Supplementary material (ESI) for Journal of Materials Chemistry

Supporting Information

Dual emission from stoichiometrically mixed lanthanide complexes of 3-phenyl-4-benzoyl-5-isoxazolonate and 2,2′-bipyridine

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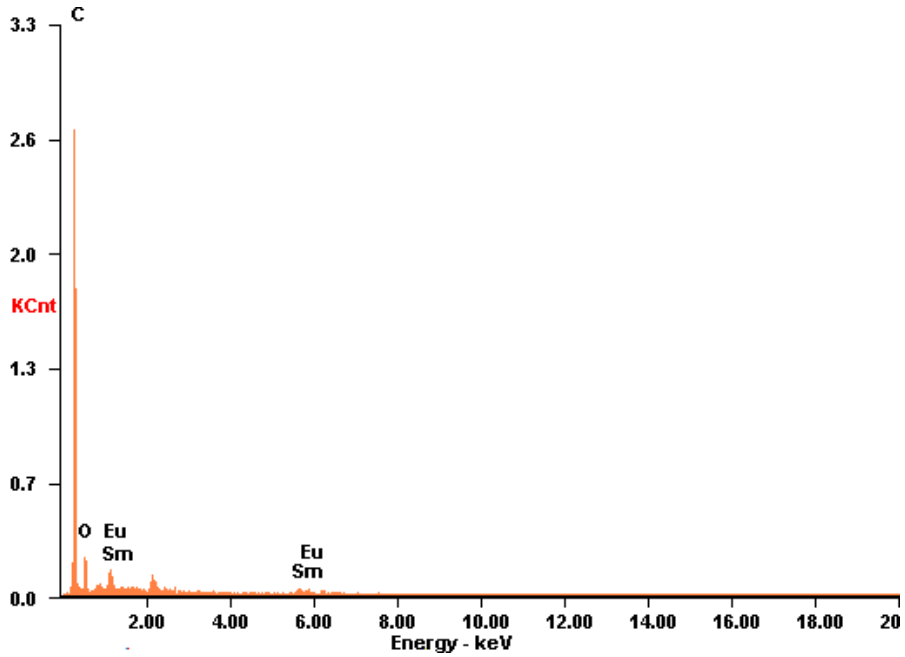

Fig. S1 X-Ray energy dispersive spectrum from the multy-crystal powder complex **1**.

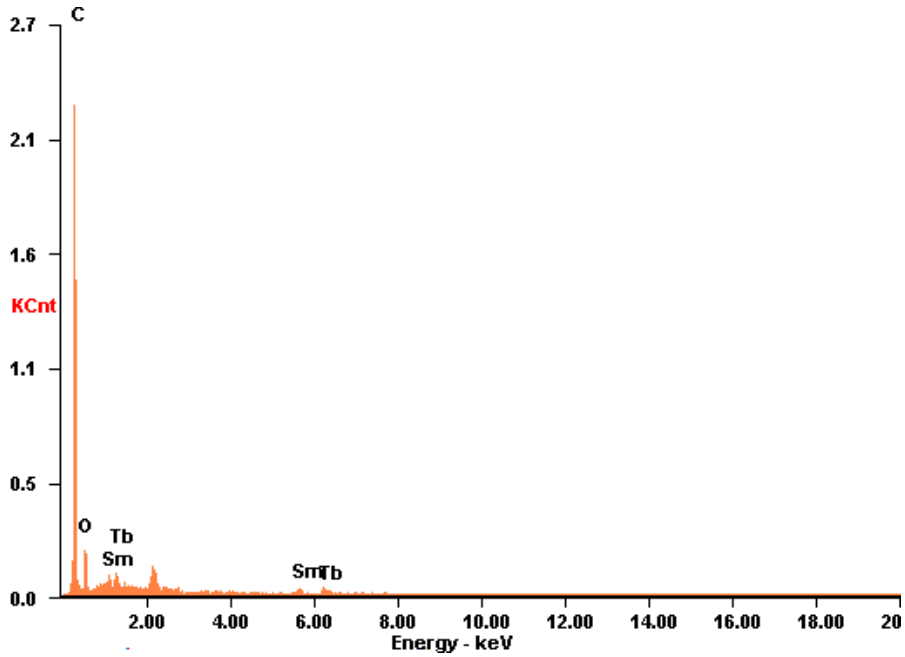

Fig. S2 X-Ray energy dispersive spectrum from the multy-crystal powder complex **2**.

