Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supplementary Information

Photo-tunable Organic Resistive Random Access Memory based on PVP/N-doped Carbon Dots Nanocomposites for Encrypted Image Storage

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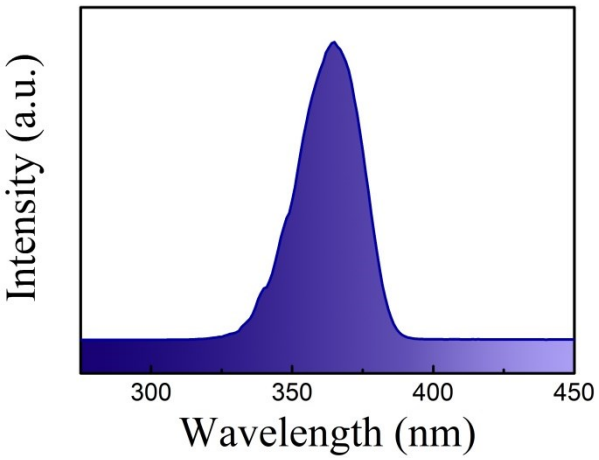

Figure S1. The spectrum distribution of UV light source (wavelength range is 320-390 nm) with most photon energies above 3.36 eV.

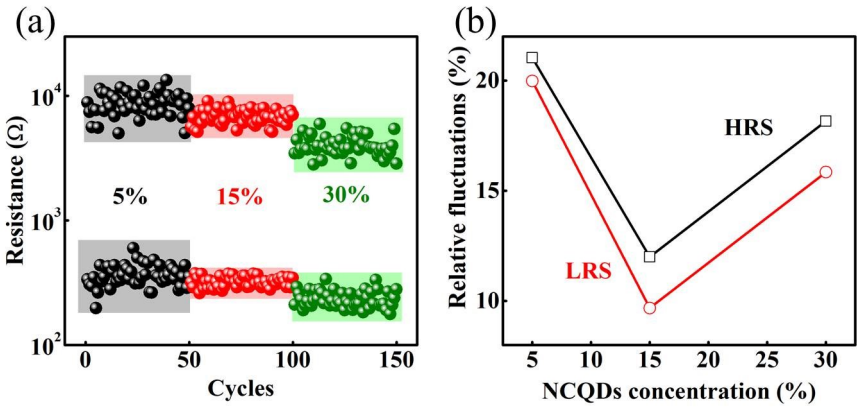

Figure S2. (a) The Statistical values of R_{HRS}/R_{LRS} under reproductive RS measurement with different NCQD concentration. (d) The relative fluctuation of R_{HRS}/R_{LRS} with different NCQD concentration.

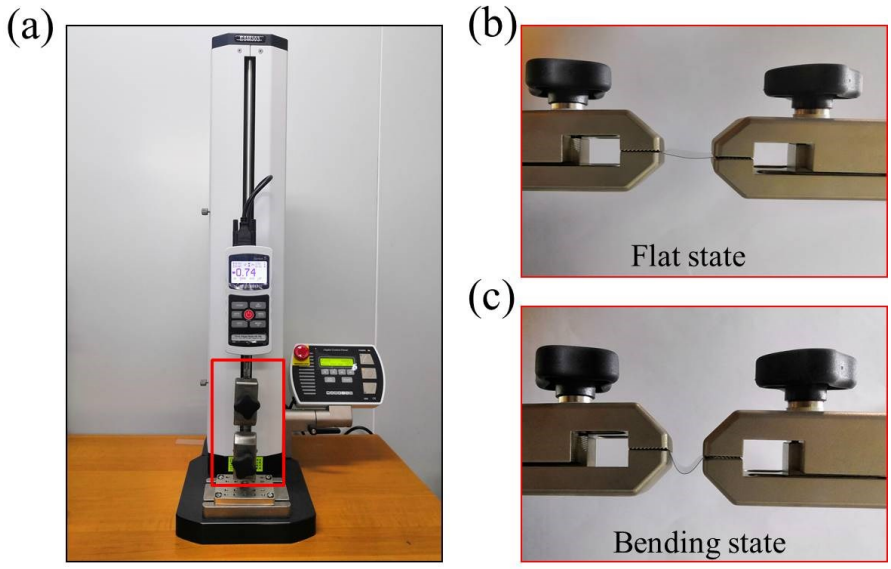

Figure S3. The bending test implemented in this work. (a) The force gauge (Mark-10) and the highly configurable motorized stand (ESM303) used in bending test. (b) The device on the flat state. (c) The device on the bending state. The bending angles can be set through adjusting the distance between two holders. The repeating bending times can be controlled by the procedure setting.

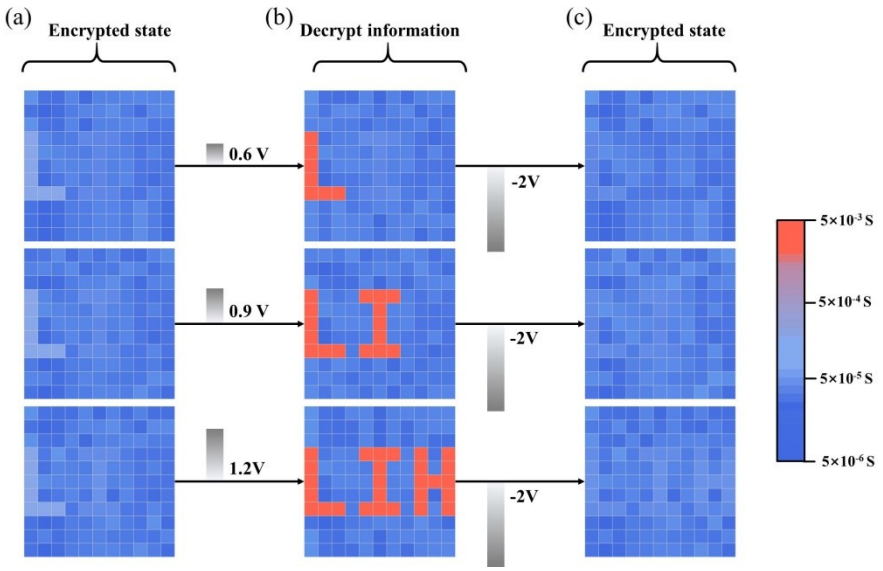

Figure S4. (a) The image on the encrypted state. (b) Diverse images can be decrypted including image “L”, image “LI” and image “LIH”, respectively. (c) All the image information was erased to encrypted state through applying the negative voltage pulses (- 2V).