Supporting Information for the manuscript:

Effect of lanthanide contraction on crystal structures of Ln(III) coordination polymers with dinuclear SBUs based on 3-(4-hydroxypyridinium-1-yl) phthalic acid and oxalic acid

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This PDF file includes Table S1−S2, and Figure S1−S8

Table S1. Selected Bond Distances and Angles for Compounds **1**–**11**.

Compound **1**[a]			
La(1)–O(1)	2.633(4)	La(1)–O(2)#1	2.577(3)
La(1)–O(2)	2.654(3)	La(1)–O(3)#1	2.475(3)
La(1)–O(1W)	2.555(4)	La(1)–O(5)#2	2.452(3)
La(1)–O(2W)	2.612(4)	La(1)–O(7)#3	2.583(3)
La(1)–O(6)	2.560(3)	O(1)–La(1)–O(2)	49.16(10)
O(2W)–La(1)–O(2)	75.65(11)	O(7)#3–La(1)–O(2)	70.39(11)
O(2)#1–La(1)–O(2)	65.72(12)	O(6)–La(1)–O(2)	88.58(11)
O(1W)–La(1)–O(2)	144.72(11)	O(3)#1–La(1)–O(2)	126.94(11)
O(5)#2–La(1)–O(2)	129.16(12)	O(2W)–La(1)–O(1)	66.12(13)
O(7)#3–La(1)–O(1)	101.69(11)	O(2)#1–La(1)–O(1)	111.78(11)
O(6)–La(1)–O(1)	70.48(13)	O(1W)–La(1)–O(1)	142.58(13)
O(3)#1–La(1)–O(1)	137.52(12)	O(5)#2–La(1)–O(1)	80.26(12)
O(7)#3–La(1)–O(2W)	142.15(11)	O(2)#1–La(1)–O(2W)	81.90(12)
O(6)–La(1)–O(2W)	133.49(13)	O(1W)–La(1)–O(2W)	137.46(12)
O(3)#1–La(1)–O(2W)	72.22(13)	O(5)#2–La(1)–O(2W)	79.86(12)
O(2)#1–La(1)–O(7)#3	69.37(10)	O(6)–La(1)–O(7)#3	62.47(10)
O(1W)–La(1)–O(7)#3	74.32(12)	O(3)#1–La(1)–O(7)#3	116.50(11)
O(5)#2–La(1)–O(7)#3	135.44(12)	O(6)–La(1)–O(2)#1	130.80(10)
O(1W)–La(1)–O(2)#1	101.66(12)	O(3)#1–La(1)–O(2)#1	68.83(10)
O(5)#2–La(1)–O(2)#1	151.51(11)	O(1W)–La(1)–O(6)	75.17(13)
O(3)#1–La(1)–O(6)	143.32(13)	O(5)#2–La(1)–O(6)	77.13(11)
O(3)#1–La(1)–O(1W)	69.97(13)	O(5)#2–La(1)–O(1W)	78.05(13)
O(5)#2–La(1)–O(3)#1	84.79(11)		
Compound **2**[b]			
Ce(1)–O(1)	2.446(3)	Ce(1)–O(3)	2.564(3)
Ce(1)–O(4)#3	2.609(3)	Ce(1)–O(3)#3	2.643(3)
Ce(1)–O(1W)	2.540(4)	Ce(1)–O(5)#1	2.424(3)
Ce(1)–O(2W)	2.576(4)	Ce(1)–O(7)#2	2.535(3)
Ce(1)–O(6)	2.566(3)	O(1)–Ce(1)–O(7)#2	142.83(12)
O(5)#1–Ce(1)–O(1)	84.72(11)	O(5)#1–Ce(1)–O(1W)	77.63(13)

O(5)#1–Ce(1)–O(7)#2	77.41(11)	O(7)#2–Ce(1)–O(1W)	74.91(12)
O(1W)–Ce(1)–O(3)	150.86(11)	O(1)–Ce(1)–O(3)	69.02(11)
O(5)#1–Ce(1)–O(3)	150.86(11)	O(1W)–Ce(1)–O(3)	103.43(12)
O(7)#2–Ce(1)–O(3)	131.42(10)	O(5)#1–Ce(1)–O(6)	136.20(12)
O(6)–Ce(1)–O(1)	115.33(11)	O(7)#2–Ce(1)–O(6)	63.12(10)
O(1W)–Ce(1)–O(6)	74.55(12)	O(3)–Ce(1)–O(6)	69.64(10)
O(5)#1–Ce(1)–O(2W)	79.25(12)	O(1)–Ce(1)–O(2W)	72.65(13)
O(7)#2–Ce(1)–O(2W)	133.51(12)	O(1W)–Ce(1)–O(2W)	136.97(13)
O(3)–Ce(1)–O(2W)	80.95(11)	O(6)–Ce(1)–O(2W)	142.34(12)
O(5)#1–Ce(1)–O(4)#3	79.47(11)	O(1)–Ce(1)–O(4)#3	138.13(12)
O(7)#2–Ce(1)–O(4)#3	70.10(12)	O(1W)–Ce(1)–O(4)#3	141.47(13)
O(3)#1–Ce(1)–O(4)#3	111.57(11)	O(6)–Ce(1)–O(4)#3	102.62(11)
O(2W)–Ce(1)–O(4)#3	66.44(13)	O(5)#1–Ce(1)–O(3)#3	128.61(11)
O(1)#1–Ce(1)–O(3)#3	127.63(11)	O(7)#2–Ce(1)–O(3)#3	88.33(11)
O(3)#3–Ce(1)–O(1W)	145.38(12)	O(2W)–Ce(1)–O(3)#3	75.87(12)
O(3)#3–Ce(1)–O(3)	65.49(11)	O(4)#3–Ce(1)–O(3)#3	49.43(10)
O(6)–Ce(1)–O(3)#3	70.85(10)		
Compound 3[c]			
Pr(1)–O(1)	2.541(3)	Pr(1)–O(9)#2	2.476(3)
Pr(1)–O(2)	2.843(3)	Pr(1)–O(10)	2.483(3)
Pr(1)–O(1W)	2.456(3)	Pr(1)–O(3)#1	2.594(3)
Pr(1)–O(2W)	2.450(3)	Pr(1)–O(4)#1	2.843(3)
Pr(1)–O(7)#2	2.457(3)	Pr(2)–O(2)	2.510(3)
Pr(2)–O(6)	2.477(3)	Pr(2)–O(11)	2.562(3)
Pr(2)–O(8)	2.482(3)	Pr(2)–O(12)#3	2.537(3)
Pr(2)–O(3W)	2.488(3)	Pr(2)–O(13)#3	2.620(3)
Pr(2)–O(10)	2.727(3)	Pr(2)–O(14)#4	2.378(3)
O(7)#2–Pr(1)–O(2W)	97.06(11)	O(7)#2–Pr(1)–O(1W)	131.43(11)
O(1W)–Pr(1)–O(2W)	78.12(12)	O(7)#2–Pr(1)–O(9)#2	65.51(10)
O(2W)–Pr(1)–O(9)#2	76.97(12)	O(1W)–Pr(1)–O(9)#2	66.35(11)
O(7)#2–Pr(1)–O(10)	153.21(10)	O(2W)–Pr(1)–O(10)	90.41(11)
O(10)–Pr(1)–O(1W)	75.26(11)	O(9)#2–Pr(1)–O(10)	141.23(10)

