

Supporting Information for

In situ Visualization of Electrocatalytic Reaction Activity at Quantum Dots for Water Oxidation

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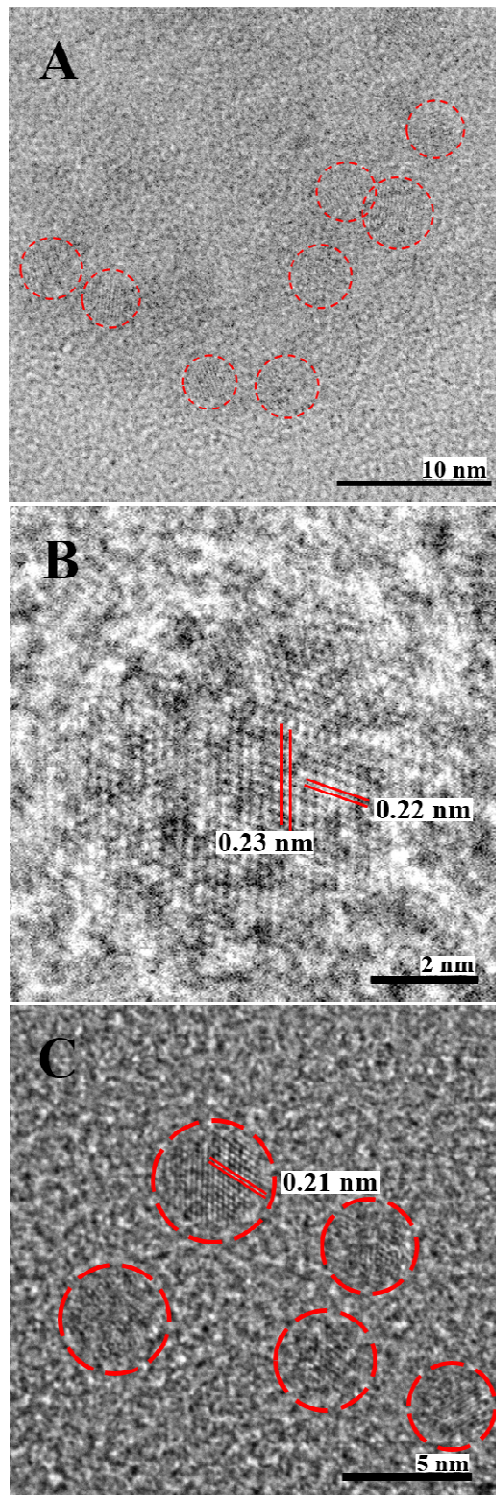


Figure S1. HR-TEM images of the as-synthesized CdSeTe (A, B) and CdSe QDs (C).

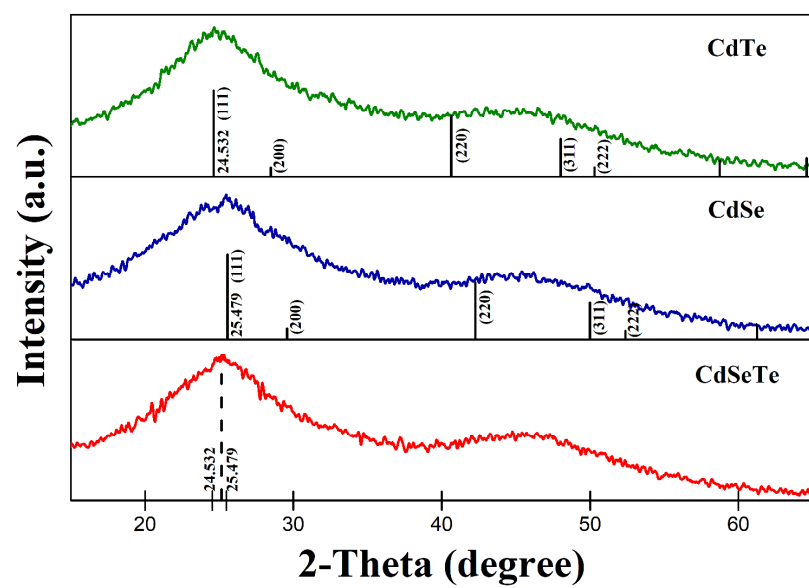


Figure S2. XRD patterns of the as-synthesized CdSe, CdTe and CdSeTe QDs.

