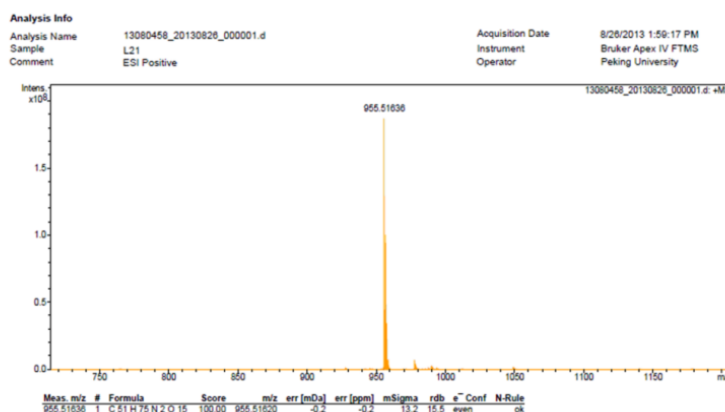


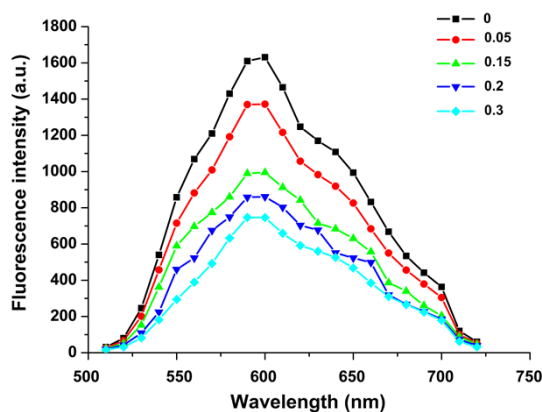
## SUPPORTING INFORMATION

### Self-Assembling Doxorubicin-Prodrug nanoparticles as siRNA Drug Delivery System for Cancer Treatment: *in vitro* and *in vivo*

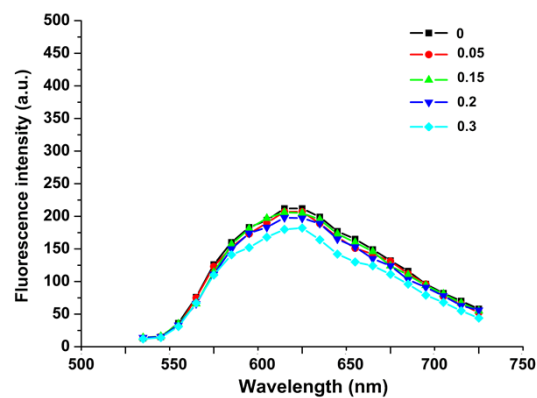
Hongmei Liu,<sup>ab</sup> Chenmeng Qiao,<sup>c</sup> Jun Yang,<sup>a</sup> Jie Weng <sup>\*c</sup> and Xin Zhang<sup>\*a</sup>



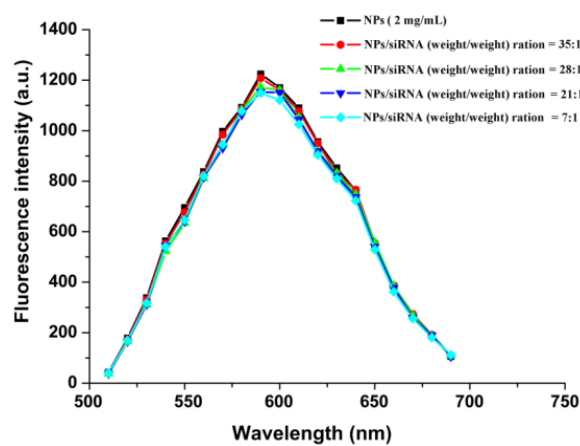
**Fig. S1** High resolution mass spectroscopy to determine the exact mass and the corresponding molecular formula of the C18-N-DOX.



