Supporting Information

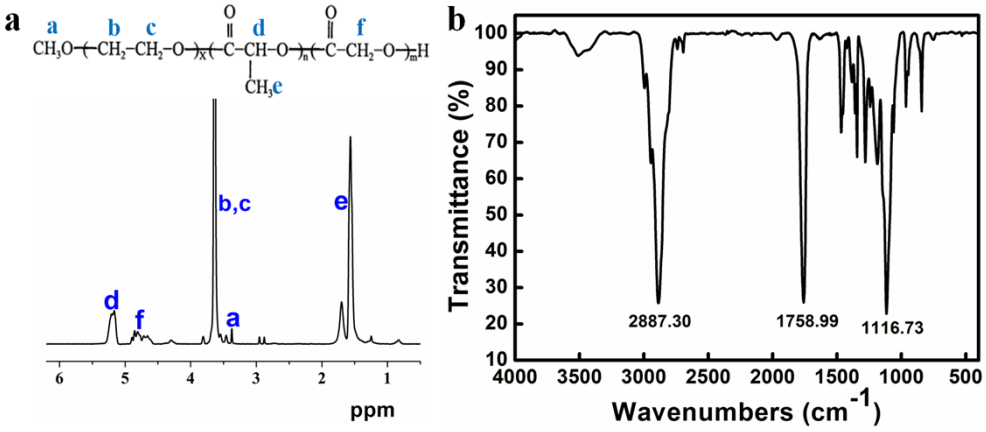

Fig. S1. a) ^{1}H NMR a) and b) FTIR spectra of PEG-PLGA copolymer.

^{1}H NMR was used to confirm the basic chemical structure of PEG-PLGA copolymer (Fig. S1a). The proton peak at 3.63 ppm is attributed to the methylene groups of the MePEG. Overlapping doublets at 1.57 ppm are corresponding to the methy groups of the $_{D-}$ and $_{L-}$lactic acid units. The lactic acid CH and the glycolic acid CH_2 are attributed to the proton peaks at 5.17 and 4.82 ppm, respectively.

The FTIR spectrum of PEG-PLGA is shown in Fig. S2b. The characteristic absorption band at 35 cm^{-1} is due to terminal hydroxyl groups of copolymer, which is absent in PEG homopolymer. The absorption at 2887.3 cm^{-1} is assigned to the C-H stretch of CH_3 and CH_2. PEG-PLGA shows a strong absorption band at 1759.0 cm^{-1} due to C=O stretch. A strong band at 1116.7 cm^{-1} is assigned to C-O stretch.

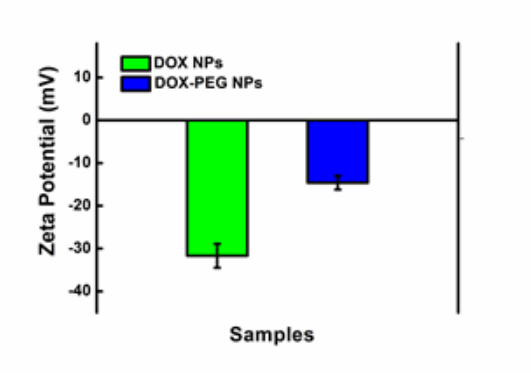

Fig. S2. The zeta potentials of DOX NPs in PBS before and after surface functionalization.

