

## Supporting Information

### Stable Ln-MOFs as multi-responsive photoluminescence sensors for sensitively sensing $\text{Fe}^{3+}$ , $\text{Cr}_2\text{O}_7^{2-}$ , and nitrofurant

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**Table S1.** Selected Bond Lengths (Å) and Bond Angles (°) for **1-6**.

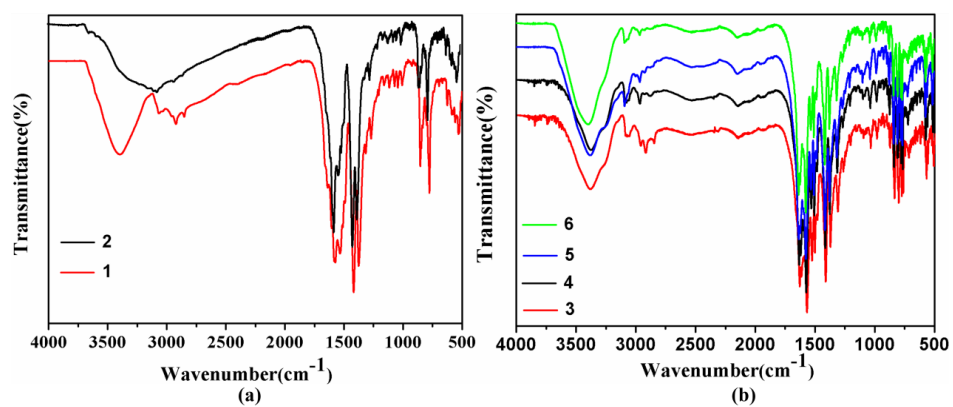


Fig. S1 IR spectra of 1-2 (a), 3-6 (b).

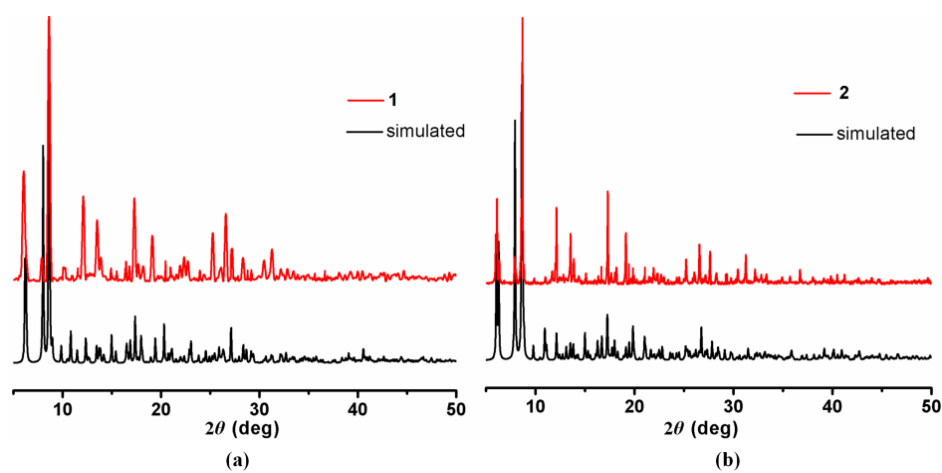


Fig. S2 PXRD patterns of 1 (a), 2 (b).

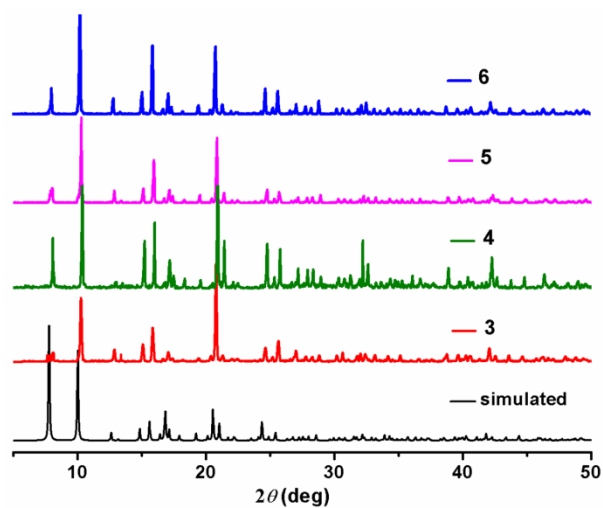


Fig. S3 PXRD patterns of 1-6.

