Electronic Supplementary Information

Colloidal synthesis and optical properties of type-II CdSe-CdTe and inverted CdTe-CdSe core-wings heteronanoplatelets

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Quantum yield determination

The fluorescence quantum yield of type-II CdSe/CdTe nanoplatelets was determined using the dye Rhodamine 6G dissolved in ethanol as a reference and calculated in accordance with the expression:

$$\Phi_{NPLs} = \Phi_{Dye} \frac{I_{NPLs} O_{Dye} n_{NPLs}^2}{I_{Dye} O_{NPLs} n_{Dye}^2}$$

where QY_Dye is the Rhodamine 6G quantum yield (Φ=0.94); I_{NPLs}, I_{Dye} the integrated intensities of the NPLs and dye fluorescence; OD_{NPLs}, OD_{Dye} the optical densities of the NPLs and dye solutions and n_{NPLs}, n_{Dye} the refractive indexes of NPLs and dye solutions respectively. PL measurements for QY determination were conducted upon excitation of NPLs and dye solutions at 510 nm.

Figure S1. EDX spectra of the CdSe core (left) and CdSe-CdTe core-wings NPLs (right). It can be clearly seen that after the formation of a CdTe shell the signal from Te appears.
Figure S2. Optical absorption (black), PL (red) and PLE spectra (blue) of type-I CdSe(core)-CdS(wings) heteronanoplatelets.

REFERENCES
