Electronic Supplementary Material (ESI) for Dalton Transactions.

Luminescent hybrid materials based on covalent attachment of Eu(III)-tris(bipyridinedicarboxylate) in the mesoporous silica host MCM-41

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Supporting Materials Section

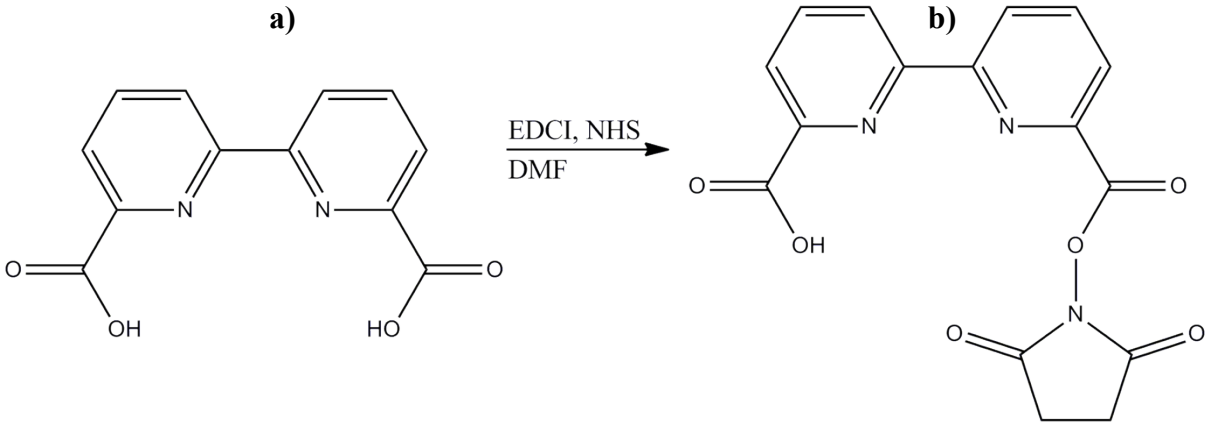

Figure S1: activating scheme of the ligand : a) 2,2´- bipyridine-6,6´-bicarboxylic acid (L_2), b) NHS activated L_2

