

## Supporting Information

### Nitrogen-doped Carbon Nanodots for bioimaging and delivery of paclitaxel

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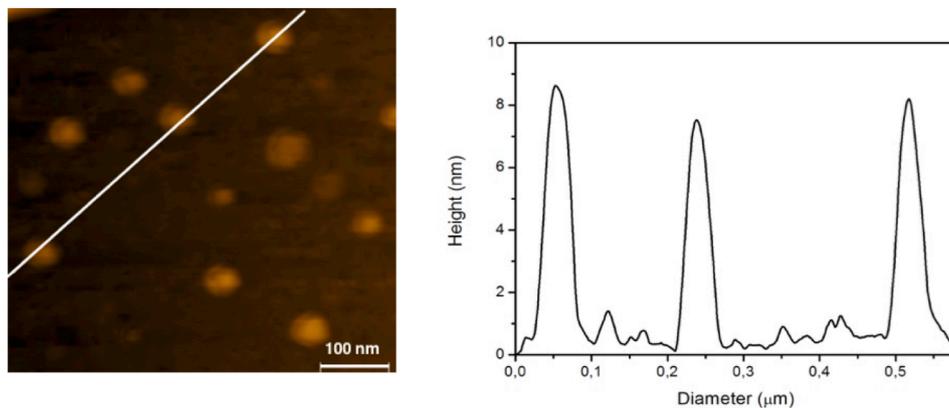
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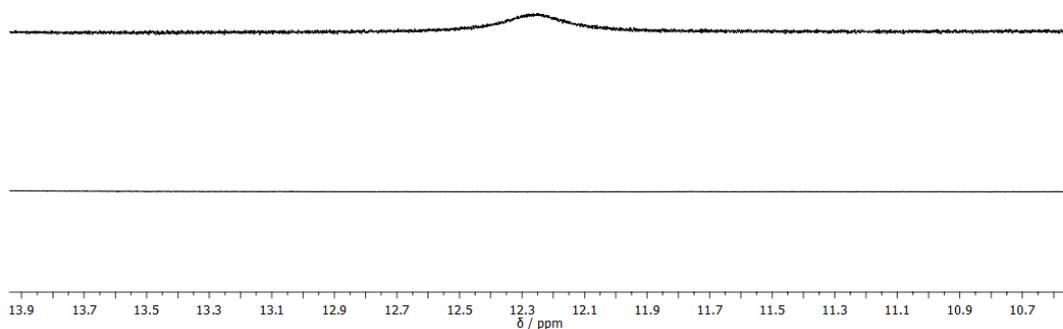
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## 1. Atomic Force Microscopy



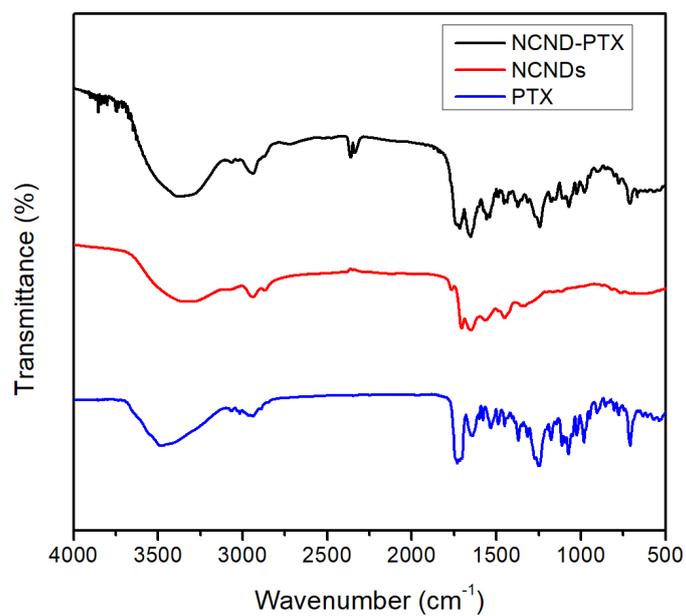
**Figure S1.** Tapping mode AFM ( $0.5 \times 0.5 \mu\text{m}$ ) from a drop-casted aqueous solution on a mica substrate and height profile along the line.

