

Supporting information

Mn-porphyrin Conjugated Au Nanoshells Encapsulating Doxorubicin for Potential Magnetic Resonance Imaging and Light Triggered Synergistic Therapy of Cancer

Lijia Jing^{1,2}, Xiaolong Liang¹, Xiaoda Li², Li Lin², Yongbo Yang², Xueli Yue², Zhifei

Dai^{2}*

1. Department of Biomedical Engineering, College of Engineering, Peking University,
Beijing 100871, China.

2. School of Life Science and Technology. Harbin Institute of Technology, Harbin
150080, China.

[*] Prof. Zhifei Dai Corresponding-Author
E-mail: zhifei.dai@pku.edu.cn
Homepage: <http://bme.pku.edu.cn/~daizhifei>

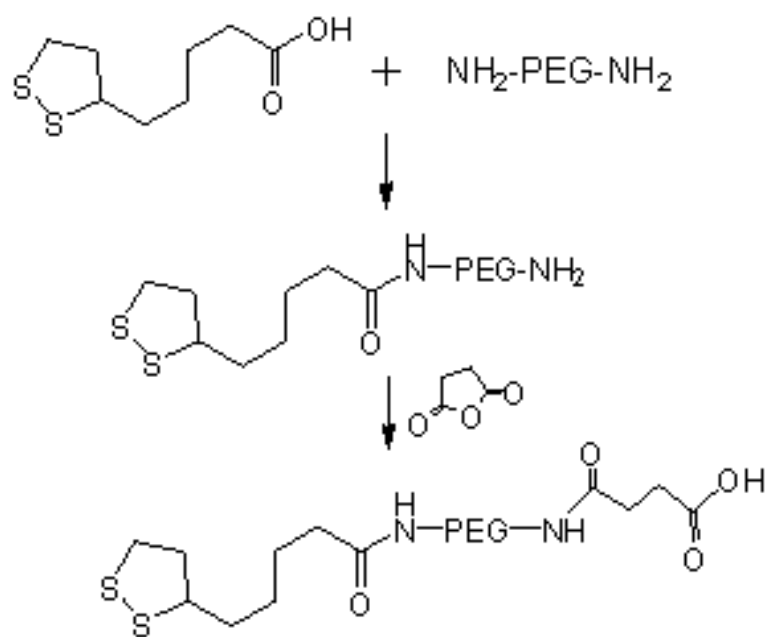


Figure S1. Illustration of reaction scheme for the synthesis of monosuccinamide-polyethylene glycol-thiooctamide.

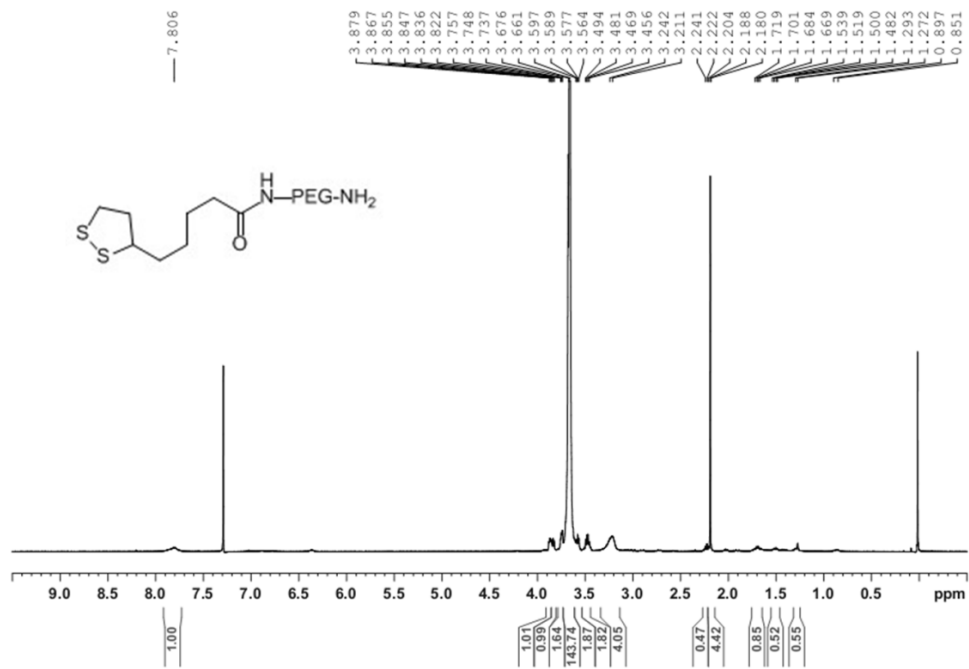


Figure S2. ¹H NMR spectra of amino-polyethylene glycol-thiooctamide in DMSO-*d*₆.

