Supporting information

Reversible Data Encryption-Decryption using pH Stimuli-Responsive Hydrogel

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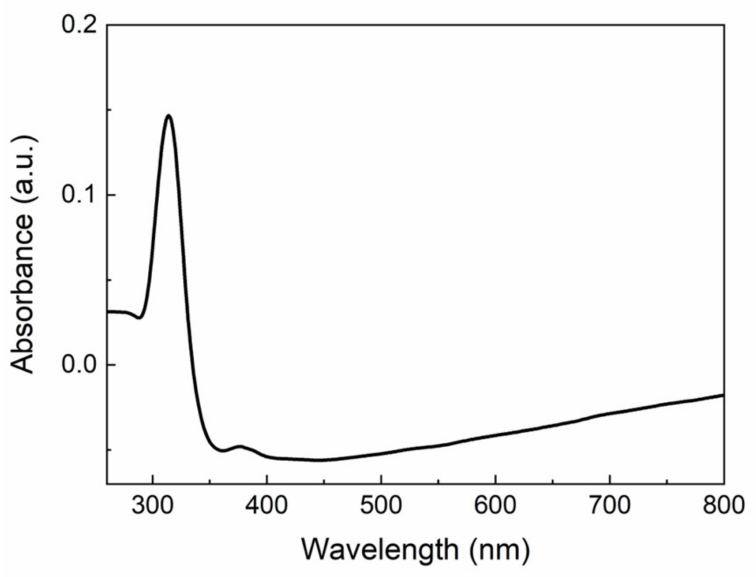

Fig. S1. The Ultraviolet–visible (UV-vis) absorption spectrum of pH-responsive hydrogel. Maximum absorption occurs at the wavelength of 313 nm.

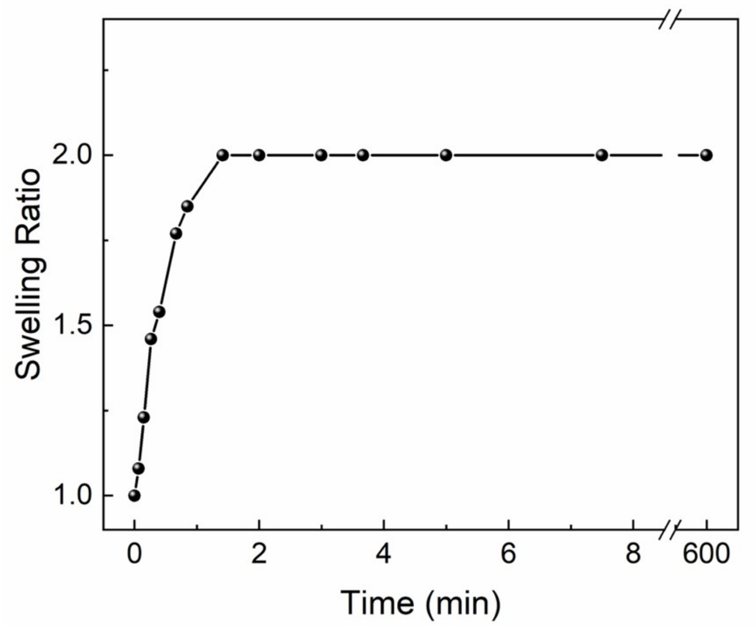

Fig. S2. Swelling ratio of pH-responsive hydrogel in deionized water as a function of time. The time-evolution swelling ratio reflected the water absorption ability of the pH-responsive hydrogel, swelling equilibrium is reached in less than two minutes.

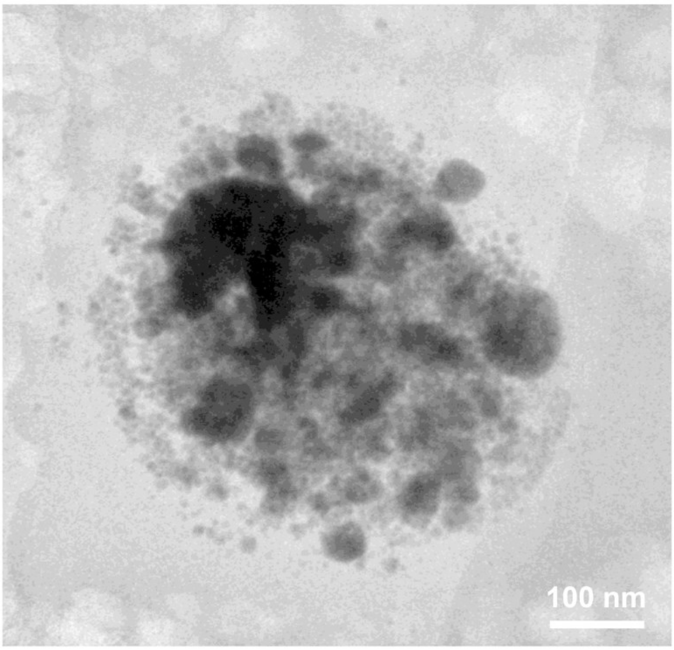

Fig. S3. TEM image of a single silver dot in pH-responsive hydrogel. The single silver dot is recorded at writing power of 0.3 mW and exposure time of 80 ms.

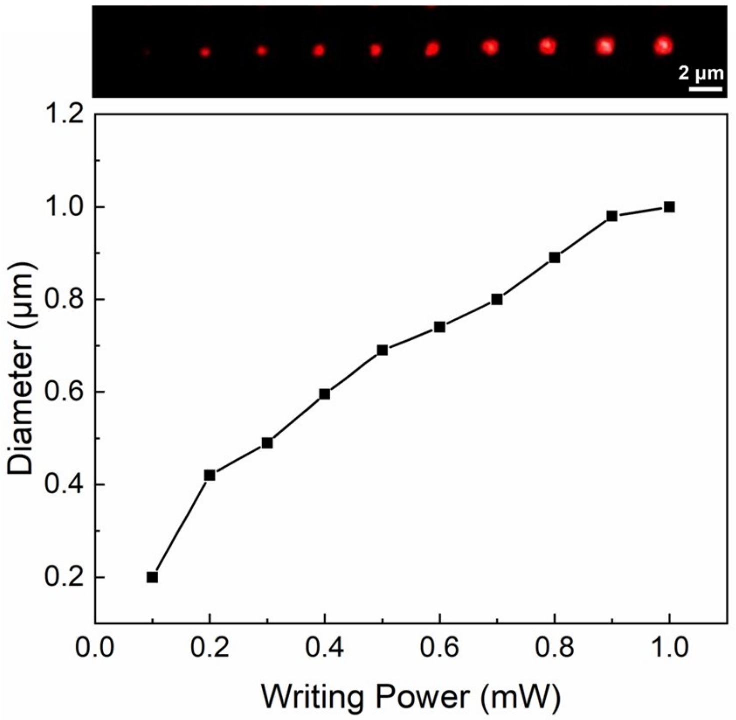

Fig. S4. Size characteristics of silver dots array with different writing powers. Dark-field image (upper) of silver dots array with different writing powers (from left to right: 0.1 mW, 0.2 mW, 0.3 mW, 0.4 mW, 0.5 mW, 0.6 mW, 0.7 mW, 0.8 mW, 0.9 mW, 1.0 mW) and the corresponding dot structure diameters (lower) with the increasing writing power.