

Self-assembled CdS Quantum Dots in Carbon Nanotubes-Induced Polysulfide Trapping and Redox Kinetics Enhancing for Lithium-Sulfur Battery Performance Improvement

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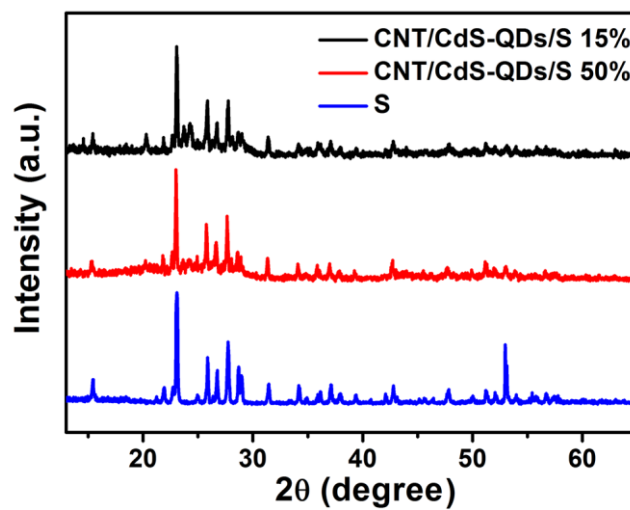


Figure S1 XRD patterns of the S, CNT/CdS-QDs/S 15%, and CNT/CdS-QDs/S 50% composite.

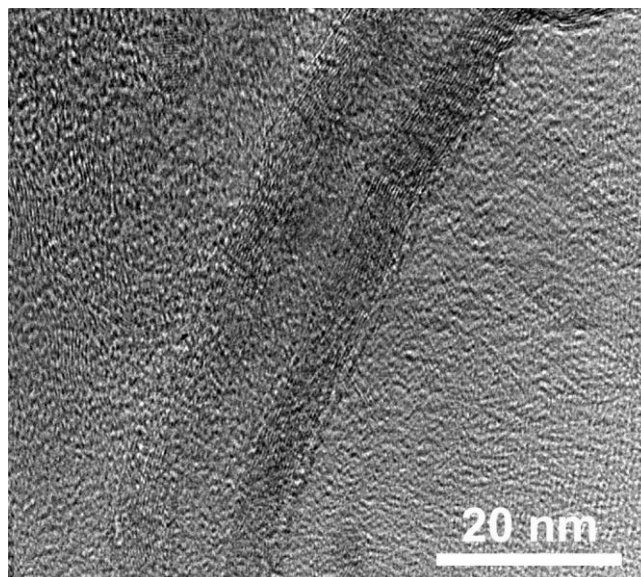


Figure S2 HRTEM image of acidified CNT at a scale of 20 nm.

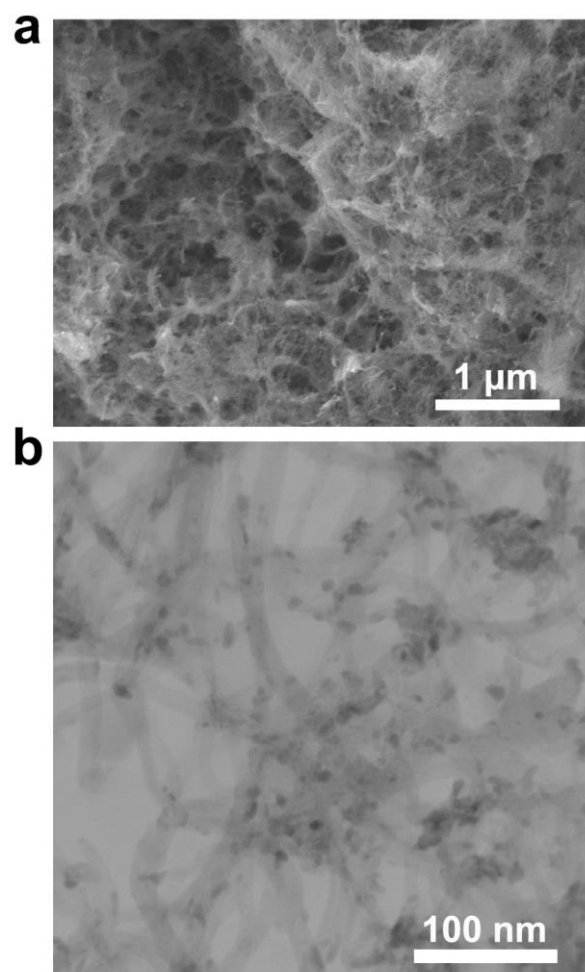


Figure S3 SEM (a) and STEM (b) images of CNT/CdS-QDs composite.

