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Facile Strategy to Enable Nanoparticles for Simultaneous Phase Transfer, Folate Receptor Targeting, and Cisplatin Delivery

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Supporting Information:

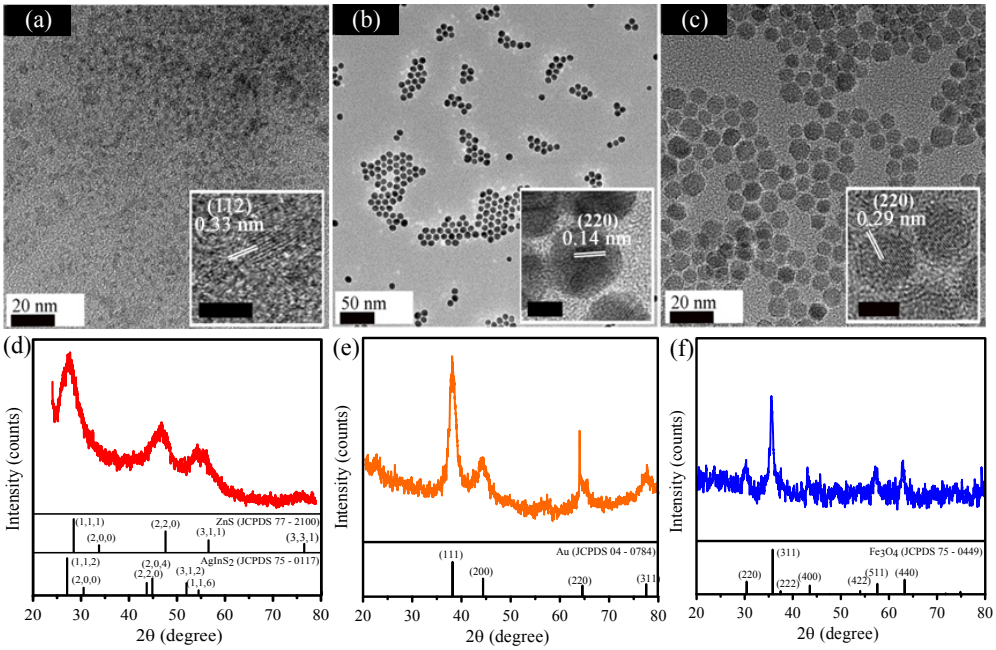

Figure S1. TEM images of (a) AQD, (b) GNP, and (c) FNP. The insets with lattice fringes show high-resolution TEM images of the corresponding nanoparticles; it can be seen that they are crystalline. The scale bar is 2 nm. XRD patterns of as-prepared AQD (d), GNP (e), and FNP (f). XRD patterns of (d) $AgInS_2$ (JCPDS 75-0117) and ZnS (JCPDS 77-2100); (e) Au (JCPDS 04-0784); (f) Fe_3O_4 (JCPDS 75-0449) are also shown as reference.

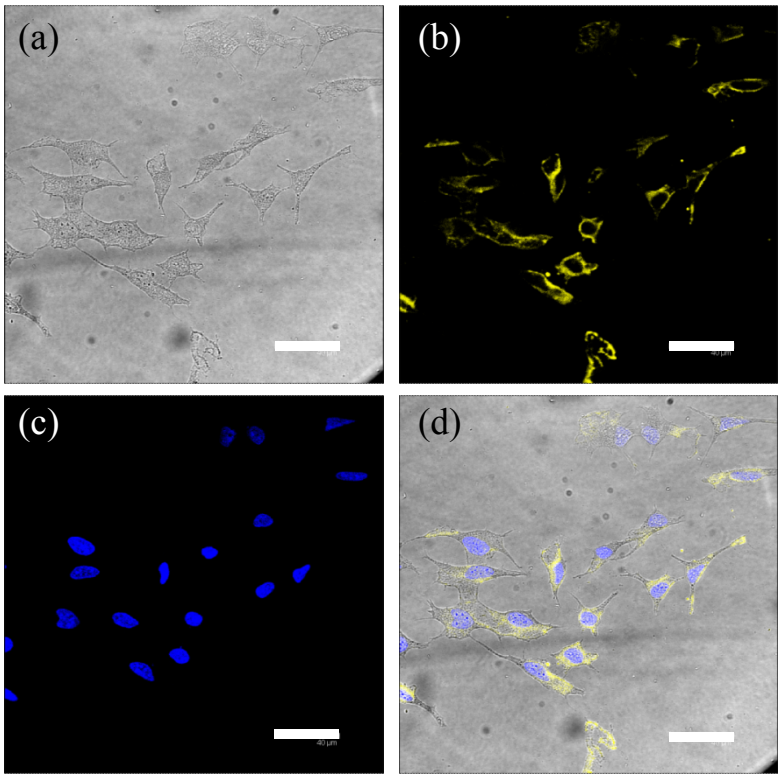

Figure S2. Confocal laser images of HeLa cells treated with AQD@folate: (a) transmission image and luminescent images containing, (b) yellow emission of AQD@folate, (c) blue emission of DAPI, and (d) an overlay of (a)–(c). Scale bars represent 40 μm.