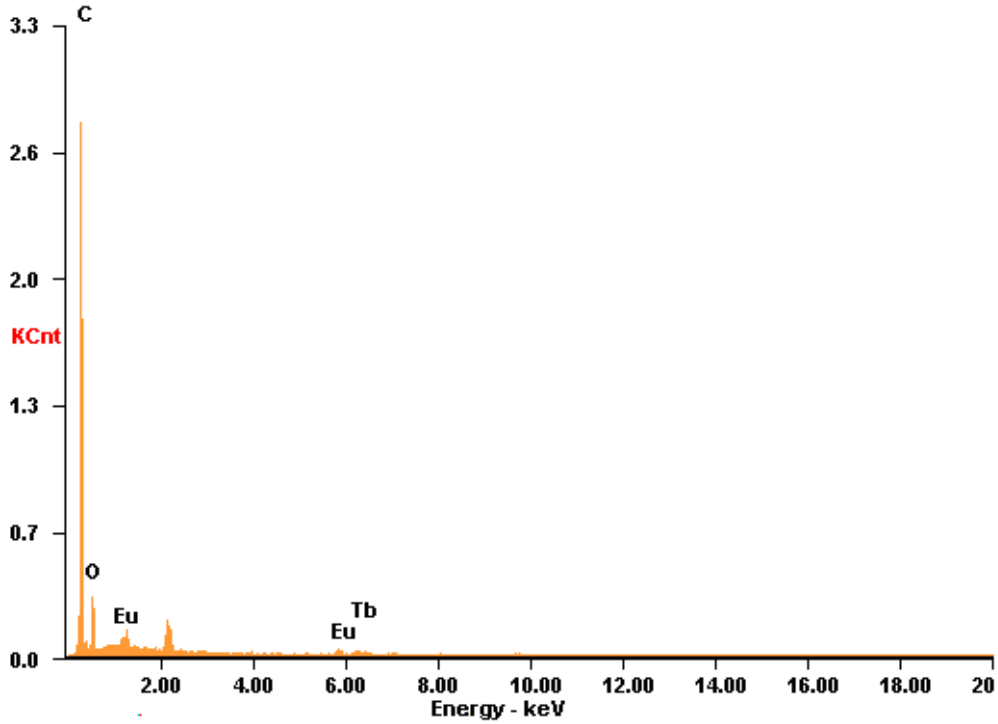

Fig. S3 X-Ray energy dispersive spectrum from the multy-crystal powder complex **3**.

Table S1 EDS analysis results for the complexes **1-3**

	Element	at %	wt%	Ln/Ln (EDS)	Ln/Ln (Calcd.)
1	CK	91.28	73.25		
	OK	6.84	7.41		
	SmL	0.93	9.51	0.97	1
	EuL	0.95	9.74		
2	CK	90.63	73.70		
	OK	7.64	8.38		
	SmL	0.86	8.91	0.99	1
	TbL	0.87	9.01		
3	CK	89.97	74.25		
	OK	8.49	9.33		
	TbL	0.76	8.31		
	EuL	0.78	8.11	0.99	1

