# Supplementary Materials

## Doxorubicin/Ce6-loaded nanoparticle coated with polymer via singlet oxygen-sensitive linker for photodynamically assisted chemotherapy

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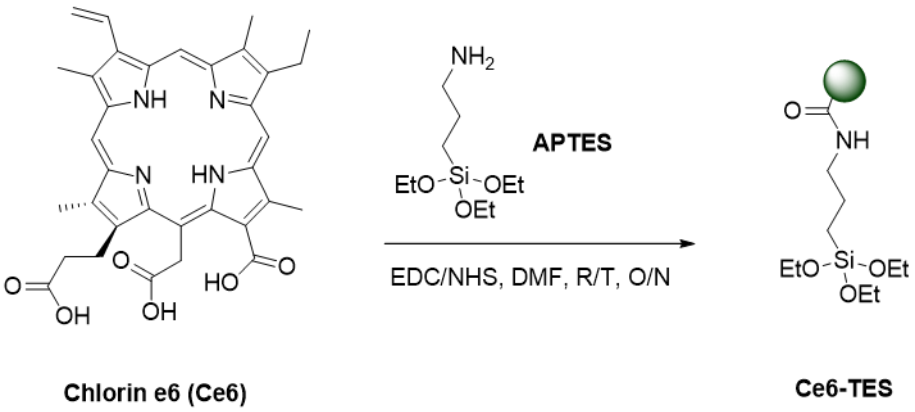
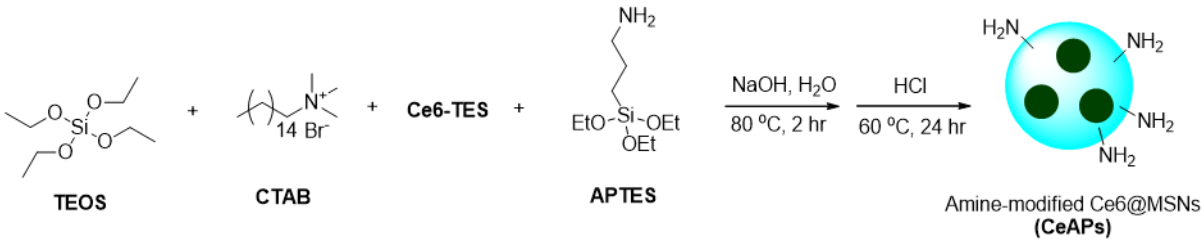



