

Supporting Information for:

Ln³⁺ Ions-Mediated Enhancement in UV/Xray Induced Optical Emission from Mn²⁺ doped ZnSe Nanocrystals

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1. EDS Spectra

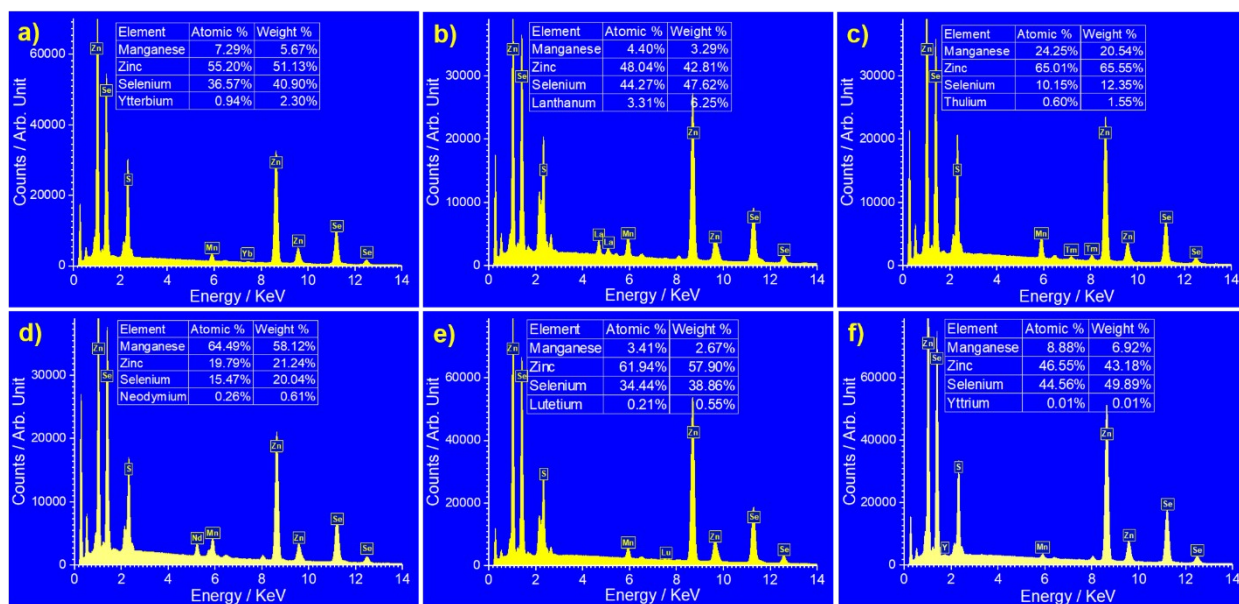


Figure S1. EDS spectra of ZnSe:Mn²⁺,Yb³⁺ (a), ZnSe:Mn²⁺,La³⁺ (b), ZnSe:Mn²⁺,Tm³⁺ (c), ZnSe:Mn²⁺,Nd³⁺ (d), ZnSe:Mn²⁺,Lu³⁺ (e), and ZnSe:Mn²⁺,Y³⁺ (f) QDs.

