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

Supporting Information

Eu^{3+} based mesoporous hybrid material with tunable multicolor emission modulated by fluoride ion: application for selective sensing toward fluoride ion

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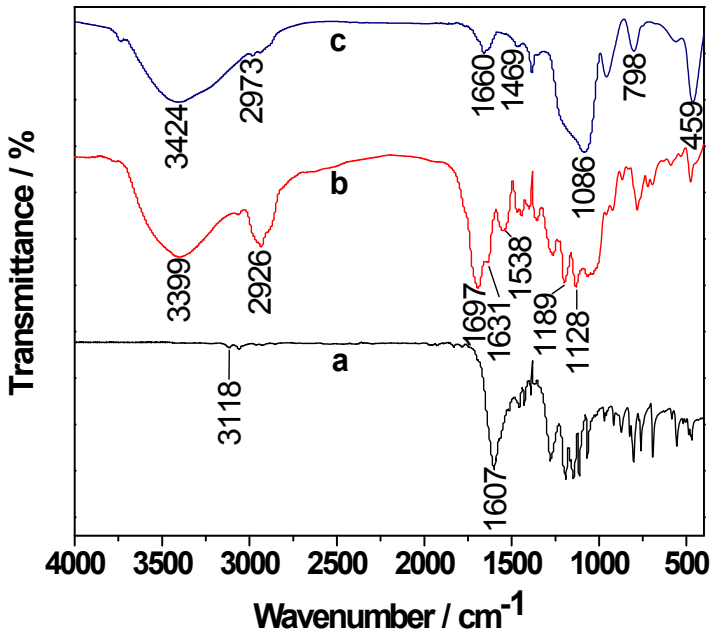

Fig. S1 FTIR spectra for NTA (A), precursor NTA-Si (B) and NTA-functionalized SBA-15 mesoporous hybrid material NTA-S15 (C).

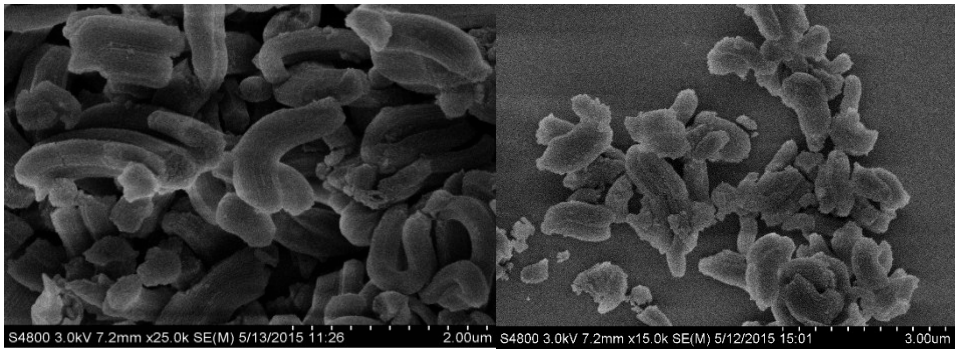

Fig. S2 SEM images of Eu-containing mesoporous hybrid material $Eu(NTA\text{-}S15)_3L$.

