Supporting Information

Excess Random Laser Action in Memories for Hybrid Optical/Electric Logic

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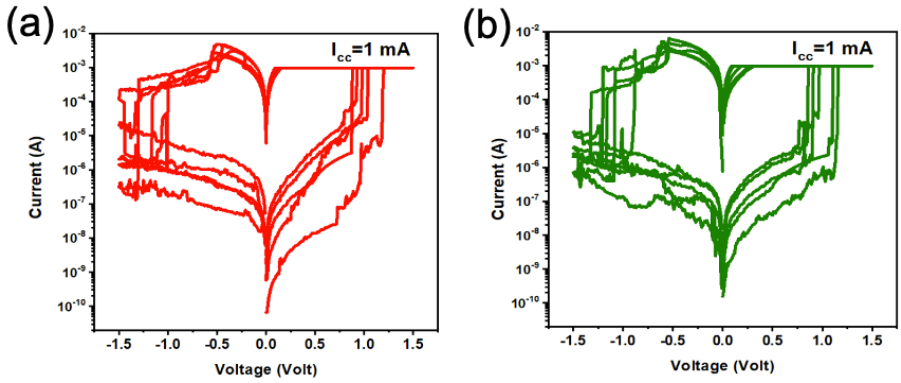

Figure S1. The I-V switching cycles of (a) the ITO/PMMA:QDs($\boldsymbol{\lambda}_{em}$=630 nm)/Ag CBRAM devices and (b) the ITO/PMMA:QDs($\boldsymbol{\lambda}_{em}$=540 nm)/Ag CBRAM devices.

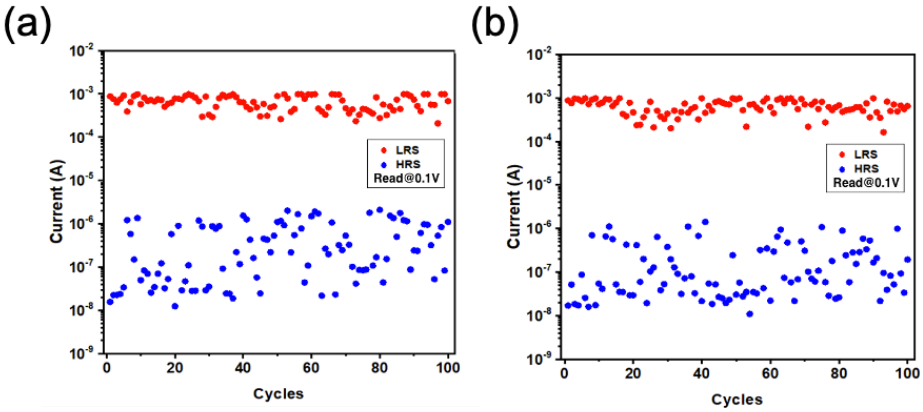

Figure S2. The DC endurance characteristic of (a) the ITO/PMMA:QDs($\boldsymbol{\lambda}_{em}$=630 nm)/Ag CBRAM devices and (b) the ITO/PMMA:QDs($\boldsymbol{\lambda}_{em}$=540 nm)/Ag CBRAM devices.

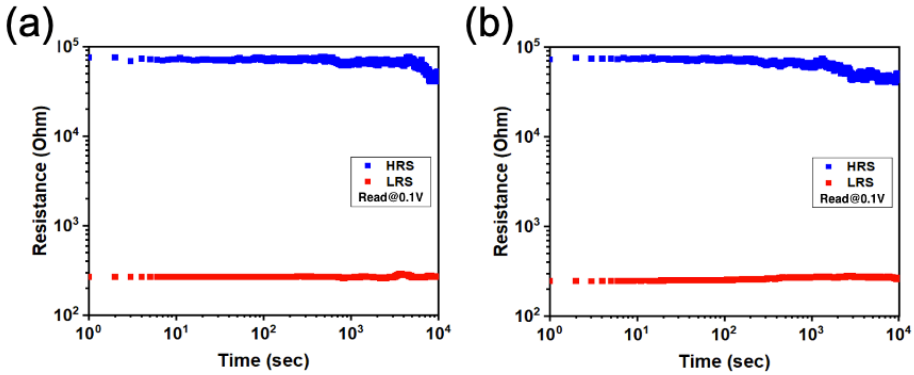

Figure S3. The resistance retention of (a) the ITO/PMMA:QDs($\boldsymbol{\lambda}_{em}$=630 nm)/Ag CBRAM devices and (b) the ITO/PMMA:QDs($\boldsymbol{\lambda}_{em}$=540 nm)/Ag CBRAM devices.

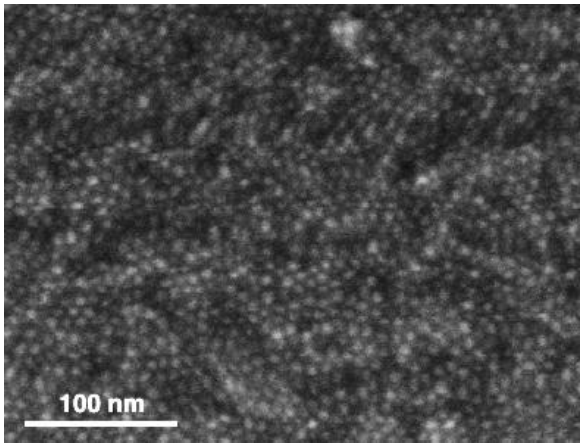

Figure S4. The SEM image of the QDs.

REFERENCES

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(2) Suárez, I.; Gordillo, H.; Abargues, R.; Albert, S.; Martinez-Pastor, J., Photoluminescence waveguiding in CdSe and CdTe QDs-PMMA nanocomposite films. *Nanotechnology* **2011**, *22*, 435202.