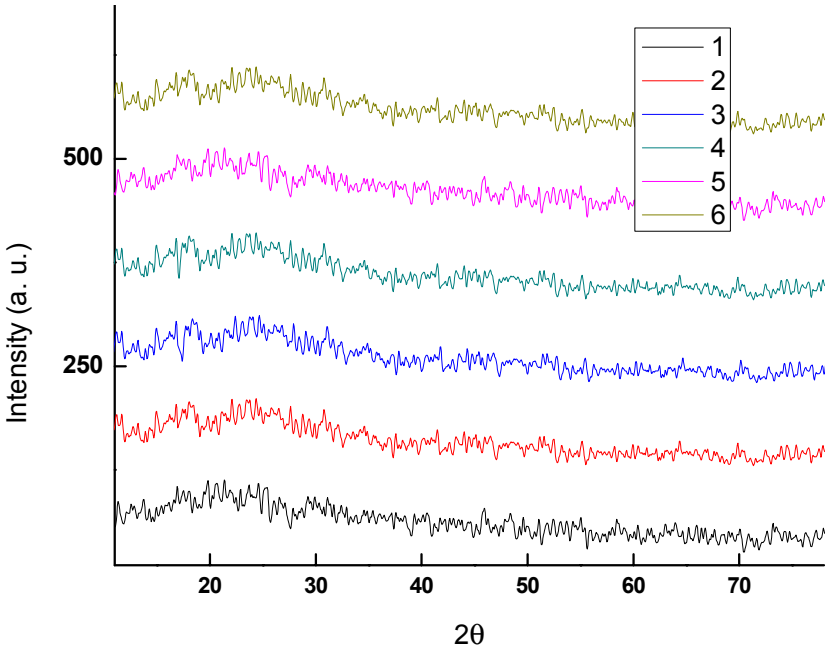

Fig. S4 XRD patterns for the complexes **1**-**6**.

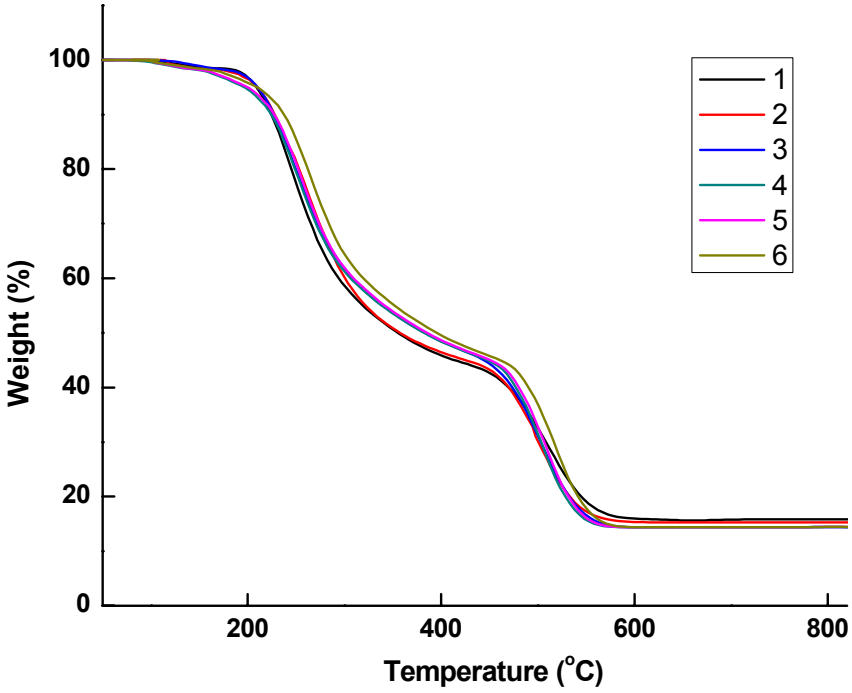

Fig. S5 Thermo gravimetric curve for complexes **1**-**6**.

