Supporting Information

Nanocomposite of Carbon Quantum Dots and TiO₂ Nanotube Arrays: Enhancing Photoelectrochemical and Photocatalytic Properties

Mingxuan Sun¹, Xiaoqing Ma¹, Xi Chen¹, Yujun Sun¹, Xiaoli Cui*¹, Yuehe Lin²

- 1. Department of Materials Science, Fudan University, Shanghai 200433, China
- School of Mechanical and Materials Engineering, Washington State University, Pullman, WA 99164-2920 USA

Corresponding author: Xiaoli Cui,

Department of Materials Science, Fudan University Shanghai, 200433 (P R China),

E-mail: xiaolicui@fudan.edu.cn

Tel/Fax: 86-21-65642397

Table of contents(9 pages, 7 figures)

Figure S1. The atomic percentage of O/C for graphite powders and CQDs

Figure S2. FT-IR spectra of CQDs

Figure S3. Raman spectra of TiO_2 (a) and CQDs/TiO₂ (b) nanotubes

Figure S4. SEM images of CQDs/TiO2 nanotubes

Figure S5. The transient photocurrent response of TiO_2 (a) and CQDs/TiO₂ (b) nanotubes electrodes under UV-Vis illumination

Figure S6. Variation of the open circuit potential of TiO_2 (a) and CQD/TiO₂ (b) nanotubes electrodes under UV-Vis illumination

Figure S7. Photocurrent density-photovoltage (J-V) curves for the CQDs-sensitized solar cell.



Figure S1. The atomic percentage of O/C for graphite powders and CQDs



Figure S2. FT-IR spectra of CQDs



Figure S3. Raman spectra of TiO_2 (a) and CQDs/TiO₂ (b) nanotubes



Figure S4. SEM images of CQDs/TiO2 nanotubes



Figure S5. The transient photocurrent response of TiO_2 (a) and CQDs/TiO₂ (b) nanotubes electrodes under UV-Vis illumination



Figure S6. Variation of the open circuit potential of TiO_2 (a) and CQD/TiO₂ (b) nanotubes electrodes under UV-Vis illumination



Figure S7. Photocurrent density-photovoltage (J-V) curves for the CQDs-sensitized solar cell.