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

Supporting Information

A metal-organic framework based nanocomposite with co-encapsulating of Pd@Au nanoparticles and doxorubicin for pH- and NIR-triggered synergistic chemo-photothermal treatment of cancer cells

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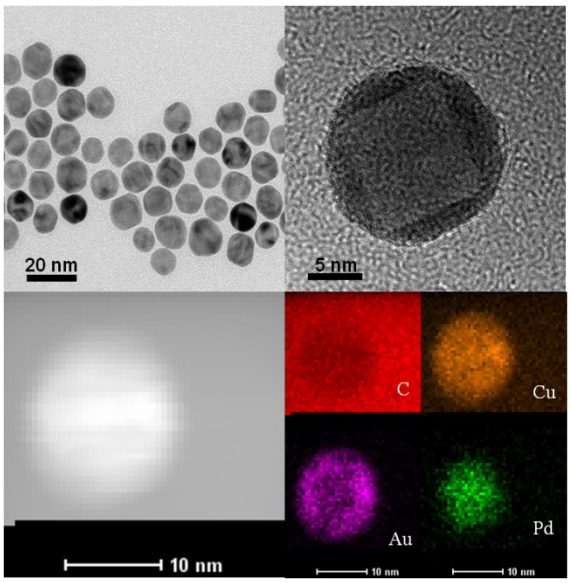

Fig. S1 TEM images and EDS elemental mapping images of Pd@Au nanoparticles.

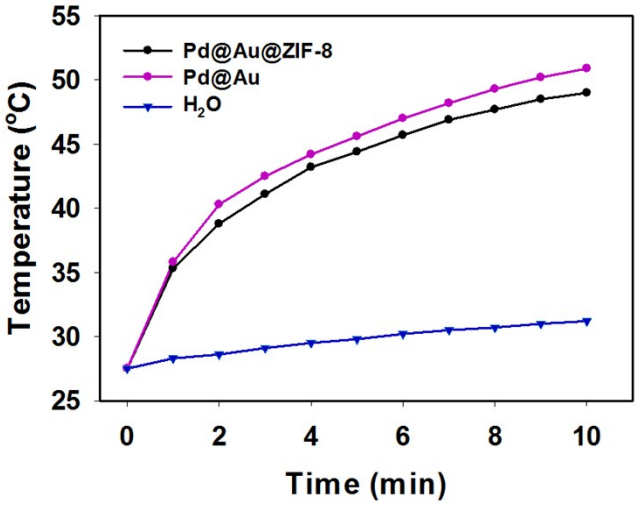

Fig. S2 Photothermal conversion effect of different nanoparticles after irradiating with NIR laser (780 nm, 2.1 W cm^{-2}) for the gradually increased time.

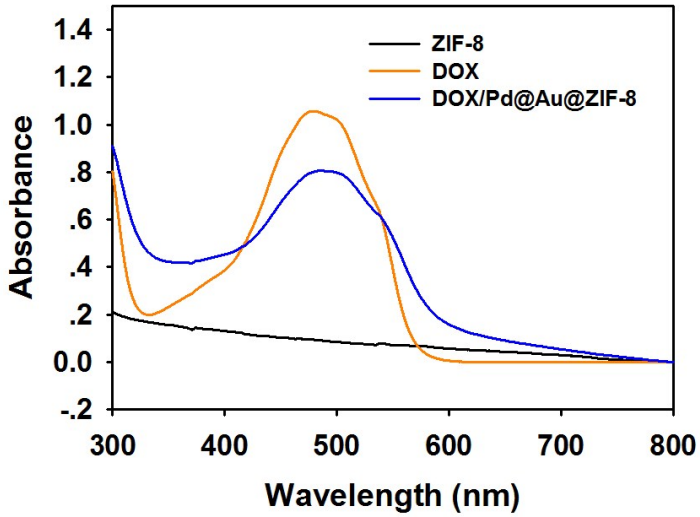

Fig. S3 The UV-vis absorption spectrum of different samples.

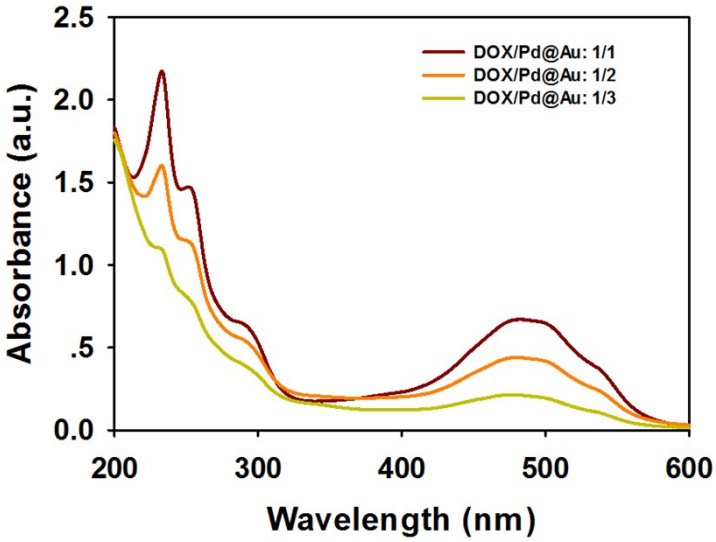

Fig. S4 The UV-vis absorption spectrum of DOX from the supernatant of DOX/Pd@Au nanoparticles after absorbing DOX under different sample concentrations.

