

# Effect of pH-Responsive Alginate/Chitosan Multilayers Coating on Delivery Efficiency, Cellular Uptake and Biodistribution of Mesoporous Silica Nanoparticles Based Nanocarriers

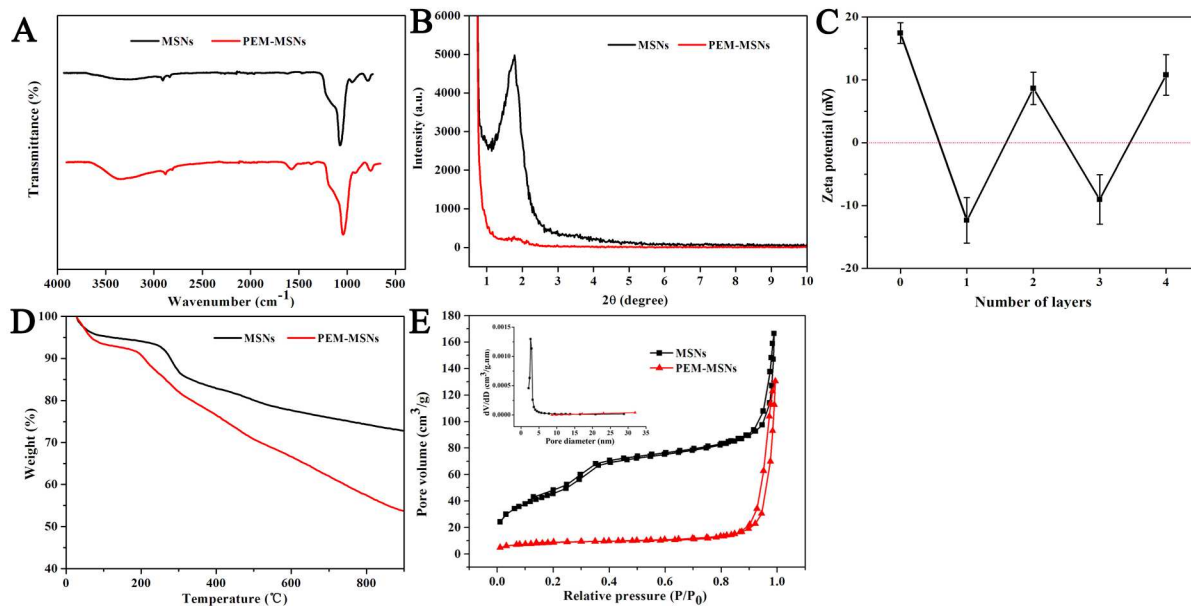
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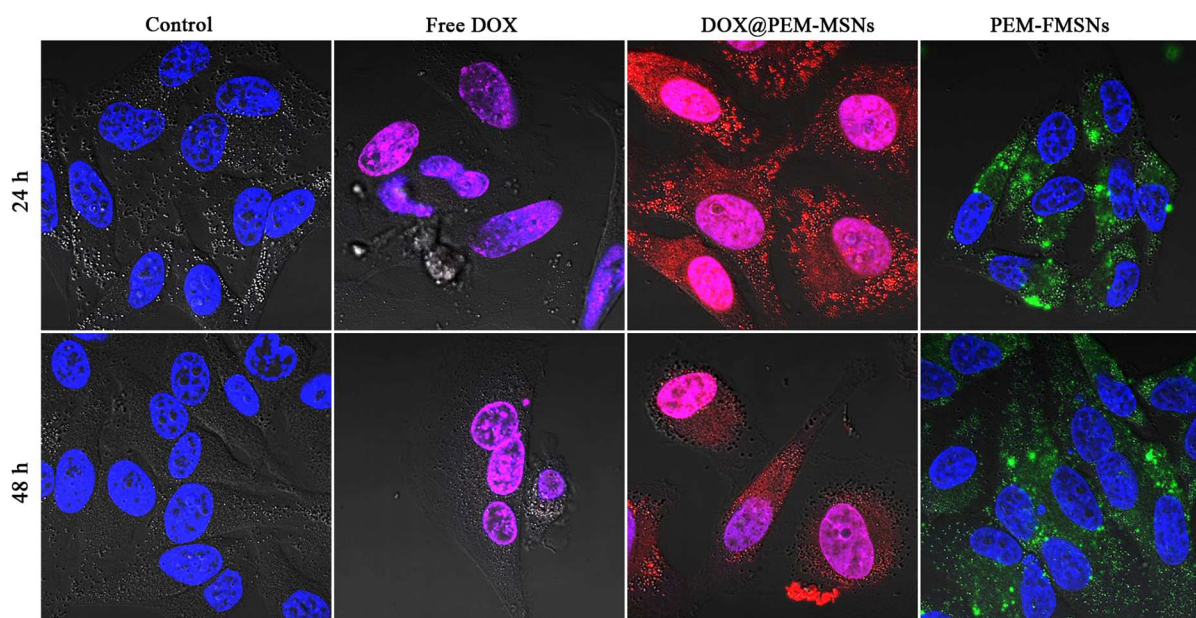
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**Figure S1.** Characterization of the synthesized MSNs and PEM-MSNs. (A) FT-IR spectra, (B) XRD patterns, (C) Zeta potential changes in the process of coating polyelectrolyte layers, (D) TGA curves, (E) Nitrogen adsorption-desorption isotherms (inset is pore size distribution) of MSNs and PEM-MSNs.



**Figure S2.** Confocal laser scanning microscopy images of HeLa cells, which were incubated with blank medium, free DOX, DOX@PEM-MSNs and PEM-FMSNs at DOX concentration of 1  $\mu\text{g}/\text{mL}$  and 37  $^{\circ}\text{C}$  for 24 and 48 h. DAPI was used for blue staining of the cell nuclei. Red fluorescence corresponds to the DOX (or DOX@PEM-MSNs). Green fluorescence represents PEM-FMSNs. Cells were imaged using a 63  $\times$  oil-immersion objective.