

A novel strategy to enhance the photostability of InP/ZnSe/ZnS Quantum Dots with Zr doping

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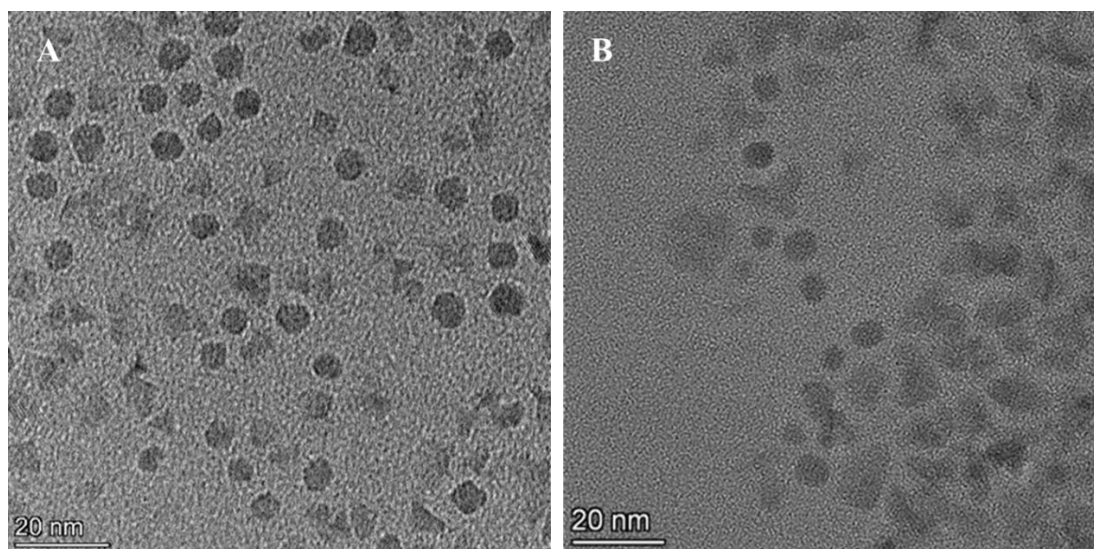


Figure S1. TEM images of (A) InP/ZnSe/ZnS-thin and (B) InP/ZnSe/ZnS-thick QDs.

