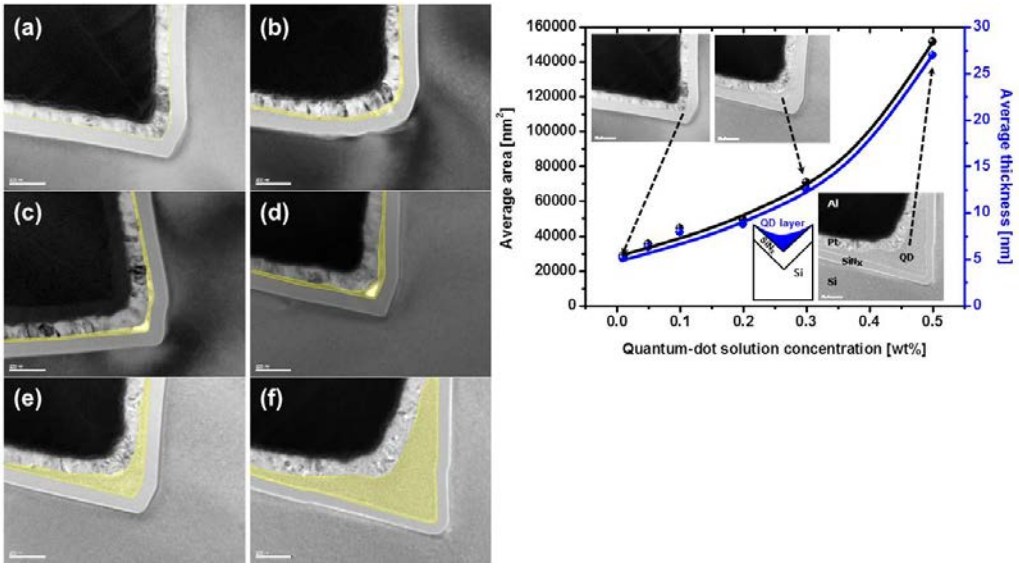
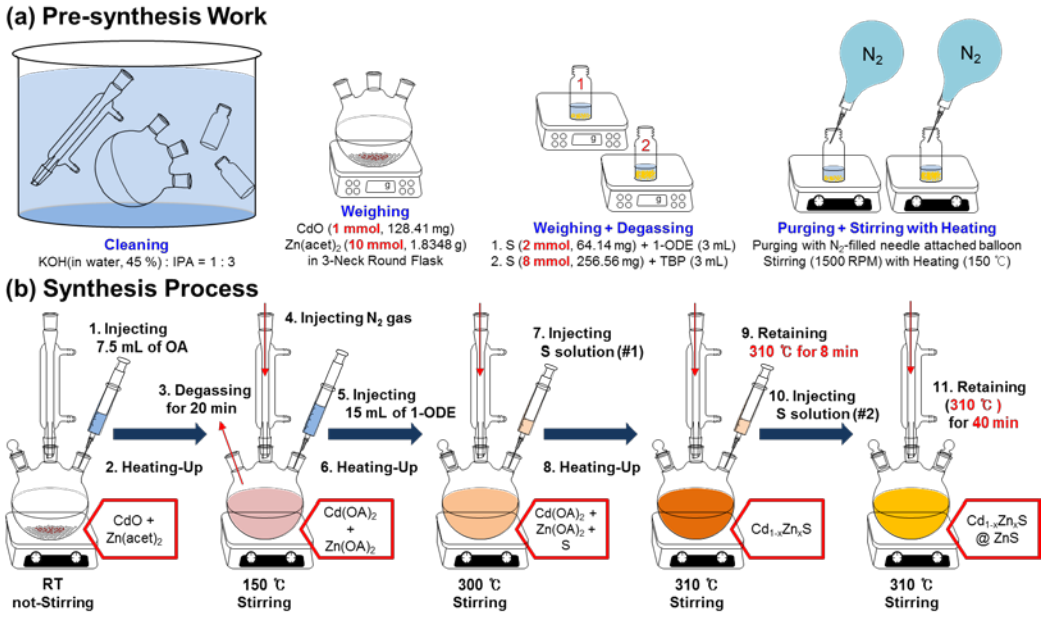
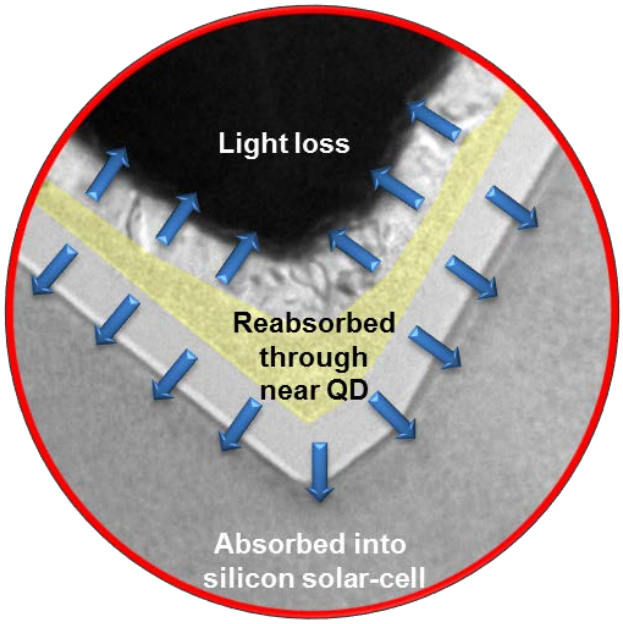


