Supporting Information

A multifunctional nanoplatform for cancer chemo-photothermal synergistic therapy and overcoming multidrug resistance

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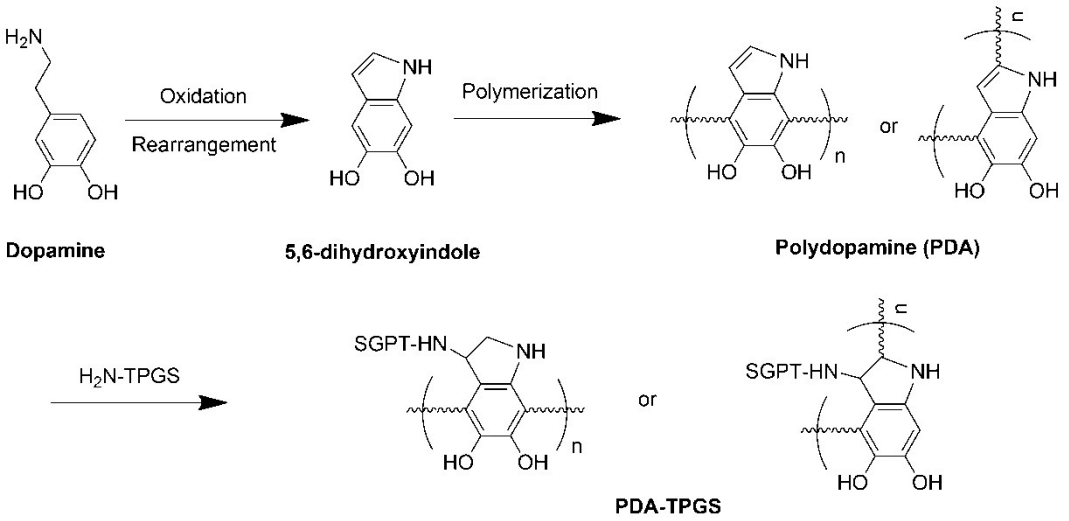

Scheme S1. The oxidative self-polymerization mechanism of dopamine and the conjugation mechanism between H_2N-TPGS and PDA coating.

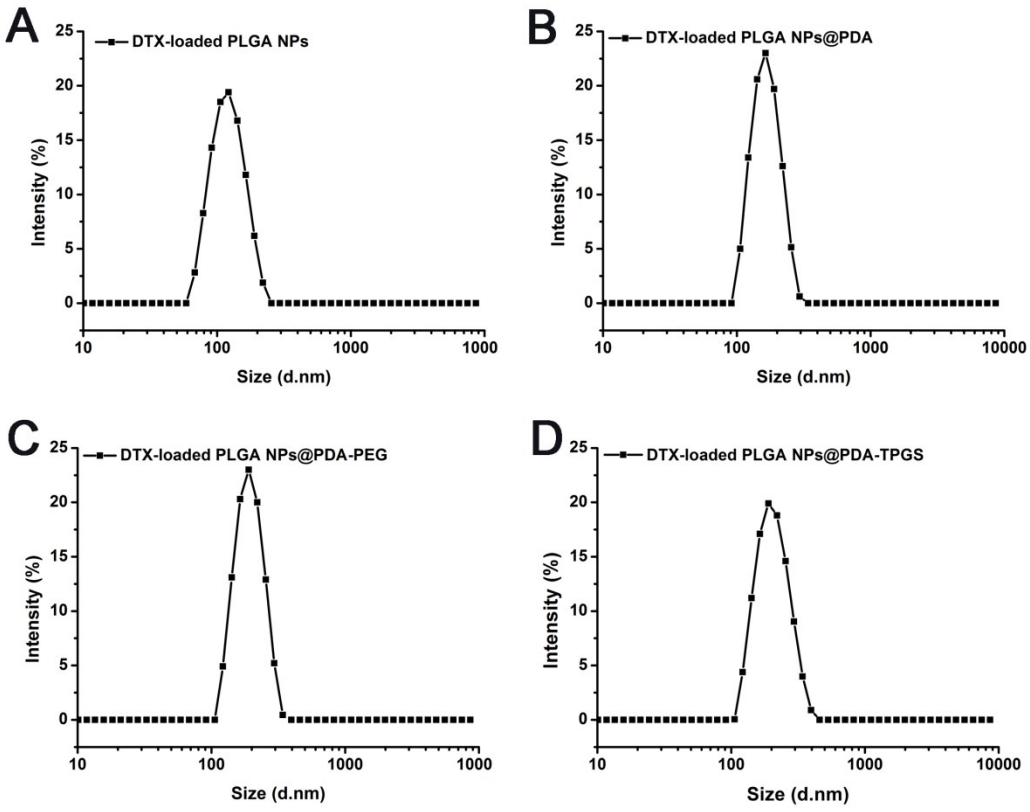

Figure S1. DLS size distribution of DTX-loaded PLGA NPs (A), PLGA NPs@PDA (B), PLGA NPs@PDA-PEG (C) and PLGA NPs@PDA-TPGS (D).

