

Supplementary information for:

Graphitic Carbon Nitride Nanosheet as a Multifunctional Nanoplatfom for Photochemical Internalization-Enhanced Photodynamic Therapy

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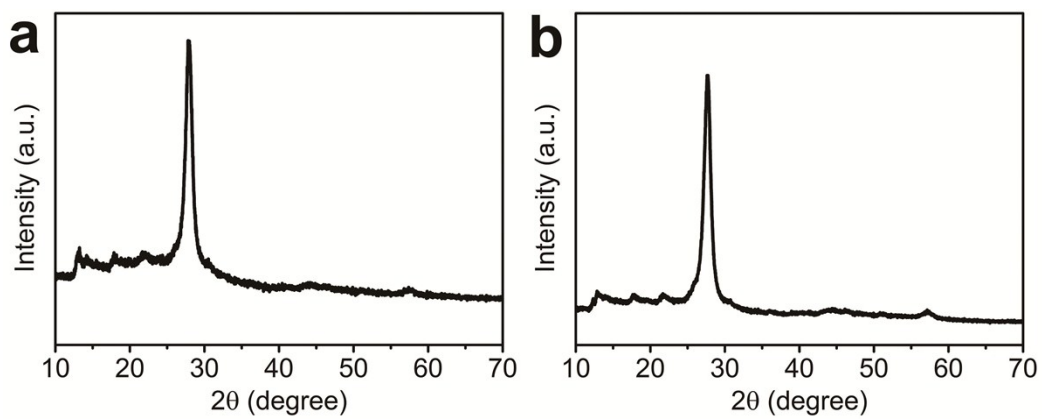


Figure S1. XRD patterns of bulk g-C₃N₄ (a) and GCNS (b).

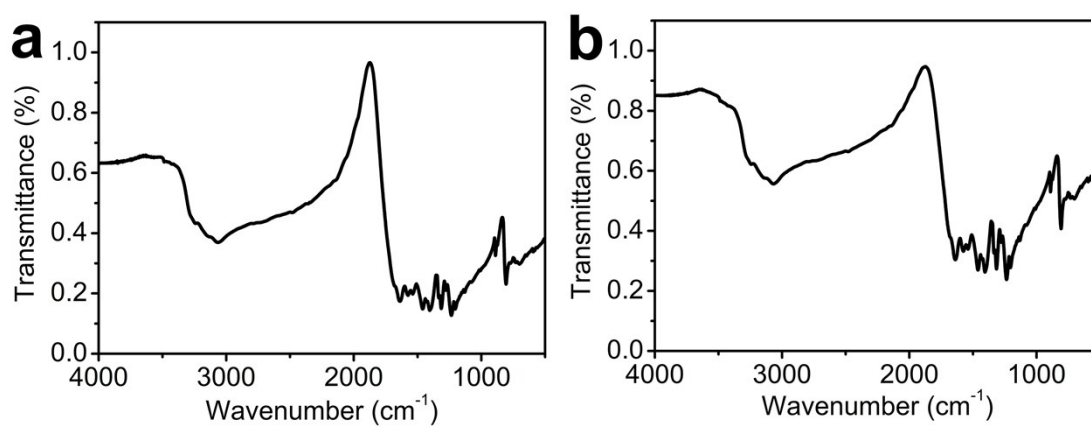


Figure S2. FTIR spectra of bulk g-C₃N₄ (a) and GCNS (b).

