

Supplementary Materials: Energy Transfer between Conjugated Colloidal Ga₂O₃ and CdSe/CdS Core/Shell Nanocrystals for White Light Emitting Applications

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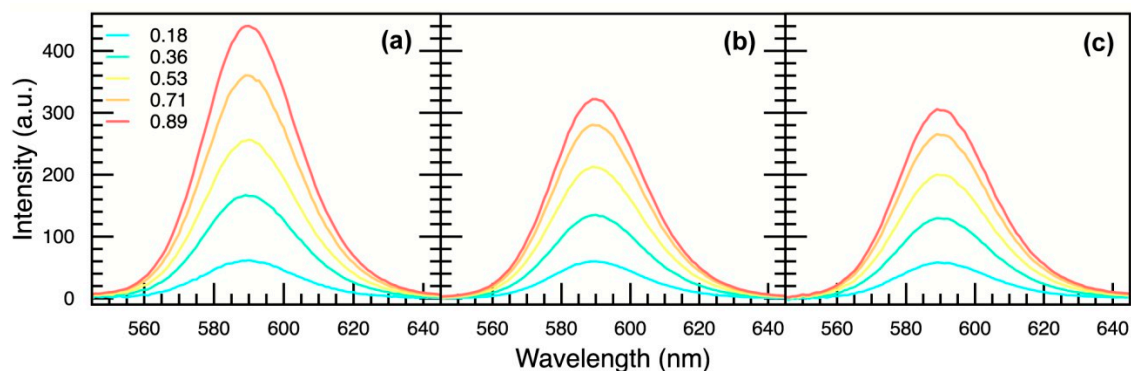


Figure S1. Photoluminescence spectra of CdSe/CdS nanocrystals (NCs) in (a) nanocrystal conjugate, linked with thioglycolic acid (TGA), upon correction for the contribution from Ga₂O₃ NC emission, (b) pure CdSe/CdS nanocrystal suspension, and (c) mixture of Ga₂O₃ and CdSe/CdS NCs without the TGA linker. The concentrations of CdSe/CdS NCs are identical in all panels, and are expressed in (a) as a [CdSe/CdS]/[Ga₂O₃] ratio. The excitation wavelength is 250 nm for all spectra.

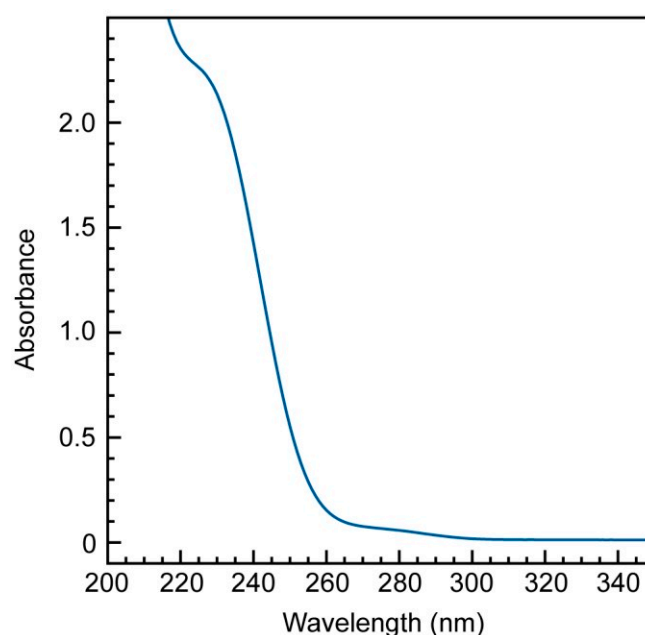


Figure S2. Absorption spectrum of TGA molecules in ethanol demonstrating competitive absorption with Ga₂O₃ NCs at 250 nm.