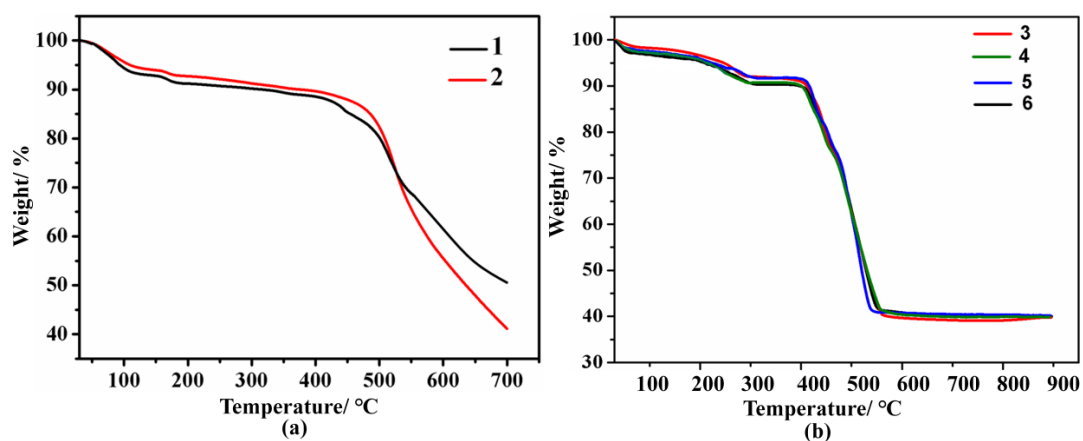


Fig. S4 TG curves for 1-2 (a), 3-6 (b).

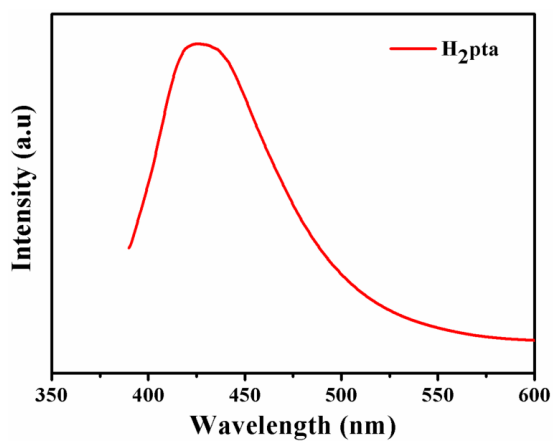


Fig. S5 Solid-state fluorescence spectra of H<sub>2</sub>pta.

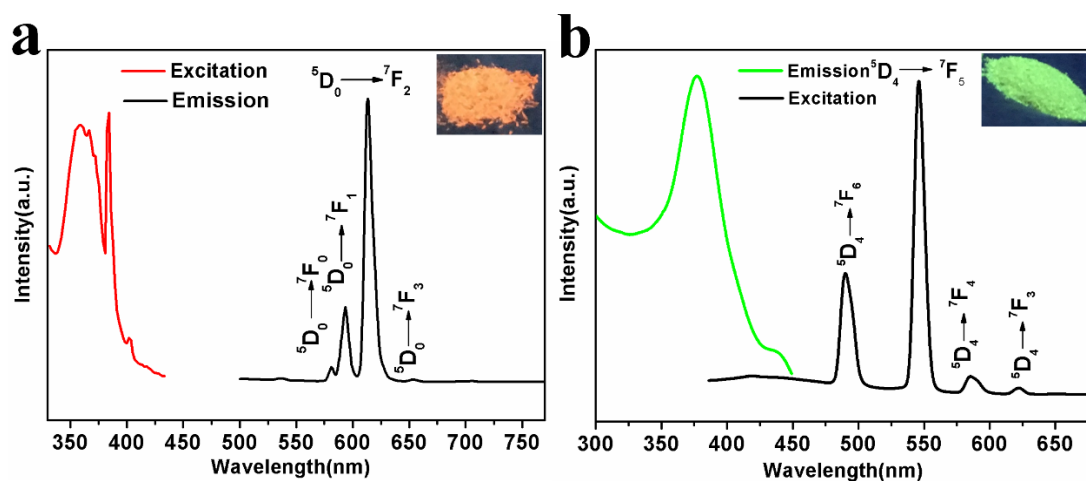


Fig. S6 The excitation and emission spectra of 1 (a), 3 (b). (Inset image under 254 nm UV-radiation of 1 and 3).