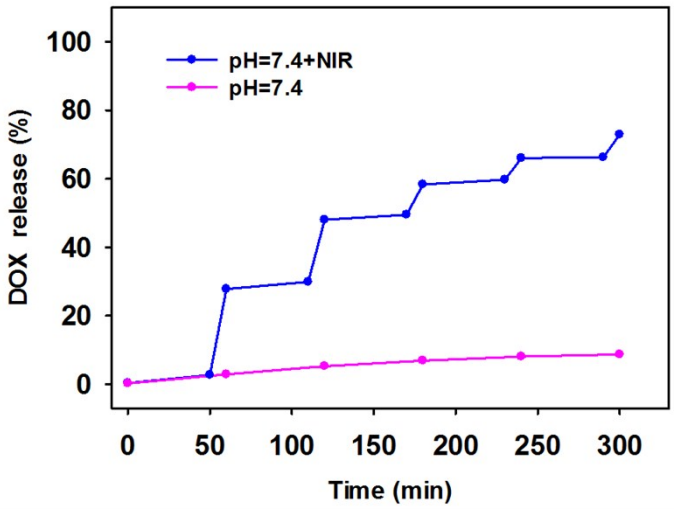

Fig. S5 The controlled release curves of absorbed DOX from DOX/Pd@Au nanoparticles.