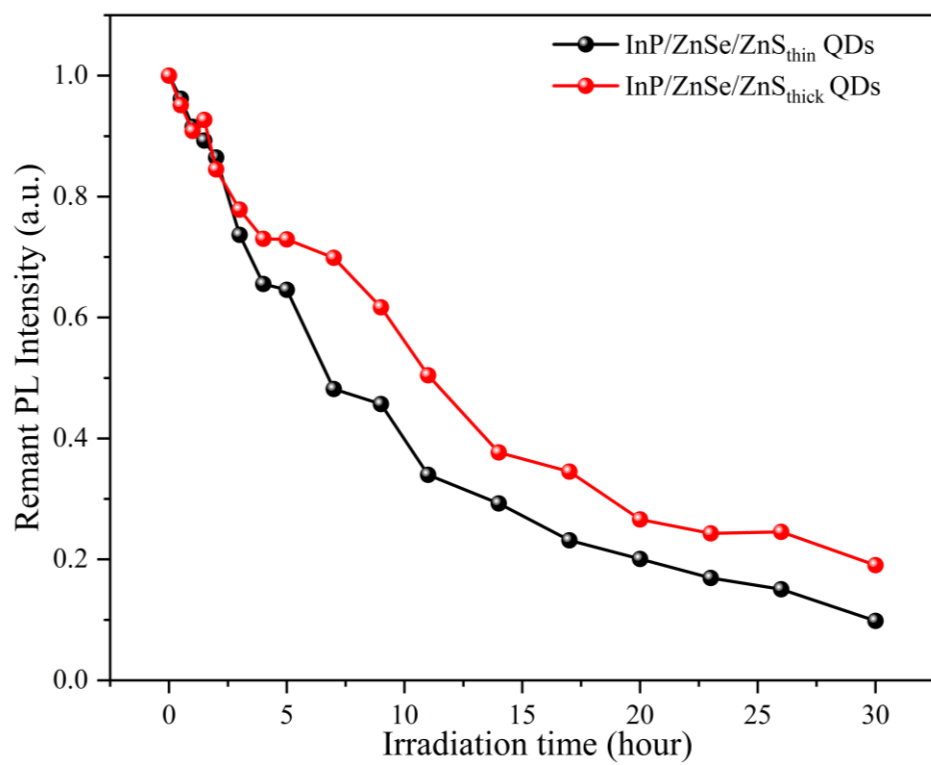


Figure S2. The PL intensity of InP/ZnSe/ZnS-thin QDs and InP/ZnSe/ZnS-thick QDs under the irradiation of LED at 450 nm and 3.0 W over time.

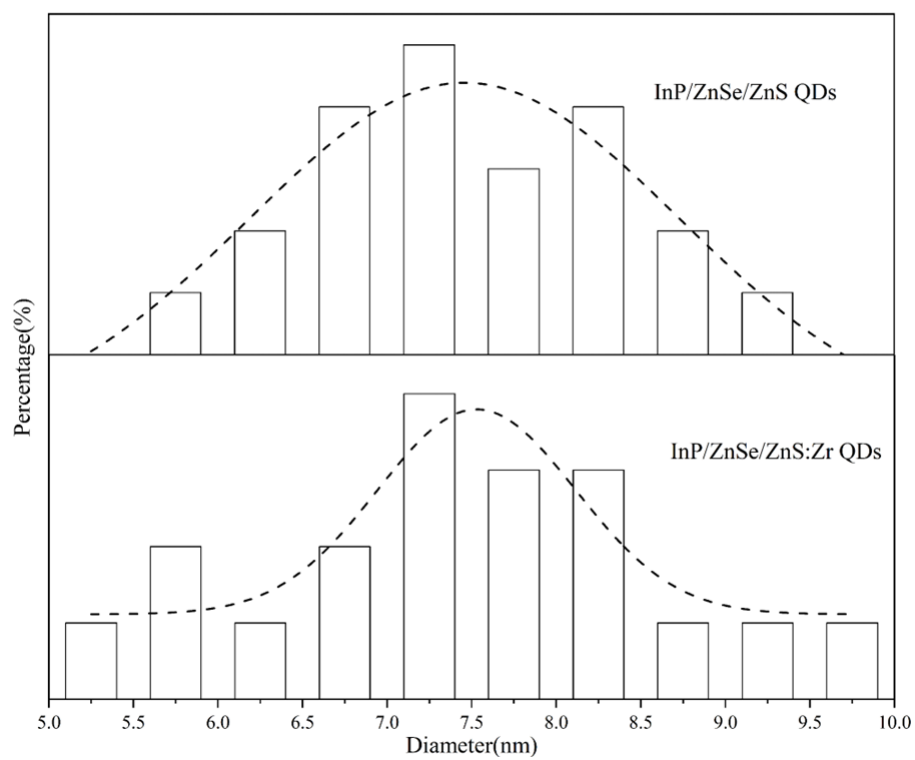


Figure S3. The size distribution of InP/ZnSe/ZnS and InP/ZnSe/ZnS:Zr (S/Zr=1:4) QDs.

