Supporting Information

Enhancement of gold-nanocluster-mediated chemotherapeutic efficiency of cisplatin in lung cancer

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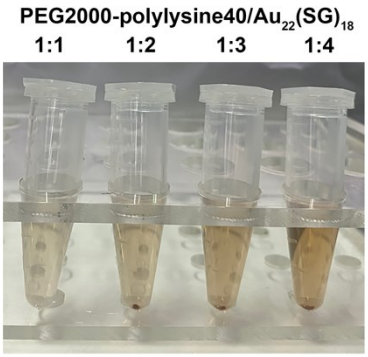

Fig. S1. Synthesis of GC-pKs. PEG2000-polylysine40 and $Au_{22}(SG)_{18}$ were mixed with various molar ratios (1:1~1:4) under sonication for 10 min at room temperature. The mixture solution was then centrifuged at 12000 g for 30 min at room temperature, and the final solutions were photographed.

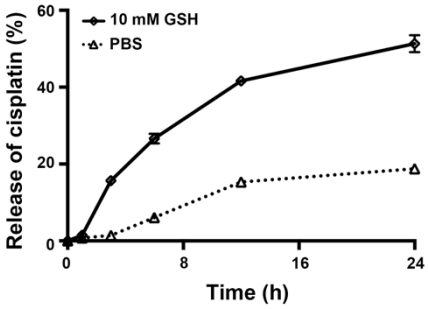

Fig. S2. Accumulative cisplatin release from the cisplatin@GC-pKs in PBS buffer and 10 mM GSH solution.

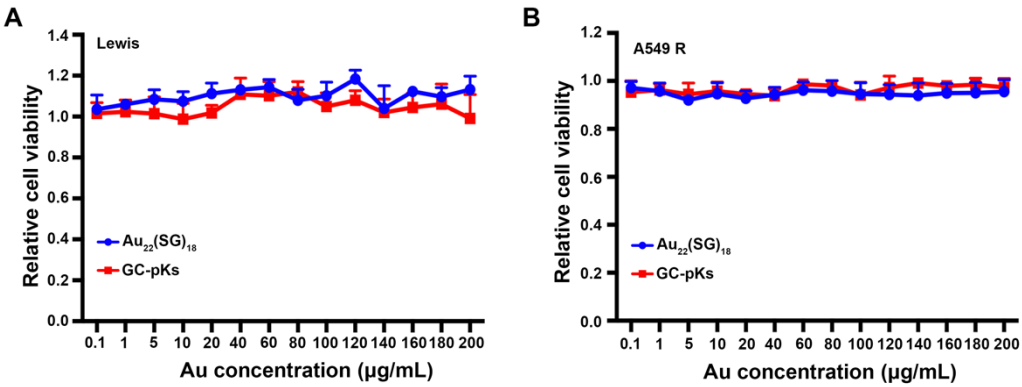

Fig. S3. *In vitro* cytotoxicity of $Au_{22}(SG)_{18}$ and GC-pKs. Lewis cells (A) and A549R cells (B) were incubated with $Au_{22}(SG)_{18}$ and GC-pKs containing different Au concentrations (0.1~200 μg/mL) for 24 h at 37 °C. Cell viability was evaluated by the MTS assay. The viabilities of cancer cells after treatment with PBS buffer were used as control. Error bars represent standard deviation (n = 3).

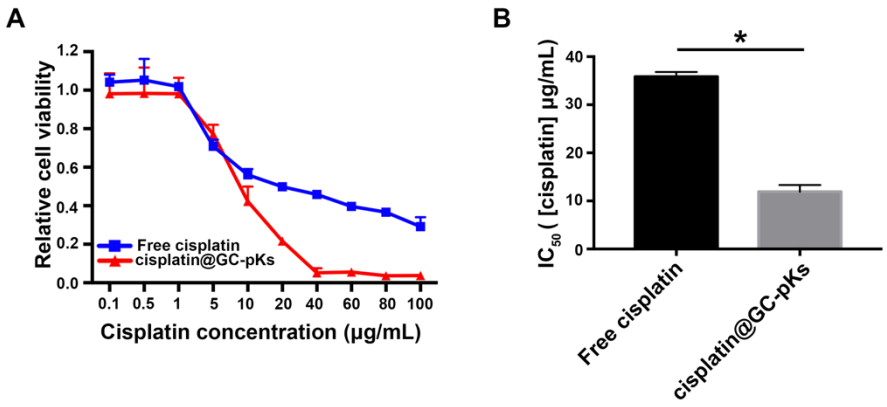

Fig. S4. Cytotoxicity of free cisplatin and cisplatin@GC-pKs in Lewis cells. (A) The relative cell viabilities of Lewis cells after incubation with different concentrations of cisplatin and cisplatin@GC-pKs for 24 hours were determined using an MTS assay; (B) IC_{50} values of cisplatin@GC-pKs and free cisplatin according to (A) were calculated using SPSS 12.0;

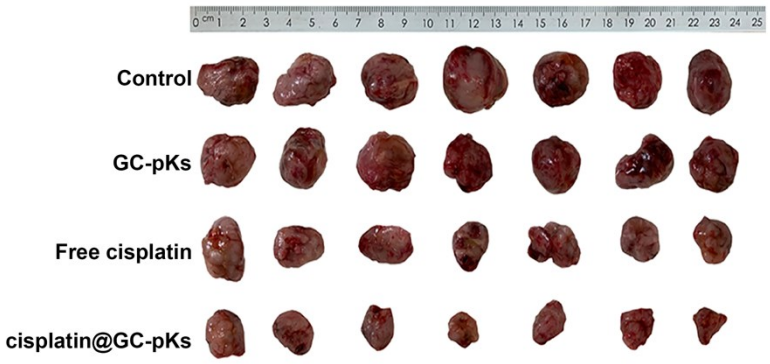

Fig. S5. Representative appearance of the tumors from the C57/BL6 mice after different treatments with saline (*n*=7), GC-pKs (*n*=7), free cisplatin (*n*=7) and cisplatin@GC-pKs (*n*=7) were photographed on the 21st day.

