Supporting information

An enzyme-responsive and NIR-triggered lipid-polymer hybrid nanoplatform for synergistic photothermal/chemo cancer therapy

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Table S1 The impact of molar ratio of PEI to DCA and the molecular weight of PEI on grafting ratio of DCA. (The selected malar ratio is in bold)

Molecular weight of PEI	Molar ratio of DCA to PEI	Grafting ratio of DCA
1.8 KDa	6:1	11.20%
	10:1	15.10%
	12:1	15.37%
10 KDa	6:1	7.81%
	10:1	**11.00%**
	12:1	13.64%

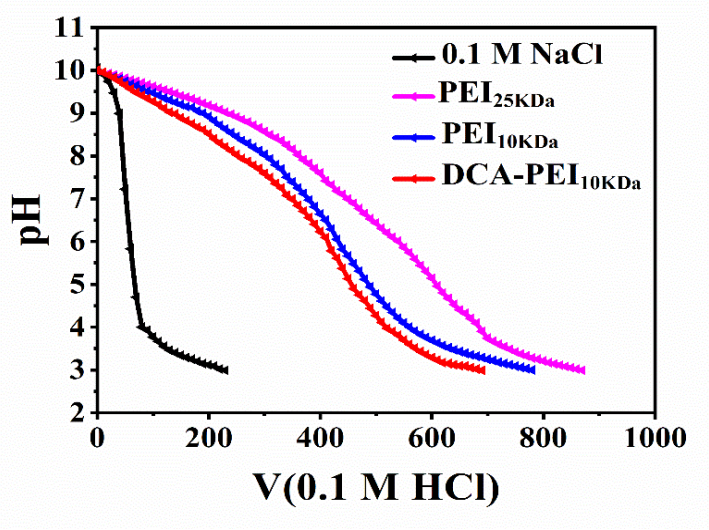

Fig. S1 The proton buffering capacity of 0.1 M NaCl, PEI_{25k}, PEI_{10k} and DCA-PEI_{10k} conjugates.

Table S2 The impact of molar ratio of DCA-PEI to ICG on stability of nanosystem. (The selected malar ratio is in bold)

Molar ratio of DCA-PEI to ICG	Structure of nanosystem	Phenomenon
4.5	Loose, unstable	
9	**Dense, stable**	
13.5	Dense, stable	

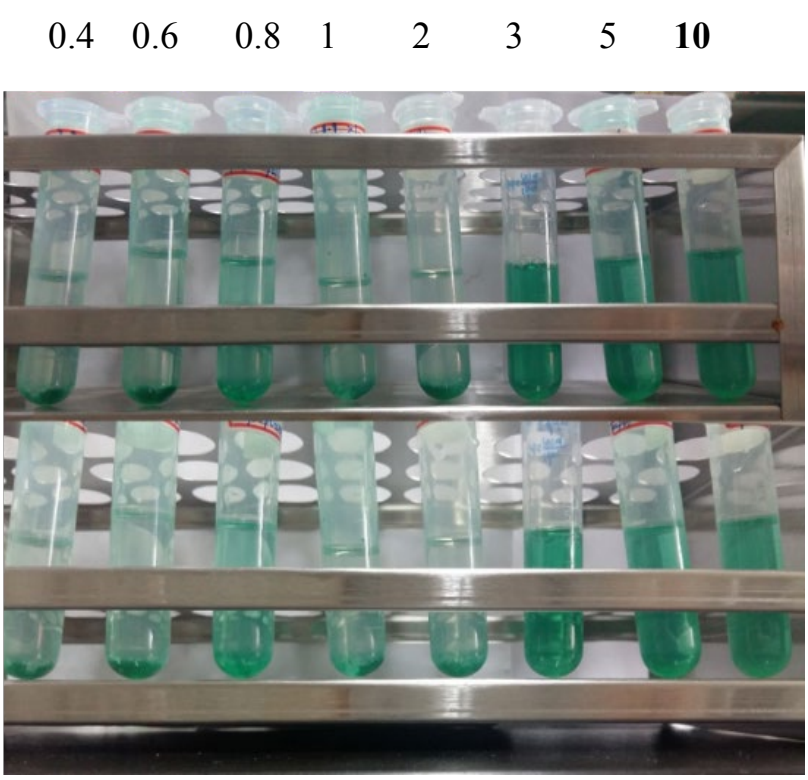

Fig. S2 Different experimental phenomenon of different mass ratios of DSPE-PEG$_{2000}$ to PEI (up) and DCA-PEI (down), the selected malar ratio is in bold.

