

Figure S1. Scheme of the immobilization folic acid molecules on the $\text{Fe}_3\text{O}_4@\text{SiO}_2@\text{GNRs}@m\text{SiO}_2$ surfaces.

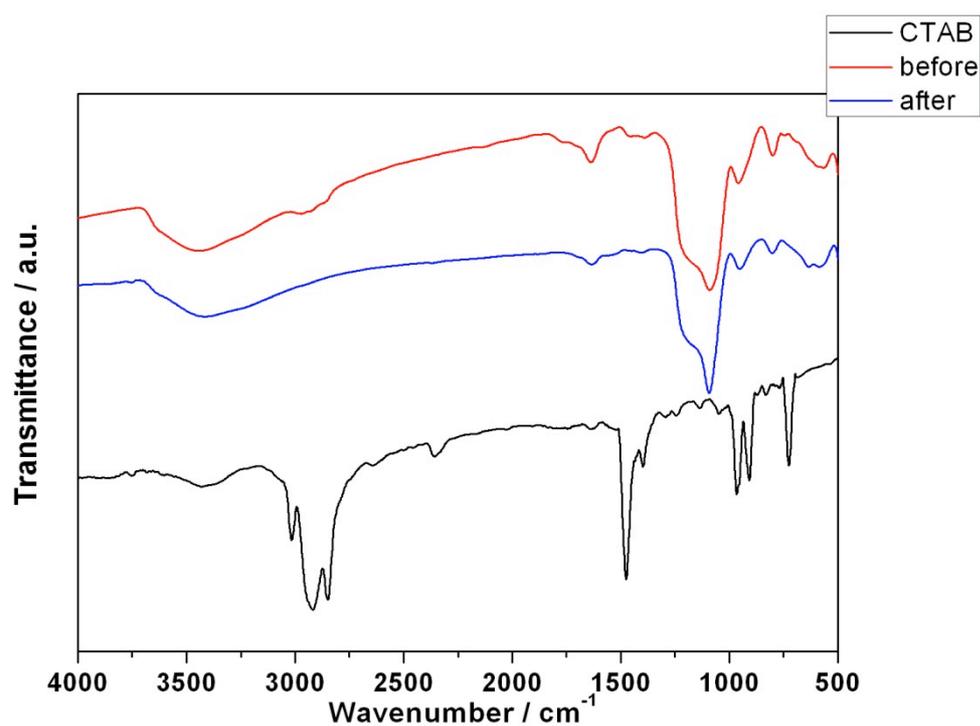


Figure S2. FTIR spectra of CTAB show two intense bands at 2918 cm^{-1} and 2850 cm^{-1} , assigned to asymmetric and symmetric stretching vibrations of $\text{C}-\text{CH}_2$ in the methylene chains. After repeat reflux in acetone for 48 h, these two peaks disappeared in the FTIR spectra, indicating the completely remove of CTAB molecules.

