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Supplementary Material

Assembly of Three Lanthanide Coordination Polymers from 2-(4-Carboxybenzyloxy) Benzoic Acid Ligand: Synthesis, Structure, and Fluorescent Properties

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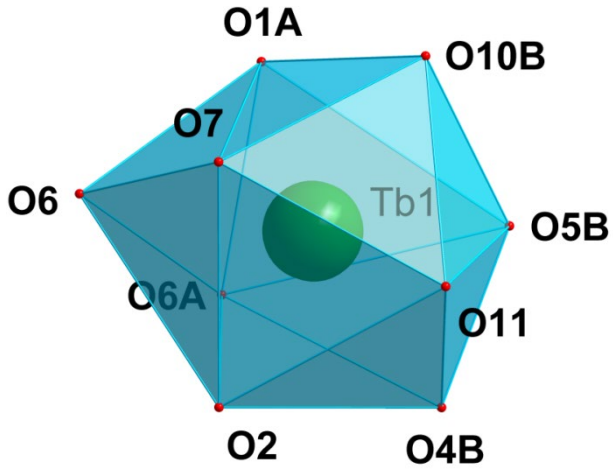


Fig. S1 Tb^{3+} ion is at the center of a nine-coordinated three-crown prismatic configuration. Symmetry code: (A) 1-*x*,1-*y*, 2-*z*; (B) *x*, *y*, 1+*z*.

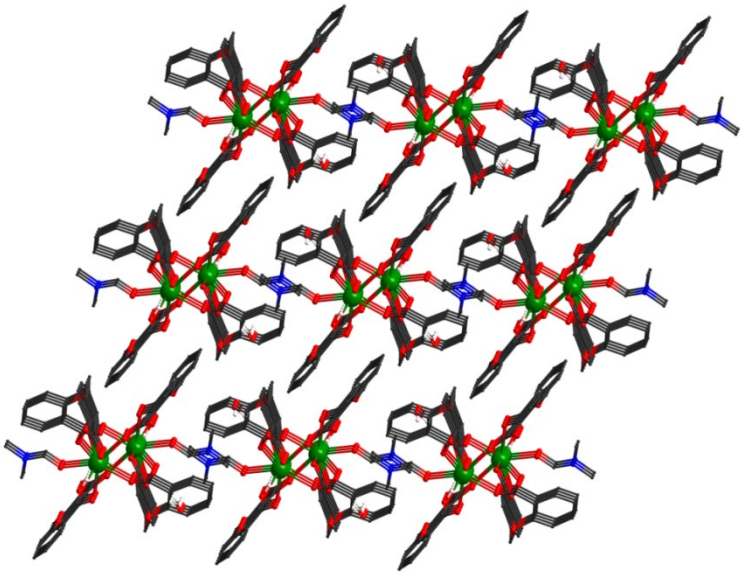
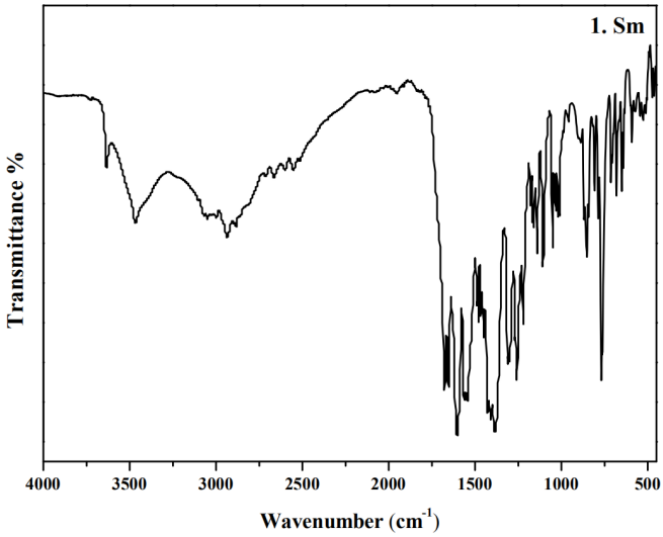


