

## **Supporting Information**

# **Carbon Quantum Dots Induced Ultrasmall BiOI Nanosheets with Assembled Hollow Structures for Broad Spectrum Photocatalytic Activity and Mechanism Insight**

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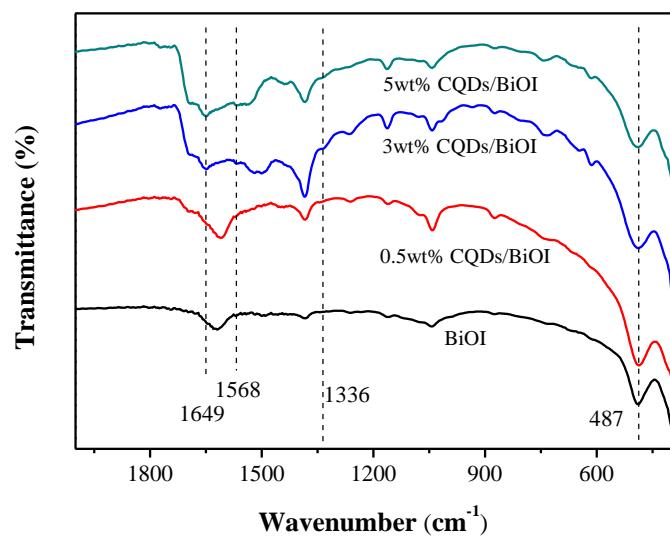
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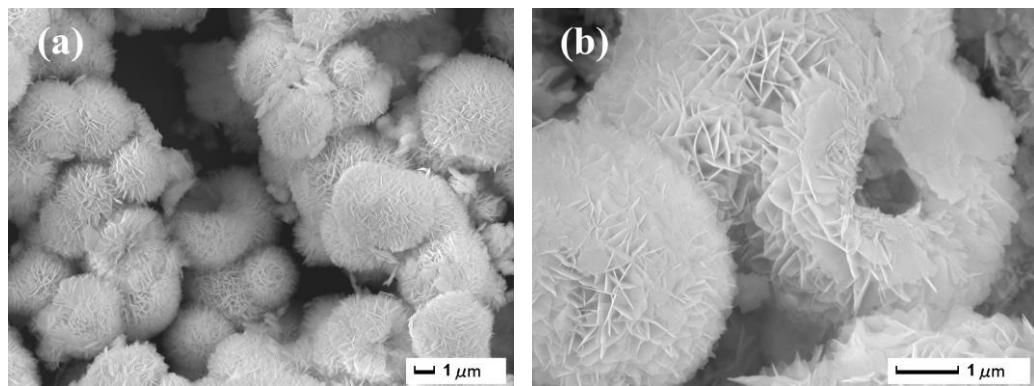
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E-mail address: xjx@ujs.edu.cn (Jiexiang Xia)

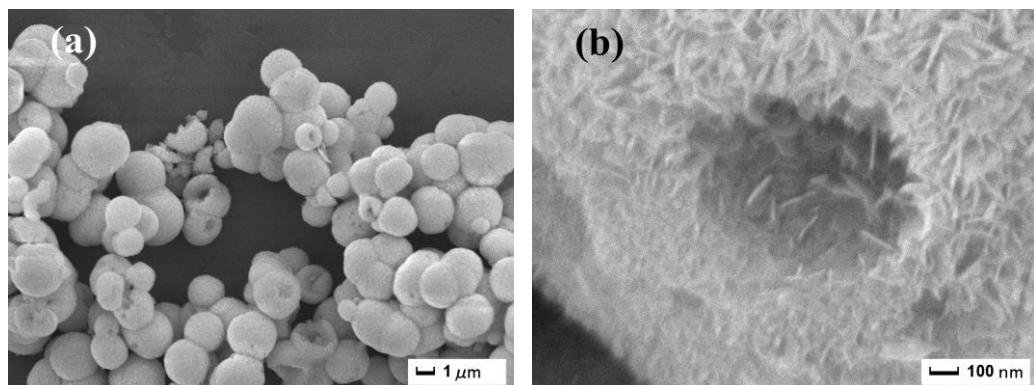
lhm@ujs.edu.cn (Huaming Li)



