

Europium(III) complex probing distribution of functions grafted using molecular stencil patterning in 2D Hexagonal mesostructured porous silica

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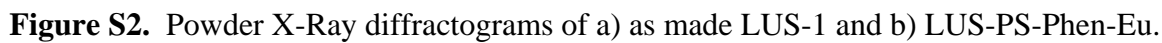
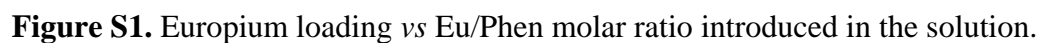
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Table S1. Quantification of chemical species from elemental analysis reported in mmol.g⁻¹.

Materials	TMS ^[a] ± 10%	APS ± 5%	Phen ±10%	Eu ±5%
LUS-PS	2.15			
LUS-PS-AP	1.83	1.50 ^[b]		
LUS-PS-Phen	1.59	0.46 ^[c]	0.46 ^[c]	
LUS-PS-Phen-Eu	1.38	0.00 ^[c]	0.43 ^[c]	0.12 ^[d]

[a] determined by integration of the IR peak at 850 cm⁻¹ and normalized to the intensity peak at 450 cm⁻¹; [b] determined elemental analysis of N; [c] from elemental analysis by C/N ratio considering C/N = 6.66 for the entire 1,10-phenanthroline-imino moiety and C/N = 3 for aminopropyl groups; [d] corresponds to Eu/Si_{inorg} = 0.009 in mole ratio.



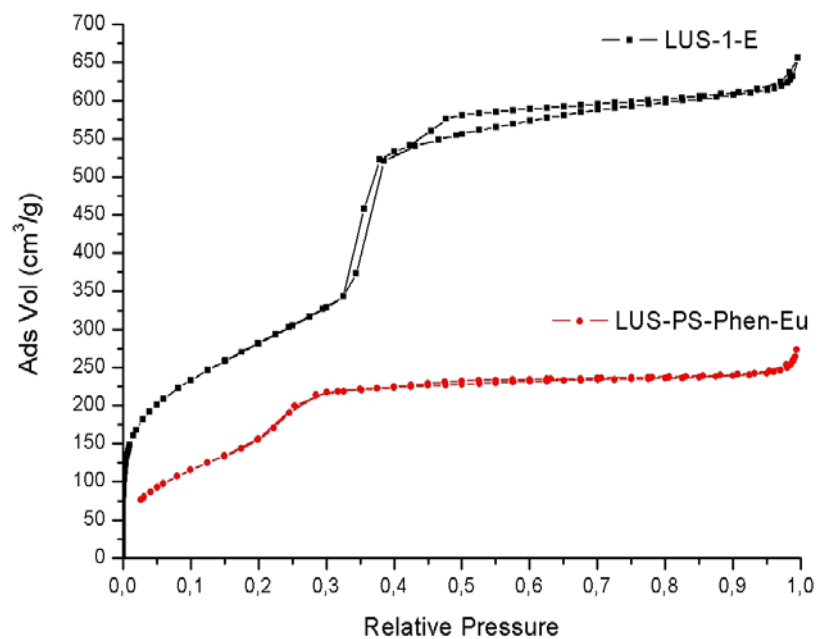


Figure S3. Nitrogen adsorption-desorption isotherms of (a) LUS-1 extracted in $6 \cdot 10^{-2} \text{ mol.L}^{-1}$ ammonium acetate ethanolic solution and (b) LUS-PS-Phen-Eu at 77 K.

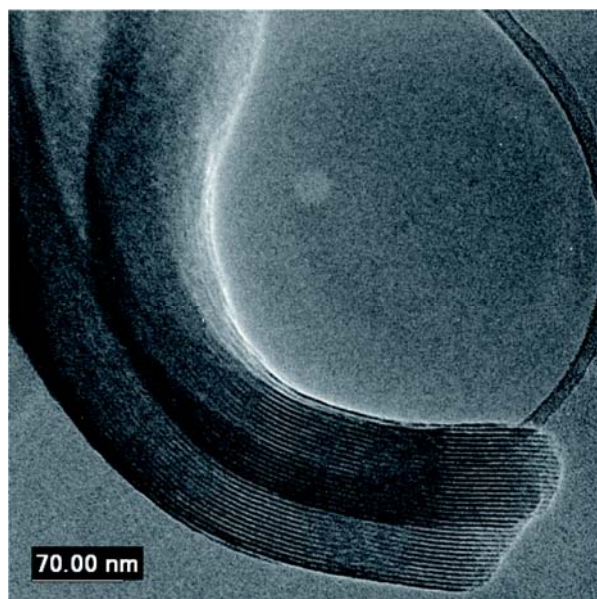


Figure S4. TEM picture of LUS-PS-Phen-Eu of two isolated fibers (zoom of the first picture in the bottom of Figure 3).

