Electronic Supplementary Material (ESI) for CrystEngComm.

Supplementary Information

Rapid Naked-Eye Luminescence Detection of Carbonate Ion through Acetonitrile Hydrolysis Induced Europium Complexes

Yan-Na Lu,[a] Jun-Ling Peng,[a] Xia Zhou,[a] Jian-Zhong Wu,*[abc] Yong-Cong Ou,*[a] Yue-Peng Cai [abc]

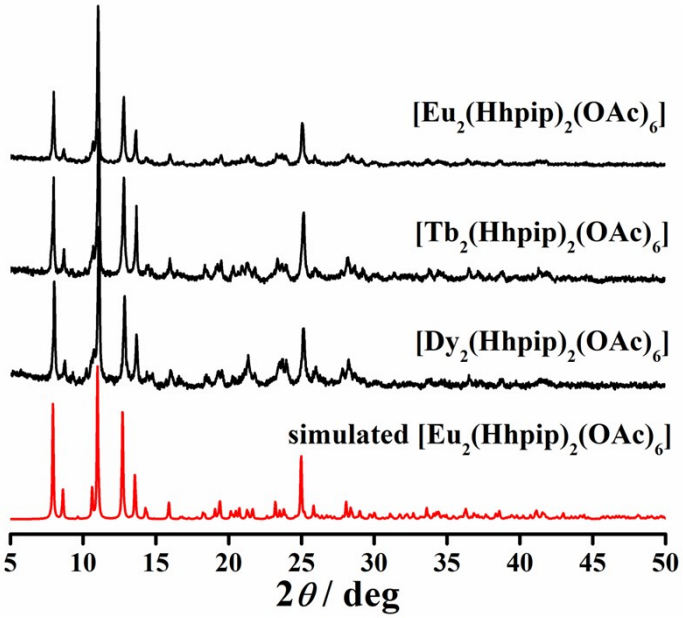

Fig. S1 PXRD patterns of the simulated and as-synthesized $[Ln_2(Hhpip)_2(OAc)_6]$.

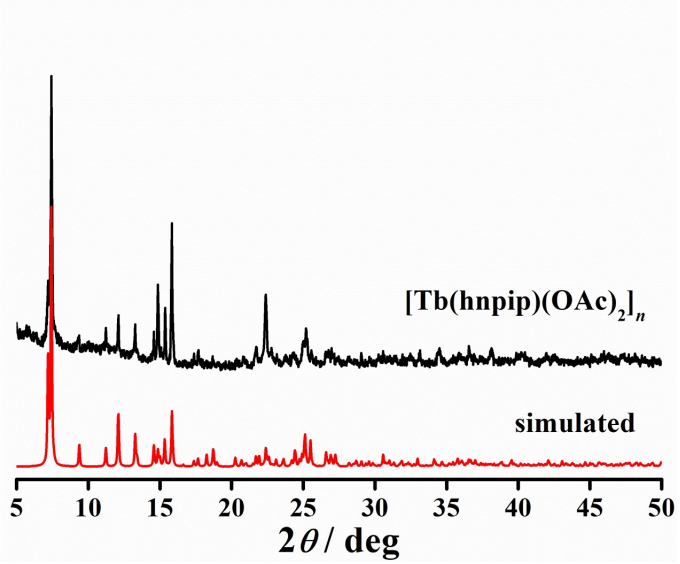

Fig. S2 PXRD patterns of the simulated and as-synthesized $[Tb(hnpip)(OAc)_2]_n$.

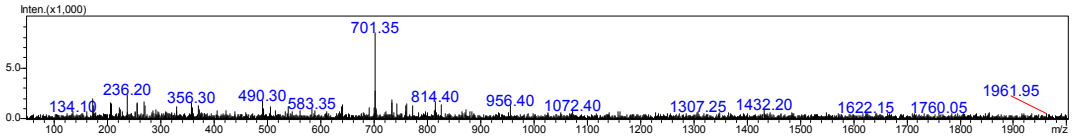

Fig. S3 Mass spectrum for the DMSO solution of $[Eu_2(Hhpip)_2(OAc)_6]$.

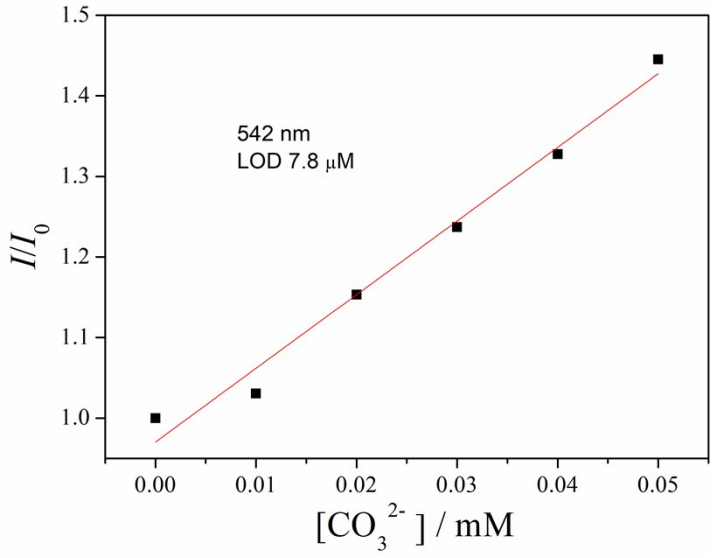

Fig. S4 Relative emission intensity for $[Eu_2(Hhpip)_2(OAc)_6]$ at 542 nm as a function of carbonate concentration.