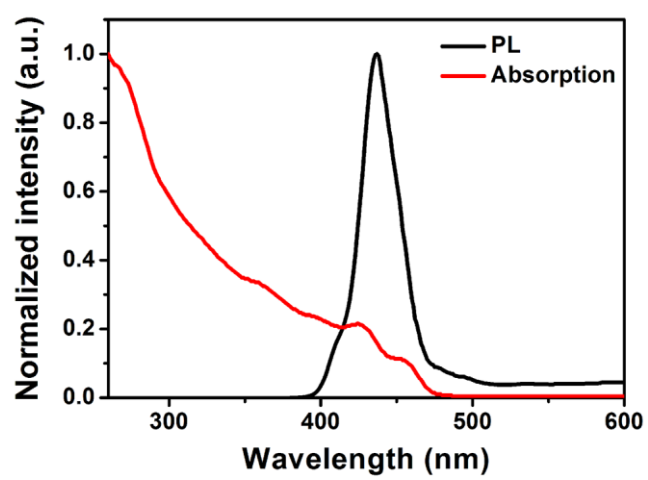


Figure S4 The absorption and photoluminescence spectra of CdS-QDs.

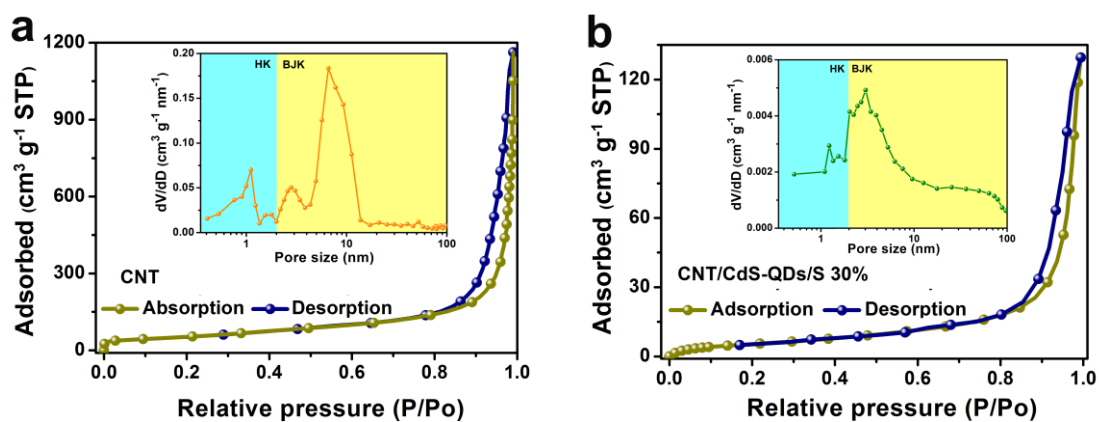


Figure S5 The nitrogen adsorption-desorption isotherms and pore size distribution curves of the acidified CNT (a) and CNT/CdS-QDs/S 30% (b).

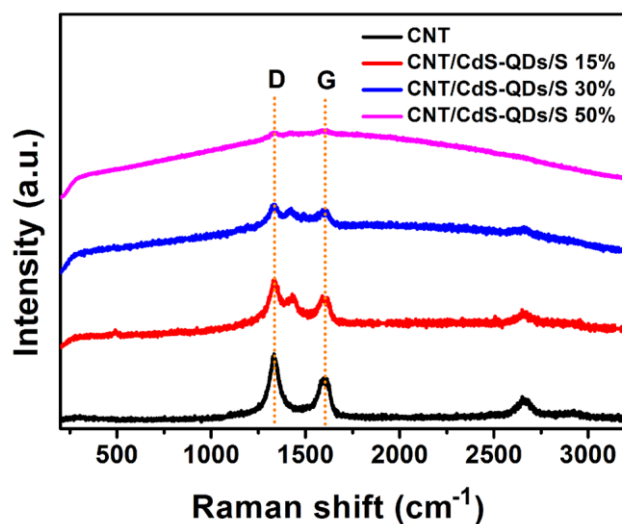


Figure S6 The Raman spectra of CNT, CNT/CdS-QDs/S 15%, CNT/CdS-QDs/S 30%, and CNT/CdS-QDs/S 50%.