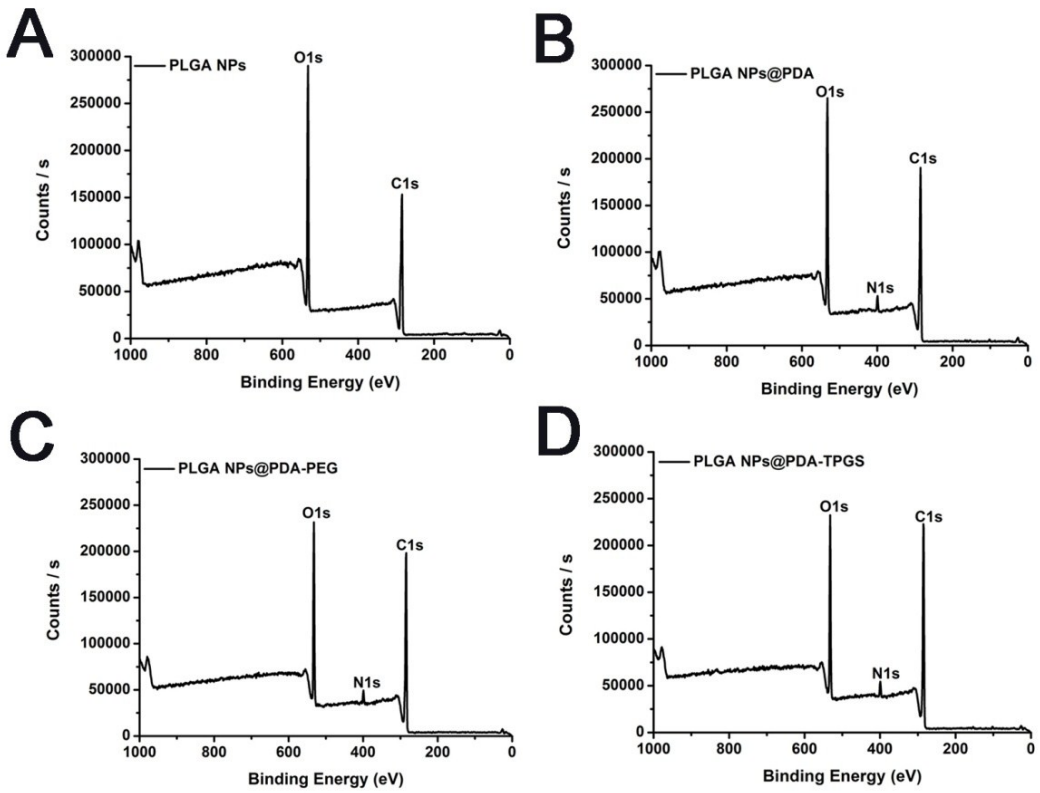

Figure S2. XPS spectra analysis of PLGA NPs, PLGA NPs@PDA, PLGA NPs@PDA-PEG and PLGA NPs@PDA-TPGS.

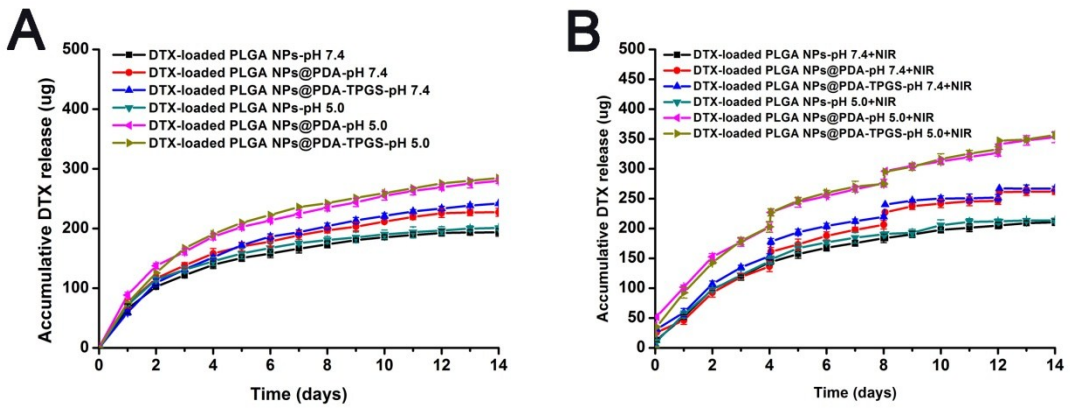

Figure S3. *In vitro* release profiles of the DTX-loaded PLGA NPs, DTX-loaded PLGA NPs@PDA and DTX-loaded PLGA NPs@PDA-TPGS. (A) without NIR; (B) with NIR.