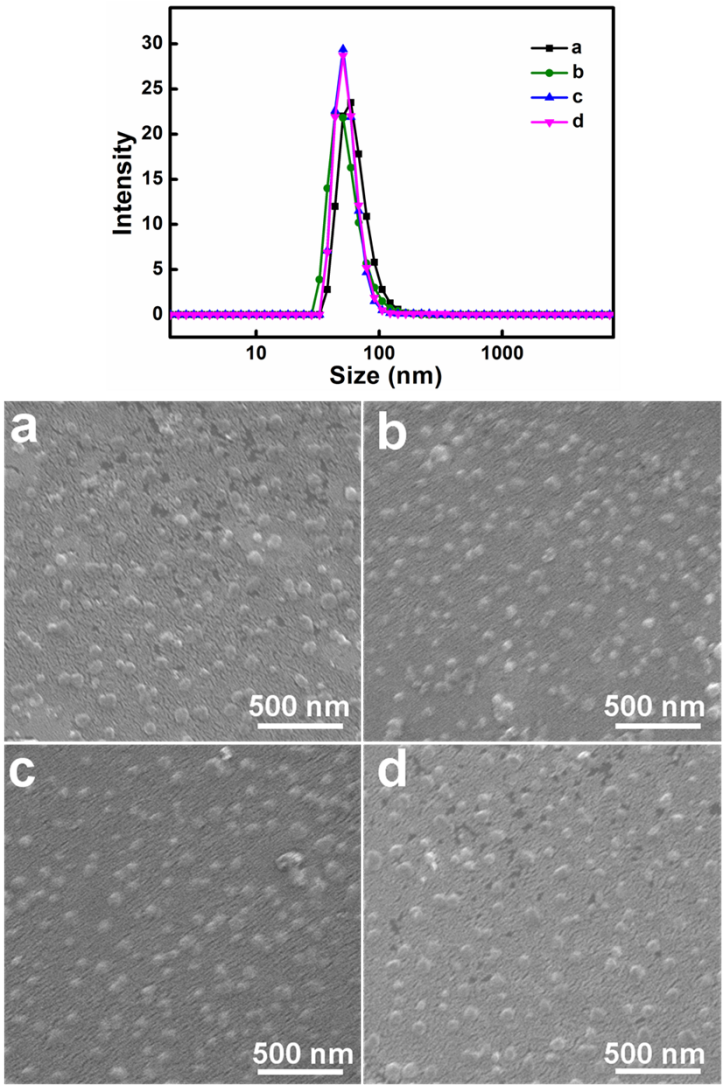

Fig. S3. DLS and SEM images of DOX-HCPT NPs. The DLCs (%) of HCPT are 10.324 a), 18.219 b), 27.294 c) and 46.613 d).