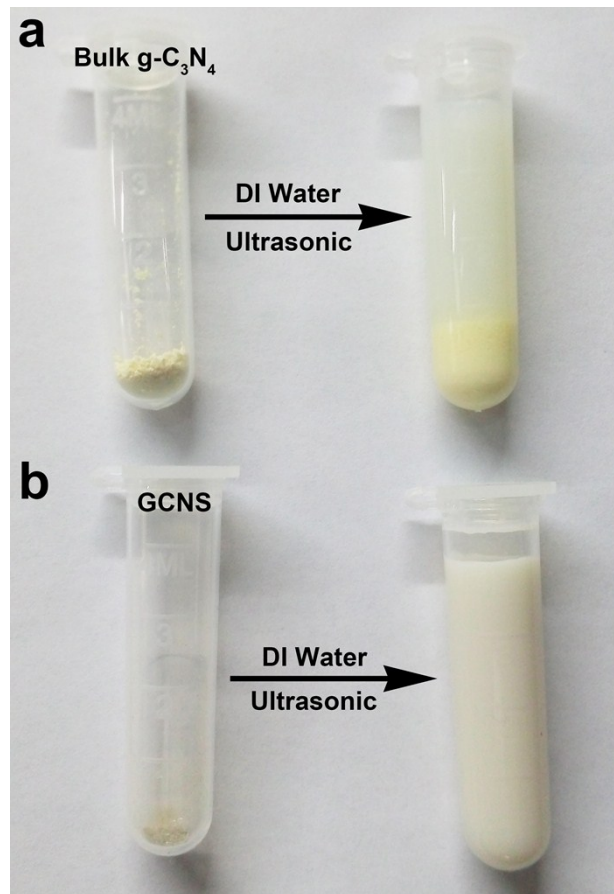


Figure S3. Water dispersivity of bulk g-C₃N₄ (a) and GCNS (b).

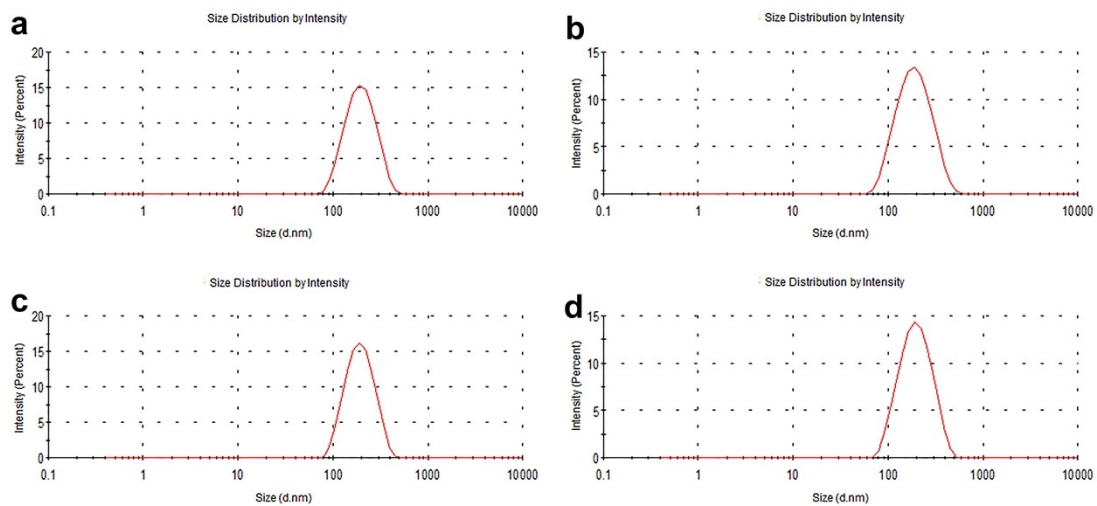


Figure S4. Dynamic light scattering data of GCNS (a), GCNS-PES (b), GCNS-PES (after 4 h incubation in PBS) and GCNS-PES (after 24 h incubation in PBS) measured in DI water. The hydrodynamic diameters of a, b, c and d were 167 nm, 170 nm, 172

nm and 169 nm, respectively; the polydispersity indexes (PDI) of a, b, c and d were 0.183, 0.171, 0.152 and 0.182, respectively.

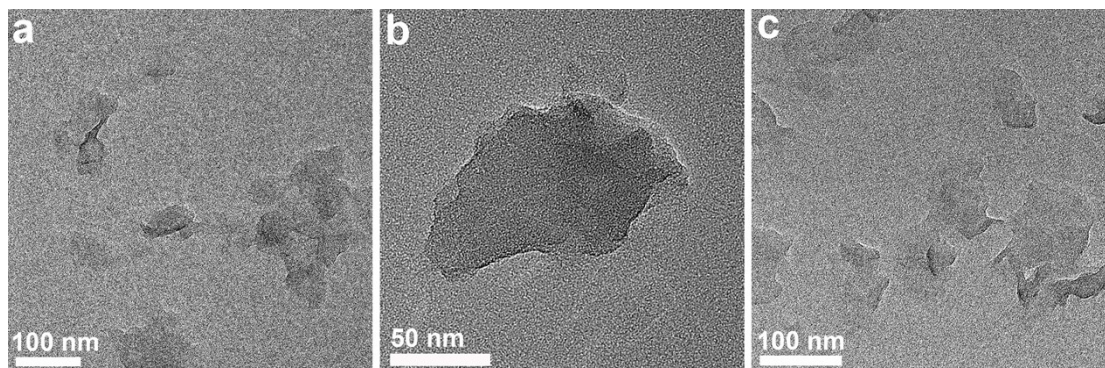


Figure S5. TEM images of GCNS-PES (a), GCNS-PES (b) after 4 h incubation in PBS and GCNS-PES(c) after 24 h incubation in PBS.