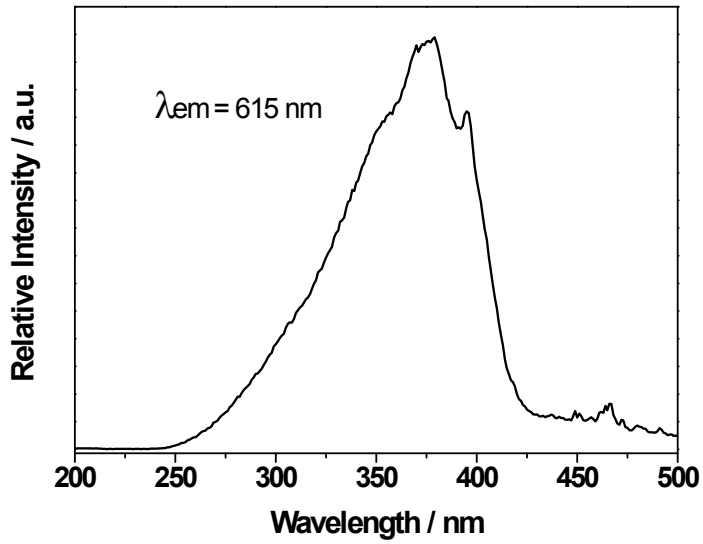

Fig. S3 Excitation spectra of the Eu-containing mesoporous hybrid $Eu(NTA\text{-}S15)_3L$.

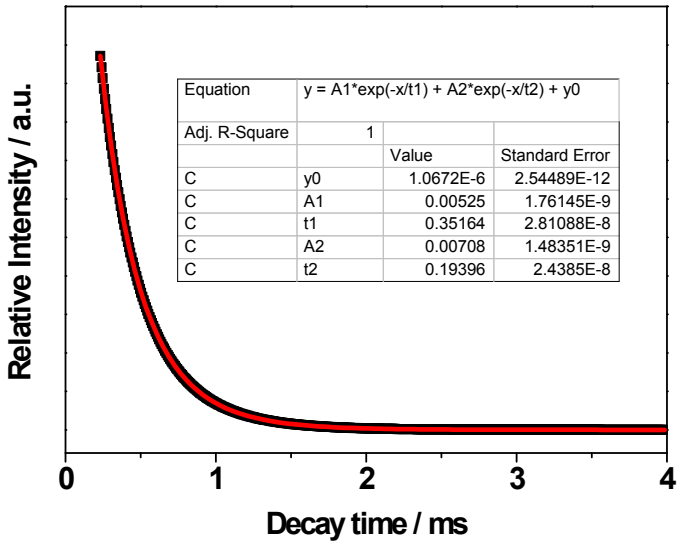

Fig. S4 Luminescence time decay curves for the sample $Eu(NTA\text{-}S15)_3L$ (balck line: experimental data; red line: fitted data).

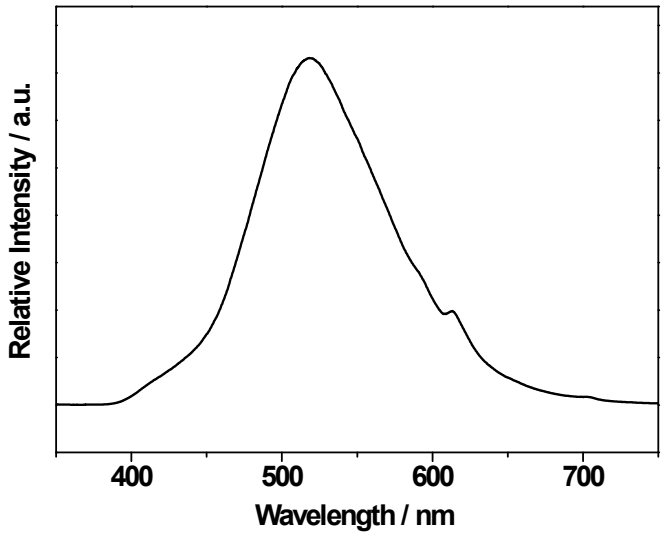

Fig.S5 Emission spectra of $Eu(NTA\text{-}S15)_3L$ in THF solutions (1 mg/mL) upon the addition of F^- (10^{-3} mol/L) in the presence of other mixture anions (10^{-3} mol/L).

