

Supporting information

Facile Synthesis of MoS₂ Quantum Dots as Fluorescent Probes for Sensing of Hydroquinone and Bioimaging

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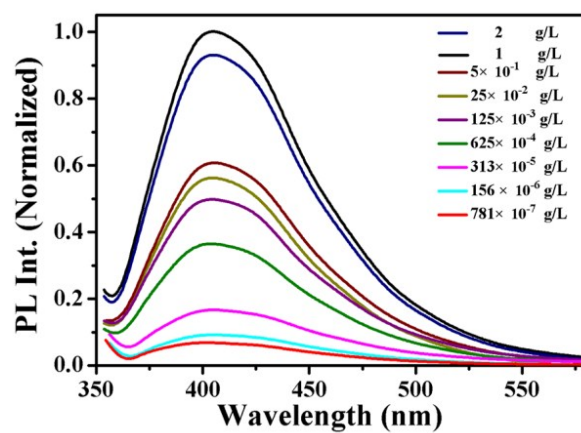


Figure. S1 The PL spectra of MoS₂ QDs aqueous solution with different concentrations.

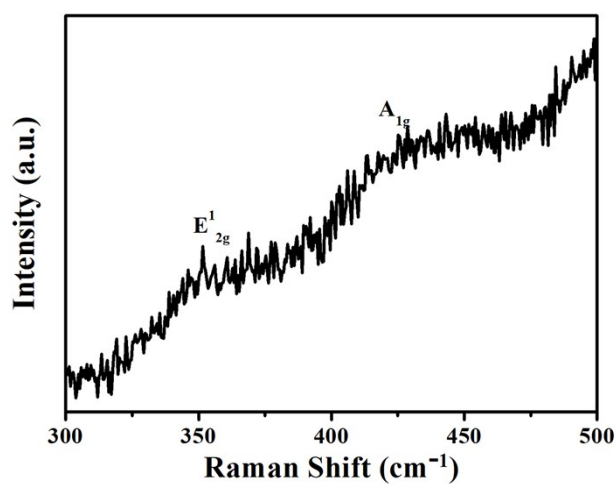


Figure S2. Raman spectrum of as prepared MoS₂ QDs

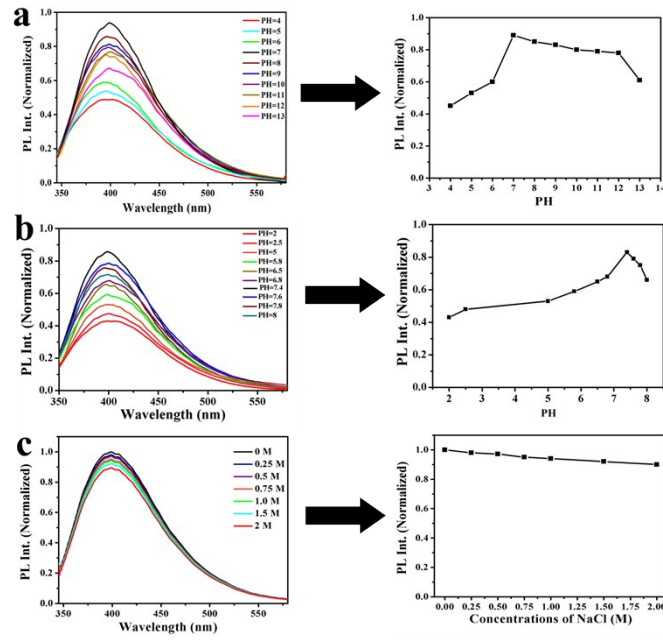


Figure S3. a) Effect of pH on fluorescent intensity of MoS₂ QDs in the aqueous, b) Effect of pH on fluorescent intensity of MoS₂ QDs in the PBS buffer solution aqueous, c) ion stability of MoS₂ QDs with different concentrations of NaCl in range of 0 ~ 2M.

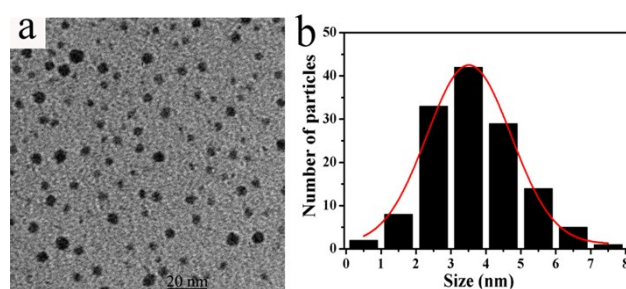


Figure S4. a) TEM image of MoS₂ QDs with the addition of H₂Q (3 μM), scale bar: 20 nm. b) the corresponding particle size distribution histograms.