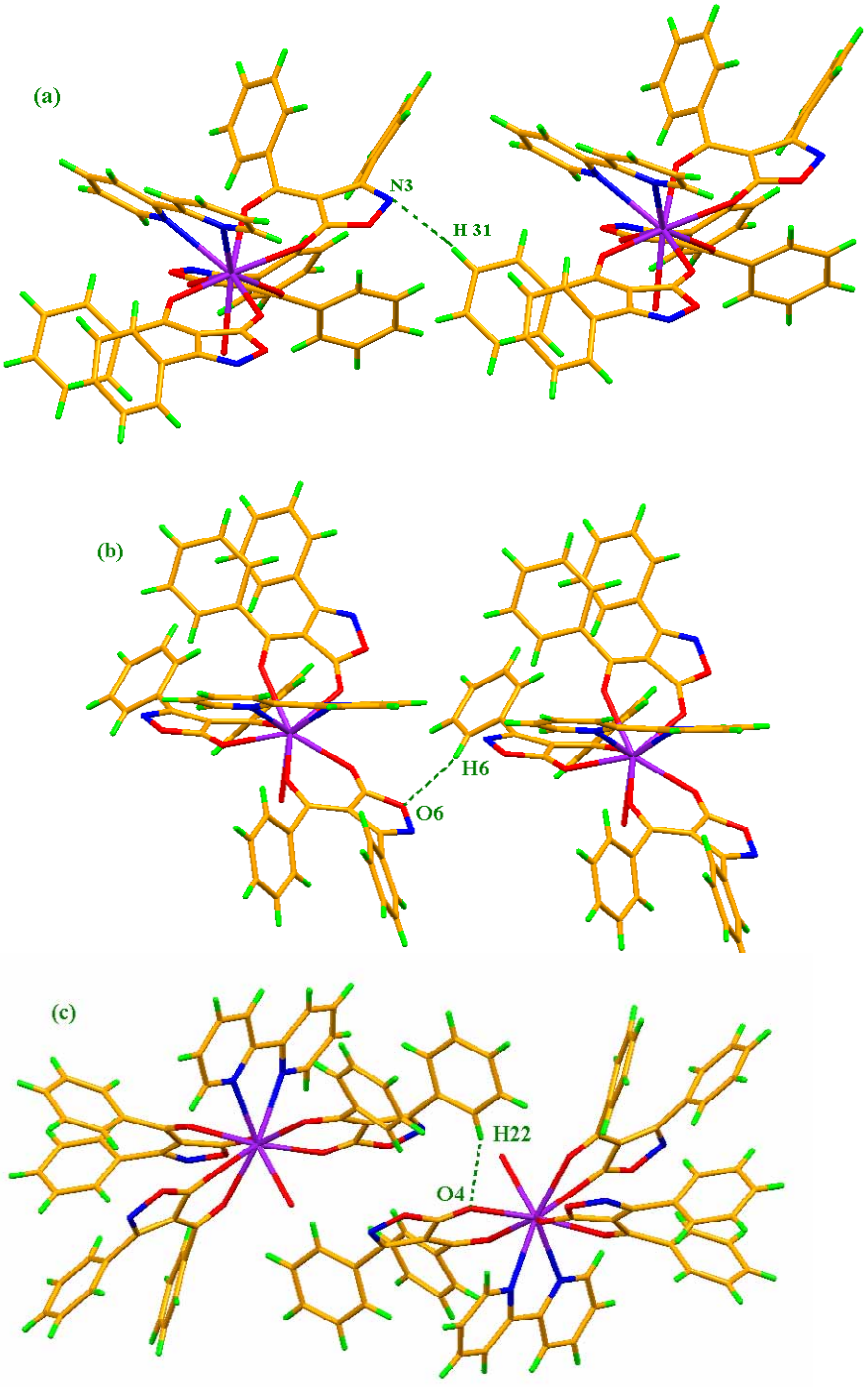

Fig. S6 Intermolecular hydrogen bonding interactions in **5**. The N3 in (a) is at equivalent position (x,1+y,z), the O6 in (b) is at equivalent position (1+ x,y,z), and the O4 in (c) is at equivalent position (-x,1-y,1-z).