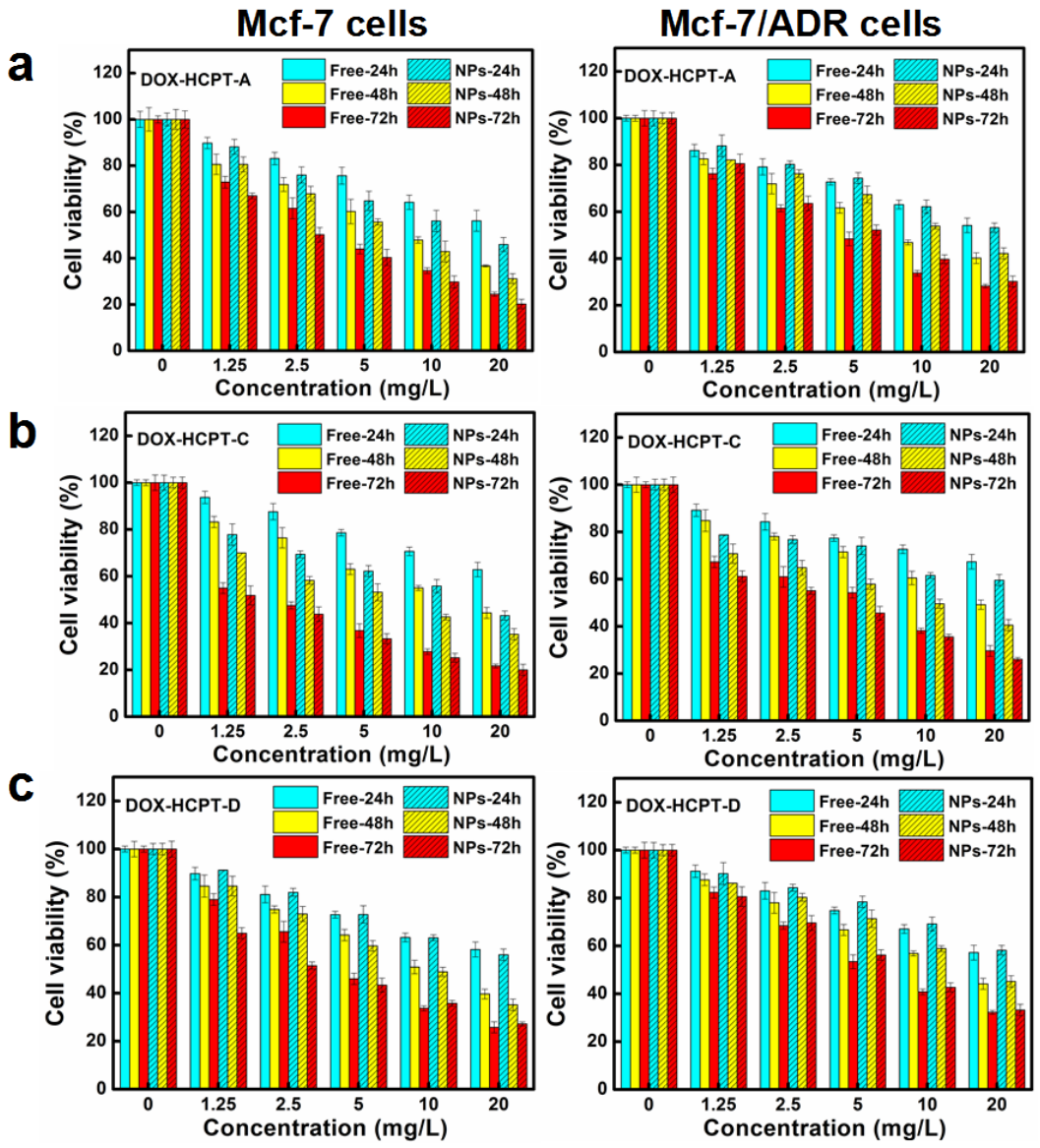

Fig. S4. Cell viabilities of MCF-7 cells and DOX resistant MCF-7/ADR cells, incubated with a) free DOX-HCPT-A and DOX-HCPT-A NPs, b) free DOX-HCPT-C and DOX-HCPT-C NPs, c) free DOX-HCPT-D and DOX-HCPT-D NPs. Drugs were added at a series of concentrations: 1.25, 2.5, 5, 10 and 20 mg/L. The cell viability has been normalized in relevance to that of untreated cells.

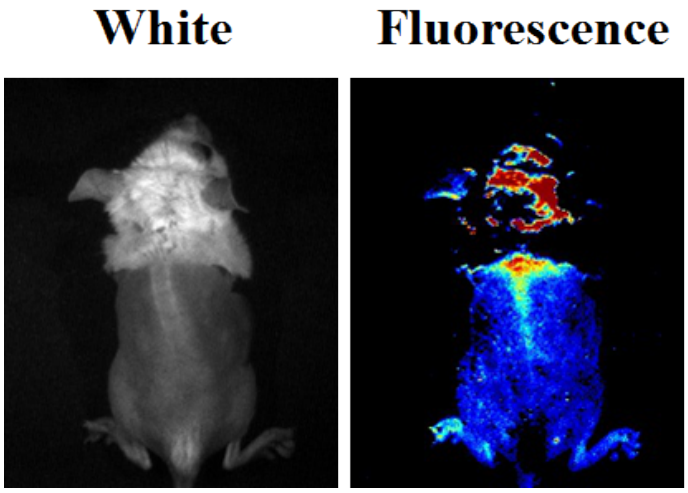

Fig. S5. *In vivo* white light and fluorescence images of control mice without any treatment.