

Supplementary Information

Diffusion Doping in Quantum Dots: Bond Strength and Diffusivity

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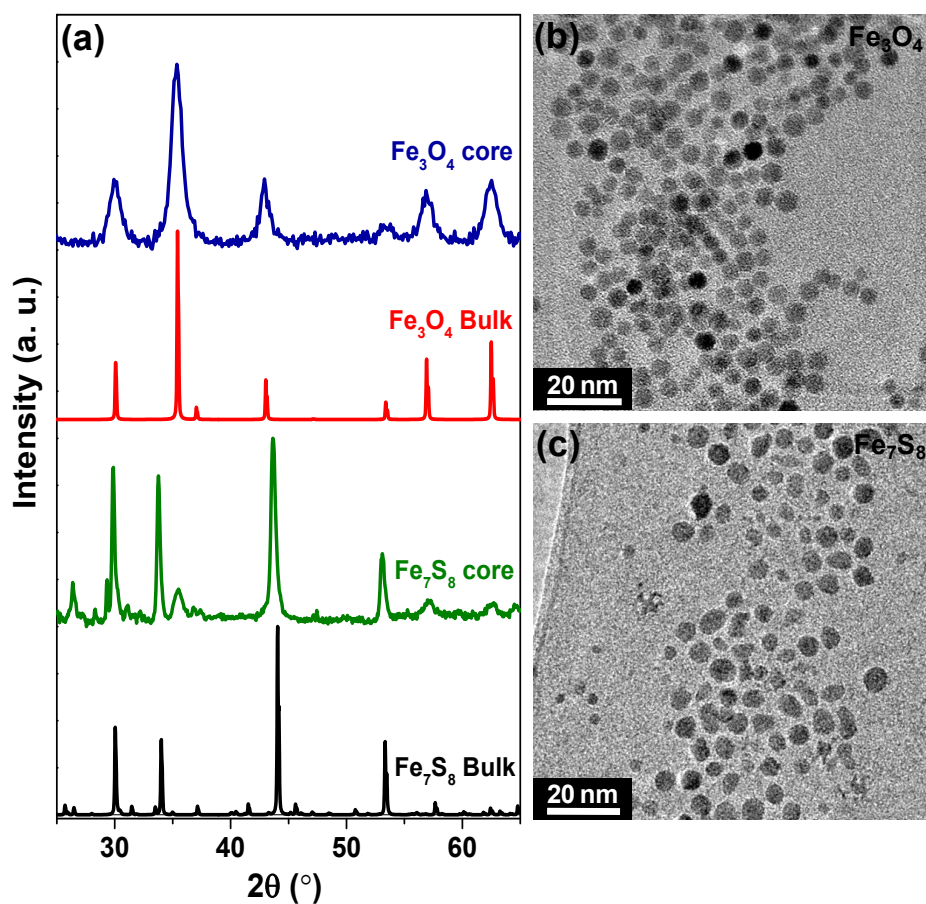


Figure S 1. (a) XRD pattern of Fe_3O_4 and Fe_7S_8 core. TEM image of (b) Fe_3O_4 and (c) Fe_7S_8 core nanoparticles.

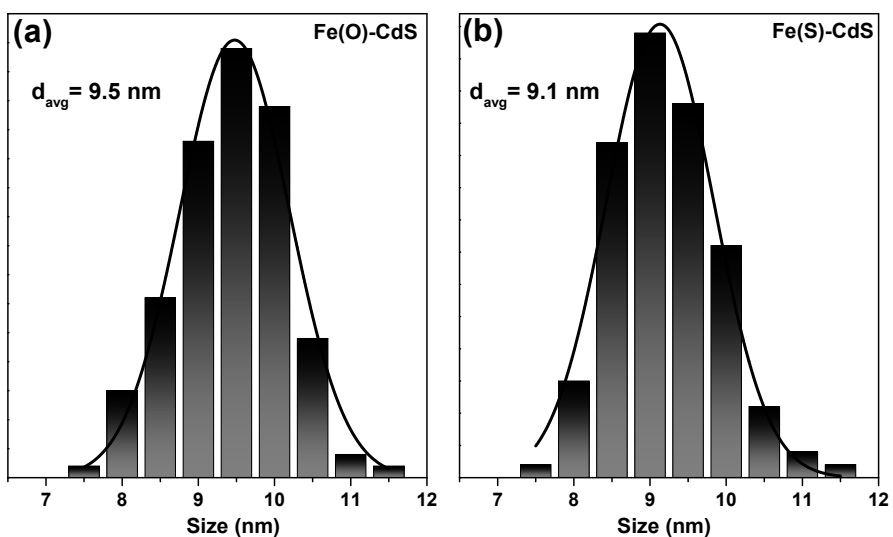


Figure S2. Size distribution histogram of (a) Fe(O)-CdS and (b) Fe(S)-CdS nanoparticles.