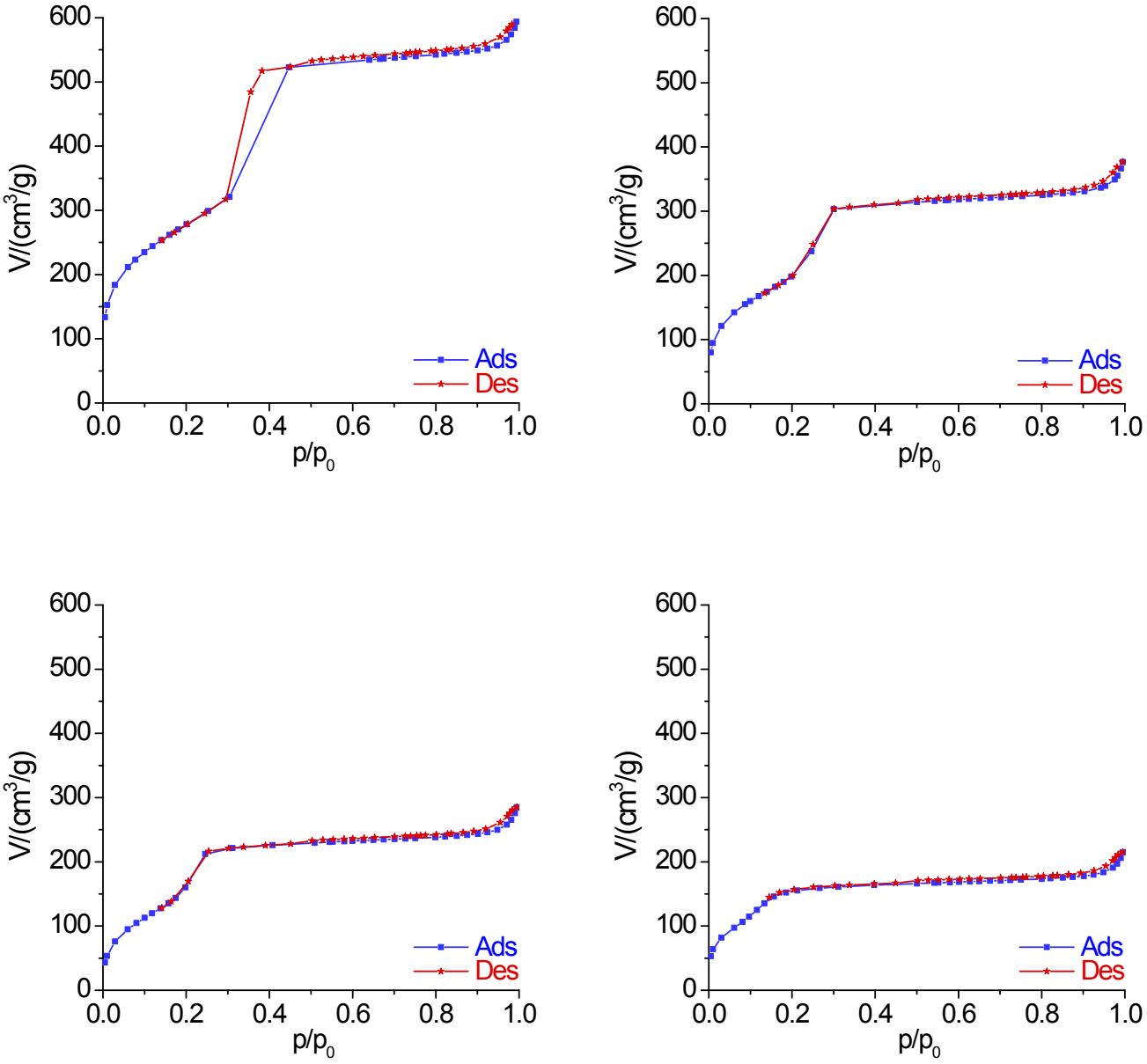

Figure S2: Adsorption-desorption isotherms of sample 1 (top, left), sample 2 (top right), sample 3 (bottom, left) and sample 4 (bottom, right).