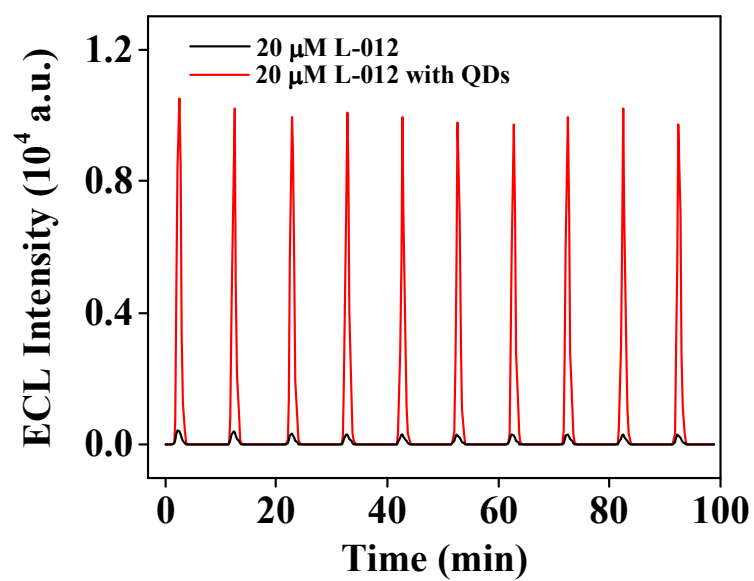


Figure S3. Stability of the QDs enhanced ECL emission from L-012 for 100 min. The potential scanned from 0 to 1.6 V (vs. RHE) with a scan rate of 5 mV/s.

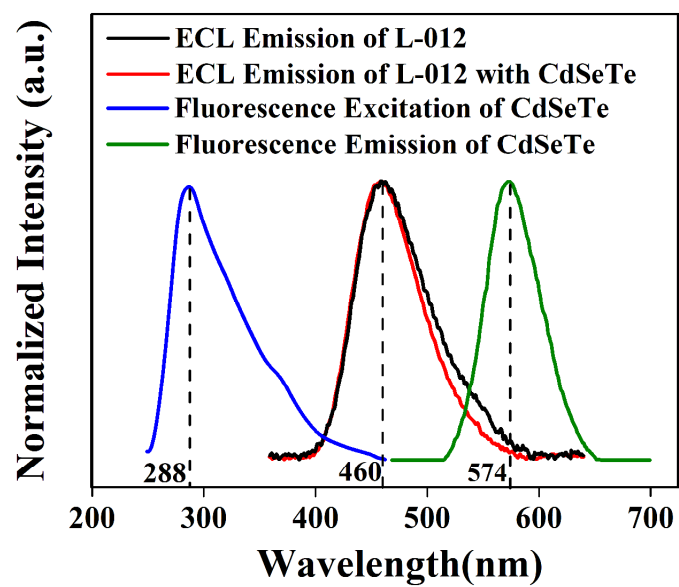


Figure S4. ECL spectra recorded before (black line) and after (red line) enhancement and fluorescence spectra of CdSeTe QDs (blue line)

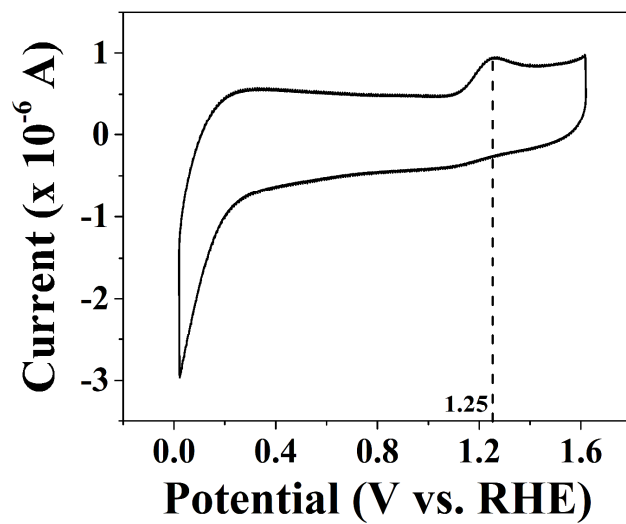


Figure S5. Cyclic voltammogram performed at FTO electrode in 10 mM PBS (pH 7.4) containing 20 μ M L-012, with a scan rate of 5 mV/s.