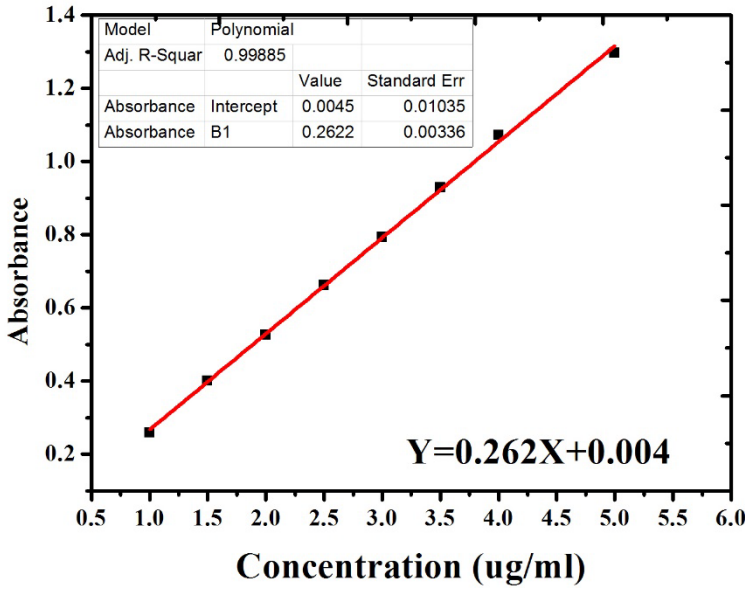

Fig. S3 Linear regression of UV-Vis absorbance to the concentration of Free ICG.

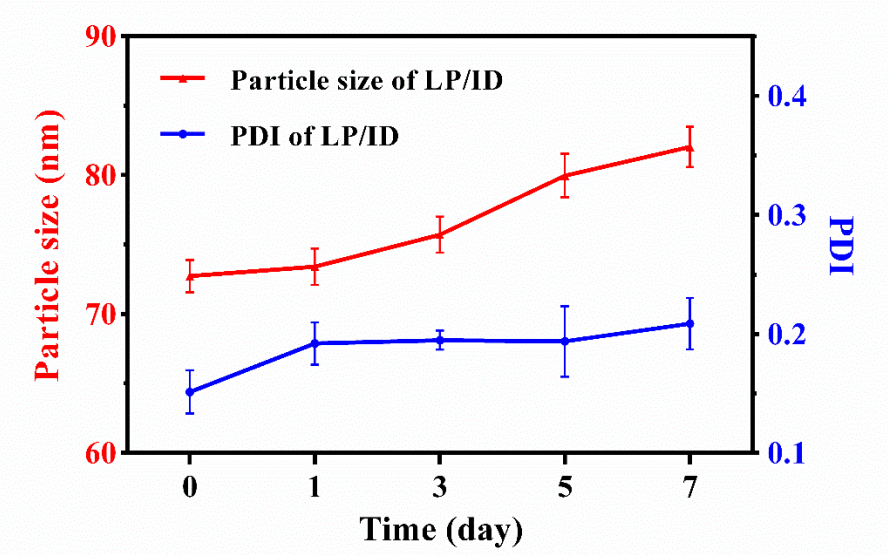

Fig. S4 Particle size and PDI changes of LP/ID within 7 days.