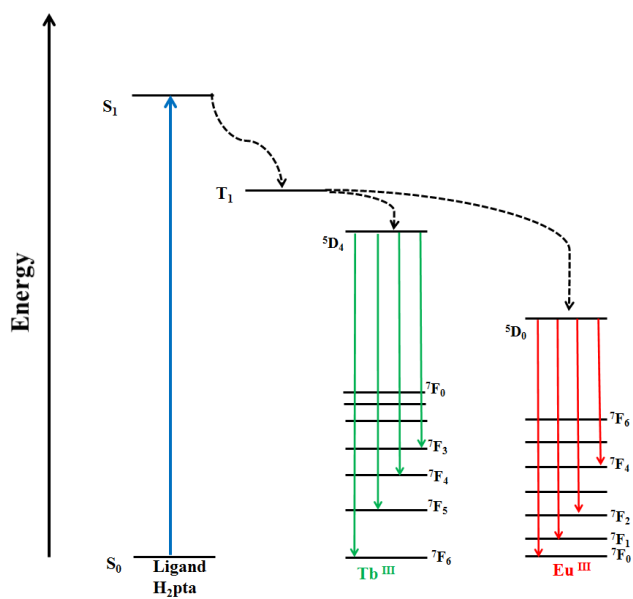


Fig. S7 Simplified schematic diagrams showing energy transfer (ET) process from ligand to Eu<sup>3+</sup> or Tb<sup>3+</sup> ions.

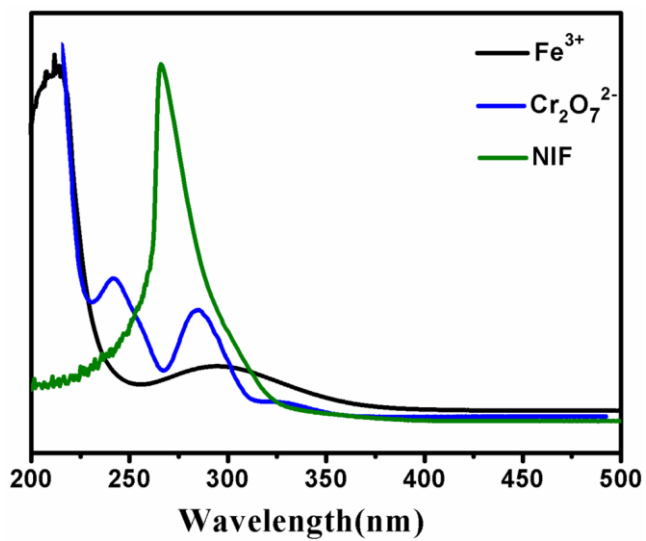


Fig. S8. UV-vis adsorption spectra of Fe<sup>3+</sup>, Cr<sub>2</sub>O<sub>7</sub><sup>2-</sup> aqueous solution and NIF in DMF solution.

