

Supplementary information

ZIF-90-Decorated Silica Nanoparticles with a Spiky Surface: A Novel Approach for Drug Delivery

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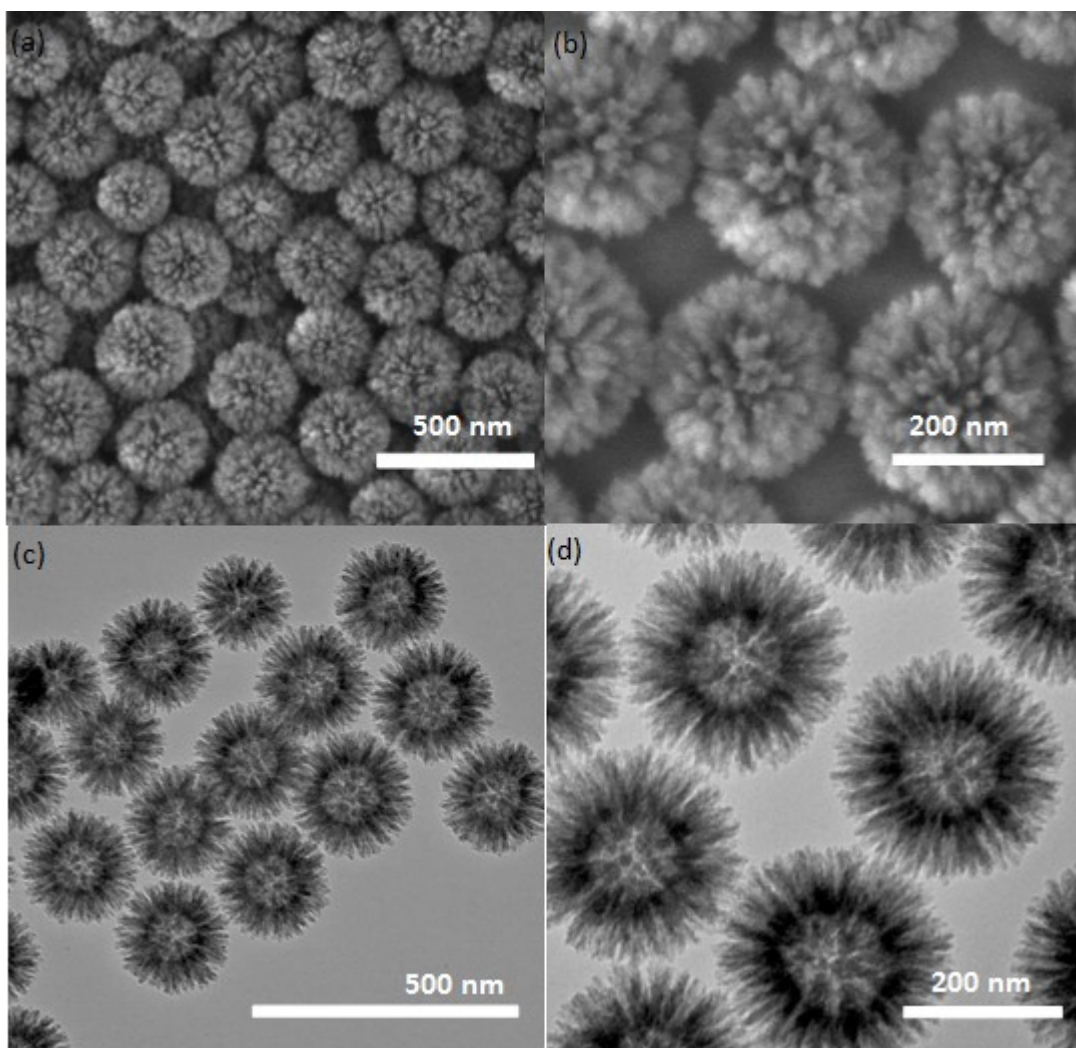


Fig. S1. SEM images of SNP at (a) low magnification, (b) high magnification. TEM images of SNP at (c) low magnification and (d) high magnification.

