

*Supporting Information*

**Folated pH-degradable nanogels for simultaneous delivery of docetaxel and IDO1-inhibitor in enhancing cancer chemoimmunotherapy**

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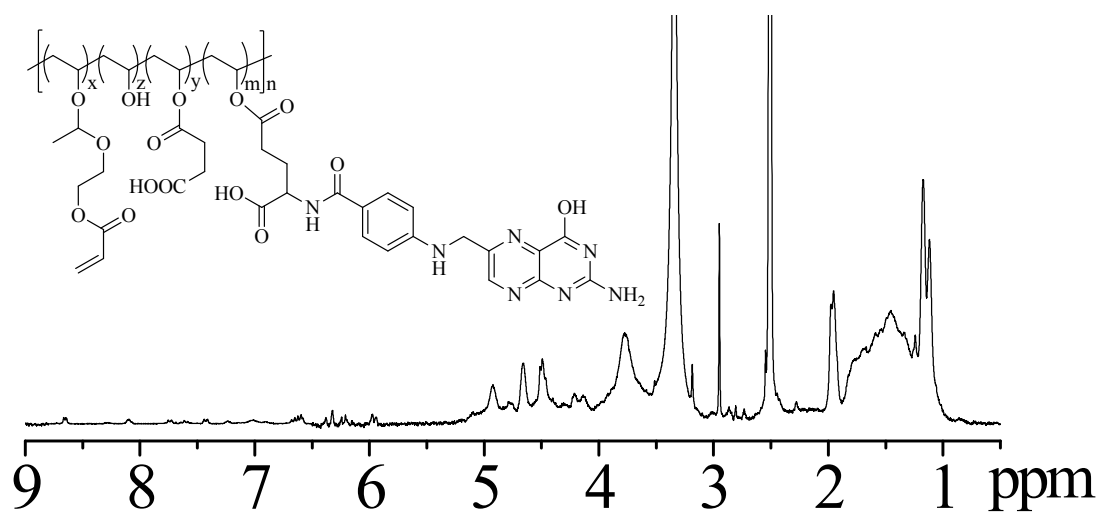
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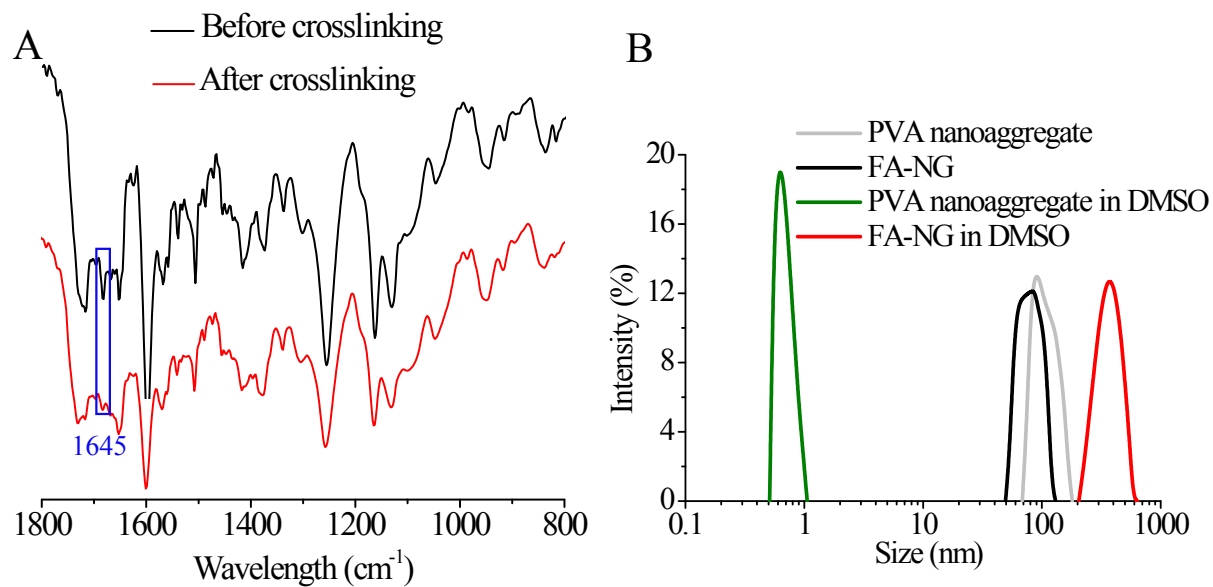
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**Table S1** Drug loading content (LC, wt%) and loading efficiency (LE, %) of N9 and DTX into nanogels determined by HPLC.