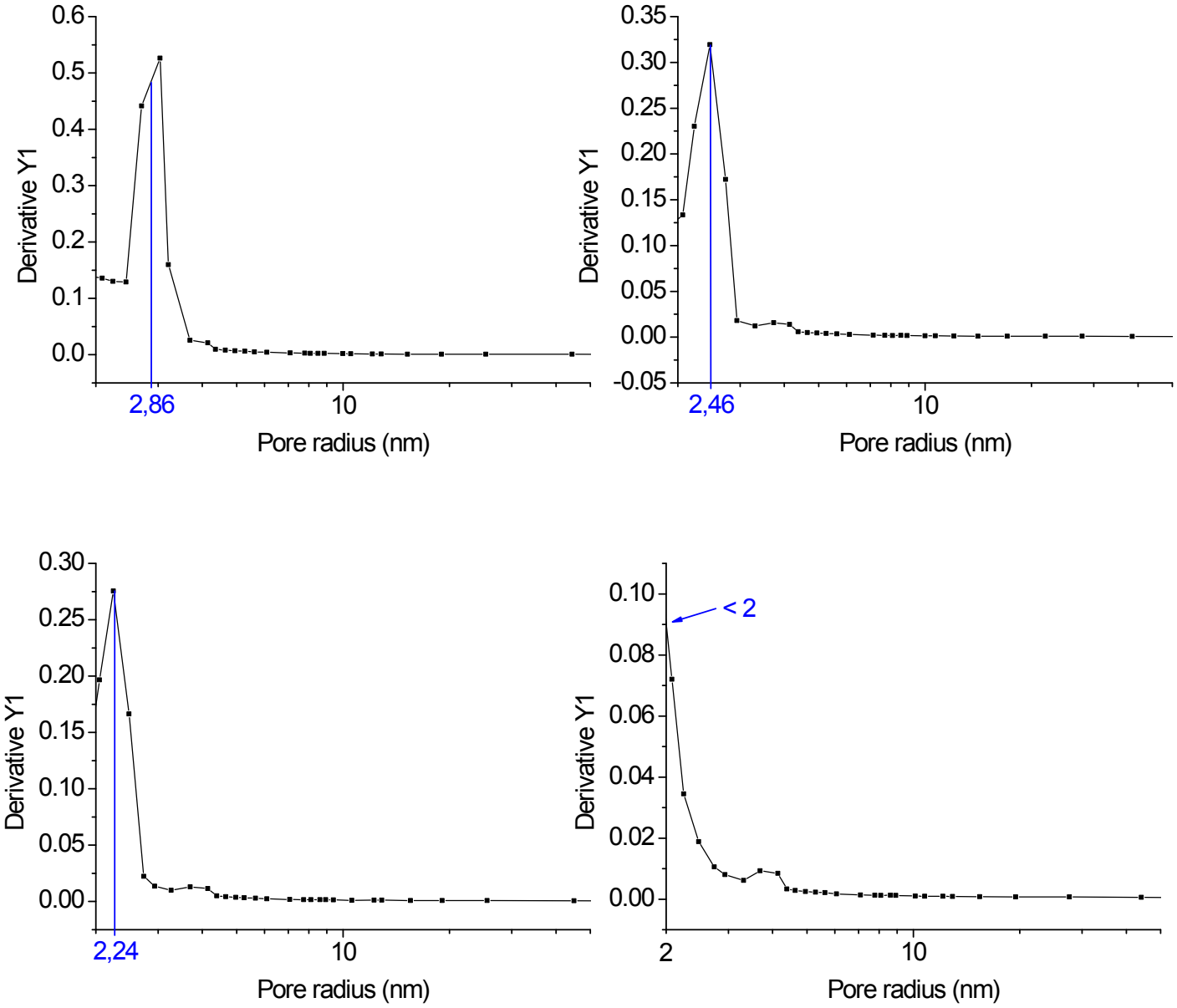

Figure S3: Pore radius distribution of sample 1 (top, left), sample 2 (top, right), sample 3 (bottom, left), and sample 4 (bottom, right), determined via the Barret-Joyner-Halenda (BJH) method.

Table S4.: Surface characterization data of Samples 1-4

Silica materials	Pore diameter [nm]	Mesoporous volume [cm^3/g]	BET surface area [m^2/g]
Sample 1	2.86	232	1012
Sample 2	2.46	169	684
Sample 3	2.24	147	638
Sample 4	< 2	143	621

Table S5: ^{29}Si signal area fractions observed in samples 1, 3, 4, and 5.

Materials	Q^4 (%)	Q^3 (%)	T^3 (%)	M^1 (%)
Sample (1)	66.9	33.1	-	-
Sample (3)	74.7	1.7	14.1	9.5
Sample (4)	73.6	6.7	12.0	7.7
Sample (5)	73.3	7.3	12.0	7.4

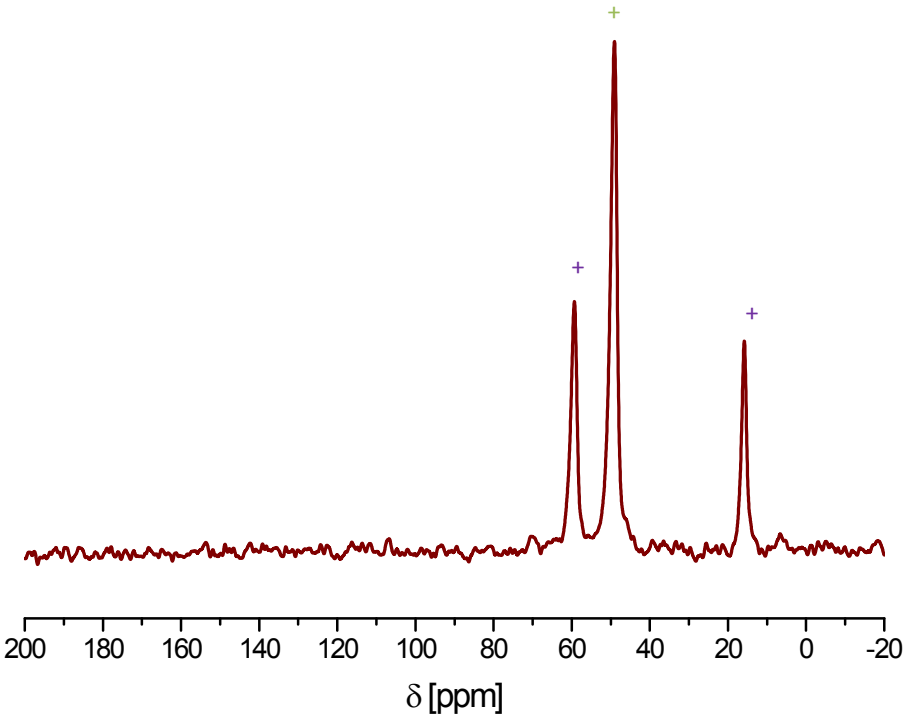

Figure S6: $^{13}C\{^{1}H\}$ CP-MAS NMR spectrum of sample **8**. Aside from solvent impurities (ethanol, methanol, marked by "+"), no signals arising from Eu bound ligands are observable.

