

Title: A sensitive phosphorescent method based on MPA-capped Mn-doped ZnS quantum dots for detection of Diprophyllin

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Supplementary information

Figure and Table captions

Fig.S1. (a) TEM image of MPA-capped Mn-doped ZnS QDs; (b) XRD image of MPA-capped Mn-doped ZnS QDs; (c) The excitation (curve a) and RTP emission (curve b) spectra of Mn-doped ZnS QDs (40 mg L^{-1}) in PBS buffer (20 mM, pH 7.4).

Fig.S2. (a) Effect of pH on the quenched RTP of Mn-doped ZnS QDs by DPP; (b) Effect of time on the quenched RTP of Mn-doped ZnS QDs by DPP; (c) Effect of NaCl concentration on the RTP emission of the Mn-doped ZnS QDs. The concentration of Mn-doped ZnS QDs is 40 mg L^{-1} .

Table S1 Effect of co-existing substance on the RTP intensity of 117 nM DPP.

Supplementary Materials:

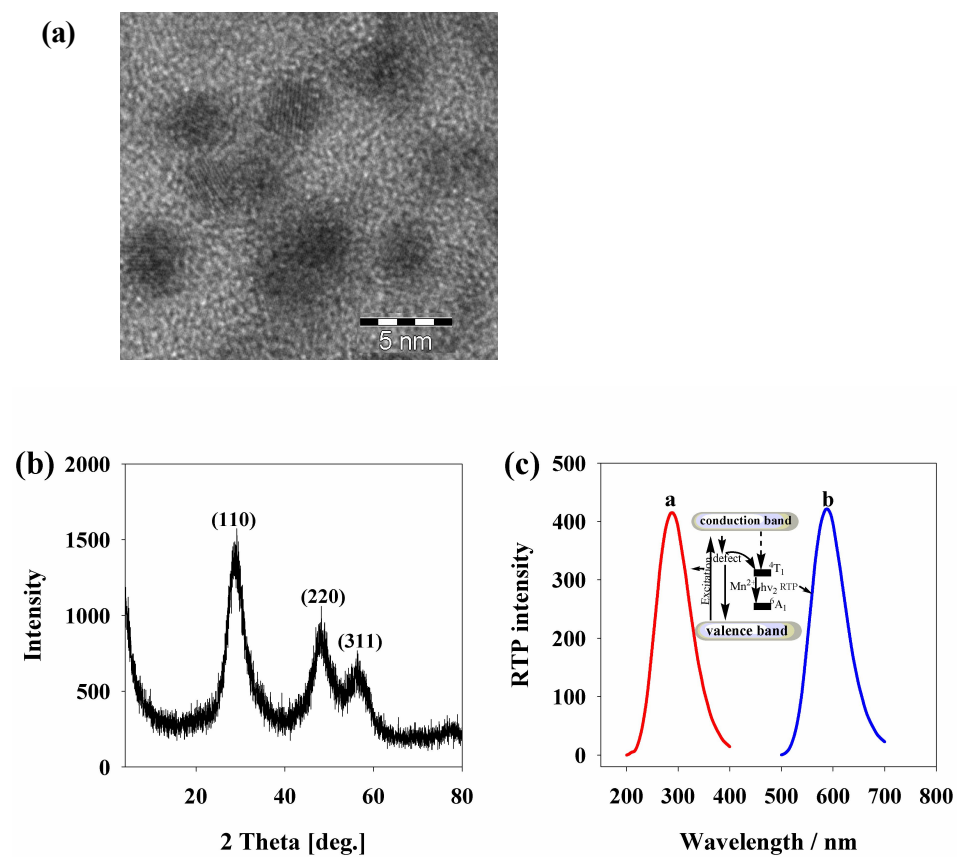


Fig.S1.(a) TEM image of MPA-capped Mn-doped ZnS QDs; (b) XRD image of MPA-capped Mn-doped ZnS QDs; (c) The excitation (curve a) and RTP emission (curve b) spectra of Mn-doped ZnS QDs (40 mg L^{-1}) in PBS buffer (20 mM, pH 7.4).