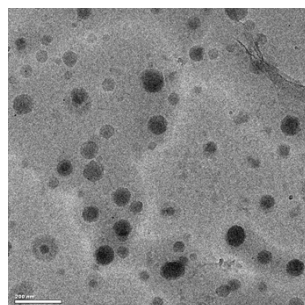
**Fig. S2** The fluorescence spectra of the DOX solution (water: DMSO = 8:2) (1.5  $\mu$ M) with the increasing molar ratios of siRNA (from top to bottom: 0, 0.05, 0.15, 0.2 and 0.3 nmol).



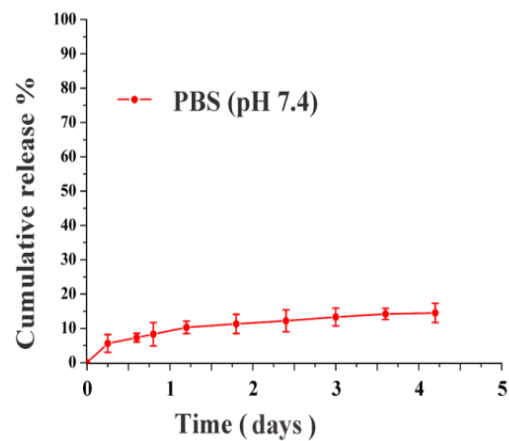
**Fig. S3** The fluorescence spectra of the DOX-prodrug solution (water:DMSO = 8:2) (1.5 μM) with the increasing molar ratios of siRNA (from top to bottom: 0, 0.05, 0.15, 0.2 and 0.3 nmol).



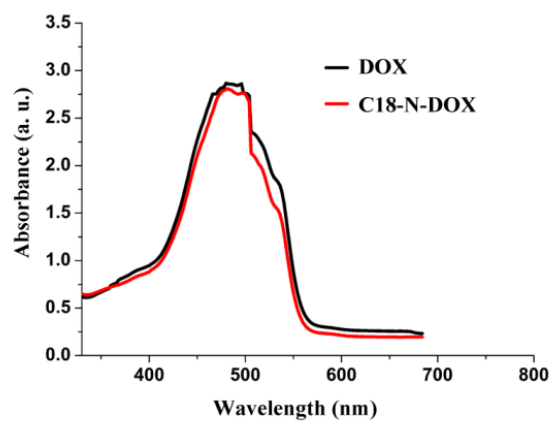
**Fig. S4** The fluorescence spectra of the DOX-prodrug NPs solution (2 mg mL<sup>-1</sup>) with the increasing molar of siRNA.



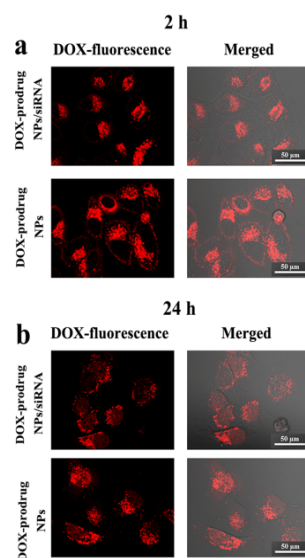
**Fig. S5** The Cryo-TEM images of DOX-prodrug NPs.



**Fig. S6** Release profiles of DOX from DOX-prodrug NPs (n = 3)



**Fig. S7** The UV-visible absorbance spectra of DOX and C18-N-DOX.



**Fig. S8** a) CLSM images of *HeLa* cells show the cellular uptake of DOX-prodrug NPs and DOX-prodrug NPs/siRNA (at equivalent DOX concentration of  $2 \mu\text{g mL}^{-1}$ ) for 2 h. b) DOX-released from DOX-prodrug NPs and DOX-prodrug NPs/siRNA (at equivalent DOX concentration of  $2 \mu\text{g mL}^{-1}$ ) for 24 h as measured using CLSM.