Electronic Supplementary Information

Targeted tumor CT imaging using folic acid-modified PEGylated dendrimer-entrapped gold nanoparticles

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Table S1. The tumor volume and weight in different groups.

Animal group	Tumor volume[a] (mm^3)	Tumor weight (g)
(1)	115	0.16
(2)	201	0.26
(3)	199	0.24
(4)	220	0.30
(5)	228	0.32
(6)	232	0.31

(1) Intravenous injection of [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs into KB-tumor mice;

(2) Intraperitoneal injection of [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs into KB-tumor mice;;

(3) Intravenous injection of [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs into free FA-blocked KB-tumor mice;

(4) Intraperitoneal injection of [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs into free FA-blocked KB-tumor mice;

(5) Intravenous injection of [$(Au^0)_{300}$-G5.NHAc-*m*PEG] DENPs into KB-tumor mice;

(6) Intraperitoneal injection of [$(Au^0)_{300}$-G5.NHAc-*m*PEG] DENPs into KB-tumor mice.

[a] The tumor volume was calculated according to the equation $V=\pi(a\times b\times c)/6$, where V is the tumor volume, a, b, and c are the length, width, and height of the tumor, respectively.

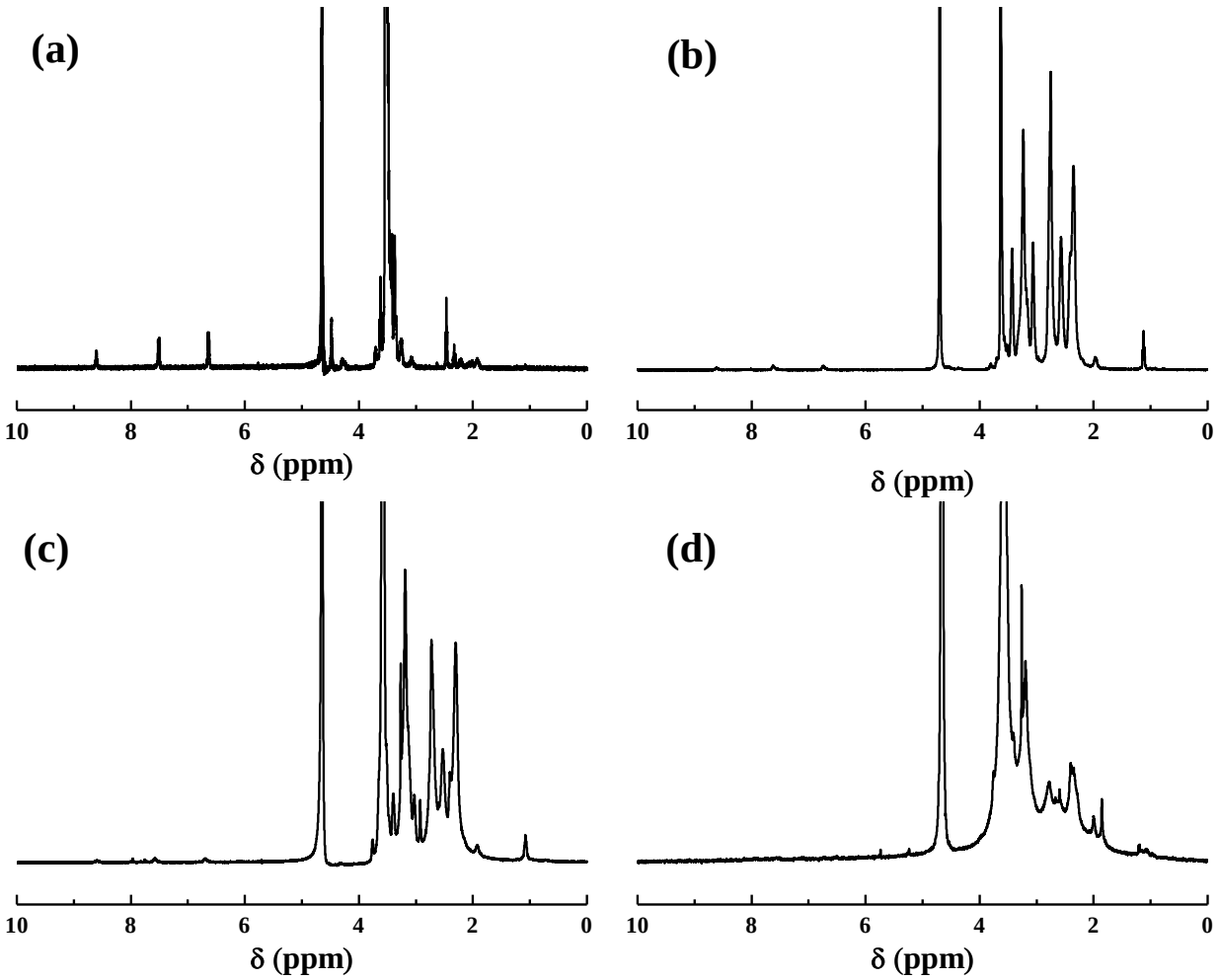

Figure S1. ^{1}H NMR spectra of HOOC-PEG-FA (a), G5.NH_2-(PEG-FA) (b), G5.NH_2-(PEG-FA)-*m*PEG (c), and [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs (d).

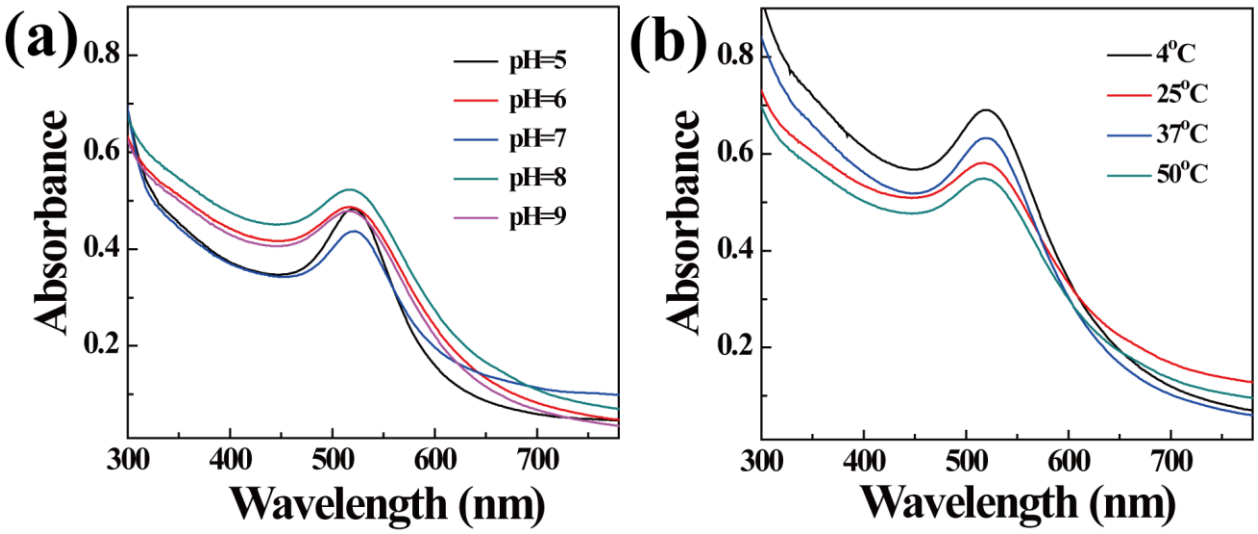

Figure S2. UV-vis spectra of [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs dispersed in phosphate buffer (pH = 5-9) at room temperature (25 ^oC) (a) and in water solution (pH = 7) at different temperatures (4-50 ^oC) (b).

