Electronic Supplementary Information for

Enhanced X-ray attenuation property of dendrimer-entrapped gold nanoparticles complexed with diatrizoic acid

Rui Guo,[ab] Han Wang,[c] Chen Peng,[d] Mingwu Shen,[b] Linfeng Zheng[c], Guixiang Zhang*[c] and Xiangyang Shi*[abe]

Cell culture and MTT assay:

PANC-1 cells, a pancreatic cancer cell line, were cultured in DMEM medium supplemented with 10 % FBS and 1 % penicillin-streptomycin at 37 □ and 5 % CO_2 in a humidified incubator. The viability of cells treated with Au DENP-DTA complexes was evaluated via 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay. The MTT assay was carried out according to our previous work [1]. Briefly, PANC-1 cells were seeded in 96-well culture plates at a density of 1×10^4 cells per well in triplicate and allowed to grow for 24 h. Then the medium was replaced by DMEM medium containing different concentrations of Au DENP-DTA complexes (1000, 2000, and 3000 nM) respectively and cells were incubated for 4 h at 37 ℃ in a 5%-CO_2 incubator. After treatment, the medium was aspirated and cells were washed with PBS buffer for three times. And then 200 μL fresh DMEM medium was added to each well. Thereafter, 20 μL MTT (5 mg/mL in PBS buffer) was added to each well and incubated for 4 h at 37 ℃ in CO_2 incubator. The medium was carefully removed, and the cells were washed with PBS buffer.

Subsequently, DMSO (200 μL) was added. The absorbance values at a wavelength of 490 nm in each well were measured using a microplate reader (Bio-tek).

References:

[1] Wang H, Zheng LF, Peng C, et al. Computed Tomography Imaging Of Cancer Cells Using Acetylated Dendrimer-Entrapped Gold Nanoparticles. Biomaterials, 2011, DOI: 10.1016/j.biomaterials.2011.01.001

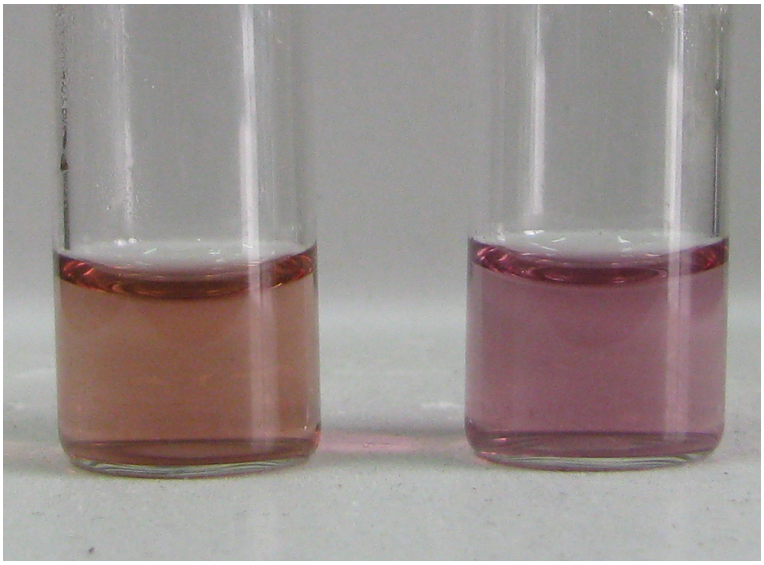

Figure S1. Photos of Au DENPs (left) and Au DENP-DTA (right) aqueous solution.

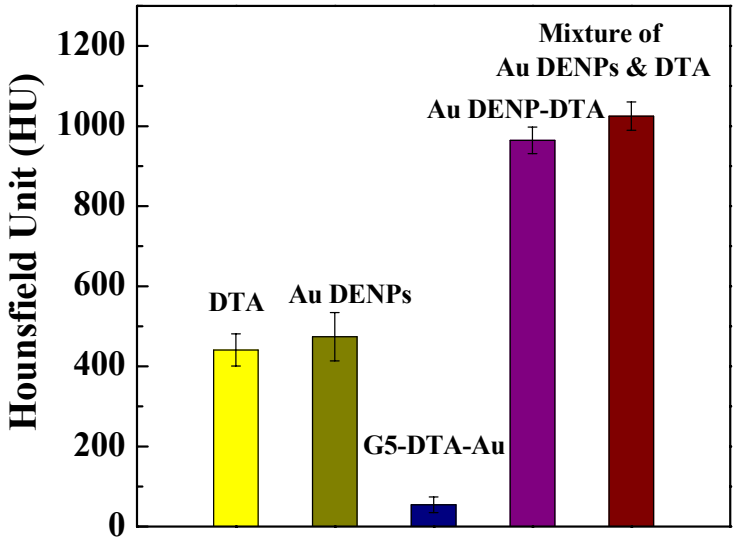

Figure S2. The X-ray attenuation (HU) of DTA, Au DENPs, G5-DTA-Au, Au DENP-DTA nanocomplexes, and the mixture of Au DENPs and DTA at the same molar concentration of radiopauqe element ([I] = 0.036 M and [Au] = 0.02 M). Note that G5-DTA-Au complexes were prepared by loading DTA within G5 dendrimers first, followed by template synthesis of AuNPs.

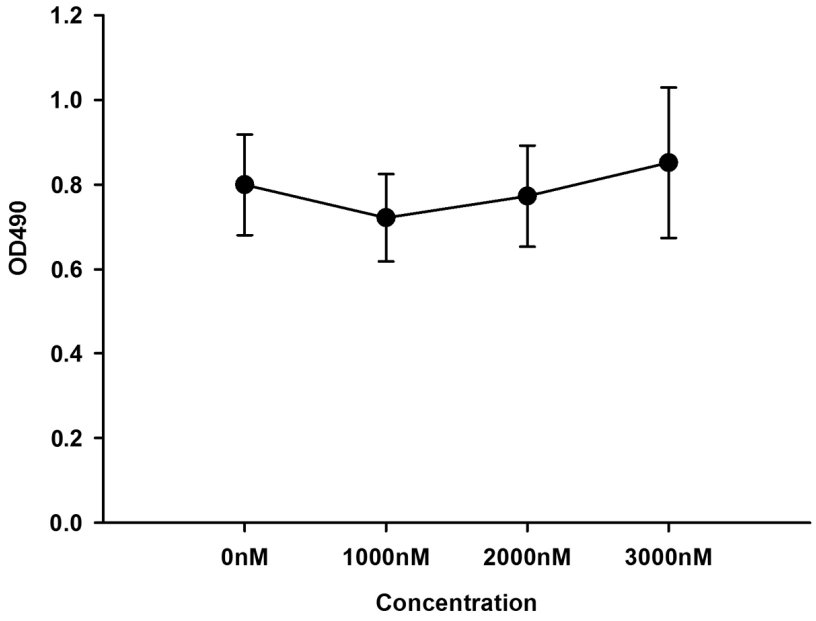

Figure S3. In vitro MTT cytotoxicity assay of the viability of PANC-1 cells treated with Au DENP-DTA nanocomplexes at different concentrations for 4 h (n=3).