

# Supplementary Materials: Folic Acid-Functionalized Black Phosphorus Quantum Dots for Targeted Chemo-Photothermal Combination Cancer Therapy

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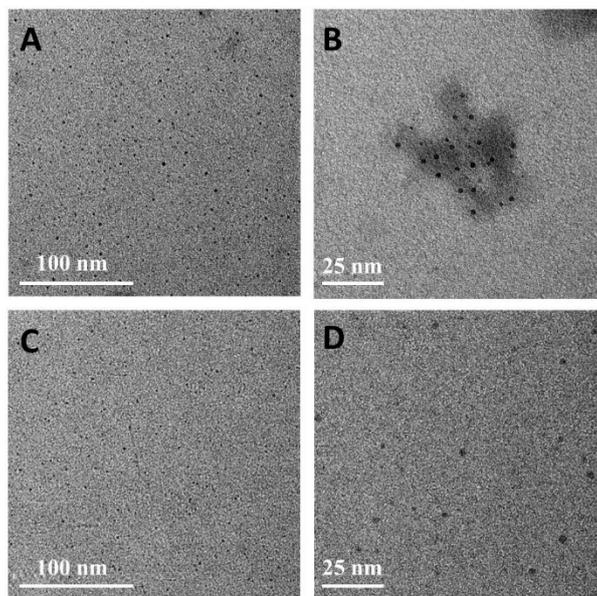


Figure 1. TEM images of (A)-(B) BPQDs and (C)-(D) BPQDs-PEG-FA.

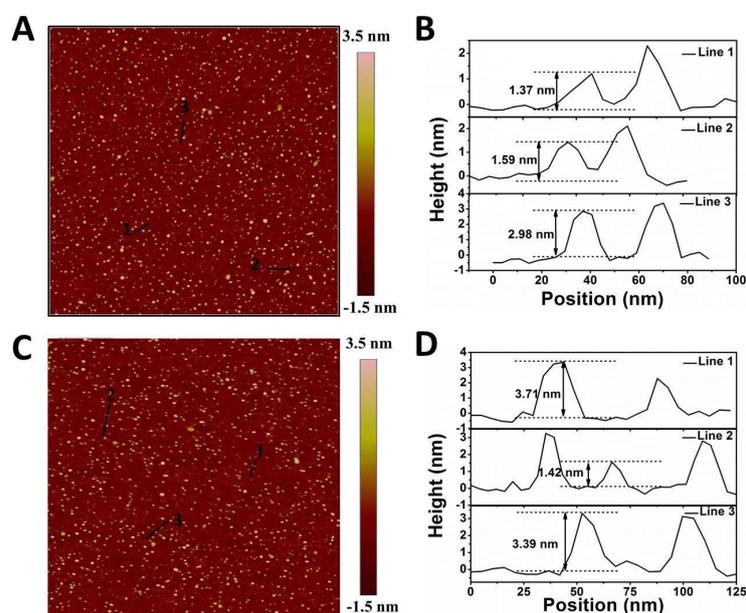
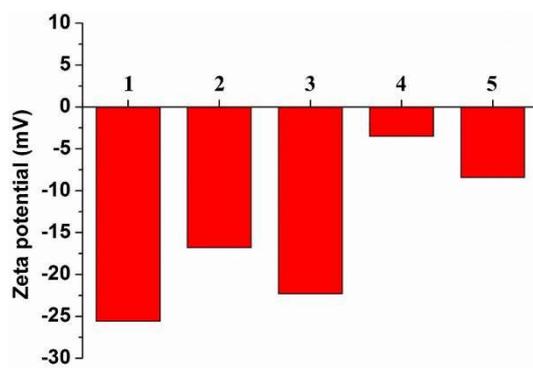
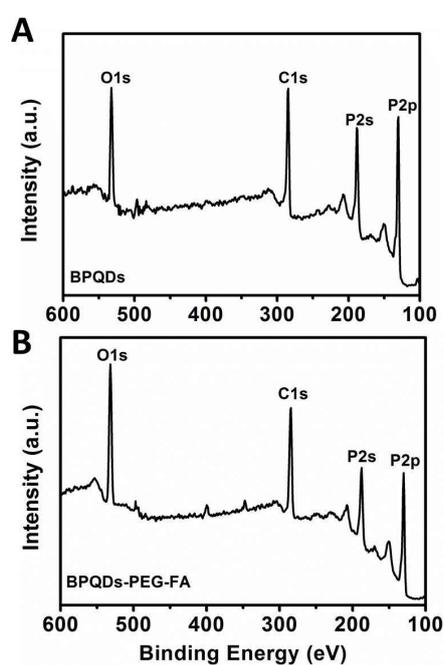


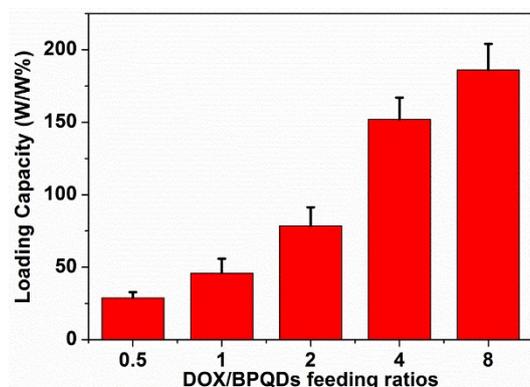
Figure 2. (A) AFM image of BPQDs. (B) Height profiles along the white lines in A. (C) AFM image of BPQDs-PEG-FA. (D) Height profiles along the white lines in C.