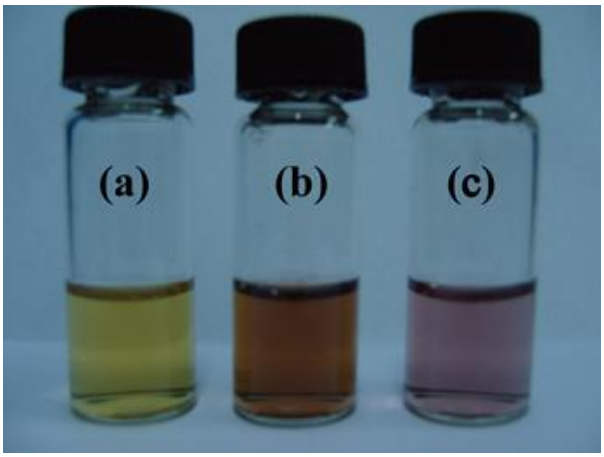

Figure S3. Photos of (a) cell culture medium, (b) [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs dispersed in cell culture medium, and (c) [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs dispersed in PBS buffer.

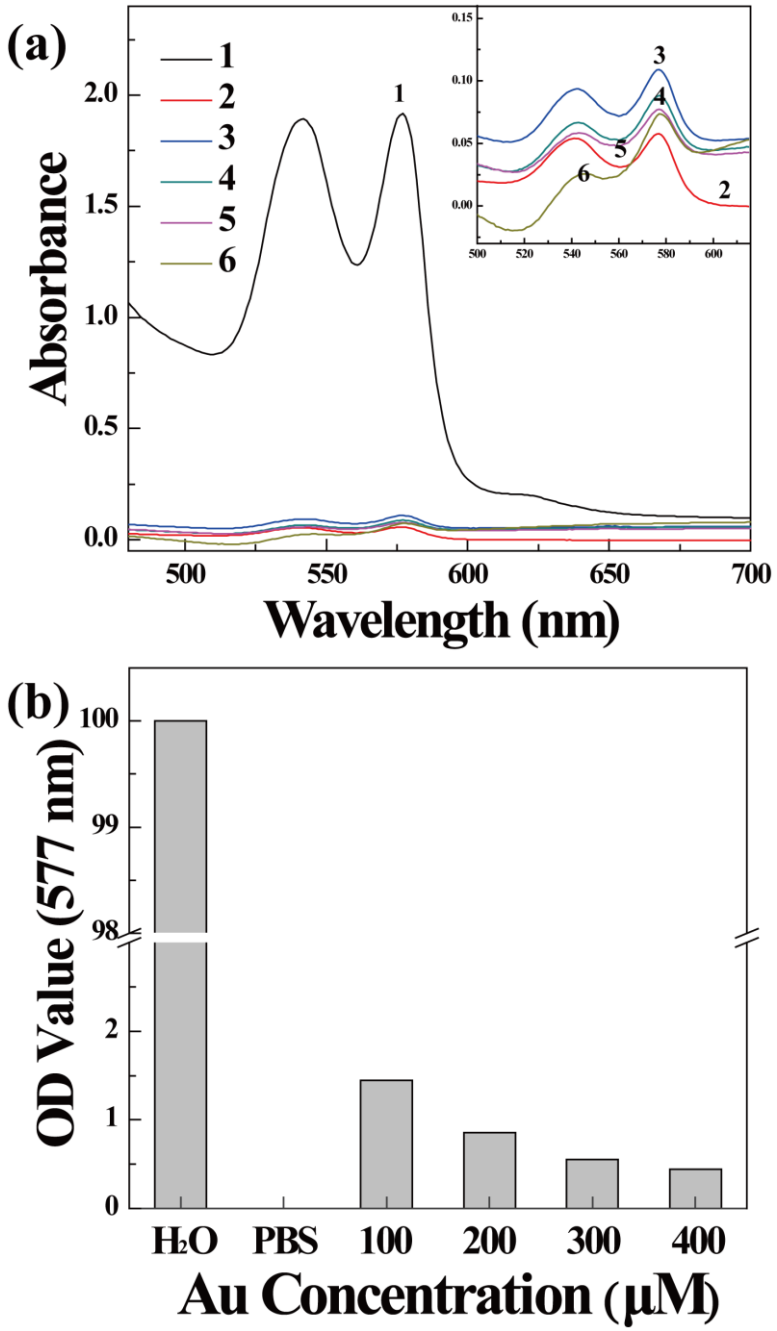

Figure S4. (a) UV-vis spectra of the HRBC suspensions treated with $[(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs at different Au concentrations (100 μM (3), 200 μM (4), 300 μM (5), and 400 μM (6), respectively) and (b) hemolysis percentage of the Au DENPs as a function of the Au concentration. In both (a) and (b), H_2O (1) and PBS (2) were used as positive and negative control, respectively. Inset of (a) shows the enlarged UV-vis spectra of Samples 2-6.

