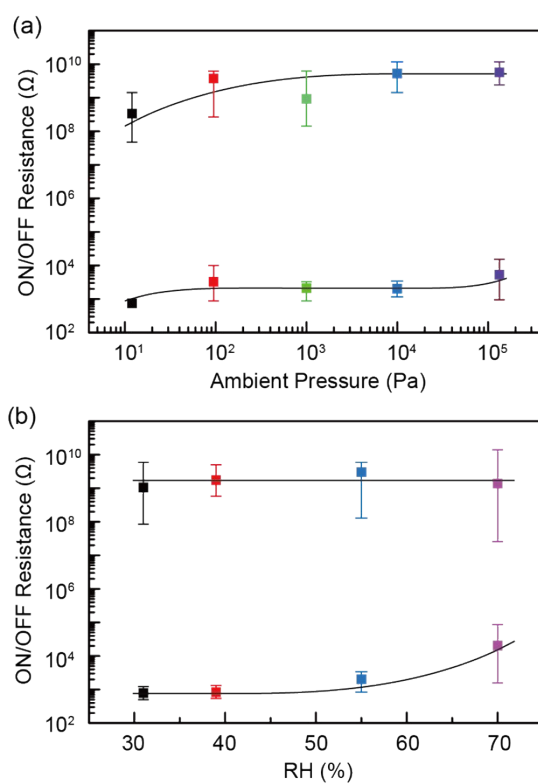


Fig. S4 ON and OFF resistances plotted as a function of the ambient pressure (a) and RH level (b), which were collected from the measured I - V curves. The solid curves are a guide to the eye.