**Table S1.** Selected bond lengths (Å) and bond angles (°) for **1-6**.

Compound 1			
Eu(1)-Eu(1)#1	4.1012(9)	Eu(1)-O(5)	2.368(5)
Eu(1)-O(1)#2	2.476(5)	Eu(1)-O(7)	2.440(5)
Eu(1)-O(2)#2	2.379(6)	Eu(1)-O(11)	2.344(5)
Eu(1)-O(3)#1	2.574(5)	Eu(1)-O(12)#1	2.380(6)
Eu(1)-O(3)	2.485(5)	O(2)-Eu(1)#2	2.379(6)
Eu(1)-O(4)#1	2.630(5)	O(3)-Eu(1)#1	2.574(5)
Eu(2)-Eu(1)#3	4.1870(7)	Eu(2)-O(8)#3	2.507(6)
Eu(2)-O(1W)	2.407(8)	Eu(2)-O(9)#5	2.369(6)
Eu(2)-O(2W)	2.424(6)	Eu(2)-O(10)#5	2.496(5)
Eu(2)-O(4)#4	2.441(5)	Eu(2)-O(13)	2.335(6)
Eu(2)-O(6)#3	2.393(6)	O(4)-Eu(1)#1	2.630(5)
Eu(2)-O(7)#3	2.661(5)	O(4)-Eu(2)#6	2.441(5)
O(1)-Eu(1)#2	2.476(5)	O(6)-Eu(2)#3	2.393(6)
O(10)-Eu(2)#5	2.496(5)	O(7)-Eu(2)#3	2.661(5)
O(12)-Eu(1)#1	2.380(5)	O(8)-Eu(2)#3	2.507(6)
C(34)-Eu(2)#5	2.803(8)	O(9)-Eu(2)#5	2.369(6)
O(1)#1-Eu(1)-Eu(1)#2	112.26(13)	O(1)#1-Eu(1)-O(4)#2	137.00(18)
O(1)#1-Eu(1)-O(3)	78.74(18)	O(2)#1-Eu(1)-Eu(1)#2	125.90(16)
O(1)#1-Eu(1)-O(3)#2	142.35(17)	O(2)#1-Eu(1)-O(1)#1	53.3(2)
O(2)#1-Eu(1)-O(4)#2	147.6(2)	O(2)#1-Eu(1)-O(3)#2	149.6(2)
O(2)#1-Eu(1)-O(7)	91.4(2)	O(2)#1-Eu(1)-O(3)	94.3(2)
O(2)#1-Eu(1)-O(12)#2	80.6(2)	O(5)-Eu(1)-O(7)	71.9(2)
O(3)#2-Eu(1)-O(4)#2	48.96(16)	O(5)-Eu(1)-O(12)#2	72.7(2)
O(3)-Eu(1)-O(4)#2	117.06(17)	O(11)-Eu(1)-Eu(1)#2	67.42(14)
O(5)-Eu(1)-O(3)	144.9(2)	O(11)-Eu(1)-O(1)#1	77.22(19)
O(5)-Eu(1)-O(3)#2	98.7(2)	O(11)-Eu(1)-O(2)#1	130.5(2)
O(5)-Eu(1)-O(4)#2	72.4(2)	O(11)-Eu(1)-O(3)#2	71.84(18)
O(12)#2-Eu(1)-Eu(1)#2	66.18(13)	O(3)#2-Eu(1)-Eu(1)#2	35.12(11)
O(12)#2-Eu(1)-O(1)#1	122.68(19)	O(3)-Eu(1)-Eu(1)#2	36.58(12)
O(12)#2-Eu(1)-O(3)	72.25(17)	O(3)-Eu(1)-O(3)#2	71.70(17)
O(12)#2-Eu(1)-O(3)#2	69.56(18)	O(4)#2-Eu(1)-Eu(1)#2	82.16(12)
O(12)#2-Eu(1)-O(4)#2	100.30(18)	O(5)-Eu(1)-Eu(1)#2	126.16(17)
O(1W)-Eu(2)-Eu(1)#3	140.1(2)	O(5)-Eu(1)-O(1)#1	118.8(2)
O(1W)-Eu(2)-O(2W)	144.6(3)	O(5)-Eu(1)-O(2)#1	77.1(2)
O(1W)-Eu(2)-O(4)#4	140.3(2)	O(5)-Eu(1)-C(21)#1	97.9(2)
O(1W)-Eu(2)-O(7)#3	125.5(3)	O(7)-Eu(1)-Eu(1)#2	139.60(13)
O(1W)-Eu(2)-O(8)#3	80.7(3)	O(7)-Eu(1)-O(1)#1	75.66(18)
O(1W)-Eu(2)-O(10)#5	73.8(3)	O(7)-Eu(1)-O(3)	143.04(17)
O(2W)-Eu(2)-O(10)#5	119.6(2)	O(7)-Eu(1)-O(3)#2	116.23(16)
O(4)#4-Eu(2)-Eu(1)#3	35.81(12)	O(7)-Eu(1)-O(4)#2	69.01(17)
O(4)#4-Eu(2)-O(7)#3	68.47(17)	O(11)-Eu(1)-O(3)	71.90(18)