O(7)#2–Pr(1)–O(4)#1	74.60(12)	O(2W)–Pr(1)–O(4)#1	69.01(10)
O(1W)–Pr(1)–O(4)#1	140.96(12)	O(9)#2–Pr(1)–O(4)#1	122.86(12)
O(10)–Pr(1)–O(4)#1	84.29(11)	O(7)#1–Pr(1)–O(1)	71.20(11)
O(2W)–Pr(1)–O(1)	151.58(11)	O(1W)–Pr(1)–O(1)	90.34(12)
O(9)#2–Pr(1)–O(1)	74.62(11)	O(10)–Pr(1)–O(1)	111.87(10)
O(4)#1–Pr(1)–O(1)	128.39(11)	O(7)#2–Pr(1)–O(3)#1	73.78(10)
O(2W)–Pr(1)–O(3)#1	120.31(11)	O(1W)–Pr(1)–O(3)#1	149.50(10)
O(9)#2–Pr(1)–O(3)#1	137.71(10)	O(10)–Pr(1)–O(3)#1	80.23(10)
O(4)#1–Pr(1)–O(3)#1	51.51(10)	O(1)–Pr(1)–O(3)#1	82.13(11)
O(7)#2–Pr(1)–O(2)#3	117.46(10)	O(2W)–Pr(1)–O(2)	143.13(10)
O(1W)–Pr(1)–O(2)	69.60(10)	O(9)#2–Pr(1)–O(2)	104.71(11)
O(4)#1–Pr(1)–O(2)	130.01(9)	O(1)–Pr(1)–O(2)	48.01(10)
O(3)#1–Pr(1)–O(2)	83.75(10)	O(10)–Pr(1)–O(2)	64.91(10)
O(14)#4–Pr(2)–O(8)	91.79(11)	O(6)–Pr(2)–O(8)	65.85(9)
O(14)#4–Pr(2)–O(3W)	80.35(12)	O(6)–Pr(2)–O(3W)	69.08(10)
O(8)–Pr(2)–O(3W)	134.80(10)	O(14)#4–Pr(2)–O(2)	93.85(11)
O(6)–Pr(2)–O(2)	138.64(10)	O(8)–Pr(2)–O(2)	155.45(10)
O(3W)–Pr(2)–O(6)	69.75(11)	O(14)#4–Pr(2)–O(12)#3	80.51(10)
O(6)–Pr(2)–O(12)#3	130.43(11)	O(8)–Pr(2)–O(12)#3	72.23(11)
O(3W)–Pr(2)–O(12)#3	147.12(12)	O(2)–Pr(2)–O(12)#3	85.17(11)
O(14)#4–Pr(2)–O(11)	144.23(10)	O(6)–Pr(2)–O(11)	68.76(10)
O(8)–Pr(2)–O(11)	70.57(10)	O(3W)–Pr(2)–O(11)	90.34(11)
O(2)–Pr(2)–O(11)	115.28(10)	O(12)#3–Pr(2)–O(11)	120.24(10)
O(14)#4–Pr(2)–O(13)#3	131.03(11)	O(6)–Pr(2)–O(13)#3	133.26(10)
O(8)–Pr(2)–O(13)#3	74.71(9)	O(3W)–Pr(2)–O(13)#3	140.91(10)
O(2)–Pr(2)–O(13)#3	83.64(10)	O(12)#3–Pr(2)–O(13)#3	50.52(9)
O(11)–Pr(2)–O(13)#3	75.37(10)	O(14)#4–Pr(2)–O(10)	148.18(10)
O(6)–Pr(2)–O(10)	102.18(10)	O(8)–Pr(2)–O(10)	116.72(10)
O(3W)–Pr(2)–O(10)	69.64(10)	O(2)–Pr(2)–O(10)	66.42(10)
O(12)#3–Pr(2)–O(10)	119.97(9)	O(11)–Pr(2)–O(10)	49.05(9)
O(13)#3–Pr(2)–O(10)	73.72(9)	O(14)#4–Pr(2)–O(2)	75.68(11)

Compound **4**[d]

Nd(1)–O(1)	2.725(3)	Nd(2)–O(7)#3	2.438(3)
Nd(1)–O(2)	2.539(3)	Nd(2)–O(3W)	2.439(3)
Nd(1)–O(1W)	2.473(3)	Nd(2)–O(13)#4	2.463(3)
Nd(1)–O(10)	2.494(3)	Nd(2)–O(9)#3	2.469(3)
Nd(1)–O(5)#1	2.372(3)	Nd(2)–O(2W)	2.426(3)
Nd(1)–O(6)	2.473(3)	Nd(2)–O(1)	2.470(3)
Nd(1)–O(8)	2.465(3)	Nd(2)–O(11)	2.514(3)
Nd(1)–O(4)#2	2.514(3)	Nd(2)–O(12)#4	2.577(3)
Nd(1)–O(3)#2	2.600(2)	Nd(2)–O(10)	2.863(3)
O(5)#1–Nd(1)–O(8)	91.64(11)	O(5)#1–Nd(1)–O(6)	75.59(10)
O(8)–Nd(1)–O(6)	66.26(9)	O(5)#1–Nd(1)–O(1W)	80.47(11)
O(8)–Nd(1)–O(1W)	135.13(9)	O(6)–Nd(1)–O(1W)	69.00(10)
O(5)#1–Nd(1)–O(10)	93.76(11)	O(8)–Nd(1)–O(10)	154.90(9)
O(6)–Nd(1)–O(10)	138.76(9)	O(1W)–Nd(1)–O(10)	69.97(10)
O(5)#1–Nd(1)–O(4)#2	80.18(10)	O(8)–Nd(1)–O(4)#2	72.18(10)
O(6)–Nd(1)–O(4)#2	130.57(11)	O(1W)–Nd(1)–O(4)#2	146.75(10)
O(10)–Nd(1)–O(4)#2	84.62(11)	O(5)#1–Nd(1)–O(2)	144.45(10)
O(8)–Nd(1)–O(2)	70.92(10)	O(6)–Nd(1)–O(2)	69.08(9)
O(1W)–Nd(1)–O(2)	90.36(10)	O(10)–Nd(1)–O(2)	115.32(10)
O(4)#2–Nd(1)–O(2)	120.53(9)	O(5)#1–Nd(1)–O(3)#2	131.07(10)
O(8)–Nd(1)–O(3)#2	74.73(9)	O(6)–Nd(1)–O(3)#2	133.56(9)
O(1W)–Nd(1)–O(3)#2	140.65(10)	O(10)–Nd(1)–O(3)#2	83.31(9)
O(4)#2–Nd(1)–O(3)#2	50.89(9)	O(2)–Nd(1)–O(3)#2	75.22(9)
O(5)#1–Nd(1)–O(1)	148.21(10)	O(8)–Nd(1)–O(1)	117.08(9)
O(6)–Nd(1)–O(1)	102.55(10)	O(1W)–Nd(1)–O(1)	69.66(10)
O(10)–Nd(1)–O(1)	66.35(10)	O(1)–Nd(1)–O(2)	49.18(9)
O(4)#2–Nd(1)–O(1)	119.85(9)	O(3)#2–Nd(1)–O(1)	73.40(9)
O(2W)–Nd(2)–O(7)#3	97.42(11)	O(9)#3–Nd(2)–O(11)	75.24(10)
O(2W)–Nd(2)–O(3W)	78.48(11)	O(1)–Nd(2)–O(11)	111.17(10)
O(7)#3–Nd(2)–O(3W)	132.03(10)	O(2W)–Nd(2)–O(12)#4	120.13(10)
O(2W)–Nd(2)–O(13)#4	68.58(10)	O(7)#3–Nd(2)–O(12)#4	73.55(9)
O(7)#3–Nd(2)–O(13)#4	74.76(11)	O(3W)–Nd(2)–O(12)#4	148.99(10)