## 2. Nuclear Magnetic Resonance Spectroscopy

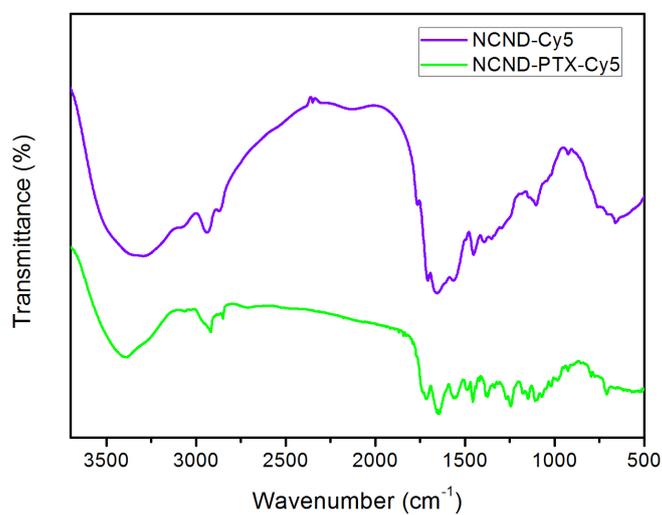


**Figure S2.**  $^1\text{H-NMR}$  ( $\text{DMSO-}d_6$ , 298 K, 500 MHz) of 2'-succiny-paclitaxel (top) and NCND-PTX (bottom).

