Electronic Supplementary Material (ESI) for RSC Advances.


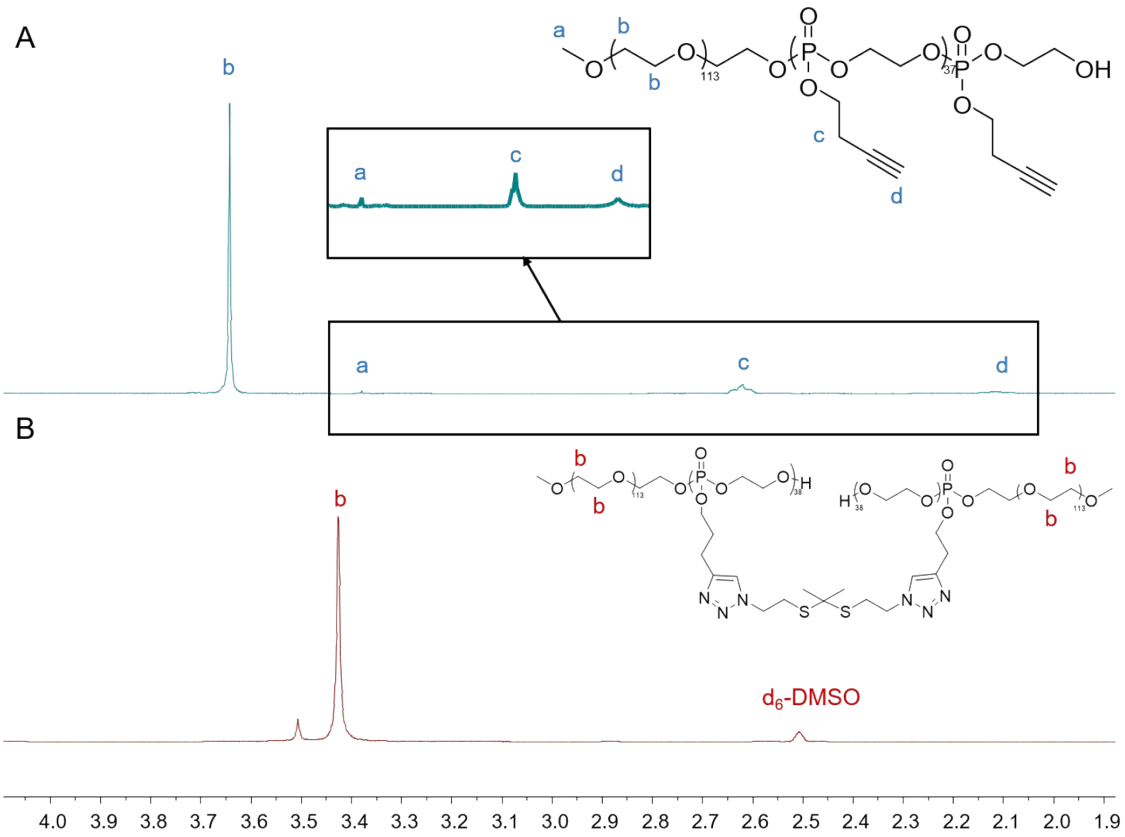


**Figure S1**. $^{1}$H-NMR spectrum of (A) PPE in $CDCl_3$ and (B) TK-PPE in $d_6$-DMSO recorded on the AVANCE III 400 MHz spectrometer.

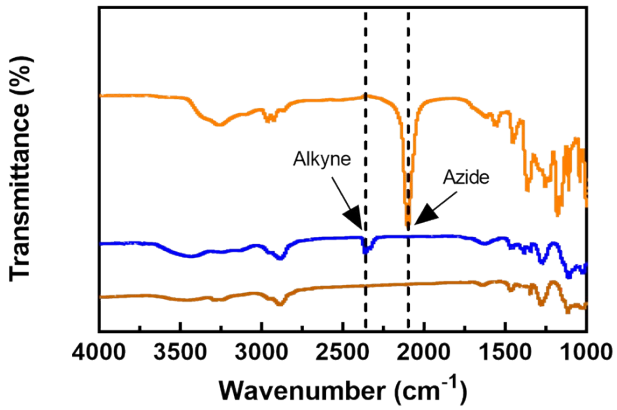


**Figure S2**. FT-IR spectrum of TK, PPE and TK-PPE. The arrows represented the characteristic peaks of alkynyl groups (2300 $cm^{-1}$) and azide groups (2100 $cm^{-1}$). From top to bottom: TK-linker (orange), PPE (blue), TK-PPE (brown).