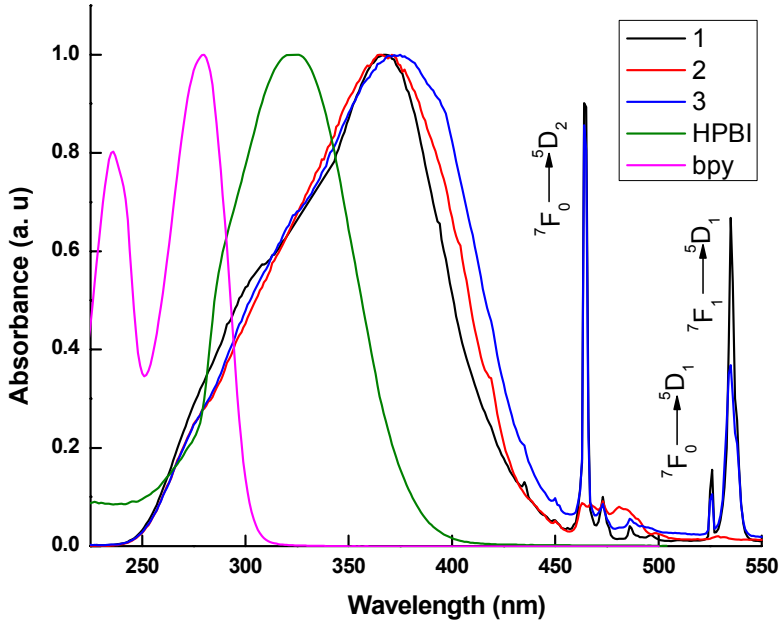

Fig. S7 Excitation spectra of complexes 1-3 and UV-vis absorption spectra of HPBI and bpy ligands; The complexes are in solid state, and the ligands are at 2×10^{-5} M in CH_3-CN. All spectra are normalized to a constant intensity at the maximum.

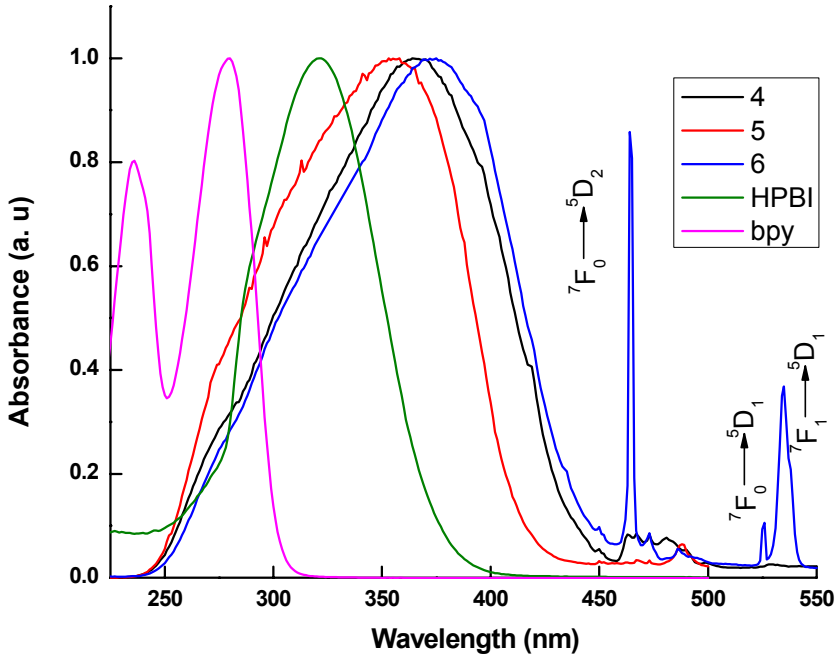

Fig. S8 Excitation spectra of complexes 4-6 and UV-vis absorption spectra of HPBI and bpy ligands; the complexes are in solid state, and the ligands are at 2×10^{-5} M in CH_3-CN. All spectra are normalized to a constant intensity at the maximum.

