Supplementary Material (ESI) for Journal of Materials Chemistry

Supporting Information

One-pot aqueous synthesis of high quality near infrared emitting $Cd_{1-x}Hg_xTe$ nanocrystals

Vladimir Lesnyak,[1] Andrey Lutich,[2] Nikolai Gaponik,[1]
Markus Grabolle,[3] Alexei Plotnikov,[4] Ute Resch-Genger,[3] Alexander Eychmüller*[1]

[1)] Physical Chemistry, TU Dresden, Bergstr. 66b, 01062 Dresden, Germany
Fax: +49(0)35146337164; Tel: +49(0)35146334331;
E-mail: alexander.eychmueller@chemie.tu-dresden.de
[2)] Photonics and Optoelectronics Group, Department of Physics and CeNS, Ludwig-Maximilians-Universität München, Amalienstr. 54, D-80799 Munich, Germany
[3)] BAM Federal Institute for Materials Research and Testing, Richard-Willstätter-Str. 11, 12489 Berlin, Germany
[4)] Helmholtz Center Berlin for Materials and Energy, Glienicker Str. 100, D-14109 Berlin, Germany

Size-selective precipitation of $Cd_{1-x}Hg_xTe$/TGA NCs

The as prepared colloids underwent post-preparative size-selective precipitation according to the procedure described in ref.[1]. The method consists in the gradual precipitation of the NCs induced by portionwise addition of a nonsolvent (2-propanol) into the preliminarily concentrated NCs solution. This technique allows the separation of the initial colloid into several fractions of NCs possessing narrowed size distributions (see Figure SI1 as an example).

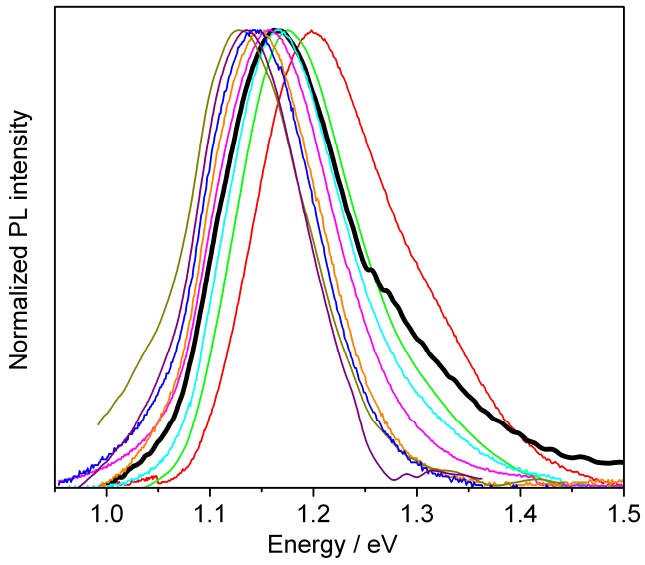

Figure SI1. PL spectra of a series of size-selected fractions of $Cd_{0.95}Hg_{0.05}Te$/TGA NCs isolated from the as-prepared colloid (black bold line) taken after 25 min of reflux ($\lambda_{ex.}$ = 550 nm).

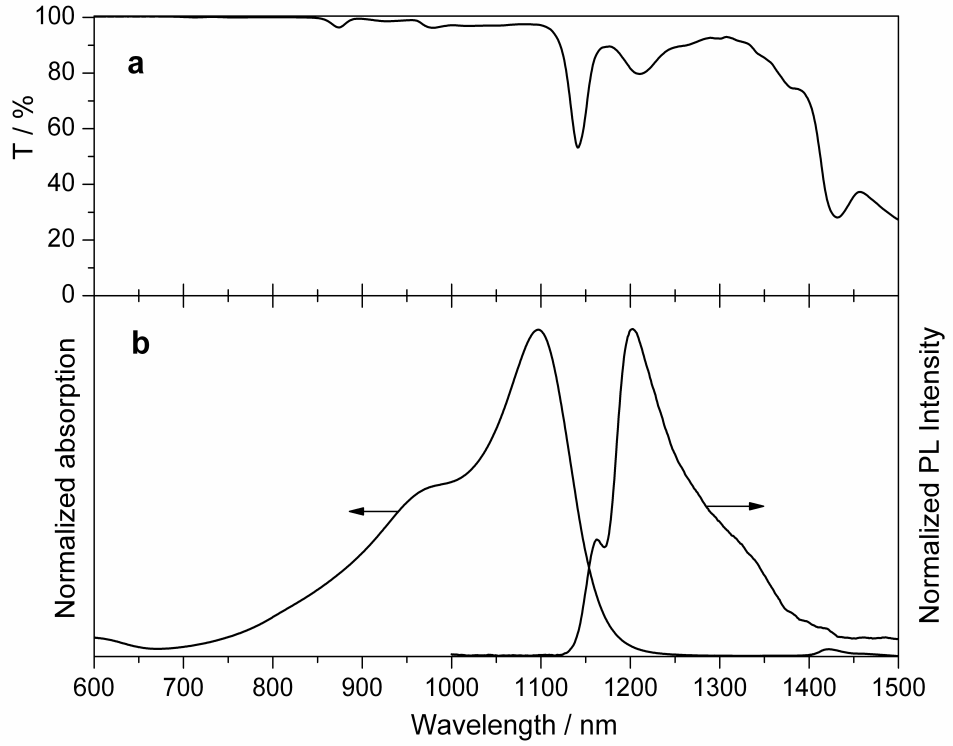

Figure SI2. Transmission spectrum of benzyl alcohol (a), PL ($\lambda_{ex.}$ = 980 nm) and absorption spectra of IR 26 in benzyl alcohol (b).

[1] N. Gaponik, D. V. Talapin, A. L. Rogach, K. Hoppe, E. V. Shevchenko, A. Kornowski, A. Eychmüller and H. Weller, *Journal of Physical Chemistry B*, 2002, **106**, 7177-7185.