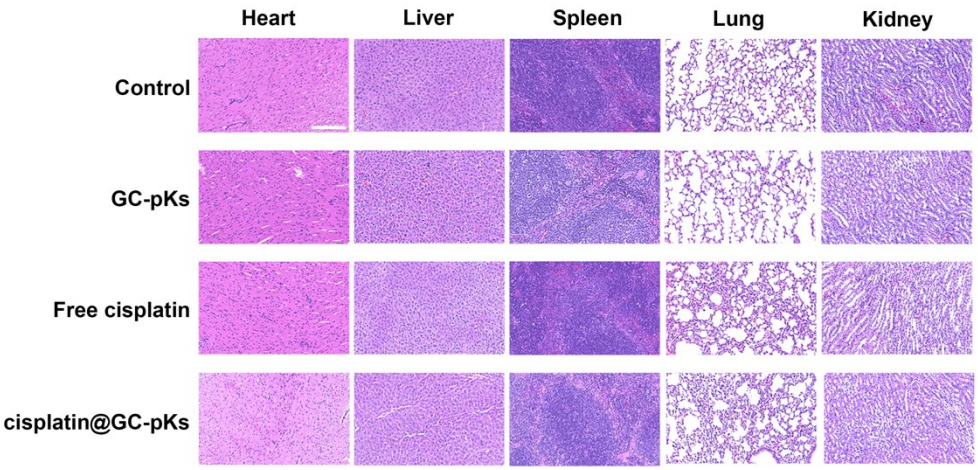

Fig. S6. Histopathological examination (H&E) of the major organs (heart, liver, spleen, lung and kidney) derived from the C57/BL6 mice after treatment with saline, GC-pKs, free cisplatin and cisplatin@GC-pKs, respectively. (Scale bar, 200 μm).

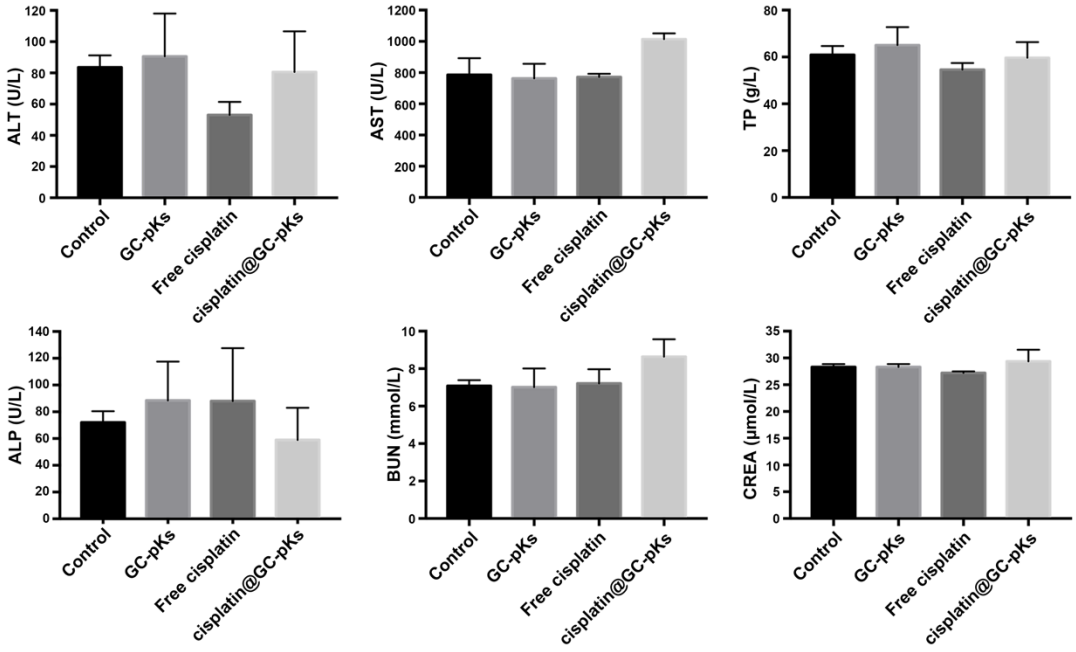

Fig. S7. Blood biochemistry analysis of the C57/BL6 mice after treatment with saline, GC-pKs, free cisplatin and cisplatin@GC-pKs on the 21st day after treatment. The results indicated the relative mean values of alanine aminotransferase (ALT), aspartate aminotransferase (AST), total protein (TP), alkaline phosphatase (ALP), blood urea nitrogen (BUN), and creatinine (CREA), respectively. Data are presented as the mean ± SD (n = 3).

Original gels of Fig 4D