Chitosan coated gold nanorod chelating gadolinum for MRI-visible photothermal therapy of cancer

Chunyang Zhang^a, Fang Zhang^b, Wei Wang^c, Jie Liu^a, Ming Xu^c, Dan Wu^a, Xintao Shuai^a, Jun Shen^{*b}, Zhong Cao^{*a}

^aDepartment of Biomedical Engineering, School of Engineering, Sun Yat-sen University, Guangzhou, Guangdong 510006, China.

^bDepartment of Radiology, Sun Yat-sen Memorial Hospital, Sun Yat-sen University, Guangzhou 510120, China.

^cDepartment of Medical Ultrasonics, Institute of Diagnostic and Interventional Ultrasound, The First Affiliated Hospital of Sun Yat-sen University, Guangzhou, Guangdong 510080, China

*E-mail: shenjun@mail.sysu.edu.cn

*E-mail: caozhong@mail.sysu.edu.cn



Figure S1. ¹H NMR spectra of (A) chitosan and (B) DTPA-CS in D₂O, Temperature 25°C.



Figure S2. ¹H NMR spectra of PGA-g-mPEG.



Figure S3. Thermogravimetry analysis of Gd-DTPA-CS and GNR/ Gd-DTPA-CS NPs.



Figure S4. The diameter distribution of (A) GNR/Gd-DTPA-CS NPs and (B) *h*-NPs.



Figure S5. Representative photos of (A) saline and (B) *h*-NPs injected mice taken at day 0 before laser irradiation and at day 3, day14 and day 40 after PTT treatment.



Figure S6. H&E stained images of major organs from untreated healthy mice and treated mice with *h*-NPs injection taken 40 days after photothermal therapy (bar = 50μ m).