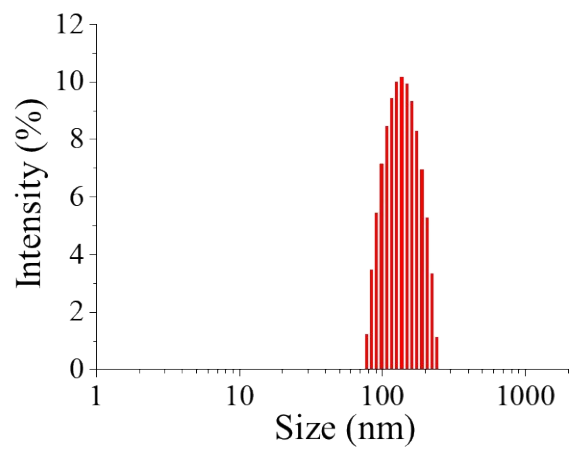
Samples	N9 loading		DTX loading		N9/DTX co-loading	
	LC	LE	LC	LE	LC	LE
FA-NGs	7.6	83.4	5.5	60.1	7.1/5.5	78.1/60.1
NGs	6.9	75.6	5.8	64.1	6.7/4.4	73.8/48.0



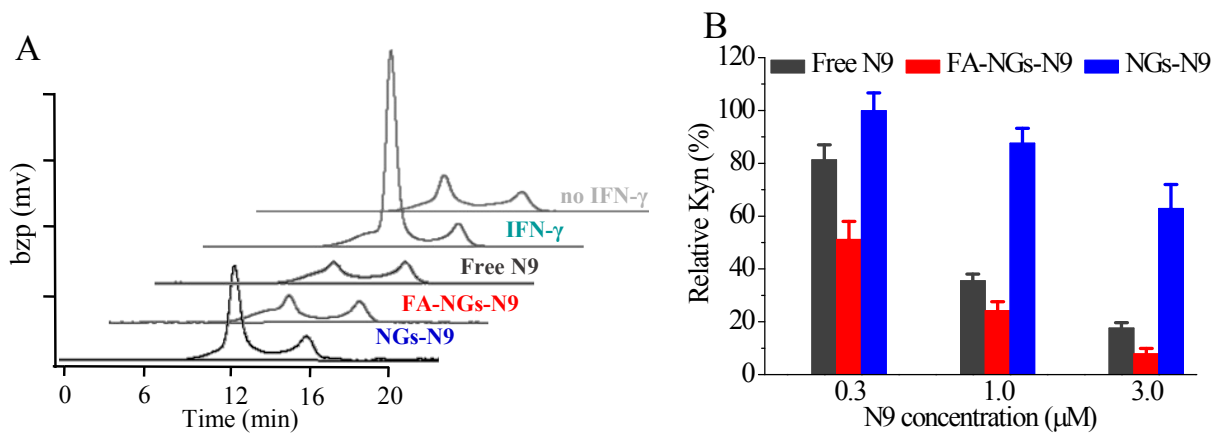
**Fig. S1**  $^1\text{H}$  NMR spectrum (300 MHz,  $\text{DMSO-}d_6$ ) of folated VEA and carboxyl functionalized PVA (FA-PVA-VEA-COOH).



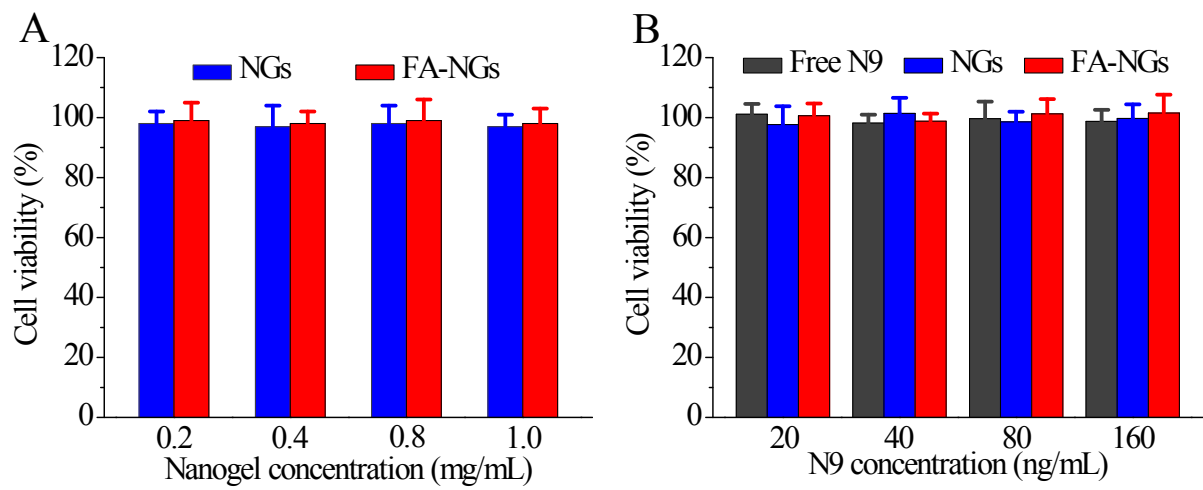
**Fig. S2** FT-IR spectra of PVA nanoparticles before and after UV-crosslinking (A), and size distribution of crosslinked and uncrosslinked PVA nanoparticles in DMSO determined by DLS (B).



