Supporting Information

MR-visible and pH-ultrasensitive micellar nanodrugs for cancer theranostic application

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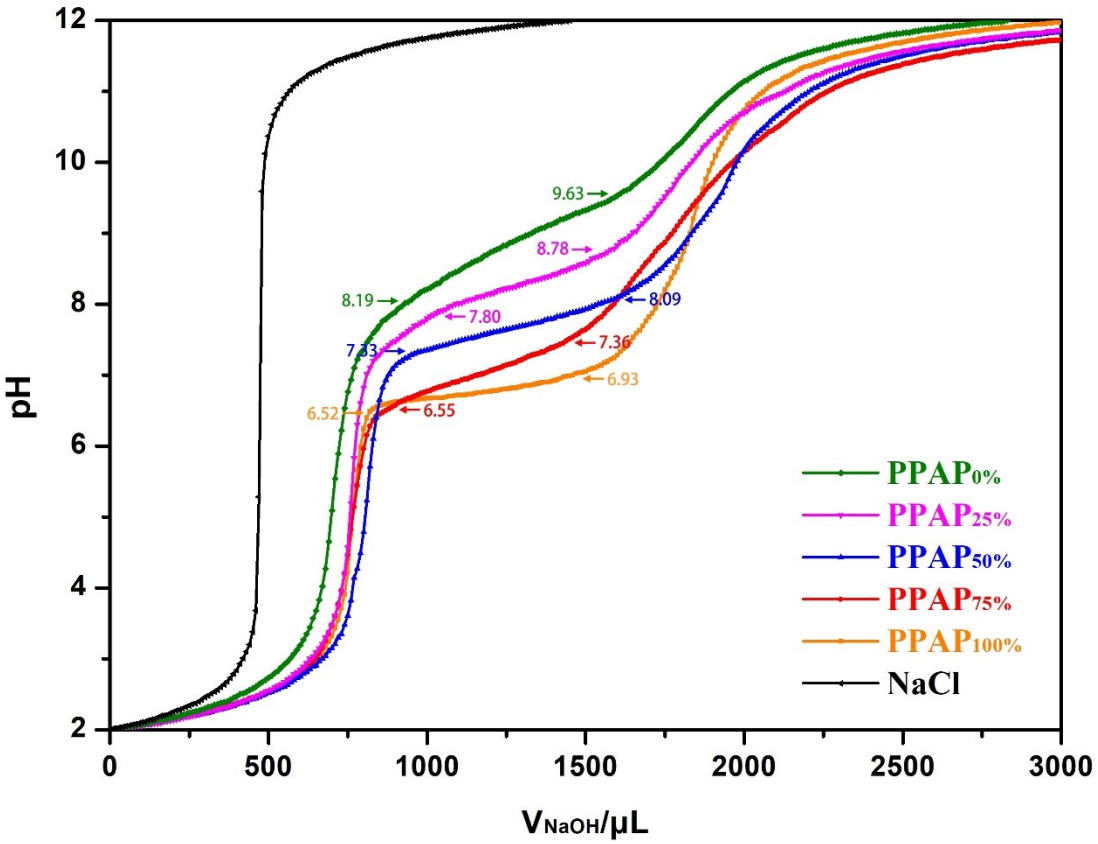

Fig. S1. Acid–base titration curve of $PPAP_{0\%}$ (A), $PPAP25_{\%}$ (B), $PPAP_{50\%}$ (C), $PPAP_{75\%}$ (D), $PPAP_{100\%}$ (E)and NaCl solution (F). (NaOH concentration: 0.2 N).

Table S1. The laoding contents of DOX and SPIONs of each micelle.

Composition	$PPAPSD_{0\%}$	$PPAPSD_{25\%}$	$PPAPSD_{50\%}$	$PPAPSD_{75\%}$	$PPAPSD_{100\%}$
Concentration of Sample (ppm)	600	2500	2450	2750	3500
Concentration of DOX (ppm)	6.72	98.00	101.43	157.45	82.95
Concentration of SPIONs (ppm)	1.20	62.50	95.55	189.75	164.50
Drug Loading content (%)	1.12	3.92	4.14	5.72	2.37
SPIO Loading content (%)	0.20	2.50	3.90	6.90	4.70

ppm, μg/mL

Table S2. IC_{50} values of DOX against HepG2 cells in different formations

Formulations	IC_{50} (μg/mL)
DOX·HCl	0.22
$PPAPSD_{75\%}$	0.76
$PPAPSD_{75\%}$ (pH 5.0)	0.29

IC_{50}, half-maximal inhibitory concentration.

