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Electronic Supporting Information (ESI)

An acoustic strategy for gold nanoparticles loading in platelets as biomimetic multifunctional carriers

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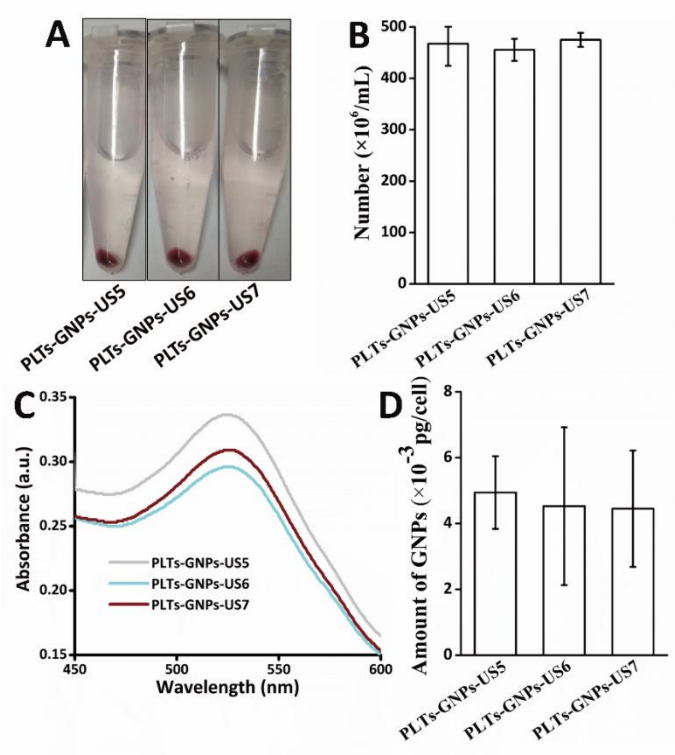

Fig. S1. Characterization of platelets loading GNPs under different ultrasonic frequency (45, 80 and 100 kHz, referenced as PLTs-GNPs-US5, PLTs-GNPs-US6, PLTs-GNPs-US7, respectively). (A) Platelets pellets photographs. (B) Measurement of platelets number. The results of UV/Vis absorption spectra (C) and atomic absorption spectrometry (D).

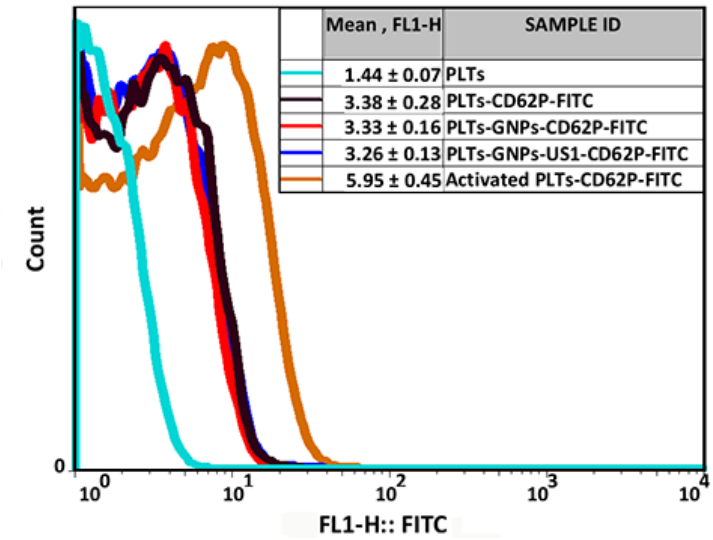

Fig. S2. The fluorescence intensities of PLTs, PLTs-GNPs and PLTs-GNPs-US1 were measured by using the flow cytometer.

