

Cite this: DOI: 10.1039/c0xx00000x

www.rsc.org/xxxxxx

ARTICLE TYPE

Photoluminescence Quenching and Electron Transfer in CuInS₂/ZnS Core/Shell Quantum Dot and FePt Nanoparticle Blend Films

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5 Received (in XXX, XXX) Xth XXXXXXXXXX 20XX, Accepted Xth XXXXXXXXXX 20XX

DOI: 10.1039/b000000x

Supporting Information

Table S1 Elemental composition of CuInS₂/ZnS QDs

Sample (Cu:In)	Cu	In	Zn	S	Cu/In
QD1 (1/1)	14.66	12.88	21.93	50.59	1.13
QD2 (1/3)	5.78	6.87	34.52	52.83	0.83
QD3 (1/6)	6.95	10.42	33.93	48.7	0.67

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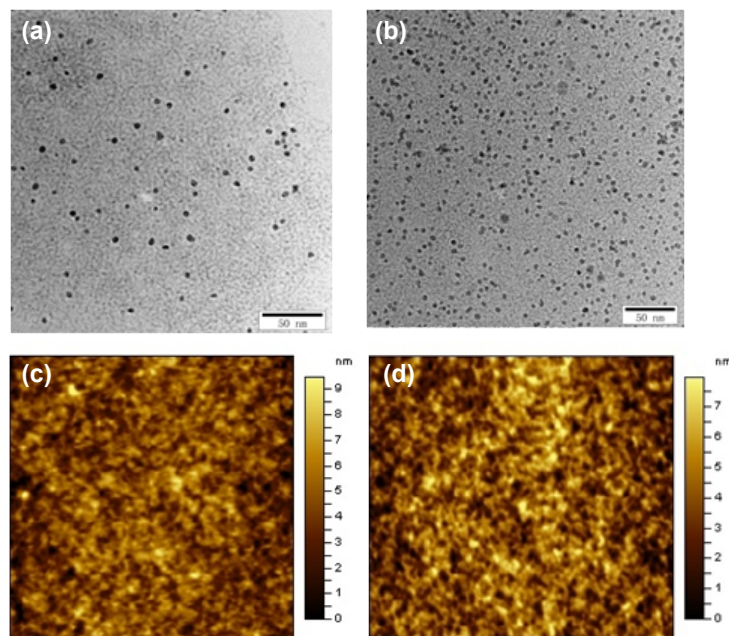


Fig. S1 TEM and AFM images for CuInS₂-FePt dropped films with FePt/QD1 ratio of 0.2(a,c) and 2.0(b,d)

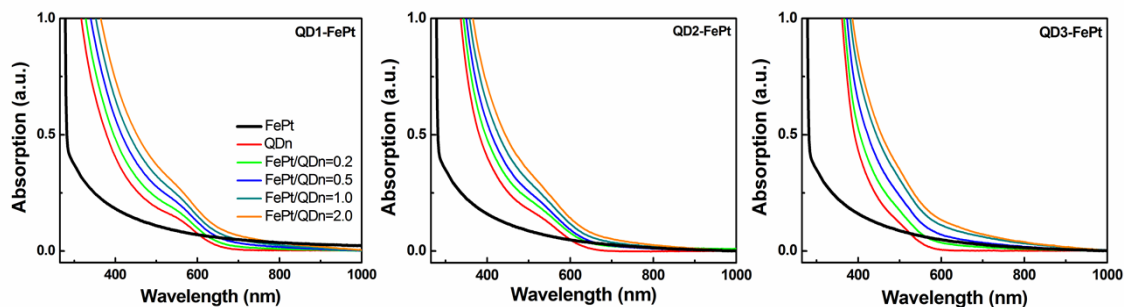


Fig. S2 Absorption spectra of FePt MNs, CuInS₂/ZnS QDs and QDn-FePt mixed colloids in chloroform with different concentrations of FePt MNs.

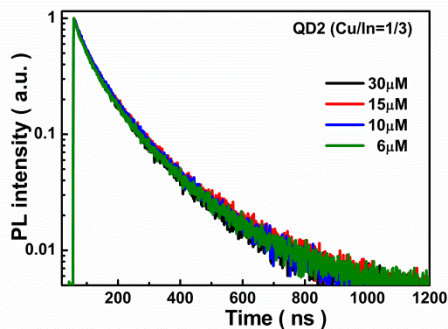


Fig. S3. PL decay curves of CuInS₂/ZnS core/shell QDs (Cu/In=1/3) with different concentration.

5 **Table S2** Fitting parameters of PL decay curves for QD1-QD3 with different concentration of FePt MNs.

Sample (QD1)	FePt/QD	τ_1	A_1	τ_2	A_2	τ_{AV}
	0.0	20.4	0.62	110.9	0.39	90.0
	0.2	16.2	0.60	99.6	0.40	83.1
	0.5	15.0	0.61	90.8	0.39	78.4
	1.0	10.6	0.62	81.4	0.38	71.2
Sample (QD2)	0.0	57.5	0.56	167.4	0.44	135.2
	0.2	34.2	0.51	129.7	0.49	110.8
	0.5	26.3	0.47	118	0.53	102.9
	1.0	25.5	0.57	111	0.43	92.5
	2.0	20.5	0.58	108	0.42	89.8
Sample (QD3)	0.0	76.0	0.53	204	0.47	166.1
	0.2	39.6	0.44	151	0.56	132.1
	0.5	27.1	0.46	126	0.54	110.8
	1.0	19.4	0.48	109	0.52	96.4
	2.0	16.5	0.54	110	0.46	96.2

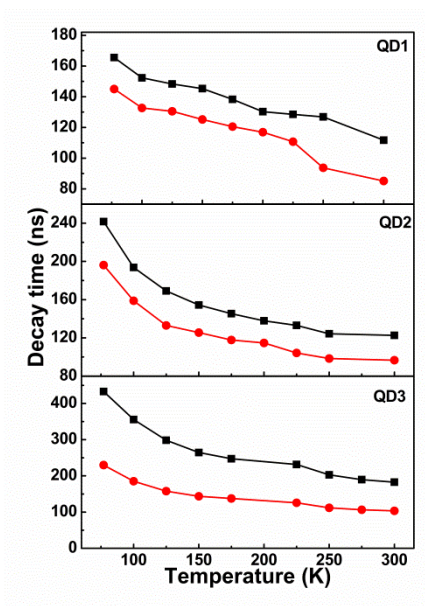


Fig. S4 Temperature-dependent PL decay times τ_{AV} of QDn and QDn-FePt blend films (n=1, 2, 3) at different temperatures from 80 to 300 K. Black solid squares refer to the pure CuInS₂ QDs films and red solid circles represent the CuInS₂ QD-FePt MN blend films.