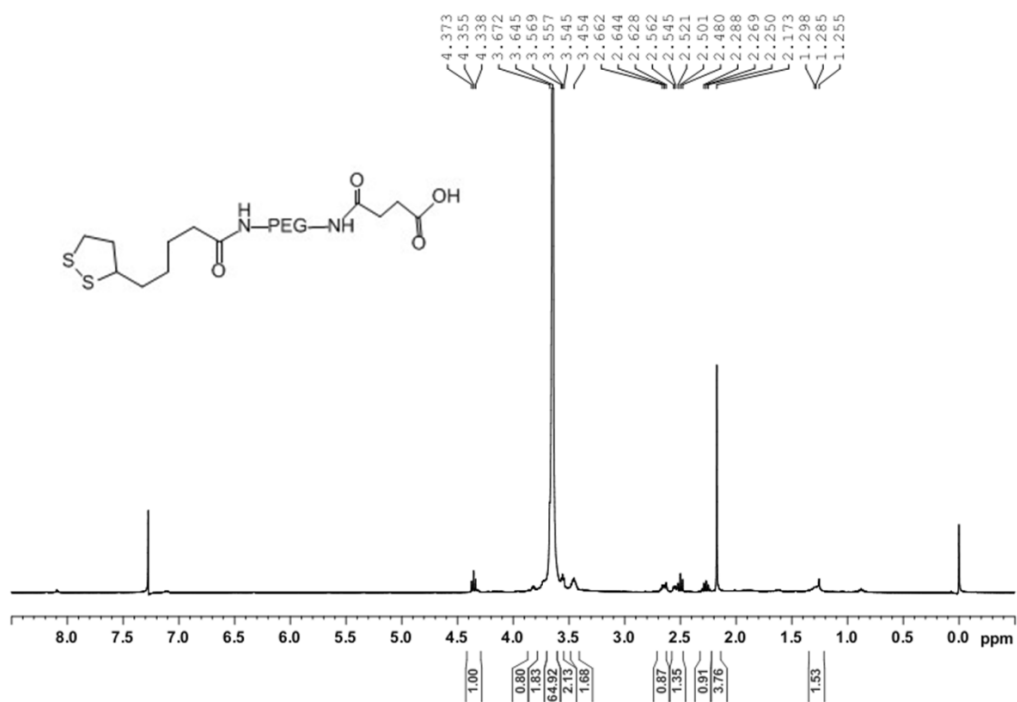


Figure S3. ¹H NMR spectra of monosuccinamide-polyethylene glycol-thioctamide in DMSO-*d*₆

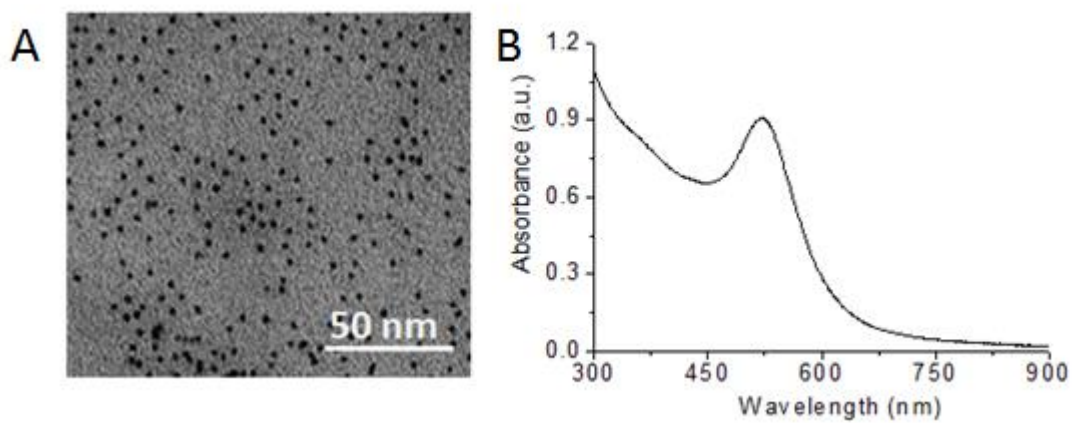


Figure S4. TEM image (A) and UV-vis spectra (B) of Au NPs.

