

Supporting Information

On-Off Switching of the Phosphorescence Signal in a Carbon Dot/Polyvinyl Alcohol Composite for the Multiple Data Encryption

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Fig. S1 Repeatability of the water mediated on-off phosphorescence processing in 200°C annealed CDs@PVA film. From left to right: (i) A character “C” was written using water as ink on the 200°C annealed CDs@PVA film, which could be clearly distinguished from the phosphorescent background; (ii) the character “C” has been erased as a result of 100°C annealing; (ii) another character “C” was written using water on the same area, and vanished upon further annealing. These processes can be repeated several times.

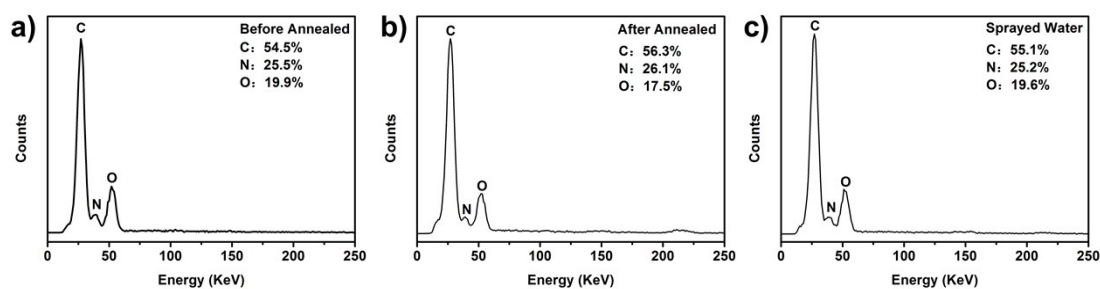


Fig. S2 EDS survey spectra of the CDs@PVA composite a) before and b) after 200°C annealing, and c) after subsequent water spraying.

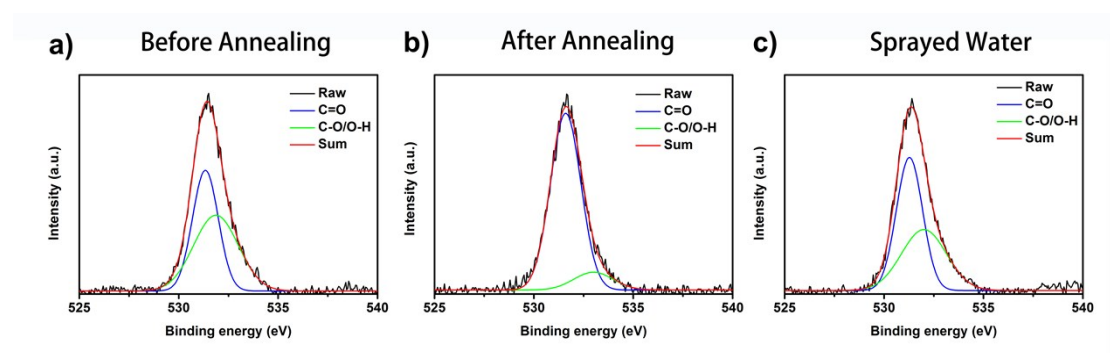


Fig. S3 Deconvolutions of high-resolution O_{1s} XPS spectra of the CDs@PVA composite a) before and b) after 200°C annealing, and c) after subsequent water spraying.

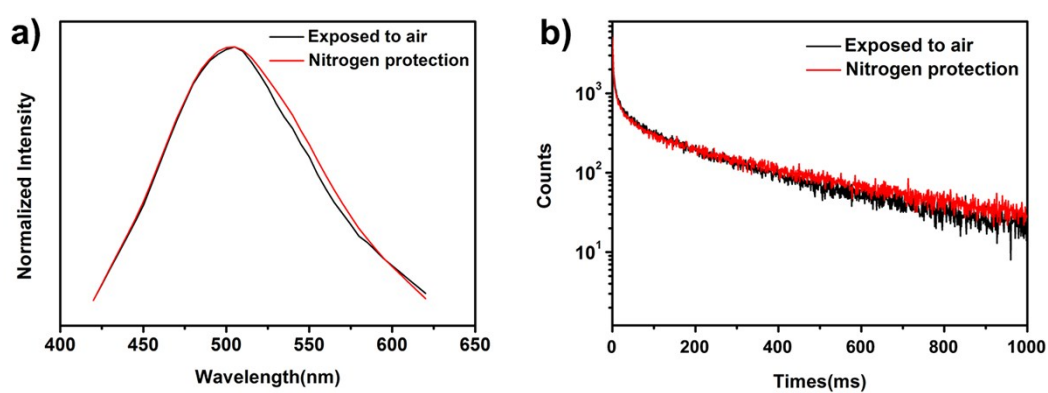


Fig. S4 a) Phosphorescence spectra and b) phosphorescence decay curves monitored at 480 nm (360 nm excitation) of 200°C annealed CDs@PVA composites recorded under air and under nitrogen protection.