

Supporting Information

Preparation and Luminescence Properties of core-shell structure composites $\text{SiO}_2@ANA\text{-Si-Eu}$, $\text{SiO}_2@ANA\text{-Si-Eu-L}$ and core-shell-shell structure composites $\text{SiO}_2@ANA\text{-Si-Eu}@SiO_2$, $\text{SiO}_2@ANA\text{-Si-Eu-L}@SiO_2$

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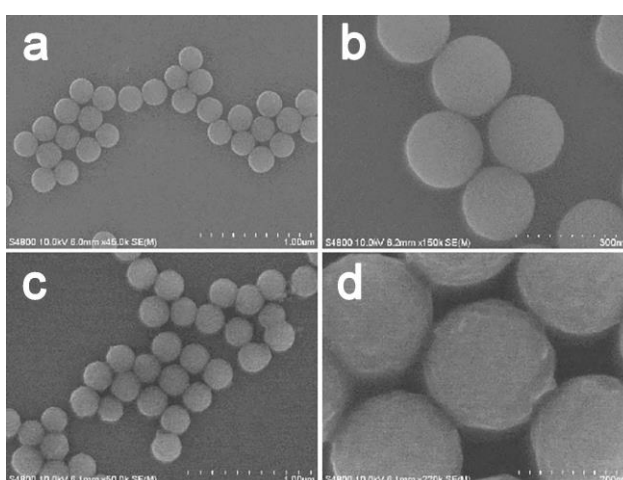


Fig. S1 The SEM photographs of (a, b) SiO_2 and (c, d) $\text{SiO}_2@ANA\text{-Si}$.

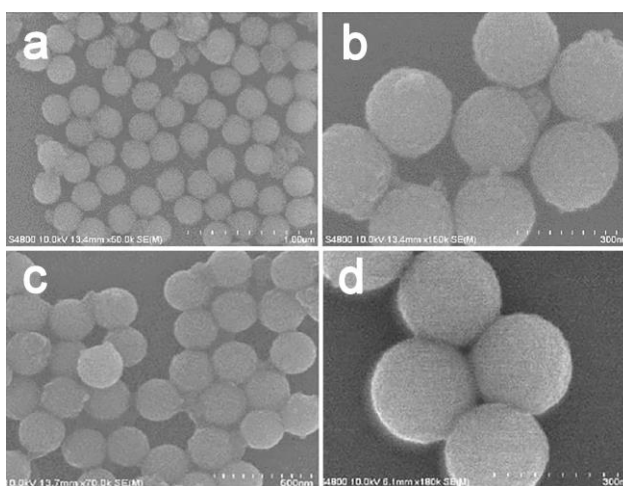
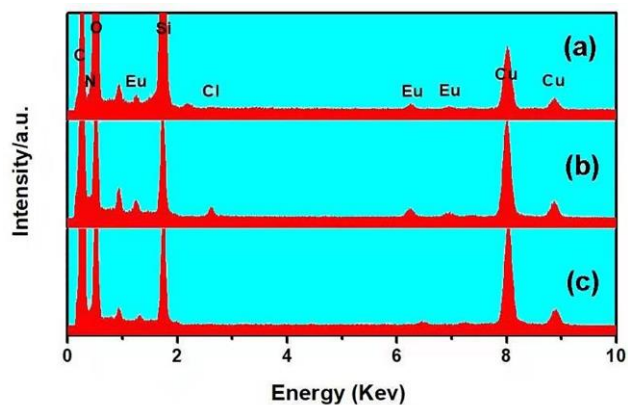


Fig. S2 The SEM Photographs of (a, b) $\text{SiO}_2@ANA\text{-Si-Eu}$ and (c, d) $\text{SiO}_2@ANA\text{-Si-Eu-phen}$.



		N	O	Si	Cl	Eu
(a)	Weight(%)	7.71	54.65	32.26	2.21	3.17
	Atomic(%)	10.78	65.34	22.67	0.90	0.31
(b)	Weight(%)	5.22	56.21	35.79	1.15	1.63
	Atomic(%)	6.01	68.74	24.43	0.62	0.20
(c)	Weight(%)	7.79	49.24	28.98	5.88	8.11
	Atomic(%)	9.47	62.78	24.13	2.70	0.92

Fig. S3 The EDX of (a) SiO₂@ANA-Si-Eu, (b) SiO₂@ANA-Si-Eu-phen, (c) SiO₂@ANA-Si-Eu-TTA.