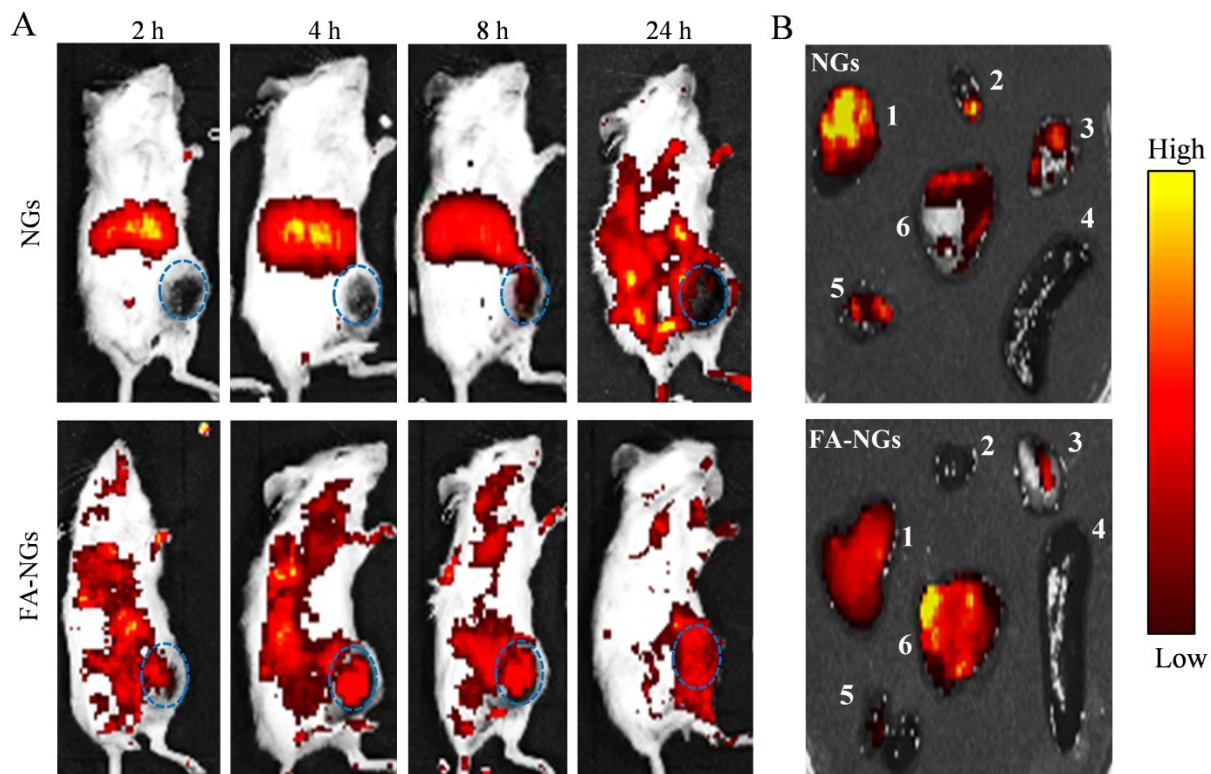
**Fig. S3** Size distribution of blank PVA nanogels (NGs) determined by DLS.



**Fig. S4** (A) HPLC spectra of Kyn production in the medium after 24 h HeLa cell incubation with different treatments: no INF- $\gamma$ , INF- $\gamma$  (75 ng/mL), free N9, FA-NGs-N9 and NGs-N9. (B) Relative amount of Kyn (%) in the cell medium according to the quantitative HPLC analysis (HeLa cells treated only with INF- $\gamma$  used as a control).

