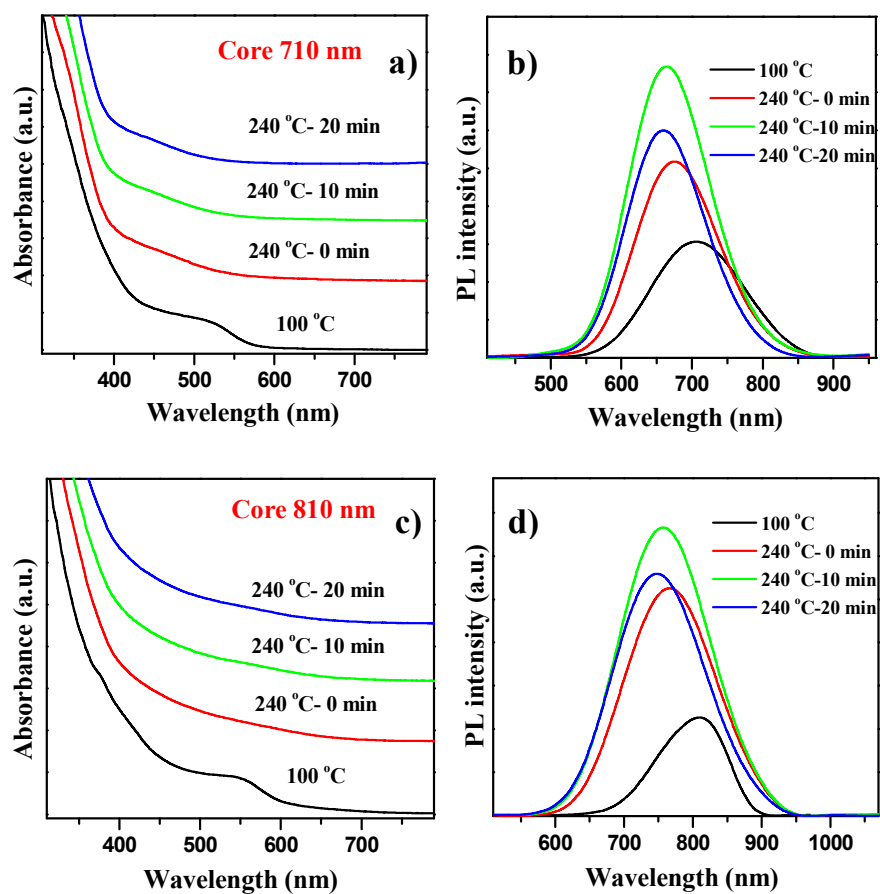


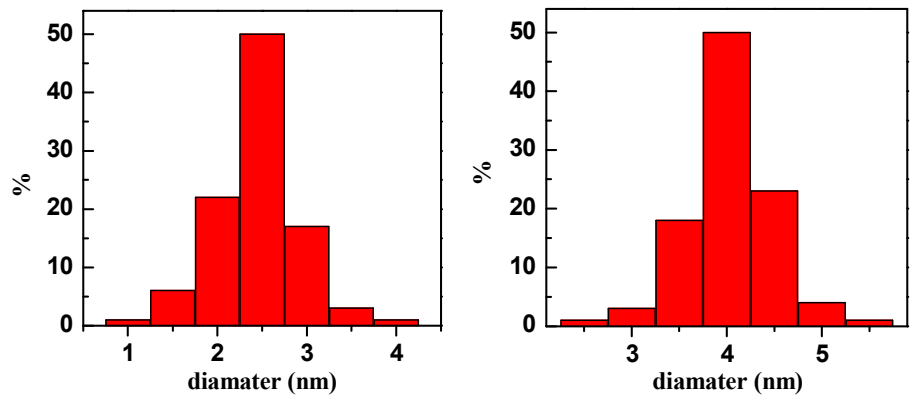
## Supporting Information

### Color-Tunable Highly Bright Photoluminescence of Cadmium-Free Cu-Doped Zn-In-S Nanocrystals and Electroluminescence

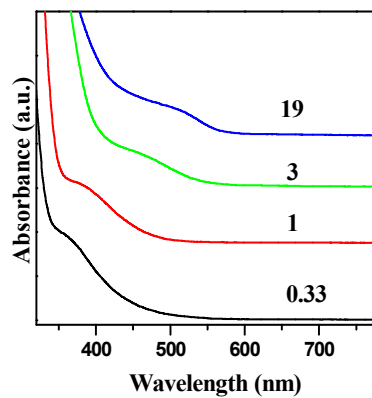
Wenjin Zhang, Qing Lou, Wenyu Ji, Jialong Zhao and Xinhua Zhong



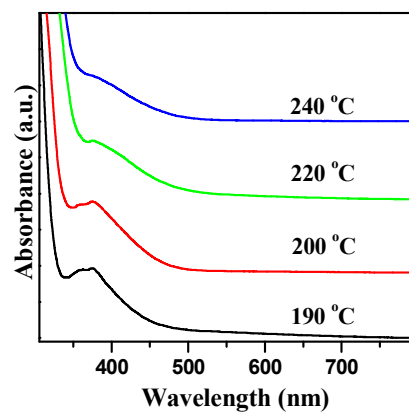
**Figure S1.** Temporal evolution of UV-vis absorption spectra (a, c) and PL emission ( $\lambda_{\text{ex}} = 350 \text{ nm}$ ) (b, d) of the resulting NCs with deposition of ZnS shell around the initial Cu:Zn-In-S d-dots with emission wavelength of 710 nm (a, b), and 810 nm (c, d), respectively.