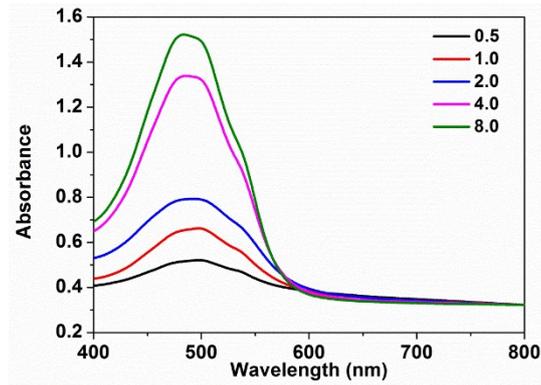
**Figure 3.** Zeta potentials of BPQDs-based NPs. 1, 2, 3, 4 and 5 represent BPQDs, BPQDs-PEG, BPQDs-PEG-FA, BPQDs-PEG/DOX and BPQDs-PEG-FA/DOX, respectively.



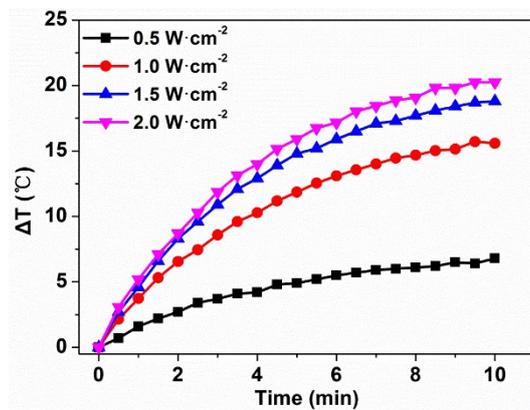
**Figure 4.** XPS spectrum of (A) BPQDs and (B) BPQDs-PEG-FA.



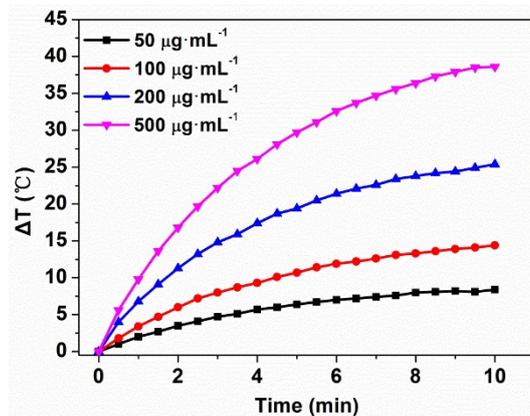
**Figure 5.** DOX loading capacities on BPQDs-PEG-FA (w/w %) with increasing DOX/NPs feeding ratios.



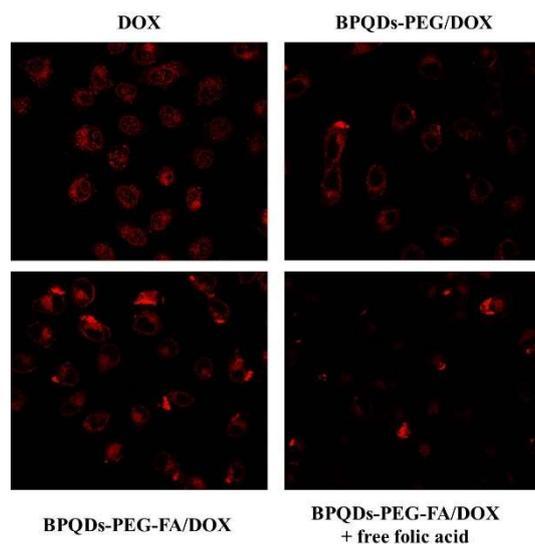
**Figure 6.** UV-vis-NIR spectra of BPQDs-PEG-FA /DOX at different DOX/NPs feeding ratios after the removal of excess free DOX.



**Figure 7.** Photothermal heating curves of BPQDs-PEG-FA/DOX under different power intensities.



**Figure 8.** Temperature variation curves of the BPQDs solution under different concentrations ( $1 \text{ W cm}^{-2}$ , 10 min).



**Figure 9.** Confocal images of HeLa cells incubated with free DOX, BPQDs-PEG/DOX, BPQDs-PEG-FA/DOX and BPQDs-PEG-FA/DOX + free folic acid after incubation for 0.5 h.



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