O(4)#4-Eu(2)-O(8)#3	117.58(19)	O(11)-Eu(1)-O(4)#2	71.57(17)
O(4)#4-Eu(2)-O(10)#5	75.67(18)	O(11)-Eu(1)-O(5)	138.6(2)
O(7)#3-Eu(2)-Eu(1)#3	33.15(11)	O(11)-Eu(1)-O(7)	76.73(19)
O(8)#3-Eu(2)-O(7)#3	50.04(19)	O(11)-Eu(1)-O(12)#2	133.57(19)
O(8)#3-Eu(2)-Eu(1)#3	81.80(15)	O(12)#2-Eu(1)-O(7)	144.62(18)
O(9)#5-Eu(2)-Eu(1)#3	121.11(17)	O(2W)-Eu(2)-Eu(1)#3	70.78(16)
O(9)#5-Eu(2)-O(1W)#3	92.0(3)	O(2W)-Eu(2)-O(4)#4	73.7(2)
O(9)#5-Eu(2)-O(2W)	76.5(2)	O(2W)-Eu(2)-O(7)#3	67.7(2)
O(9)#5-Eu(2)-O(4)#4	88.8(2)	O(6)#3-Eu(2)-O(4)#4	79.1(2)
O(13)-Eu(2)-Eu(1)#3	133.19(17)	O(6)#3-Eu(2)-O(7)#3	71.31(19)
O(13)-Eu(2)-O(1W)	73.0(3)	O(6)#3-Eu(2)-O(8)#3	73.0(2)
O(13)-Eu(2)-O(2W)	71.8(2)	O(6)#3-Eu(2)-O(10)#5	84.2(2)
O(13)-Eu(2)-O(8)#3	71.5(2)	O(6)#3-Eu(2)-Eu(1)#3	67.50(14)
O(13)-Eu(2)-O(9)#5	75.0(3)	O(6)#3-Eu(2)-O(1W)	73.1(3)
O(13)-Eu(2)-O(10)#5	114.7(2)	O(6)#3-Eu(2)-O(2W)	136.8(2)
O(9)#5-Eu(2)-O(6)#3	136.2(2)	O(2W)-Eu(2)-O(8)#3	90.6(3)
O(9)#5-Eu(2)-O(7)#3	141.6(2)	O(10)#5-Eu(2)-Eu(1)#3	107.79(14)
O(9)#5-Eu(2)-O(8)#3	146.4(2)	O(10)#5-Eu(2)-O(7)#3	139.48(18)
O(9)#5-Eu(2)-O(10)#5	52.0(2)	O(10)#5-Eu(2)-O(8)#3	149.8(2)
O(13)-Eu(2)-O(4)#4	144.4(2)	O(13)-Eu(2)-O(6)#3	133.9(2)

#1 2-x,-y,1-z; #2 1-x,-y,1-z; #3 2-x,1-y,1-z; #4 +x,1+y,+z; #5 1-x,1-y,1-z; #6 +x,-1+y,+z; #7 2-x,-y,2-z

Compound 2			
Gd(1)-O(7)	2.346(8)	O(2)-Gd(1)-O(6)	77.3(3)
Gd(1)-O(2)	2.380(8)	O(12)#1-Gd(1)-O(6)	138.3(3)
Gd(1)-O(12)#1	2.382(7)	Gd(2)-O(9)	2.352(7)
Gd(1)-O(6)	2.410(8)	Gd(2)-O(11)	2.364(7)
Gd(1)-O(5)	2.442(8)	Gd(2)-O(10)#4	2.368(8)
Gd(1)-O(15)#2	2.442(8)	Gd(2)-O(14)	2.397(7)
Gd(1)-O(3)#3	2.506(7)	Gd(2)-O(4)#2	2.416(7)
Gd(1)-O(1)	2.557(7)	Gd(2)-O(13)	2.435(8)
Gd(1)-O(4)#3	2.613(7)	Gd(2)-O(16)#5	2.445(7)
Gd(2)-O(16)#3	2.579(7)	O(7)-Gd(1)-O(5)	73.5(3)
Gd(2)-O(15)#3	2.595(7)	O(2)-Gd(1)-O(5)	89.4(3)
O(12)#1-Gd(1)-O(5)	72.2(3)	O(6)-Gd(1)-O(15)#2	73.0(3)
O(6)-Gd(1)-O(5)	146.1(3)	O(5)-Gd(1)-O(15)#2	138.8(3)
O(7)-Gd(1)-O(15)#2	144.5(3)	O(7)-Gd(1)-O(3)#3	71.5(3)
O(2)-Gd(1)-O(15)#2	89.5(3)	O(2)-Gd(1)-O(3)#3	145.5(3)
O(12)#1-Gd(1)-O(15)#2	78.9(3)	O(12)#1-Gd(1)-O(3)#3	76.1(3)
O(6)-Gd(1)-O(3)#3	90.6(3)	O(12)#1-Gd(1)-O(4)#3	72.4(3)
O(5)-Gd(1)-O(3)#3	82.9(3)	O(6)-Gd(1)-O(4)#3	68.8(3)
O(15)#2-Gd(1)-O(3)#3	117.9(2)	O(5)-Gd(1)-O(4)#3	126.7(3)
O(7)-Gd(1)-O(1)	114.8(3)	O(15)#2-Gd(1)-O(4)#3	67.9(2)
O(2)-Gd(1)-O(1)	52.6(3)	O(3)#3-Gd(1)-O(4)#3	50.6(2)