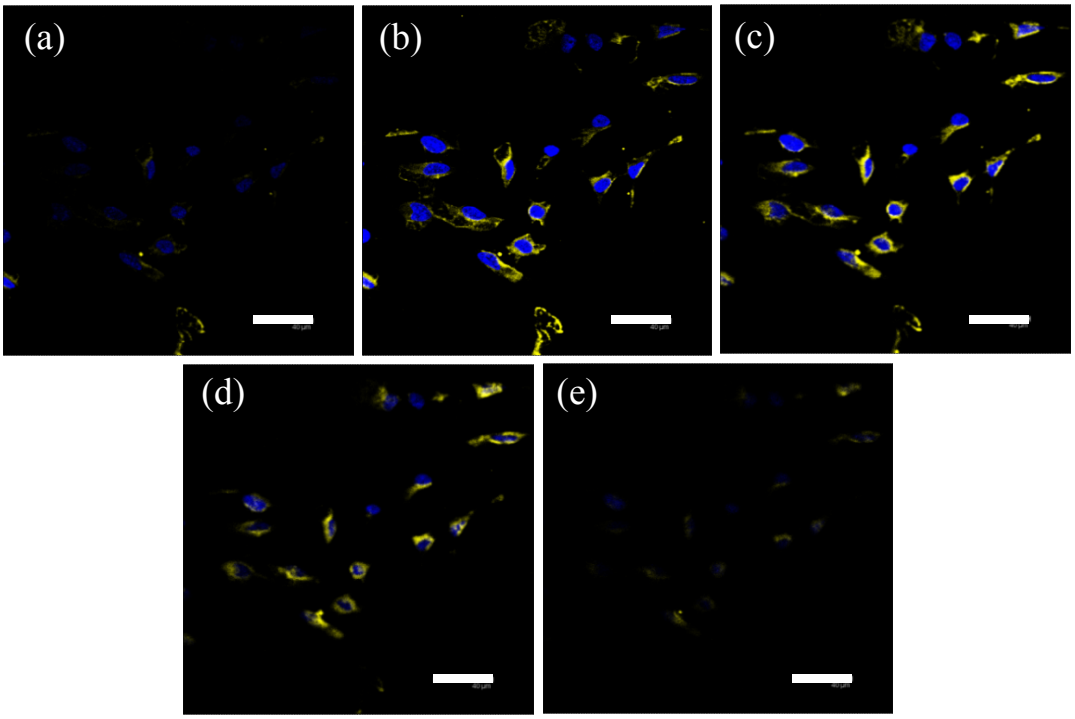

Figure S3. Confocal microscopy *Z*-stack sectioning of HeLa cancer cells treated with AQD@folate for 2 h, fixed with alcohol, and subsequently stained with DAPI. Slices were taken from the top (a) to the bottom (e) of the HeLa cells; consecutive images in each column are separated by 2 um. Yellow fluorescence originates AQD@folate and blue emission at 460 nm, showing the location of the HeLa cell nuclei. Scale bars represent 40 μm.