**Scheme S1.** Synthesis of Ce6-TES.




**Scheme S2.** Preparation of CeAP.

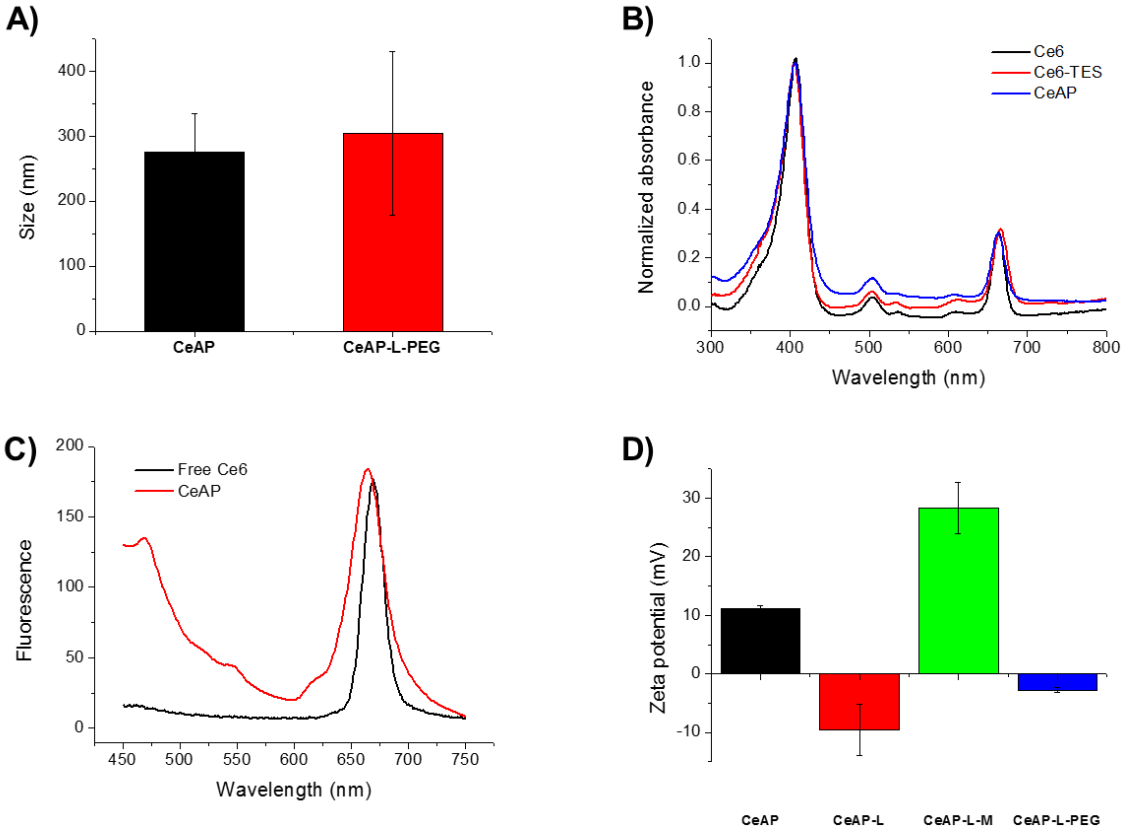



**Figure S1. A)** Hydrodynamic size of CeAP and CeAP-L-PEG. **B)** Normalized UV-vis spectra of Ce6, Ce6-TES and CeAP in DMSO, **C)** fluorescence spectra of Ce6 and CeAP with the same amount of Ce6, and **D)** zeta potential of nanoparticles.