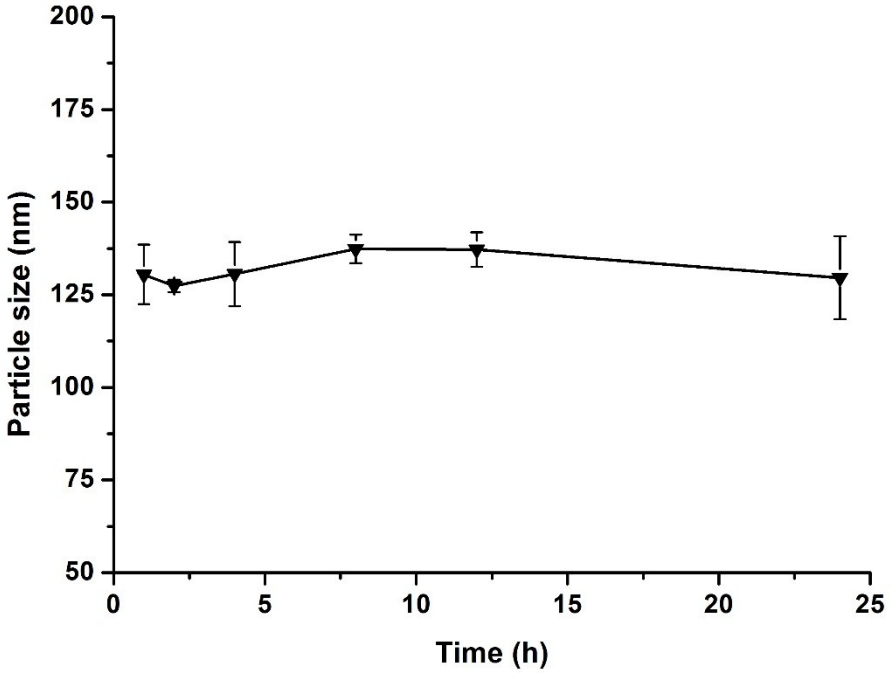

Fig. S2. Particle size of $PPAPSD_{75\%}$ against time in PBS containing 10% FBS. Data were presented as mean ± standard deviation (n = 3).

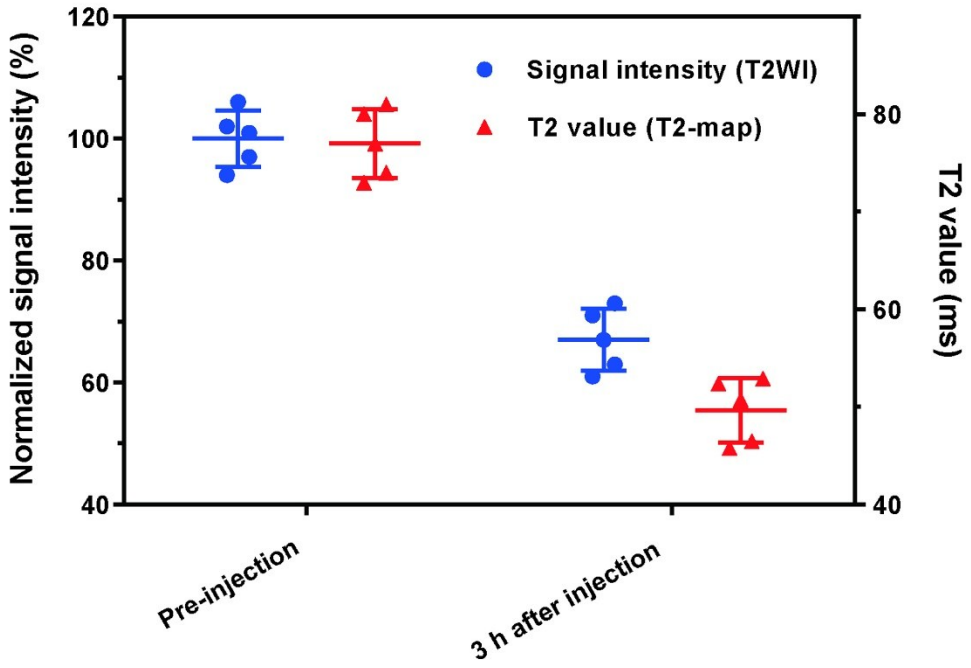

Fig. S3. Signal intensity (on T2WI images) and T2 value (on T2-map images) change of the tumors before and after the injection (means ± SD; n = 5).

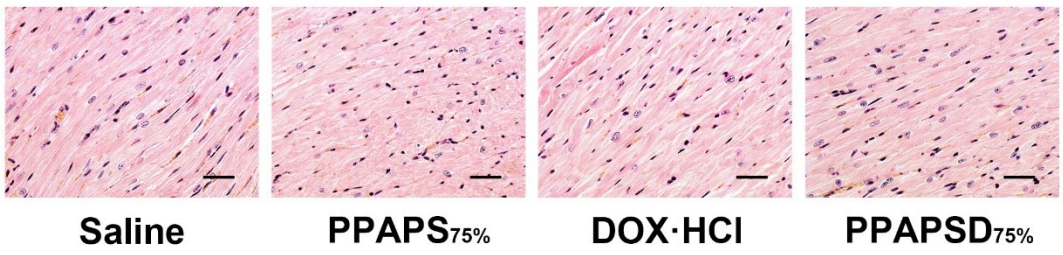

Fig. S4. H&E staining of heart tissue sections from the mice treated with different formulations. The DOX·HCl group exhibited obvious myocyte loss and matrix disorganization in the cardiac tissues, whereas the $PPAPS_{75\%}$ and $PPAPSD_{75\%}$ groups displayed no significant cardiotoxicity (scale bar: 20 μm).