### 3. FT-IR spectroscopy

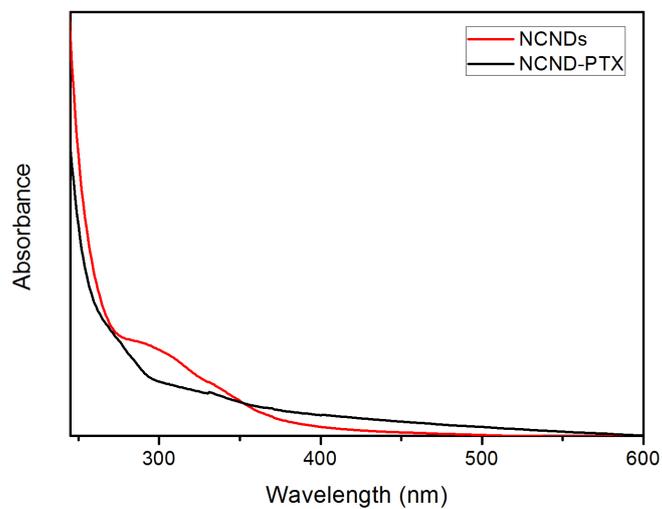


**Figure S3.** FT-IR spectra of NCND-PTX (black line), NCNDs (red line), PTX (blue line).

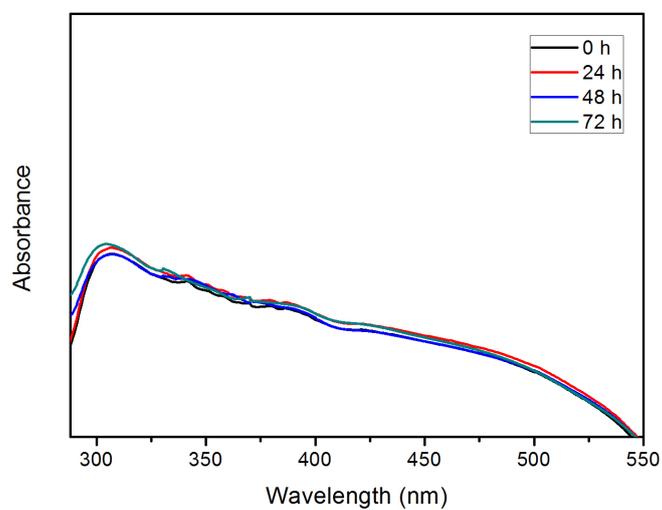


**Figure S4.** FT-IR spectra of NCND-Cy5 (violet line) and NCND-PTX-Cy5 (green line).

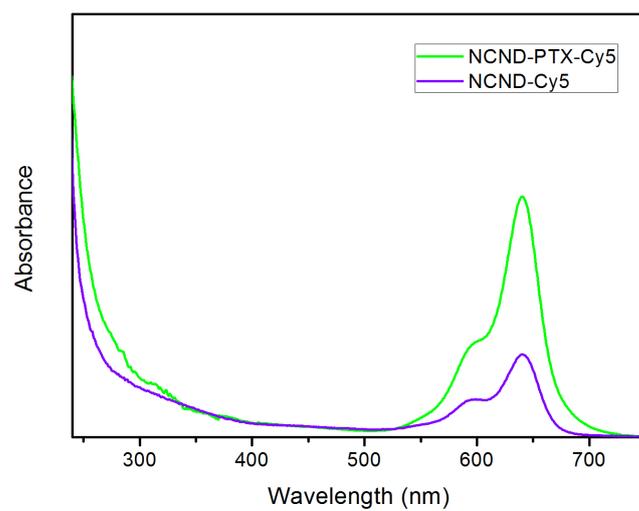
#### 4. UV-Vis and FL spectroscopies



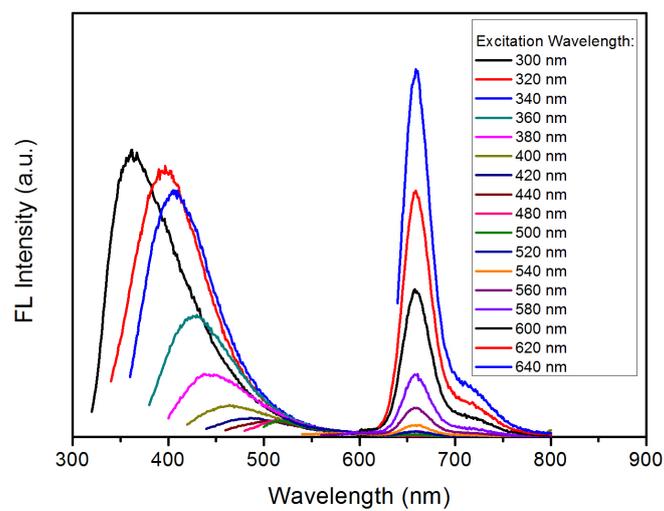