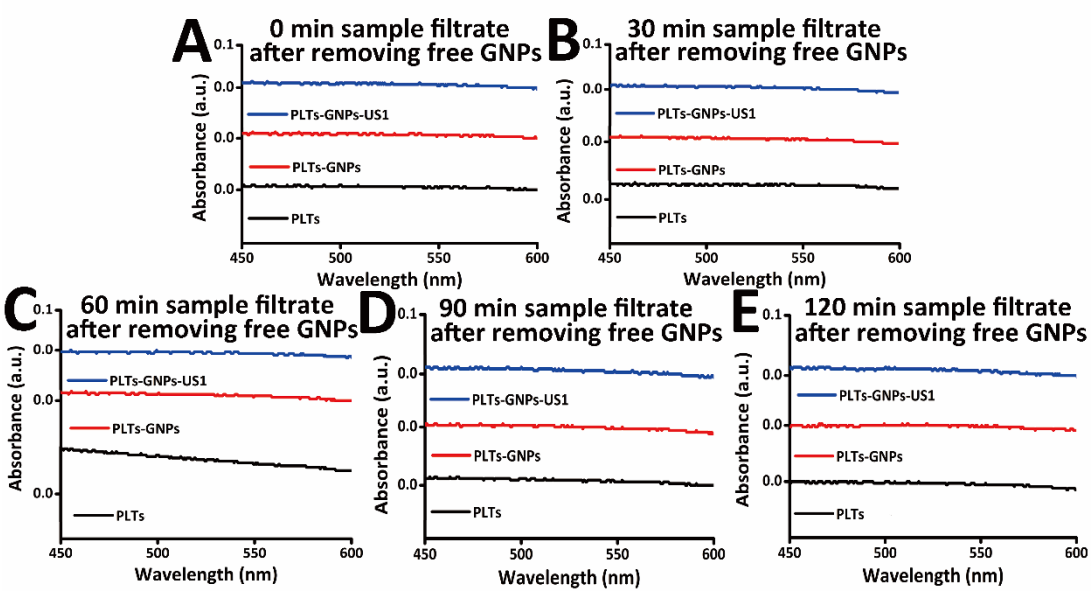

Fig. S3. The samples (PLTs, PLTs-GNPs, PLTs-GNPs-US1) were filtered by 460 nm filter membrane and the filtrate was analyzed by UV/Vis absorption spectra at different time after the GNPs loaded into the platelets. The UV/Vis absorption spectra results of loading GNPs at 0 min (A), 30 min (B), 60 min (C) , 90 min (D), and 120 min (E).

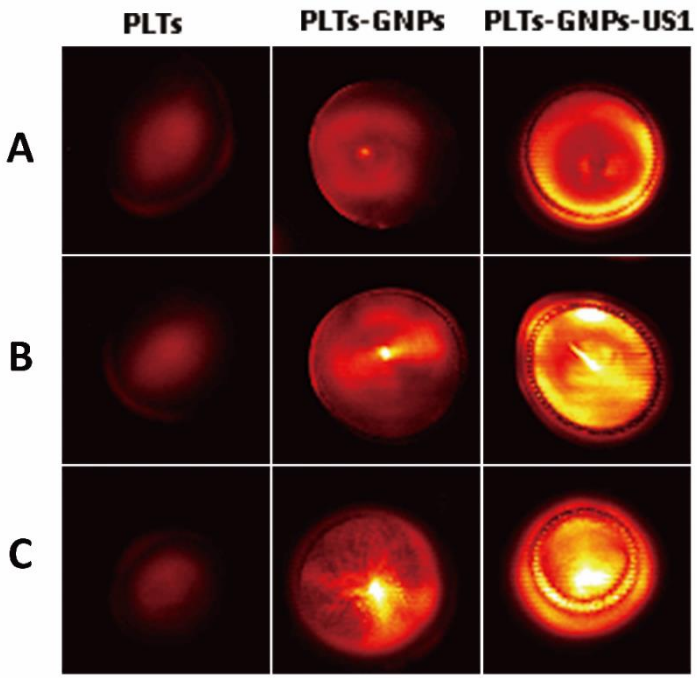

Fig. S4. The PA imaging samples at different volumes were added to whole blood to simulate in vivo situations. (A) Sample: 200 μL (1.42×10^8 platelets), whole blood: 300 μL. (B) Sample: 300 μL (2.12×10^8 platelets), whole blood: 200 μL. (C) Sample: 400 μL (2.83×10^8 platelets), whole blood: 100 μL.

Table S1. The prothrombin time (PT), international standardization ratio (INR) and activated partial thromboplastin time (aPTT) of PLTs, PLTs-GNPs and PLTs-GNPs-US1. The INR is derived from PT and the International Sensitivity Index (ISI) of the assay reagent.

Sample	PT (s)	INR	aPTT (s)
Plasma (1 mL)	11.9 ± 0.7	1.12 ± 0.06	33.85 ± 1.0
Plasma (800 μL) + 0.9% NaCl (200 μL)	13.0 ± 0.8	1.22 ± 0.08	33.35 ± 1.2
PLTs (1 mL)	13.1 ± 0.9	1.22 ± 0.08	32.95 ± 1.8
PLTs-GNPs (1 mL)	13.2 ± 0.8	1.24 ± 0.08	32.90 ± 1.6
PLTs-GNPs-US1 (1 mL)	12.7 ± 0.3	1.19 ± 0.03	32.85 ± 1.8