

Table S1 Characterization of synthesized polymer

	DP of PPS		DP of PEG		\overline{M}_n		d)
	Theo.	Cal. ^{a)}	Theo.	Cal. ^{b)}	NMR	GPC ^{c)}	
PPS₂₀-PEG₁₂	20	24.5	12	12.8	2400	4300	1.14

Notes:

a Calculated from the ratio of the ¹H NMR signal of the CH₂ groups in PPS repeating units and signals of the CH₃ group in PEG units.

b Calculated from the ratio of the ¹H NMR signal of the CH₂ groups in PEG repeating units and signals of the CH₃ group in PEG units.

c Determined via GPC in DMF at 30 °C with poly (methyl methacrylate) standards.

d Dispersity index calculated as M_w/M_n , and determined at the concentration of 1 mg/mL.

Abbreviations: DP, Degree of polymerization; \overline{M}_n , Number-average Molecular Weight; Theo, Theoretically; Cal, Calculation; NMR, Nuclear Magnetic Resonance spectroscopy; GPC, Gel permeation chromatography.

Table S2 Drug loading and encapsulation efficiency of DOX, ZnPc and DiD loaded polymersomes

	DL of DOX	EE of DOX	DL of ZnPc	EE of ZnPc	DL of DiD	EE of DiD
PD	11.69%	44.12%	-	-	-	-
PZ	-	-	2.21%	54.69%	-	-
PZD	5.44%	41.01%	2.45%	69.92%	-	-
P-DiD	-	-	1.36%	38.19%	3.33%	61.10%

Abbreviations: DL, drug loading efficiency; EE, encapsulation efficiency; DOX, doxorubicin hydrochloride; ZnPc, zinc phthalocyanine; PZD, ZnPc and DOX coloaded polymersomes; PZ, ZnPc loaded polymersomes; PD, DOX loaded polymersomes

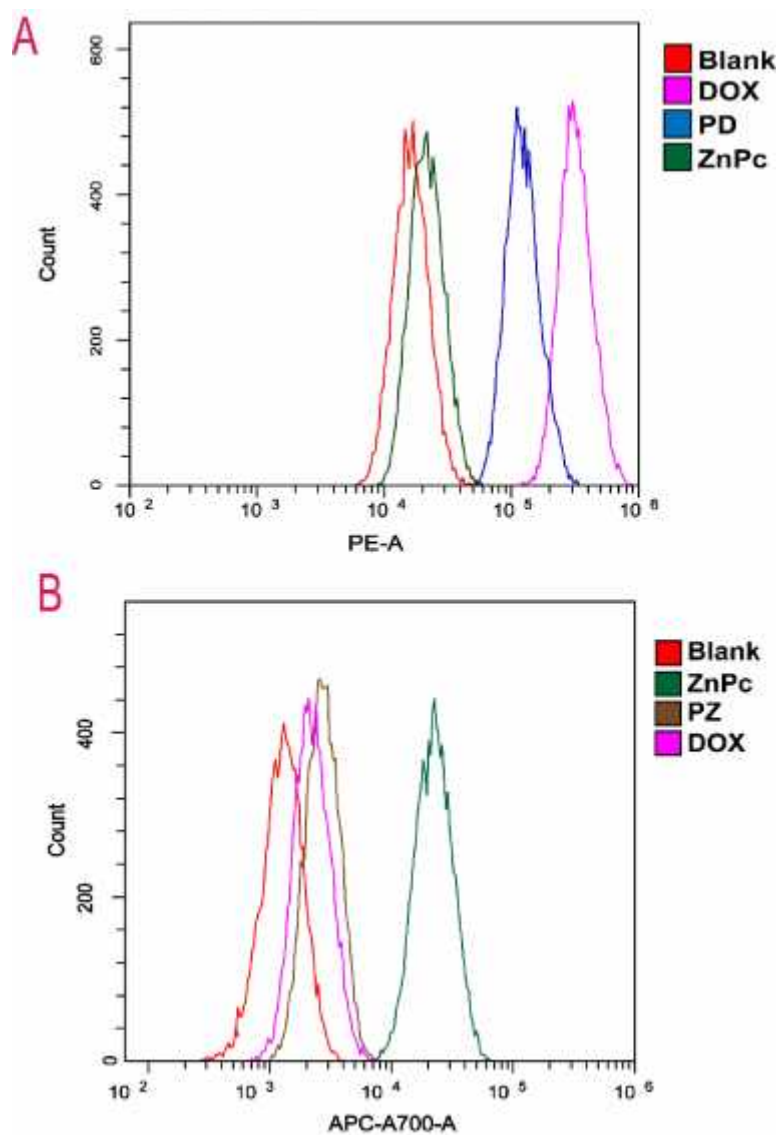


Figure S1 Fluorescence intensity of different samples in different channels. A) Fluorescence intensity of DOX, PD and ZnPc in the PE-A channel. B) Fluorescence intensity of ZnPc, PZ and DOX in the APC-A700-A channel.