O(12)#1-Gd(1)-O(1)	80.5(3)	O(1)-Gd(1)-O(4)#3	137.5(2)
O(6)-Gd(1)-O(1)	119.8(3)	O(14)-Gd(2)-O(4)#2	94.7(3)
O(5)-Gd(1)-O(1)	71.6(3)	O(9)-Gd(2)-O(13)	76.6(3)
O(15)#2-Gd(1)-O(1)	75.2(2)	O(11)-Gd(2)-O(13)	118.3(3)
O(3)#3-Gd(1)-O(1)	149.6(3)	O(9)-Gd(2)-O(11)	139.6(3)
O(7)-Gd(1)-O(4)#3	107.5(3)	O(9)-Gd(2)-O(10)#4	133.9(3)
O(2)-Gd(1)-O(4)#3	143.3(3)	O(11)-Gd(2)-O(10)#4	72.6(3)
O(11)-Gd(2)-O(4)#2	71.3(3)	O(10)#4-Gd(2)-O(13)	122.5(3)
O(16)#5-Gd(2)-O(15)#3	117.3(2)	O(14)-Gd(2)-O(13)	53.7(3)
O(16)#3-Gd(2)-O(15)#3	50.2(2)	O(4)#2-Gd(2)-O(13)	76.4(3)
O(10)#4-Gd(2)-O(4)#2	143.9(3)	O(9)-Gd(2)-O(16)#5	71.2(3)
O(9)-Gd(2)-O(14)	129.9(3)	O(11)-Gd(2)-O(16)#5	145.4(3)
O(11)-Gd(2)-O(14)	78.2(3)	O(10)#4-Gd(2)-O(16)#5	73.1(3)
O(10)#4-Gd(2)-O(14)	78.2(3)	O(14)-Gd(2)-O(16)#5	90.9(3)
O(9)-Gd(2)-O(4)#2	77.3(3)	O(4)#2-Gd(2)-O(16)#5	142.9(3)
O(9)-Gd(2)-O(16)#3	72.4(2)	O(13)-Gd(2)-O(16)#5	77.7(2)
O(11)-Gd(2)-O(16)#3	100.0(3)	O(13)-Gd(2)-O(16)#3	141.6(2)
O(10)#4-Gd(2)-O(16)#3	69.1(3)	O(16)#5-Gd(2)-O(16)#3	71.2(3)
O(14)-Gd(2)-O(16)#3	146.0(3)	O(9)-Gd(2)-O(15)#3	71.9(3)
O(4)#2-Gd(2)-O(16)#3	117.1(2)	O(11)-Gd(2)-O(15)#3	73.4(3)
O(14)-Gd(2)-O(15)#3	150.4(3)	O(10)#4-Gd(2)-O(15)#3	100.6(3)
O(4)#2-Gd(2)-O(15)#3	68.6(2)	O(13)-Gd(2)-O(15)#3	136.9(3)
#1 2-x,-y,1-z; #2 1-x,-y,1-z; #3 2-x,1-y,1-z; #4 +x,1+y,+z; #5 1-x,1-y,1-z; #6 +x,-1+y,+z; #7 2-x,-y,2-z			

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**Compound 3**

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Tb(1)-O(7)#1	2.402(4)	Tb(1)-O(7)#1	2.771(7)
Tb(1)-O(1)	2.291(5)	O(7)-Tb(1)#4	2.402(4)
Tb(1)-O(6)#1	2.404(4)	O(6)-Tb(1)#4	2.404(4)
Tb(1)-O(8)	2.374(5)	O(3)-Tb(1)#2	2.455(5)
Tb(1)-O(3)#2	2.455(5)	O(2)-Tb(1)#3	2.348(4)
Tb(1)-O(5)	2.401(4)	O(4)-Tb(1)#2	2.391(5)
Tb(1)-O(2)#3	2.348(4)	C(13)-Tb(1)#2	2.771(7)
O(6)#1-Tb(1)-O(3)#2	75.99(17)	O(5)-Tb(1)-O(6)#1	134.84(16)
O(4)#2-Tb(1)-O(6)#1	89.33(18)	O(5)-Tb(1)-O(3)#2	121.95(16)
O(7)#1-Tb(1)-O(7)#1	67.54(15)	O(2)#3-Tb(1)-O(7)#1	76.87(16)
O(7)#1-Tb(1)-O(1)	73.19(16)	O(2)#3-Tb(1)-O(6)#1	106.07(17)
O(7)#1-Tb(1)-O(6)#1	100.15(19)	O(2)#3-Tb(1)-O(8)	79.78(16)
O(1)-Tb(1)-O(8)	86.20(16)	O(2)#3-Tb(1)-O(3)#2	146.48(16)
O(1)-Tb(1)-O(3)#2	147.06(15)	O(2)#3-Tb(1)-O(5)	81.01(17)
O(1)-Tb(1)-O(5)	142.55(15)	O(2)#3-Tb(1)-O(4)#2	156.52(18)