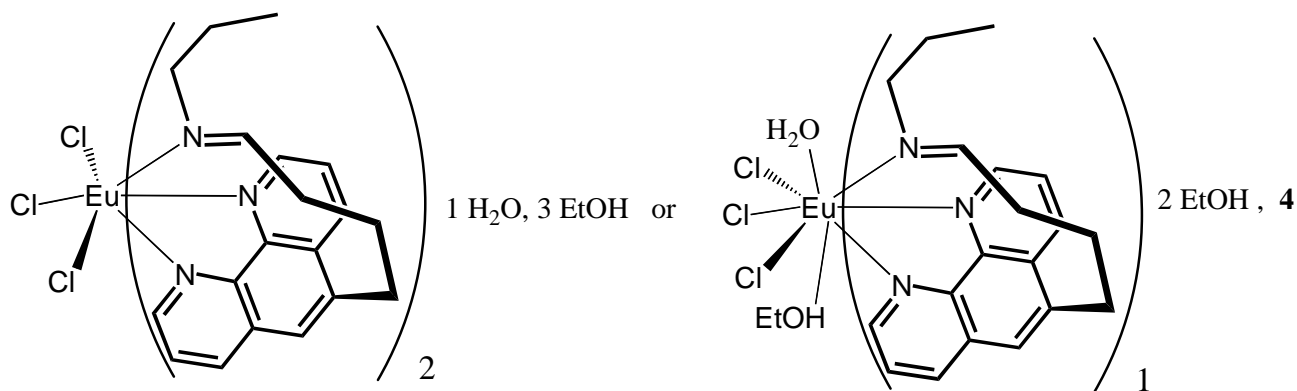


Figure S5. Tentative structures for the molecular complex **5** matching the empirical formula $\text{EuC}_{44}\text{H}_{62}\text{N}_6\text{Cl}_3\text{O}_4$ as the preferred, for $\text{EuC}_{38}\text{H}_{42}\text{N}_6\text{Cl}_3 \cdot 1\text{H}_2\text{O} \cdot 3\text{EtOH}$ and assuming a mononuclear species (left hand side) with two “phen-imine-type” **4** inner sphere ligands and (right hand side) with one “phen-imine-type” inner sphere ligand and one outer sphere “phen-imine-type” molecule as in some of such type of complexes (see text).