O(3W)–Nd(2)–O(13)#4	140.68(11)	O(13)#4–Nd(2)–O(12)#4	51.76(9)
O(2W)–Nd(2)–O(9)#3	77.20(11)	O(9)#3–Nd(2)–O(12)#4	137.94(9)
O(7)#3–Nd(2)–O(9)#3	65.96(9)	O(1)–Nd(2)–O(12)#4	80.32(9)
O(3W)–Nd(2)–O(9)#3	66.56(10)	O(11)–Nd(2)–O(12)#4	81.90(10)
O(13)#4–Nd(2)–O(9)#3	123.02(11)	O(2W)–Nd(2)–O(10)	142.69(10)
O(2W)–Nd(2)–O(1)	90.13(10)	O(7)#3–Nd(2)–O(10)	117.75(9)
O(7)#3–Nd(2)–O(1)	153.11(9)	O(3W)–Nd(2)–O(10)	69.03(10)
O(3W)–Nd(2)–O(1)	74.74(10)	O(13)#4–Nd(2)–O(10)	129.97(9)
O(13)#4–Nd(2)–O(1)	84.22(11)	O(9)#3–Nd(2)–O(10)	104.88(10)
O(9)#3–Nd(2)–O(1)	140.90(9)	O(1)–Nd(2)–O(10)	64.44(9)
O(2W)–Nd(2)–O(11)	152.44(10)	O(11)–Nd(2)–O(10)	47.80(9)
O(7)#3–Nd(2)–O(11)	71.68(11)	O(12)#4–Nd(2)–O(10)	83.79(9)
O(3W)–Nd(2)–O(11)	90.12(11)	O(9)#3–Nd(2)–O(11)	75.24(10)
Compound 5[e]			
Sm(1)–O(5)#1	2.341(4)	Sm(2)–O(2W)	2.390(4)
Sm(1)–O(11)	2.428(4)	Sm(2)–O(7)#3	2.409(4)
Sm(1)–O(8)	2.433(4)	Sm(2)–O(1W)	2.410(4)
Sm(1)–O(3W)	2.439(4)	Sm(2)–O(2)	2.426(4)
Sm(1)–O(6)	2.454(4)	Sm(2)–O(9)#3	2.436(4)
Sm(1)–O(4)#2	2.492(4)	Sm(2)–O(13)#4	2.443(4)
Sm(1)–O(1)	2.495(4)	Sm(2)–O(10)	2.467(4)
Sm(1)–O(3)#2	2.575(4)	Sm(2)–O(12)#4	2.552(4)
Sm(1)–O(2)	2.784(4)	O(6)–Sm(1)–O(1)	69.43(13)
O(5)#1–Sm(1)–O(11)	92.75(15)	O(4)#2–Sm(1)–O(1)	120.59(13)
O(5)#1–Sm(1)–O(8)	91.25(16)	O(5)#1–Sm(1)–O(3)#2	131.95(14)
O(11)–Sm(1)–O(8)	153.97(13)	O(11)–Sm(1)–O(3)#2	82.36(12)
O(5)#1–Sm(1)–O(3W)	81.17(15)	O(8)–Sm(1)–O(3)#2	75.92(13)
O(11)–Sm(1)–O(3W)	70.72(13)	O(3W)–Sm(1)–O(3)#2	138.83(14)
O(8)–Sm(1)–O(3W)	135.29(13)	O(6)–Sm(1)–O(3)#2	134.41(12)
O(5)#1–Sm(1)–O(6)	75.25(14)	O(4)#2–Sm(1)–O(3)#2	51.64(12)
O(11)–Sm(1)–O(6)	139.13(13)	O(1)–Sm(1)–O(3)#2	74.80(13)
O(8)–Sm(1)–O(6)	66.57(13)	O(5)#1–Sm(1)–O(2)	148.00(15)

O(3W)–Sm(1)–O(6)	68.90(13)	O(11)–Sm(1)–O(2)	68.09(12)
O(5)#1–Sm(1)–O(4)#2	80.31(14)	O(8)–Sm(1)–O(2)	117.40(13)
O(11)–Sm(1)–O(4)#2	82.97(14)	O(3W)–Sm(1)–O(2)	68.59(12)
O(8)–Sm(1)–O(4)#2	72.39(14)	O(6)–Sm(1)–O(2)	102.10(13)
O(3W)–Sm(1)–O(4)#2	146.85(13)	O(4)#2–Sm(1)–O(2)	120.14(13)
O(6)–Sm(1)–O(4)#2	131.07(15)	O(1)–Sm(1)–O(2)	48.91(13)
O(3)#2–Sm(1)–O(2)	72.74(12)	O(9)#3–Sm(2)–O(13)#4	123.93(16)
O(2W)–Sm(2)–O(7)#3	98.82(16)	O(2W)–Sm(2)–O(10)	154.12(16)
O(2W)–Sm(2)–O(1W)	79.09(15)	O(7)#3–Sm(2)–O(10)	73.70(15)
O(7)#3–Sm(2)–O(1W)	132.80(14)	O(1W)–Sm(2)–O(10)	88.00(15)
O(2W)–Sm(2)–O(2)	90.75(15)	O(2)–Sm(2)–O(10)	107.26(15)
O(7)#3–Sm(2)–O(2)	152.68(14)	O(9)#3–Sm(2)–O(10)	76.50(15)
O(1W)–Sm(2)–O(2)	74.04(14)	O(13)#4–Sm(2)–O(10)	129.84(15)
O(2W)–Sm(2)–O(9)#3	77.80(15)	O(2W)–Sm(2)–O(12)#4	120.78(14)
O(7)#3–Sm(2)–O(9)#3	66.75(14)	O(7)#3–Sm(2)–O(12)#4	73.96(14)
O(1W)–Sm(2)–O(9)#3	66.79(15)	O(1W)–Sm(2)–O(12)#4	146.87(15)
O(2)–Sm(2)–O(9)#3	140.55(14)	O(2)–Sm(2)–O(12)#4	79.15(14)
O(2W)–Sm(2)–O(13)#4	68.88(14)	O(9)#3–Sm(2)–O(12)#4	138.93(13)
O(7)#3–Sm(2)–O(13)#4	75.23(15)	O(13)#4–Sm(2)–O(12)#4	52.24(13)
O(1W)–Sm(2)–O(13)#4	141.12(14)	O(10)–Sm(2)–O(12)#4	81.65(14)
O(2)–Sm(2)–O(13)#4	84.66(15)		

Compound 6[f]			
Eu(1)–O(5)#1	2.313(3)	Eu(1)–O(2)	2.459(3)
Eu(1)–O(10)	2.379(3)	Eu(1)–O(4)#2	2.487(3)
Eu(1)–O(8)	2.422(3)	Eu(1)–O(3)#2	2.555(3)
Eu(1)–O(1W)	2.429(3)	Eu(1)–O(1)	2.852(3)
Eu(1)–O(6)	2.448(3)	Eu(2)–O(11)	2.408(4)
Eu(2)–O(2W)	2.369(3)	Eu(2)–O(13)#4	2.428(4)
Eu(2)–O(7)#3	2.399(3)	Eu(2)–O(9)#3	2.428(3)
Eu(2)–O(1)	2.403(3)	Eu(2)–O(12)#4	2.539(3)
Eu(2)–O(3W)	2.410(3)	O(1W)–Eu(1)–O(4)#2	146.97(11)
O(5)#1–Eu(1)–O(10)	91.83(13)	O(6)–Eu(1)–O(4)#2	131.84(10)