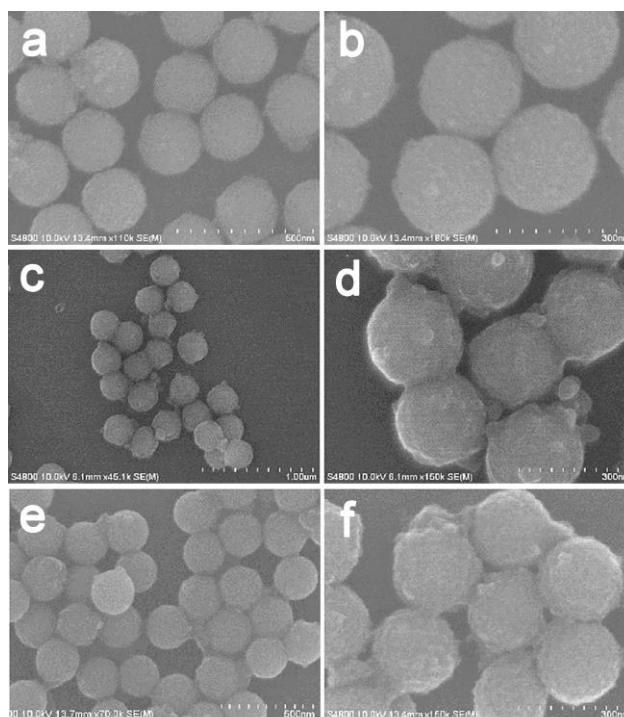
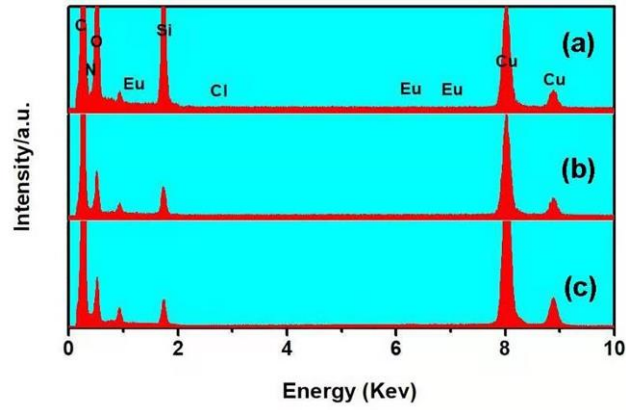


Fig. S4 The SEM Photographs of (a, b) SiO₂@ANA-Si-Eu@SiO₂, (c, d) SiO₂@ANA-Si-Eu-phen@SiO₂, (e, f) SiO₂@ANA-Si-Eu-TTA@SiO₂.



		N	O	Si	Cl	Eu
(a)	Weight(%)	2.36	58.70	38.17	0.33	0.44
	Atomic(%)	3.54	70.25	26.02	0.14	0.05
(b)	Weight(%)	3.57	57.95	37.57	0.37	0.54
	Atomic(%)	5.23	69.23	25.32	0.16	0.06
(c)	Weight(%)	8.96	52.36	37.52	0.47	0.69
	Atomic(%)	6.86	64.69	28.23	0.17	0.05

Fig. S5 The EDX of (a) $\text{SiO}_2\text{@ANA-Si-Eu@SiO}_2$, (b) $\text{SiO}_2\text{@ANA-Si-Eu-phen@SiO}_2$, (c) $\text{SiO}_2\text{@ANA-Si-Eu-TTA@SiO}_2$.

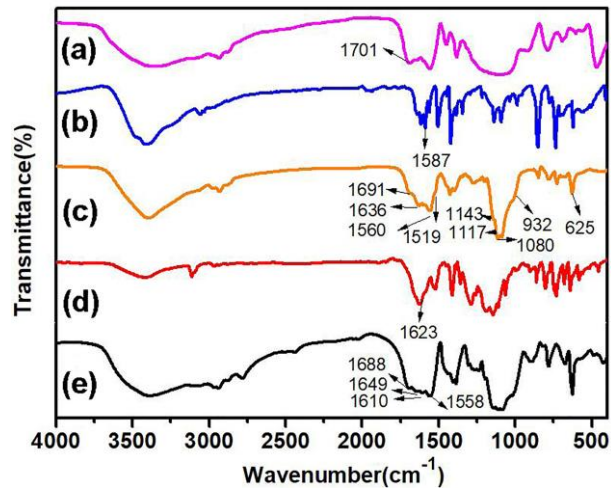


Fig. S6 The FT-IR spectra of (a) $\text{SiO}_2\text{@ANA-Si}$, (b) phen, (c) $\text{SiO}_2\text{@ANA-Si-Eu-phen}$, (d) TTA, (e) $\text{SiO}_2\text{@ANA-Si-Eu-TTA}$.

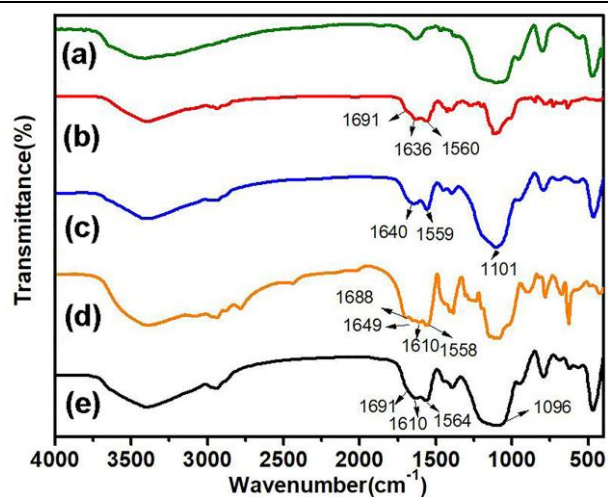


Fig. S7 The FT-IR spectra of (a) SiO₂, (b) SiO₂@ANA-Si-Eu-phen, (c) SiO₂@ANA-Si-Eu-phen@SiO₂, (d) SiO₂@ANA-Si-Eu-TTA, (e) SiO₂@ANA-Si-Eu-TTA@SiO₂.