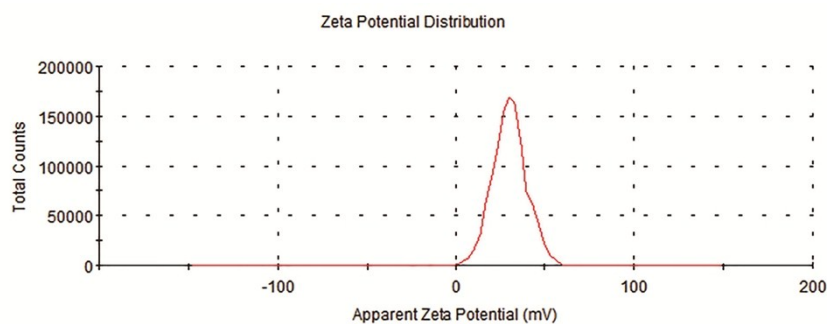


Figure S6. Zeta potential of GCNS measured in DI water.

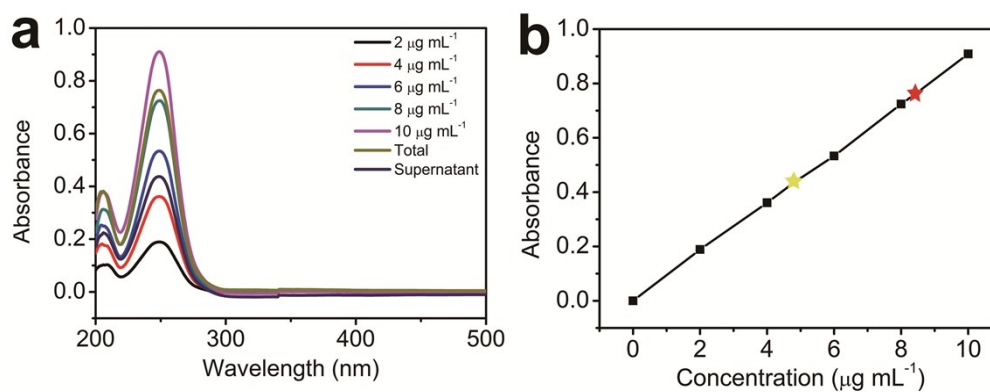


Figure S7. The loading amount of PES on GCNS was determined by UV-Vis spectra.

(a) Absorption spectra of PES with different concentrations from 2 $\mu\text{g mL}^{-1}$ to 10 $\mu\text{g mL}^{-1}$ in PBS (pH 7.4). (b) The absorbance at 249 nm as a function of PES concentration. The total amount of PES and the PES amount in the supernatant after loading were diluted properly and evaluated based on the spectrum.

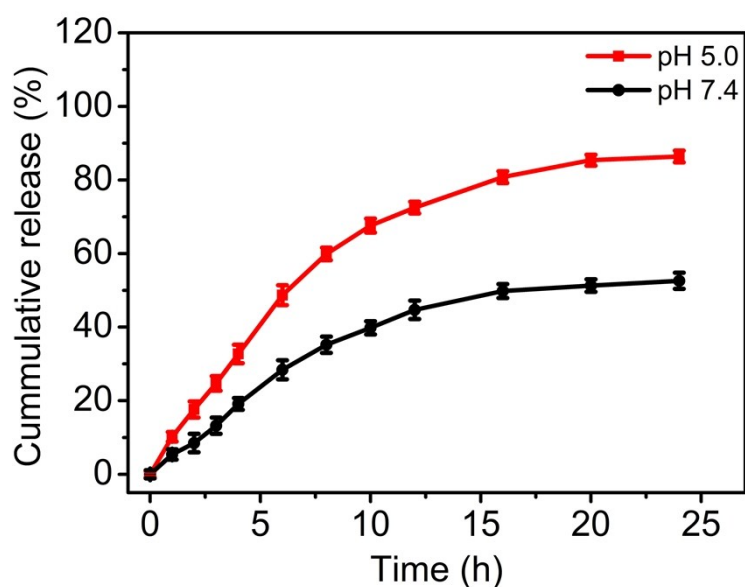


Figure S8. Cumulative release of PES from GCNS-PES in PBS solution at pH 7.4 or 5.0.

