

Synthesis of AIZS@SiO₂ Core Shell Nanoparticles for Cellular Imaging Applications

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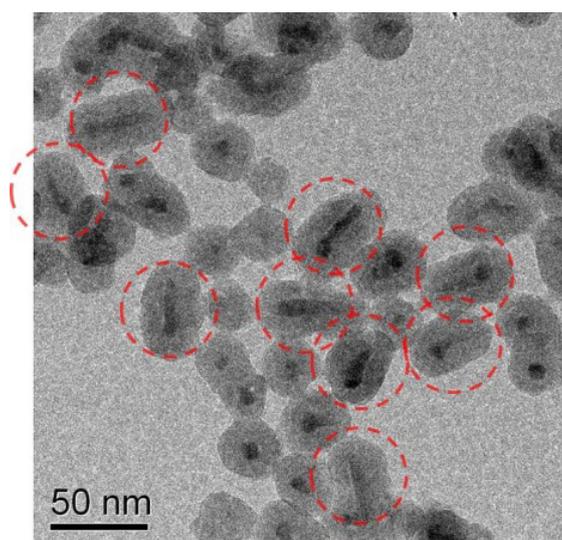


Figure-S1. Rod-like AIZS nanocrystals encapsulated in silica shell.

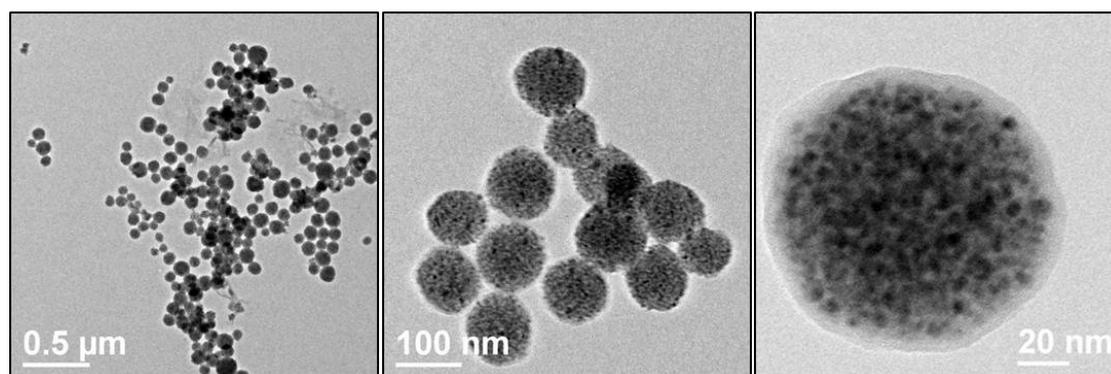


Figure-S2. Silica coated AIZS clusters synthesized with highly concentrated AIZS nanoparticles during CTAB phase transfer.

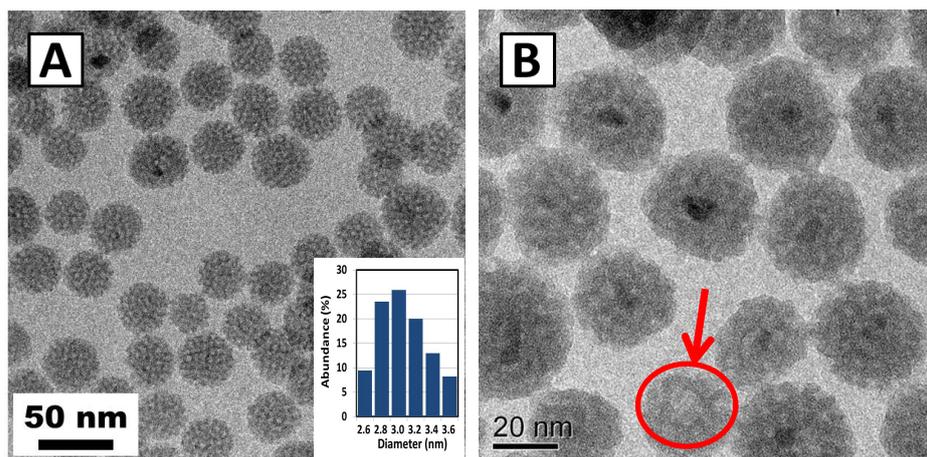


Figure-S3. Mesoporous silica nanoparticles prepared by rinsing with 0.1M (A) and 0.05M (B) HCl solution. Note that in TEM image A, almost all AIZS nanoparticles are dissolved by HCl. Insert: the pore size distribution calculated from TEM measurements. Red arrow in (B) indicates missing of AIZS core in silica nanoparticles after 0.05M HCl rinsing. A hole can be observed.

