Supplementary Information

Degradable Hollow Mesoporous Silicon/Carbon Nanoparticles for Photoacoustic Imaging-Guided Highly Effective Chemo-Thermal Tumor Therapy *in Vitro* and *in Vivo*

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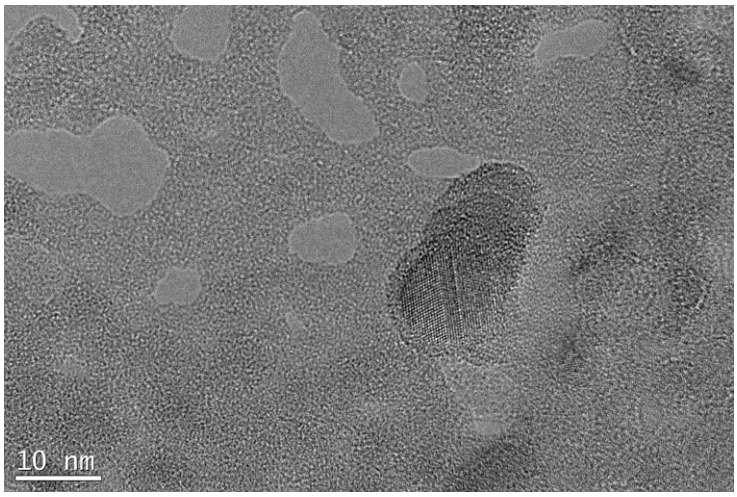

Figure S1. HRTEM image of the carbon shell which show pores with the size of 5~15 nm.

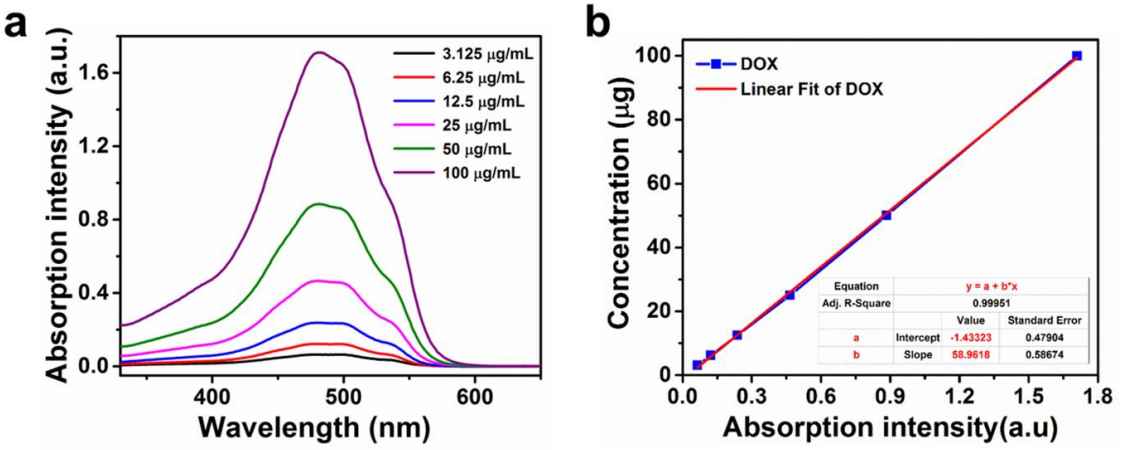

Figure S2. a) Standard absorbance curve of DOX; b) The absorbance of DOX molecule at 480 nm as a function of DOX concentration.

Si/C NPs / DOX Ratio (w /w)	Drug loading content (%)	Drug encapsulation efficiency (%)
5:2	11.6 %	33 %
5:4	31.1 %	56.5 %
5:8	34.2 %	32.5 %
5:12	41.6 %	27.3 %

Table S1. Optimizing the drug loading content and drug encapsulation efficiency by varying weight ratios between the Si/C NPs and DOX.

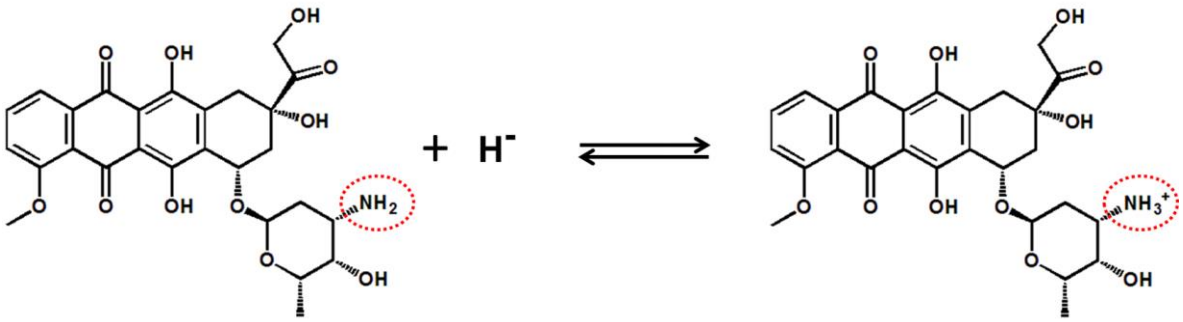

Figure S3. Protonation of amine groups on DOX molecule at lower pH (5.0 and 6.2).

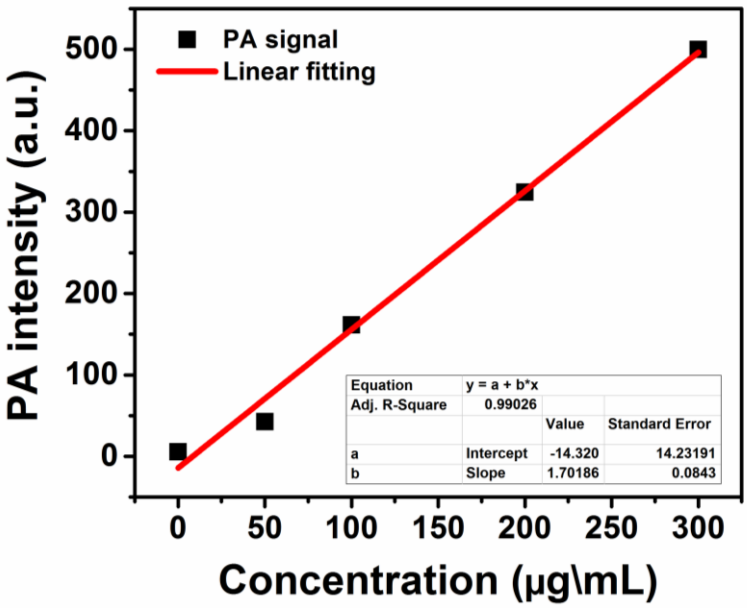

Figure S4. The linear relationship between PA signal and concentration of PEG- Si/C -DOX NPs (0, 50, 100, 200, 300, 500 μg/mL, 800 nm laser).