Electronic Supplementary Information for:

In situ injectable NIR-responsive supramolecular hydrogels encapsulating ROS-triggered chain-breakage prodrug micelles and hydrophilic Fe_3O_4 nanoparticles for enhanced synergistic chemo-photothermal therapy

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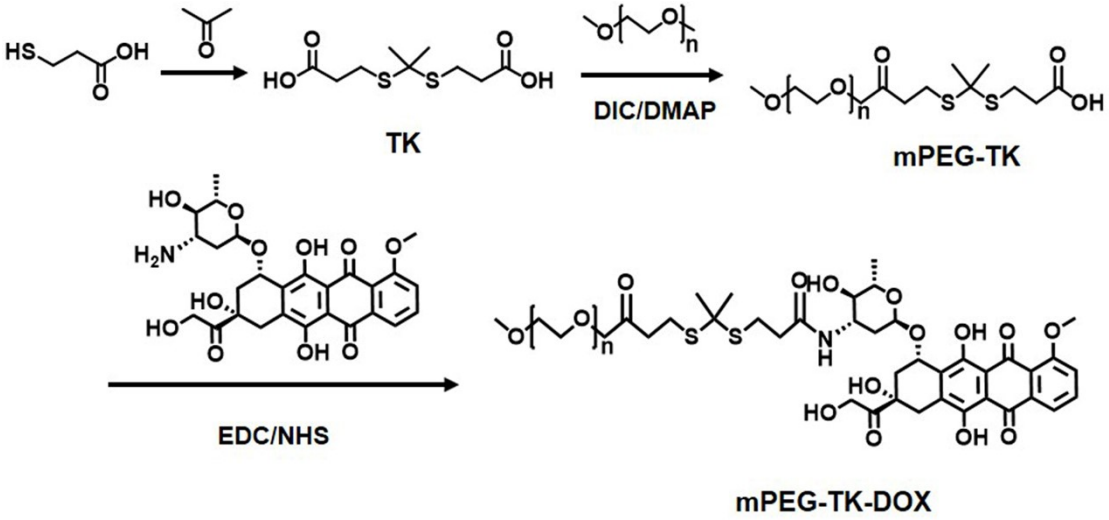

Fig. S1. Synthetic scheme for mPEG-TK-DOX.

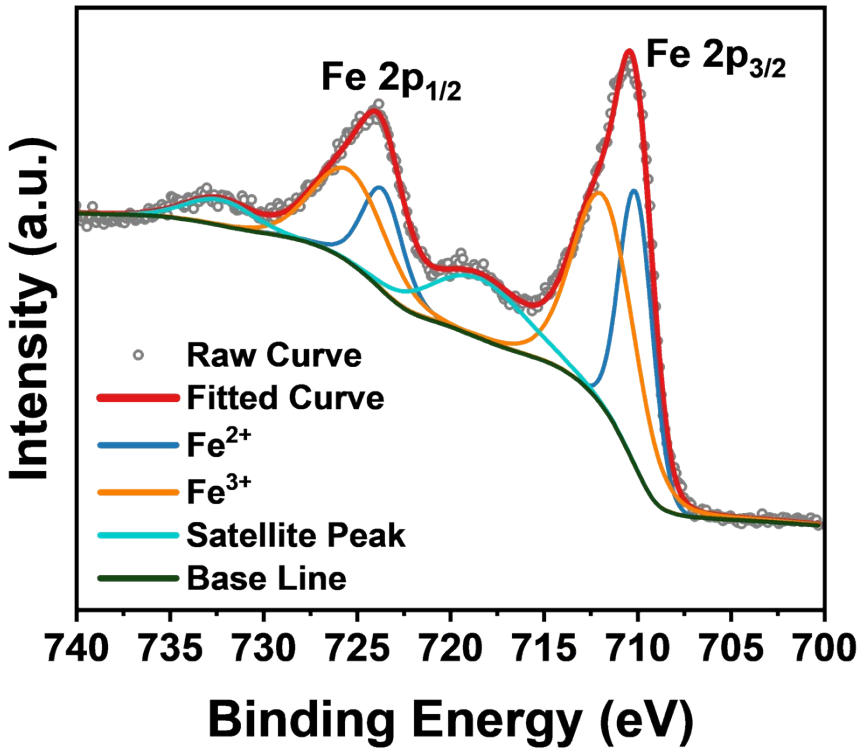

Fig. S2. The XPS spectrum of PEG/PEI@Fe_3O_4 NPs.

