

Supporting information for

**Novel luminescent lanthanide(III) hybrid materials : Fluorescence
sensing of anionic F⁻ and small molecules**

Xuelei Pang, Li Li, Yi Wei, Xudong Yu and Yajuan Li*

College of Science and Hebei Research Center of Pharmaceutical and
Chemical Engineering, Hebei University of Science and Technology,

Yuhua Road 70, Shijiazhuang 050080, PR China

E-mail for corresponding author: liyajuan0820@163.com (Y. J., Li),

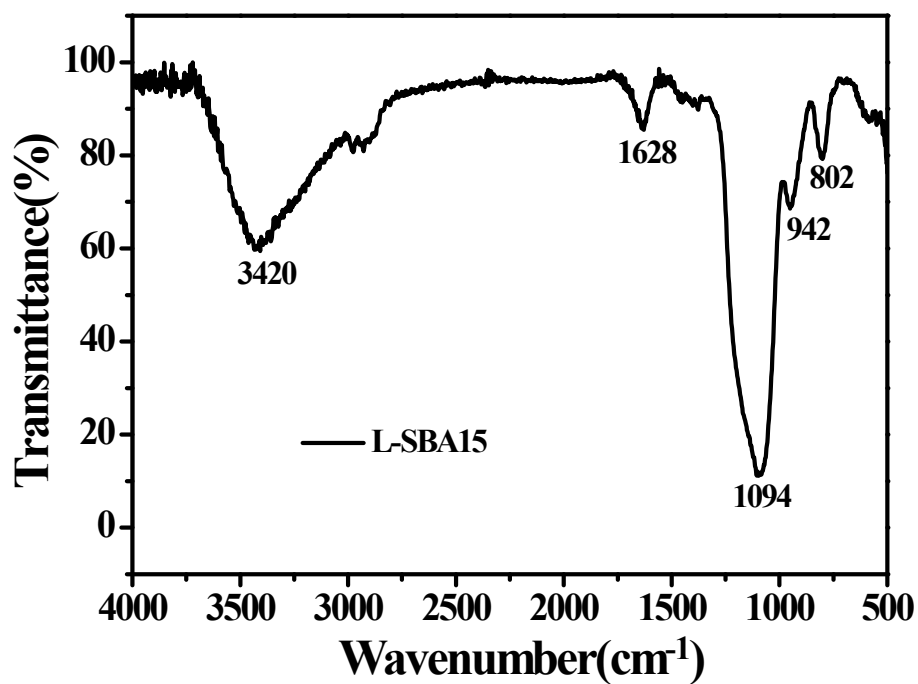


Fig. S1 FTIR spectra of as-synthesized L-SBA15

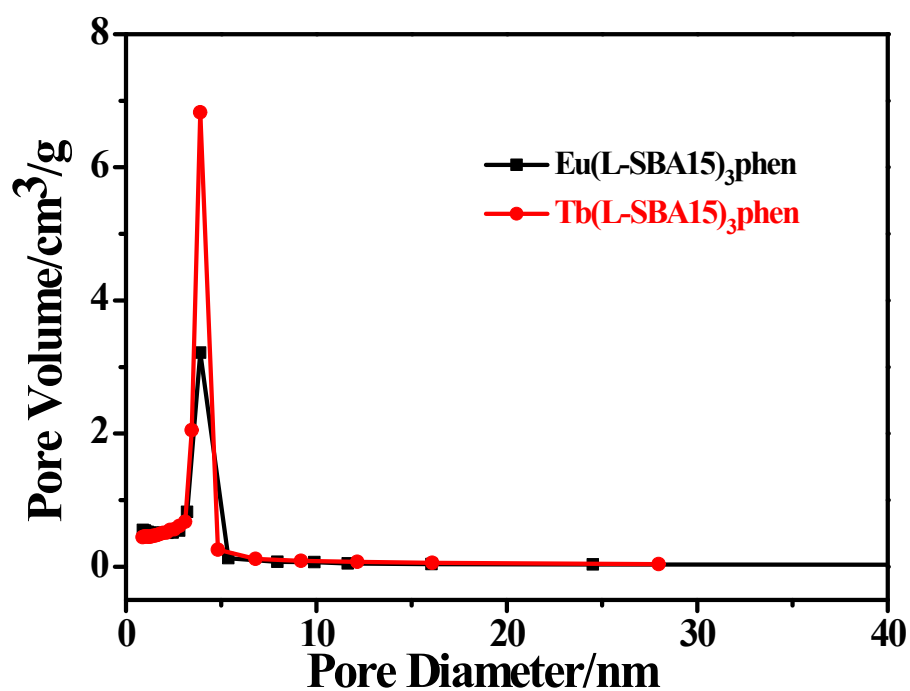


Fig. S2 The corresponding isotherms and pore size distributions of Eu(L-SBA15)₃phen and Tb(L-SBA15)₃phen.

