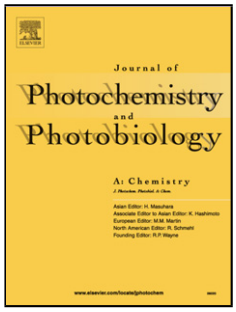

Title: Ligand Exchange on CdSe Nanoplatelets for the Solar Light Sensitization of TiO_2 and ZnO Nanorod Arrays

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PII: S1010-6030(18)30646-4
DOI: https://doi.org/10.1016/j.jphotochem.2018.09.042
Reference: JPC 11507

To appear in: *Journal of Photochemistry and Photobiology A: Chemistry*

Received date: 12-5-2018
Revised date: 24-9-2018
Accepted date: 25-9-2018

Please cite this article as: Szemjonov A, Tasso M, Ithurria S, Ciofini I, Labat F, Pauporté T, Ligand Exchange on CdSe Nanoplatelets for the Solar Light Sensitization of TiO_2 and ZnO Nanorod Arrays, *Journal of Photochemistry and amp; Photobiology, A: Chemistry* (2018), https://doi.org/10.1016/j.jphotochem.2018.09.042

Ligand Exchange on CdSe Nanoplatelets for the Solar Light Sensitization of TiO_2 and ZnO Nanorod Arrays.

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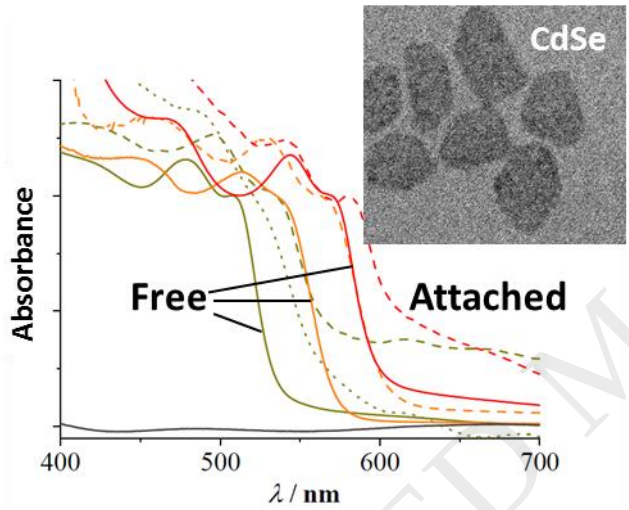
Graphical abstract



Highlights :

- CdSe Nanoplatelets controlled at the atomic monolayer scale are prepared.
- Surface ligands are exchanged for mercaptopropionic acid, OH^- and SH^- linkers.
- Raman and UV-Vis absorption spectroscopies show the attachment of the nanoplatelets on oxides.
- OH^- is found the best-working linker for TiO_2 and ZnO sensitization to visible light.

Abstract

In quantum dot (QD) solar cells, the *ex situ* sensitization of wide band gap semiconductors (WBSCs) makes it possible to control the shape and the passivation of the nanosized sensitizer. Hence, *ex situ* techniques can be used to investigate how the band gap of the sensitizers affects the performance of quantum dot solar cells. The latter can be precisely controlled in 1D