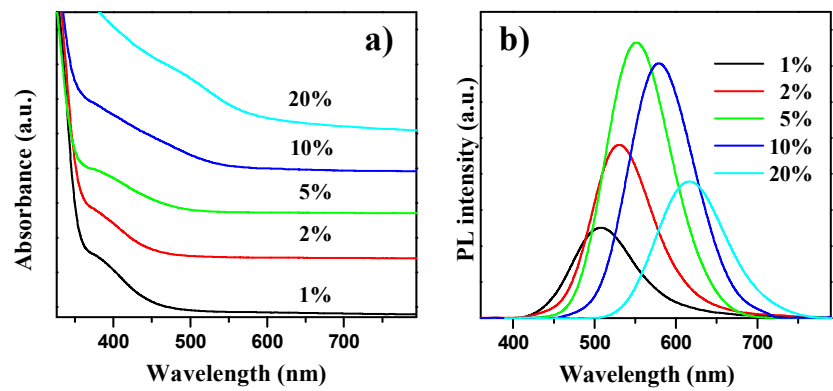
**Figure S2.** The histograms of size distribution for Cu:Zn-In-S and Cu:Zn-In-S/ZnS d-dots based on the statistic analysis of more than 200 particles.



**Figure S3.** Absorption of Zn-In-S d-dots under different In/Zn precursor ratios.



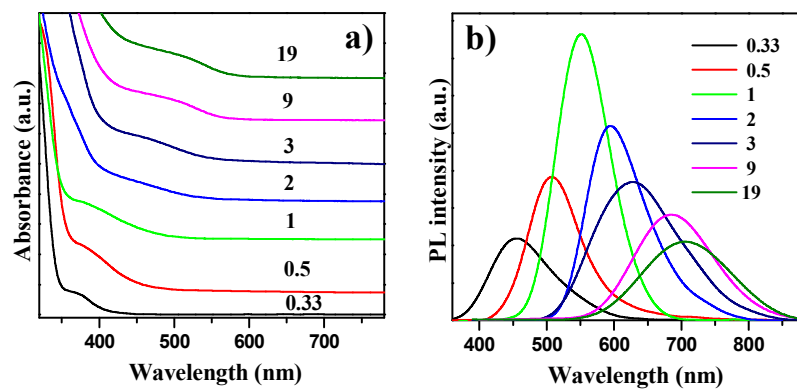
**Figure S4.** Evolution of absorption spectra of Cu:Zn-In-S d-dots under different growth temperatures with fixation of growth time of 10 min.



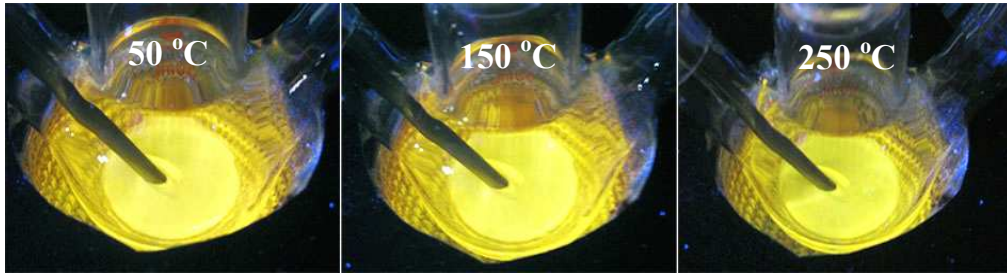
**Figure S5.** Evolution of UV-vis absorption (a) and PL emission spectra (b) of Cu :Zn-In-S d-dots under different Cu/(Zn+In) precursor ratios.

**Table S1.** Nominal In/Zn Atomic Ratios Used in the Synthesis and the Real In/Zn Ratios in Cu:Zn-In-S d-dots Samples Determined by ICP-AES.

| Nominal In/Zn ratio | ICP results of In/Zn ratio |
|---------------------|----------------------------|
| 0.33                | 0.31                       |
| 1.0                 | 0.86                       |
| 3.0                 | 2.8                        |
| 9.0                 | 7.6                        |
| 19.0                | 16.6                       |



**Figure S6.** Absorption (a) and PL emission (b,  $\lambda_{\text{ex}} = 350$  nm) spectra of Cu:Zn-In-S d-dots under different In/Zn precursor ratios.



**Figure S7.** Digital picture of the Cu:Zn-In-S/ZnS d-dots at different temperature (50 °C, 150 °C, 250 °C) under the radiation of a UV lamp.