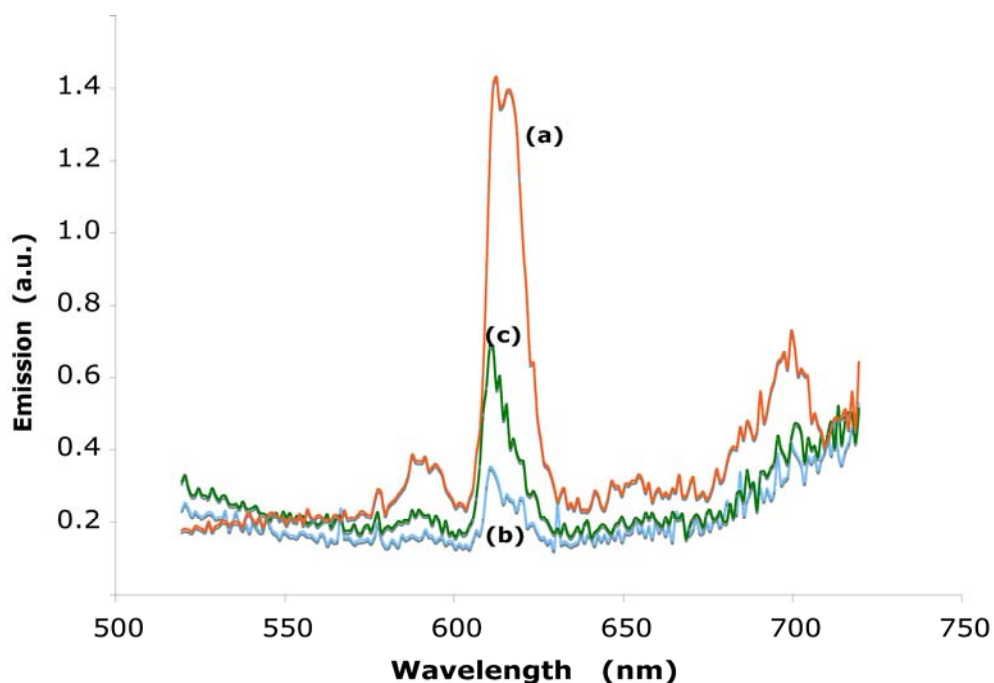
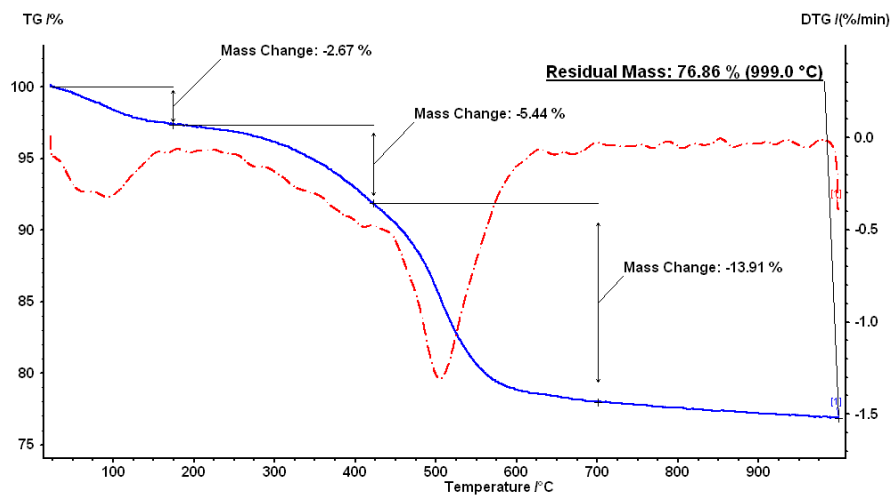
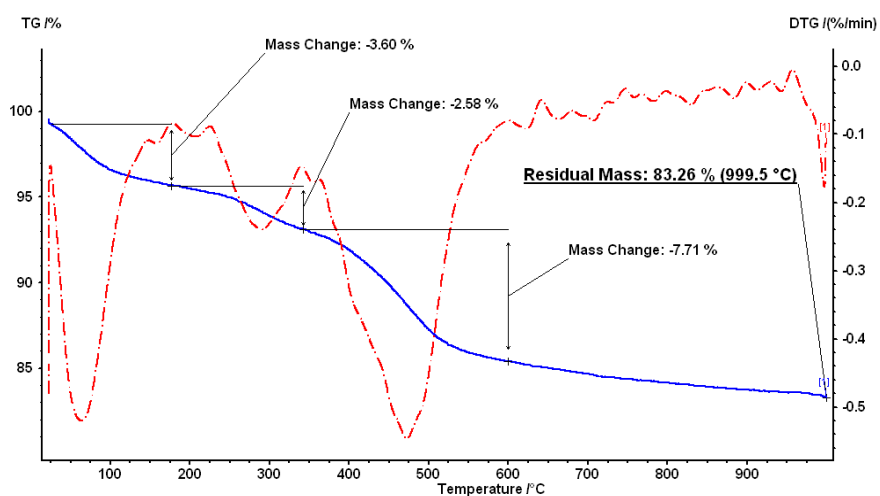


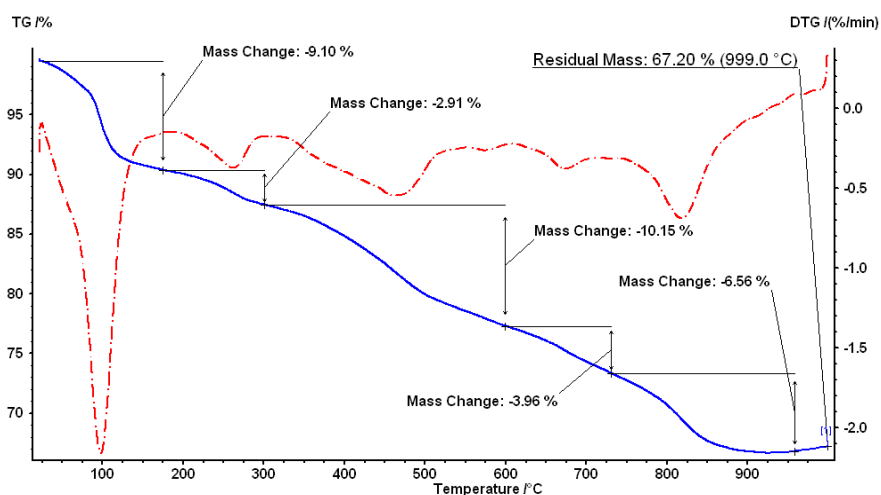
Figure S6. Emission spectra of compounds LUS-PS-Phen-Eu (a), LUS-PS-AP-Eu(Phen)₂ (b) and LUS-PS-AP-EuCl₃ (c).



a)



b)



c)

Figure S7. Thermal Gravimetric Analysis (TGA) of compounds LUS-PS-Phen-Eu (a), LUS-PS-AP-Eu(phen)₂ (b) and LUS-PS-AP-EuCl₃ (c).