Supporting Information

pH-Responsive Supramolecular Hydrogels for Codelivery of Hydrophobic and Hydrophilic Anticancer Drugs

Jing Yu[a, b], Wei Ha[a], Juan Chen[a], Yan-ping Shi[a]*

[a] *Key Laboratory of Chemistry of Northwestern Plant Resources and Key Laboratory for Natural Medicine of Gansu Province, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou 730000, PR China*

[b] *University of Chinese Academy of Sciences, Beijing 100049, PR China*

*Correspondence: Prof Yan-ping Shi, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou 730000, P. R. China; E-mail: shiyp@licp.cas.cn; Fax: +86-931-4968094; Tel: +86-931-4968028

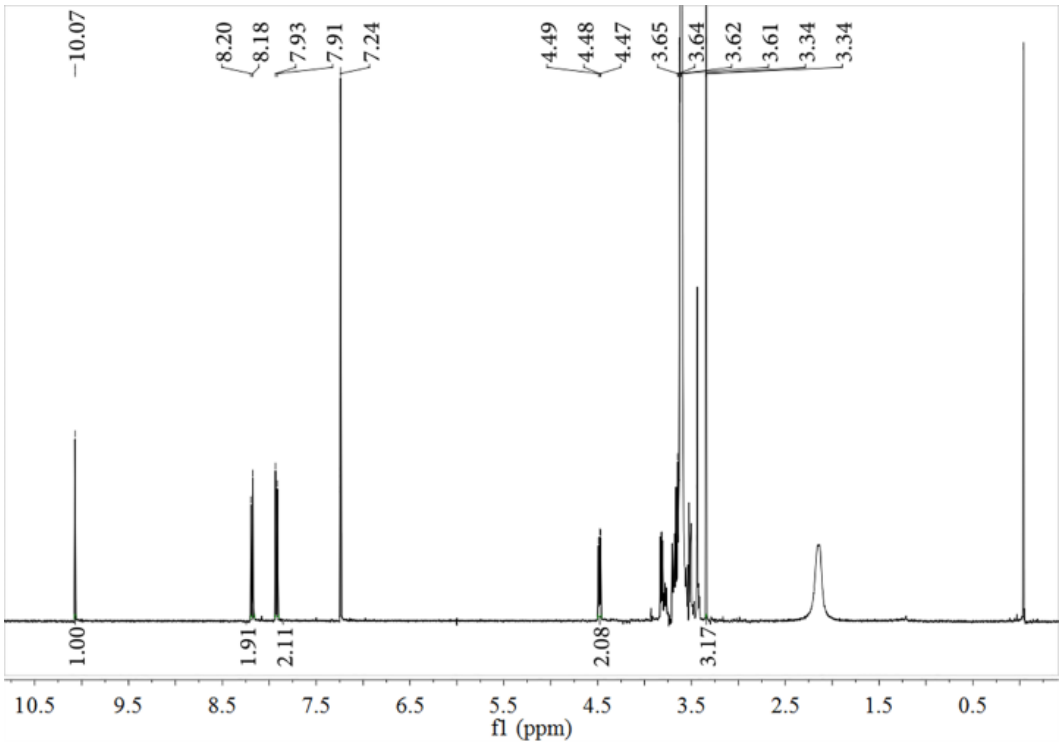

Fig. S1 ^{1}H NMR (400MHz, $CDCl_3$) spectrum of mPEG formyl benzoic acid ester.

