Supporting Information

Suppressed Auger recombination and enhanced emission of InP/ZnSe/ZnS quantum dots through inner-shell manipulation

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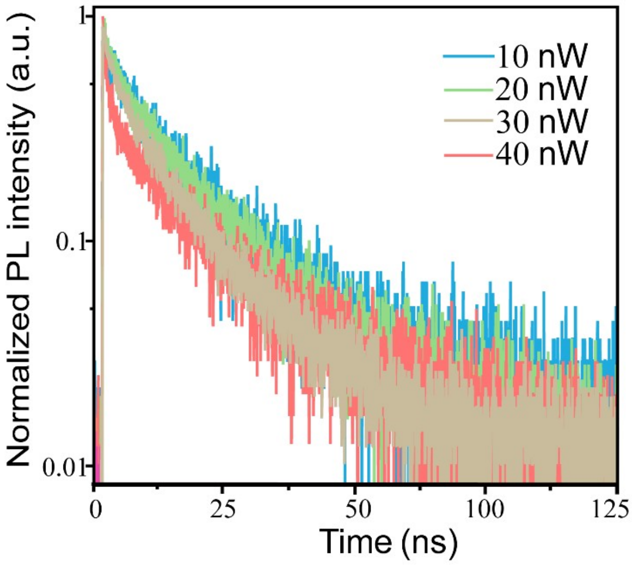

Fig. S1. Representative PL decay curves of single InP/2ZnSe/ZnS QDs under different excitation powers.

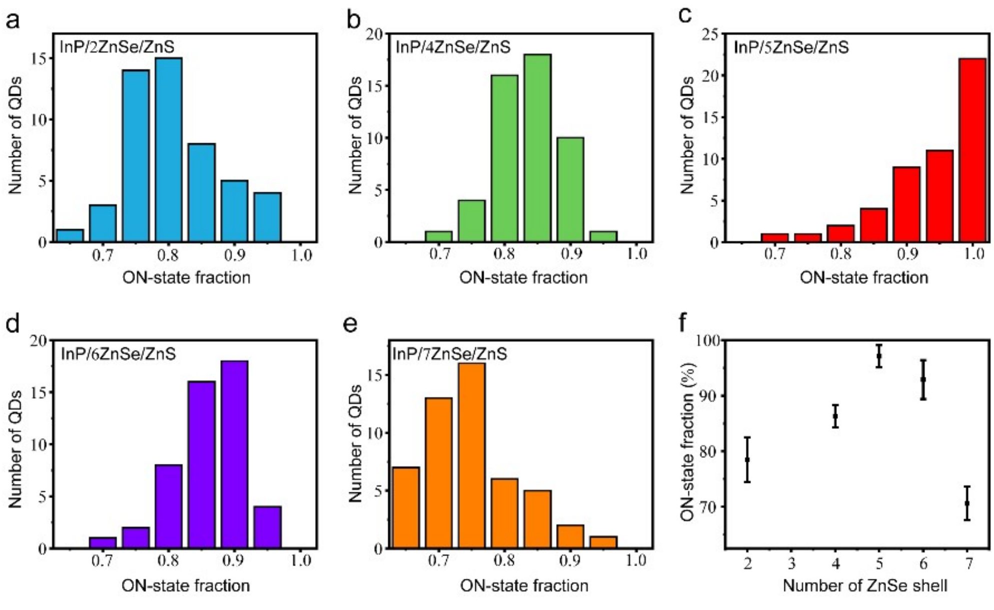

Fig. S2. (a−e) Histograms of ON-states fraction for single InP/ZnSe/ZnS QDs with 2, 4, 5, 6 and 7 MLs of inner ZnSe shell. (f) The average ON-states fraction for single QDs with different number of ZnSe shell monolayers, based on the results from randomly selected ~ 50 dots of each InP/ZnSe/ZnS QDs.