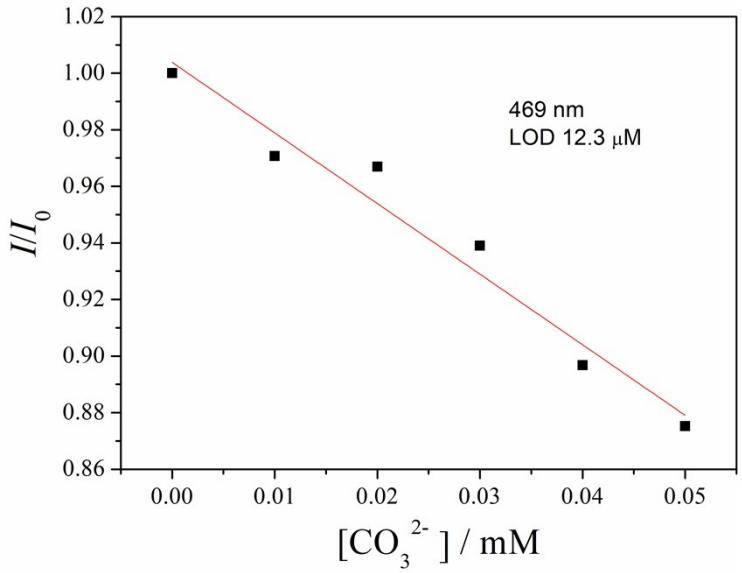

Fig. S5 Relative emission intensity for $[Eu_2(Hhpip)_2(OAc)_6]$ at 469 nm as a function of carbonate concentration.

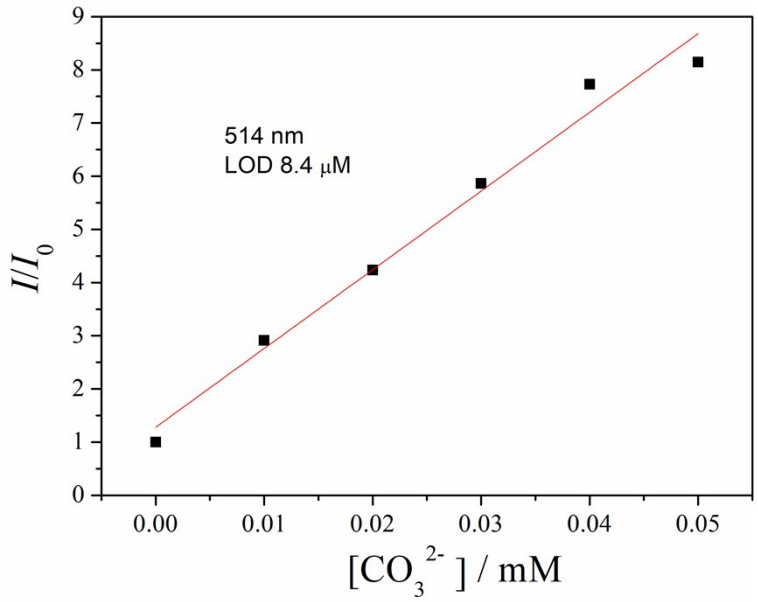

Fig. S6 Relative emission intensity for $[Eu_2(pip)_2(OAc)_6]$ at 514 nm as a function of carbonate concentration.

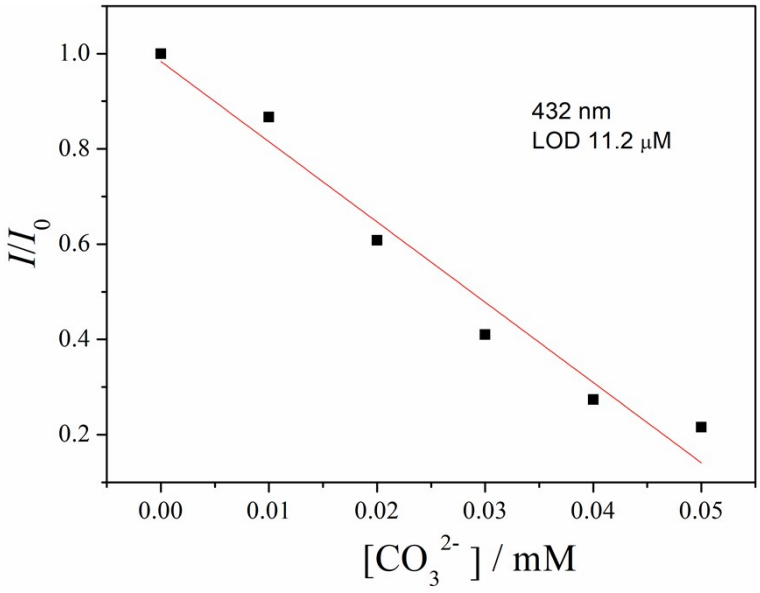

Fig. S7 Relative emission intensity for $[Eu_2(pip)_2(OAc)_6]$ at 432 nm as a function of carbonate concentration.

Table S1 Limits of detection towards carbonate ion for the Eu(III) complexes at specific wavelengths based on linear fit statics of the relative luminescence intensity as a function of low carbonate concentration.

Complex	Wavelength monitored /nm	Standard deviation	Slope (Sensitivity) /mM^{-1}	Limit of detection /μM
$[Eu_2(Hhpip)_2(OAc)_6]$	469	0.01023	2.4952	12.3
	542	0.02389	9.142	7.8
$[Eu_2(pip)_2(OAc)_6]$	432	0.06315	16.849	11.2
	514	0.41437	148.062	8.4