Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supporting Information

Structural effect on photophysical properties of Eu(III) complexes with mono-β-diketone and bis-β-diketone

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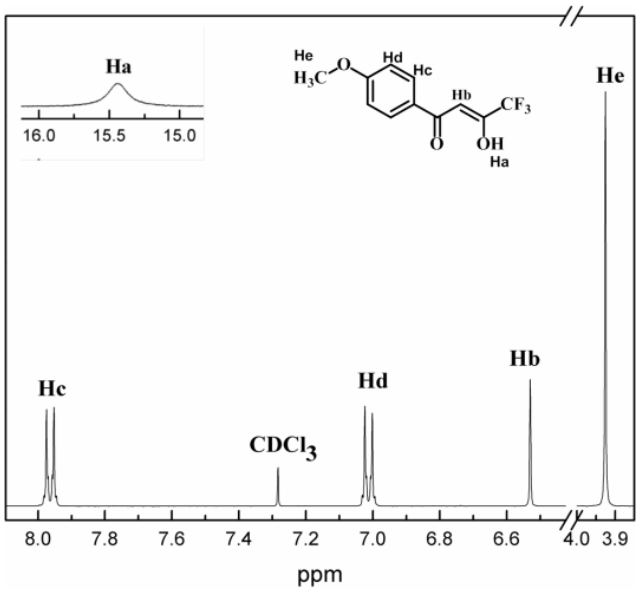

Fig. S1 400 MHz ^{1}H NMR spectrum of MBTF in $CDCl_3$.

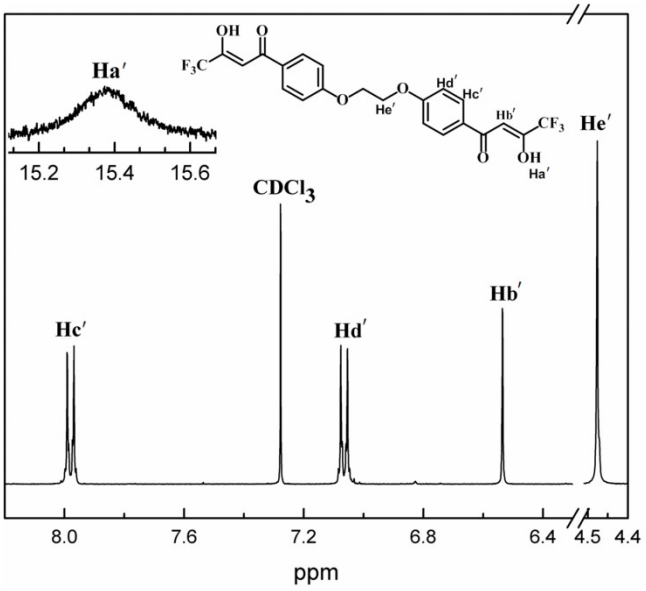

Fig. S2 400 MHz ^{1}H NMR spectrum of BTPE in $CDCl_3$.

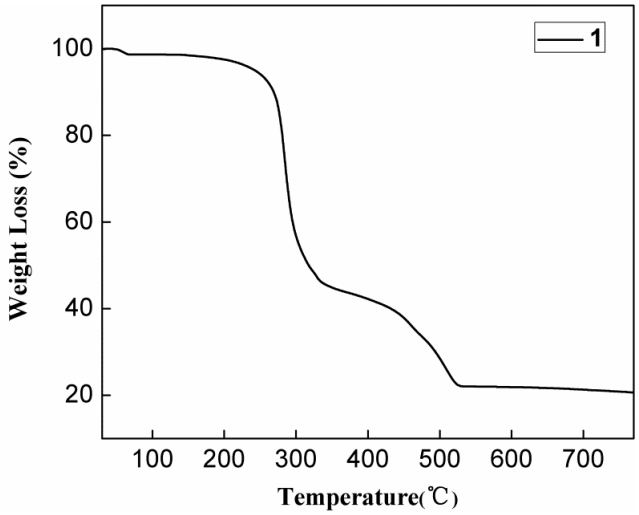

Fig. S3 Thermogravimetric curve of **1**.