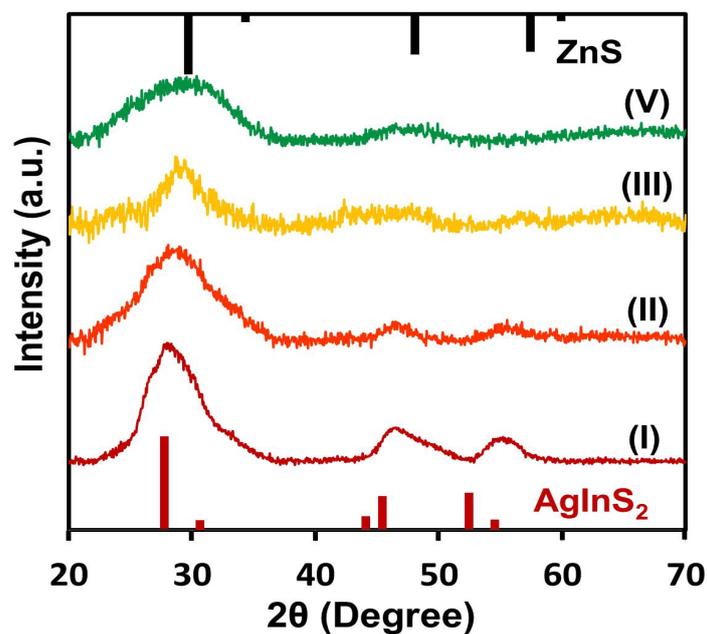


Figure-S4. XRD patterns of AIZS nanoparticles with red(I), orange(II), yellow(III) and green(V) emissions.

Table S1: Element ratio between Ag, In and Zn in AIZS nanoparticles with red, orange, yellow and green emissions.

Element Color	Ag	In	Zn
Red	12.91	12.08	10.80
Orange	9.44	10.01	14.41
Yellow	11.33	12.07	22.87
Green	10.19	9.99	25.57

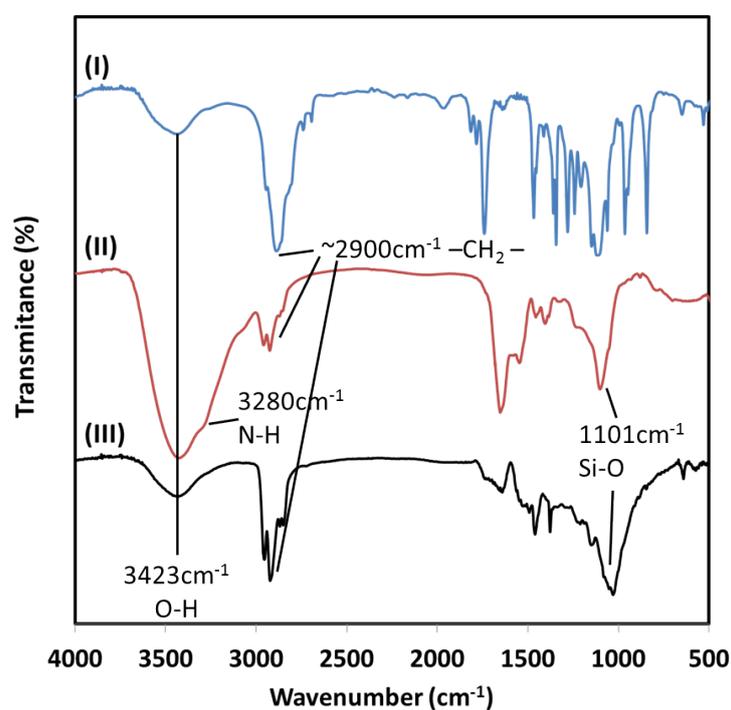


Figure-S5. FT-IR spectra of pure commercial mPEG-NHS (I), aminated AIZS@SiO₂ (II) and PEGylated AIZS@SiO₂ (III).