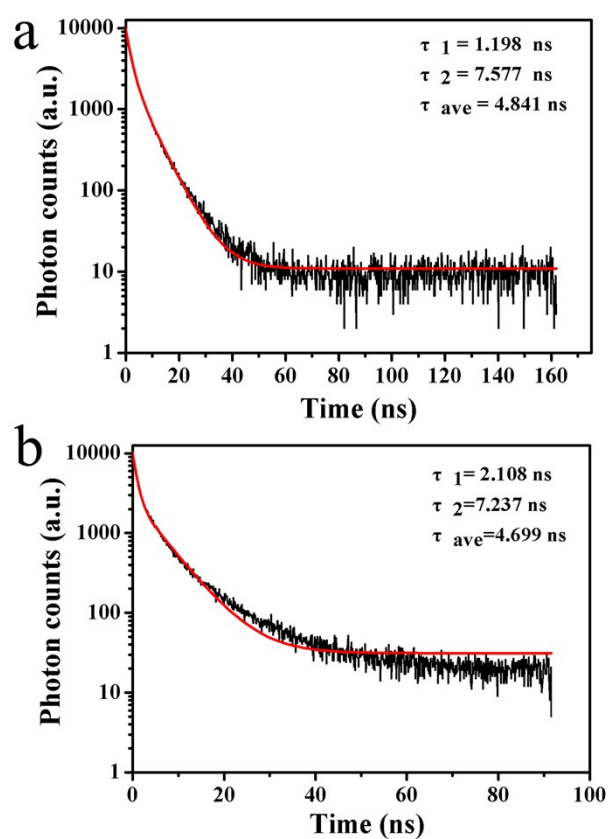


Figure S5. a) The fluorescence decay curve of the MoS₂ QDs in the absence of H₂Q, b) the fluorescence decay curve of the MoS₂ QDs in the presence of H₂Q (3 μM).

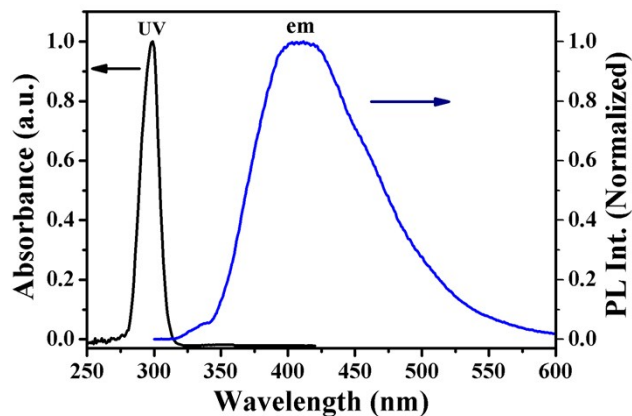


Figure S6. UV-vis spectrum of H₂Q and PL emission spectrum of MoS₂ QDs.

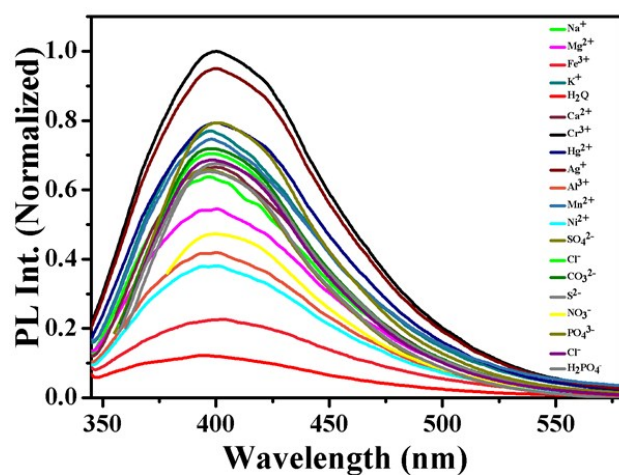


Figure S7. Normalized PL emission spectra of the hydroquinone in the presence of different ions (Cr³⁺, Ag⁺, Hg²⁺, K⁺, Mn²⁺, Ca²⁺, Na⁺, Mg²⁺, Al³⁺, Ni²⁺, Fe³⁺, NO₃⁻, SO₄²⁻, CO₃²⁻, Br⁻, S²⁻, PO₄³⁻, Cl⁻ and H₂PO₄⁻) in aqueous solution at the same concentration of 100 μ M.