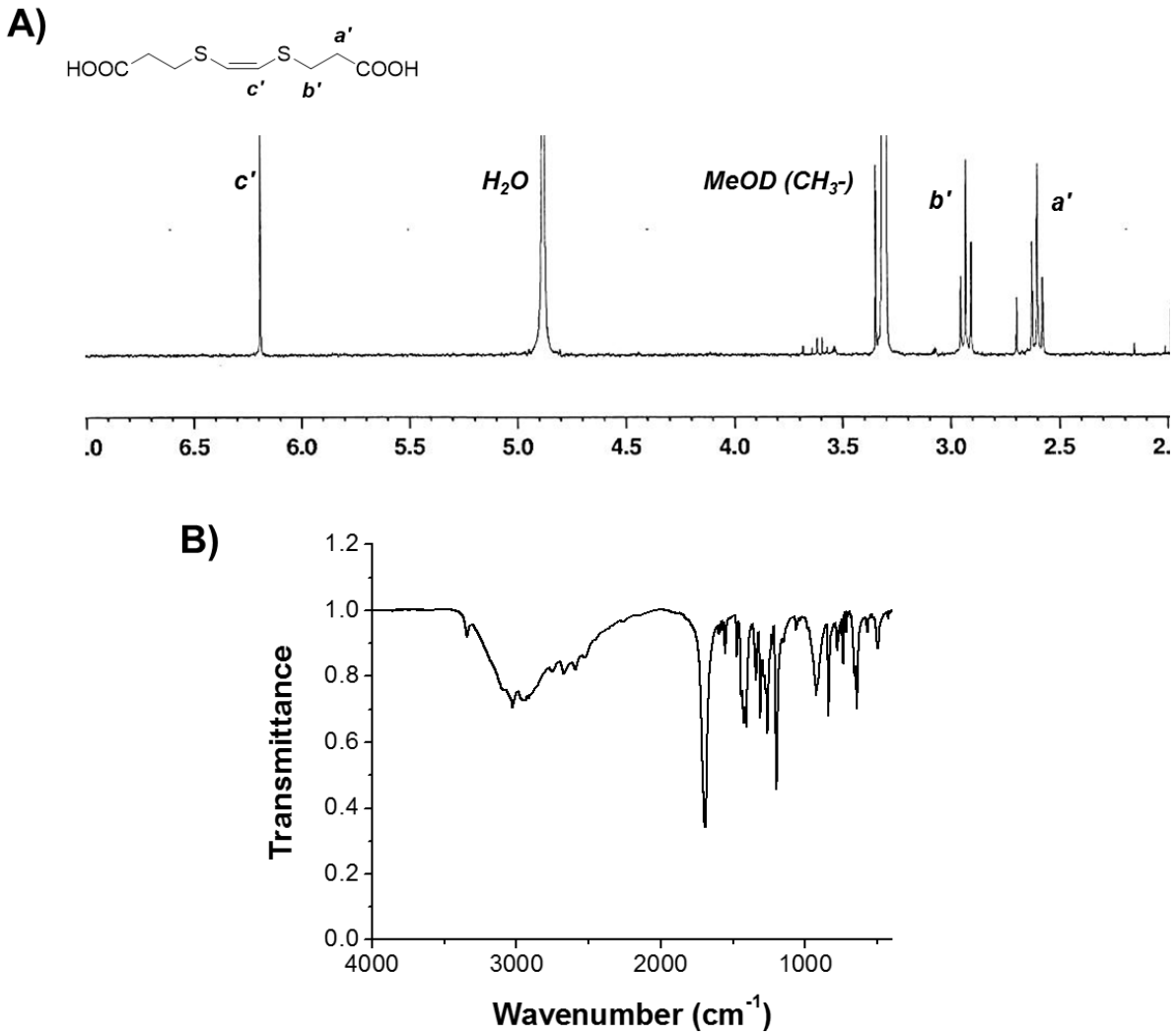



**Figure S2**. Characterization of SOSL using **A)** $^{1}$H NMR and B) FT-IR spectrum.

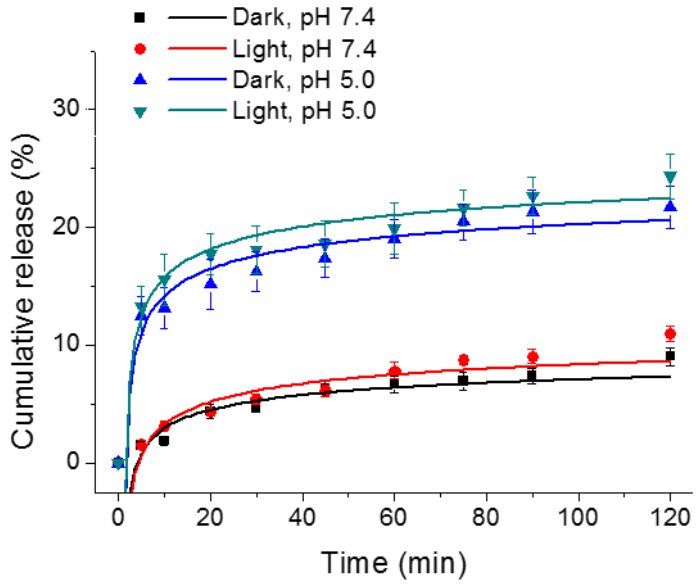



**Figure S3.** Photo-responsive drug release of DOX@CeAP-SA-PEG *in vitro*.

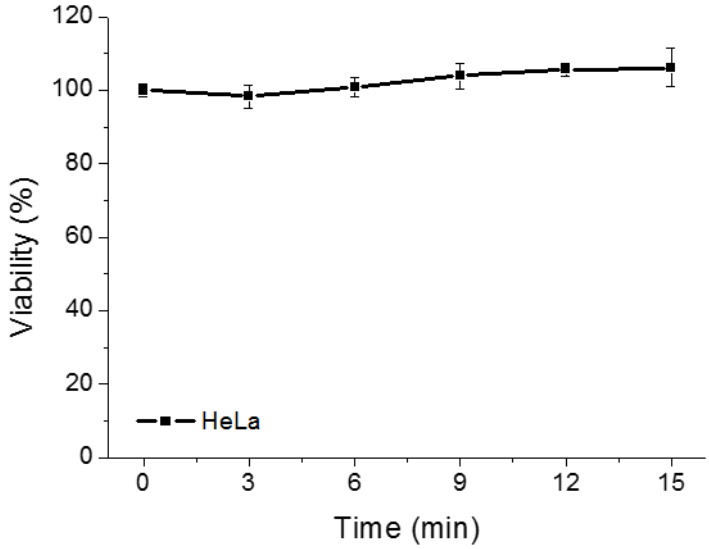



