Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting Information

A Versatile and Low-Toxic Material for Photothermal Therapy in Deeper Tissues

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2. Supplementary Figures

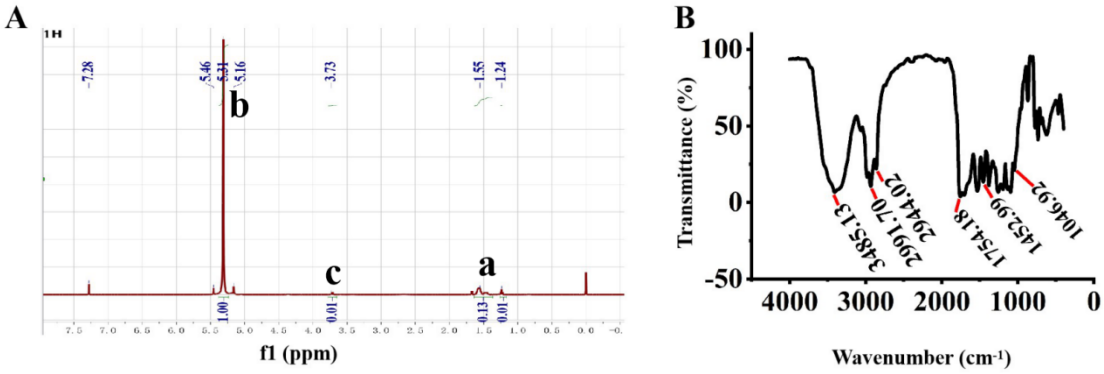

Fig. S1. A. ^{1}HNMR spectrum of PDLLA; **B.** FTIR spectrum of PDLLA.

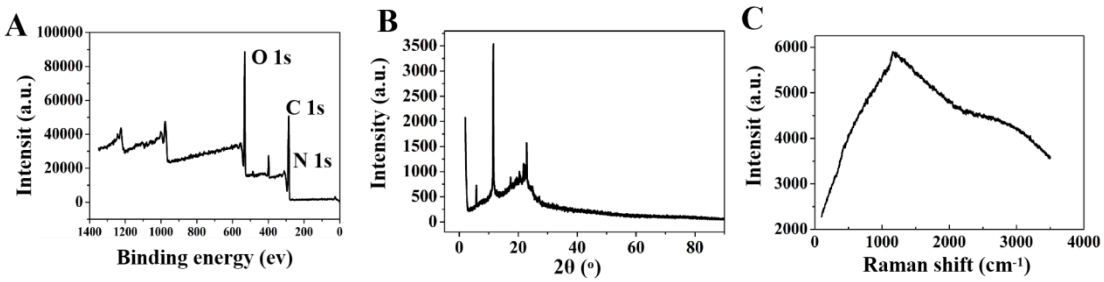

Fig. S2. A. XPS spectrum of TPUU; **B.** XRD analysis of TPUU; **C.** Raman spectrum of TPUU.

