Supporting Information

for

Preparation, Characterization, and Utilization of Multi-functional Magnetic-fluorescent Composites for Bio-imaging and Magnetic Hyperthermia Therapy

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**Figure S1.** Uncoated Fe$_3$O$_4$ nanoparticles imaged by (a) FE-SEM and (b) TEM, and (c) the size distribution of Fe$_3$O$_4$ nanoparticles evaluated by measuring ~250 nanoparticles as derived from the SEM image.
Figure S2. (a) SAED ring pattern and (b) XRD pattern of Fe₃O₄ nanoparticles.
Figure S3. A higher magnification of the emission spectra of (g) Flu-SiO₂ / Fe₃O₄ nanoparticles and (h) Cou-SiO₂ / Fe₃O₄ nanoparticles, before and after being refluxed in water.
**Figure S4.** Photographs of Flu-SiO$_2$ / Fe$_3$O$_4$ nanoparticles dispersed in water at various pH and in ethanol, under white light (left image) and UV light irradiation (right image).