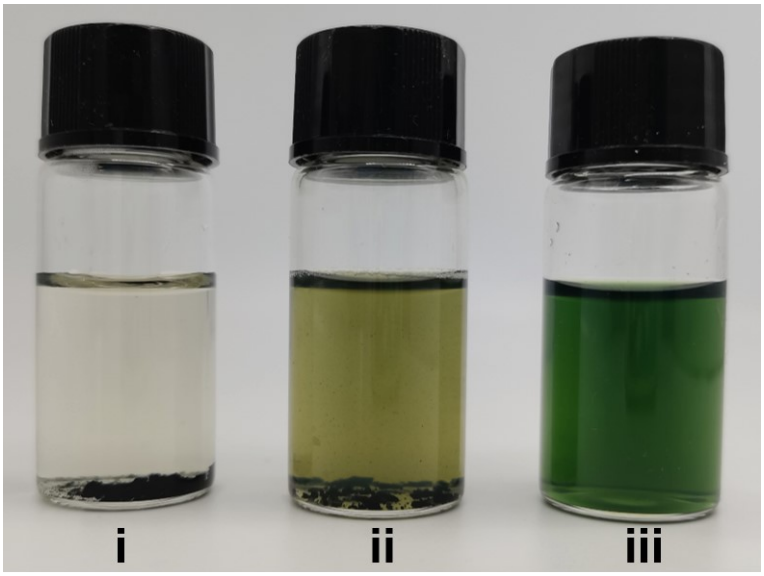

Fig. S3. Digital photos of (i) PNPG, (ii) PNPG+PEG, and (iii) PNPG-PEG composite in water. The PNPG polymer showed poor dispersibility and formed precipitation in both water and PEG solution. In contrast, the PNPG-PEG composite was highly water-soluble.

Table S1. Preparation of PNPG-PEG/α-CD supramolecular hydrogel.

Sample	PNPG-PEG（mg/ml）	α-CD（mg/ml）	Gelation time (min)	$T_{sol\text{-}gel}$ (℃)	Regelation time (min)
1	35	145	12	53	15
2	35	155	8	55	10
3	35	165	4	58	5

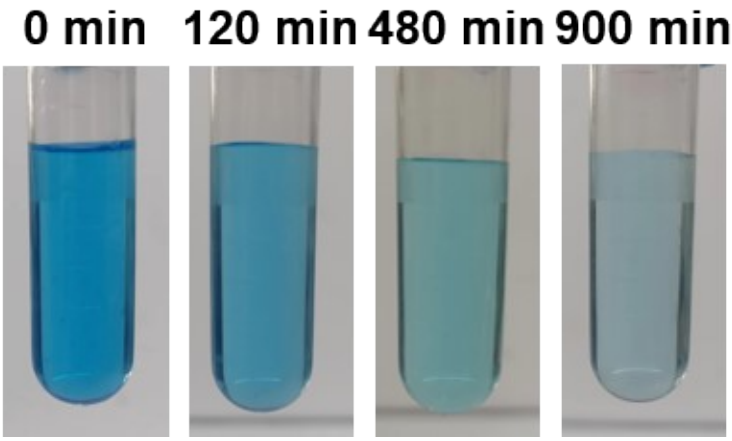

Fig. S4. Digital photos of MB degradation profile after incubating with H_2O_2 plus PEG/PEI@Fe_3O_4 NPs at 45°C.