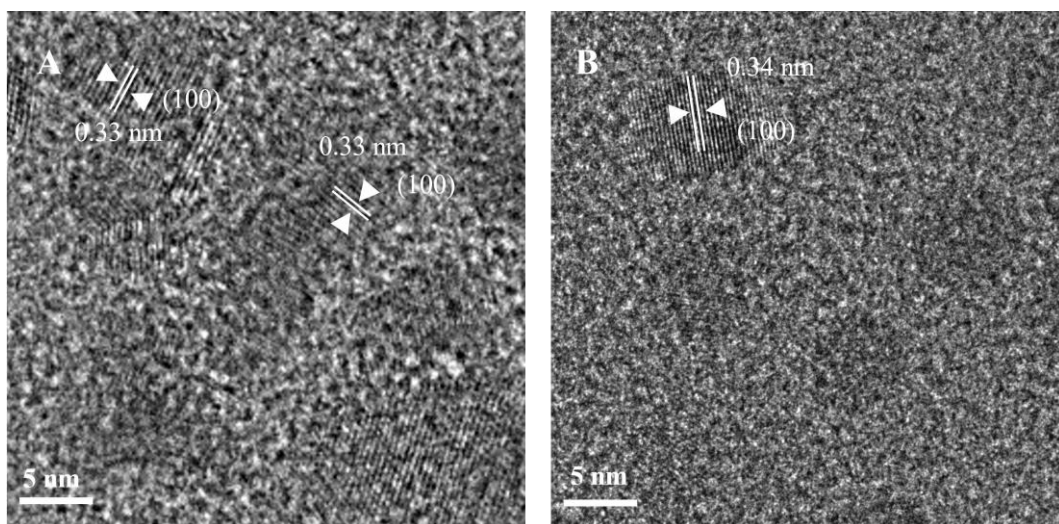


Figure S4. HRTEM images and lattice spacing of (A) InP/ZnSe/ZnS and (B) InP/ZnSe/ZnS:Zr (S/Zr=1:4) QDs.

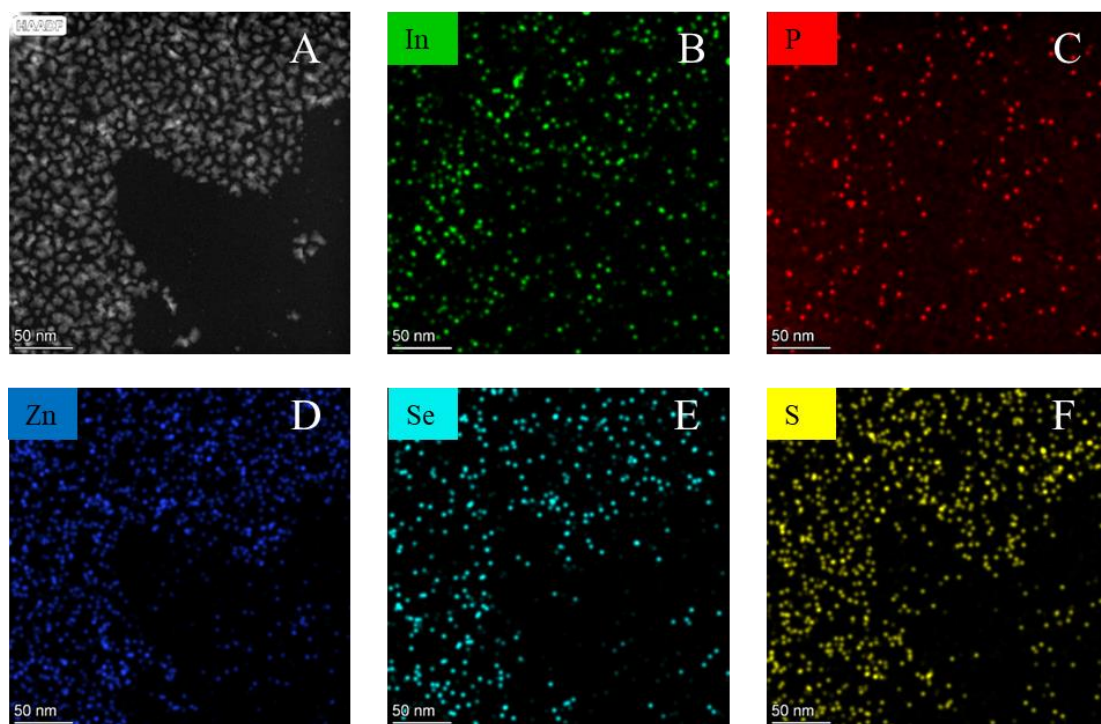


Figure S5. HAADF-STEM image and elemental maps of the In, P, Zn, Se, and S of InP/ZnSe/ZnS QDs.