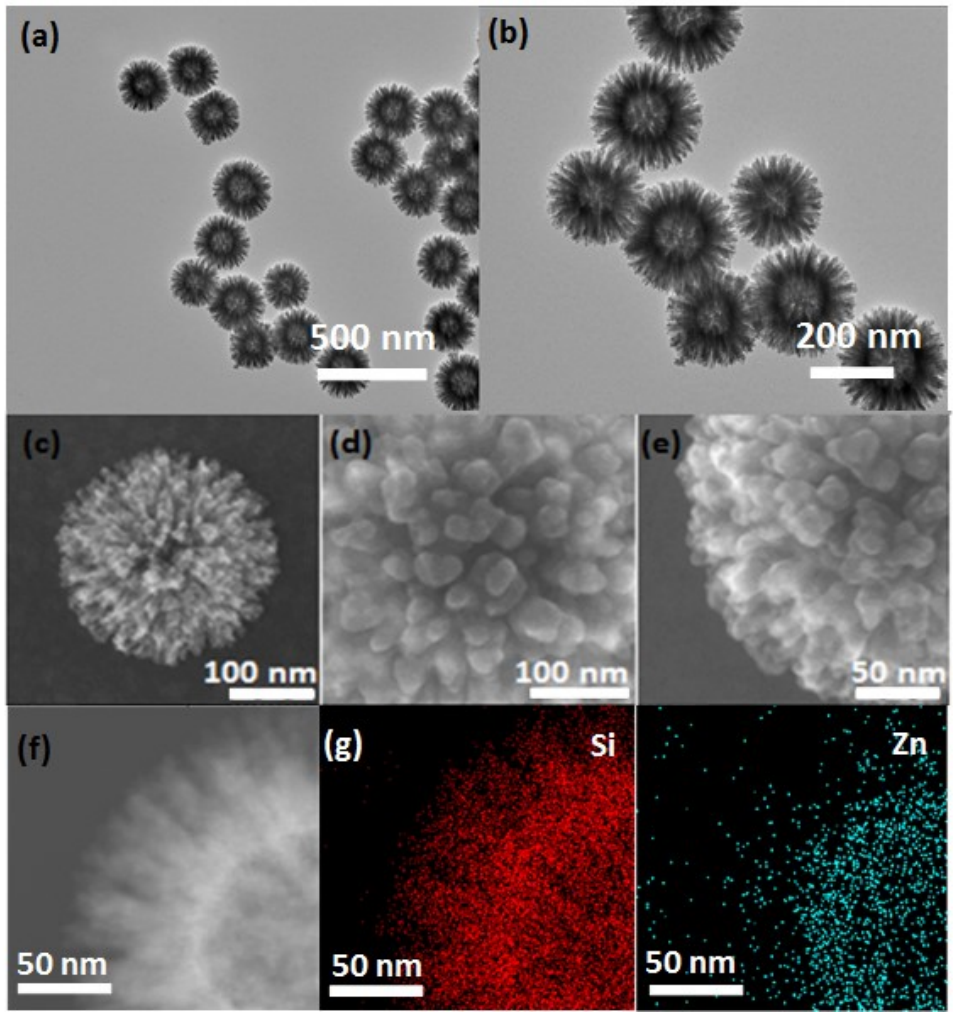


Fig. S2. SNP-ZnO. TEM images (a, b), SEM images at (c) low magnification, (d, e) high magnification from top (d) and side (e) view angles. (f) HAADF-STEM image and (g) Si/Zn elemental mapping images.