**Figure S5.** UV-Vis spectra of NCND-PTX (black line) and NCNDs (red line) in water (298 K).



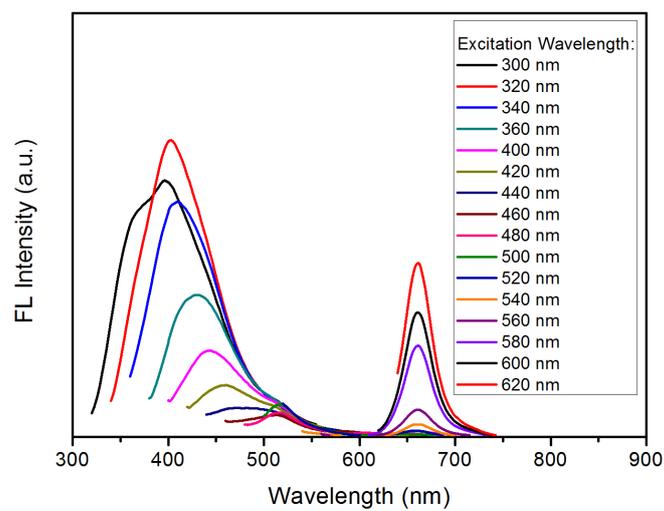
**Figure S6.** UV-Vis spectra of NCNDs incubated in complete DMEM for 0 h, 24 h, 48 h and 72 h at 37 °C and 5% CO<sub>2</sub> in a humidified atmosphere.



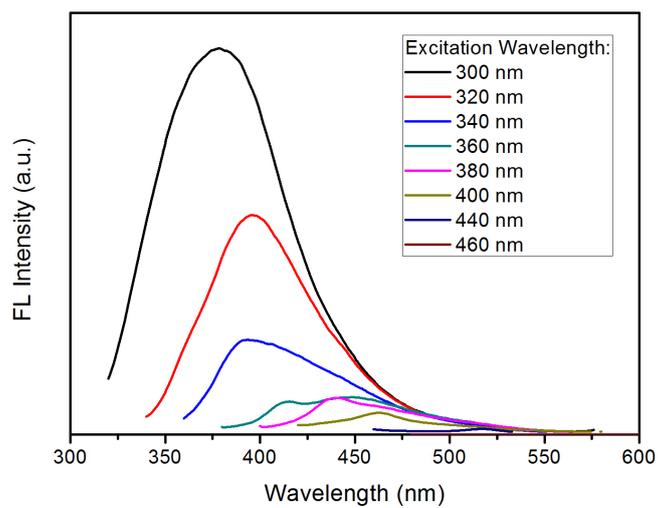
**Figure S7.** UV-Vis spectrum of NCND-Cy5 (violet line) and NCND-PTX-Cy5 (green line) in water (298 K).



