

Supporting Information

Stepwise growth of gold coated cancer targeting carbon nanotubes for the precise delivery of doxorubicin combined with photothermal therapy

Daquan Wang^{a,1}, Chen Hou^{b,1}, Jiangang Long^b, Jiange Jing^a, Dongfeng Dang^a, Lingjie Meng^{a*}, Zhaofu Fei^c, Paul J. Dyson^{c*}

^a *School of Science, State Key Laboratory for Mechanical Behavior of Materials and MOE Key Laboratory for Nonequilibrium Synthesis and Modulation of Condensed Matter, Xi'an Jiaotong University, Xi'an 710049, P. R. China.*

^b *Center for Mitochondrial Biology and Medicine, Ministry of Education Key Laboratory of Biomedical Information Engineering, School of Life Science and Technology, Xi'an Jiaotong University, Xi'an 710049, China.*

^c *Institut des Sciences et Ingénierie Chimiques, Ecole Polytechnique Fédérale de Lausanne (EPFL), 1015 Lausanne, Switzerland.*

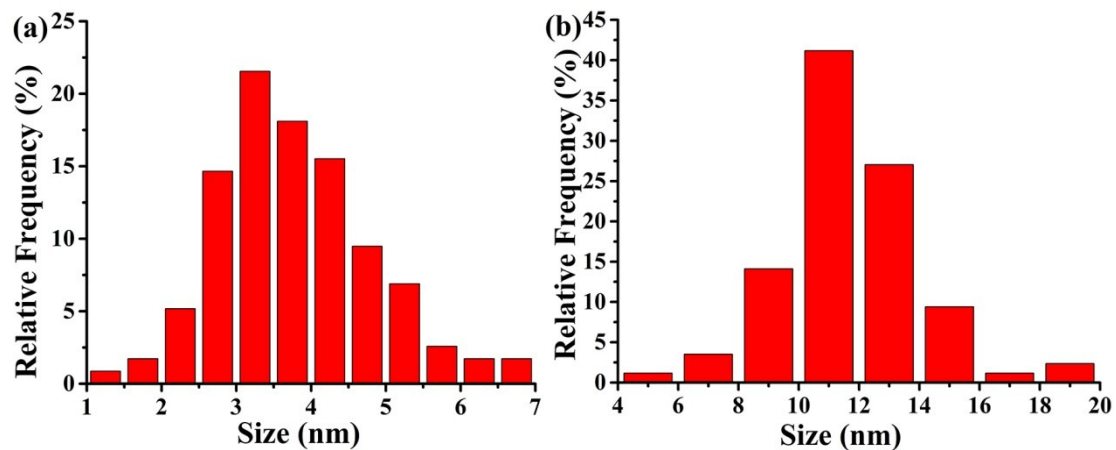


Fig S1. The size distribution of (a)Au NPs before adsorbed and (b) after grown.
(obtained from 100 Au NPs, respectively).

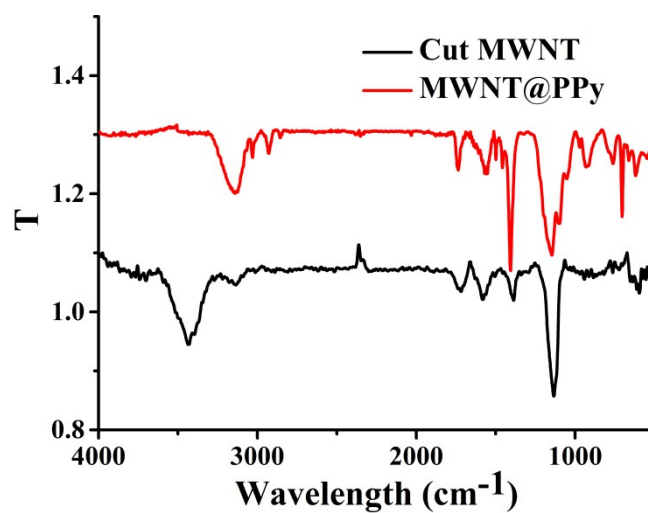


Fig S2. IR spectra of cut MWNTs (black) and the MWNT@PPy material (red).