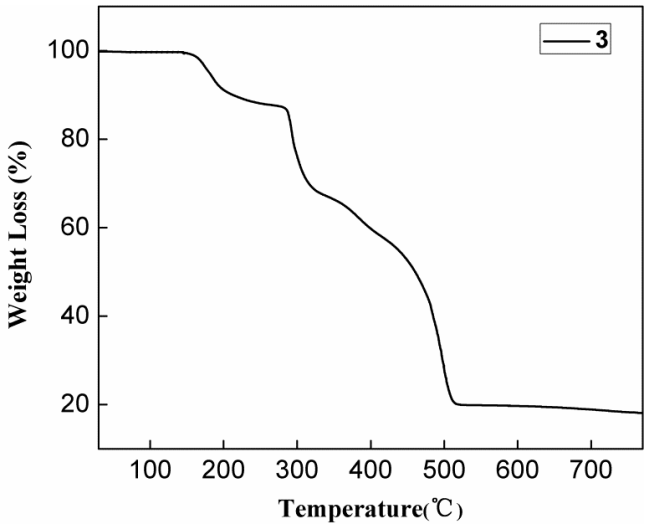

Fig. S4 Thermogravimetric curve of **3**.

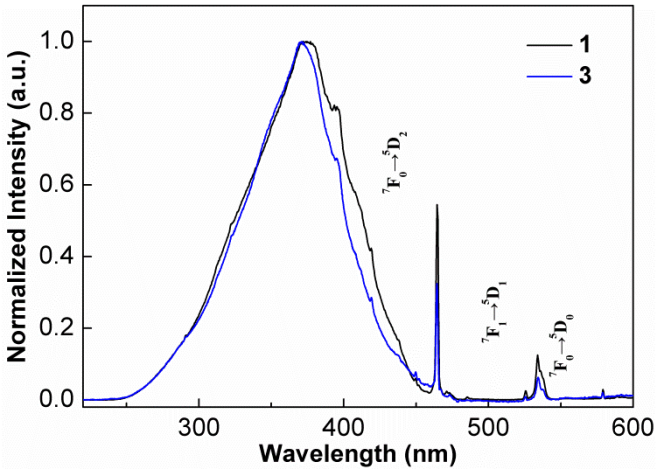

Fig. S5 Solid state excitation spectra of **1** and **3**

Table S1 Hydrogen bonds for complex **1** (Å and deg)

D−H···A	d(D···A)	<(DHA)
O(7)−H(1)···O(3)#1	2.747(5)	157.6
O(7)−H(2)···O(1)#1	2.915(6)	125.6

Symmetry transformations used to generate equivalent atoms: #1 1-x, 2-y, -z

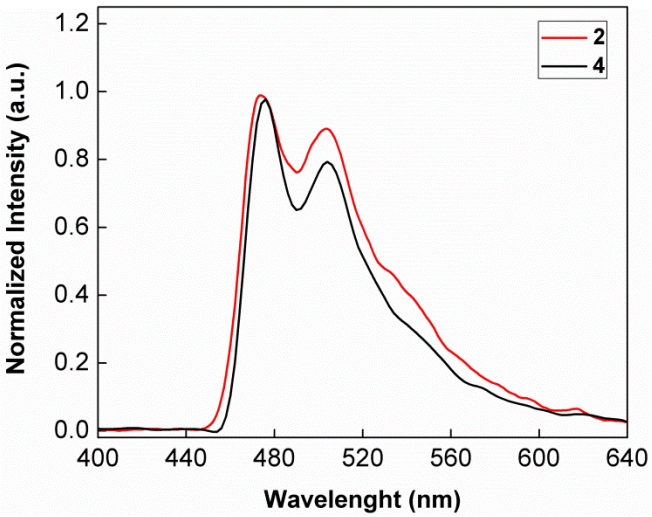

Fig. S6 Phosphorescence spectra of the complexes **2** and **4** at 77 K.

Table S2 Crystal data and structural refinement for complexes **1** and **3.**

	1	**3**
formula	$C_{35}H_{32}F_9O_{11}SEu$	$C_{74}H_{66}F_{18}O_{22}S_4Eu_2$
Mr	983.63	2081.43
color	colorless	colorless
cryst syst	triclinic	monoclinic
space group	*P*–1	*C*2/*c*
a (Å)	11.1497(5)	22.453(2)
b (Å)	13.5201(5)	23.9254(14)
c (Å)	14.2594(7)	19.4634(17)
α (deg)	75.358(4)	90
β (deg)	74.280(4)	122.737(12)
γ (deg)	83.906(3)	90
V (Å^3)	2000.30(15)	8794.9(13)
Z	2	4
ρ (g cm^3)	1.633	1.572
μ (mm^{-1})	1.717	1.613
F (000)	980	4152
R_1,[$I > 2\sigma(I)$]	0.0468	0.0659
wR_2,[$I > 2\sigma(I)$]	0.1110	0.1658
R_1, (all data)	0.0741	0.1087
wR_2, (all date)	0.1314	0.2059
GOF on F^2	1.018	1.028