**Figure S8.** FL spectra of NCND-Cy5 in water (298 K) at different excitation wavelengths.

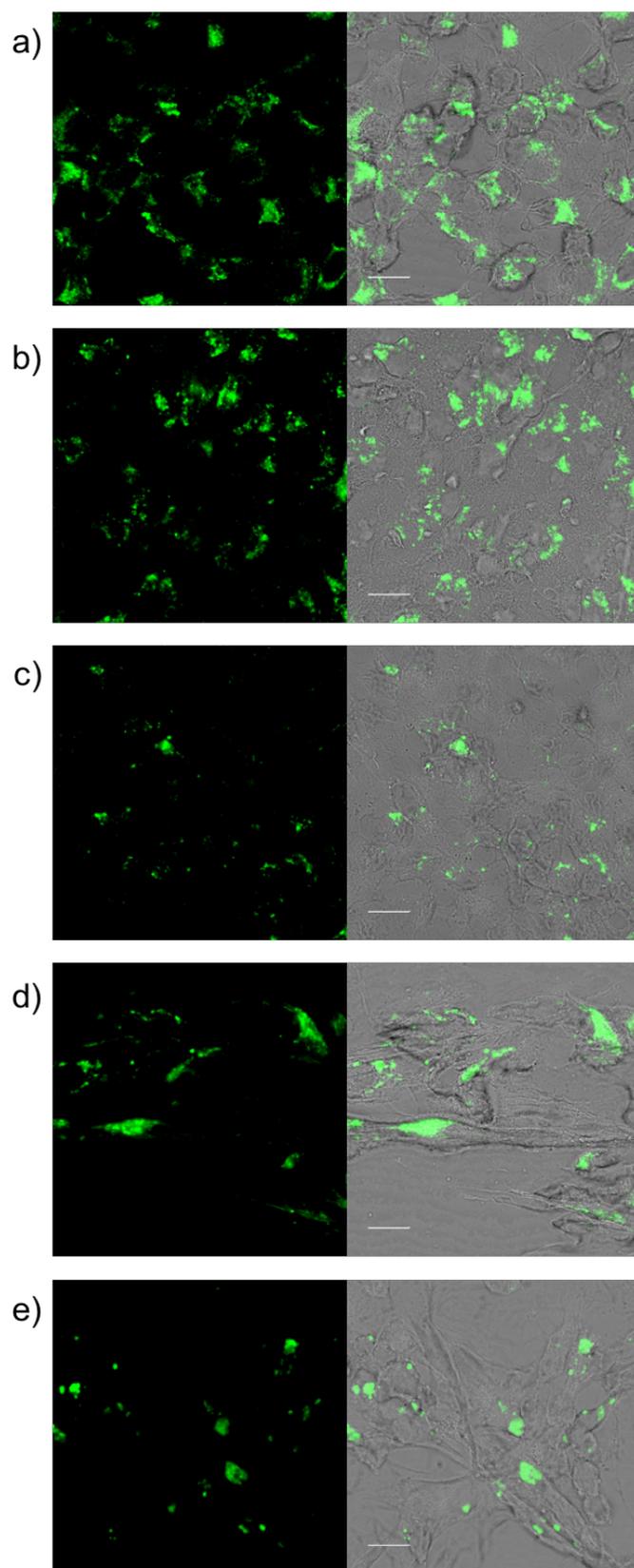


**Figure S9.** FL spectra of NCND-PTX-Cy5 in water (298 K) at different excitation wavelengths.



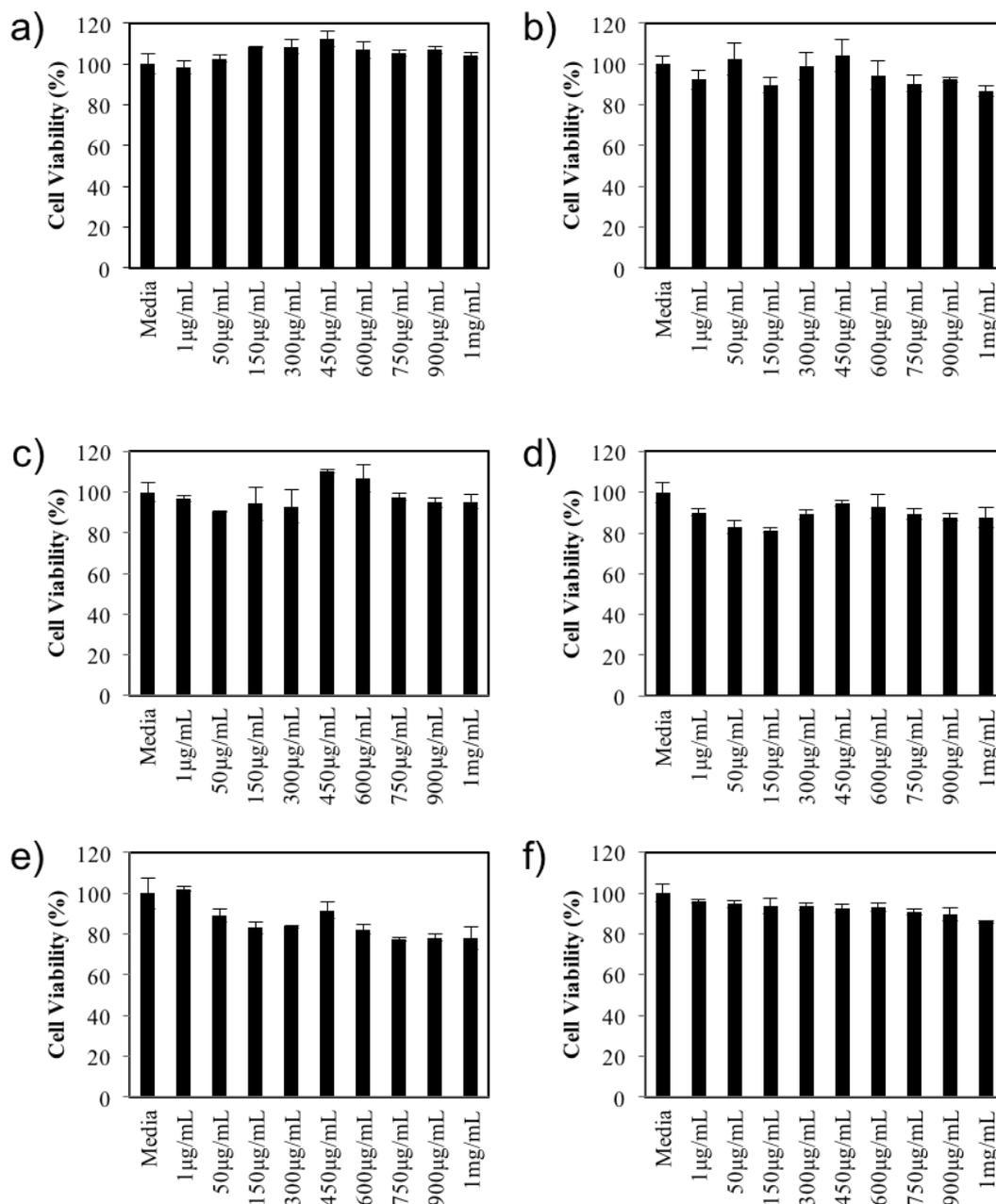
**Figure S10.** FL spectra of the hydro soluble fraction of THP-1 cells pre-incubated with NCND-PTX in water (298 K).