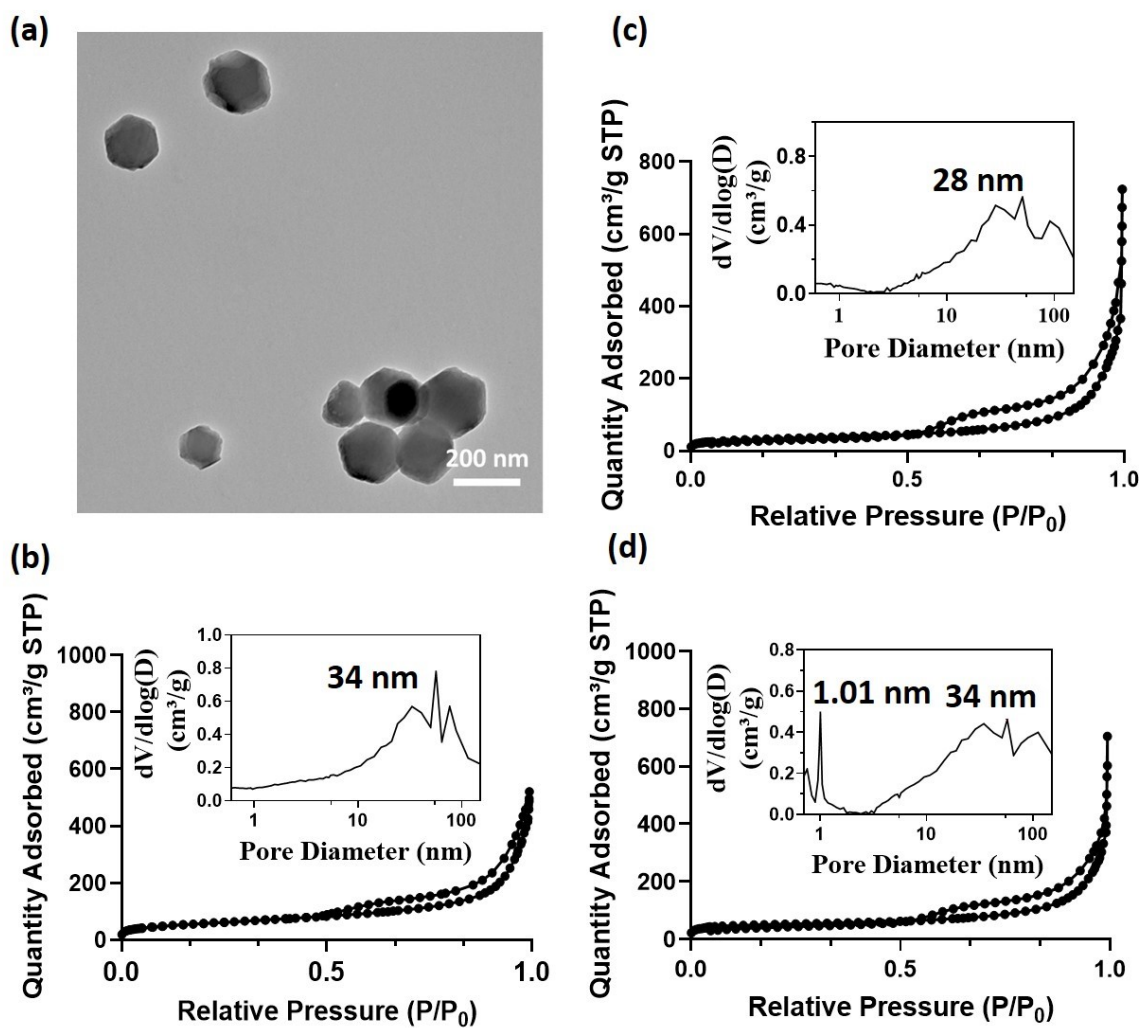


Fig. S3. (a) TEM image of ZIF-90 nanoparticles. Nitrogen sorption isotherms and BJH pore size distribution curves of (b) SNP, (c) SNP-ZnO, and (d) SNP-ZIF-90.

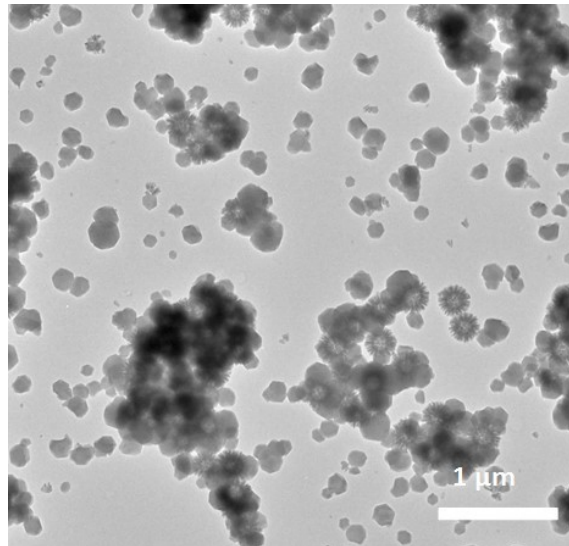


Fig. S4. TEM image of SNP + ZIF-90 mixture.