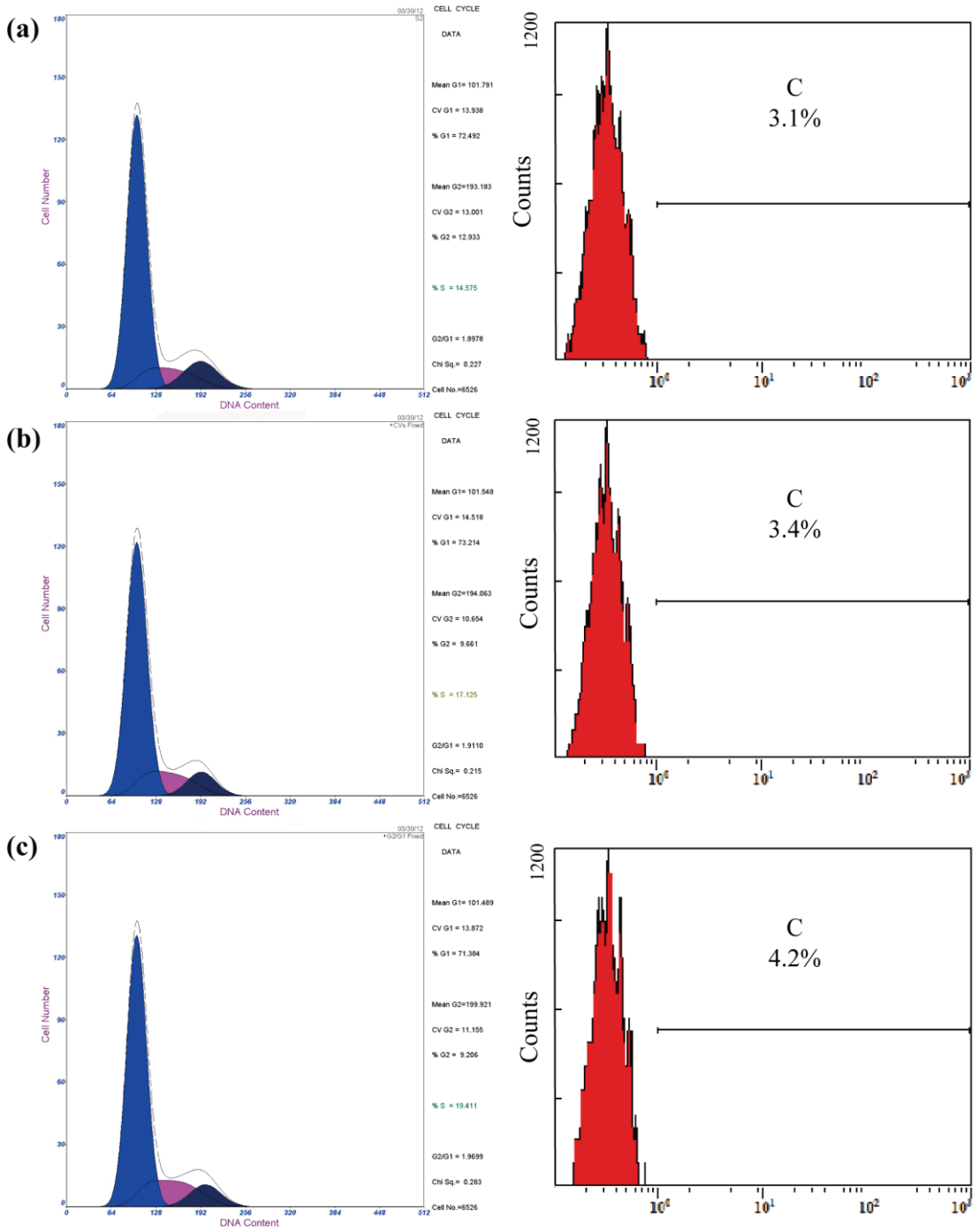

Figure S5. Flow cytometry analysis of KB cells treated without (a) or with [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs at the Au concentration of 100 μM (b) and 300 μM (c), respectively for 24 h (n=4).

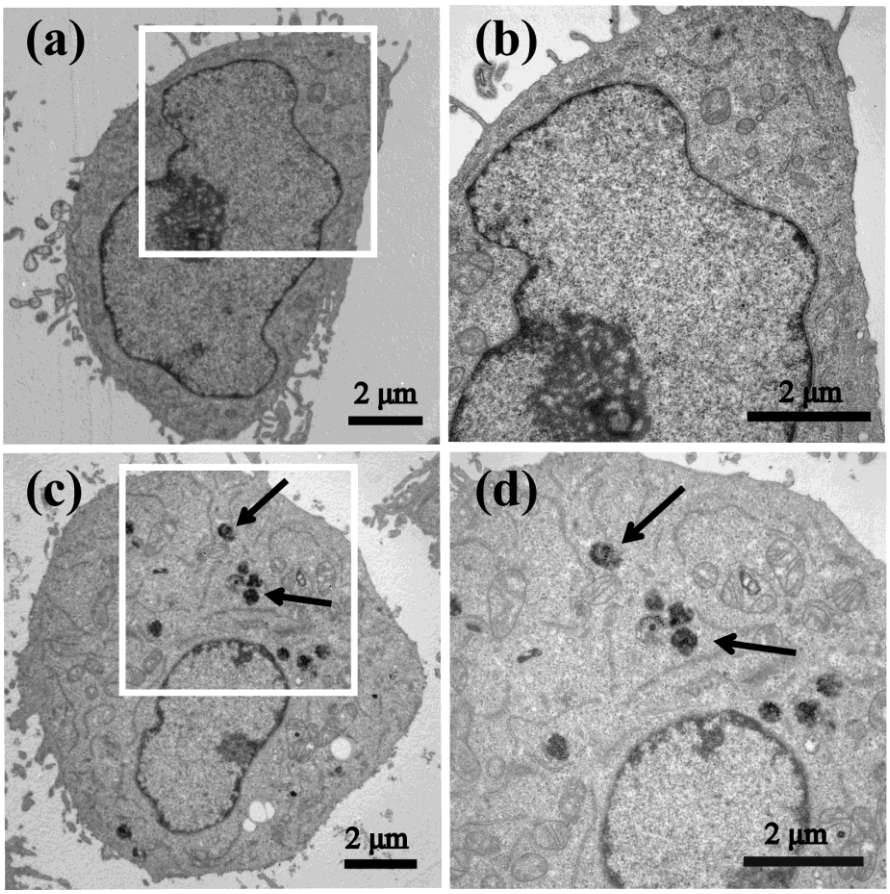

Figure S6. TEM images of negative control KB-HFAR cells without treatment (a, b) and KB-HFAR cells incubated with [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs ([Au] = 200 μM) (c, d). The black arrow in (c) and (d) shows the domain of the Au DENPs.