## 5. Confocal microscopy

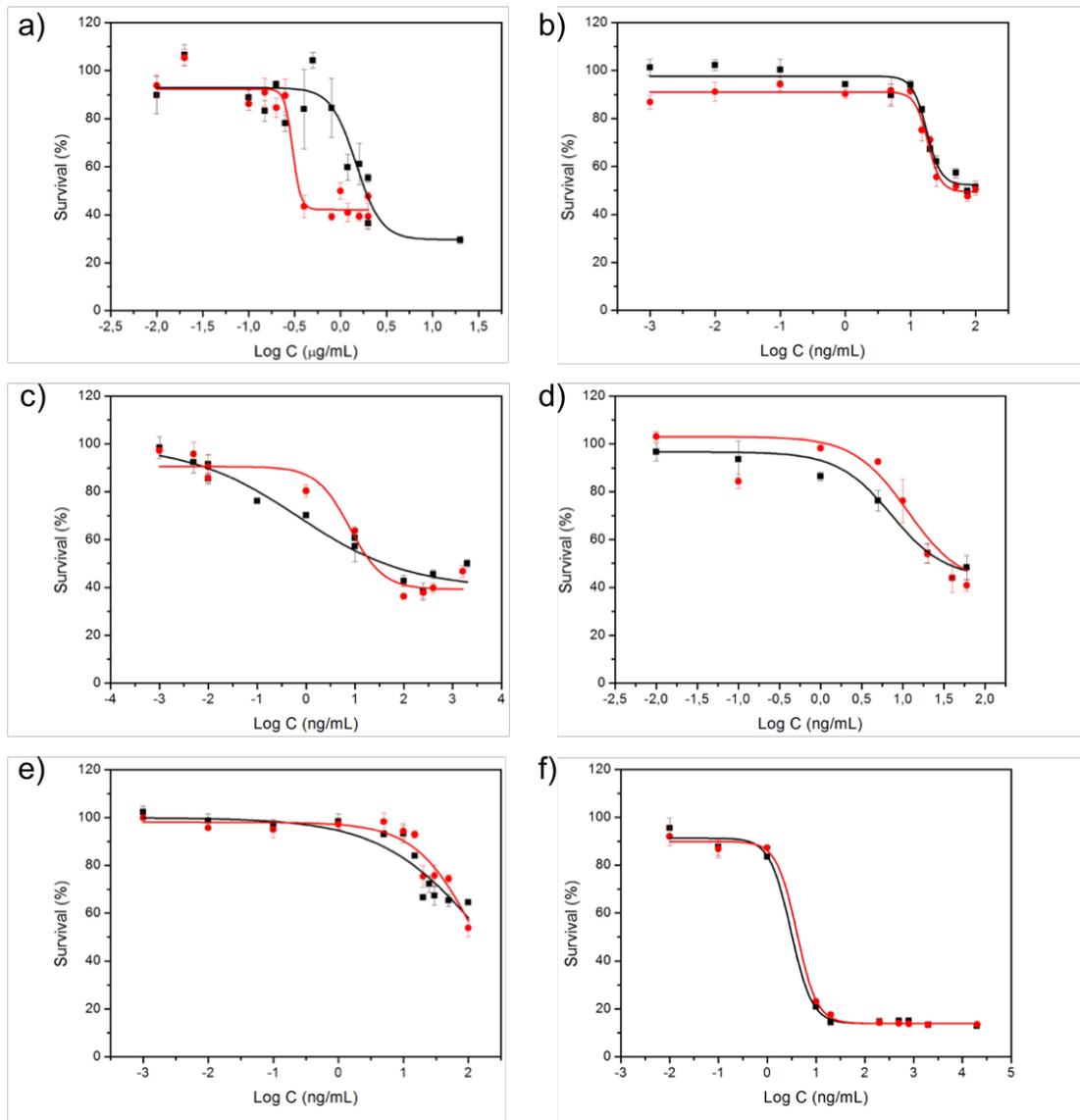


**Figure S11.** Confocal fluorescence images of (a) PC-3, (b) A-549, (c) HeLa, (d) MCF-7 and (e) MDA-MB-231 cells after incubation with  $300 \mu\text{g}\cdot\text{mL}^{-1}$  NCNDs. Merged picture of the fluorescent bright field (right), and fluorescent image (left). The scale bar corresponds to  $20 \mu\text{m}$ .