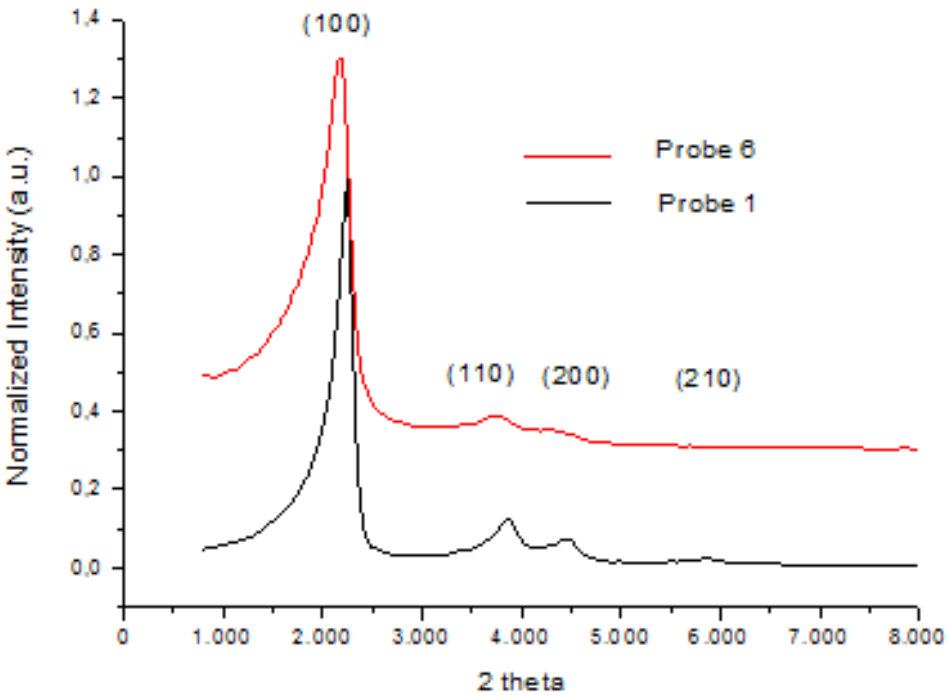

Figure S7: Small-angle X-ray scattering data of samples 1 and 6, confirming retention of the mesoporous character after functionalization and complex formation within the mesopores.

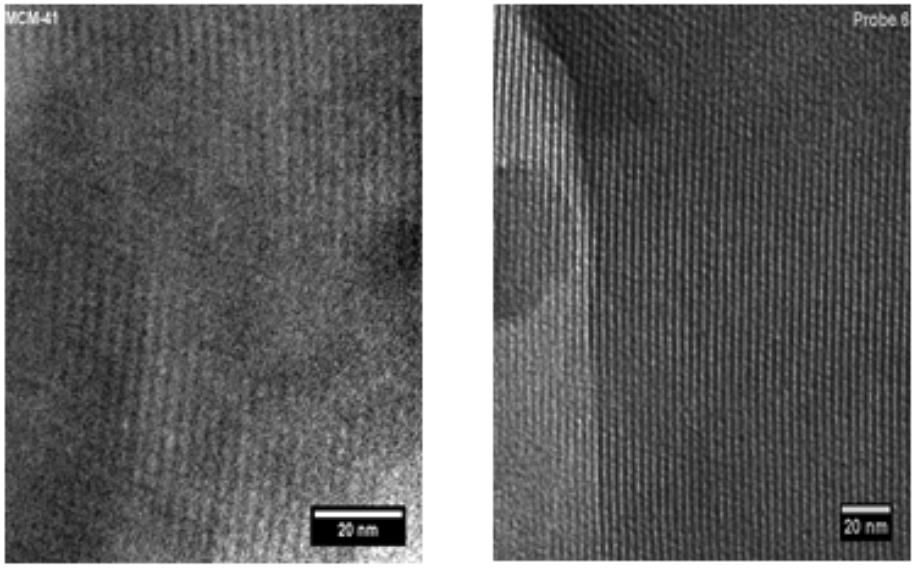

Figure S8: Transmission electron micrographs of samples 1 and 6, confirming retention of the mesoporous character after functionalization and complex formation within the mesopores.