**Figure S4.** Cell viability of HeLa cell under expose to 660 nm laser with power density of 150 mW/cm$^2$.

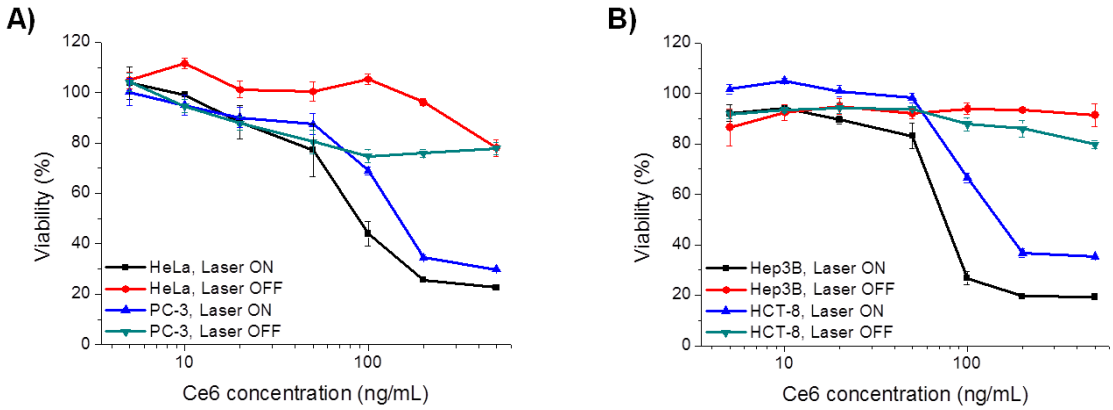



**Figure S5.** Photo-induced cytotoxicity of free Ce6 against **A)** HeLa, PC-3 and **B)** Hep3B, HCT-8 cell line.

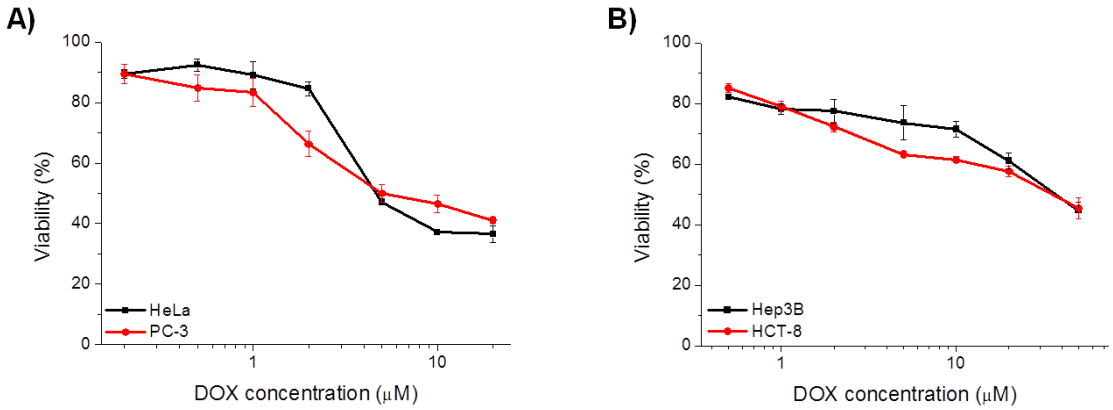



**Figure S6.