Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting Information

Difunctional Fluorescent HSA Modified $CoFe_2O_4$ Magnetic Nanoparticles for Cell Imaging

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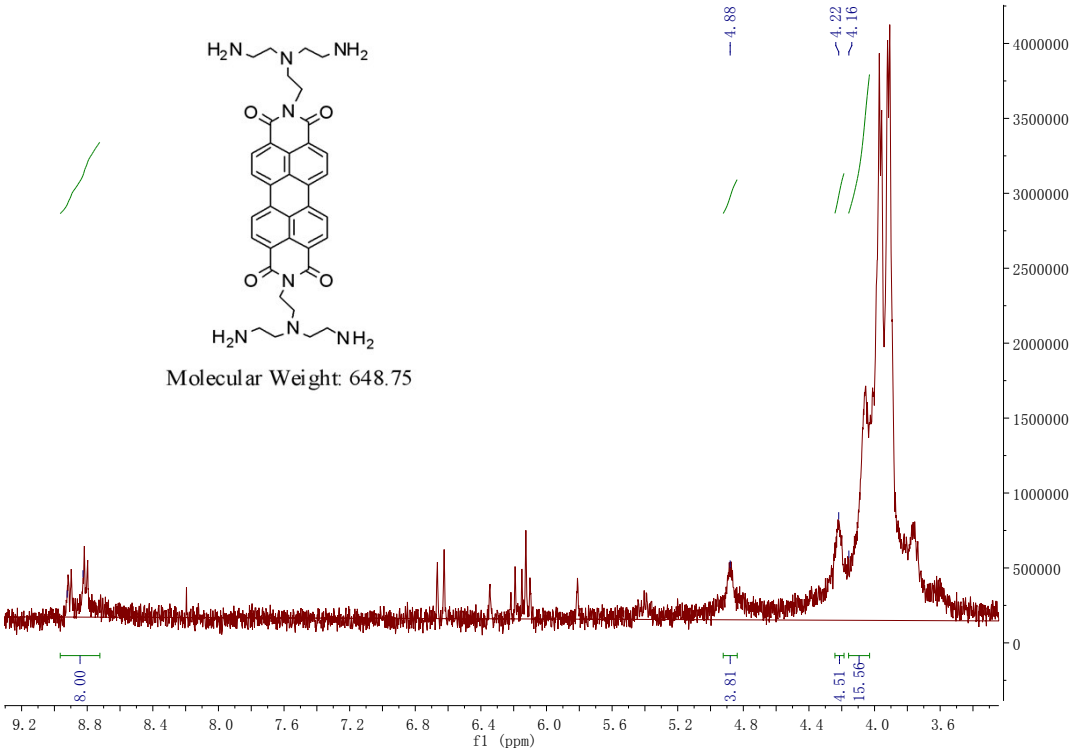


Fig. S1 ^{1}H NMR spectrum of water soluable PDI fluorescent molecule.