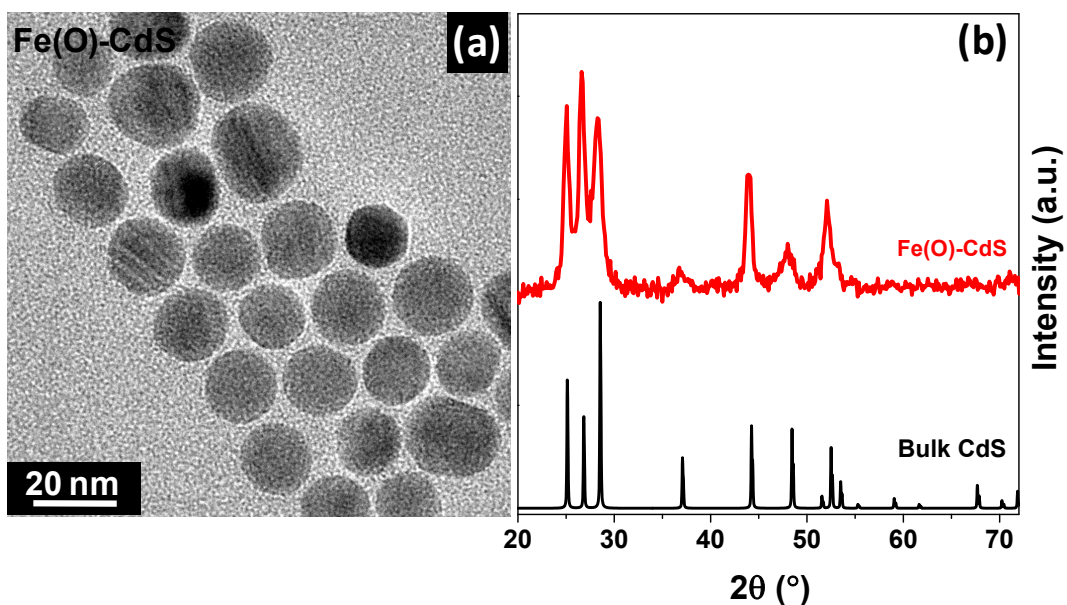


Figure S3. (a) TEM image of Fe(O)-CdS (Fe-2%) and its corresponding (b) XRD spectra.