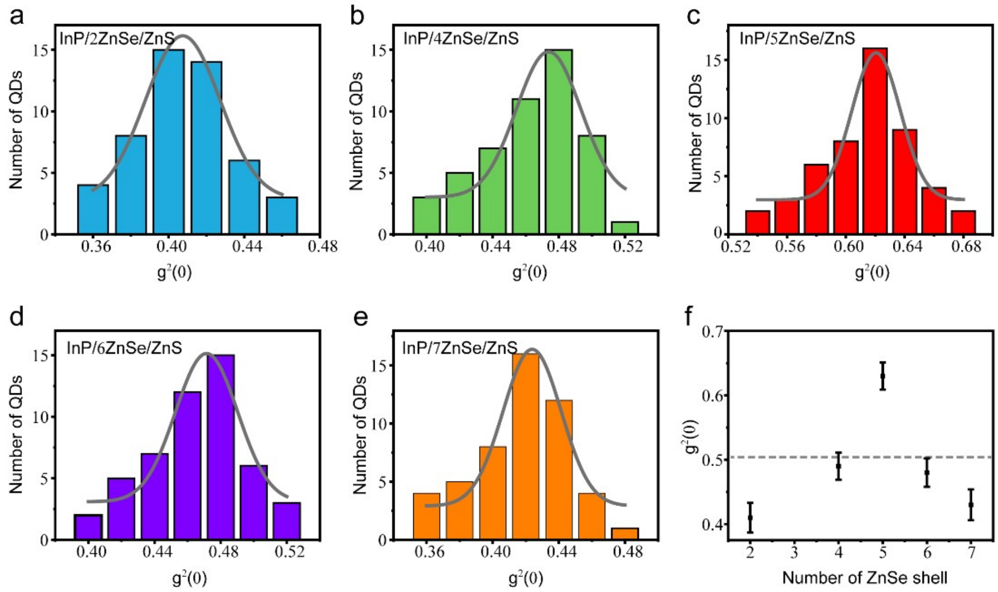

Fig. S3. (a−e) Histograms of $g^2(0)$ for single InP/ZnSe/ZnS QDs with 2, 4, 5, 6 and 7 MLs of inner ZnSe shell. (f) The average $g^2(0)$ for single QDs with different number of ZnSe shell monolayers, based on the results from randomly selected ~ 50 dots of each InP/ZnSe/ZnS QDs.

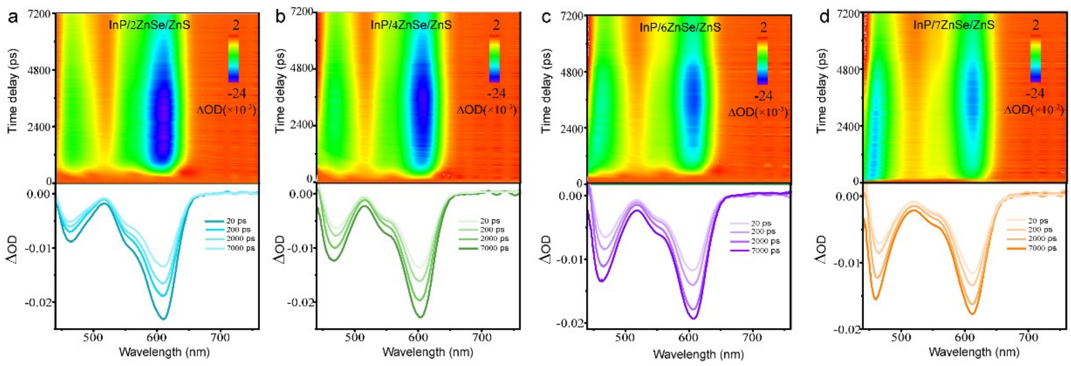

Fig. S4. (a−d) Transient absorption (TA) map and corresponding TA spectra with different time delays for InP/ZnSe/ZnS QDs with 2, 4, 6, 7 MLs, respectively.

Table S1. Bi-exponential fitting parameters of TA kinetics for InP/5ZnSe/ZnS QDs displayed in Fig. 5d with increasing pump power from 20 μW to 100 μW.

Pump power	A_{fast}%	A_{slow}%	τ_{fast} (ps)	τ_{slow} (ns)
20 μW	32.01	67.99	320	3.5
40 μW	38.13	61.87	161	3.5
50 μW	40.86	59.14	150	3.6
80 μW	46.84	53.18	100	3.7
100 μW	48.35	51.65	90	3.8