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O(1)-Tb(1)-O(2)#3	77.62(16)	O(4)#2-Tb(1)-O(3)#2	53.75(17)
O(1)-Tb(1)-O(4)#2	76.60(16)	O(4)#2-Tb(1)-O(5)	75.59(18)
O(1)-Tb(1)-O(7)#1	85.76(15)	O(5)-Tb(1)-O(7)#1	152.87(16)
O(4)#2-Tb(1)-O(7)#1	126.11(17)	O(8)-Tb(1)-O(3)#2	129.76(17)
O(8)-Tb(1)-O(7)#1	122.99(16)	O(8)-Tb(1)-O(5)	67.16(16)
O(8)-Tb(1)-O(6)#1	70.39(16)	O(8)-Tb(1)-O(4)#2	89.21(17)

#1 +x, 1/2-y, -1/2+z; #2 1-x, 1-y, 1-z; #3 -x, 1-y, 1-z; #4 +x, 1/2-y, 1/2+z

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**Compound 4**

Dy(1)-O(1)	2.405(4)	Dy(1)-O(2)	2.396(4)
Dy(1)-O(7)#1	2.456(4)	O(7)-Dy(1)#1	2.456(4)
Dy(1)-O(8)#1	2.388(5)	O(8)-Dy(1)#1	2.388(5)
Dy(1)-O(6)#2	2.348(4)	Dy(1)-O(5)	2.283(5)
Dy(1)-O(4)#3	2.401(4)	O(6)-Dy(1)#2	2.348(4)
Dy(1)-O(3)#3	2.372(4)	O(4)-Dy(1)#4	2.401(4)
O(1)-Dy(1)-O(7)#1	76.15(16)	O(3)-Dy(1)#4	2.372(4)
O(8)#1-Dy(1)-O(1)	89.14(18)	O(5)-Dy(1)-O(3)#2	142.74(15)
O(8)#1-Dy(1)-O(7)#1	53.58(16)	O(5)-Dy(1)-O(2)	86.26(16)
O(8)#1-Dy(1)-O(4)#2	75.91(17)	O(4)#2-Dy(1)-O(1)	134.70(15)
O(8)#1-Dy(1)-O(2)	126.02(16)	O(4)#2-Dy(1)-O(7)#1	122.02(16)
O(6)#3-Dy(1)-O(1)	106.14(17)	O(3)#2-Dy(1)-O(1)	70.07(15)
O(6)#3-Dy(1)-O(7)#1	146.56(16)	O(3)#2-Dy(1)-O(7)#1	129.72(16)
O(6)#3-Dy(1)-O(8)#1	156.60(17)	O(3)#2-Dy(1)-O(8)#1	89.31(16)
O(6)#3-Dy(1)-O(4)#2	80.77(16)	O(2)-Dy(1)-O(1)	67.63(15)
O(6)#3-Dy(1)-O(3)#2	79.77(16)	O(2)-Dy(1)-O(7)#1	73.32(15)
O(6)#3-Dy(1)-O(2)	76.90(16)	O(2)-Dy(1)-O(4)#2	152.76(16)
O(5)-Dy(1)-O(1)	147.19(15)	O(5)-Dy(1)-O(6)#3	85.73(16)
O(5)-Dy(1)-O(7)#1	77.55(16)	O(5)-Dy(1)-O(4)#2	76.64(15)
O(5)-Dy(1)-O(8)#1	90.81(17)	O(3)#2-Dy(1)-O(4)#2	67.29(15)

#1 3-x, -y, 2-z; #2 2-x, -y, 2-z; #3 +x, -1/2-y, 1/2+z; #4 +x, -1/2-y, -1/2+z

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**Compound 5**

Er(1)-O(6)#1	2.371(6)	O(4)#2-Er(1)-O(5)	75.0(2)
Er(1)-O(7)#1	2.365(6)	O(6)-Er(1)#4	2.371(6)
Er(1)-O(3)#2	2.430(6)	O(7)-Er(1)#4	2.365(6)
Er(1)-O(1)	2.249(6)	O(3)-Er(1)#2	2.430(6)
Er(1)-O(8)	2.346(6)	O(4)-Er(1)#2	2.357(6)
Er(1)-O(5)	2.373(6)	O(2)-Er(1)#3	2.308(6)
Er(1)-O(4)#2	2.357(6)	O(4)#2-Er(1)-O(7)#1	126.9(2)
Er(1)-O(2)#3	2.308(6)	O(4)#2-Er(1)-O(3)#2	54.3(2)
O(4)#2-Er(1)-O(6)#1	89.3(2)	O(7)#1-Er(1)-O(6)#1	68.4(2)
O(6)#1-Er(1)-O(3)#2	76.3(2)	O(7)#1-Er(1)-O(3)#2	73.4(2)