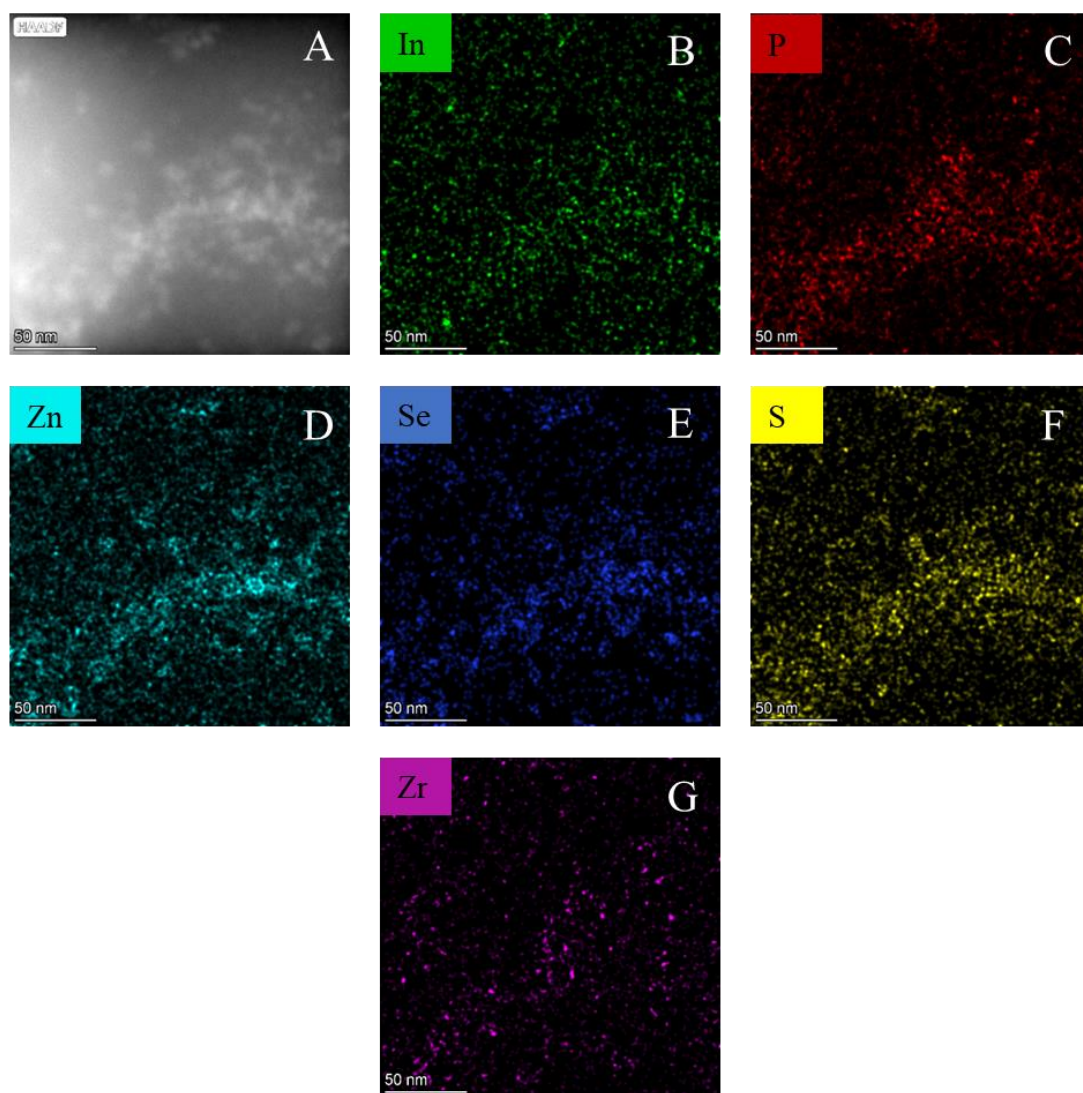


Figure S6. HAADF-STEM image and elemental maps of the In, P, Zn, Se, S, and Zr of InP/ZnSe/ZnS:Zr (S/Zr=1:4) QDs.