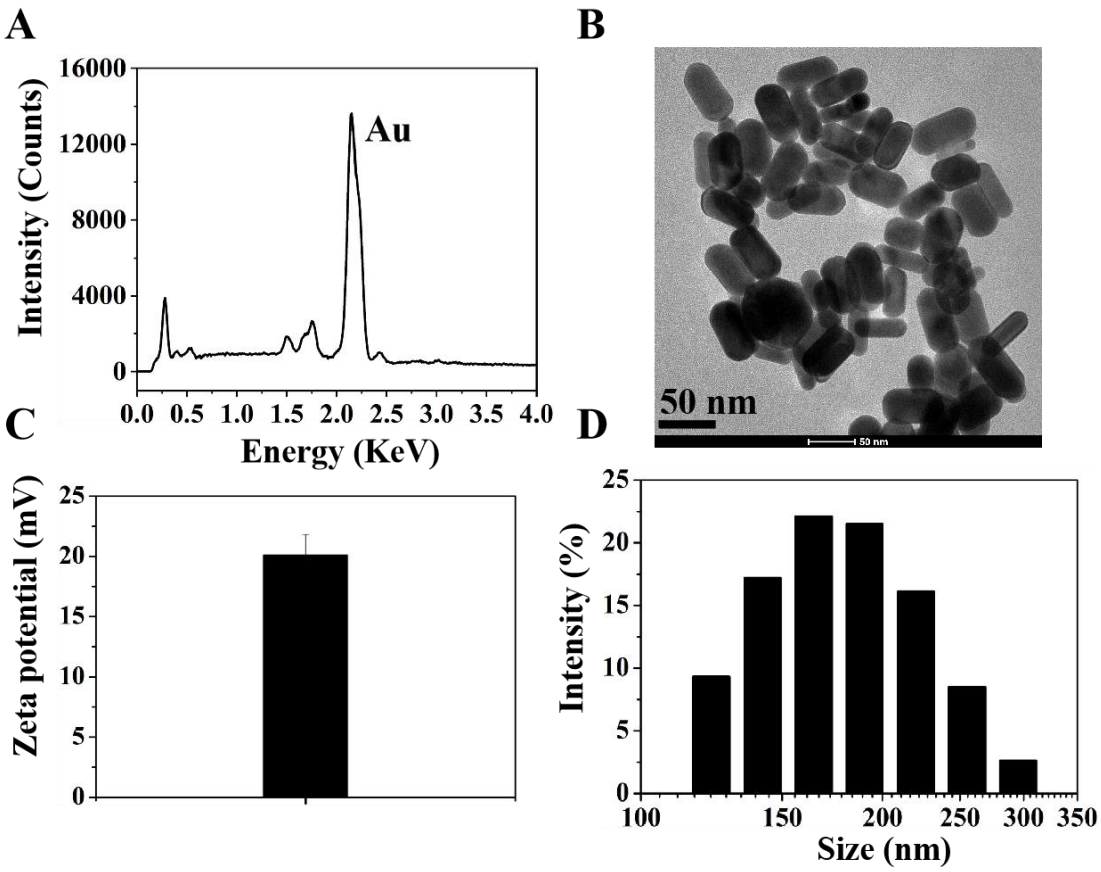

Fig. S3. A. EDS spectrum analysis of Au-Ns; **B.** TEM images of Au-Ns (Scale bar = 50 nm); **C.** Zeta potential of Au-Ns. D. Particle size of Au-Ns.

