

Lanthanide-pyridyl-2,5-dicarboxylate N-oxide frameworks with rutile topology

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Table S1. Hydrogen bond lengths (Å) and angles (deg) associated with water molecules for **1**, **2**, **3** and **4**.

D-H...A	d(H...A)	d(D...A)	<(D-H...A)	Symmetry code
1				
O7-H7A...O4	1.921	2.863	176.36	x-1, -y+1/2, z-1/2
O7-H7B...O6	1.803	2.747	170.00	x, -y+1/2, z+1/2
2				
O7-H7A...O4	2.139	2.946	144.56	x-1, -y+1/2, z-1/2
O7-H7A...O2	2.182	2.873	130.37	x, -y+1/2, z-1/2
O7-H7B...O6	1.837	2.764	179.67	x, -y+1/2, z+1/2
3				
O7-H7A...O4	2.225	2.953	135.13	x-1, -y+1/2, z-1/2
O7-H7A...O2	2.073	2.857	141.77	x, -y+1/2, z-1/2
O7-H7B...O6	1.839	2.758	175.35	x, -y+1/2, z+1/2
4				
O7-H7A...O4	2.134	2.949	143.83	x-1, -y+1/2, z-1/2
O7-H7A...O2	2.124	2.851	132.90	x, -y+1/2, z-1/2
O7-H7B...O6	1.820	2.764	172.06	x, -y+1/2, z+1/2

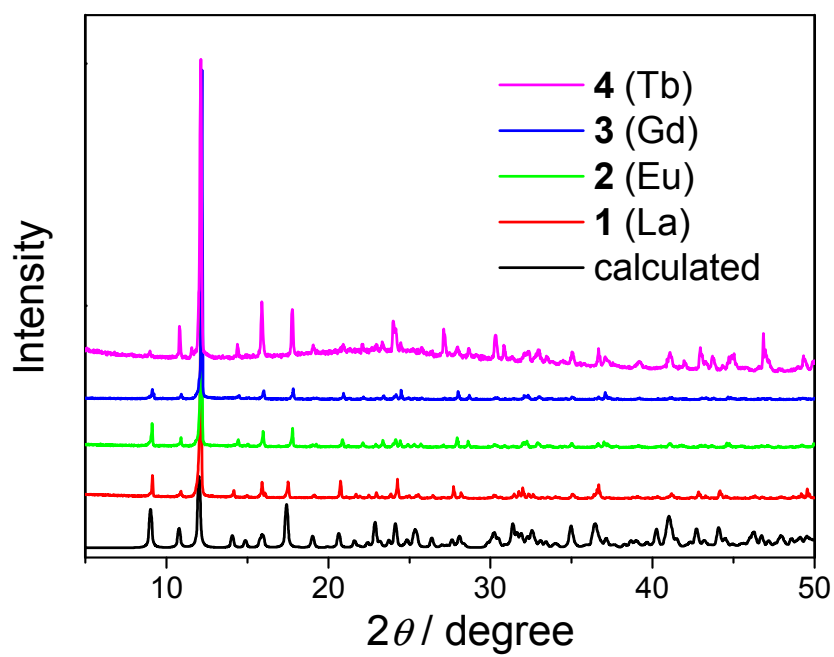


Fig. S1 Comparison of the powder XRD patterns of **1**, **2**, **3**, **4** and the calculated.