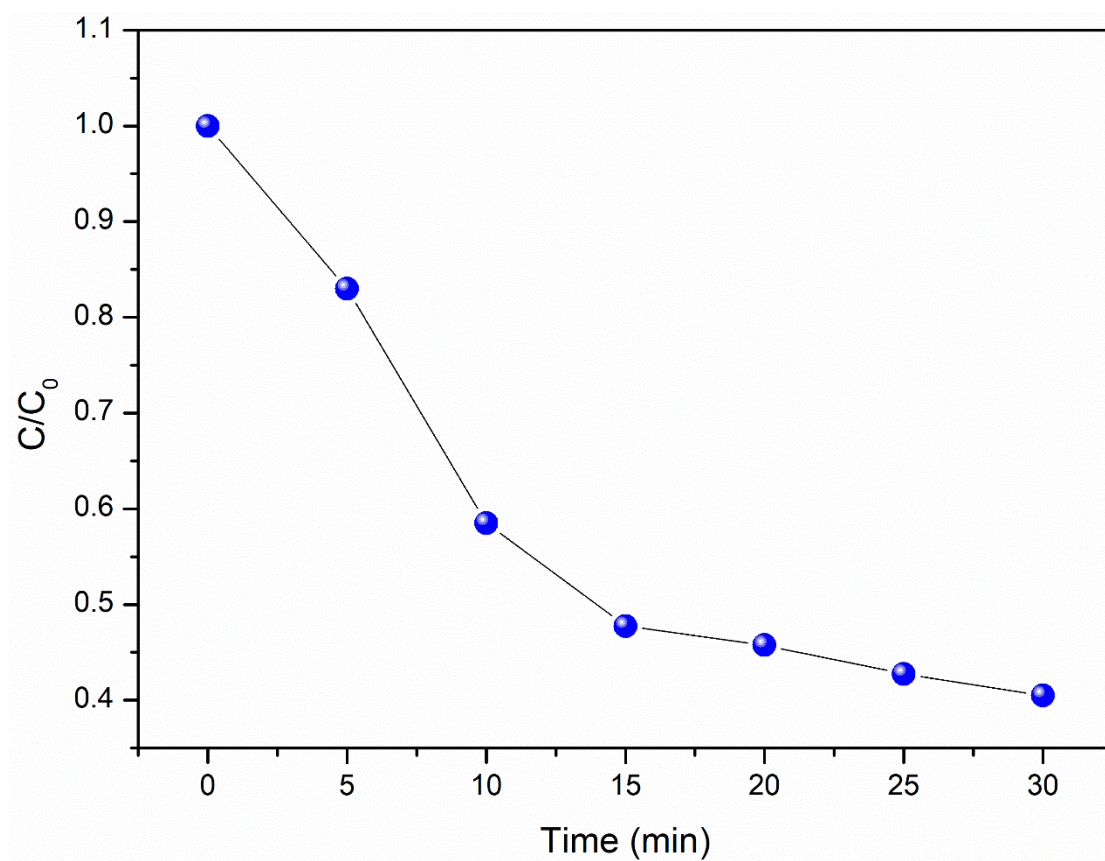


Figure S7. The reduction of Cr (VI) with InP/ZnSe/ZnS:Zr QDs treated under simulated sunlight irradiation.

Table S1: The position of PL peak and FWHM of InP/ZnSe/ZnS and InP/ZnSe/ZnS:Zr (with different Zr concentrations) QDs.

S/Zr	Position of PL peak (nm)	FWHM (nm)
1:0	604	45.9
1:1	601	44.2
1:2	600	44.5
1:4	602	44.7

Table S2: The EDX results of InP/ZnSe/ZnS:Zr QDs with the theoretical S: Zr molar ratios equaling 1:4.

Sample	Zn fraction (%)	Zr fraction (%)	Zn/Zr ratio
Sample 1	39.23	18.25	2.15
Sample 1	38.70	18.57	2.08
Sample 1	35.41	14.68	2.41
Average	37.78	17.17	2.20