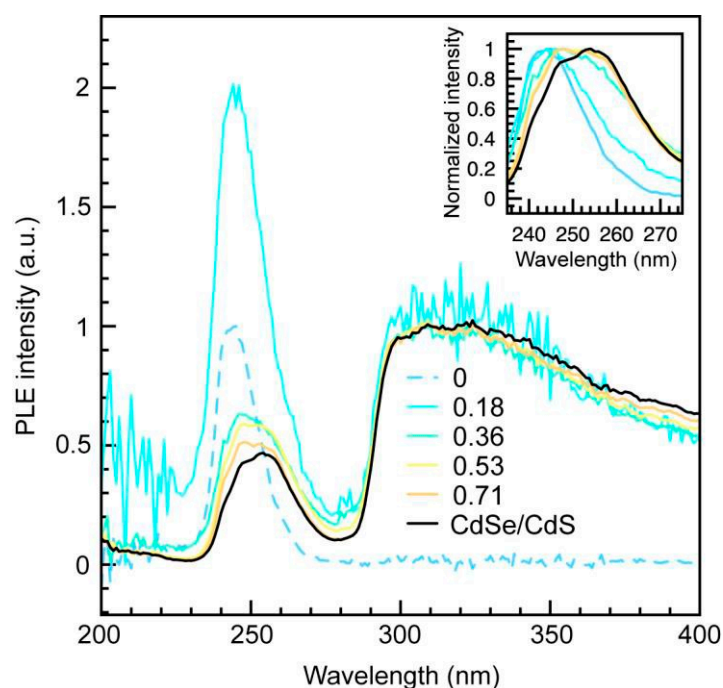


Figure S3. Photoluminescence excitation (PLE) spectra of CdSe/CdS- Ga_2O_3 NC conjugates having different acceptor to donor ratio, as indicated in the graph ($\lambda_{\text{em}} = 590$ nm). PLE spectra of Ga_2O_3 and CdSe/CdS NCs are shown with dashed blue and solid black lines, respectively. Inset: Normalized PLE spectra in the region corresponding to Ga_2O_3 NC excitation. The dip in the excitation spectra at ca. 280 nm is due to absorption of tetrahydrofuran (THF) in that region.

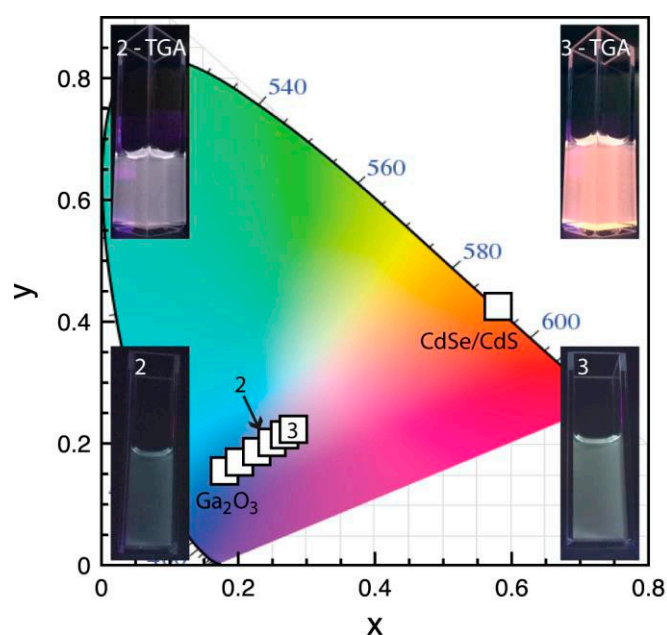


Figure S4. International Commission on Illumination 1931 (CIE 1931) color space diagram for suspensions containing a mixture of CdSe/CdS and Ga_2O_3 NCs. The mixtures are prepared in an identical way to the samples shown in Figure 7 in the article, but without the TGA linker. Bottom insets show photographs corresponding to points 2 and 3 in the graph. The photographs of analogous samples for the NC conjugates are shown as top insets for comparison.

