Fluorescence labeling of SPC@HMSNs-PAA with FITC

FITC-APTES was prepared by the reaction between FITC (15mg) and APTES (40μL) in methanol (6mL) for 24 h under dark conditions. Then 50mg SPC@HMSNs-PAA were dispersed into the FITC-APTES solution and sitired in the dark for 24h. The FITC labeled SPC@HMSNs-PAA-FITC were collected by centrifugation, washed with metanol, and dried in vacuum.

Fluorescence Microscopy Observation of Intracellular Uptake of SPC@HMSNs-PAA

ZR-75-30 cells (10^5 per dish) were seeded in petri dishes and cultured for 12h at 37℃. After incubation with SPC@HMSNs-PAA-FITC (20 μg/mL) for 4 h, the medium was discarded and the cells were washed twice with PBS to remove the residual nanoparticles. Then 0.5mL of DAPI in metanol (10%) was added and incubated for 15 min to stain the nuclei and fix the cells. After incubation, the cells were washed twice with PBS to remove excessive DAPI. The images were obtained using an inverted fluorescence microscope (Olympus IX71, Japan).

Supplementary FIgures

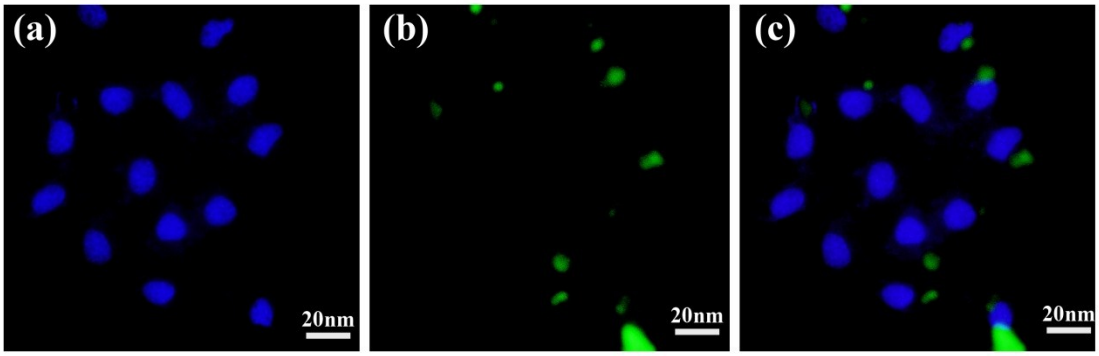

Figure S 1 Cellular uptake of FITC-labeled SPC@HMSNs-PAA by ZR-75-30 cells. (a) Blue fluorescence image of cell nuclei stained with DAPI, (b) Green fluorescence image of SPC@HMSNs-PAA-FITC in cells, (c) Merged fluorescence image.

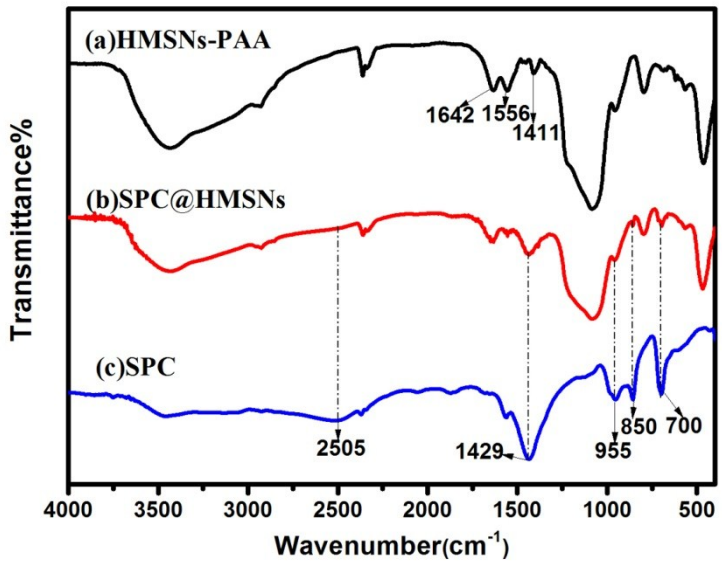

Figure S 2 FTIR spectra of (a)HMSNs-PAA, (b)SPC@HMSNs and (c)SPC. The IR spectrum of SPC@HMSNs was almost coincident with that of SPC demonstrating the presence of SPC. In HMSNs-PAA, new peak at 1642 cm^{-1} was attributed to the carbonyl group.

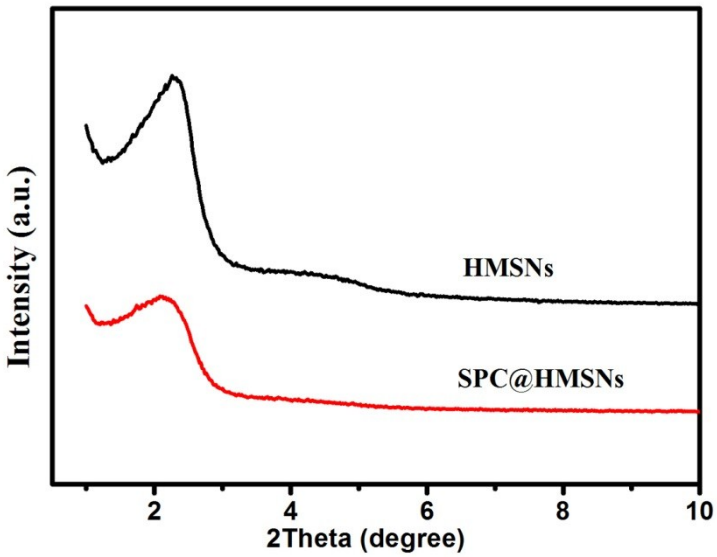

Figure S 3 Low-angle XRD patterns of HMSNs and SPC@HMSNs. After loading of SPC, the intensity of the diffraction peak at 2 θ =ca. 2.27 decreased.

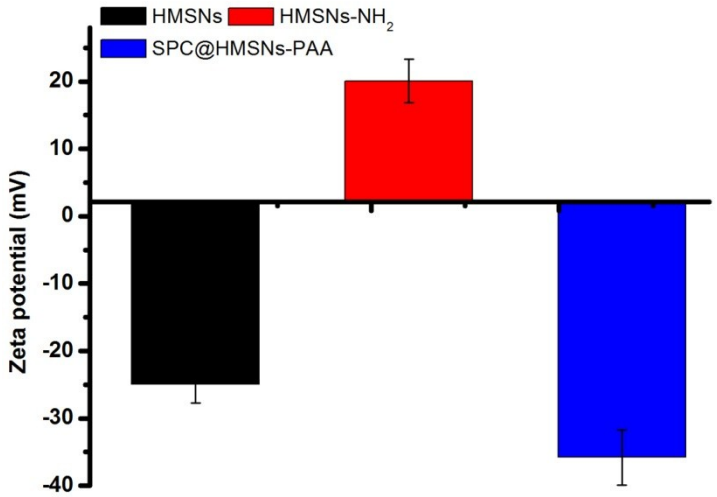

Figure S 4 Zeta potential of HMSNs, HMSNs-NH_2 and SPC@HMSNs-PAA measured in deionized water.