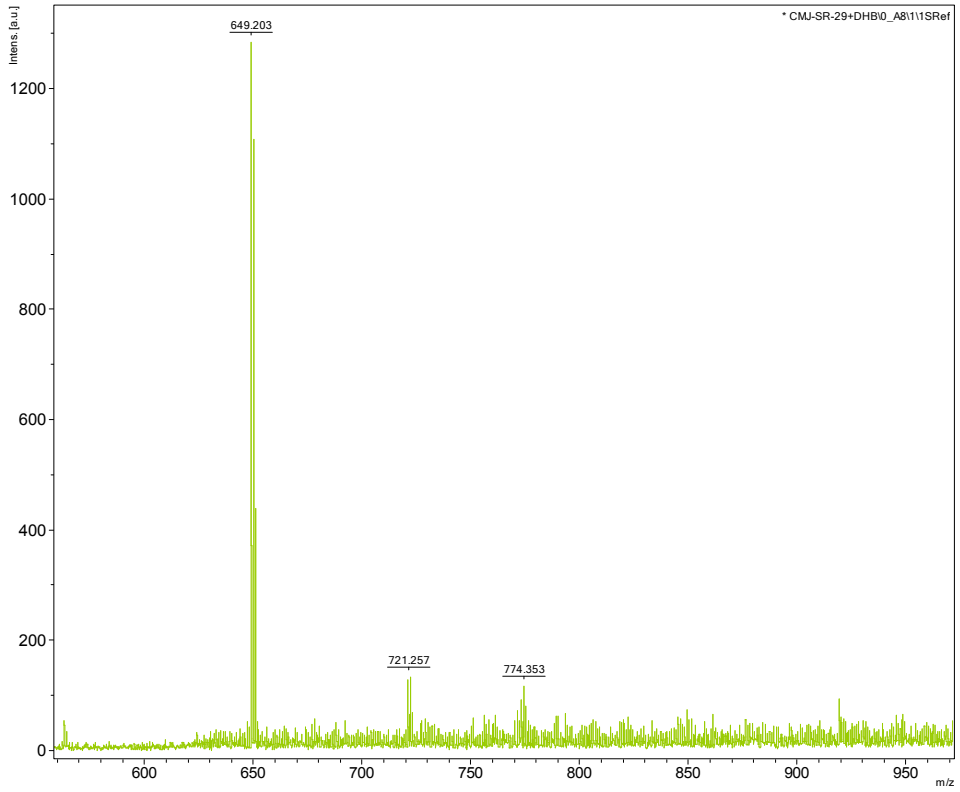


Fig.S2 Mass spectrum of PDI-4NH_2 fluorescent molecule.

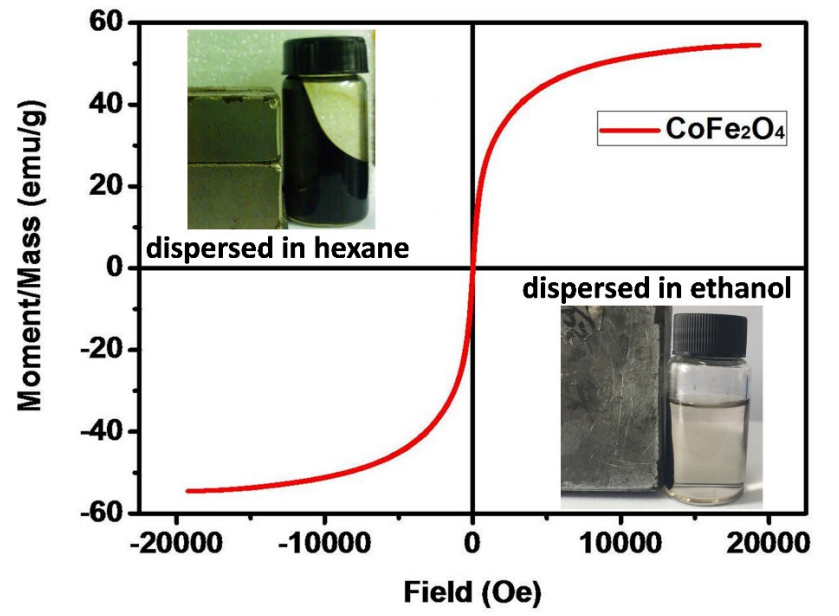


Fig. S3 Hysteresis loop of the $CoFe_2O_4$ nanoparticles, the insert picture is the $CoFe_2O_4$ nanoparticles in n-hexane and ethanol, respectively.

The magnetic property of the $CoFe_2O_4$ MNPs was characterized by vibrating sample magnetometer (VSM), with saturated magnetic intensity as 54.546 emu/g, coercivity as 20.633 Oe and magnetic retentivity as 1.364 emu/g(Fig. S3). In the inserted picture of Fig. S3, the obtained MNPs formed stable magnetofluid when dispersed in nonpolar solvent (i.e. n-hexane), confirming the ultrafine sizes (< 10 nm) of the $CoFe_2O_4$ MNPs. While dispersed in polar solvent (i.e. ethanol), the nanoparticles could be totally collected by magnet.

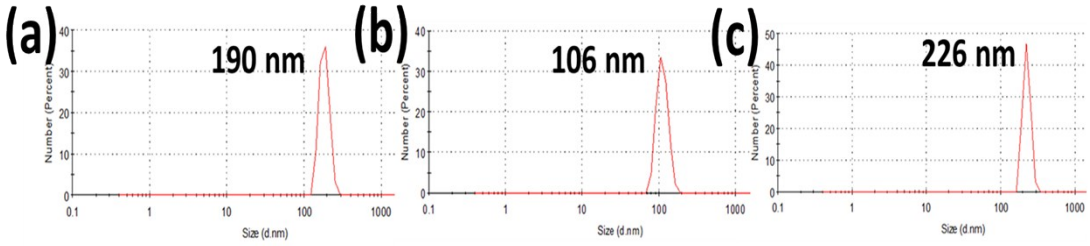


Fig. S4 DLS of the $CoFe_2O_4$@dopamine@HSA (a); $CoFe_2O_4$@dopamine@HSA@PDI-4NH_2 (b) and PDI-4NH_2 (c)

