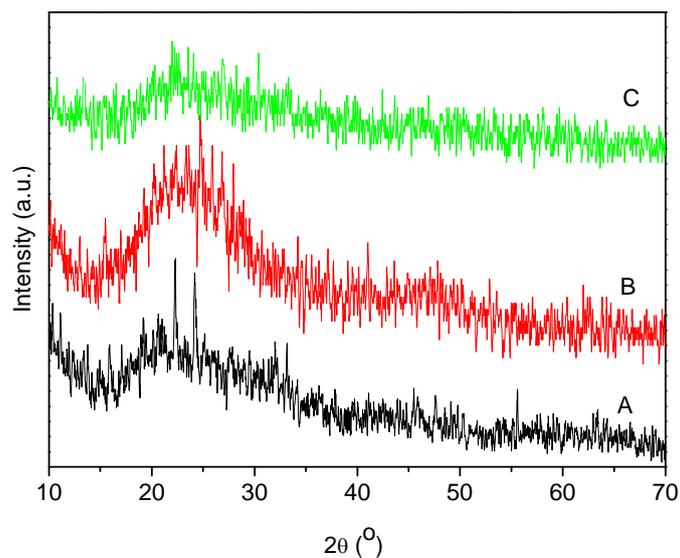


Supporting information for  
Novel lanthanide luminescent materials based on multifunctional  
complexes of 2-sulfanylpyridine-3-carboxylic acid and silica/titania hosts

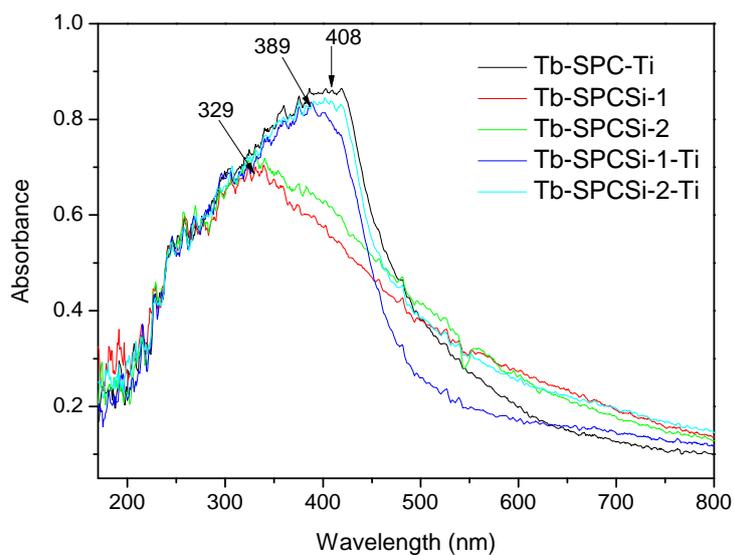
Lei Guo,<sup>a</sup> Lianshe Fu,<sup>b</sup> Rute A. S. Ferreira,<sup>b</sup> Luis D. Carlos<sup>b</sup> and Bing Yan\*<sup>a</sup>

