

## Supporting Information

Au@Ag/Au nanoparticles assembled with activatable aptamer probes as smart “nano-doctors” for image-guided cancer thermotherapy

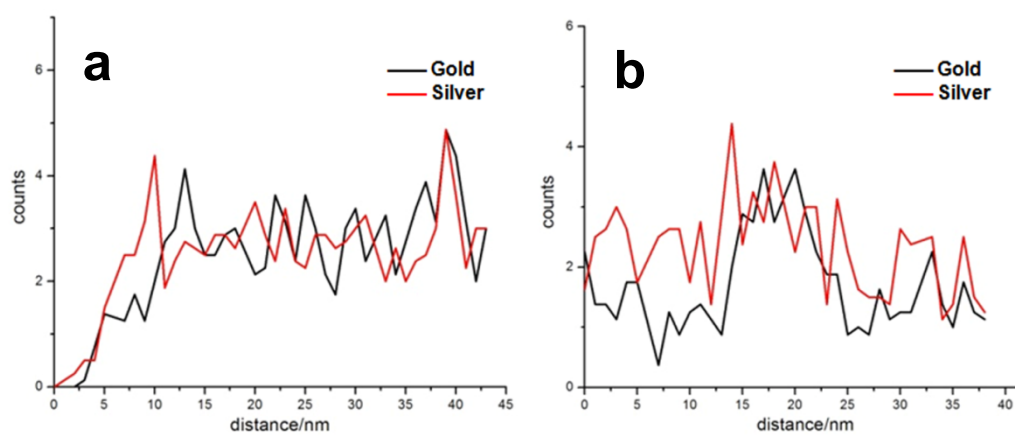
Hui Shi, Xiaosheng Ye,<sup>‡</sup> Xiaoxiao He, Kemin Wang,<sup>\*</sup> Wensi Cui, Dinggeng He, Duo Li, and Xuekun Jia

State Key Laboratory of Chemo/Biosensing and Chemometrics, College of Chemistry and Chemical Engineering, Institute of Biology, Key Laboratory for Bio-Nanotechnology and Molecular Engineering of Hunan Province, Hunan University, Changsha 410082, P. R. China.

**Table S1.** List of the DNA sequences used in the experiments.

Aptamer	Sequence
S6-SH	5'-GTGGCCAGTCACTCAATTGGGTGTAGGGGTGGGGATTGTGGGTTG-(T) <sub>10</sub> -SH-3'
Lib-SH	5'-(NNN) <sub>15</sub> -(T) <sub>10</sub> -SH-3'
S6-BHQ-1	5'-GTGGCCAGTCACTCAATTGGGTGTAGGGGTGGGGATTGTGGGTTG-(T) <sub>10</sub> -BHQ-1-3'
FAM-cDNA1	5'-FAM-AAAACAACCC- 3'
FAM-cDNA2	5'-FAM-AAAACAACCCAC- 3'
FAM-cDNA3	5'-FAM-AAAACAACCCACAA- 3'
FAM-cDNA4	5'-FAM-AAAACAACCCACAATC- 3'
Cy5-cDNA3	5'-Cy5-AAAACAACCCACAA- 3'

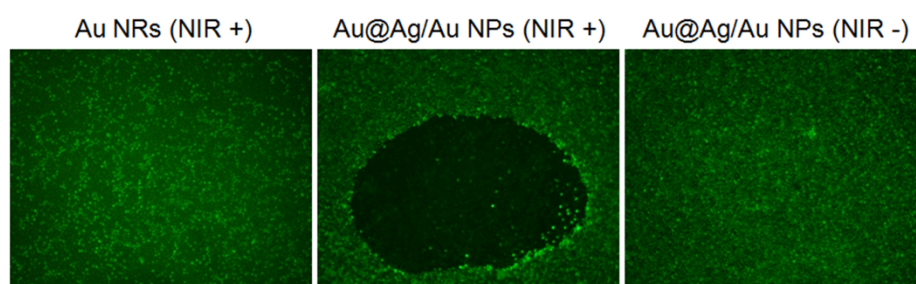
**Figure S1** Cross-sectional compositional profiles of line 1 (a) and line 2 (b) in Figure 2d.



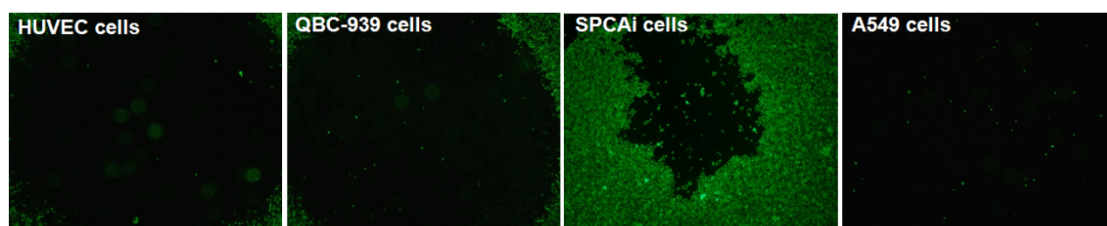
**Figure S2** A549 cancer cells were firstly incubated with different nanoparticles ( $2.2 \times 10^{10}$  particles/mL)

for 6 h and then treated with or without NIR irradiation for 5 min using a 980 nm laser at  $0.84 \text{ W/cm}^2$ .

The cell viability was assessed using the calcein-AM live cell staining method and the green fluorescence indicates living cells.



**Figure S3** Different cells were firstly incubated with S6-Au@Ag/Au NPs for 6 h and then treated with NIR irradiation for 5 min using a 980 nm laser at 0.84 W/cm<sup>2</sup>. The cell viability was assessed using the calcein-AM live cell staining method and the green fluorescence indicates living cells.



**Figure S4** Images of the mouse without injection of the ATNP after NIR irradiation at the tumor site

using a 980 nm laser at 0.84 W/cm<sup>2</sup> for 5 min. (Pink circles indicate the A549 tumor sites.)