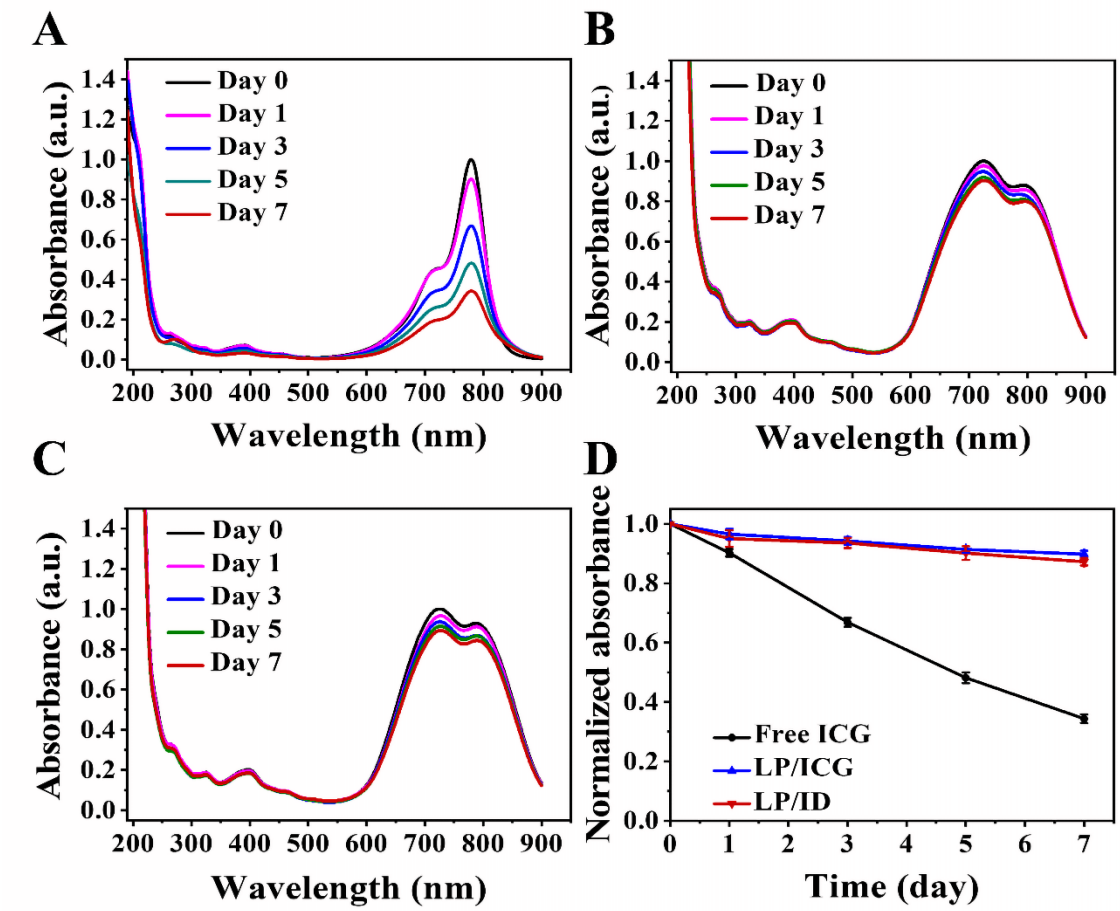

Fig. S5 UV-Vis absorption changes of (A) Free ICG, (B) LP/ICG and (C) LP/ID within 7 days. (D) The comparison of absorbance changes of three formulations within one week.

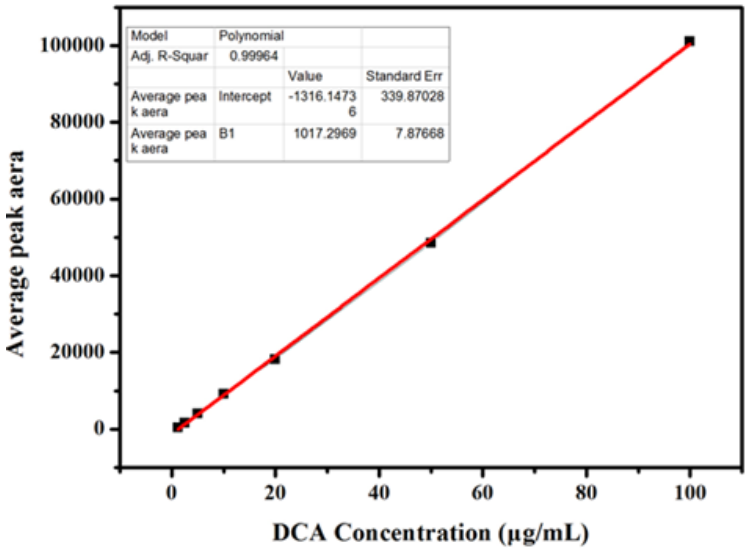

Fig. S6 The linear regression of average peak area to the concentration of free DCA by HPLC analysis. (Y= 1010.2X-985.21，R^2=0.99964)

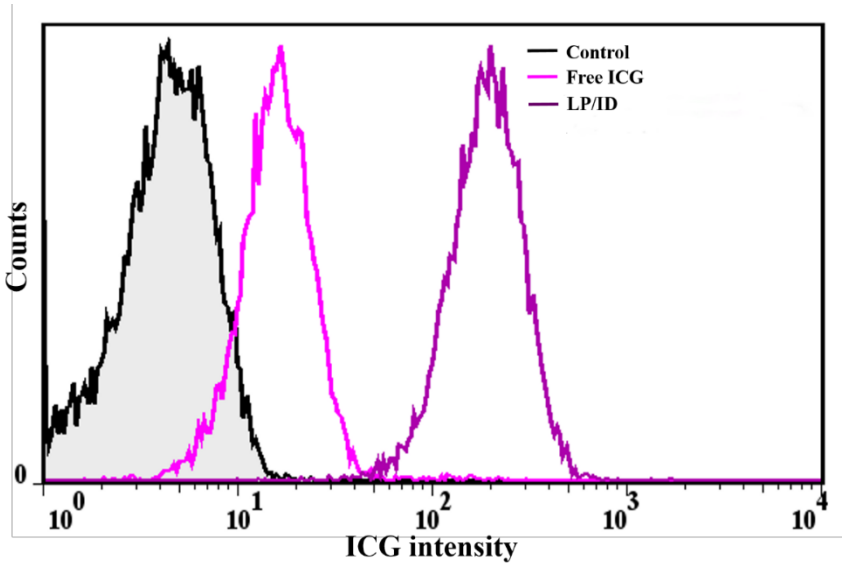

Fig. S7 Cellular uptake analyzed by flow cytometric of control, free ICG, and LP/ID (15 μg/mL ICG for 4 h incubation).

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