Abbreviations: DOX, doxorubicin hydrochloride; ZnPc, zinc phthalocyanine; PZD, ZnPc and DOX coloaded polymersomes; PZ, ZnPc loaded polymersomes; PD, DOX loaded polymersomes

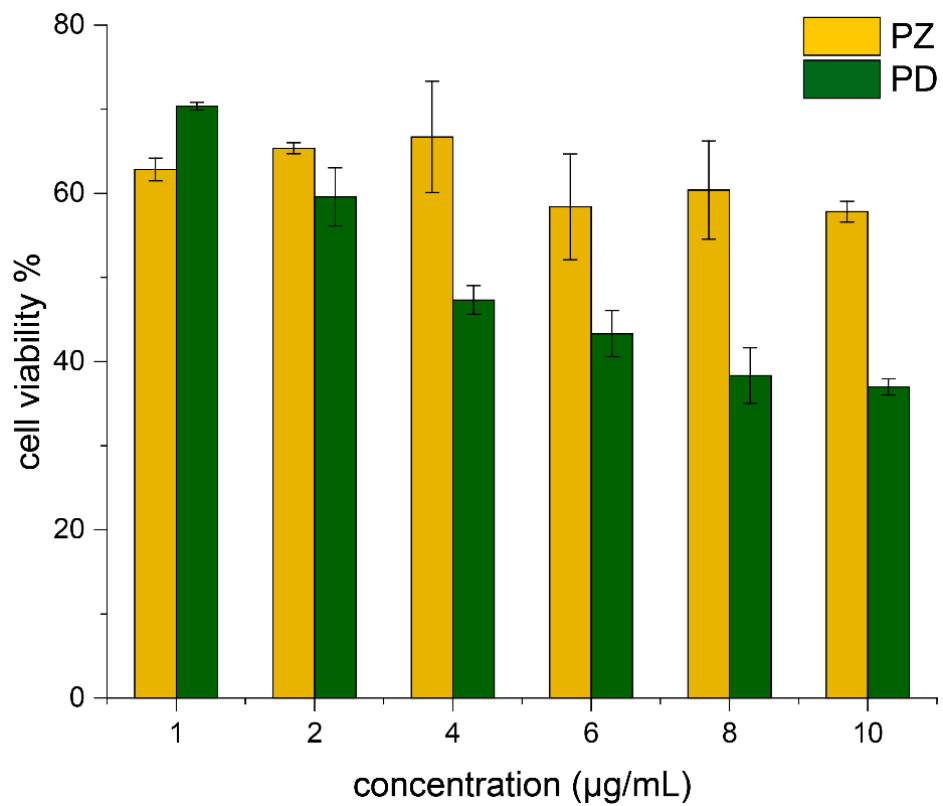


Figure S2 Cytotoxicity of PZ and PD against A375 cells without NIR irradiation.

Abbreviations: PZ, ZnPc loaded polymersomes; PD, DOX loaded polymersomes

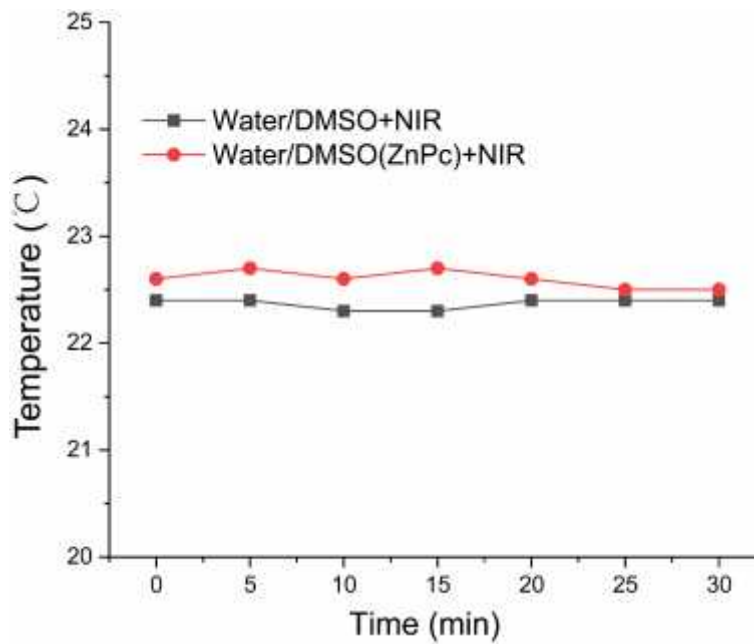


Figure S3 Temperature changes of water/DMSO mixed solution under the irradiation of 660 nm laser at 100mW/cm² with or without ZnPc for 30 minutes.

Abbreviations: ZnPc, zinc phthalocyanine; NIR, near infrared light