O(5)#1–Eu(1)–O(8)	90.91(12)	O(2)–Eu(1)–O(4)#2	120.89(10)
O(10)–Eu(1)–O(8)	152.66(12)	O(5)#1–Eu(1)–O(3)#2	132.23(12)
O(5)#1–Eu(1)–O(1W)	82.21(12)	O(10)–Eu(1)–O(3)#2	81.65(11)
O(10)–Eu(1)–O(1W)	71.40(12)	O(8)–Eu(1)–O(3)#2	76.45(10)
O(8)–Eu(1)–O(1W)	135.88(11)	O(1W)–Eu(1)–O(3)#2	137.28(11)
O(5)#1–Eu(1)–O(6)	75.15(11)	O(6)–Eu(1)–O(3)#2	135.08(10)
O(10)–Eu(1)–O(6)	139.52(11)	O(2)–Eu(1)–O(3)#2	75.00(11)
O(8)–Eu(1)–O(6)	67.16(10)	O(4)#2–Eu(1)–O(3)#2	51.71(10)
O(1W)–Eu(1)–O(6)	68.96(11)	O(5)#1–Eu(1)–O(1)	148.13(11)
O(5)#1–Eu(1)–O(2)	144.35(11)	O(10)–Eu(1)–O(1)	70.06(12)
O(10)–Eu(1)–O(2)	117.88(12)	O(8)–Eu(1)–O(1)	117.38(10)
O(8)–Eu(1)–O(2)	71.93(11)	O(1W)–Eu(1)–O(1)	67.43(10)
O(1W)–Eu(1)–O(2)	88.83(11)	O(6)–Eu(1)–O(1)	101.36(10)
O(6)–Eu(1)–O(2)	69.44(10)	O(2)–Eu(1)–O(1)	48.21(9)
O(5)#1–Eu(1)–O(4)#2	80.52(11)	O(4)#2–Eu(1)–O(1)	120.21(9)
O(10)–Eu(1)–O(4)#2	81.21(12)	O(3)#2–Eu(1)–O(1)	72.54(10)
O(8)–Eu(1)–O(4)#2	72.43(11)	O(11)–Eu(2)–O(13)#4	130.81(11)
O(2W)–Eu(2)–O(7)#3	100.73(11)	O(2W)–Eu(2) O(9)#3	78.50(11)
O(2W)–Eu(2)–O(1)	90.74(10)	O(7)#3–Eu(2)–O(9)#3	67.03(10)
O(7)#3–Eu(2)–O(1)	152.53(11)	O(1)–Eu(2)–O(9)#3	140.25(11)
O(2W)–Eu(2)–O(3W)	79.34(11)	O(3W)–Eu(2)–O(9)#3	67.23(11)
O(7)#3–Eu(2)–O(3W)	133.21(11)	O(11)–Eu(2)–O(9)#3	77.77(12)
O(1)–Eu(2)–O(3W)	73.23(11)	O(13)#4–Eu(2)–O(9)#3	124.70(12)
O(2W)–Eu(2)–O(11)	155.42(12)	O(2W)–Eu(2)–O(12)#4	121.18(11)
O(7)#3–Eu(2)–O(11)	75.63(12)	O(7)#3–Eu(2)–O(12)#4	74.30(10)
O(1)–Eu(2)–O(11)	103.53(11)	O(1)–Eu(2)–O(12)#4	78.39(11)
O(3W)–Eu(2)–O(11)	85.69(12)	O(3W)–Eu(2)–O(12)#4	145.20(10)
O(2W)–Eu(2)–O(13)#4	69.51(11)	O(11)–Eu(2)–O(12)#4	81.75(12)
O(7)#3–Eu(2)–O(13)#4	75.97(12)	O(13)#4–Eu(2)–O(12)#4	52.18(10)
O(1)–Eu(2)–O(13)#4	85.04(12)	O(9)#3–Eu(2)–O(12)#4	139.56(11)
O(3W)–Eu(2)–O(13)#4	141.62(12)		

Compound 7[g]

Gd(1)–O(5)#1	2.319(4)	Gd(1)–O(2)	2.436(4)
Gd(1)–O(10)	2.365(4)	Gd(1)–O(4)#2	2.468(4)
Gd(1)–O(8)	2.405(4)	Gd(1)–O(3)#2	2.537(3)
Gd(1)–O(1W)	2.407(4)	Gd(2)–O(3W)	2.395(4)
Gd(1)–O(6)	2.433(4)	Gd(2)–O(9)#3	2.410(4)
Gd(2)–O(2W)	2.345(4)	Gd(2)–O(13)#4	2.422(4)
Gd(2)–O(1)	2.384(4)	Gd(2)–O(12)#4	2.530(4)
Gd(2)–O(7)#3	2.389(4)	Gd(2)–O(11)	2.391(4)
O(10)–Gd(1)–O(3)#2	80.90(13)	O(5)#1–Gd(1)–O(10)	91.95(15)
O(8)–Gd(1)–O(3)#2	77.38(12)	O(1W)–Gd(1)–O(3)#2	135.62(13)
O(5)#1–Gd(1)–O(8)	90.62(14)	O(6)–Gd(1)–O(3)#2	135.69(12)
O(10)–Gd(1)–O(8)	152.42(14)	O(2)–Gd(1)–O(3)#2	74.56(12)
O(5)#1–Gd(1)–O(1W)	83.04(14)	O(4)#2–Gd(1)–O(3)#2	52.29(12)
O(10)–Gd(1)–O(1W)	71.78(14)	O(8)–Gd(1)–O(6)	67.25(12)
O(8)–Gd(1)–O(1W)	135.76(14)	O(1W)–Gd(1)–O(6)	68.87(13)
O(5)#1–Gd(1)–O(6)	74.57(14)	O(5)#1–Gd(1)–O(2)	144.47(15)
O(10)–Gd(1)–O(6)	139.56(13)	O(10)–Gd(1)–O(2)	117.53(14)
O(8)–Gd(1)–O(2)	72.56(13)	O(8)–Gd(1)–O(4)#2	72.85(14)
O(1W)–Gd(1)–O(2)	87.72(13)	O(1W)–Gd(1)–O(4)#2	147.26(14)
O(6)–Gd(1)–O(2)	70.09(13)	O(6)–Gd(1)–O(4)#2	132.25(13)
O(5)#1–Gd(1)–O(4)#2	80.84(13)	O(2)–Gd(1)–O(4)#2	121.13(12)
O(10)–Gd(1)–O(4)#2	80.47(14)	O(3W)–Gd(2)–O(9)#3	67.28(13)
O(5)#1–Gd(1)–O(3)#2	133.13(13)	O(2W)–Gd(2)–O(13)#4	69.56(13)
O(2W)–Gd(2)–O(1)	91.67(14)	O(1)–Gd(2)–O(13)#4	85.01(14)
O(2W)–Gd(2)–O(7)#3	100.61(14)	O(7)#3–Gd(2)–O(13)#4	76.65(14)
O(1)–Gd(2)–O(7)#3	152.57(13)	O(11)–Gd(2)–O(13)#4	131.71(13)
O(2W)–Gd(2)–O(11)	155.85(16)	O(3W)–Gd(2)–O(13)#4	141.89(14)
O(1)–Gd(2)–O(11)	100.68(14)	O(9)#3–Gd(2)–O(13)#4	125.07(14)
O(7)#3–Gd(2)–O(11)	77.63(14)	O(2W)–Gd(2)–O(12)#4	121.96(14)
O(2W)–Gd(2)–O(3W)	80.27(13)	O(1)–Gd(2)–O(12)#4	77.92(13)
O(1)–Gd(2)–O(3W)	72.84(14)	O(7)#3–Gd(2)–O(12)#4	74.76(13)
O(7)#3–Gd(2)–O(3W)	133.16(14)	O(11)–Gd(2)–O(12)#4	81.20(13)