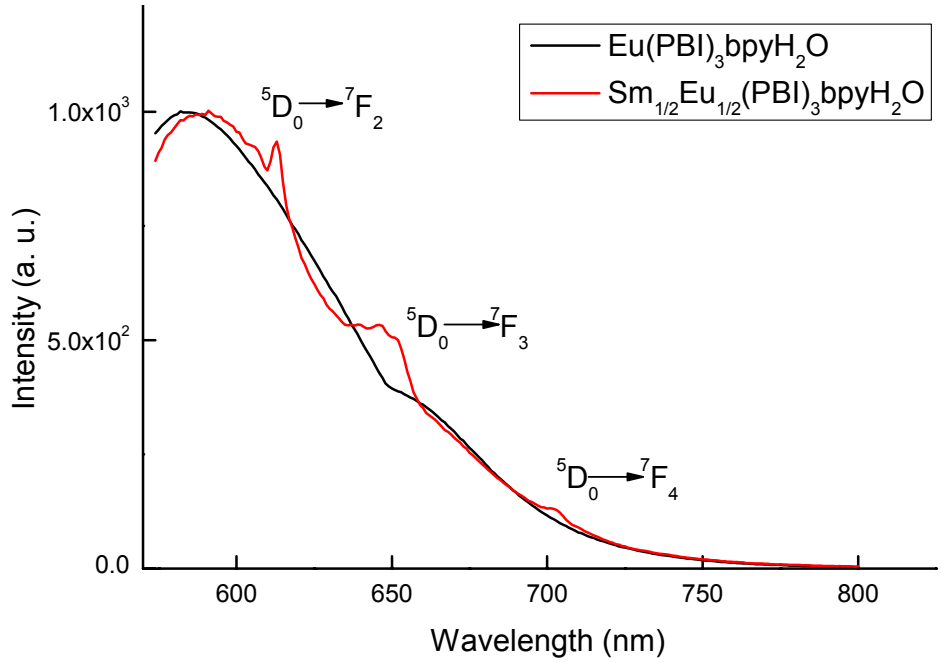

Fig. S9 Emission spectra of the complexes **1** and **5** (λ_{ex}= 564nm).

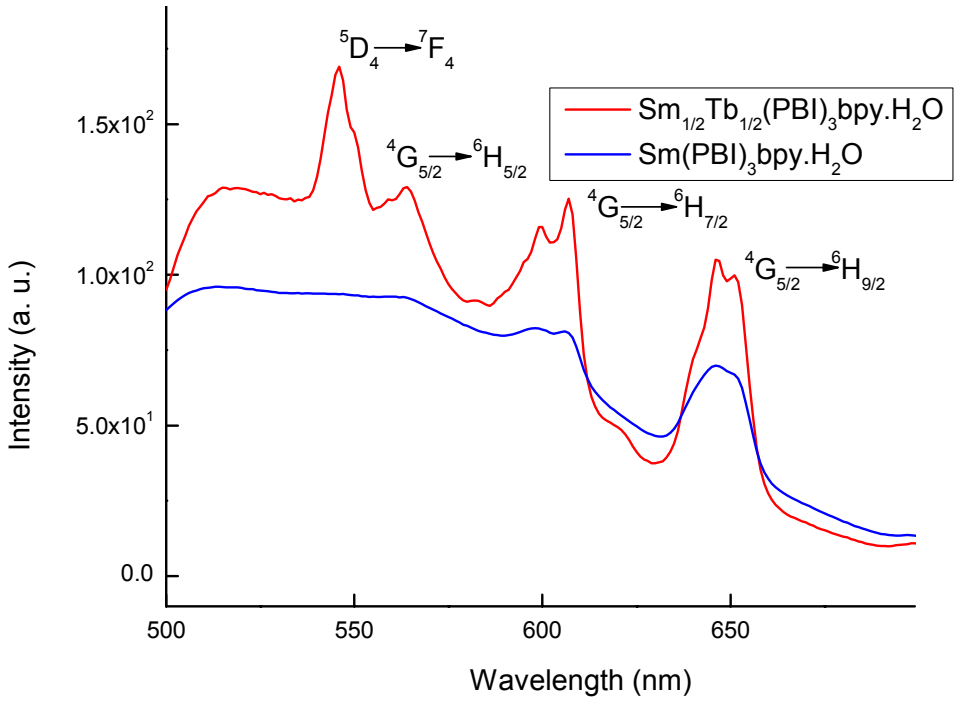

Fig. S10 Emission spectra of the complexes **2** and **4** (λ_{ex}= 488 nm).