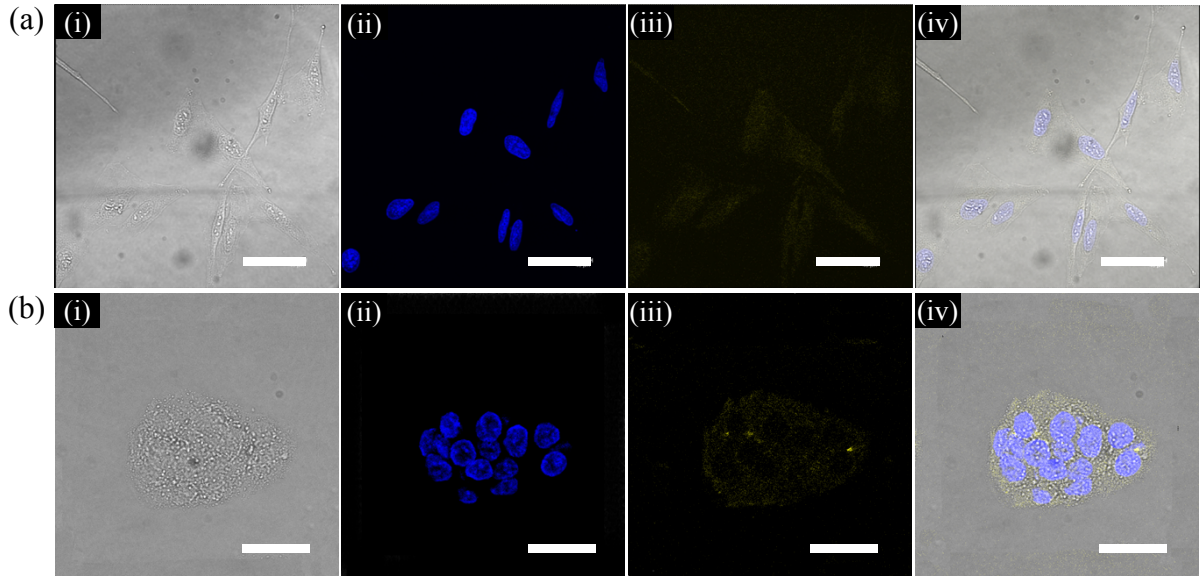

Figure S4. Confocal laser images of HeLa cells treated with AQD@OA (a) and HepG2 cell treated with AQD@folate/CDDP (b). Series of images consists : (i) transmission image and luminescent images containing (ii) blue emission of DAPI as well as (iii) yellow emission of AQD@OA, and (iv) an overlay of (i)–(iii). Scale bars represent 40 μm.

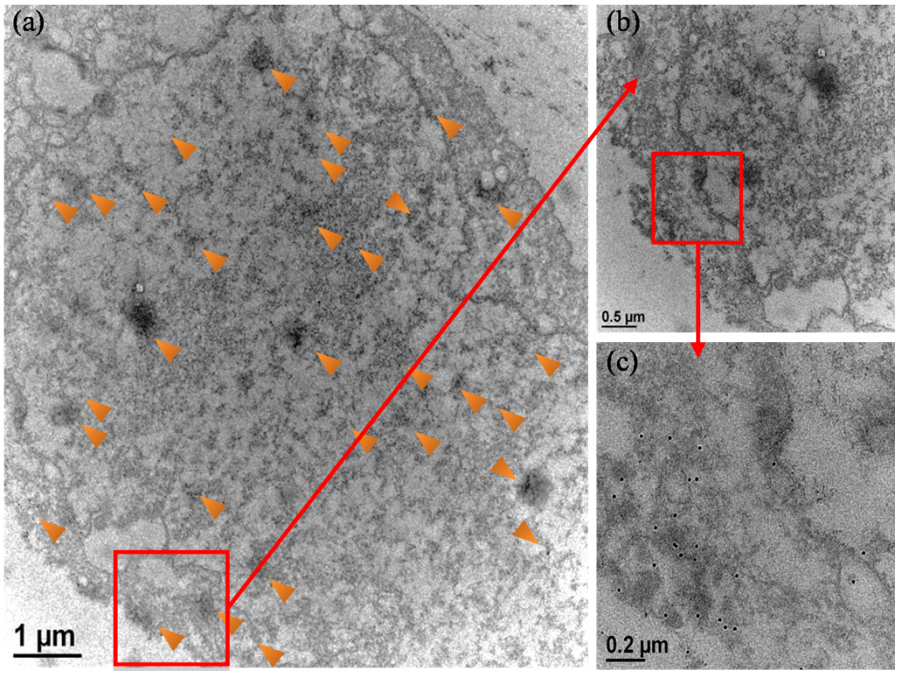

Figure S5. (a) TEM images showing the internalization of GNP@folate into HeLa cells. (b) and (c) High-magnification images of the area delimited by the square in panels (a) and (b), respectively. Brown arrows indicate the presence of GNP@folate nanoparticles.