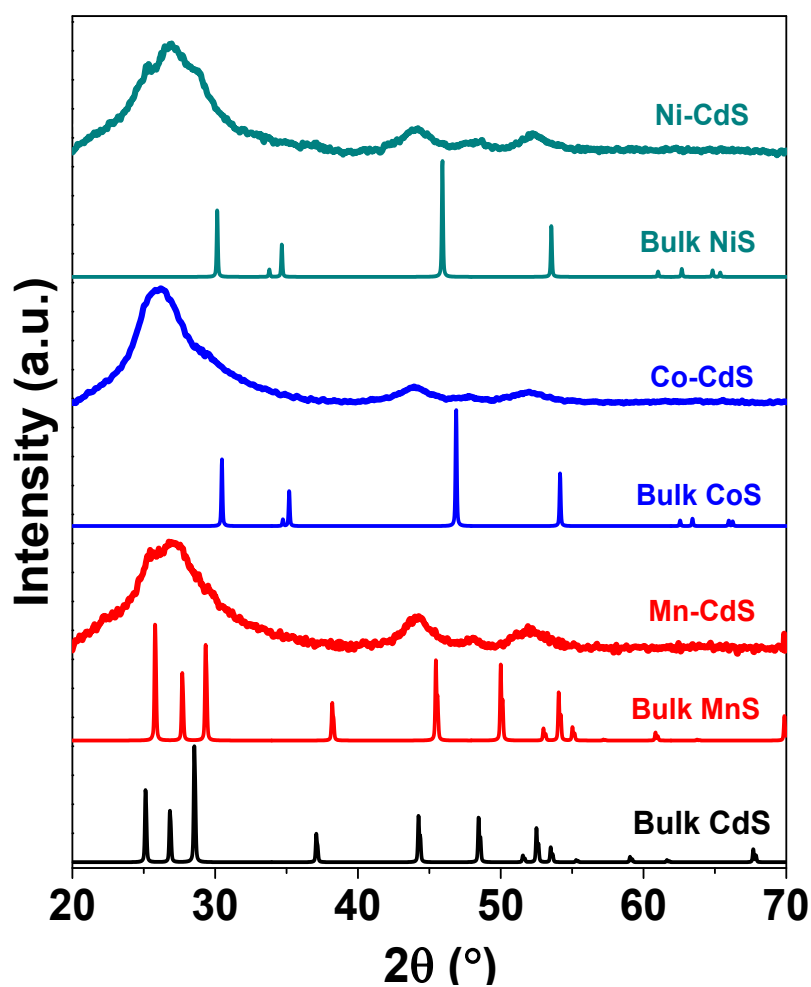


Figure S4: X-ray diffraction spectra XRD spectra of Ni²⁺ (cyan), Co²⁺ (blue) and Mn²⁺ (red) doped CdS QDs and comparison with different standard bulk spectra obtained from ICSD database.

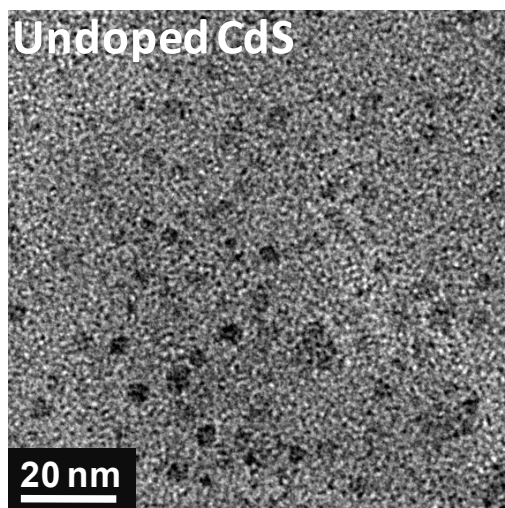


Figure S5. TEM image of undoped CdS.

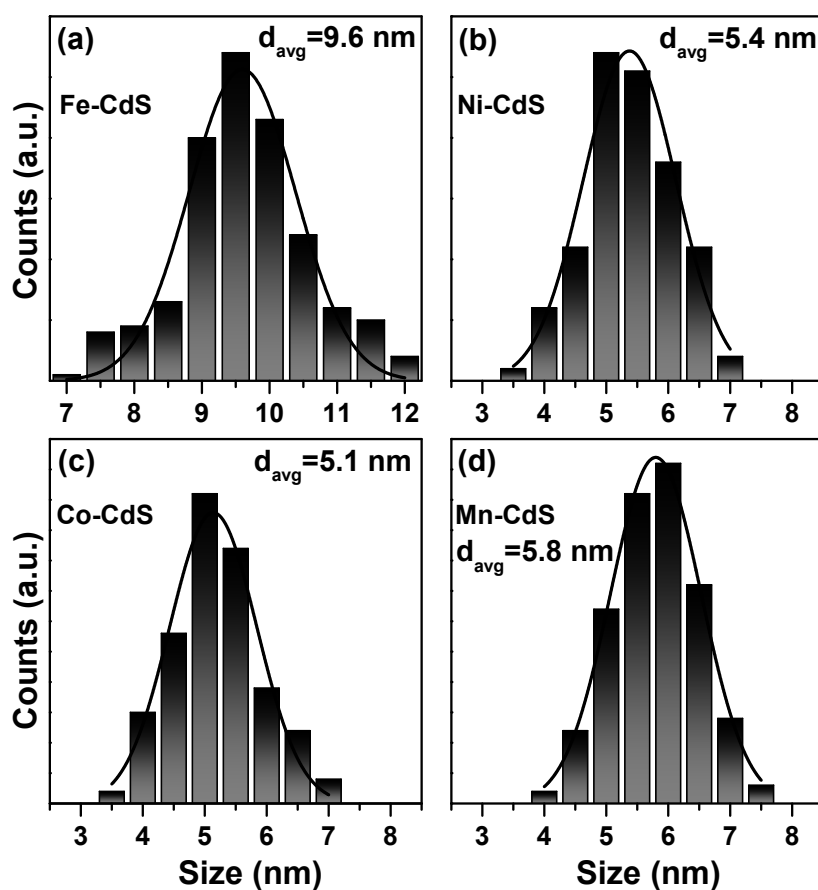


Figure S6. Size distribution histogram of (a) Fe-CdS (b) Ni-CdS (c) Co-CdS (d) Mn-CdS.