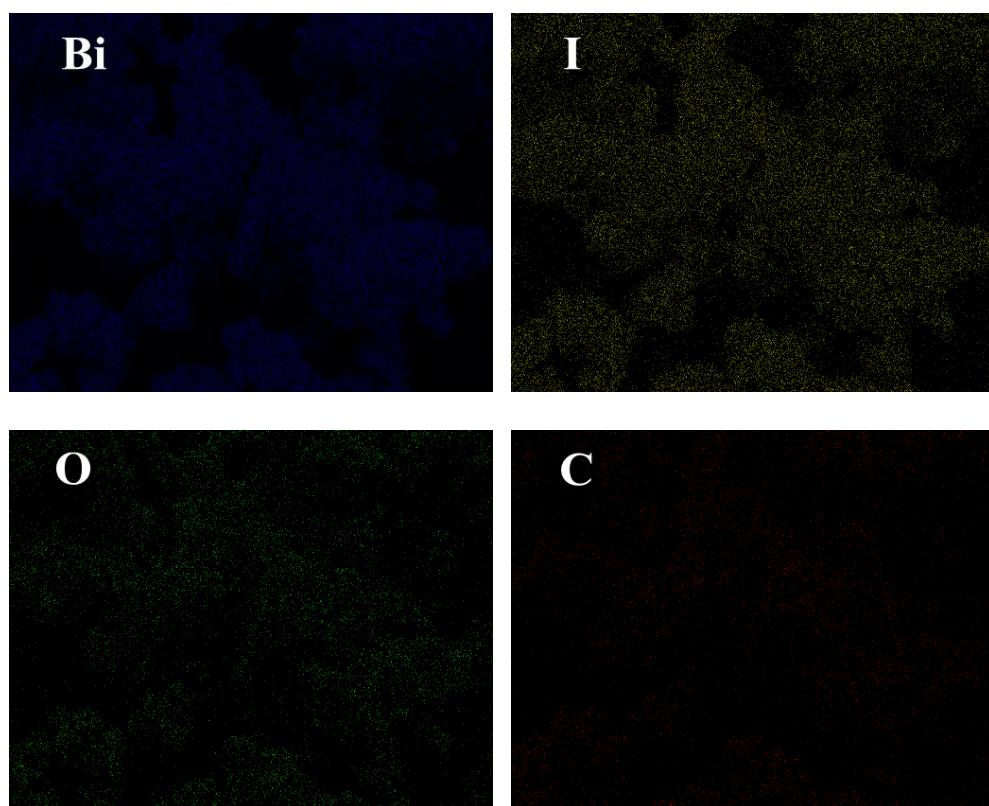
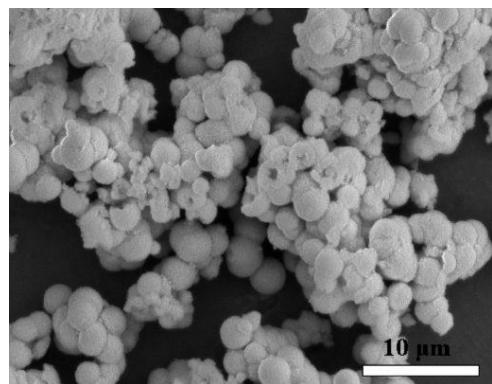
**Figure S1.** FT-IR spectra of BiOI and CQDs/BiOI microspheres photocatalysts.



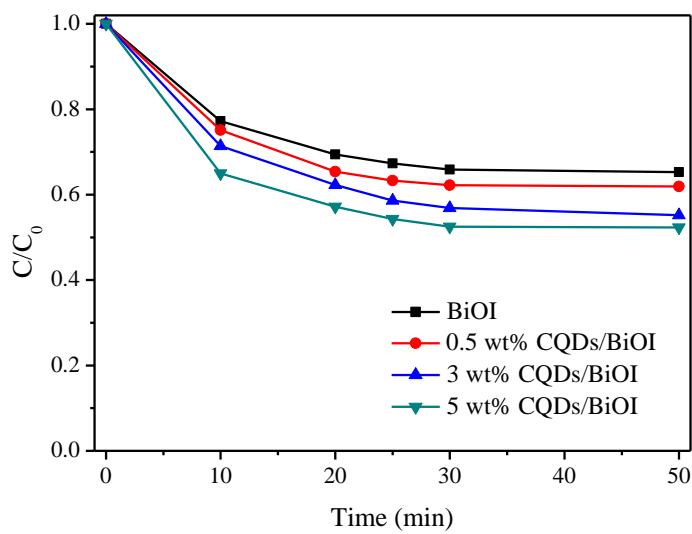
**Figure S2.** SEM images of the pure BiOI. (a) The low magnification SEM image; (b) high magnification SEM image.



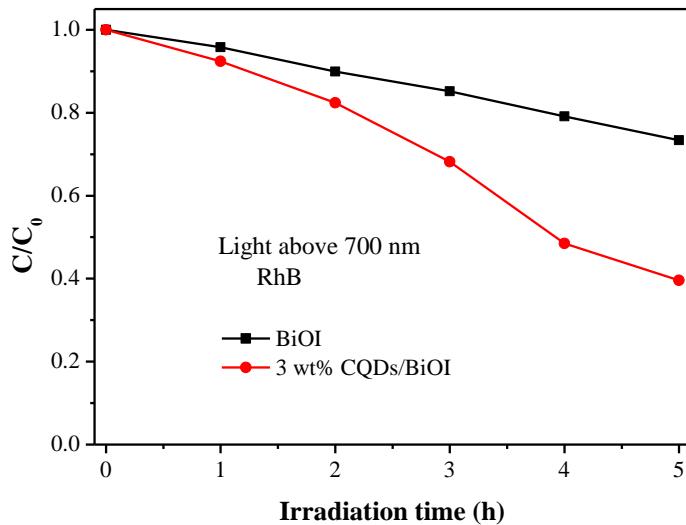
**Figure S3.** SEM images of the 5 wt% CQDs/BiOI microspheres. (a) The low magnification SEM image; (b) high magnification SEM image.