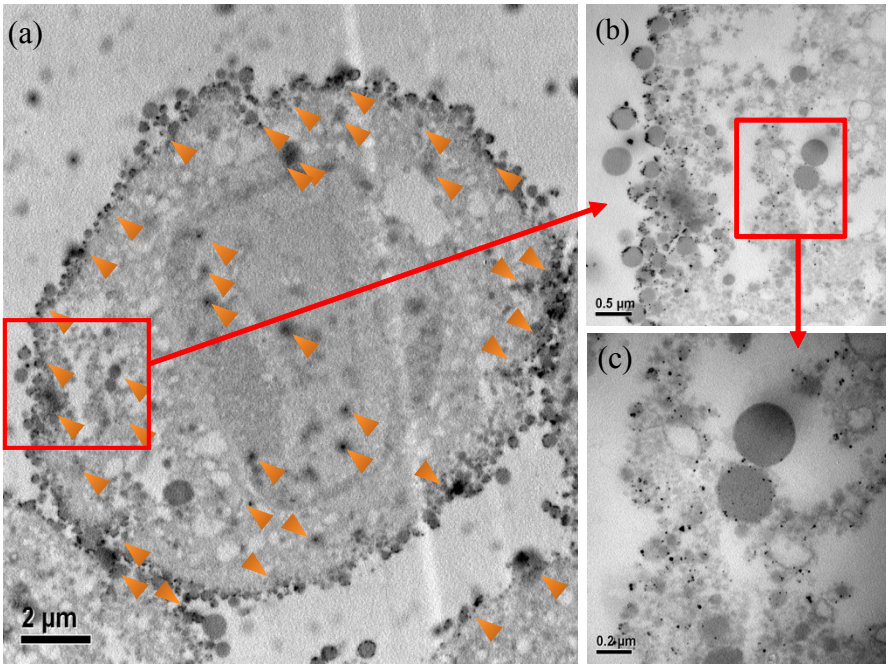

Figure S6. (a) TEM images showing the internalization of FNP@folate into HeLa cells. (b) and (c) High-magnification images of the area delimited by the square in panels (a) and (b), respectively. Brown arrows indicate the presence of FNP@folate nanoparticles.

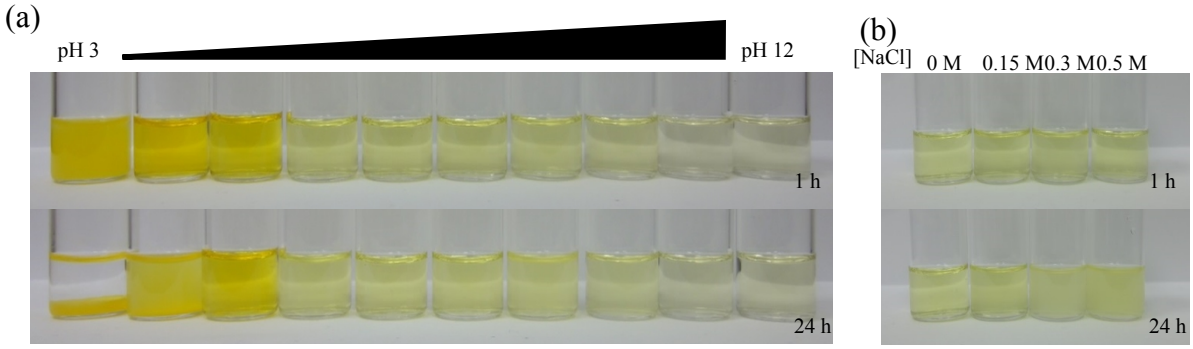

Figure S7. (a) The photograph images of AQD@folate in aqueous solutions of varying pH (from 3 to 12) at room temperature after storing for 24 h. (b) The photograph images of AQD@folate dispersed in pH 7 solutions containing different NaCl concentrations (from left to right: 0 M, 0.15 M, 0.3 M, and 0.5 M) after storing for 24 h.

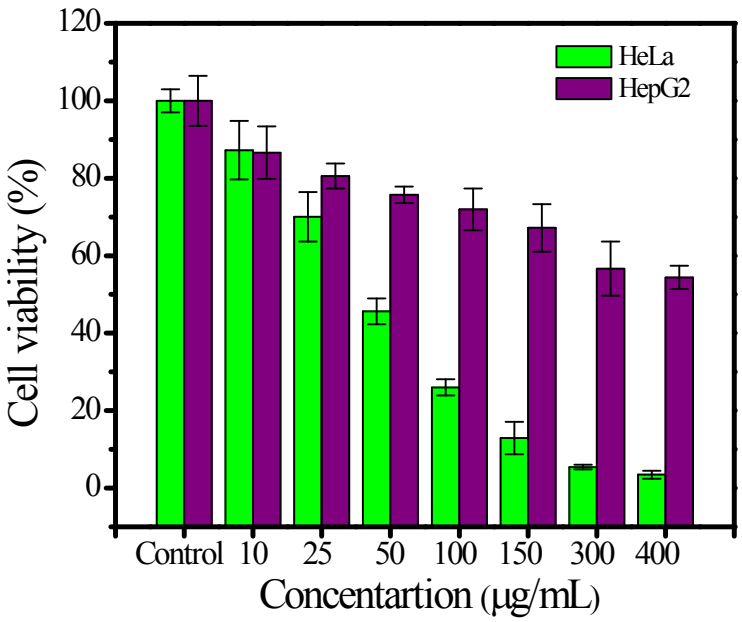

Figure S8. Comparison cell viability graphs of HeLa and HepG2 cancer cells after 24 h incubation with AQD@folate/CDDP