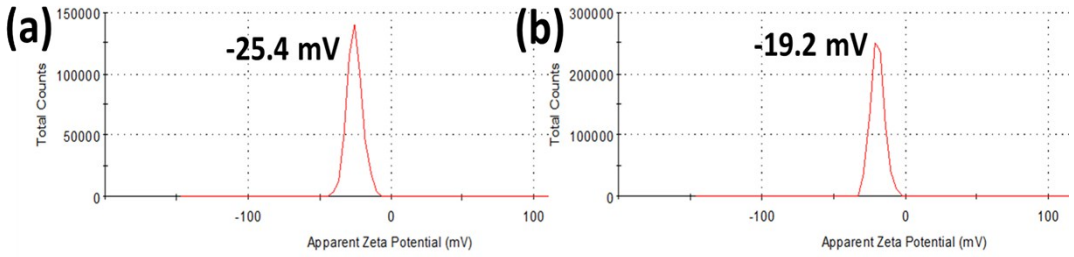
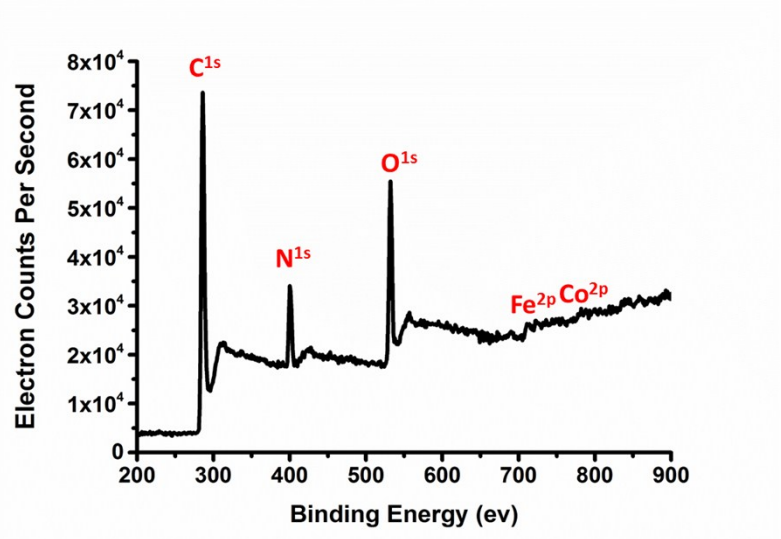


Fig. S5 Zeta potential of $CoFe_2O_4$@dopamine@HSA (a) and $CoFe_2O_4$@dopamine@HSA@PDI-4NH_2 (b).



	C(%)	Co(%)	Fe(%)	N(%)	O(%)
$CoFe_2O_4$@dopamine@HSA@PDI-4NH_2	74.33	0.36	0.49	10.19	14.62

Fig. S6 XPS of $CoFe_2O_4$@dopamine@HSA@PDI-4NH_2.

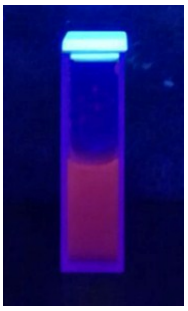


Fig. S7 Photo of $CoFe_2O_4$@dopamine@HSA@PDI-4NH_2 under UV light.

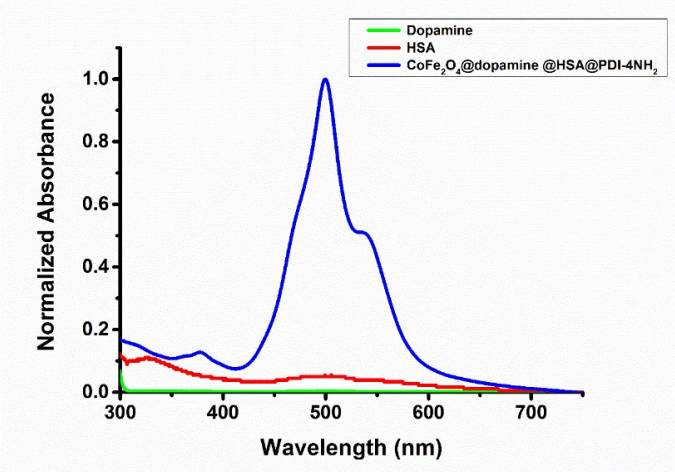


Fig. S8 UV-vis of dopamine, HSA and $CoFe_2O_4$@dopamine@HSA@PDI-$4NH_2$.

