

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 6.4).

Fig . S2. (a) Effect of pH on the quenched RTP of Mn-doped ZnS QDs by RES; (b) Effect of time on the quenched RTP of Mn-doped ZnS QDs by RES; (c) Effect of NaCl concentration on the RTP emission of the Mn-doped ZnS QDs(Mn-doped ZnS QDs, 40 mg L⁻¹)

Table S1 Tolerance of foreign substances

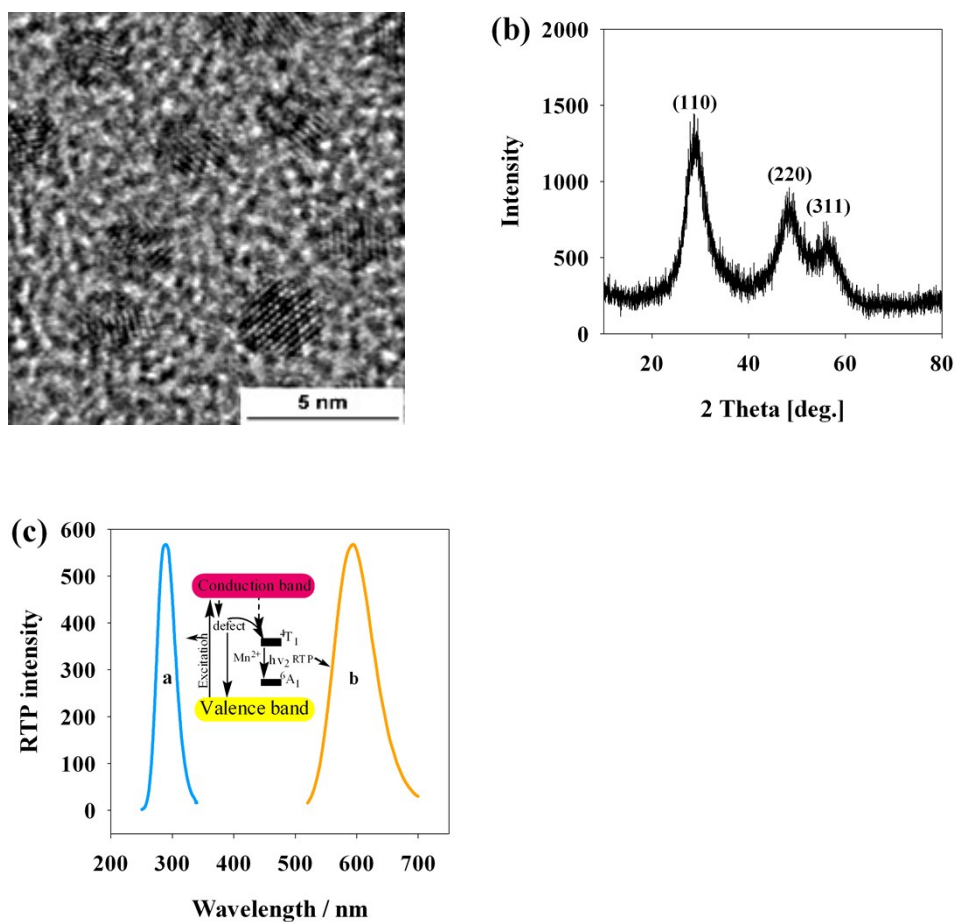


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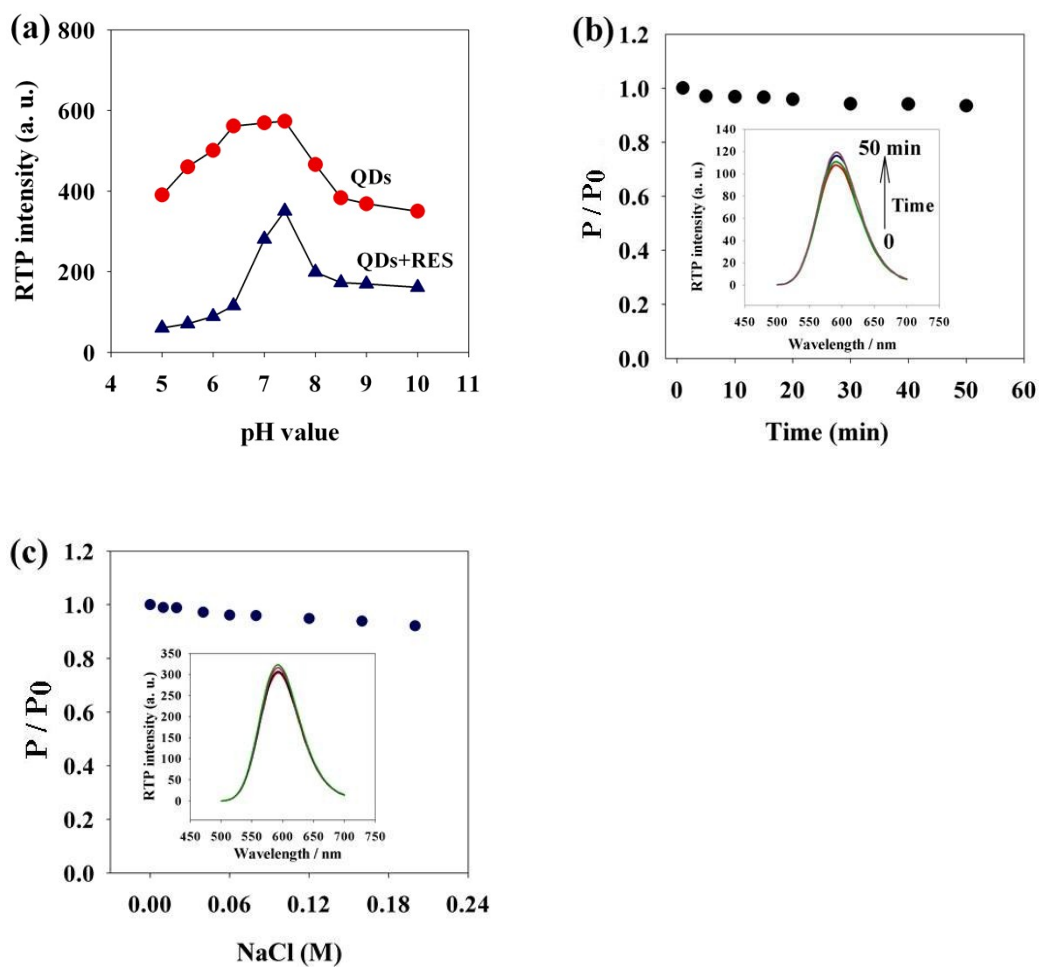


Fig . S2. (a) Effect of pH on the quenched RTP of Mn-doped ZnS QDs by RES; (b) Effect of time on the quenched RTP of Mn-doped ZnS QDs by RES; (c) Effect of NaCl concentration on the RTP emission of the Mn-doped ZnS QDs (Mn:ZnS QDs, 40 mg L⁻¹)

Table S1 Tolerance of foreign substances

Co-existing substances	Tolerance ratios	Change of RTP intensity (%)
Na ⁺	10 ⁵	+2.4
K ⁺	10 ⁵	-1.9
Ca ²⁺	10 ³	+3.1
Mg ²⁺	10 ³	+1.6
Cu ²⁺	500	+3.4
Fe ³⁺	200	-3.0
Zn ²⁺	200	-2.7
Fe ²⁺	200	-1.9
Al ³⁺	100	+2.2
Mn ²⁺	100	+3.1
NH ⁴⁺	100	-2.7
Ag ⁺	100	-2.0
Cl ⁻	10 ⁵	-1.7
HCO ₃ ⁻	10 ³	+3.2
Serine	300	-2.4
L-Gly	400	+2.1
L-Cys	300	-1.3
Glucose	200	+2.5
BSA	100	-3.5
Uric acid	100	-3.3