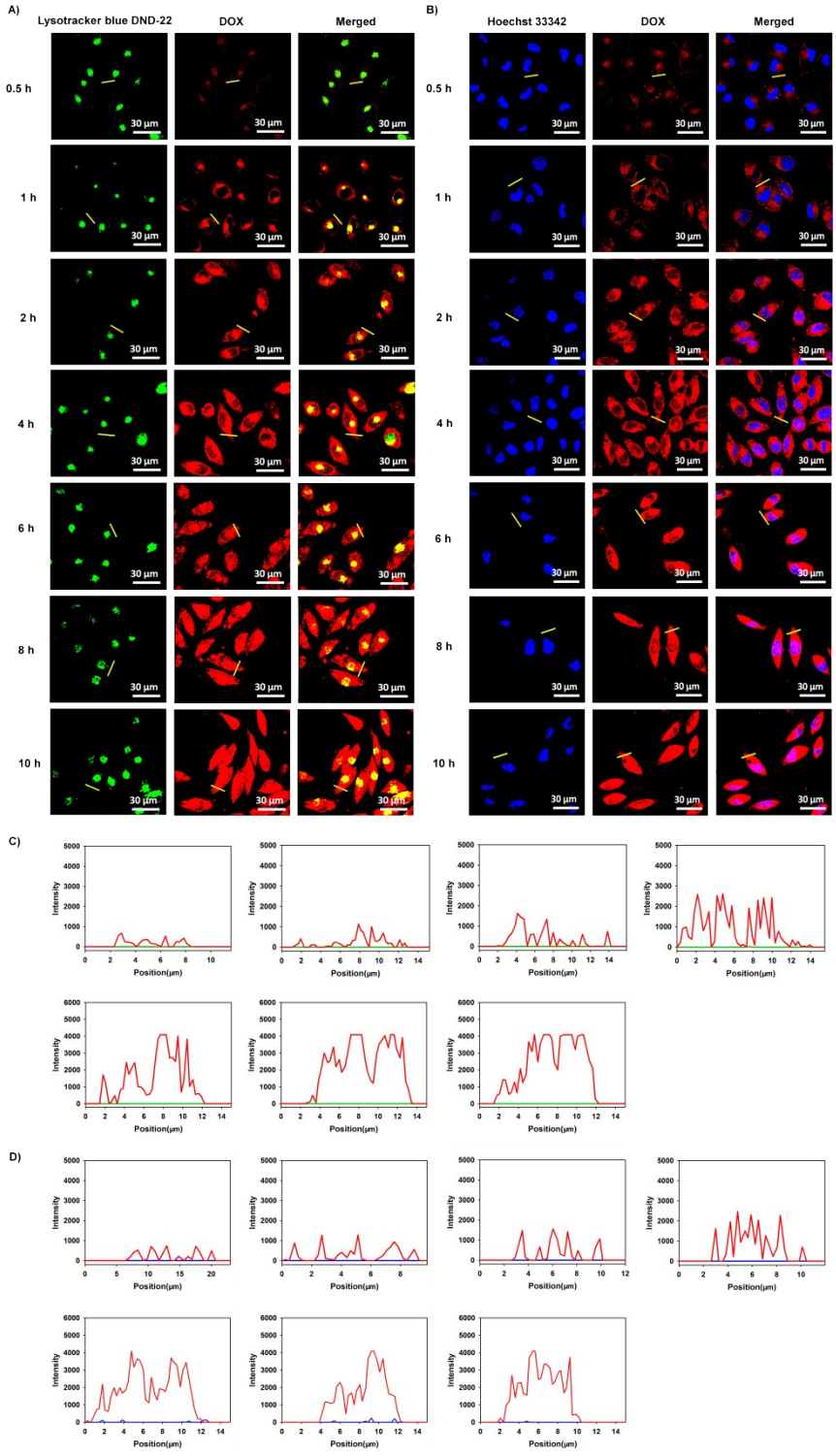

Fig. S6 The CLSM images of cellular uptake of DOX/Pd@Au@ZIF-8 after incubating DOX/Pd@Au@ZIF-8 (40 μg mL^{-1}) with SMMC-7721 cells for different time (0.5 h, 1 h, 2 h, 4 h, 6h, 8h and 10h respectively): A) the cells were stained with lysosome dye of Lysotracker blue DND-22 (showed as the green colour), B) the cells were stained with cell nucleus dye of Hoechst 33342 (showed as the blue colour). C) The fluorescence intensities of corresponding CLSM images in A). D) The fluorescence intensities of corresponding CLSM images in B).

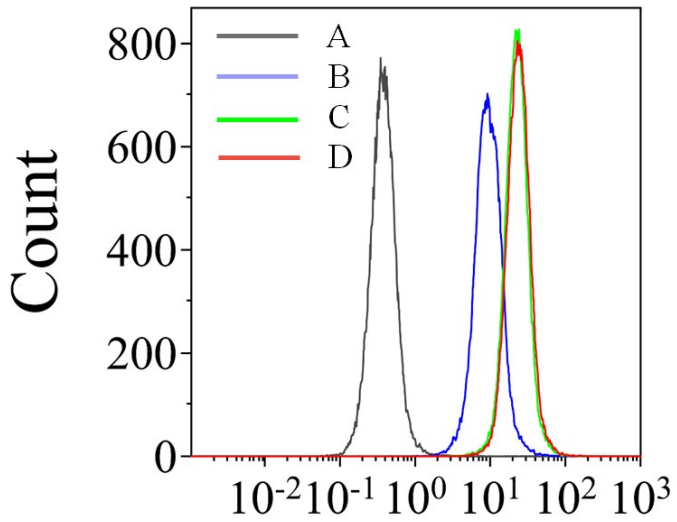

Fig. S7 Flow cytometry analysis of SMMC-7721 cells treated with A) blank, B) DOX/Pd@Au@ZIF-8 for 2 h, C) DOX/Pd@Au@ZIF-8 for 6 h, D) DOX/Pd@Au@ZIF-8 for 10 h.

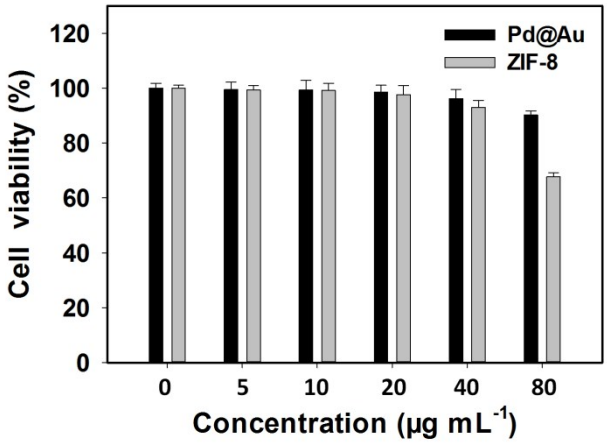

Fig. S8 The cytotoxicity assay curves of ZIF-8 and Pd@Au under different conditions.

Table S1. Zeta potential and size of different samples

Sample	Pd nanoparticles	Pd@Au nanoparticles	Pd@Au@ZIF-8
Zeta Potential (mV)	-4.08	-13	6.15
Size (nm)	15.93	34.92	253.7
PDI	0.92	0.074	0.163

Table S2. BET and BJH parameters

Sample	Pd@Au@ZIF-8	DOX/Pd@Au@ZIF-8
BET surface area S_{BET} (m^2 g^{-1})	1667.6	1583.1
BJH pore diameter D_p (nm)	1.22	1.28
BET pore volume V_p (cm^3 g^{-1})	0.624	0.631