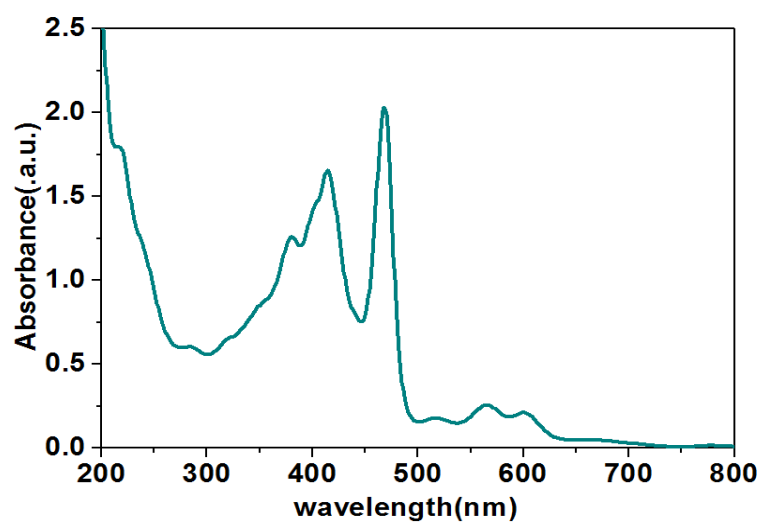


Figure S5. UV-vis spectra of MnP.

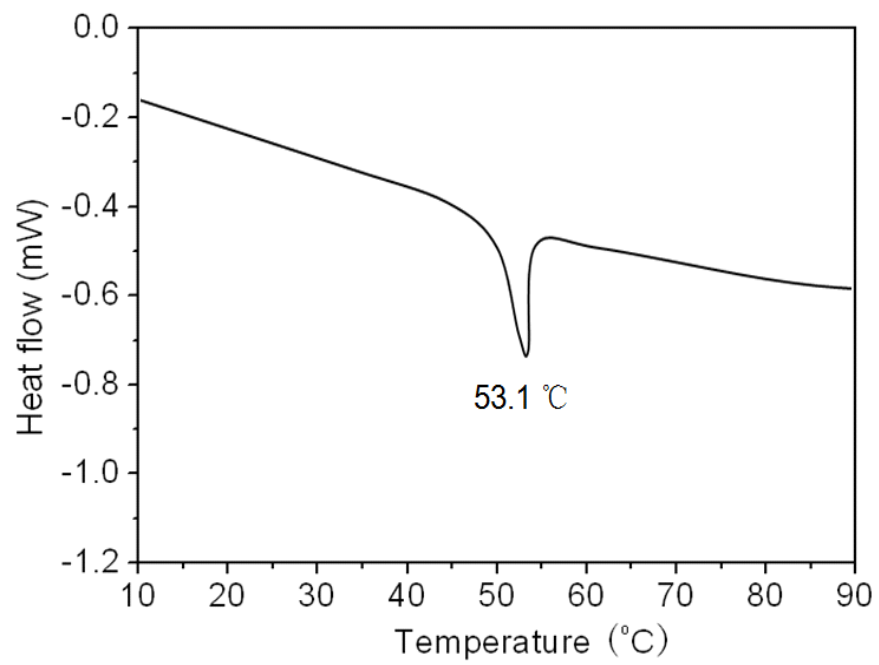


Figure S6. DSC of DOX-loaded PLA nanoparticles (DOX@PLA NPs)