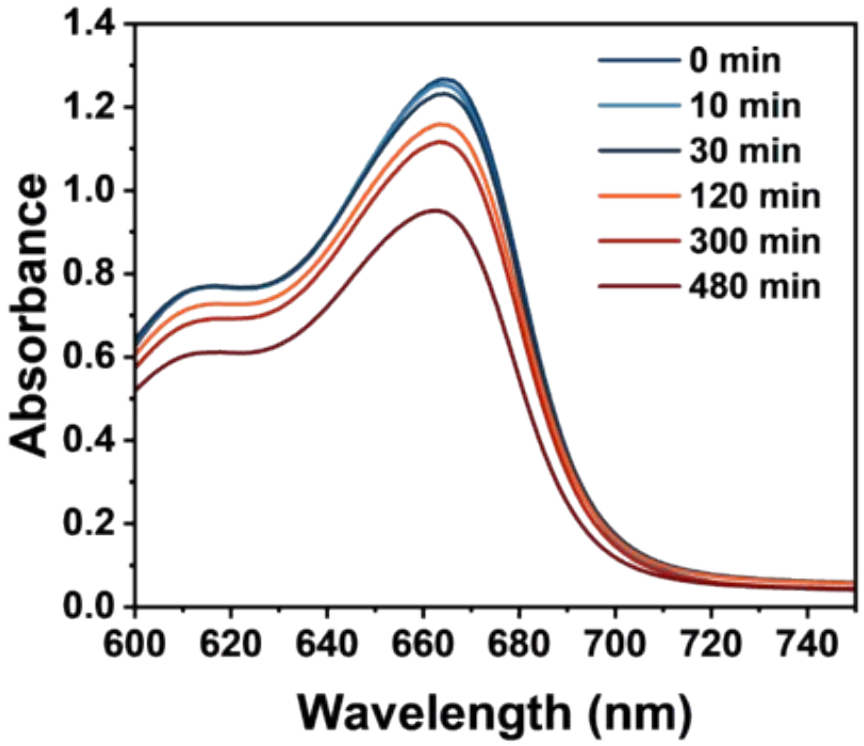

Fig. S5. UV absorption spectra of MB degradation at different time after incubating with H_2O_2 plus PEG/PEI@Fe_3O_4 NPs at 37 °C.

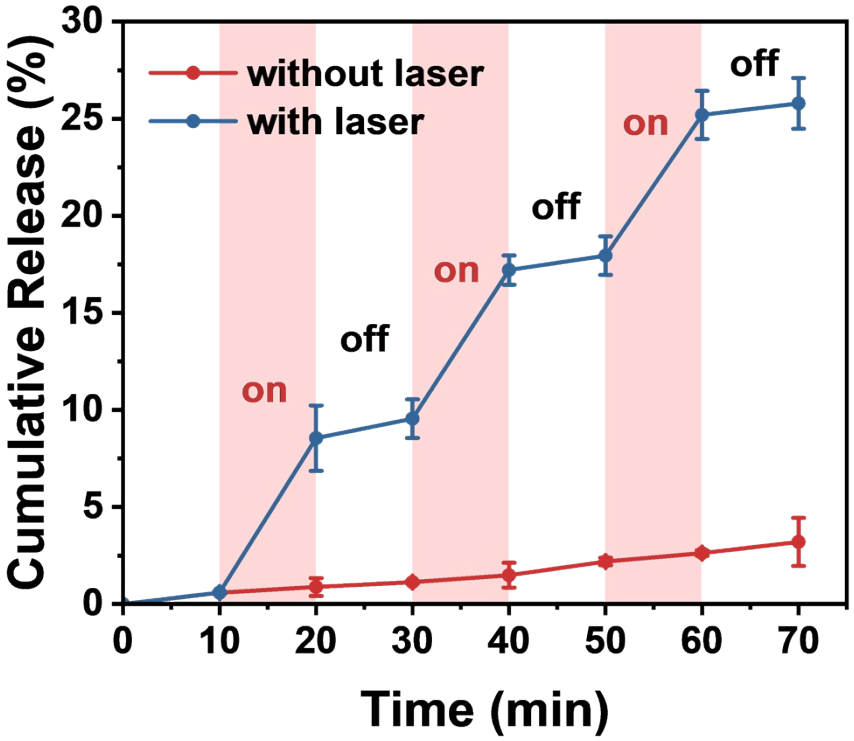

Fig. S6. Cumulative DOX release curves from composite hydrogels with (1.0 W/cm^2) or without NIR laser irradiation.