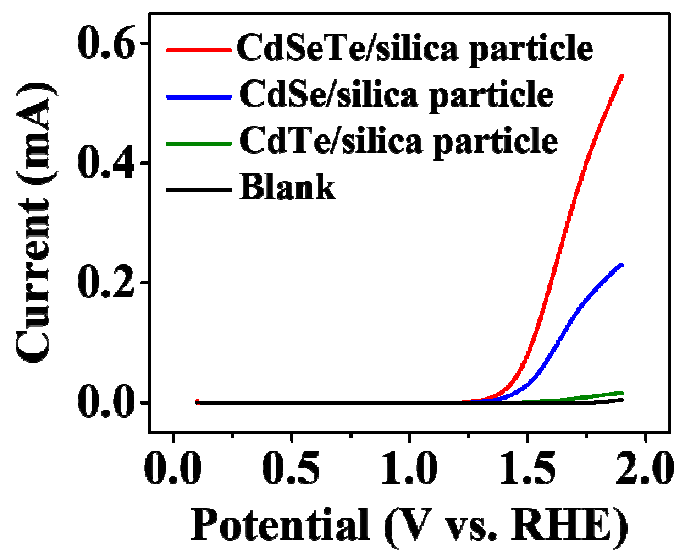


Figure S6. Current-voltage curve in O₂-saturated PBS (10 mM, pH 7.4) without and with CdSe, CdTe and CdSeTe QDs loaded silica particles, scan rate 5 mV/s;

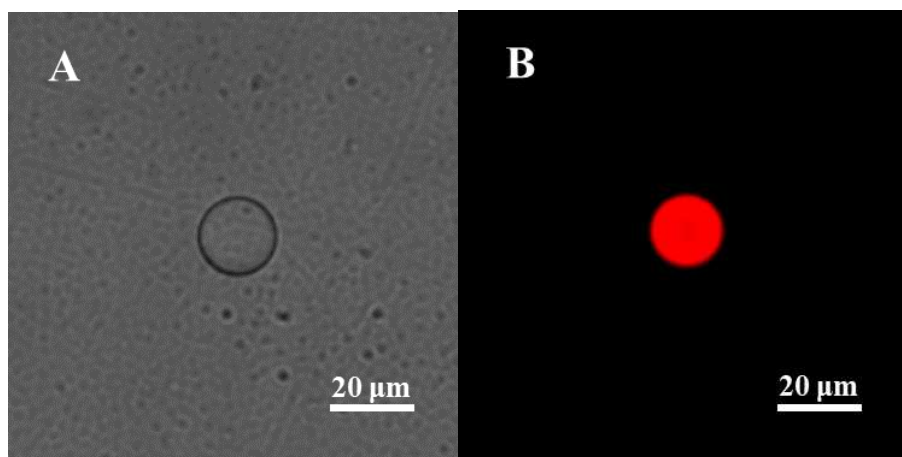


Figure S7. (A) Bright field and (B) fluorescent images for QDs loaded single silica particle.

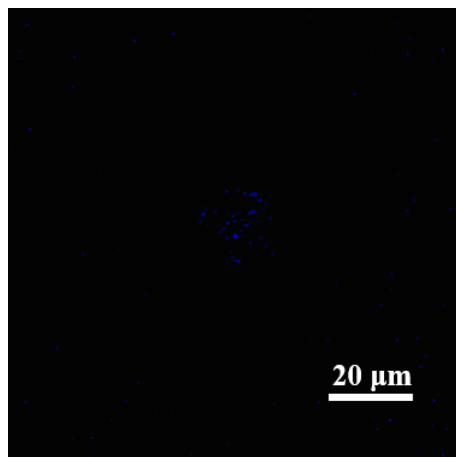


Figure S8. The ECL images of single QDs loaded micro-particle in 10 mM PBS containing 20 μM L-012 under the potential of 1.34 V. The exposure time 10 s. The contrast was adjusted to visualize the weak luminescence.

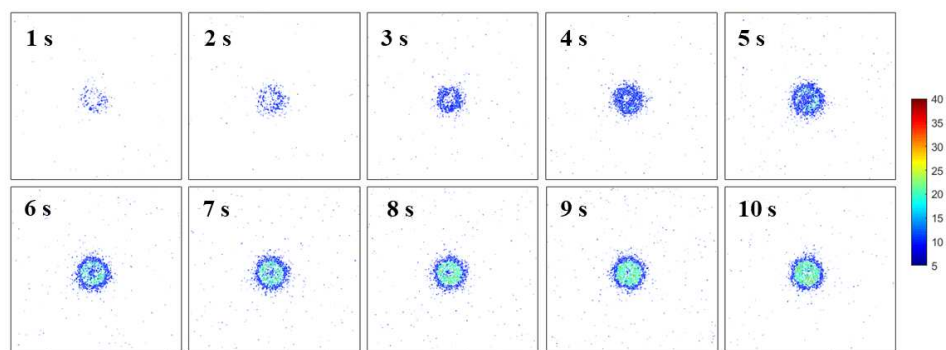


Figure S9. Contour plots of ECL intensity from QDs at single silica particle at different time points.