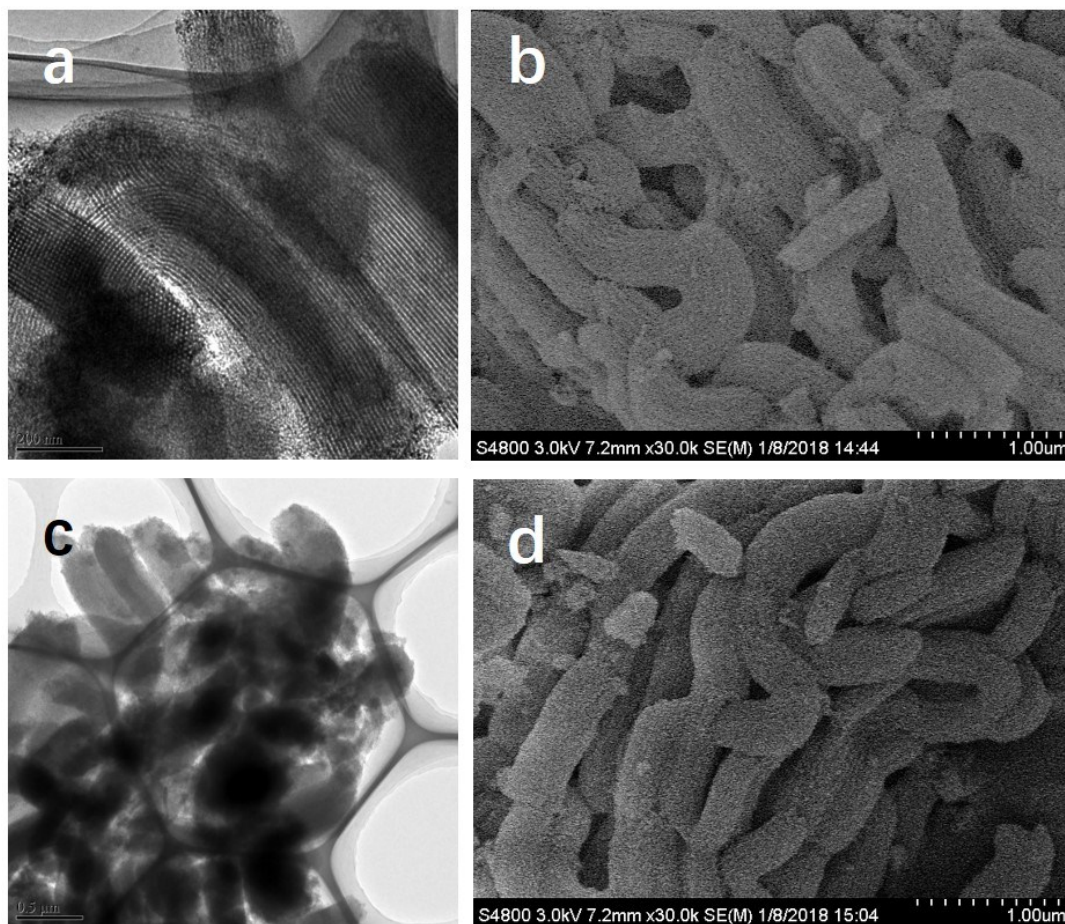


Fig. S3 TEM and SEM images of $\text{Eu}(\text{L-SBA15})_3\text{phen}$ (a, b) and $\text{Tb}(\text{L-SBA15})_3\text{phen}$ (c, d).