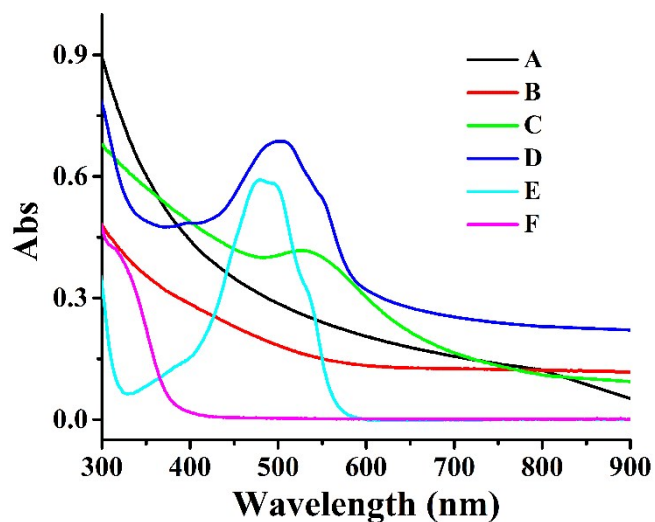


Fig S3. (a) UV-vis spectra of A: cut and oxidized MWNTs; B: MWNT@PPy; C: MWNT@PPy@Au ; D:MWNT@PPy@ Au-S-PEG-FA@DOX; E: DOX and D: FA-PEG-SH.

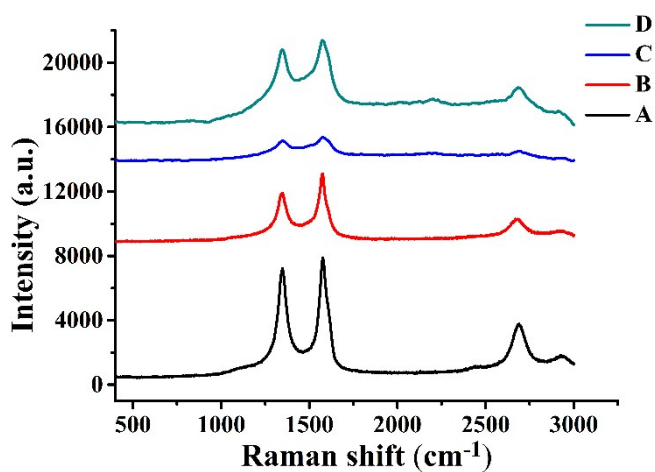


Fig S4. Raman Shift of (A) cut and oxidized MWNTs, (B) MWNT@PPy, (C) MWNT@PPy@Au, (D) MWNT@PPy@Au-S-PEG-FA.

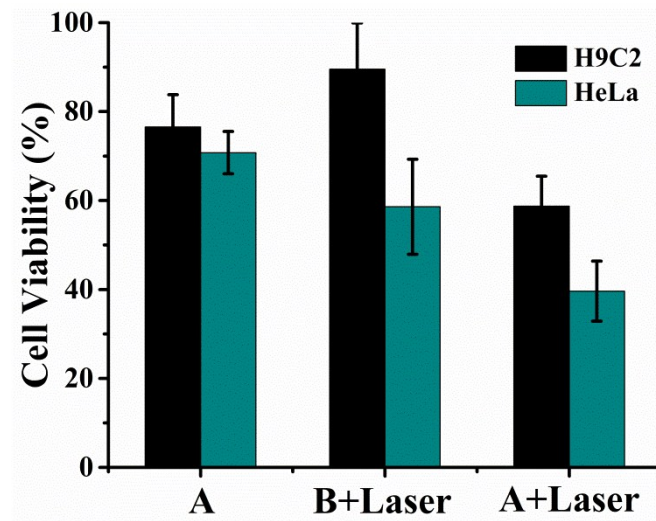


Fig S5. Combination chemotherapy and photothermal therapy on H9C2 and HeLa cells after incubating with A: MWNT@PPy@Au-S-PEG@DOX and B: MWNT@PPy@Au-S-PEG (the functionzlied mPEG-SH without FA was used instead of FA-PEG-SH) at $50 \mu\text{g}\cdot\text{mL}^{-1}$ for 24 h and then irradiated using an 808 nm laser at $1.5\text{W}\cdot\text{cm}^{-2}$ for 8 min.