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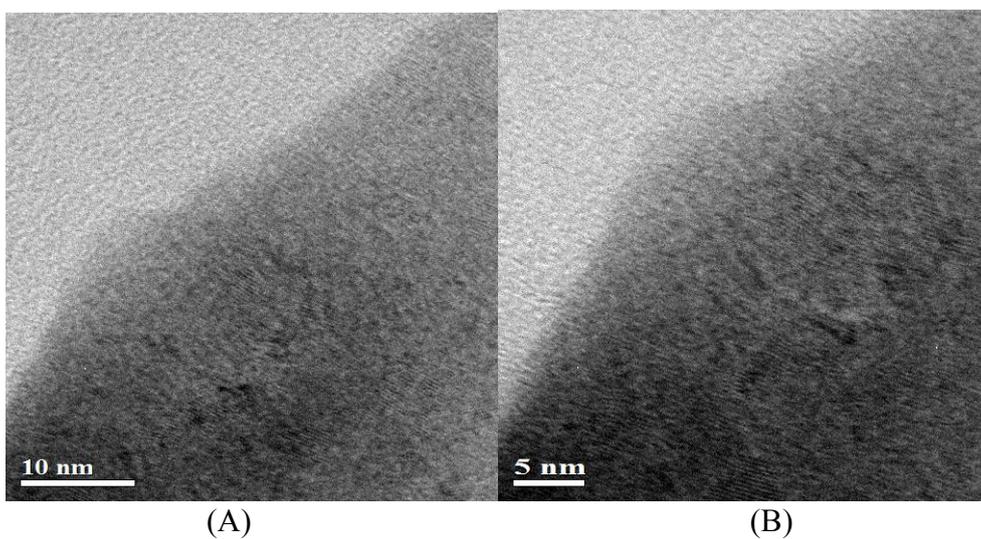
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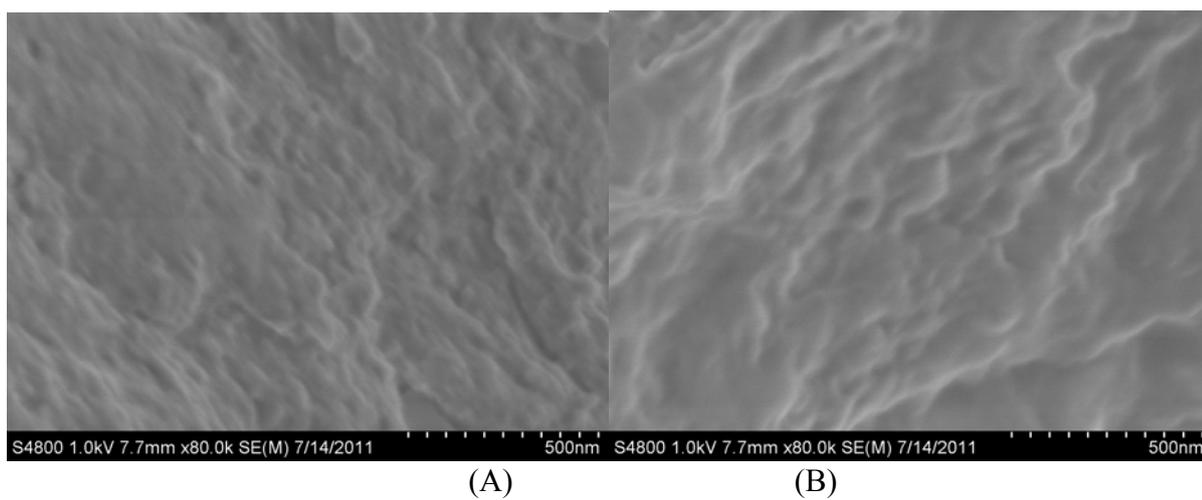
**Figure S1** XRD patterns of the (A) Eu-SPC-Ti, (B) Eu-SPCSi-1, and (C) Eu-SPCSi-1-Ti hybrid materials.



**Figure S2** UV-visible diffuse reflection absorption spectra of Tb<sup>3+</sup>-containing hybrid materials.



**Figure S3** TEM images of (A) Eu-SPCSi-I, (B) Eu-SPCSi-I-Ti hybrids



**Figure S4** SEM images of (A) Eu-SPCSi-I, (B) Eu-SPCSi-I-Ti hybrids

Table S1 Lifetime ( $\tau$ ), radiative ( $A_r$ ) and nonradiative ( $A_{nr}$ ) transition probabilities, quantum efficiency of the  $^5D_0$  level ( $\eta$ ), quantum yield ( $\phi$ ) of pure  $\text{Eu}^{3+}$  complex

Hybrids	Eu-SPC
$\tau$ (ms)	0.242±0.003
$A_r$ ( $\text{ms}^{-1}$ )	0.426
$A_{nr}$ ( $\text{ms}^{-1}$ )	3.704
$\eta$ (%)	10.3
$\phi$ (%)	< 1

Table S2 Lifetime ( $\tau$ ) and quantum yield ( $\phi$ ) of pure  $\text{Tb}^{3+}$  complex

Hybrids	Tb-SPC
$\tau$ (ms)	0.405±0.006
$\phi$ (%)	< 1