O(11)–Gd(2)–O(3W)	83.65(14)	O(3W)–Gd(2)–O(12)#4	143.78(13)
O(2W)–Gd(2)–O(9)#3	77.87(15)	O(9)#3–Gd(2)–O(12)#4	140.11(12)
O(1)–Gd(2)–O(9)#3	139.90(12)	O(13)#4–Gd(2)–O(12)#4	52.86(12)
O(7)#3–Gd(2)–O(9)#3	67.24(13)	O(11)–Gd(2)–O(9)#3	79.36(15)
Compound 8[h]			
Tb(1)–O(2W)	2.328(3)	Tb(1)–O(1W)	2.388(3)
Tb(1)–O(11)#1	2.353(3)	Tb(1)–O(8)	2.394(3)
Tb(1)–O(6)	2.366(3)	Tb(1)–O(1)	2.408(4)
Tb(1)–O(4)#2	2.369(3)	Tb(1)–O(2)	2.513(3)
Tb(2)–O(14)#3	2.304(3)	Tb(2)–O(10)	2.412(3)
Tb(2)–O(3)#3	2.343(3)	Tb(2)–O(7)	2.423(3)
Tb(2)–O(3W)	2.387(3)	Tb(2)–O(13)#4	2.443(3)
Tb(2)–O(9)	2.388(3)	Tb(2)–O(12)#4	2.518(3)
O(2W)–Tb(1)–O(6)	102.30(12)	O(2W)–Tb(1)–O(1)	69.46(11)
O(11)#1–Tb(1)–O(6)	151.79(11)	O(11)#1–Tb(1)–O(1)	84.84(12)
O(2W)–Tb(1)–O(4)#2	156.49(12)	O(6)–Tb(1)–O(1)	76.80(12)
O(11)#1–Tb(1)–O(4)#2	98.90(12)	O(4)#2–Tb(1)–O(1)	132.44(11)
O(6)–Tb(1)–O(4)#2	78.85(12)	O(1W)–Tb(1)–O(1)	141.98(11)
O(2W)–Tb(1)–O(1W)	80.15(12)	O(8)–Tb(1)–O(1)	125.02(13)
O(11)#1–Tb(1)–O(1W)	73.00(11)	O(2W)–Tb(1)–O(2)	122.20(11)
O(6)–Tb(1)–O(1W)	133.45(10)	O(11)#1–Tb(1)–O(2)	77.28(11)
O(4)#2–Tb(1)–O(1W)	82.31(12)	O(6)–Tb(1)–O(2)	74.58(10)
O(2W)–Tb(1)–O(8)	78.62(12)	O(4)#2–Tb(1)–O(2)	80.99(11)
O(11)#1–Tb(1)–O(8)	140.20(12)	O(1W)–Tb(1)–O(2)	142.99(11)
O(6)–Tb(1)–O(8)	67.63(10)	O(8)–Tb(1)–O(2)	140.30(10)
O(4)#2–Tb(1)–O(8)	80.26(12)	O(1)–Tb(1)–O(2)	53.40(11)
O(1W)–Tb(1)–O(8)	67.44(11)	O(2W)–Tb(1)–O(1)	69.46(11)
O(14)#3–Tb(2)–O(3)#3	91.62(12)	O(10)–Tb(2)–O(7)	70.67(11)
O(14)#3–Tb(2)–O(3W)	84.05(13)	O(14)#3–Tb(2)–O(13)#4	80.79(12)
O(3)#3–Tb(2)–O(3W)	72.37(11)	O(3)#3–Tb(2)–O(13)#4	79.39(12)
O(14)#3–Tb(2)–O(9)	90.56(12)	O(3W)–Tb(2)–O(13)#4	147.42(11)
O(3)#3–Tb(2)–O(9)	151.56(12)	O(9)–Tb(2)–O(13)#4	72.98(11)

O(3W)–Tb(2)–O(9)	136.03(10)	O(10)–Tb(2)–O(13)#4	121.54(10)
O(14)#3–Tb(2)–O(10)	145.30(11)	O(7)–Tb(2)–O(13)#4	132.80(11)
O(3)#3–Tb(2)–O(10)	116.95(12)	O(14)#3–Tb(2)–O(12)#4	133.41(12)
O(3W)–Tb(2)–O(10)	86.36(12)	O(3)#3–Tb(2)–O(12)#4	80.34(10)
O(9)–Tb(2)–O(10)	73.77(11)	O(3W)–Tb(2)–O(12)#4	134.34(11)
Compound 9[i]			
Dy(1)–O(2W)	2.319(4)	Dy(1)–O(1W)	2.385(4)
Dy(1)–O(12)#1	2.324(4)	Dy(1)–O(8)	2.388(4)
Dy(1)–O(1)	2.348(4)	Dy(1)–O(4)#2	2.391(4)
Dy(1)–O(6)	2.362(3)	Dy(1)–O(3)#2	2.503(4)
Dy(2)–O(14)#3	2.292(4)	Dy(2)–O(13)#5	2.389(3)
Dy(2)–O(2)#4	2.324(4)	Dy(2)–O(7)	2.412(4)
Dy(2)–O(3W)	2.381(4)	Dy(2)–O(11)	2.447(4)
Dy(2)–O(9)	2.378(3)	Dy(2)–O(10)	2.504(4)
O(2W)–Dy(1)–O(12)#1	90.91(14)	O(12)#1–Dy(1)–O(1W)	72.76(13)
O(2W)–Dy(1)–O(1)	156.82(15)	O(1)–Dy(1)–O(1W)	81.89(13)
O(12)#1–Dy(1)–O(1)	97.87(14)	O(6)–Dy(1)–O(1W)	133.65(13)
O(2W)–Dy(1)–O(6)	102.36(14)	O(2W)–Dy(1)–O(8)	78.51(14)
O(12)#1–Dy(1)–O(6)	151.74(13)	O(12)#1–Dy(1)–O(8)	140.02(13)
O(1)–Dy(1)–O(6)	79.62(13)	O(1)–Dy(1)–O(8)	81.03(14)
O(2W)–Dy(1)–O(1W)	80.32(13)	O(6)–Dy(1)–O(8)	67.84(12)
O(1W)–Dy(1)–O(8)	67.51(13)	O(6)–Dy(1)–O(4)#2	76.61(13)
O(2W)–Dy(1)–O(4)#2	69.55(14)	O(1W)–Dy(1)–O(4)#2	142.18(13)
O(12)#1–Dy(1)–O(4)#2	85.09(14)	O(8)–Dy(1)–O(4)#2	124.97(14)
O(1)–Dy(1)–O(4)#2	132.35(14)	O(2W)–Dy(1)–O(3)#2	122.30(13)
O(12)#1–Dy(1)–O(3)#2	77.19(12)	O(2)#4–Dy(2)–O(7)	139.66(13)
O(14)#3–Dy(2)–O(2)#4	91.79(15)	O(3W)–Dy(2)–O(7)	69.07(13)
O(14)#3–Dy(2)–O(3W)	84.78(14)	O(9)–Dy(2)–O(7)	67.79(12)
O(2)#4–Dy(2)–O(3W)	72.01(14)	O(13)#5–Dy(2)–O(7)	70.94(13)
O(14)#3–Dy(2)–O(9)	90.61(14)	O(14)#3–Dy(2)–O(11)	80.97(14)
O(2)#4–Dy(2)–O(9)	151.70(14)	O(2)#4–Dy(2)–O(11)	79.43(13)
O(3W)–Dy(2)–O(9)	136.27(13)	O(3W)–Dy(2)–O(11)	147.55(12)

