Electronic Supplementary Information

Electronic Effect of Terminal Acceptor Groups on Organic Donor-Acceptor Small-Molecule Induced Different Memory Models

Haifeng Liu\textsuperscript{a}, Hao Zhuang\textsuperscript{a}, Hua Li,\textsuperscript{*a} Jianmei Lu\textsuperscript{a,b} and Lihua Wang\textsuperscript{a}

\textsuperscript{a} College of Chemistry, Chemical Engineering and Materials Science, Collaborative Innovation Center of Suzhou Nano Science and Technology, Soochow University, Suzhou 215123, China. Fax: +86 512 65880367; Tel: +86 512 65880368; E-mail: lujm@suda.edu.cn.

\textsuperscript{b} State Key Laboratory of Treatments and Recycling for Organic Effluents by Adsorption in Petroleum and Chemical Industry, Suzhou 215123, P. R. China.

1. NMR Spectra.
Figure S1 $^1$H and $^{13}$C NMR spectra of BCz-BT, BCz-NO$_2$ and BCz-CN

2. Thermo gravimetric analysis (TGA).

Figure S2 Thermo gravimetric analysis (TGA) curves of three compounds with a heating rate of 20 C min$^{-1}$ under nitrogen atmosphere.
3. I/t Curves.

Figure S3 Effect of retention time at 1.0 V on OFF and ON states of BCz-BT, BCz-NO$_2$ and BCZ-CN under a constant stress of 1.0 V.

4. I/V Curves of ITO/BCz/Al.
Figure S4: The memory performance of the ITO/BCz/Al device

5. Current models.

Figure S5: OFF and ON states I-V curves of the experimental and fitted data for the memory devices based on BCz-BT, BCz-NO$_2$ and BCZ-CN: (a, b, c) The OFF state with the Ohmic current and SCLC model; (b, d, f) The ON state with the ohmic current model.