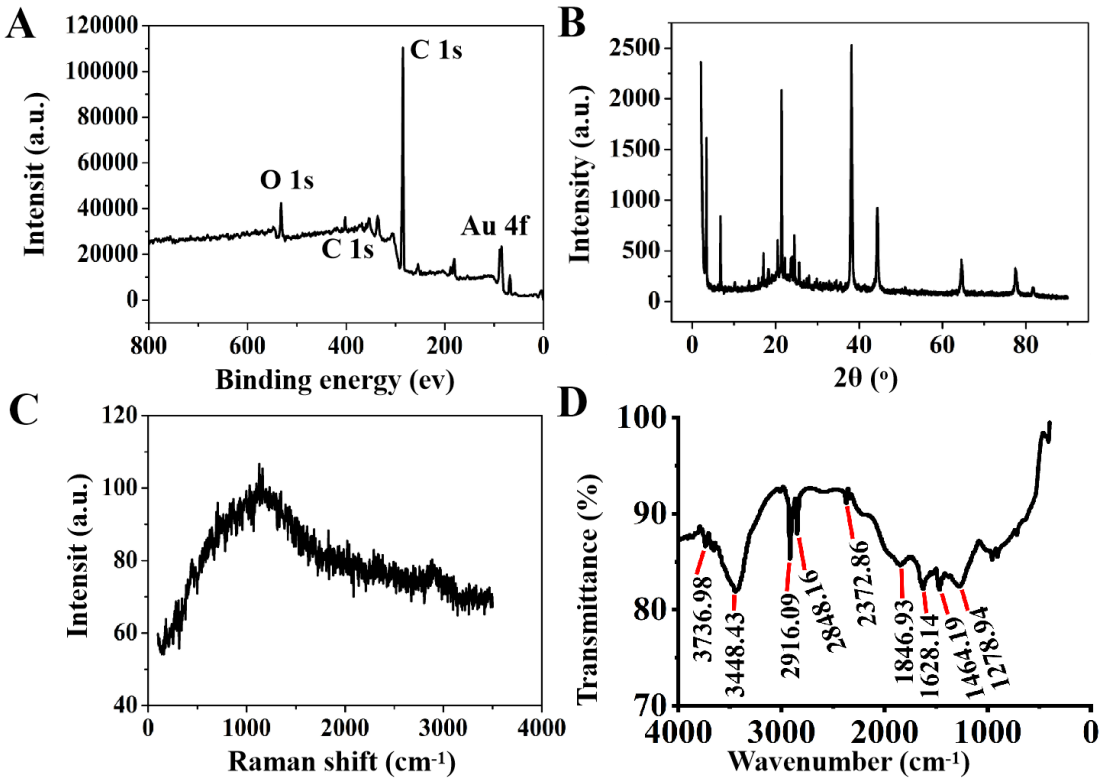

Fig. S4. A. XPS spectrum of Au-Ns; **B.** XRD analysis of Au-Ns; **C.** Raman spectrum of Au-Ns; **D.** FTIR spectrum of Au-Ns.

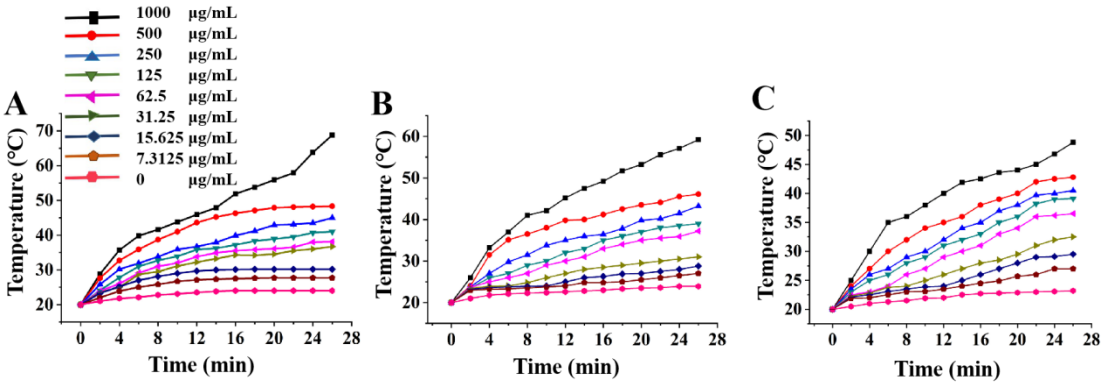

Fig. S5. The photothermal effect of Au-Ns on water as a control. **(A)** 2 W/cm^2; **(B)** 1.5 W/cm^2; **(C)** 0.6 W/cm^2

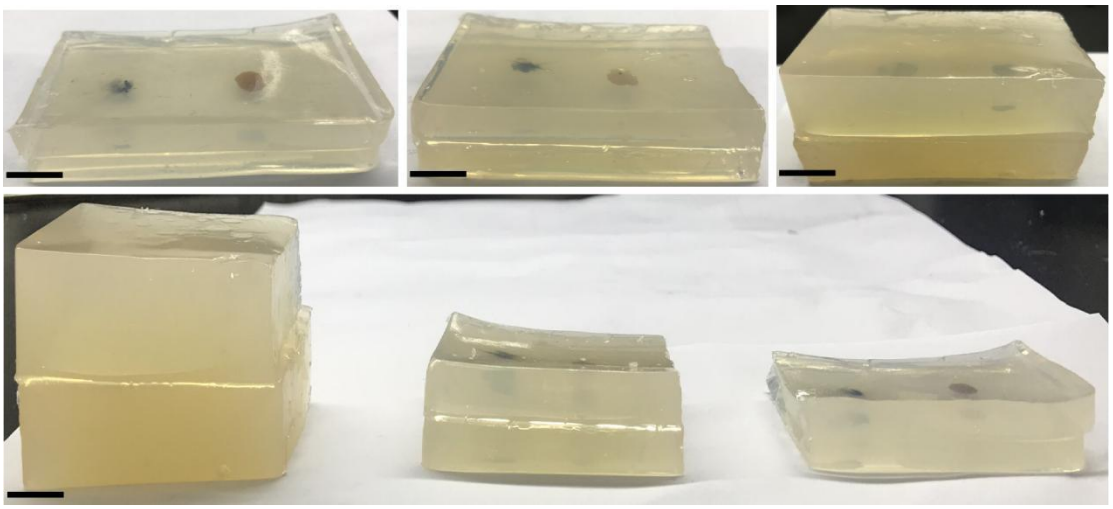

Fig. S6. Schematic representation of agar sandwiches. (Scale bar = 1 cm)

