

Electronic Supplementary Information (ESI)

## Multifunctional Magnetic Fluorescent Hybrid Nanoparticles as a Carrier for Hydrophobic Drug 5-Fluorouracil

Swagatika Sahu and Sasmita Mohapatra\*

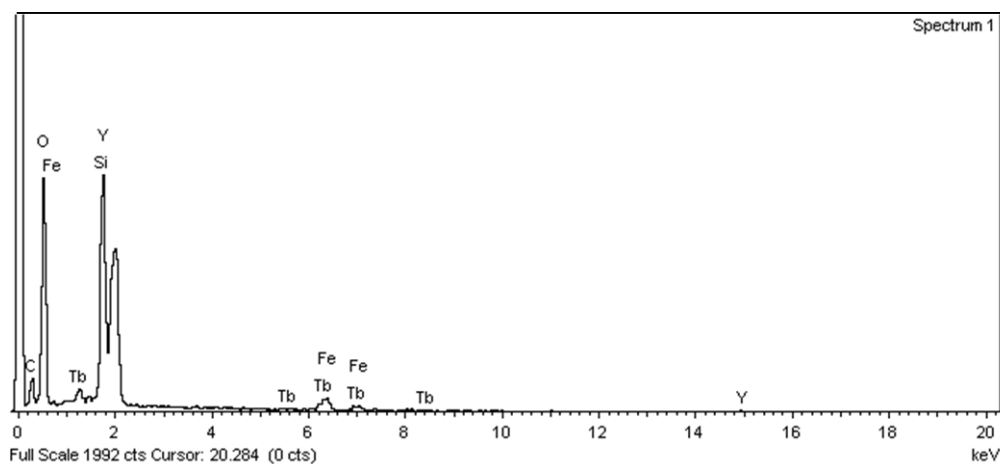


Figure S1 EDX spectrum of  $\text{Fe}_3\text{O}_4@m\text{-SiO}_2@Y\text{PO}_4:\text{Tb}$  nanoparticles

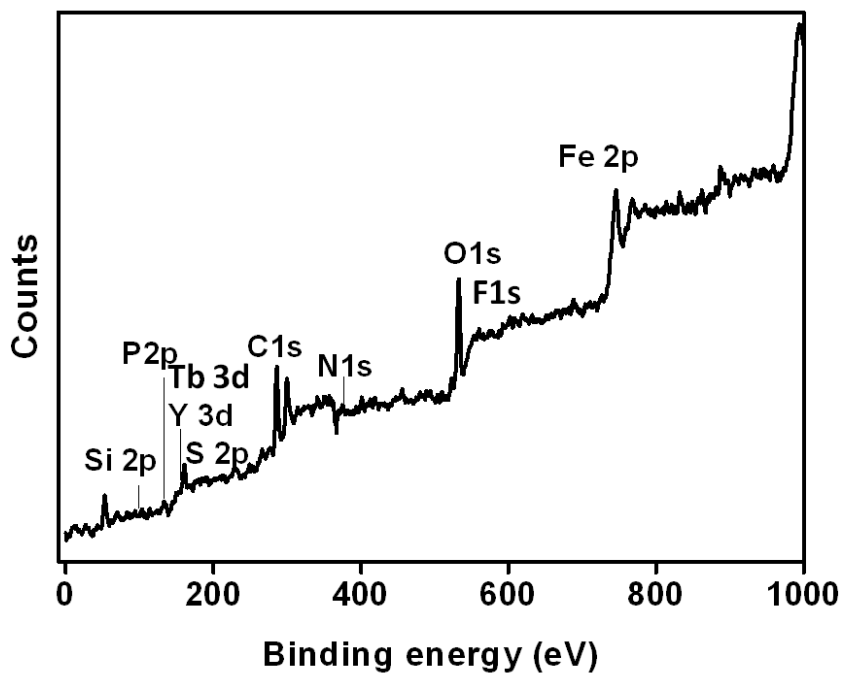


Figure S2 XPS survey spectrum of 5-FU loaded  $\text{Fe}_3\text{O}_4@m\text{-SiO}_2@Y\text{PO}_4:\text{Tb}@CD\text{-GSH}@FA$

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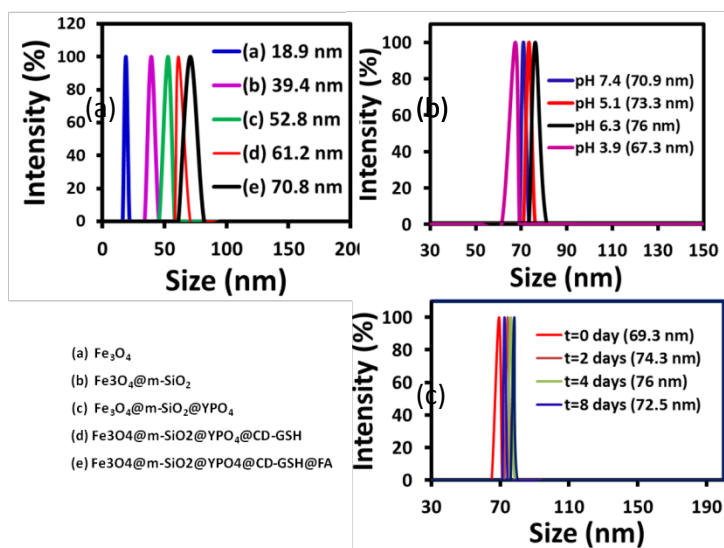


Figure S3 (a) Change in hydrodynamic size of the drug carrier at various stages of synthesis, Variation of the HD size of drug conjugate (b) with pH, (c) with time.

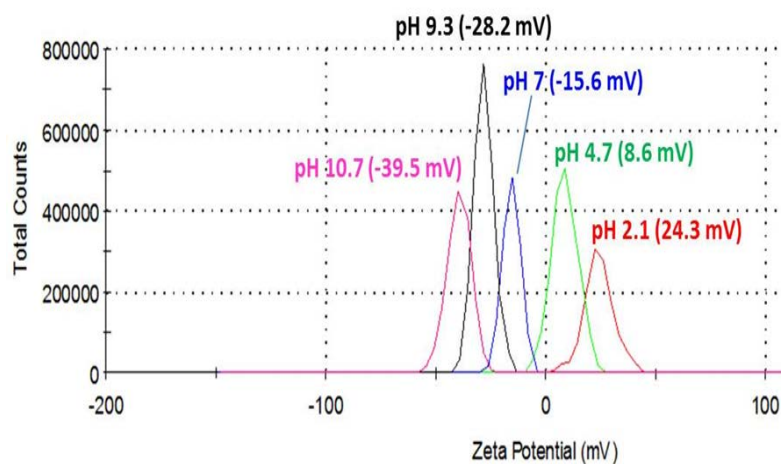


Figure S4 Measurement of zeta potential of the drug loaded nanoparticle against pH.

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$$\begin{aligned}\text{Drug-loading content (\%)} &= \frac{\text{Weight of the drug in nanoparticles}}{\text{weight of the nanoparticles}} \times 100 \dots\dots (1) \\ &= \frac{4.58}{40} \times 100 \\ &= 11.45 \%\end{aligned}$$

$$\begin{aligned}\text{Encapsulation efficiency (\%)} &= \frac{\text{Weight of the drug in nanoparticles}}{\text{Weight of the feeding drug}} \times 100 \dots\dots (2) \\ &= \frac{4.58}{5.0} \times 100 = 91.6\%\end{aligned}$$