Electronic Supplementary Information

Cellular uptake behaviour, photothermal therapy performance, and cytotoxicity of gold nanorods with various coatings

Xiao-Ming Zhu,^a Caihong Fang,^b Henglei Jia,^b Yu Huang,^c Christopher H. K. Cheng,^c Chun-Hay Ko,^d Zhiyi Chen,^e Jianfang Wang^{*b} and Yi-Xiang J. Wang^{*a}

^aDepartment of Imaging and Interventional Radiology, Prince of Wales Hospital, The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China. E-mail: yixiang_wang@cuhk.edu.hk ^bDepartment of Physics, The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China. E-mail: jfwang@phy.cuhk.edu.hk ^cSchool of Biomedical Sciences, The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China ^dInstitute of Chinese Medicine, The Chinese University of Hong Kong, Shatin, Hong Kong SAR, China ^eLaboratory of Ultrasound Molecular Imaging, Department of Ultrasound Medicine, The Third Affiliated Hospital of Guangzhou Medical University, Guangzhou 510150, China



Fig. S1 Low-magnification TEM images of the (A) GNR/CTAB, (B) GNR/PSS, (C) GNR/PEG, (D) GNR/mSiO₂, (E) GNR/dSiO₂, and (F) GNR/TiO₂ nanostructure samples, respectively.



Fig. S2 Microscopic images of HepG2 and HT-29 cells after incubation with the different GNR samples at a concentration of 75 μ g Au/mL for 24 h. After incubation, the cells were extensively washed, fixed with paraformaldehyde, and examined on an inverted optical microscope under bright field.



Fig. S3 Normalized extinction spectra of the extracellular and intracellular (A) GNR/mSiO₂, (B) GNR/dSiO₂, and (C) GNR/TiO₂ nanostructures. U-87 MG cells were treated with the coated GNRs at a concentration of 75 μ g Au/mL for 24 h before analysis. The longitudinal-to-transverse plasmon peak intensity ratio of the GNR/mSiO₂ nanostructures was reduced once they were internalized by the cells, whereas negligible changes were observed for the internalized GNR/dSiO₂ or GNR/TiO₂ nanostructures.