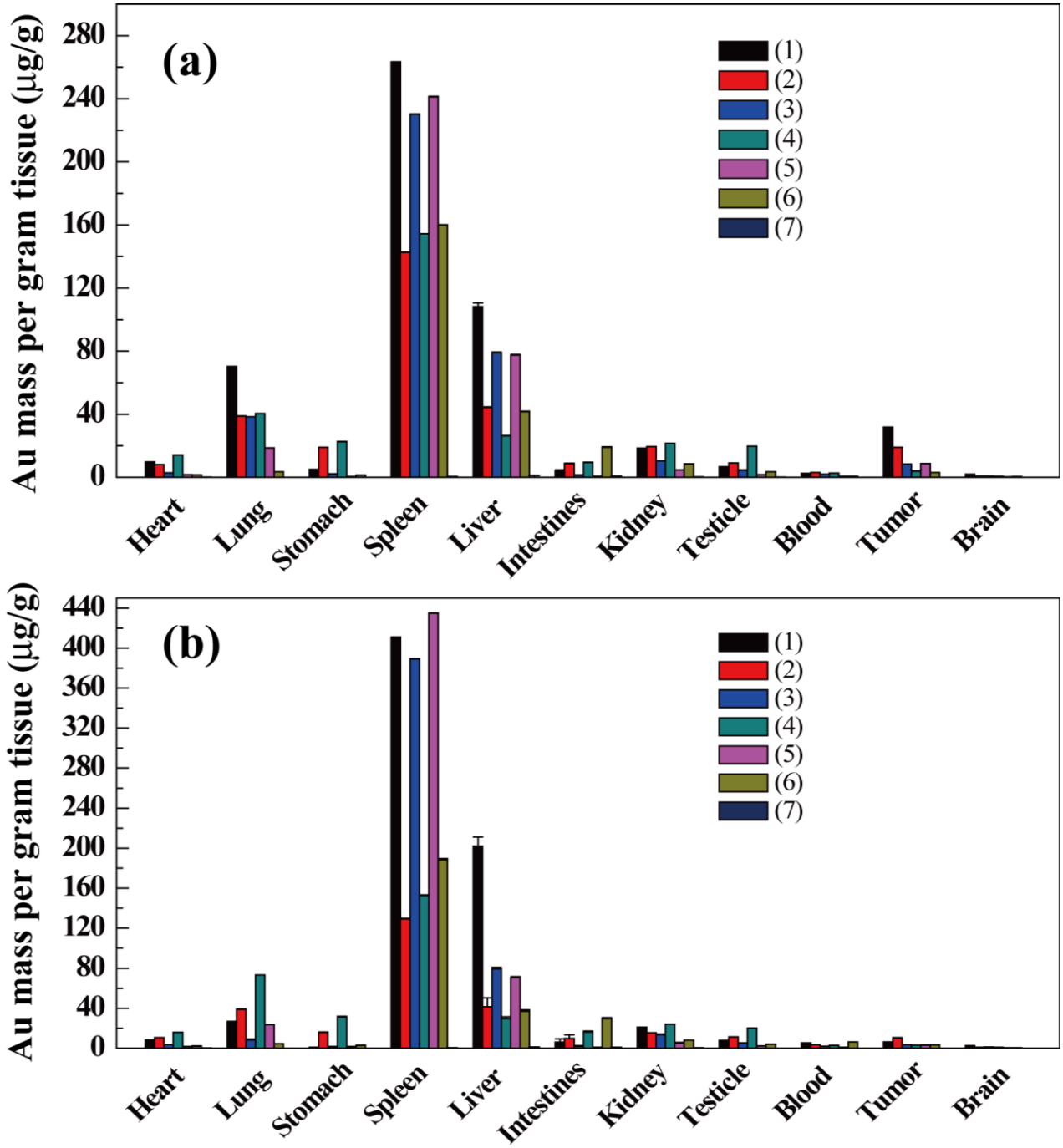

Figure S7. The biodistribution of the KB tumor-bearing nude mice before and after injected with [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs and [$(Au^0)_{300}$-G5.NHAc-*m*PEG] DENPs by different injection routes for 6 h (a) and 24 h (b). (1) Intravenous injection of [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs into KB-tumor mice, (2) Intraperitoneal injection of [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs into KB-tumor mice, (3) Intravenous injection of [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs into free FA-blocked KB-tumor mice, (4) Intraperitoneal injection of [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs into free FA-blocked KB-tumor mice, (5) Intravenous injection of [$(Au^0)_{300}$-G5.NHAc-*m*PEG] DENPs into KB-tumor mice, (6) Intraperitoneal injection of [$(Au^0)_{300}$-G5.NHAc-*m*PEG] DENPs into KB-tumor mice, and (7) the control mice without injection.