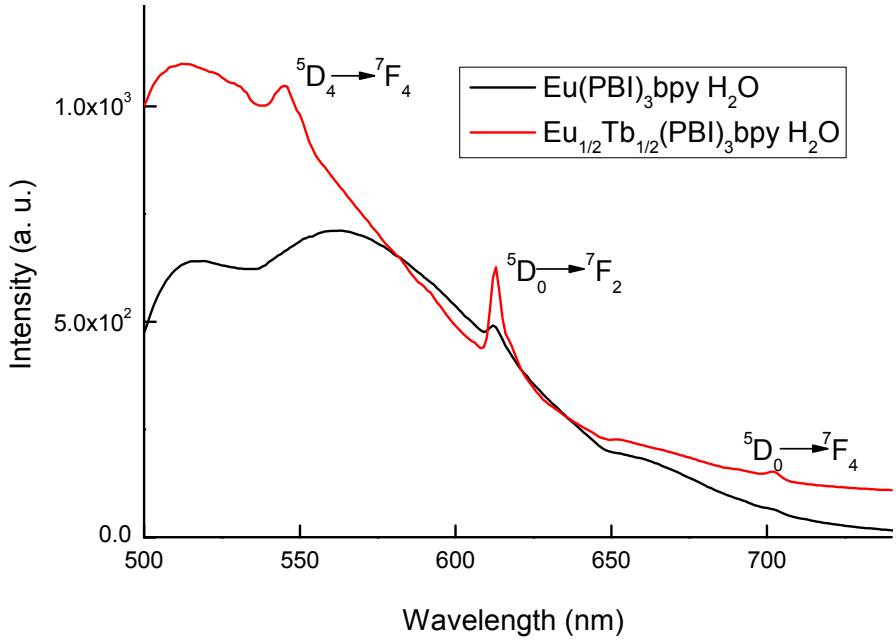

Fig. S11 Emission spectra of the complexes **3** and **5** (λ_{ex}= 488 nm).

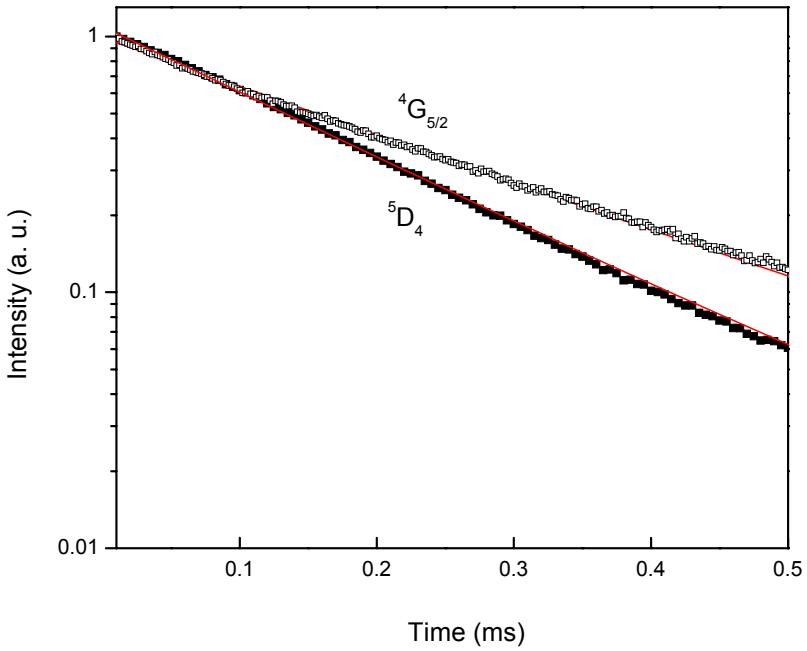

Fig. S12 $^5D_4$ and $^4G_{5/2}$ decay profile complexes **2** excited at 370 nm and emission monitored around 546 for $^5D_4$ and 645 nm for $^4G_{5/2}$. The straight lines are the best fits (r^2 = 0.99) considering single-exponential behaviour.