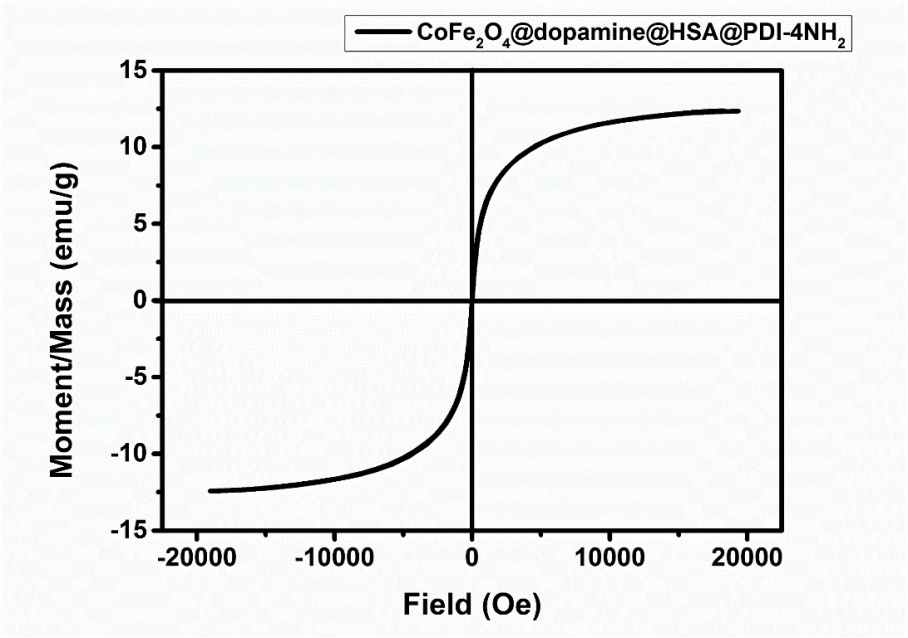


Fig. S9 Hysteresis loop of $CoFe_2O_4$@dopamine@HSA@PDI-$4NH_2$.

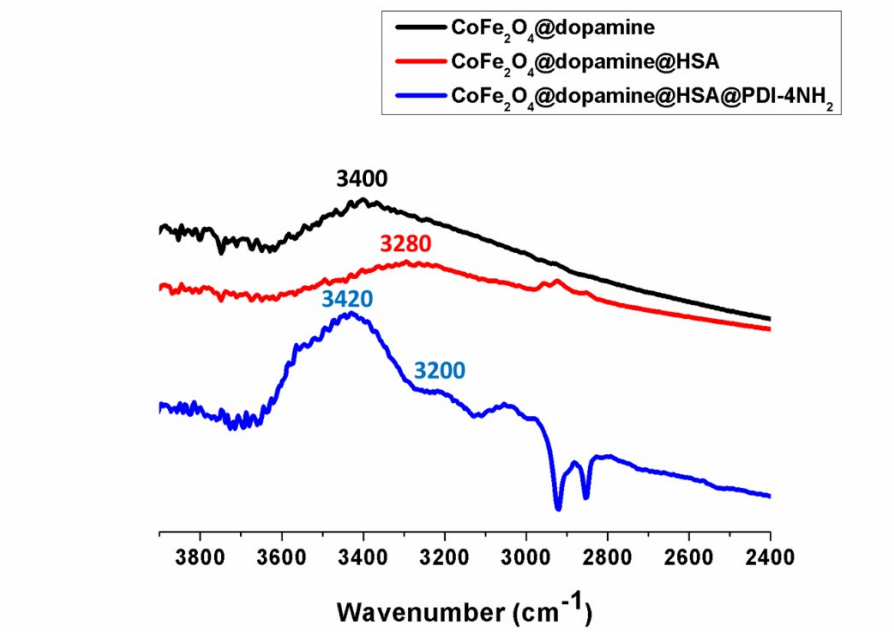


Fig. S10 FTIR of $CoFe_2O_4$@dopamine,$CoFe_2O_4$@dopamine@HSA and $CoFe_2O_4$@dopamine@HSA@PDI-$4NH_2$.