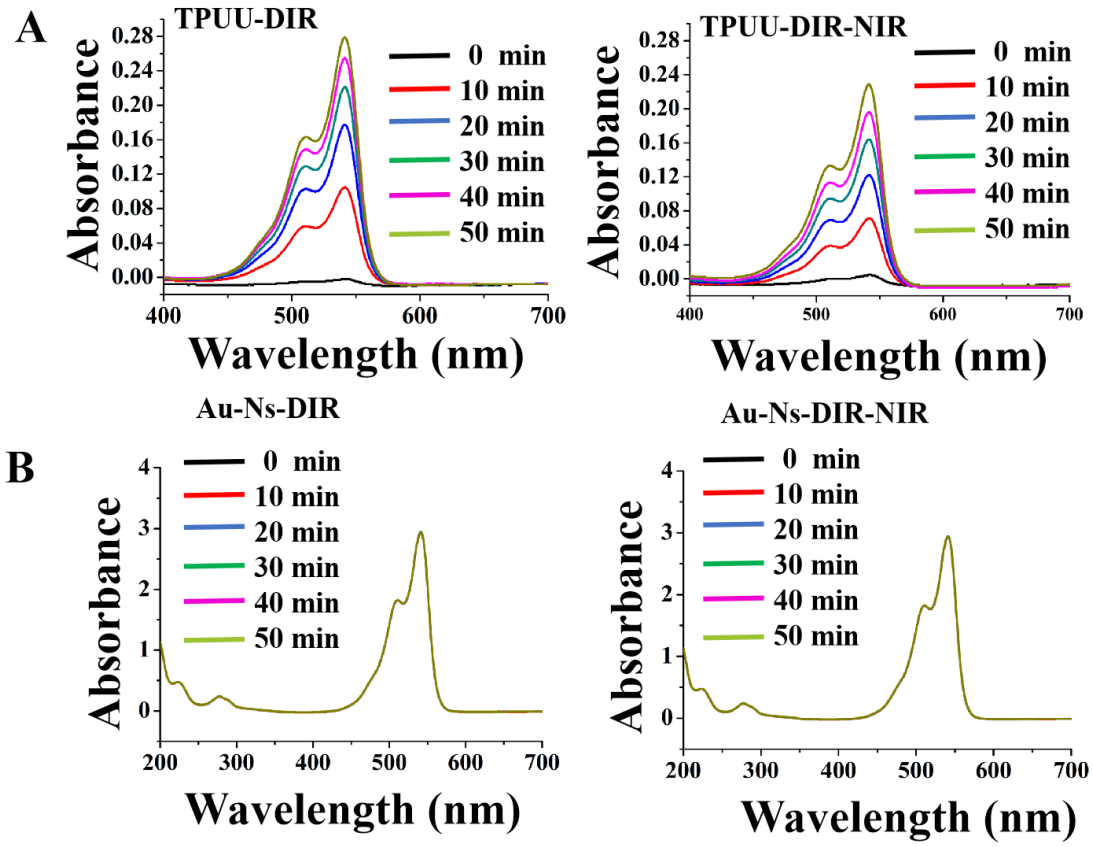

Fig. S7. Drugs release of DIR on TPUU and Au-Ns (DIR: 541 nm).