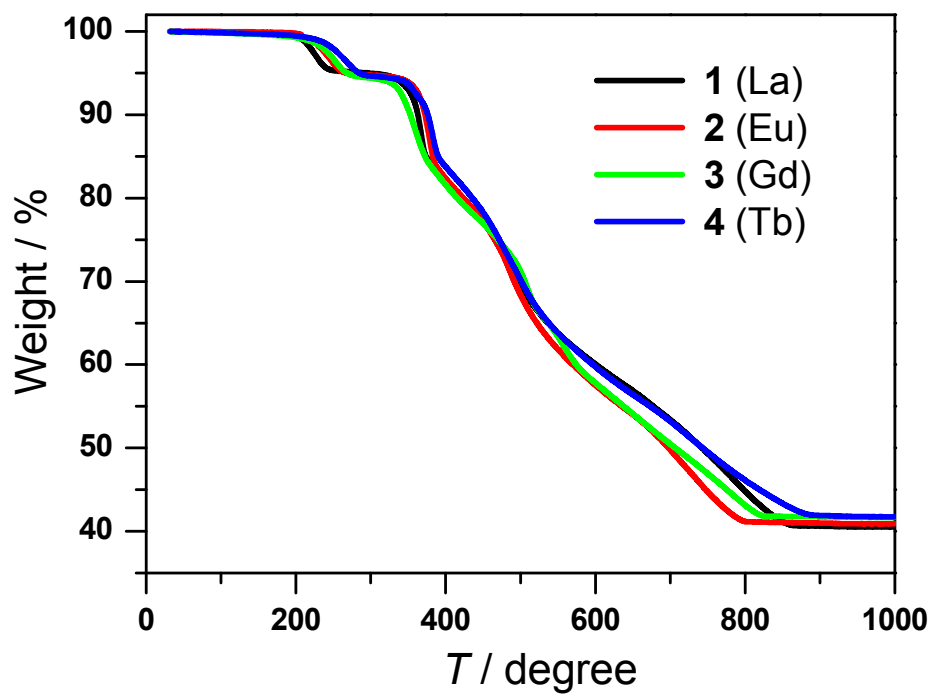


Fig. S2 TGA data of 1, 2, 3, and 4.

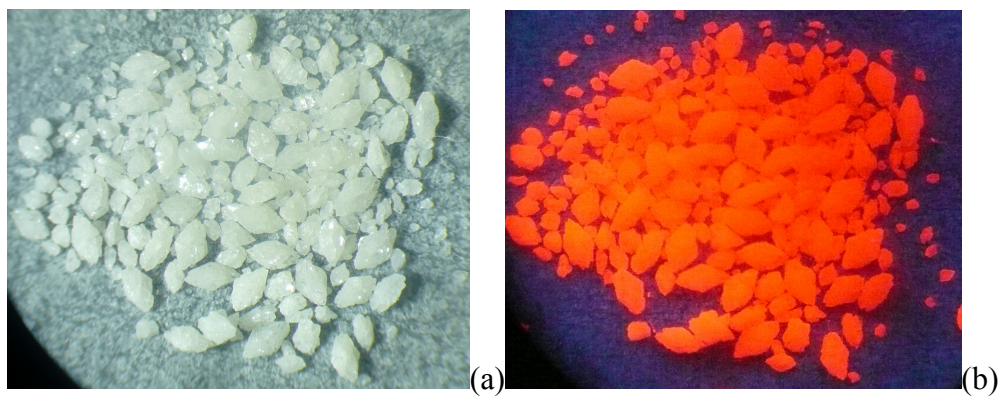


Fig. S3 The pictures of the crystals of **2** without (a) or with UV light (b).

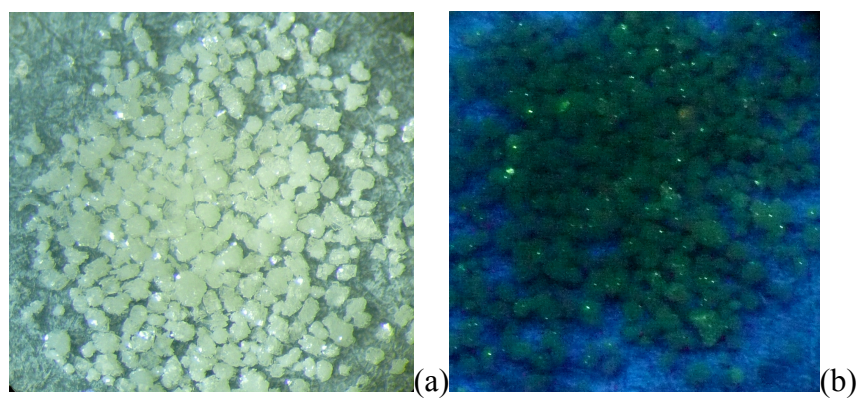


Fig. S4 The pictures of the crystals of **3** without (a) or with UV light (b).