**Table S1**. Drug loading content (DLC) and encapsulation efficiency (EE) of Ce6 and DOX for TK-$PPE_{Ce6}$, TK-$PPE_{DOX}$ and TK-$PPE_{Ce6\&DOX}$.

| | DLC (%) | | EE (%) | |
|---|---|---|---|---|
| | Ce6 | DOX | Ce6 | DOX |
| TK-$PPE_{DOX}$ | / | 6.28 | / | 69.1 |
| TK-$PPE_{Ce6}$ | 2.96 | / | 32.6 | / |
| TK-$PPE_{Ce6\&DOX}$ | 2.90 | 6.17 | 34.8 | 74.0 |

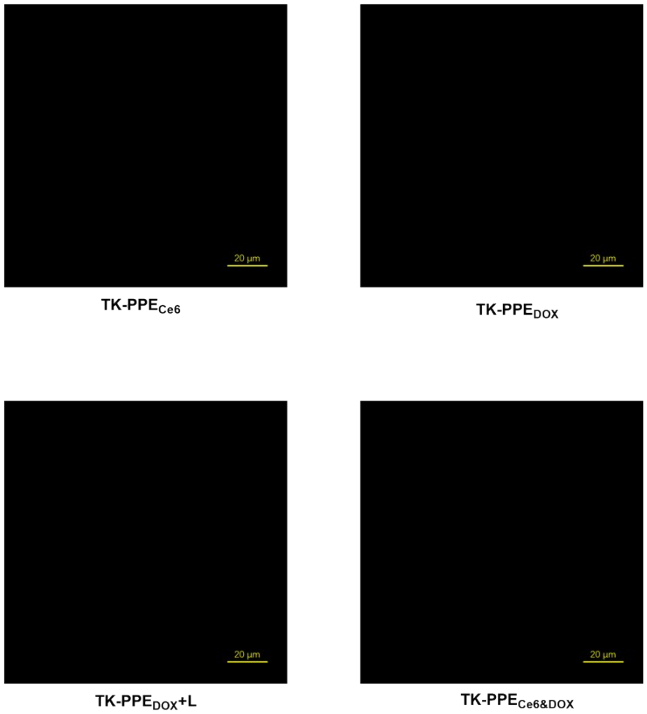


**Figure S3**. Immunofluorescence microscopy images of MCF-7 cells incubated with TK-PPE$_{Ce6}$, TK-PPE$_{DOX}$ and TK-PPE$_{Ce6\&DOX}$ respectively, and then treated DCFH-DA with or without 660 nm laser irradiation (0.2 W/cm$^2$, 15 min). The scale bar is 20 μm.

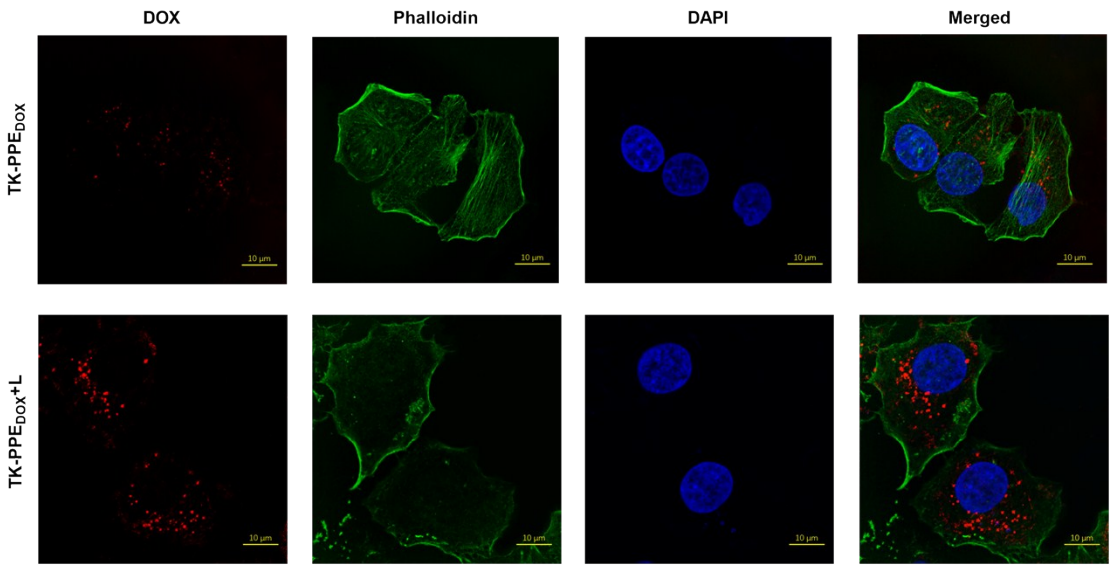


**Figure S4**. Assessment of intracellular DOX release and biodistribution in MCF-7 cells of TK-PPE$_{DOX}$ with or without irradiation (660 nm, 0.2 W/cm$^2$, 30 min). Cell nucleus and F-actin were counterstained with DAPI (6-diamidino-2- phenylindole, blue) and Alexa Fluor 488 phalloidin (green). The scale bar is 10 μm.