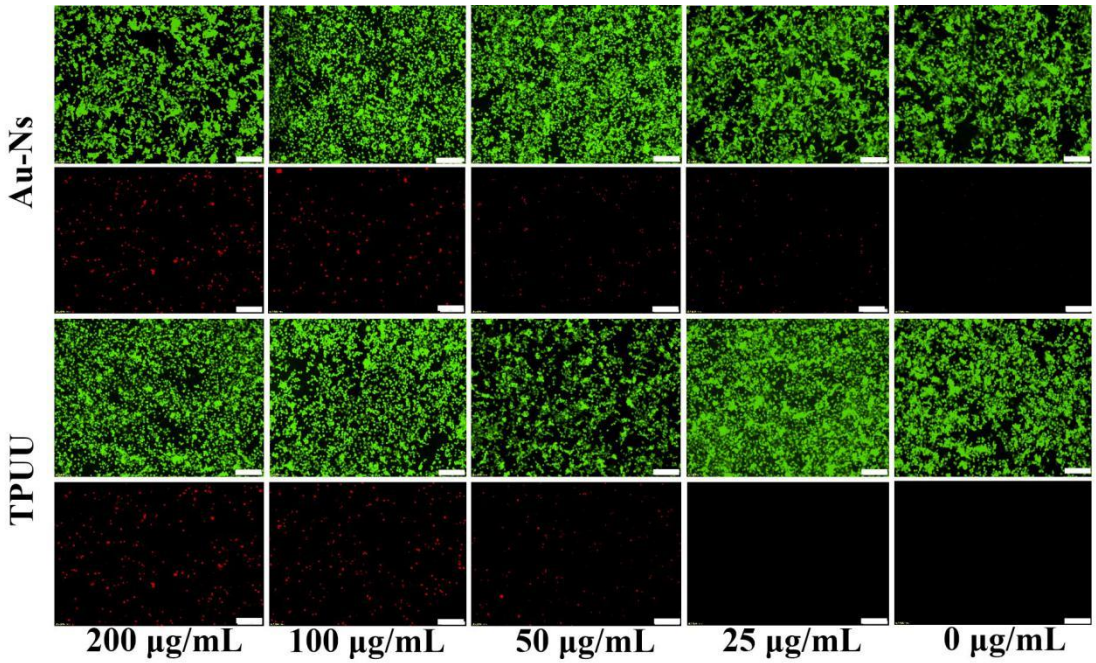

Fig. S8. Live/dead staining assay of 4T1 cells that were cultured in different concentrations for 24 h. Living cells and dead cells were stained with green and red fluorescence. (Scale bar = 100 μm).

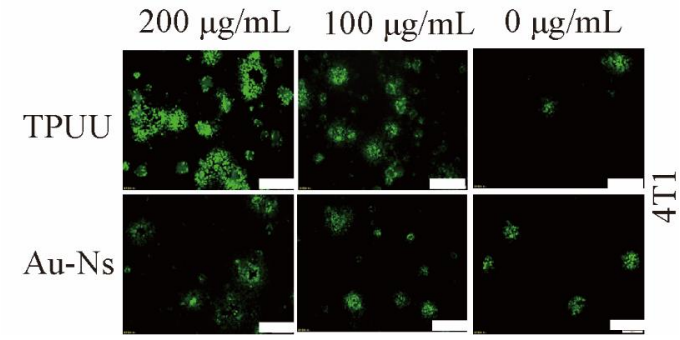

Fig. S9. The intracellular ROS content of 4T1 cells (Scale bar = 100 μm).