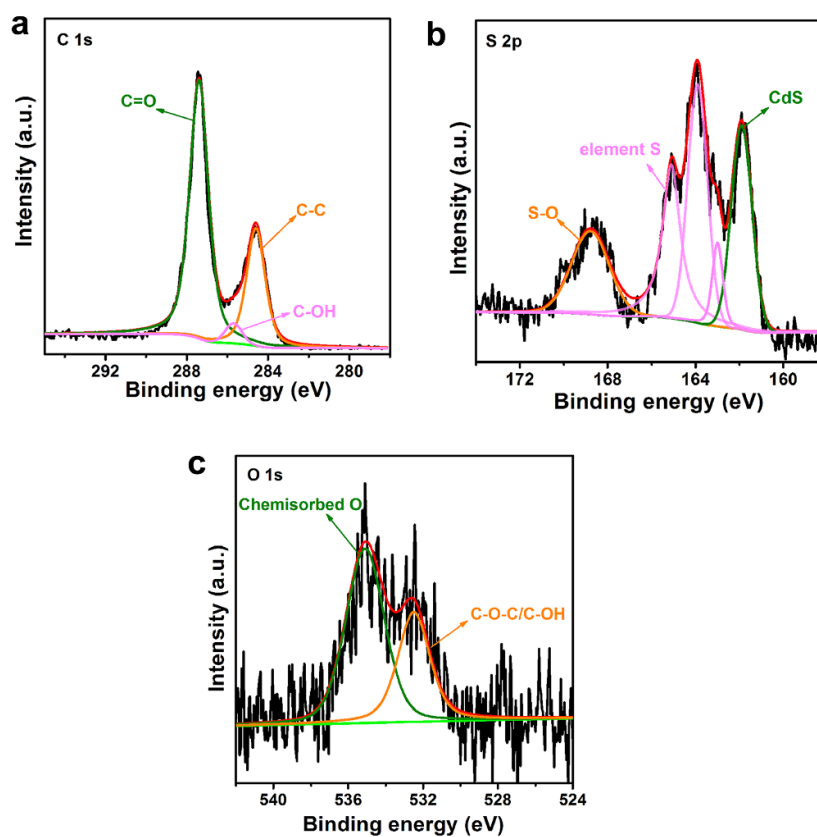


Figure S7 The C 1s (a), S 2p (b), and O 1s (c) XPS spectra of CNT/CdS-QDs/S 30% composite.

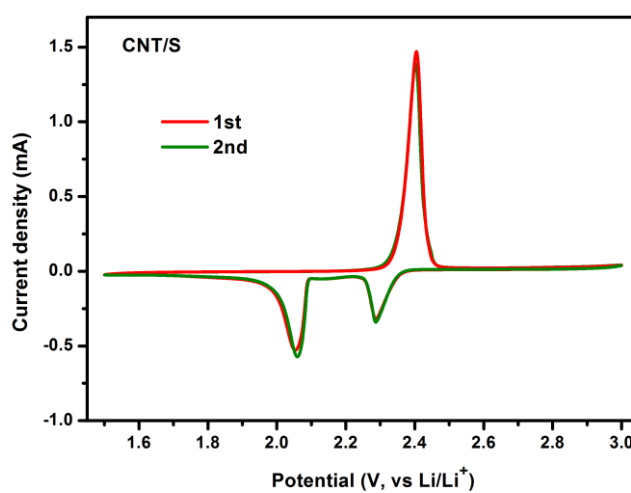


Figure S8 The CV curves of CNT/ S composite for the first few cycles at a scan rate of 0.1 mV s⁻¹.