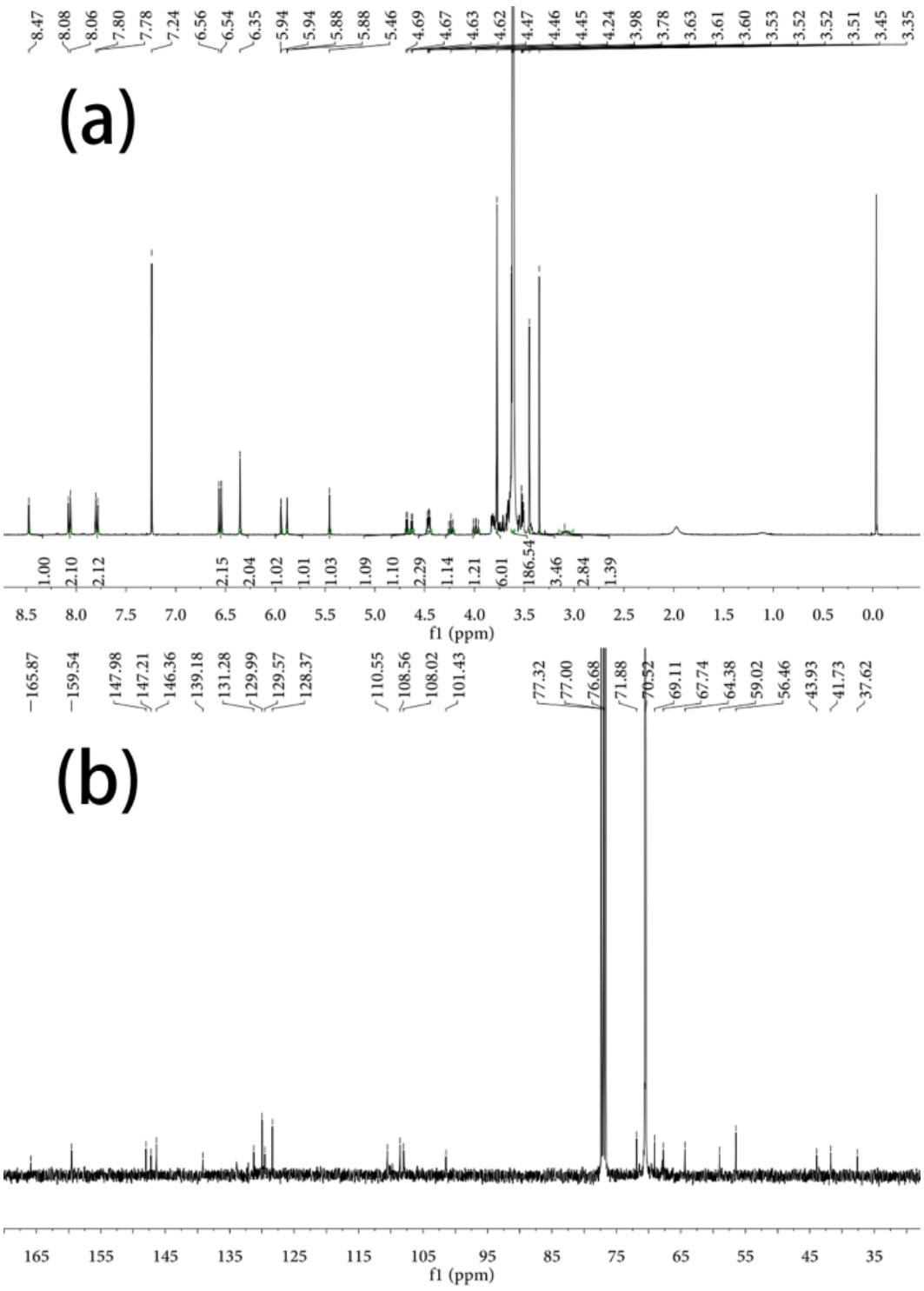

Fig. S2 ^{1}H NMR (a) (400MHz, $CDCl_3$) and ^{13}C NMR (b) (100MHz, $CDCl_3$) spectrum of NPOD-PEG.

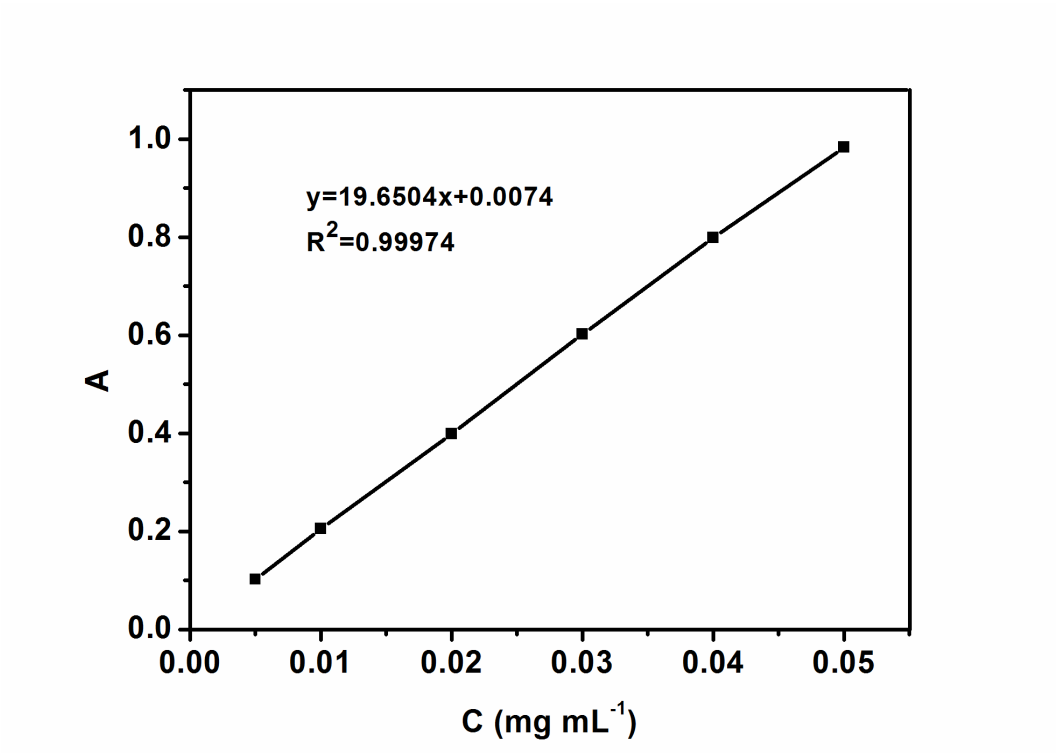

Fig. S3 Calibration curve of DOX.