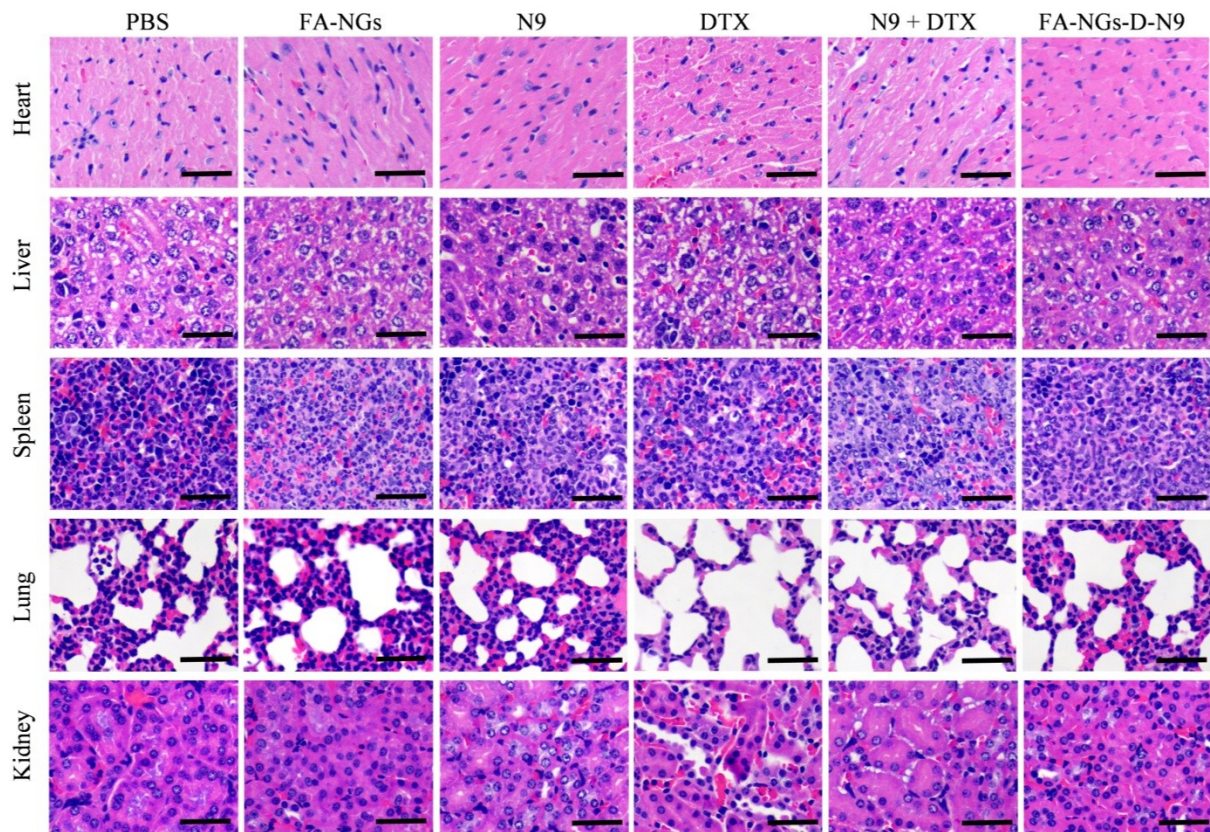


**Fig. S5** (A) Cytotoxicity effect of Nanogels determined by MTT assay using 4T1-Luc cells. (B) Cytotoxicity effect of N9 determined by MTT assay using 4T1-Luc cells.



**Fig. S6** (A) In vivo fluorescence images of 4T1-Luc xenograft bearing nude mice at different time points following injection of DiR-loaded nanogels (DiR concentration: 20  $\mu\text{g}/\text{mL}$ ). The images were acquired and analyzed using Lumia II software. (B) Ex vivo fluorescence images of organs and tumors from the 4T1-Luc-bearing nude mice following 24 h postintravenous injection. 1: Liver; 2: Heart; 3: Lung; 4: Spleen; 5: Kidney; 6: Tumor.





**Fig. S7** HE-stained heart, liver, spleen, lung and kidney sections excised from 4T1-Luc xenograft bearing nude mice following with different treatments for 15 days (the images were observed by an Olympus BX41 microscope at a magnification of 40, scale bar: 50  $\mu$ m).