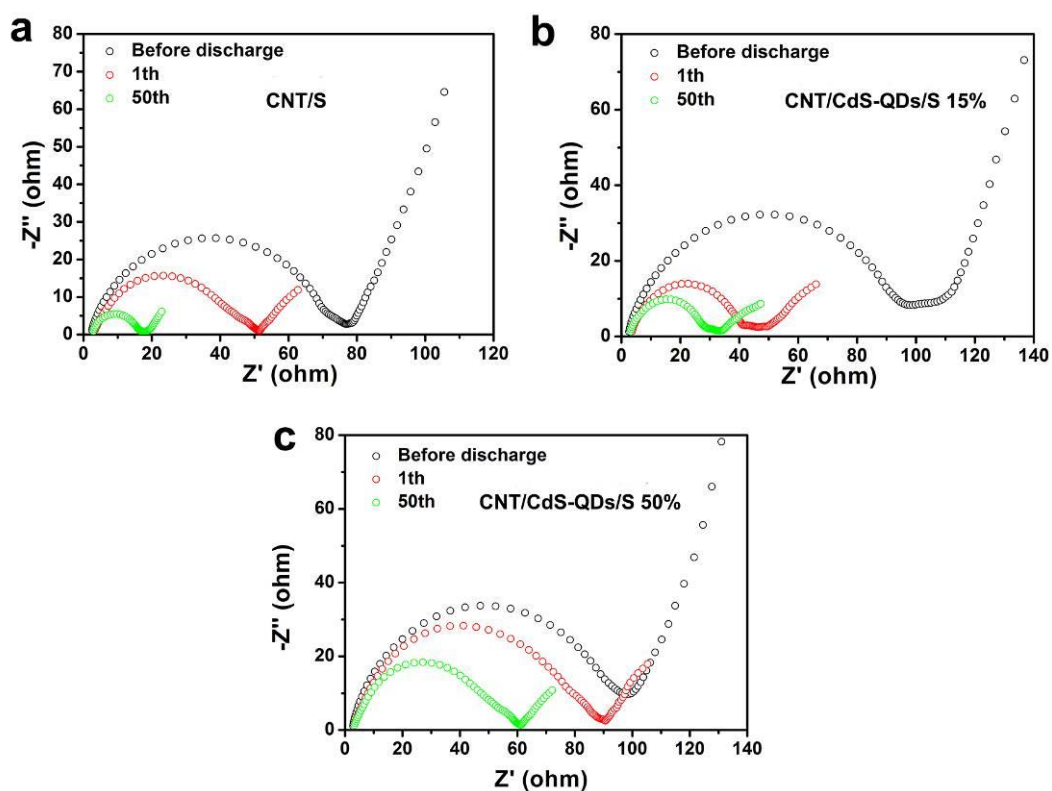


Figure S9 Nyquist plots of CNT/S (a), CNT/CdS-QDs/S 15% (b), and CNT/CdS-QDs/S 50% (c) electrode under different circumstances in the 0.5 C cycling process.

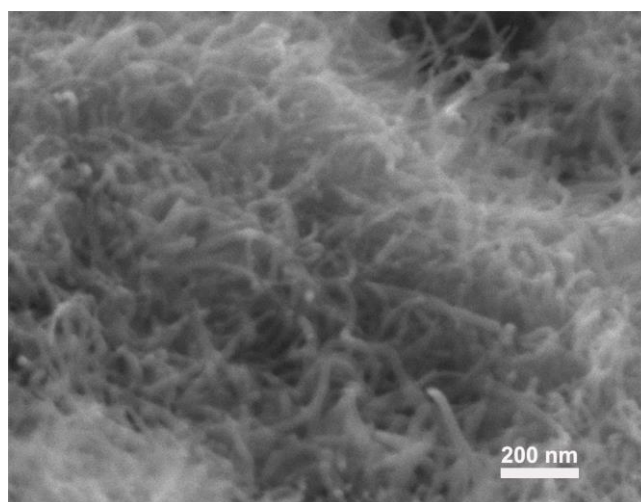


Figure S10 The SEM image of the CNT/CdS-QDs/S 30% cathode after 150 cycles at 0.5 C.