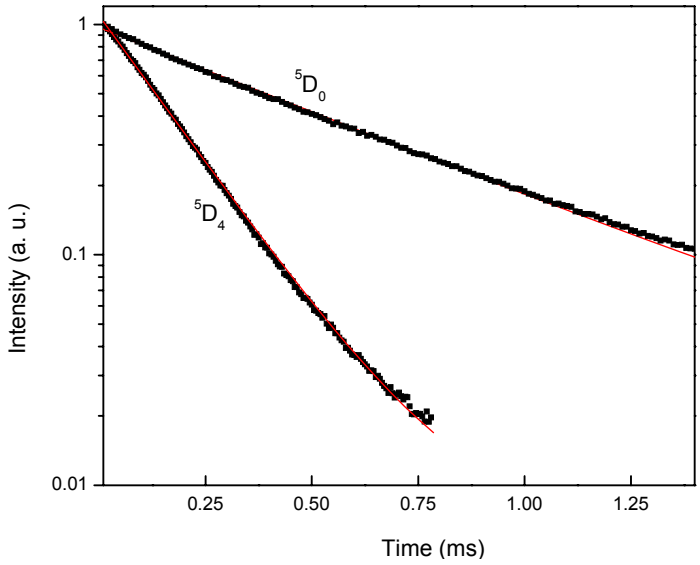

Fig. S13 $^5D_0$ and $^5D_4$ decay profile complexes **3** excited at 370 nm and emission monitored around 613 for $^5D_0$ and 546 nm for $^5D_4$. The straight lines are the best fits (r^2 = 0.99) considering single-exponential behaviour for $^5D_0$ and bi-exponential behaviour for $^5D_4$.

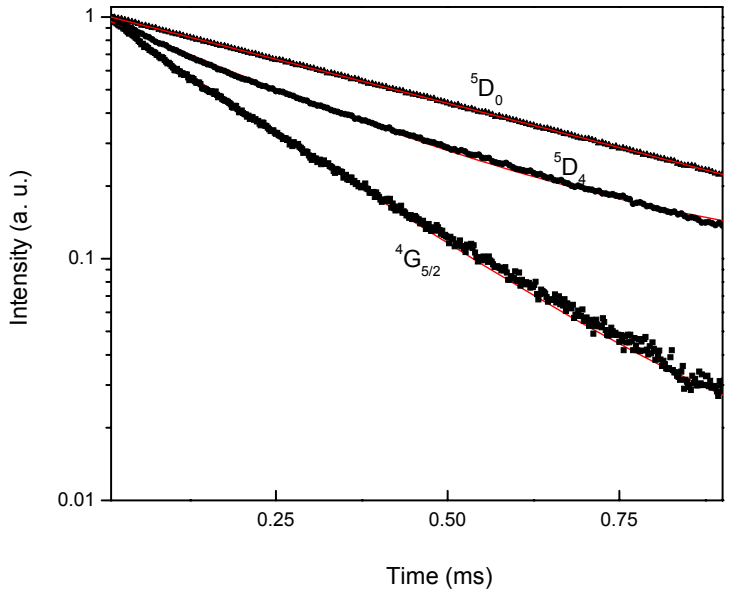

Fig. S14 $^5D_0$, $^5D_4$ and $^4G_{5/2}$ decay profiles of complexes **4-6,** excited at their maximum intensity emission wavelengths and emission monitored around 613 for $^5D_0$, 546 for $^5D_4$ and 646 nm for $^4G_{5/2}$. The straight lines are the best fits (r^2 = 0.99) considering single exponential behaviour.