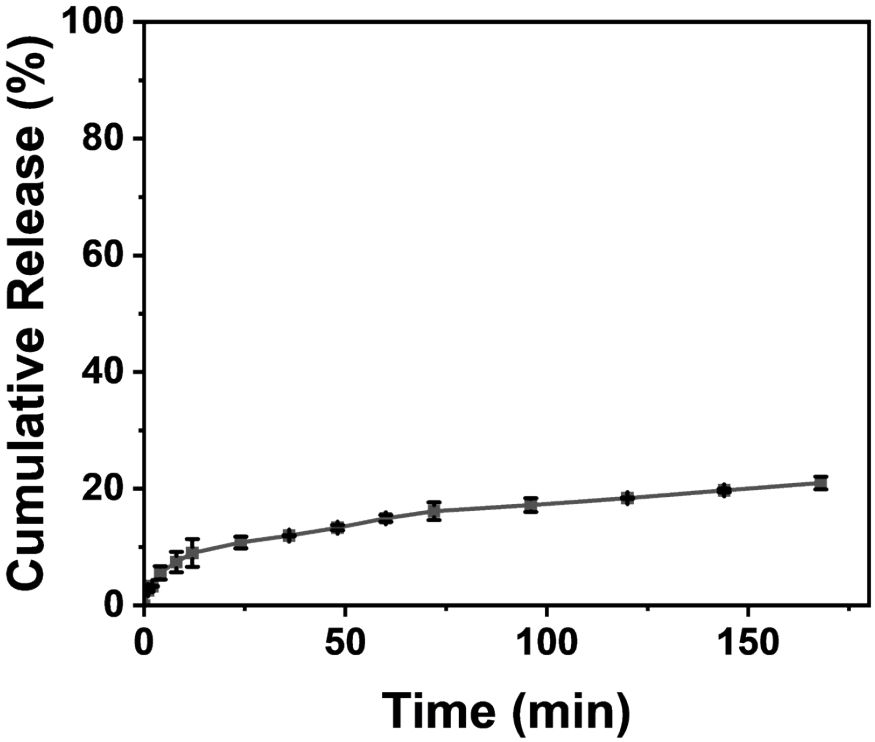

Fig. S7. The long-term cumulative DOX release curves from composite hydrogels without NIR laser irradiation.

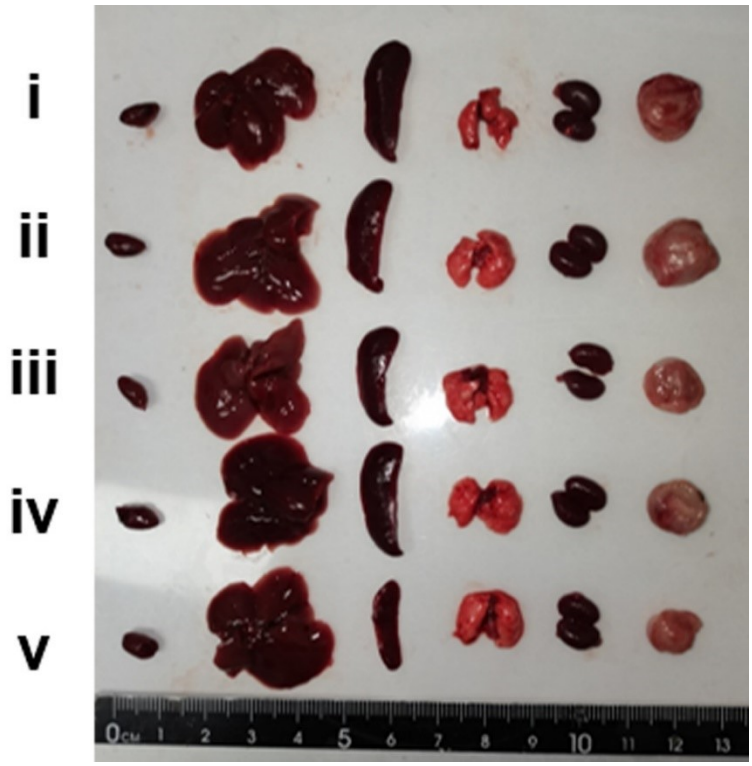

Fig. S8. Digital photos of tumors and major organs of mice under different treatments (i-v: PBS, Gel, Gel+NIR, Gel+M+NIR, Gel+M+Fe+NIR).