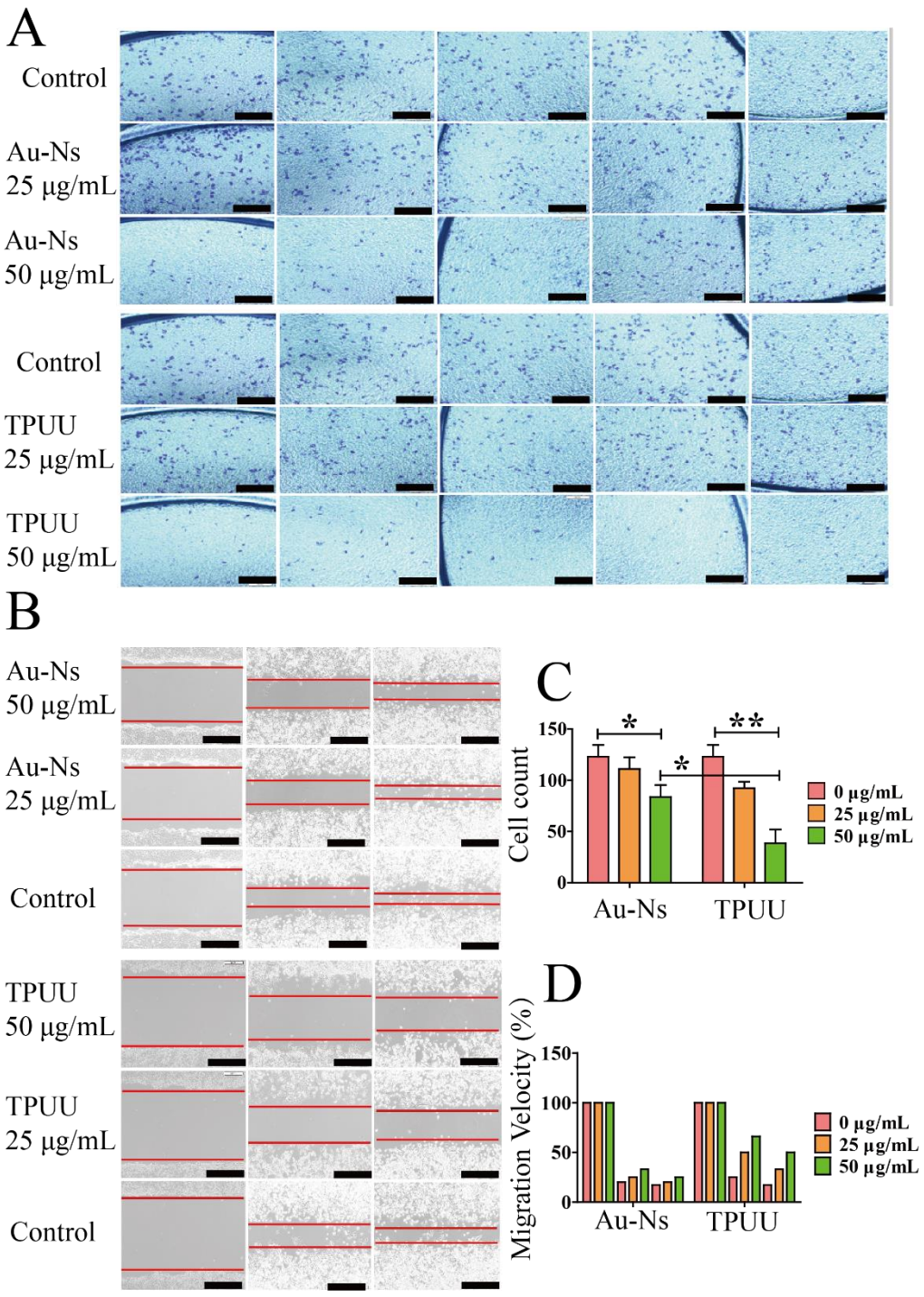

Fig. S10. Transwell assay of 4T1 cells that were cultured at different concentrations for 20 h (Scale bar = 100 μm). B. Scratch assay of 4T1 cells that were cultured with different concentrations for different time (Scale bar = 100 μm); C. Quantitative analysis of Transwell assay; D. Quantitative analysis of Scratch assay. (*$P < 0.05$, **$P < 0.01$, ***$P < 0.001$. Error bars, SEM.)

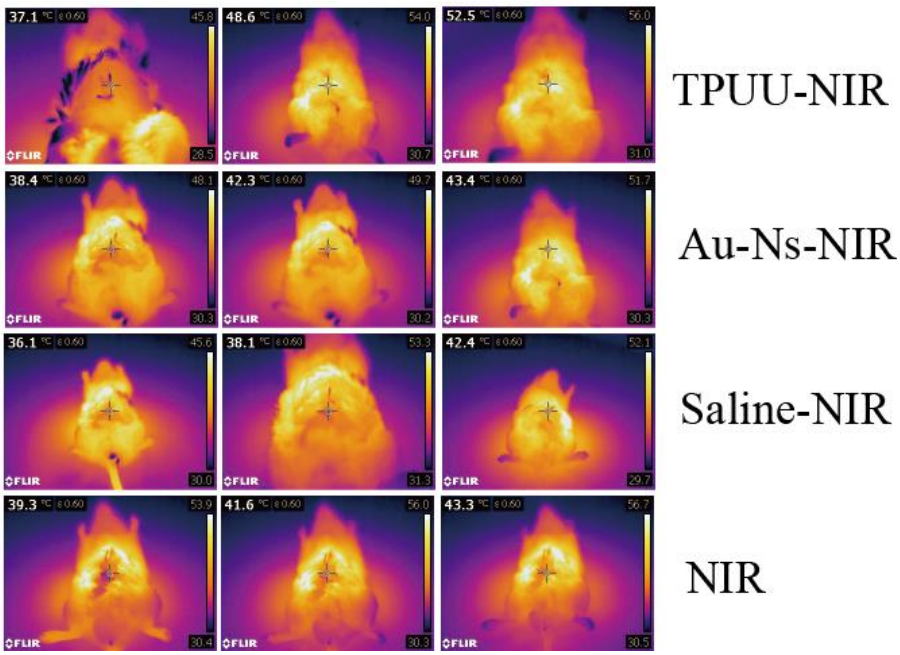

Fig. 11. The mouse intestine model was used to simulate the deep warming of TPUU *in vivo*, and photographed with an infrared camera under NIR irradiation.