2. La L₃-edges XANES Spectra

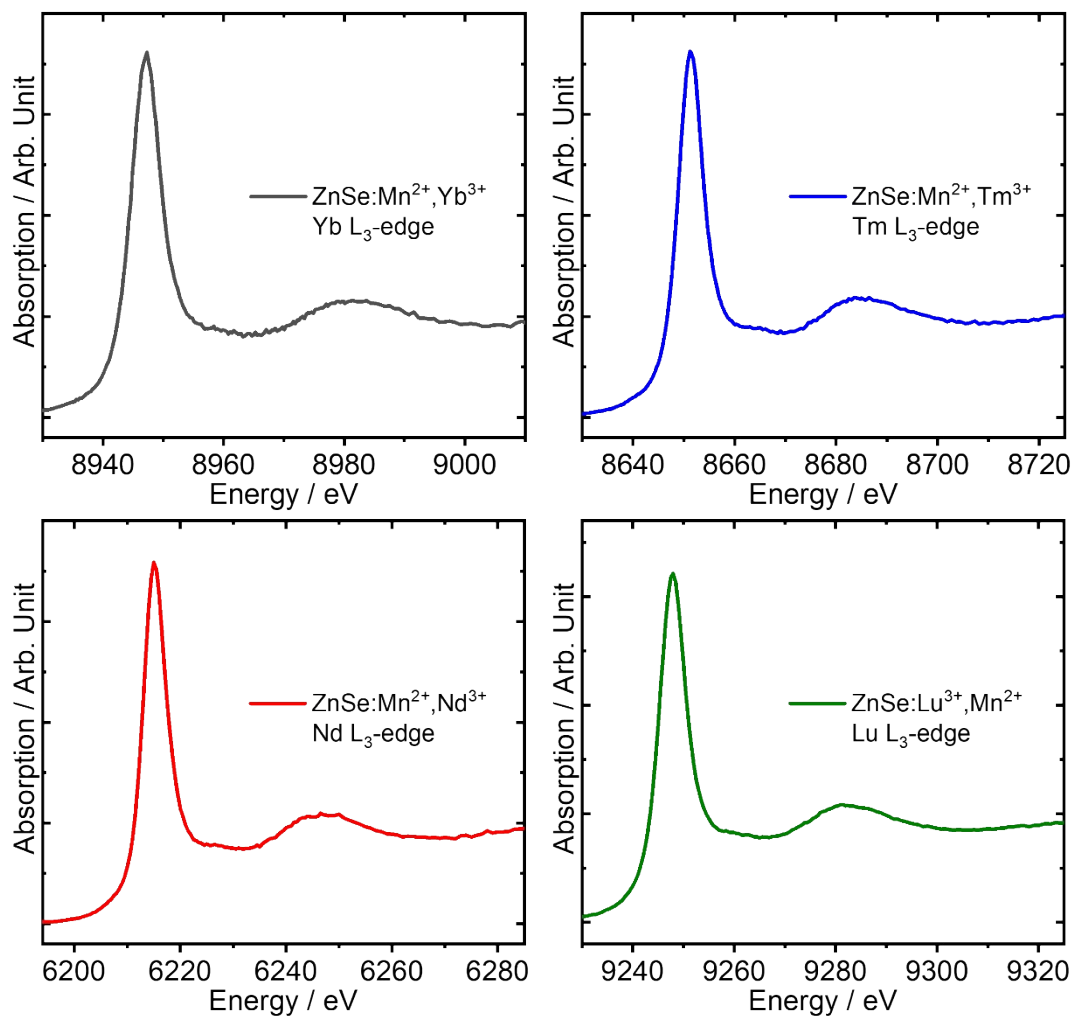


Figure S2. Normalized Yb (8944 eV), Tm (8648 eV), Nd (6208 eV) and Lu (9244 eV) L₃-edge XANES spectra (clockwise top-left to bottom-left) for the Ln³⁺ doped ZnSe:Mn²⁺ QDs.