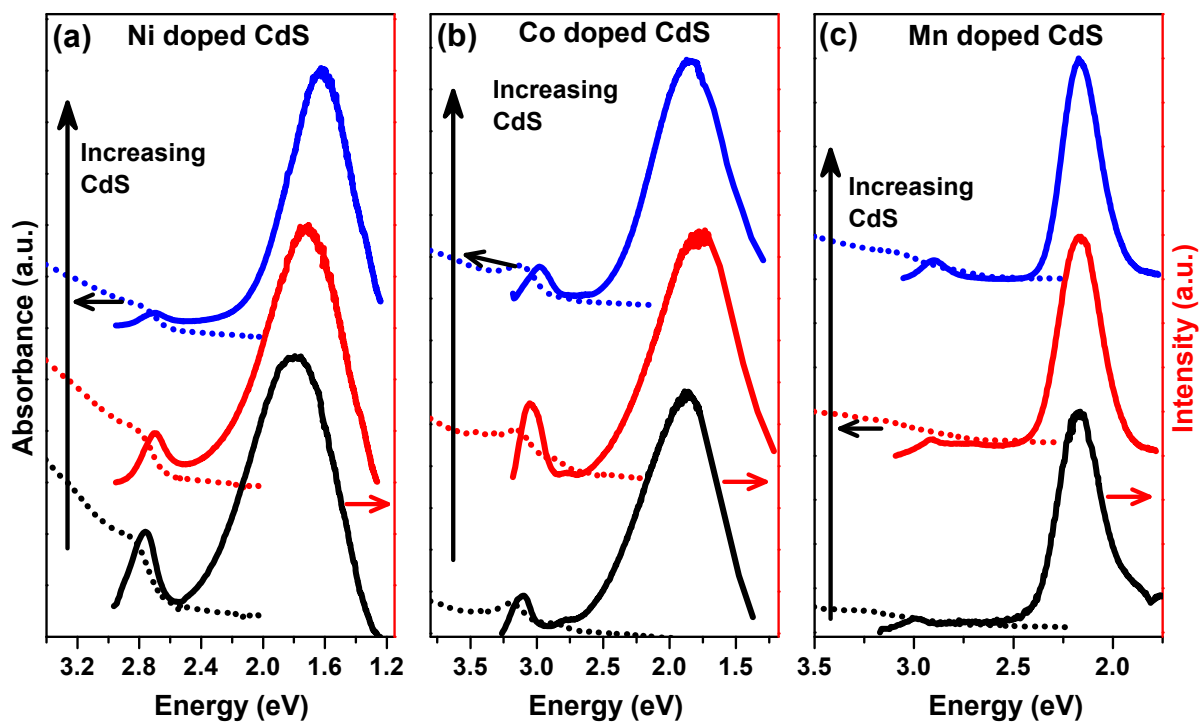


Figure S7. Evolution change in steady state PL (solid line) and absorption (dotted line) of (a) Ni^{2+} , (b) Co^{2+} and (c) Mn^{2+} doped nanocrystals with increasing addition of Cd and S cycle.