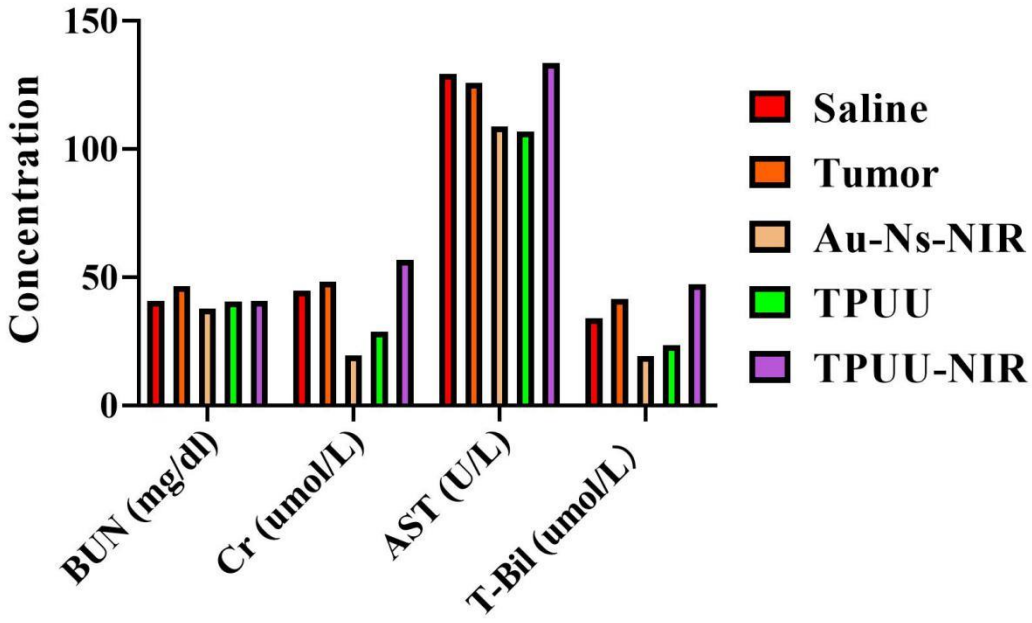

Fig. 12. Blood biochemical analysis of mice injected with the following groups: Saline, Tumor, Au-Ns-NIR, TPUU and TPUU-NIR.

	Normal Range	Saline	Tumor	TPUU	TPUU-NIR	Au-Ns-NIR
WBC	0.8-6.8 (10^9/L)	8.0	8.1	6.2	6.9	6.3
Lymph	0.7-5.7 (10^9/L)	6.3	6.7	5.0	4.8	4.3
Mon	0.0-0.3 (10^9/L)	0.2	0.2	0.2	0.3	0.4
Gran	0.1-1.8 (10^9/L)	1.5	1.2	1.0	1.8	1.6
Lymp %	55.8-90.6 (%)	78.7	82.2	80.7	69.1	69.0
Mon %	1.8-6.0 (%)	2.7	2.8	3.0	4.4	5.8
Gran %	8.6-38.9 (%)	18.6	15.0	16.3	26.5	25.2
RBC	6.36-9.42 (10^{12}/L)	5.08	5.92	9.60	5.78	9.33
HGB	110-143 (g/l)	162	154	149	149	152
HCT	34.6-44.6 (%)	26.4	33.3	47.6	29.8	47.3
MCV	48.2-58.3 (fl)	52.1	56.3	49.6	51.6	50.7
MCH	15.8-19 (pg)	31.8	26.0	15.5	25.7	16.2
MCHC	302-353 (g/l)	613	462	313	500	321
RDW	13-17 (%)	19.4	16.9	15.1	19.2	13.6
PLT	450-1590 (10^9/L)	1372	1003	877	1150	1040
MPV	3.8-6.0 (fl)	5.1	4.5	6.1	4.7	6.2
PDW		17.4	16.8	16.7	17.1	16.4
PCT	(%)	0.699	0.451	0.534	0.540	0.644

Table 1. Blood biochemistry analysis of mice injected with the following groups: Saline, Tumor, Au-Ns-NIR, TPUU and TPUU-NIR.