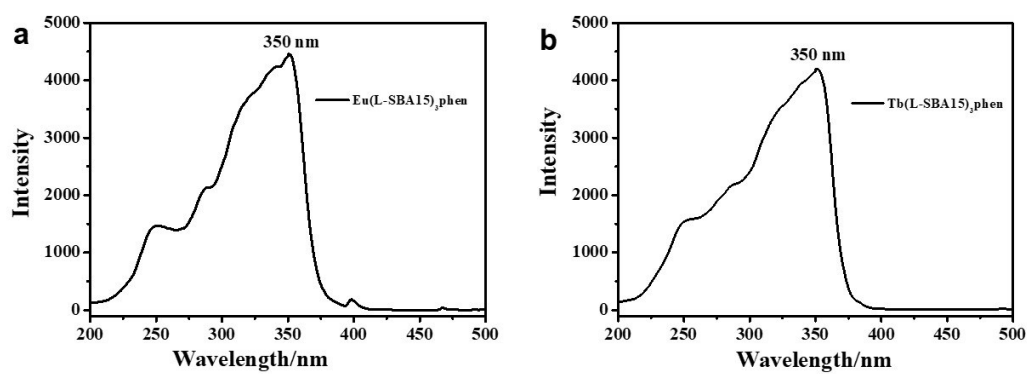


Fig. S4 Fluorescent excitation spectra of the two $\text{Eu}(\text{L-SBA15})_3\text{phen}$ (a) and $\text{Tb}(\text{L-SBA15})_3\text{phen}$ hybrid materials (b).

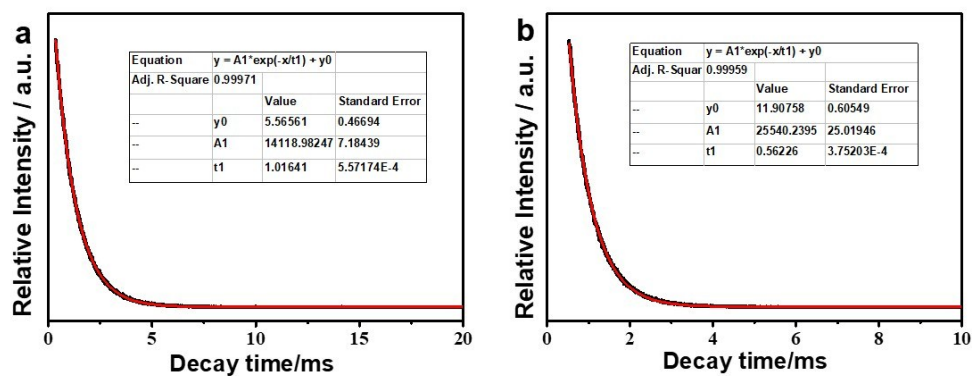


Fig. S5 Luminescence decay curves of the mesoporous hybrid material Eu(L-SBA15)₃phen (a) and Tb(L-SBA15)₃phen (b).

Table S1 The luminescence data of the hybrid materials

Materials	λ_{ex} (nm)	τ (μs)	H (%)
Eu(L-SBA15) ₃ phen	619 (350)	975	81.2
Tb(L-SBA15) ₃ phen	550 (350)	671	56.4

τ , the luminescent lifetimes; η , the emission quantum efficiency.

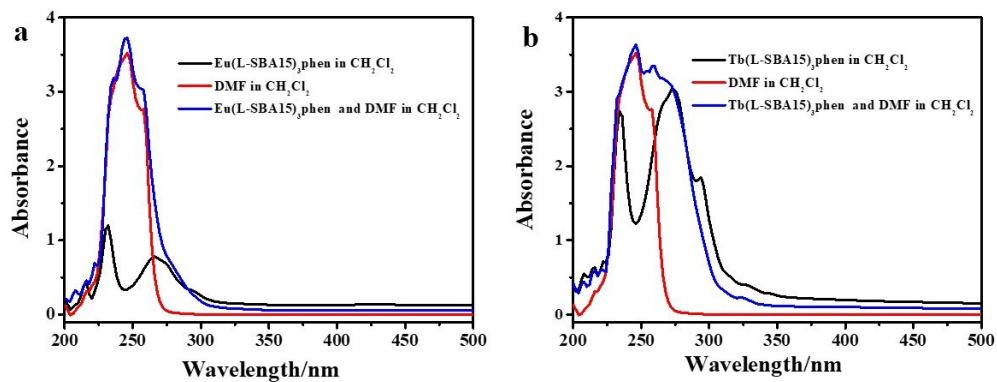


Fig. S6 UV-Vis absorption spectrum of ligand DMF and Ln(L-SBA15)₃phen in CH₂Cl₂ solution.