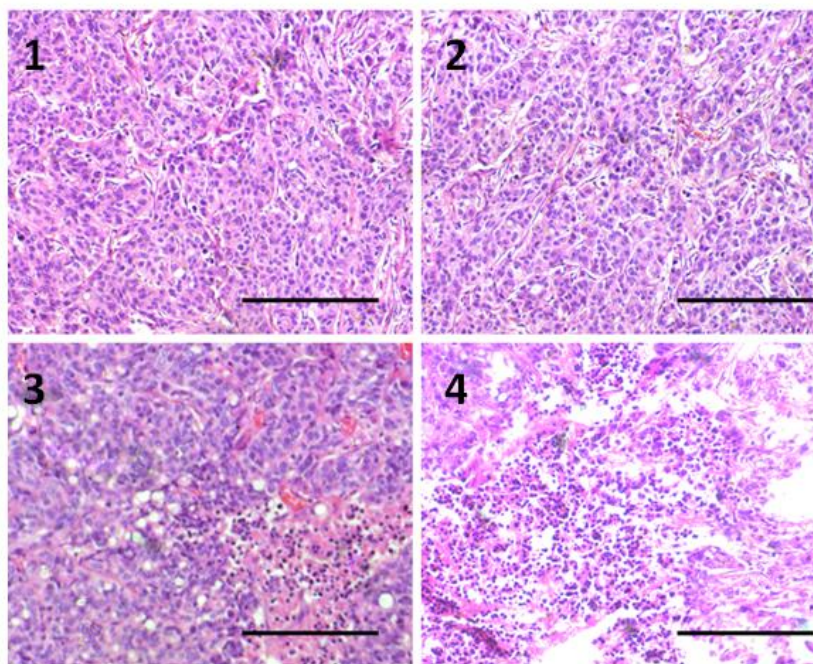


Figure S7. Histological section of tumors stained with hematoxylin and eosin after 3 day with different treatments (including PBS (1), free DOX (2), PLA@Au-PEG-MnP NPs + laser (3) and DOX@PLA@Au-PEG-MnP NPs + laser (4)). Scale bar: 50 μ m.

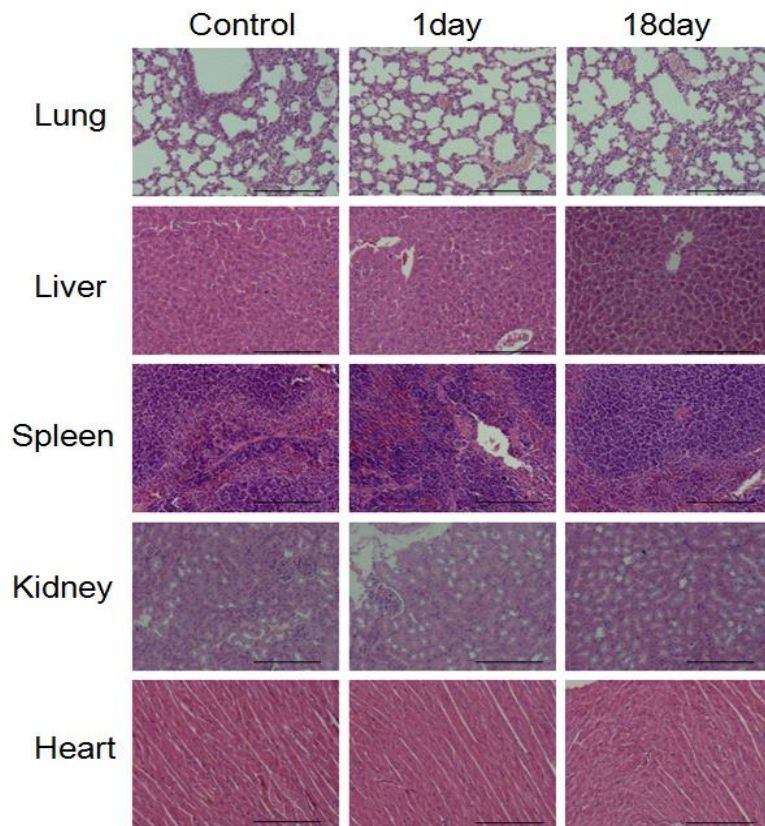


Figure S8. Histological section of vital organs (heart, liver, spleen, lung and kidneys) stained with hematoxylin and eosin at 1 day and 18 day after therapy, untreated group was used as control. **Scale bar: 50 μ m**

Table S1. Hydrodynamic dynamic diameters of the various intermediate and final NPs

Nanoparticles	Hydrodynamic dynamic diameters (nm)
Au nanoparticles	3~
DOX@PLA NPs	98.6 ± 8.5
Au NPs attached DOX@PLA NPs	99.3 ± 9.9
DOX@PLA@Au NPs	114.7 ± 6.8
DOX@PLA@Au-PEG-MnP NPs	123.6 ± 9.4