

Fig. S1 The ^1H NMR spectra of Azo 1~3.

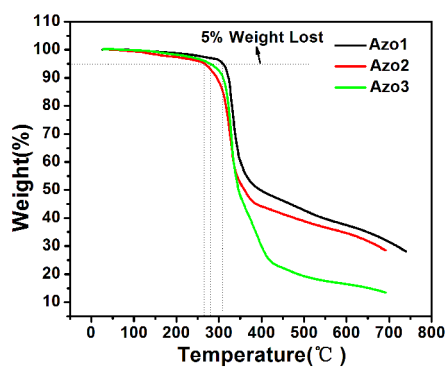


Fig. S2 TGA curves of three Azos measured in nitrogen atmosphere at a heating rate of 10 $^{\circ}\text{C}/\text{min}$.

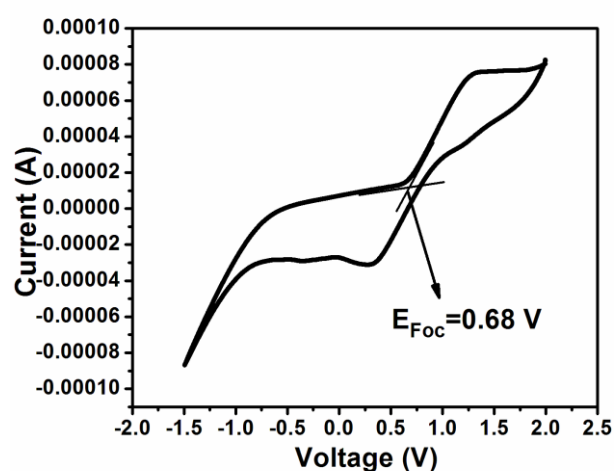


Fig. S3 The cyclic voltammograms of ferrocene in deaerated CH_3CN containing Bu_4NClO_4 (0.1 mol/L)

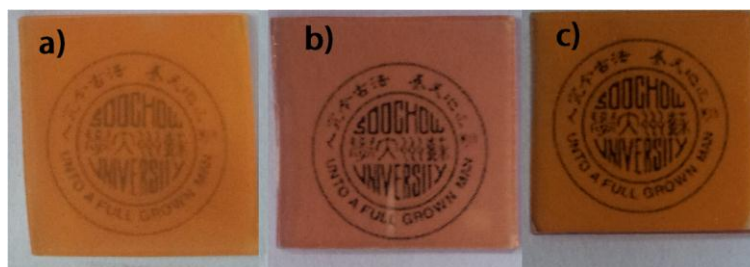


Fig. S4 Optical images of three Azos thin films vacuum-deposited onto ITO substrate.

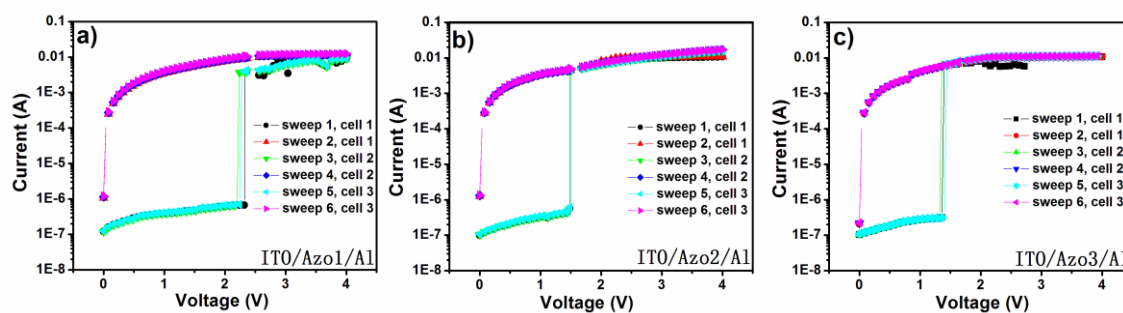


Fig. S5 Current-voltage (I-V) curves of the three molecules-based memory devices under multiple voltage loops.

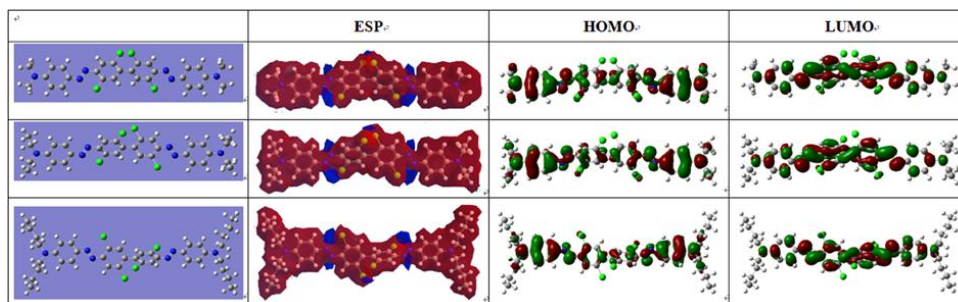


Fig. S6 Molecular optimized conformation, ESP, HOMO and LUMO surfaces of the Azos.