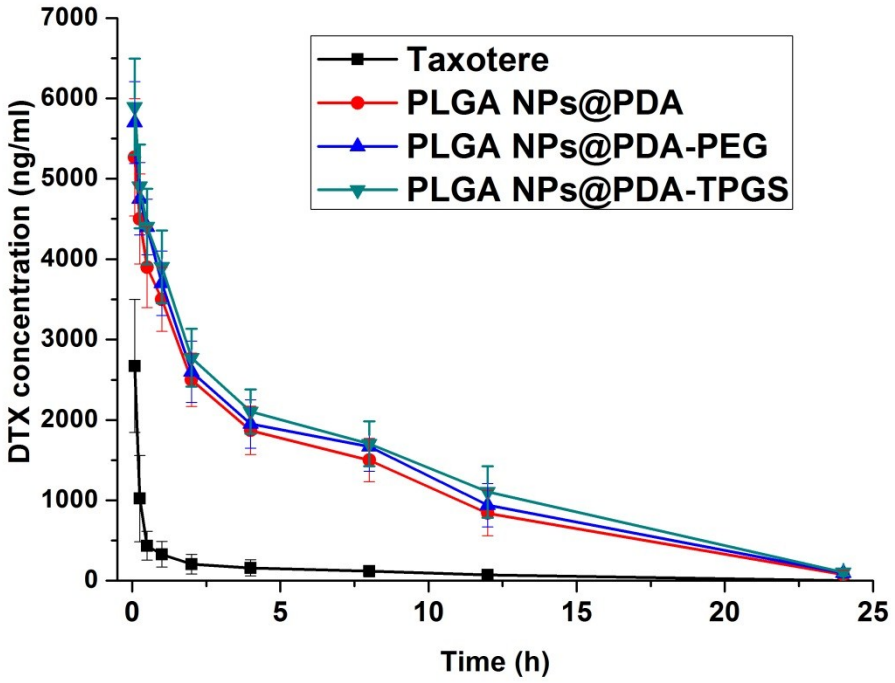

Figure S4. DTX concentration-time profile following intravenous administration of Taxotere®, DTX-loaded PLGA NPs@PDA, DTX-loaded PLGA NPs@PDA-PEG and DTX-loaded PLGA NPs@PDA-TPGS in SD rats at the DTX dose of 10 mg/kg (n = 5).

Table S1. The dispersivity of DTX-loaded PLGA NPs@PDA-TPGS in PBS and DMEM

Samples(n=3)	Size (nm)	PDI	ZP(mV)
DTX-loaded PLGA NPs @PDA-TPGS (PBS)	181.2 ± 2.8	0.129	3.2±0.3
DTX-loaded PLGA NPs @PDA-TPGS (DMEM)	179.5 ± 5.7	0.113	3.5±0.3

Table S2. IC_{50} values of Taxotere®, DTX-loaded PLGA NPs@PAD-PEG, DTX-loaded PLGA NPs@PAD-TPGS and DTX-loaded PLGA NPs@PAD-TPGS+NIR on MCF-7 cells after 24 h and 48 h incubation

Incubation time (h)	IC_{50} (μg/ml)			
	Taxotere®	**DTX-loaded PLGA NPs @ PAD-PEG**	**DTX-loaded PLGA NPs @PAD-TPGS**	**DTX-loaded PLGA NPs@PAD-TPGS+NIR**
24	19.21±1,53	21.61±1.37	23.00±1.45	10.77±1.87
48	10.96±0.78	4.64±0.69	2.16±0.73	1.41±0.45

Table S3. IC_{50} values of Taxotere®, DTX-loaded PLGA NPs@PAD-PEG, DTX-loaded PLGA NPs@PAD-TPGS and DTX-loaded PLGA NPs@PAD-TPGS+NIR on MCF-7/ADR cells after 24 h and 48 h incubation

Incubation time (h)	IC_{50} (µg/ml)			
	Taxotere®	**DTX-loaded PLGA NPs @ PAD-PEG**	**DTX-loaded PLGA NPs @PAD-TPGS**	**DTX-loaded PLGA NPs@PAD-TPGS+NIR**
24	17.06±1.829.	22.45±1,92	5.65±1,37	1.45±1.09
48	73±0.66	4.25±0.54	1.59±0.61	0.67±0.39