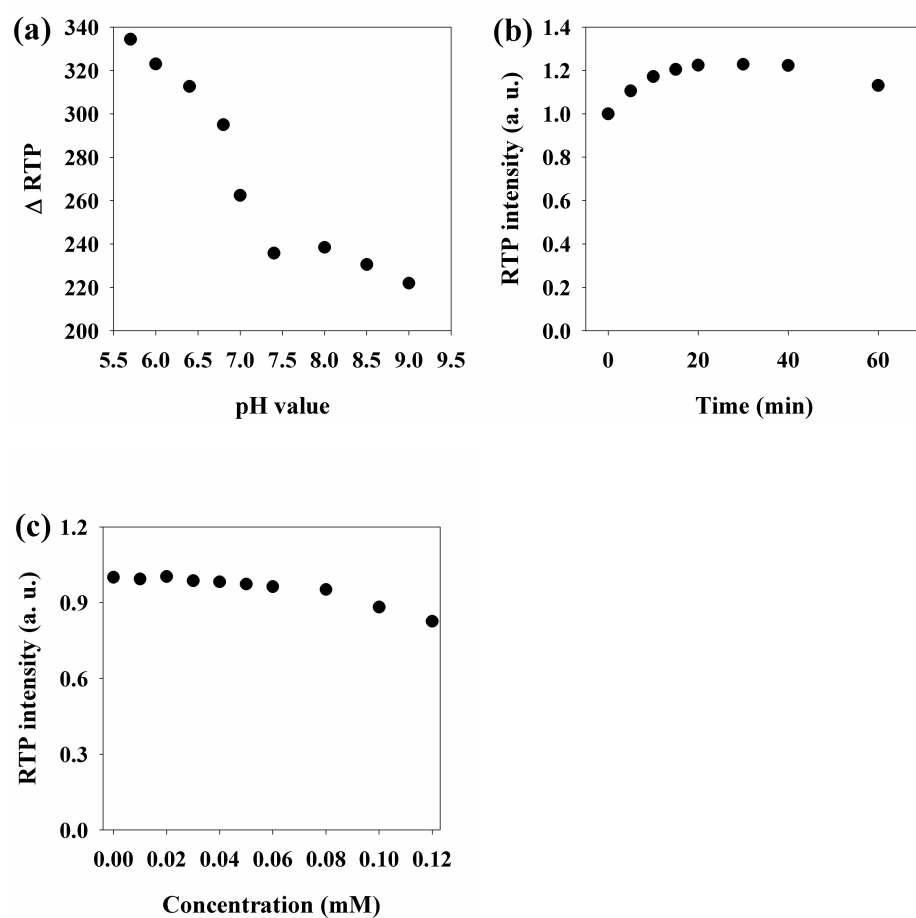


Fig.S2. (a) Effect of pH on the RTP emission of Mn-doped ZnS QDs by DPP; (b) Effect of time on the RTP emission of Mn-doped ZnS QDs by DPP; (c) Effect of NaCl concentration on the RTP emission of the Mn-doped ZnS QDs. The concentration of Mn-doped ZnS QDs and DPP is 40 mg L^{-1} and 196.6 nM , respectively.

Anion	[Anion]/[Sulfide]	Change of phosphorescence intensity (%)
Na ⁺	50	+1.2
K ⁺	100	-3.1
Ca ²⁺	30	-2.9
Mg ²⁺	30	+1.5
SO ₄ ²⁻	50	+2.6
Cl ⁻	100	+1.5
Br ⁻	100	-1.7
NO ₃ ⁻	100	+2.9
L-Gly	17	+3.4
L-Cys	30	-1.3
Glucose	50	+2.3

Table S1. Effect of co-existing substance on the RTP intensity of 117 nM DPP.