O(14)#3–Dy(2)–O(13)#5	145.50(14)	O(9)–Dy(2)–O(11)	73.13(12)
O(2)#4–Dy(2)–O(13)#5	116.40(13)	O(13)#5–Dy(2)–O(11)	121.57(12)
O(3W)–Dy(2)–O(13)#5	85.62(13)	O(7)–Dy(2)–O(11)	133.10(12)
O(9)–Dy(2)–O(13)#5	74.06(12)	O(14)#3–Dy(2)–O(10)	133.55(13)
O(14)#3–Dy(2)–O(7)	74.68(14)	O(2)#4–Dy(2)–O(10)	79.98(13)
O(13)#5–Dy(2)–O(10)	74.17(12)	O(3W)–Dy(2)–O(10)	133.25(13)
O(7)–Dy(2)–O(10)	136.30(11)	O(9)–Dy(2)–O(10)	78.01(12)
O(11)–Dy(2)–O(10)	52.59(12)		
Compound 10[j]			
Er(1)–O(11)#1	2.292(6)	Er(1)–O(8)	2.375(5)
Er(1)–O(1W)	2.294(6)	Er(1)–O(4)#2	2.380(6)
Er(1)–O(1)	2.330(6)	Er(1)–O(2W)	2.380(5)
Er(1)–O(6)	2.334(6)	Er(1)–O(3)#2	2.495(5)
Er(2)–O(14)#3	2.268(6)	Er(2)–O(10)	2.359(6)
Er(2)–O(2)#4	2.302(6)	Er(2)–O(7)	2.400(5)
Er(2)–O(9)	2.346(5)	Er(2)–O(13)#5	2.428(5)
Er(2)–O(3W)	2.354(5)	Er(2)–O(12)#5	2.488(5)
O(11)#1–Er(1)–O(1W)	90.9(2)	O(1)–Er(1)–O(4)#2	132.75(18)
O(11)#1–Er(1)–O(1)	96.8(2)	O(6)–Er(1)–O(4)#2	76.5(2)
O(1W)–Er(1)–O(1)	156.5(2)	O(8)–Er(1)–O(4)#2	125.2(2)
O(11)#1–Er(1)–O(6)	151.28(18)	O(11)#1–Er(1)–O(2W)	72.91(19)
O(1W)–Er(1)–O(6)	102.7(2)	O(1W)–Er(1)–O(2W)	80.4(2)
O(1)–Er(1)–O(6)	80.7(2)	O(1)–Er(1)–O(2W)	80.80(19)
O(11)#1–Er(1)–O(8)	140.13(19)	O(6)–Er(1)–O(2W)	133.86(18)
O(1W)–Er(1)–O(8)	78.4(2)	O(8)–Er(1)–O(2W)	67.49(19)
O(1)–Er(1)–O(8)	81.5(2)	O(4)#2–Er(1)–O(2W)	142.41(19)
O(6)–Er(1)–O(8)	68.18(18)	O(11)#1–Er(1)–O(3)#2	77.02(18)
O(11)#1–Er(1)–O(4)#2	84.8(2)	O(1W)–Er(1)–O(3)#2	122.5(2)
O(1W)–Er(1)–O(4)#2	69.88(18)	O(1)–Er(1)–O(3)#2	80.88(19)
O(6) –Er(1) –O(3)#2	74.34(18)	O(4)#2–Er(1)–O(3)#2	53.35(18)
O(8) Er(1)–O(3)#2	140.59(19)	O(2W)–Er(1)–O(3)#2	142.38(19)
O(14)#3–Er(2)–O(2)#4	92.0(2)	O(3W)–Er(2)–O(7)	68.81(19)

O(14)#3–Er(2)–O(9)	90.3(2)	O(10)–Er(2)–O(7)	71.50(18)
O(2)#4–Er(2)–O(9)	151.31(19)	O(14)#3–Er(2)–O(13)#5	80.54(19)
O(14)#3–Er(2)–O(3W)	85.6(2)	O(2)#4–Er(2)–O(13)#5	78.9(2)
O(2)#4–Er(2)–O(3W)	72.10(19)	O(9)–Er(2)–O(13)#5	73.25(19)
O(9)–Er(2)–O(3W)	136.58(18)	O(3W)–Er(2)–O(13)#5	147.3(2)
O(14)#3–Er(2) –O(10)	146.34(19)	O(10)–Er(2)–O(13)#5	122.40(17)
O(2)#4–Er(2)–O(10)	115.0(2)	O(7)–Er(2)–O(13)#5	133.8(2)
O(9)–Er(2)–O(10)	75.63(19)	O(14)#3–Er(2)–O(12)#5	133.89(19)
O(3W)–Er(2)–O(10)	84.29(19)	O(2)#4–Er(2)–O(12)#5	79.53(17)
O(14)#3–Er(2)–O(7)	74.9(2)	O(9)–Er(2)–O(12)#5	78.33(17)
O(2)#4–Er(2)–O(7)	139.47(18)	O(3W)–Er(2 –O(12)#5	132.13(19)
O(9)–Er(2)–O(7)	68.40(18)	O(10)–Er(2)–O(12)#5	73.71(17)
O(13)#5–Er(2)–O(12)#5	53.36(18)	O(7)–Er(2)–O(12)#5	136.49(17)
Compound 11[k]			
Yb(1)–O(1W)	2.258(3)	Yb(1)–O(2W)	2.337(3)
Yb(1)–O(1)	2.262(3)	Yb(1)–O(13)#1	2.357(4)
Yb(1)–O(10)	2.294(3)	Yb(1)–O(8)	2.359(3)
Yb(1)–O(6)	2.318(3)	Yb(1)–O(12)#1	2.475(3)
Yb(2)–O(5)#2	2.238(3)	Yb(2)–O(9)#3	2.331(3)
Yb(2)–O(11)	2.290(3)	Yb(2)–O(7)#3	2.379(3)
Yb(2)–O(3W)	2.322(3)	Yb(2)–O(4)#4	2.399(3)
Yb(2)–O(2)	2.328(3)	Yb(2)–O(3)#4	2.468(3)
O(1W)–Yb(1)–O(1)	90.33(12)	O(2W)–Yb(1)–O(13)#1	142.06(11)
O(1W)–Yb(1)–O(10)	156.69(12)	O(1W)–Yb(1)–O(8)	78.46(13)
O(1)–Yb(1)–O(10)	96.48(12)	O(1)–Yb(1)–O(8)	140.13(11)
O(1W)–Yb(1)–O(6)	102.91(12)	O(10)–Yb(1)–O(8)	82.10(12)
O(1)–Yb(1)–O(6)	150.92(11)	O(6)–Yb(1)–O(8)	68.65(11)
O(10)–Yb(1)–O(6)	81.57(12)	O(2W)–Yb(1)–O(8)	67.48(11)
O(1W)–Yb(1)–O(2W)	79.96(12)	O(13)#1–Yb(1)–O(8)	125.44(12)
O(1)–Yb(1)–O(2W)	72.94(11)	O(1W)–Yb(1)–O(12)#1	123.09(12)
O(10)–Yb(1)–O(2W)	80.79(12)	O(1)–Yb(1)–O(12)#1	76.78(11)
O(6)–Yb(1)–O(2W)	134.40(11)	O(10)–Yb(1)–O(12)#1	80.21(12)