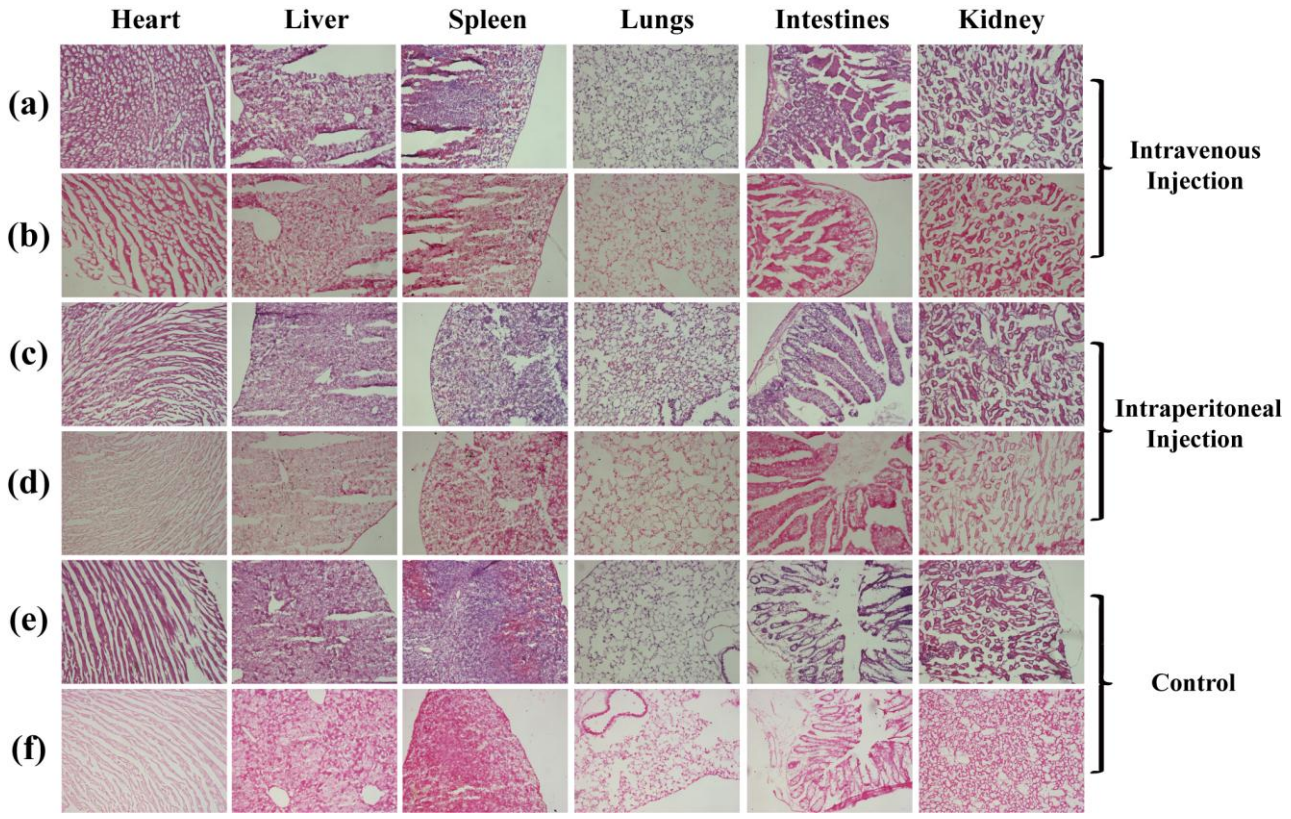

Figure S8. HE staining (a, c, and e) and silver staining (b, d, and f) of main organs in nude mice before (e and f) and after injected with [$(Au^0)_{300}$-G5.NHAc-(PEG-FA)-*m*PEG] DENPs (a, b, c, and d) by different injection routes for one month.