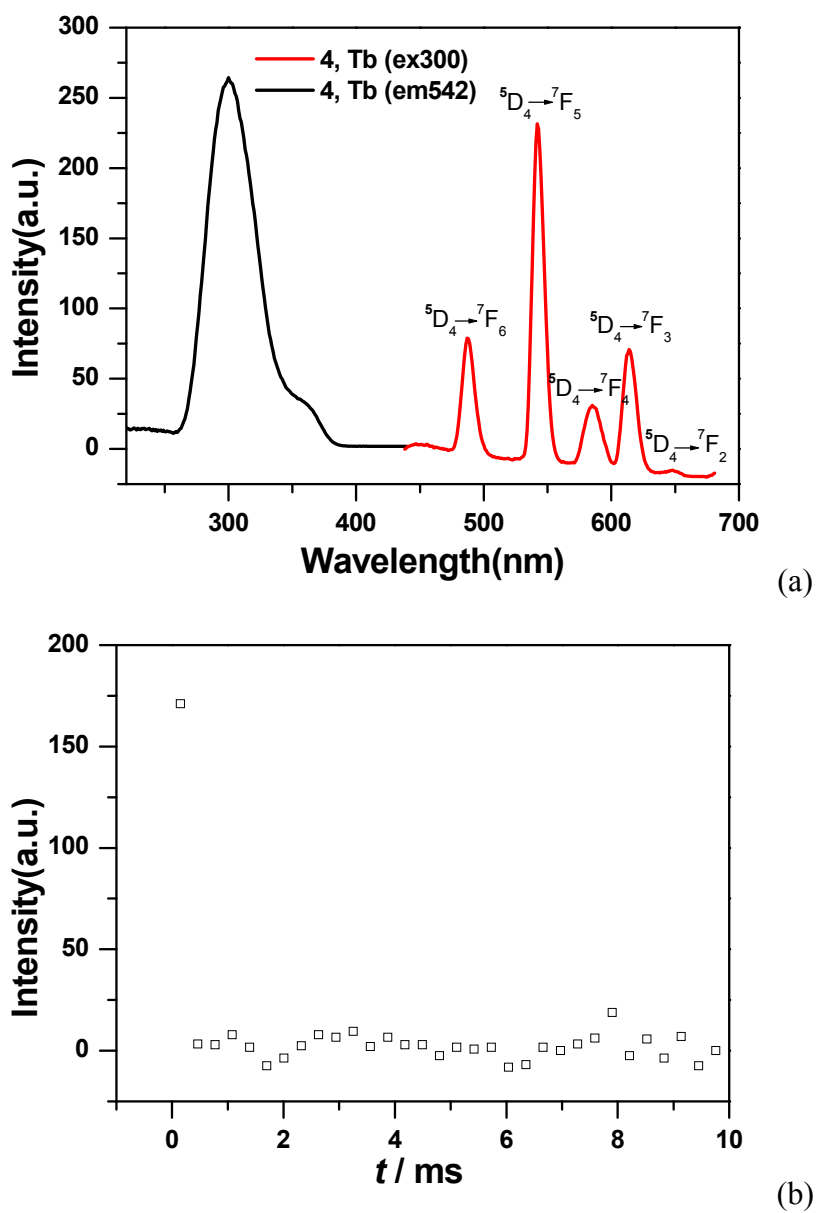


Fig. S5 Solid-state excitation/emission spectra (a) and the emission decay pattern (b)

of 4.