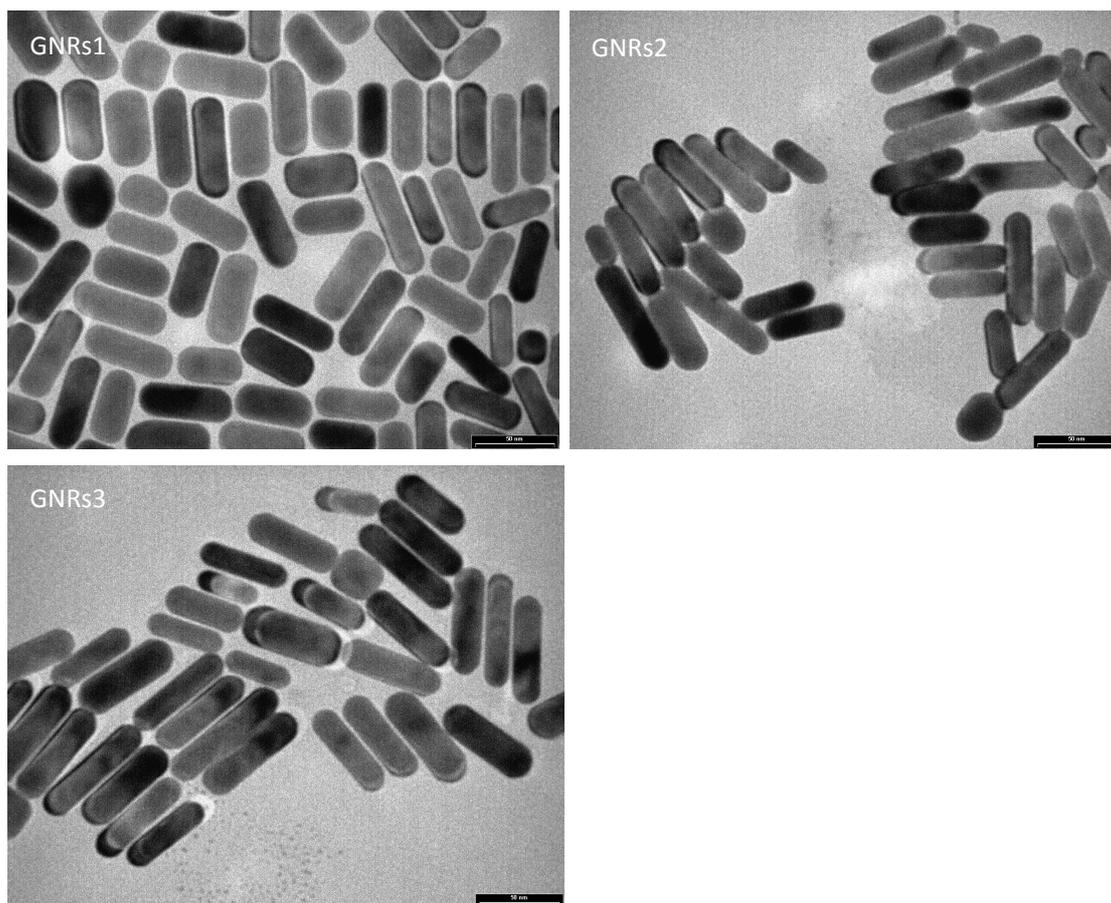


Figure S3. TEM images of GNRs 1, 2 and 3 (scale bar: 50 nm).

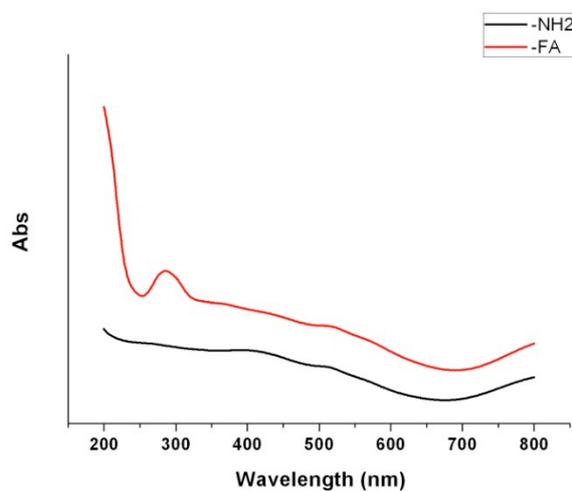


Figure S4. UV-vis spectra of $\text{Fe}_3\text{O}_4@\text{SiO}_2@\text{GNRs}@m\text{SiO}_2$ before and after FA modification.

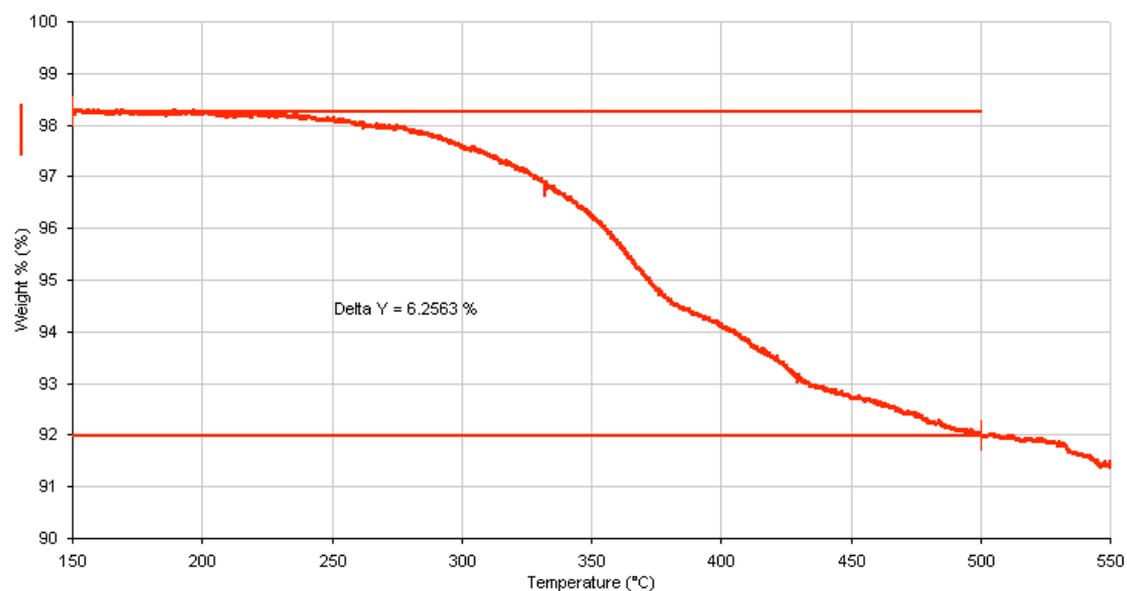


Figure S5. Thermogravimetric analysis (TGA) result of the $\text{Fe}_3\text{O}_4@\text{SiO}_2@\text{GNRs}@m\text{SiO}_2\text{-FA}$ hybrid nanocomposites.