

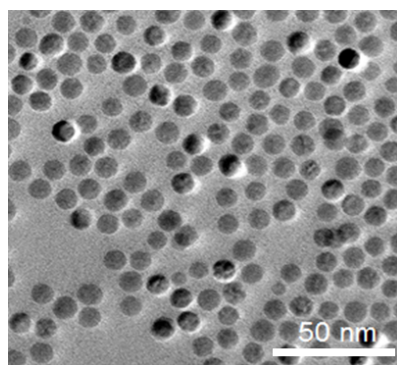
## Supplementary Information

### Programmed Co-delivery of Paclitaxel and Doxorubicin Boosted by Camouflaging with Erythrocyte Membrane

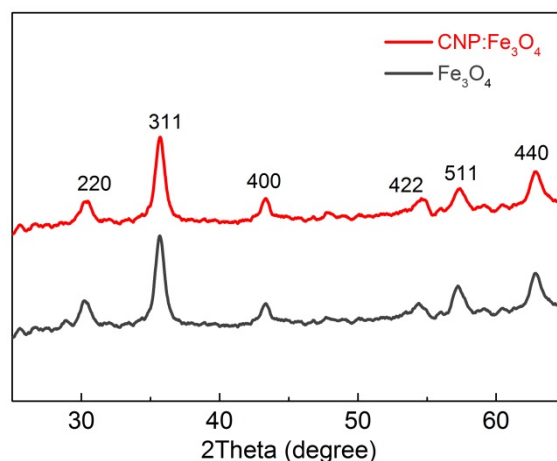
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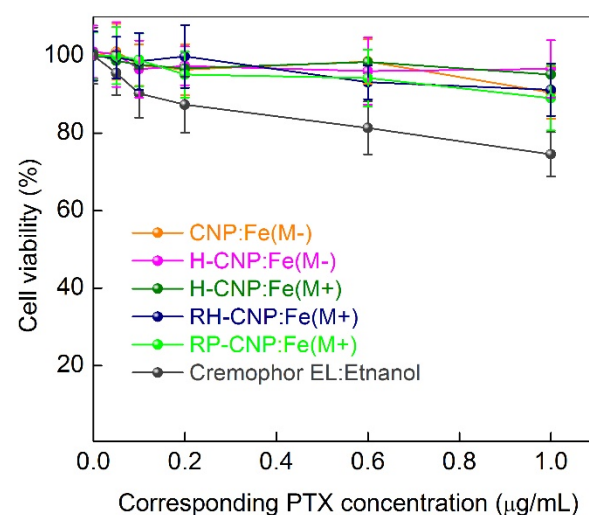
**Figure S1.** Schematic illustration of the conjunction of DSPE-PEG and cyclic RGD peptide.



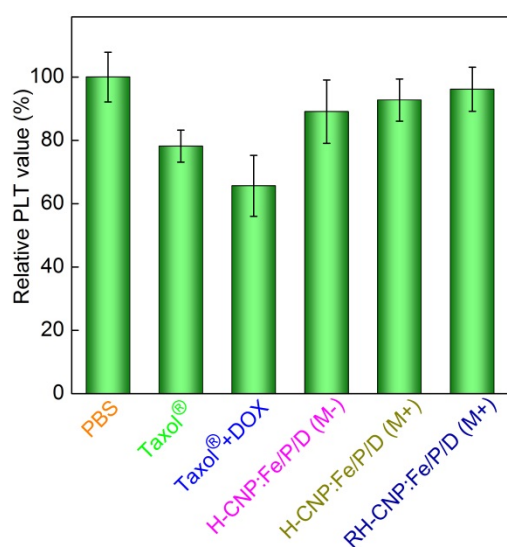
**Figure S2.** TEM image of Fe<sub>3</sub>O<sub>4</sub> nanocrystallites.