O(1W)–Yb(1)–O(13)#1	70.04(12)	O(6)–Yb(1)–O(12)#1	74.29(11)
O(1)–Yb(1)–O(13)#1	84.29(12)	O(2W)–Yb(1)–O(12)#1	141.91(11)
O(10)–Yb(1)–O(13)#1	132.72(11)	O(13)#1–Yb(1)–O(12)#1	53.81(11)
O(6)–Yb(1)–O(13)#1	76.36(12)	O(8)–Yb(1)–O(12)#1	140.78(10)
O(5)#2–Yb(2)–O(11)	92.23(13)	O(9)#3–Yb(2)–O(7)#3	68.52(10)
O(5)#2–Yb(2)–O(3W)	85.56(13)	O(5)#2–Yb(2)–O(4)#4	80.49(12)
O(11)–Yb(2)–O(3W)	72.23(12)	O(11)–Yb(2)–O(4)#4	78.90(12)
O(5)#2–Yb(2)–O(2)	147.21(12)	O(3W)–Yb(2)–O(4)#4	147.31(11)
O(11)–Yb(2)–O(2)	113.55(12)	O(2)–Yb(2)–O(4)#4	122.67(10)
O(3W)–Yb(2)–O(2)	83.66(12)	O(9)#3–Yb(2)–O(4)#4	73.94(11)
O(5)#2–Yb(2)–O(9)#3	91.29(13)	O(7)#3–Yb(2)–O(4)#4	134.21(11)
O(11)–Yb(2)–O(9)#3	151.62(12)	O(5)#2–Yb(2)–O(3)#4	134.13(12)
O(3W)–Yb(2)–O(9)#3	136.13(11)	O(11)–Yb(2)–O(3)#4	79.04(11)
O(2)–Yb(2)–O(9)#3	75.73(12)	O(3W)–Yb(2)–O(3)#4	131.78(11)
O(5)#2–Yb(2)–O(7)#3	75.21(12)	O(2)–Yb(2)–O(3)#4	73.32(11)
O(11)–Yb(2)–O(7)#3	139.34(11)	O(9)#3–Yb(2)–O(3)#4	78.37(10)
O(3W)–Yb(2)–O(7)#3	68.40(11)	O(7)#3–Yb(2)–O(3)#4	136.66(10)
O(2)–Yb(2)–O(7)#3	72.03(11)	O(4)#4–Yb(2)–O(3)#4	53.66(11)

Symmetry codes: [a] #1 – *x*, – y, 1 – *z*; #2 *x*, *y*, 1 + *z*; #3 1 – x, – y, 1 – z. [b] #1 2 – *x*, 1– *y*, 1 – *z*; #2 3 – *x*, 1– *y*, – *z*; #3 2 – x, 1 – y, – z. [c] #11 – *x*, 2 – *y*, 1 – *z*; #2 1 + *x*, *y*, *z*; #3 1 – *x*, 1 – *y*, 1 – *z*; #4 – *x*, 2 – *y*, 1 – *z*. [d] #11 – *x*, 2 – *y*, 1 – *z*; #2 2 – *x*, 1 – *y*, 1 – *z*; #3 1 + *x*, *y*, *z*; #4 2 – *x*, 2 – *y*, 1 – z. [e] #1 1 – x, 1 – y, 1 – z; #2 2 – *x*, – *y*, 1 – *z*; #3 1 + *x*, *y*, *z*; #4 2 – *x*, 1 – *y*, 1 – *z*. [f] #1 1 – *x*, 1 – *y*, 1 – *z*; #2 – *x*, 2 – *y*, 1 – *z*; #3 – 1 + *x*, y, z; #4 – *x*, 1 – *y*, 1 – z. [g] #1 1 – *x*, 2 – *y*, 2 – *z*; #2 2 – *x*, 1 – *y*, 2 – *z*; #3 1 + *x*, *y*, *z*; #4 2 – *x*, 2 – *y*, 2 – *z*. [h] #1 – 1 + *x*, *y*, *z*; #2 1 – *x*, 1 – *y*, 1 – *z*; #3 2 – *x*, 1 – *y*, 1 – *z*; #4 3 – *x*, – *y*, 1 – *z*. [i] #1 1 – *x*, 1 – *y*, 1 – *z*; #2 – *x*, 2 – *y*, 1 – *z*; #3 – 1 + *x*, 1 + *y*, *z*; #4 1 + *x*, *y*, *z*; #5 2 – *x*, 1 – *y*, 1 – *z*; #6 – 1 + *x*, *y*, *z*. [j] #1 1 + *x*, *y*, *z*; #2 2 – *x*, – *y*, – z; #3 1 – *x*, – *y*, – *z*; #4 – 1 + *x*, *y*, *z*. [k] #1 2 – *x*, 1 – *y*, 1 – *z*; #2 3 – *x*, 1 – *y*, 1 – *z*; #3 1 + *x*, *y*, *z*; #4 2 – *x*, 2 – *y*, 1 – *z*.

Table S2: Geometrical parameters of hydrogen bonds in compound **1** (in Å and deg).

D–H···A	d(D–H)	d(H···A)	d(D···A)	<DHA	Symmetry operation for A
O(1W)–H(1WA)···O(4)	0.720	2.084	2.722	148.11	1 – *x*, – *y*, 1 – *z*
O(1W)–H(1WB)···O(4W)	0.781	1.942	2.704	165.10	*x*, –1 + *y*, *z*
O(2W)–H(2WA)···O(3W)	0.850	2.061	2.856	154.72	– *x*, 1 – *y*, 1 – *z*
O(2W)–H(2WB)···O(7)	0.850	1.910	2.740	122.19	– 1 + *x*, *y*, *z*
O(3W)–H(3WA)···O(5)	0.851	2.204	3.055	179.48	1 – *x*, 1 – *y*, – *z*
O(3W)–H(3WB)···O(4)	0.720	2.102	2.784	158.49	*x*, 1 + *y*, *z*
O(4W)–H(4WA)···O(5W)	0.905	2.404	3.309	178.54	1 – *x*, 1 – *y*, 1 – *z*
O(4W)–H(4WB)···O(3W)	0.784	2.193	2.756	129.16	*x*, *y*, 1 + *z*
O(5W)–H(5WB)···O(2W)	0.850	2.092	2.941	176.30	1 – *x*, 1 – *y*, 1 – *z*

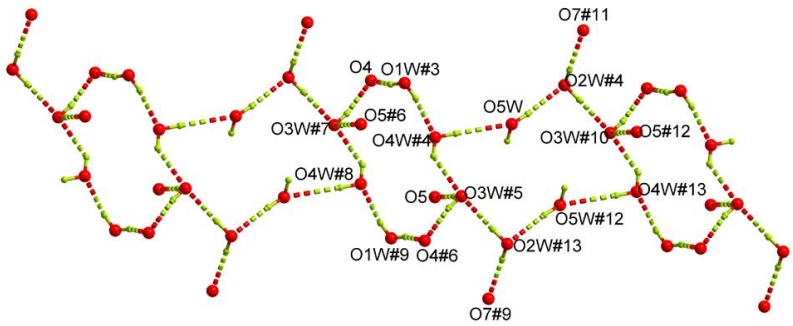

Fig. S1 Hydrogen-bonding tape in **1** with two 16-membered water rings arranged alternately which was self-assembled from L^{2-}, water, and OX^{2-}. Symmetry codes: #3 1 – *x*, – *y*, 1 – *z*; #4 1 – *x*, 1 – y, 1 – *z*; #5 1 – *x*, 1 – y, – *z*; #6 1 – *x*, – y, – *z*; #7 *x*, – 1 + y, *z*; #8 *x*, – 1 + y, – 1 + *z*; #9 *x*, y, – 1 + *z*; #10 1 + *x*, *y*, *z*; #11 2 – *x*, 1 – y, 1 – *z*;#12 2 – *x*, 1 – y, – *z*.