** Cytotoxicity of free DOX against **A)** HeLa, PC-3 and **B)** Hep3B, HCT-8 cell line.

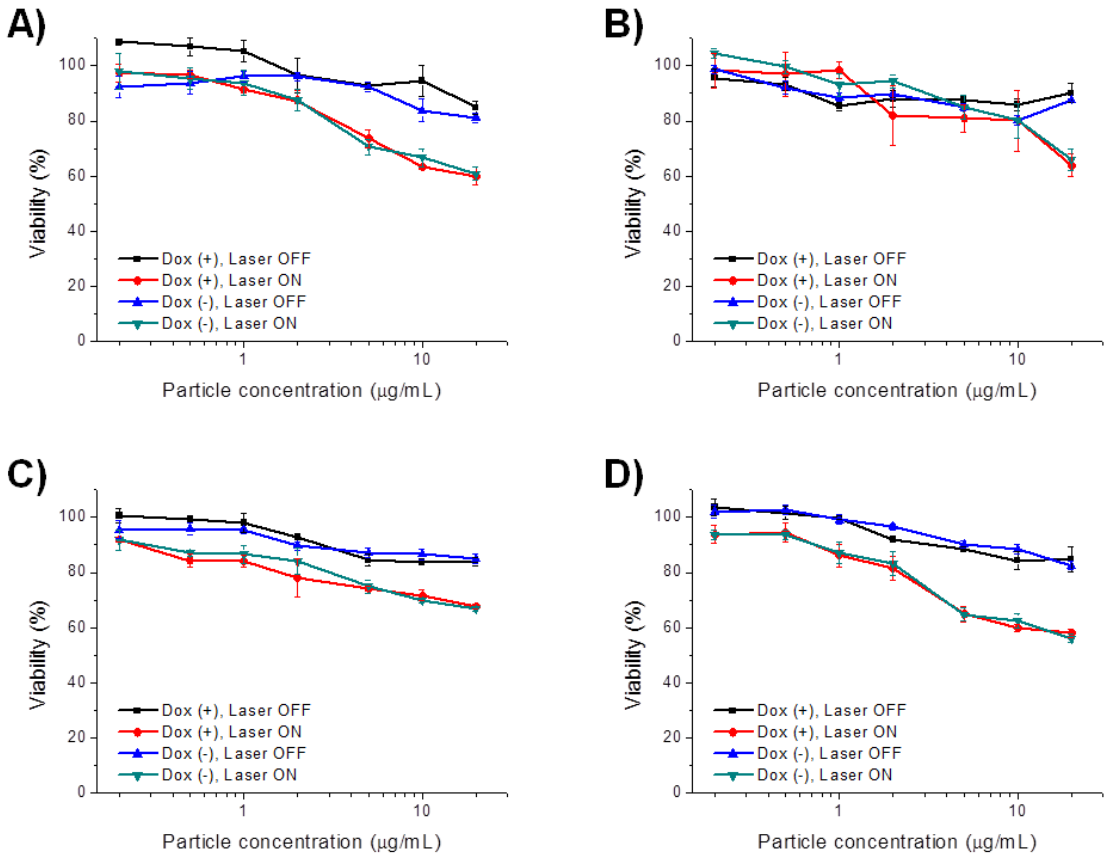



**Figure S7.** Photo-induced cytotoxicity of DOX@CeAP-SA-PEG against **A)** HeLa, **B)** PC-3, **C)** Hep3B and **D)** HCT-8 cell line.

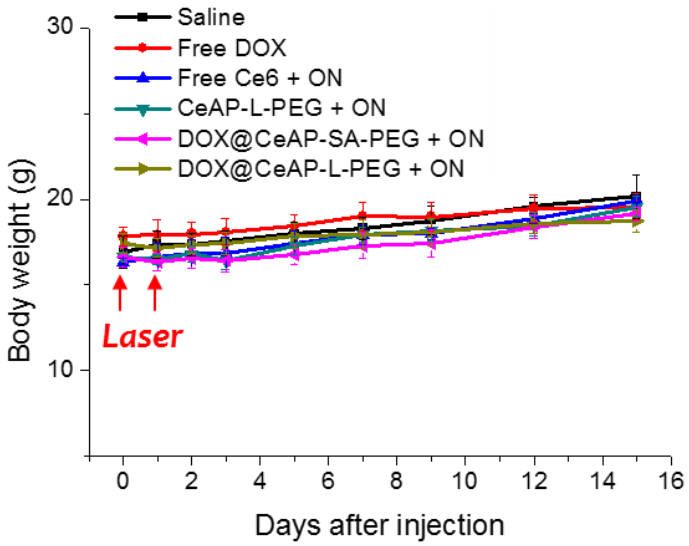



**Figure S8.** Body weight change of CT-26 bearing balb/c mice.