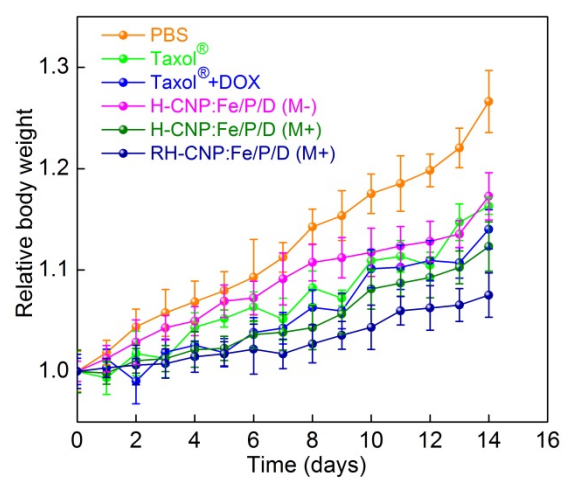
**Figure S3.** XRD patterns of Fe<sub>3</sub>O<sub>4</sub> and CNP:Fe<sub>3</sub>O<sub>4</sub>.



**Figure S4.** The viability of human umbilical vein endothelial cells (HUVEC) after 24 h incubation with blank NPs with or without an external magnetic field. The concentration of blank nanoparticles in panel A is normalized to the corresponding PTX concentration.



**Figure S5.** Platelet (PLT) value of mice after treatment with different regimens.



**Figure S6.** Body weight variations of LLC-bearing mice received treatment with different regimens.

**Table S1.** Encapsulation ratio (ER) and loading ratio (LR) of Fe<sub>3</sub>O<sub>4</sub> nanocrystallites, PTX, and DOX by CNP.

Ingredient	ER(%)	LR(%)
Fe <sub>3</sub> O <sub>4</sub>	76.42	10.16
PTX	83.75	23.27
DOX	65.83	7.80

**Table S2.** Zeta potential and particle size of different NPs.

Group	Zeta potential (mV)	Particle size (nm)
CNP:Fe/P	-30.26 ± 2.72	121.81 ± 2.3
CNP:Fe/P/D	-5.13 ± 0.19	125.07 ± 1.9
H-CNP:Fe/P/D	-27.52 ± 1.58	133.17 ± 4.8
RH-CNP:Fe/P/D	-11.17 ± 2.32	138.34 ± 5.2

**Table S3.** Side effect evaluation *via* serum biochemical parameter detection.

	Marker	PBS	Taxol®	Taxol®+DOX	Normal scale
Hepatic	ALT	37±14.31	44±67.58	53±24.59	17-77
	AST	180±67.14	327±84.96	359±83.00	54-298
Renal	BUN	9.47±2.78	12.18±17.19	18.05±14.67	8-33
others	LDH	803±589.58	2441±288.65	3282±672.64	215-1024
	ALP	78±13.82	100±7.78	112±6.76	60-209
		H-CNP:Fe/P/D (M-)	H-CNP:Fe/P/D (M+)	RH-CNP:Fe/P/D (M+)	Normal scale
Hepatic	ALT	35±86.75	61±19.20	40±14.31	17-77
	AST	213±96.14	203±60.10	208±67.13	54-298
Renal	BUN	8.94±1.62	7.87±1.81	8.22±1.28	8-33
others	LDH	1120±714.10	1081±552.43	1001±324.48	215-1024
	ALP	60±20.62	66±4.64	64±1.84	60-209

The aspartate alanine aminotransferase (ALT), aminotransferase (AST), blood urea nitrogen (BUN), lactate dehydrogenase (LDH), and alkaline phosphatase (ALP) levels were determined by an automated analyser.

Among these parameters, AST is specific indicator of hepatic toxicity, and LDH is a parameter related to injury of major organs. For groups in which Taxol® was employed, the serum level of these two indicators abnormally up-regulated, reflecting damage to major organs caused by off-target drug distribution. On the contrary, the values were well controlled in normal ranges when NP formulations were used.

### **Supplemental Methods**

P-CNPs synthesis: To prepare CNPs functionalized by PEG chain, the obtained CNPs were suspended in PBS (pH 6.5) and followed by the addition of EDC/NHS. After stirring at room temperature for 15 min. PEG2000-NH<sub>2</sub> was added to the mixture for subsequent 6 h reaction at room temperature. The P-CNPs were obtained after washing with DI water.

RP-CNPs synthesis: To prepare RGD-grafted P-CNPs, CNPs should be first functionalized by Mal-PEG2000-NH<sub>2</sub> (same procedure as P-CNPs). Then, cyclic RGD (tagged with Cys) was added to the suspension (PBS, pH 7.2) for subsequent 2 h incubation at room temperature. The RP-CNPs were collected after washing with DI water.

Detailed information can be seen in our previous report (Mol. Pharmaceutics 2012, 9, 1736-1747).