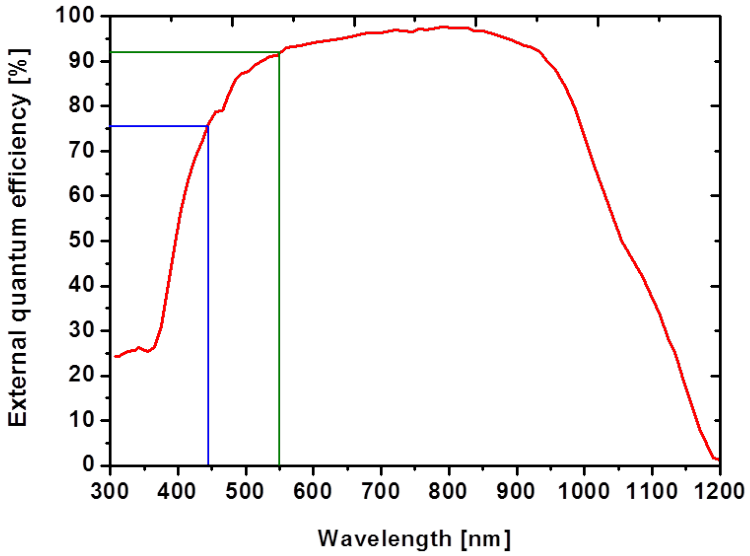
Supplementary Figure 1. Surface morphology of $Cd_{0.5}Zn_{0.5}S/ZnS$ core/shell QDs layer on SiN_X film textured pyramids for p–type solar–cells: (a) – (e) TEM images and (g) average area and thickness of $Cd_{0.5}Zn_{0.5}S/ZnS$ core/shell QDs layer, varying with concentration of QD solution.



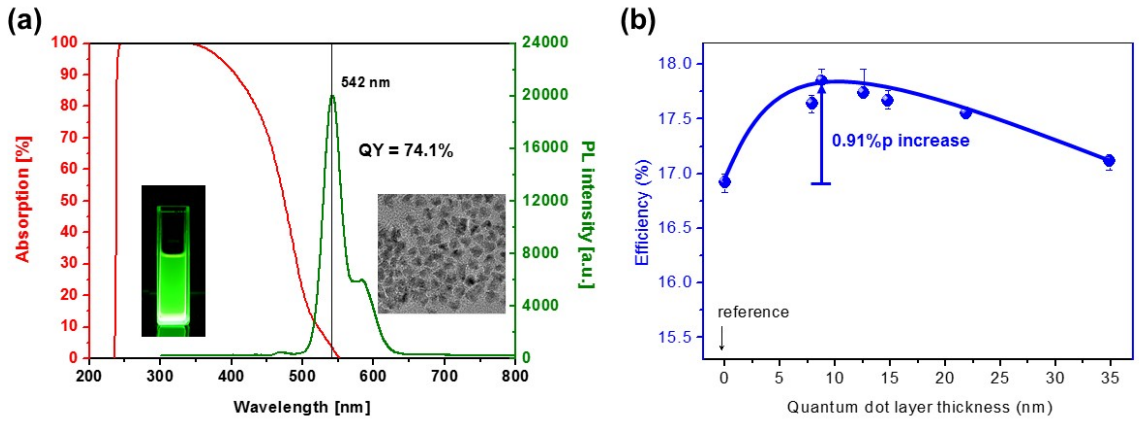
Supplementary Figure 2. Synthesis flow of $Cd_{0.5}Zn_{0.5}S/ZnS$ core/shell QDs. (a) pre-synthesis and (b) synthesis process.



Supplementary Figure 3. The QD layer on the SiN_X film textured silicon solar-cells isotropically emitted the blue light.



Supplementary Figure 4. EQE simulation as function of wavelength for p–type silicon solar-cell.



Supplementary Figure 5. Optical characteristics and photo–voltaic performance for CdSe/ZnS core/shell QDs. (a) absorption, luminescence, and emitting light photography and (b) PCE depending on CdSe/ZnS core/shell QDs layer thickness.