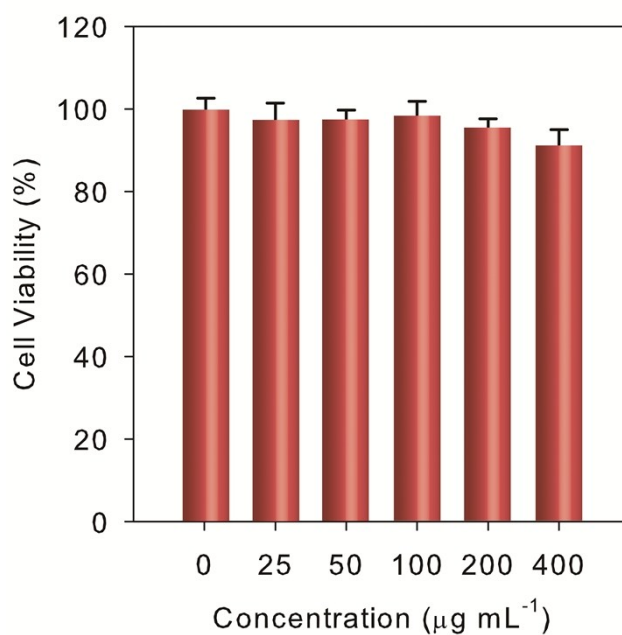


Figure S9. Cell viability of HeLa cells after incubating with different concentrations of

GCNS for 24 h. Error bars indicate standard deviation (n = 3).

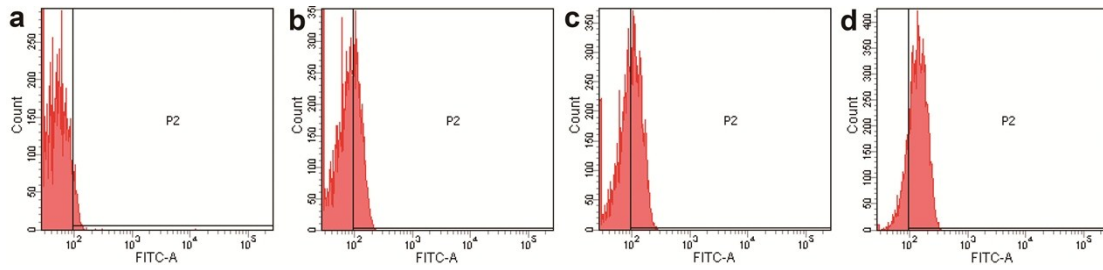


Figure S10. Flow cytometry analysis of visible light induced ROS generation after HeLa cells incubating with (a) $0 \mu\text{g mL}^{-1}$, (b) $10 \mu\text{g mL}^{-1}$, (c) $20 \mu\text{g mL}^{-1}$ and (d) $50 \mu\text{g mL}^{-1}$ of GCNS.

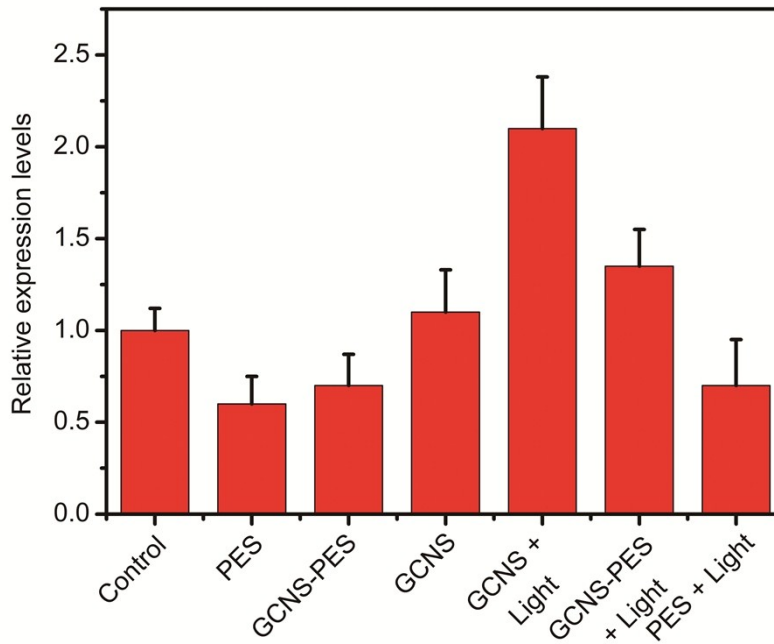


Figure S11. The expression of HSP70 quantified by normalization to β -actin. Error bars indicate standard deviation (n = 3).