Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A. This journal is © The Royal Society of Chemistry 2016

## **Supporting Information for:**

## Investigation of Plasmonic Effect in Air-processed PbS/CdS Coreshell Quantum Dot based Solar Cells

Belete Atomsa Gonfa<sup>1</sup>, Mee Rahn Kim<sup>1</sup>, Peng Zheng<sup>2</sup>, Scott Cushing<sup>2</sup>, Qiquan Qiao<sup>3</sup>, Nianqiang Wu<sup>2</sup>,\* My Ali El Khakani<sup>1</sup>, and Dongling Ma<sup>1</sup>,\*

<sup>1</sup>Institut National de la Recherche Scientifique (INRS), Centre-Énergie, Matériaux et Télécommunications, 1650 Boulevard Lionel-Boulet, Varennes, QC, Canada J3X 1S2

<sup>2</sup>Department of Mechanical and Aerospace Engineering, West Virginia University, Morgantown, WV 26506-6106, USA

<sup>3</sup>Department of Electrical Engineering, Center for Advanced Photovoltaics, South Dakota State University, Brookings, South Dakota 57007, USA.

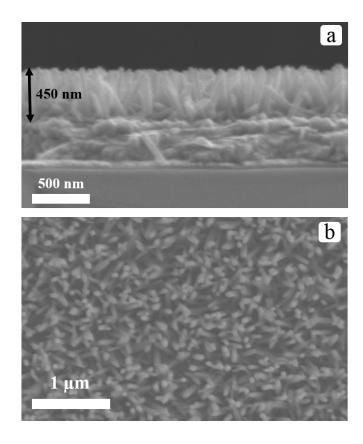


Figure S1. SEM images of 450 nm long  $TiO_2$  nanorod arrays grown on FTO substrate: (a) cross-sectional and (b) top view.

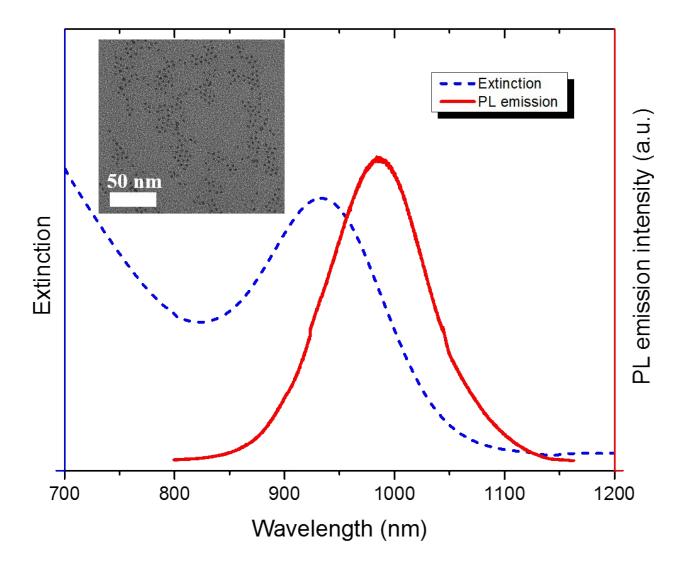


Figure S2. Visible-NIR extinction and PL emission spectra of PbS/CdS core-shell QDs suspension in toluene; inset: TEM image of PbS/CdS core-shell QDs.