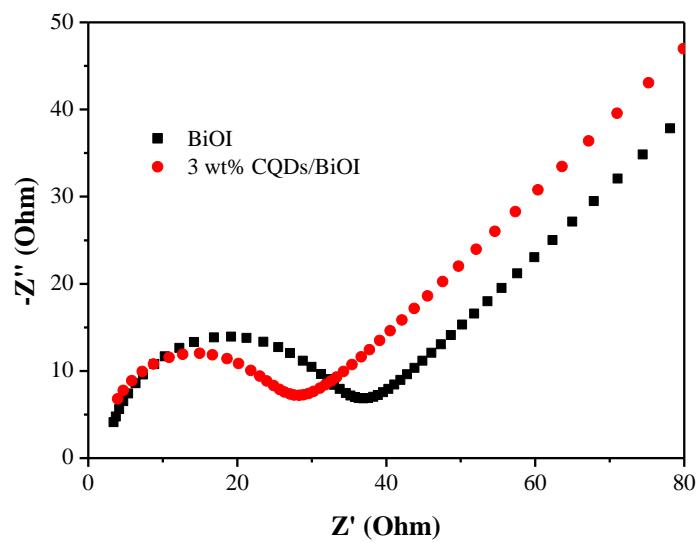
**Figure S4.** Typical SEM image of 3 wt% CQDs/BiOI microspheres materials and corresponding elemental mapping images of Bi, I, O, and C.



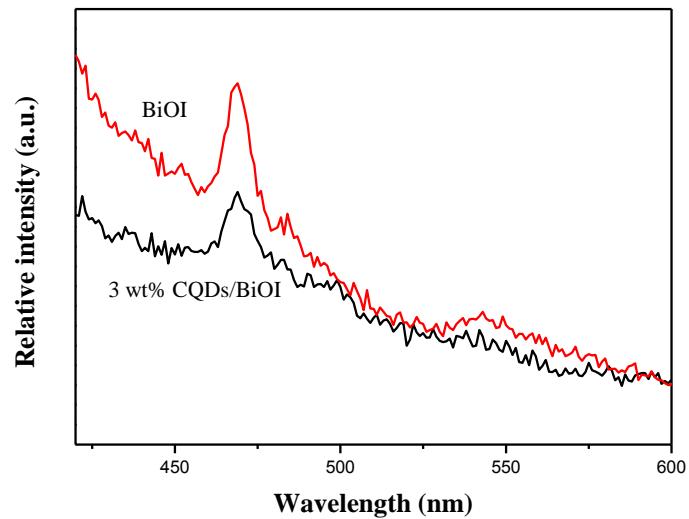
**Figure S5.** Time profiles of adsorption of RhB over CQDs/BiOI hollow microspheres materials.



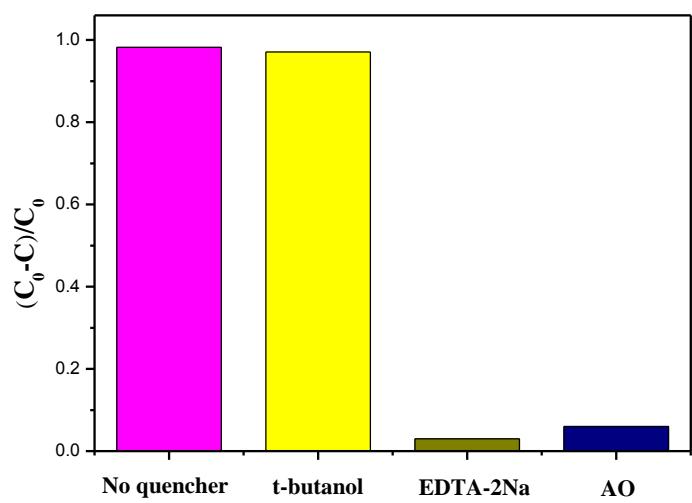
**Figure S6.** Photocatalytic degradation of RhB in the presence of BiOI, 3 wt % CQDs/BiOI materials under light above 700 nm irradiation;



**Figure S7.** Nyquist plots of the electrodes composed of as-prepared pure BiOI and 3 wt% CQDs/BiOI microspheres.



**Figure S8.** PL spectra of pure BiOI and 3 wt% CQDs/BiOI microspheres.



**Figure S9.** Photocatalytic degradation for RhB over 3 wt% CQDs/BiOI microspheres photocatalyst with the addition of hole and hydroxyl radical scavenger under the irradiation of visible light.