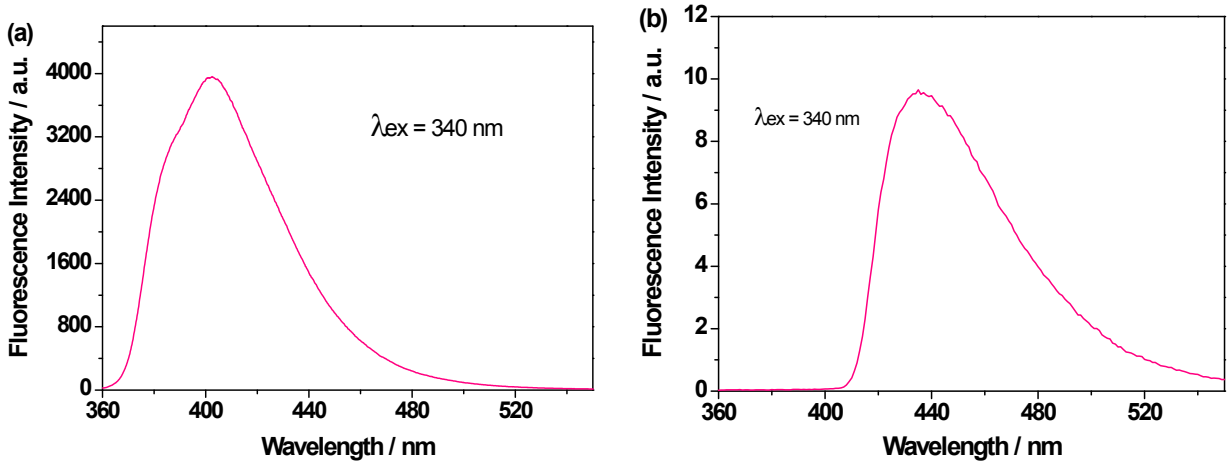

Fig.S6 Emission spectra of organic ligang L ($c=10^{-3}$ mol/L) in THF solution (a) and ligand NTA ($c=10^{-3}$ mol/L) in THF solution (b) . Measurement parameters: EX Slit: 2.5 nm; EM Slit: 2.5 nm; PMT Voltage: 600 V.

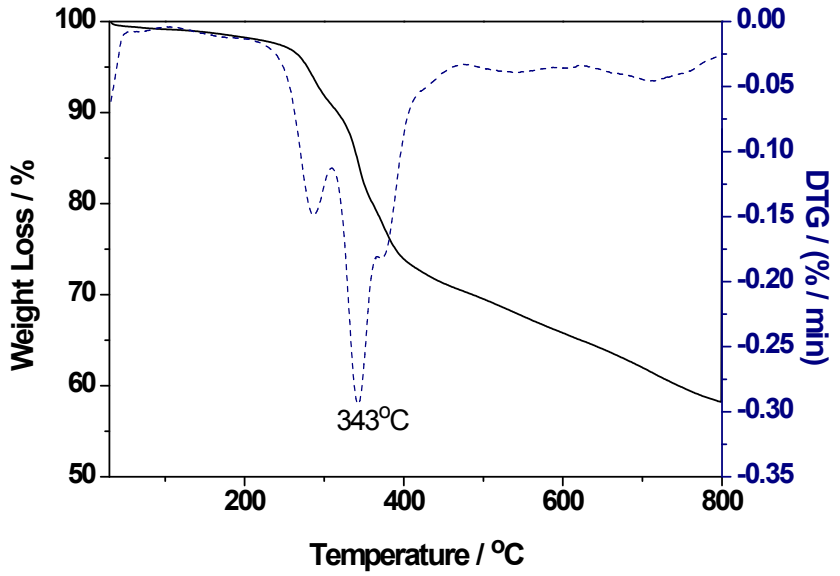

Fig. S7 Thermogravimetry trace (—) and differential thermogravimetry trace (---) curves (DTG) of pure complex $Eu(NTA)_3L$.

Table S1 The main bands and their assignments of IR spectra for NTA(a), NTA-Si (b) and NTA-S15 (c).

compounds	$\nu(CH_2)$	ν(C=O)	ν(N-H)	δ(N-H)	ν(Si-O)	ν(C-Si)
NTA	3118	1607				
NTA-Si	2926	1697,1631	3399	1538	1128	1189
NTA-S15	2973	1660	3424	1469	1086,798,459	