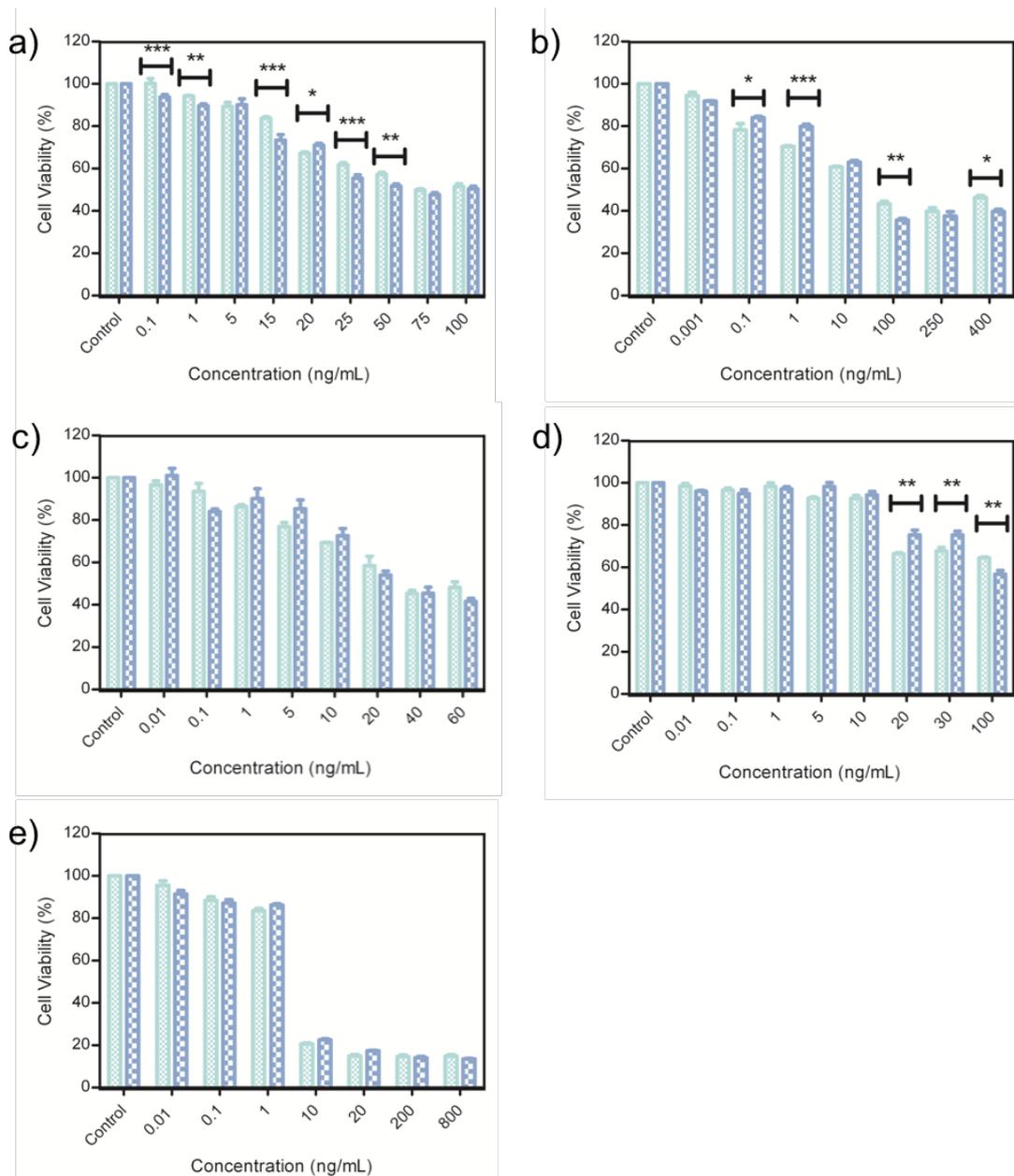
## 6. Cell viability



**Figure S12.** Cell viability assays of NCNDs at different concentrations ( $1\mu\text{g}\cdot\text{mL}^{-1}$  to  $1\text{mg}\cdot\text{mL}^{-1}$ ) with different cell lines at 72 h of incubation, 37 °C and 5%  $\text{CO}_2$ . (a) C33-A. (b) MCF-7 (c) MDA-MB-231 (d) A-549 (e) PC-3 (f) HeLa cancer cell lines.



**Figure S13.** Dose-Response diagram of the cell viability of (a) C33-A (b) MCF-7 (c) MDA-MB-231 (d) A-549 (e) PC-3 (f) HeLa cells treated with PTX (black line) and NCND-PTX (red line).



**Figure S14.** Cell viability of NCND-PTX and PTX in several cancer cell lines at 72 h of incubation. (a) MCF-7 (b) MDA-MB-231 (c) A-549 (d) PC-3 (e) HeLa cells treated with PTX (green bars) and NCND-PTX (blue bars). The statistical analyses were performed using two-way ANOVA followed by Bonferroni's test. Data are expressed as mean  $\pm$  SD (n = 4). \*\*\*P < 0.001, \*\*P < 0.01 and \*P < 0.05.