3. La L₃-edges EXAFS Data

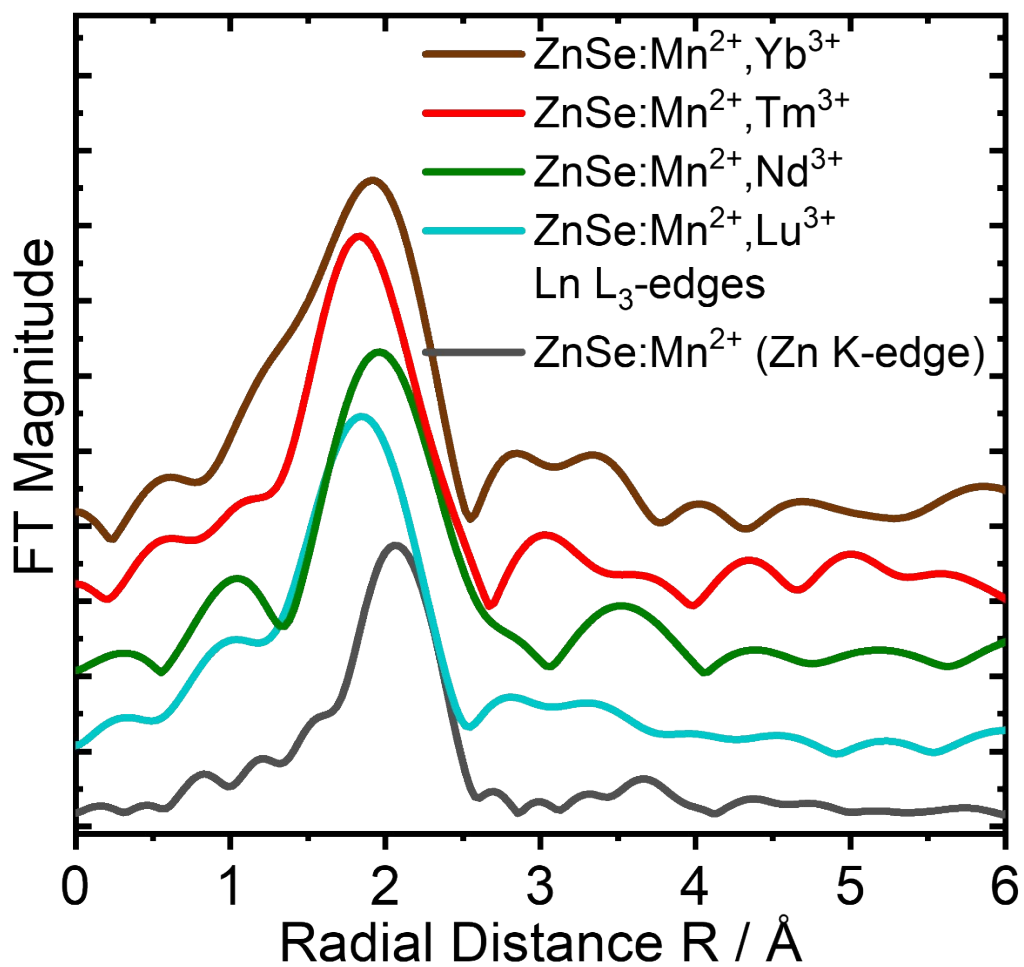


Figure S3. Fourier transforms of $\chi(k)$ at Yb (8944 eV), Tm (8648 eV), Nd (6208 eV) and Lu (9244 eV) L₃-edges for the Ln³⁺ doped ZnSe:Mn²⁺ QDs.

4. Mn K-edge XANES and EXAFS Data

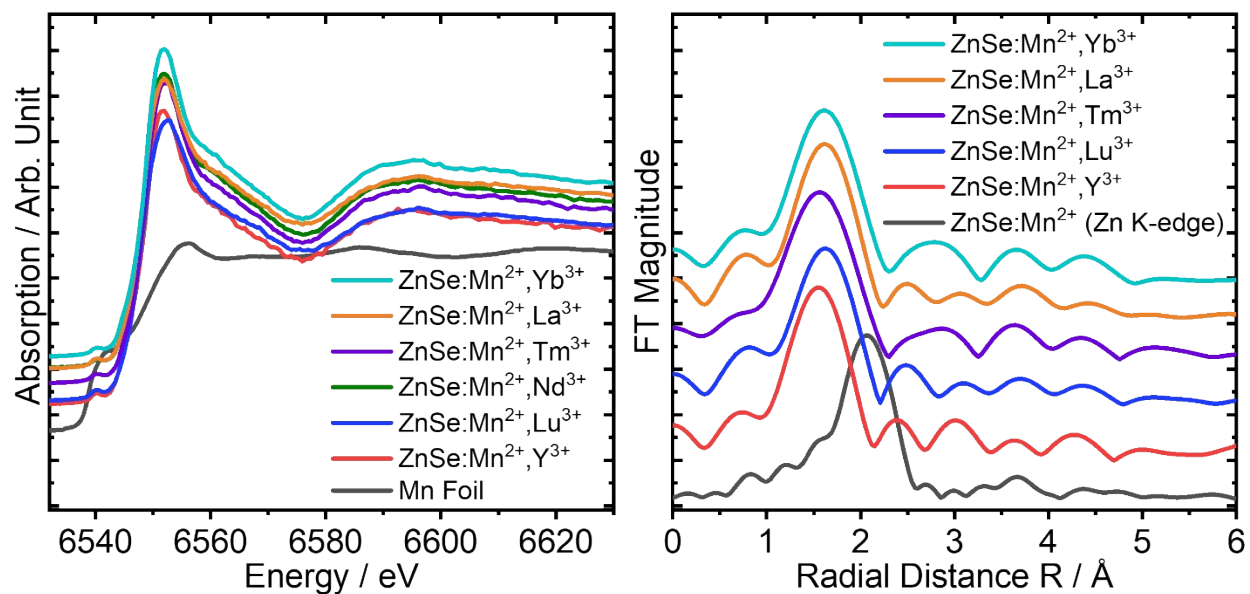


Figure S4. Normalized XANES spectra (left) and Fourier transforms of $\chi(k)$ at Mn K-edge (6539 eV) for the Ln³⁺ doped ZnSe:Mn²⁺ QDs.