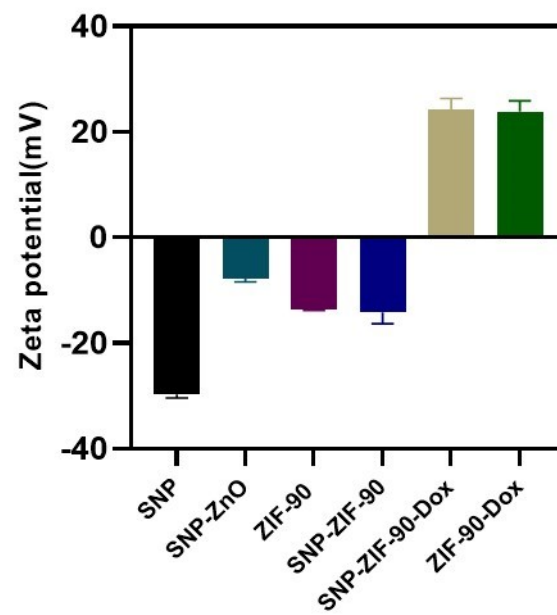


Fig. S5. Zeta potential of SNP, SNP-ZnO, ZIF-90, SNP-ZIF-90, ZIF-90-Dox and SNP-ZIF-90-Dox. The bars are shown as mean \pm SD (n=3).

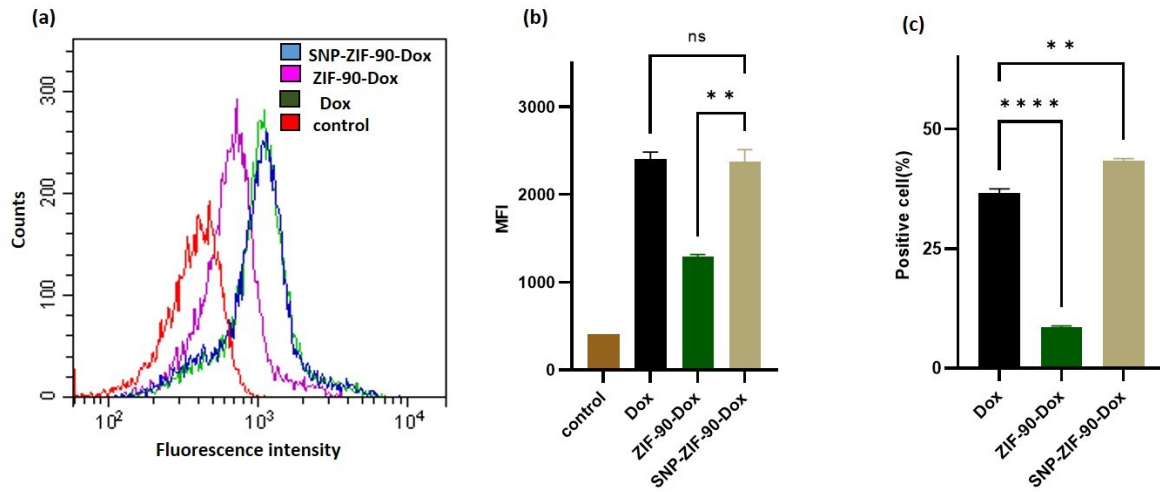


Fig. S6. In-vitro cellular uptake of Dox by 4T1 cells after incubation with free Dox, ZIF-90-Dox, and SNP-ZIF-90-Dox for 4 h (a) Flow cytometry profile, (b) Mean fluorescence intensity (MFI), and (c) positive cell percent. The bars are shown as mean \pm SD (n=3). ** p < 0.001, **** p < 0.0001.