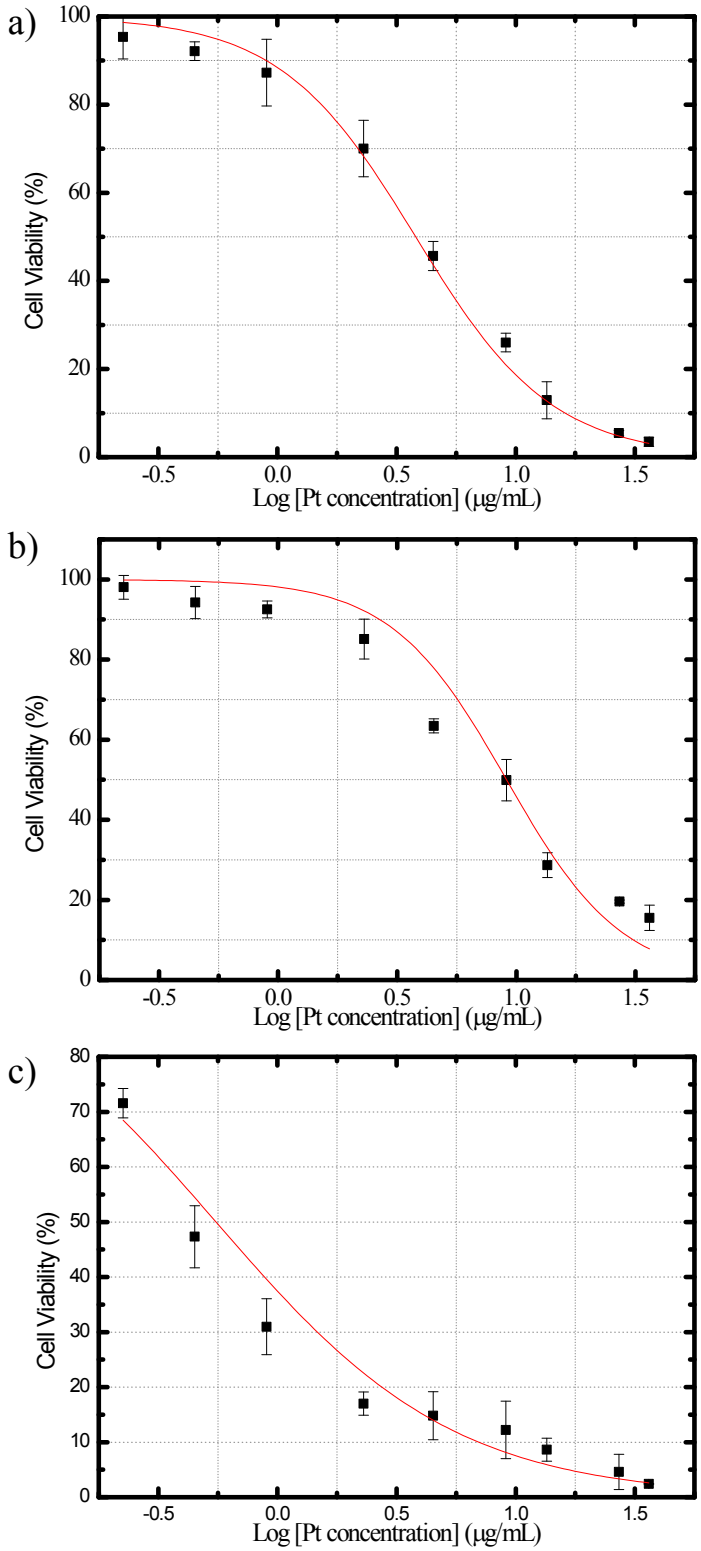

Figure S9. Cell viability graphs of HeLa cancer cells after 24 h incubation with (a) AQD@folate/CDDP, (b) AQD@CDDP, and (c) free CDDP. IC_{50} values can be determined on red fitted curve, which showed at 0.169 μg/mL, 0.455 μg/mL, and -0.565 μg/mL, respectively, for each log [Pt concentration] or 1.477 μg/mL, 2.856 μg/mL, and 0.272 μg/mL, respectively, for each [Pt concentration].