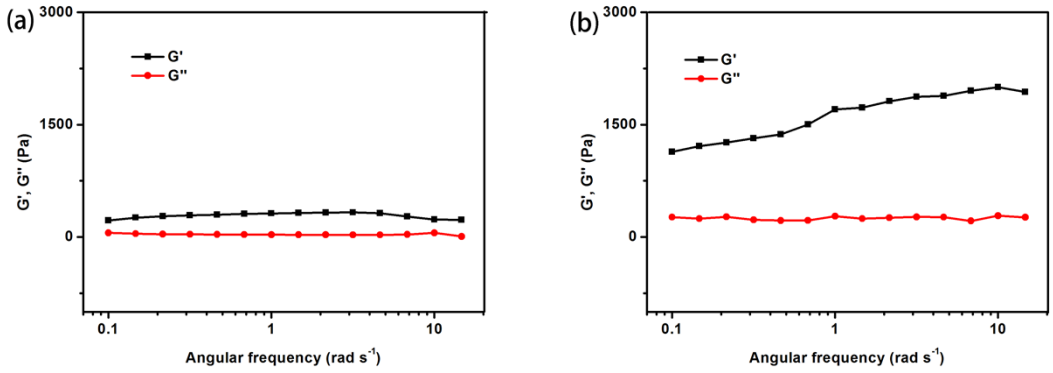

Fig. S4 The dependence of the viscoelastic moduli on frequency for various NPOD-PEG/α-CD hydrogel samples. (a) NPOD-PEG = 10 mg mL^{-1}, b) NPOD-PEG = 30 mg mL^{-1}.

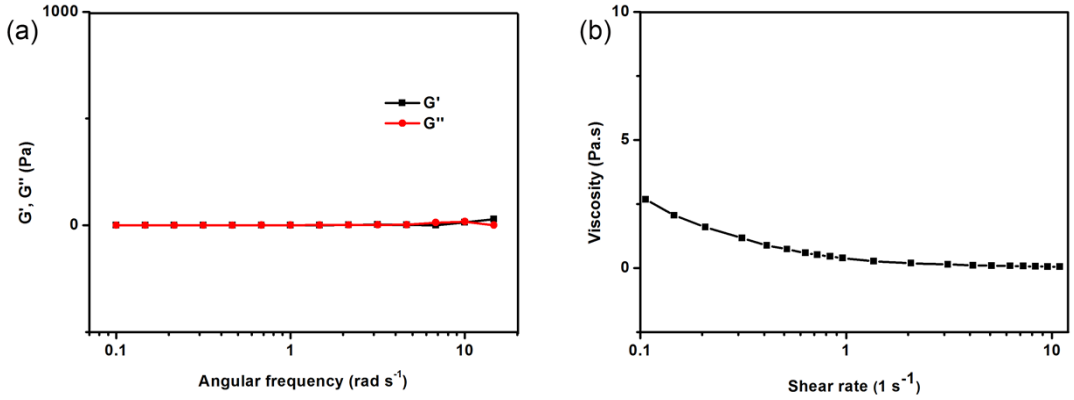

Fig. S5 (a) Dynamic and (b) steady rheological behaviors of the diluted HCl-treated NPOD-PEG/α-CD hydrogel.

Table S1. Dose-effect relationship parameters for NPOD and DOX in cancer model

	NPOD			DOX			(5:1) NPOD:DOX		
Cell type	D_m (μg/mL)	Linear equation	r	D_m	Linear equation	r	D_m	Linear equation	r
A549	4.29	y=2.3402x-1.4818	0.99	4.48	y=1,4955x-0.9739	0.96	3.72+0.74	y=2.2122x-1.4370	0.99

Shape (sigmoidicity) and conformity of dose-effect curve (linear correlation coefficient) are represented by D_m, linear equation, r, respectively, where D_m is the antilog of x-intercept in μg mL^{-1}, r is the linear correlation coefficient of the median-effect plot.

Table S2. Interaction of NPOD and DOX combinations in cells at different stage of carcinogenesis: combination indices at different effect levels

Cell type	Combination index (*CI*) at:								
	*f*a0.1	*f*a0.2	*f*a0.3	*f*a0.4	*f*a0.5	*f*a0.6	*f*a0.7	*f*a0.8	*f*a0.9
A549	1.09	1.06	1.05	1.04	1.03	1.03	1.02	1.02	1.02

CI value <1, =1, >1 indicates synergism, additive effect, and antagonism, respectively. *f*a is the fraction effected.