O(6)#1-Er(1)-O(5)	134.8(2)	O(7)#1-Er(1)-O(3)	152.2(2)
O(1)-Er(1)-O(6)#1	147.3(2)	O(8)-Er(1)-O(3)#2	129.6(2)
O(1)-Er(1)-O(7)#1	85.7(2)	O(8)-Er(1)-O(5)	67.9(2)
O(1)-Er(1)-O(3)#2	77.5(2)	O(8)-Er(1)-O(4)#2	88.7(2)
O(1)-Er(1)-O(8)	143.0(2)	O(2)#3-Er(1)-O(6)#1	106.3(2)
O(1)-Er(1)-O(5)	76.3(2)	O(2)#3-Er(1)-O(7)#1	76.3(2)
O(1)-Er(1)-O(4)#2	90.9(2)	O(2)#3-Er(1)-O(3)#2	146.1(2)
O(1)-Er(1)-O(2)#3	85.4(2)	O(2)#3-Er(1)-O(8)	80.3(2)
O(1)-Er(1)-C(13)#2	80.7(2)	O(2)#3-Er(1)-O(5)	81.3(2)
O(8)-Er(1)-O(6)#1	69.7(2)	O(2)#3-Er(1)-O(4)#2	156.2(2)
O(8)-Er(1)-O(7)#1	123.0(2)	O(5)-Er(1)-O(3)#2	121.6(2)

#1  $+x, 3/2-y, -1/2+z$ ; #2  $1-x, 1-y, 1-z$ ; #3  $-x, 1-y, 1-z$ ; #4  $+x, 3/2-y, 1/2+z$

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**Compound 6**

Ho(1)-O(1)	2.271(6)	O(1)-Ho(1)-O(8)	76.7(2)
Ho(1)-O(8)	2.384(6)	O(4)-Ho(1)#1	2.438(6)
Ho(1)-O(4)#1	2.438(6)	O(7)-Ho(1)#4	2.377(6)
Ho(1)-O(7)#2	2.377(6)	O(2)-Ho(1)#3	2.316(5)
Ho(1)-O(5)	2.354(6)	O(6)-Ho(1)#4	2.377(6)
Ho(1)-O(2)#3	2.317(5)	O(3)-Ho(1)#1	2.375(6)
Ho(1)-O(6)#2	2.377(6)	O(1)-Ho(1)-O(4)#1	77.4(2)
Ho(1)-O(3)#1	2.375(6)	O(6)#2-Ho(1)-O(8)	152.6(2)
O(1)-Ho(1)-O(7)#2	147.29(19)	O(2)#3-Ho(1)-O(4)#1	146.2(2)
O(1)-Ho(1)-O(5)	142.89(19)	O(2)#3-Ho(1)-O(7)#2	106.1(2)
O(1)-Ho(1)-O(2)#3	85.67(19)	O(2)#3-Ho(1)-O(5)	80.2(2)
O(1)-Ho(1)-O(6)#2	85.94(19)	O(2)#3-Ho(1)-O(6)#2	76.3(2)
O(1)-Ho(1)-O(3)#1	90.6(2)	O(6)#2-Ho(1)-O(4)#1	73.5(2)
O(8)-Ho(1)-O(4)#1	121.8(2)	O(3)#1-Ho(1)-O(8)	75.0(2)
O(7)#2-Ho(1)-O(8)	134.47(19)	O(3)#1-Ho(1)-O(4)#1	54.2(2)
O(7)#2-Ho(1)-O(4)#1	76.3(2)	O(3)#1-Ho(1)-O(7)#2	89.6(2)
O(7)#2-Ho(1)-O(6)#2	68.14(19)	O(3)#1-Ho(1)-O(6)#2	126.9(2)
O(5)-Ho(1)-O(8)	67.36(19)	O(5)-Ho(1)-O(6)#2	122.9(2)
O(5)-Ho(1)-O(4)#1	129.7(2)	O(5)-Ho(1)-O(3)#1	88.9(2)
O(5)-Ho(1)-O(7)#2	69.8(2)	O(2)#3-Ho(1)-O(8)	81.3(2)

#1  $1-x, 1-y, 1-z$ ; #2  $+x, 3/2-y, 1/2+z$ ; #3  $2-x, 1-y, 1-z$ ; #4  $+x, 3/2-y, -1/2+z$