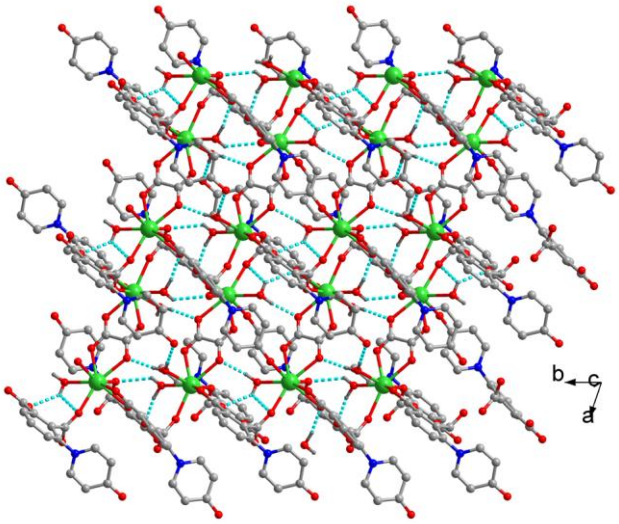

Fig. S2 Views of hydrogen-bond interactions in **3.**

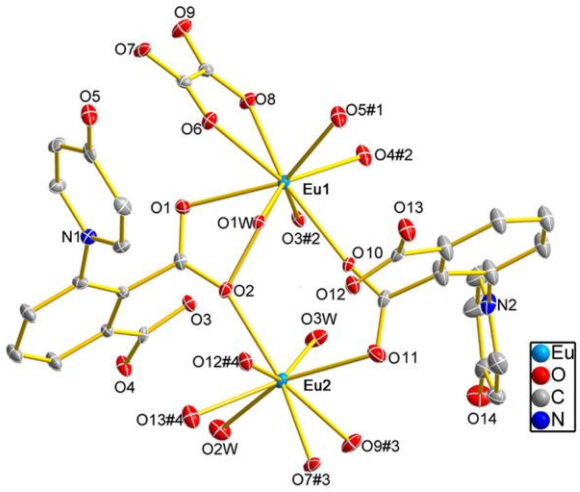

Fig. S3 Local coordination environment of **6** with 30% thermal ellipsoids.

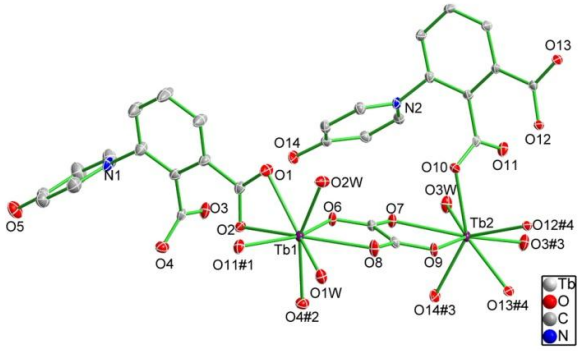

Fig. S4 Local coordination environment of **8** with 30% thermal ellipsoids.

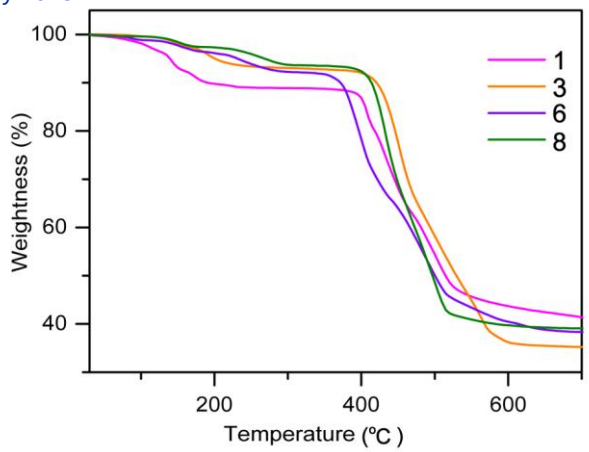

Fig. S5 Thermogravimetric curve of the compounds **1**, **3**, **6**, and **8**.

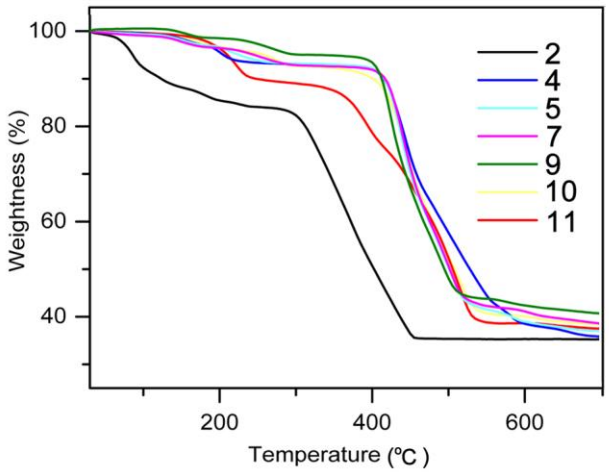

Fig. S6 Thermogravimetric curve of the compounds **2**, **4**, **5**, **7** and **9**–**11**.

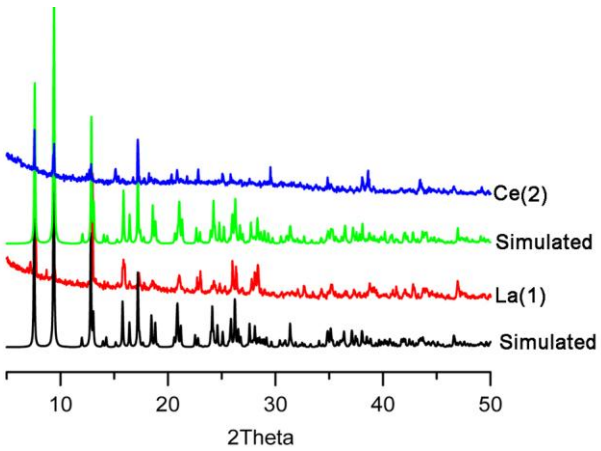

Fig. S7 The simulated and experimental XRPD patterns for **1**–**2.**

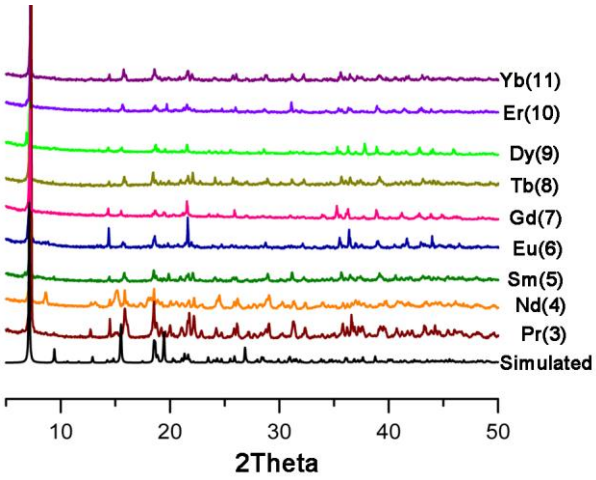

Fig. S8 The simulated and experimental XRPD patterns for **3**–**11**.