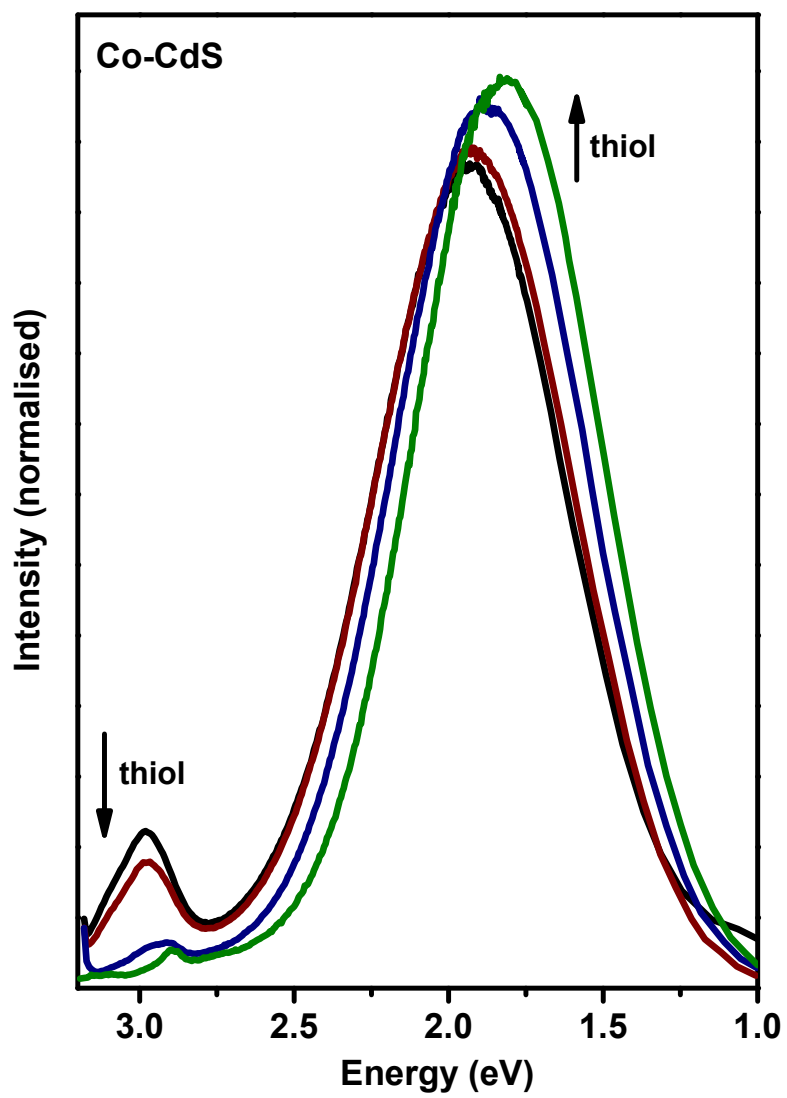


Figure S8. (a) Variation of Area normalised PL spectra of Co^{2+} doped CdS with addition of thioglycerol.

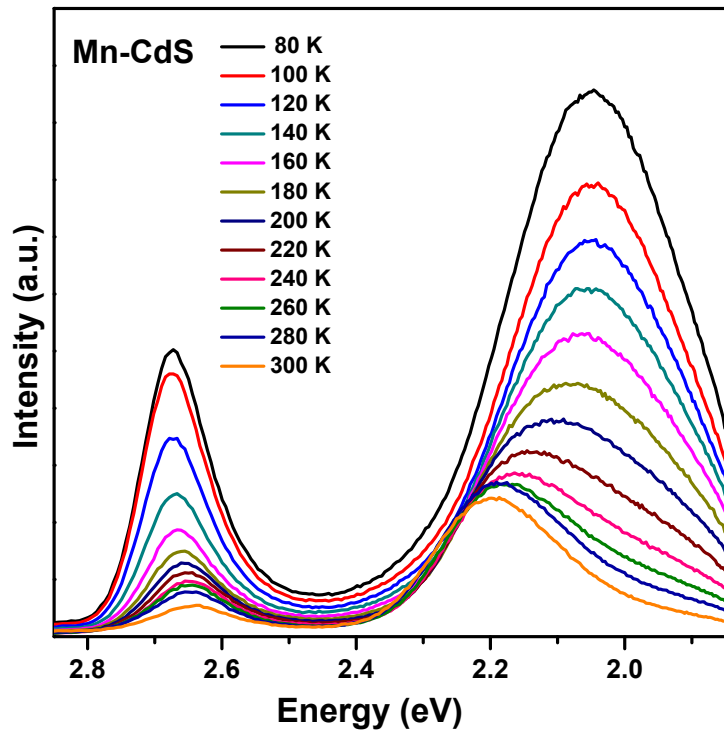


Figure S9. (a) Variation of PL spectra of Mn²⁺ doped CdS measured at different temperatures.