Fig. S2 Three-dimensional view of complex **3**.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Transmittance %
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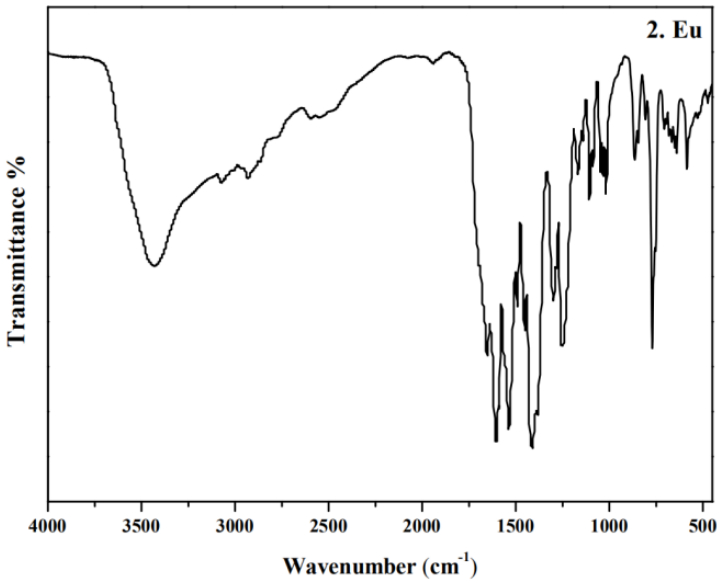
3500
3000
2500
2000
1500
1000
500
Wavenumber (cm-1)


2. Eu
Transmittance %
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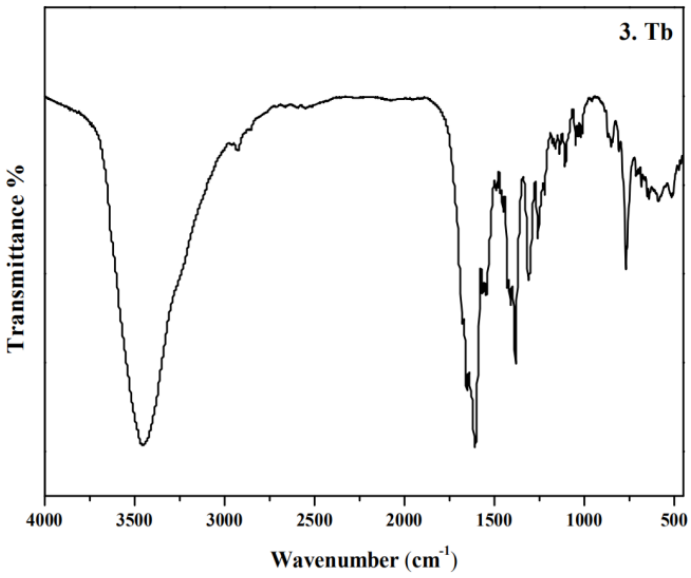
3000
2500
2000
1500
1000
500
Wavenumber (cm-1)


3. Tb
Transmittance %
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3000
2500
2000
1500
1000
500
Wavenumber (cm-1)

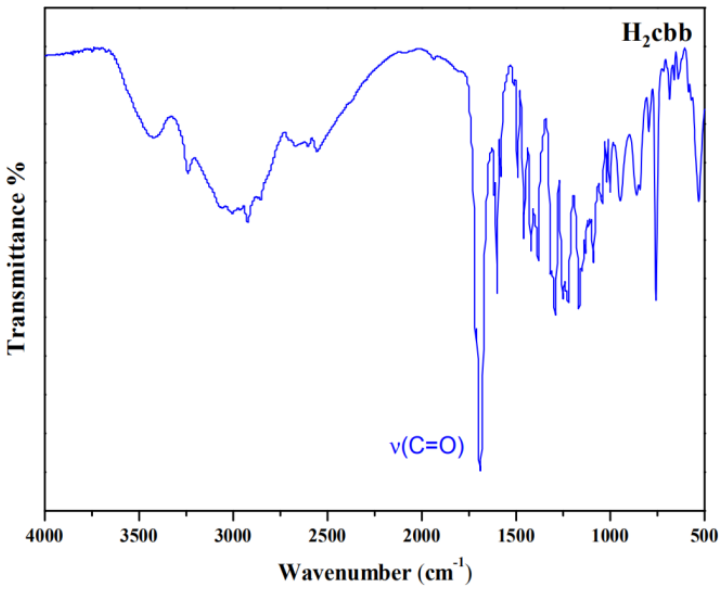
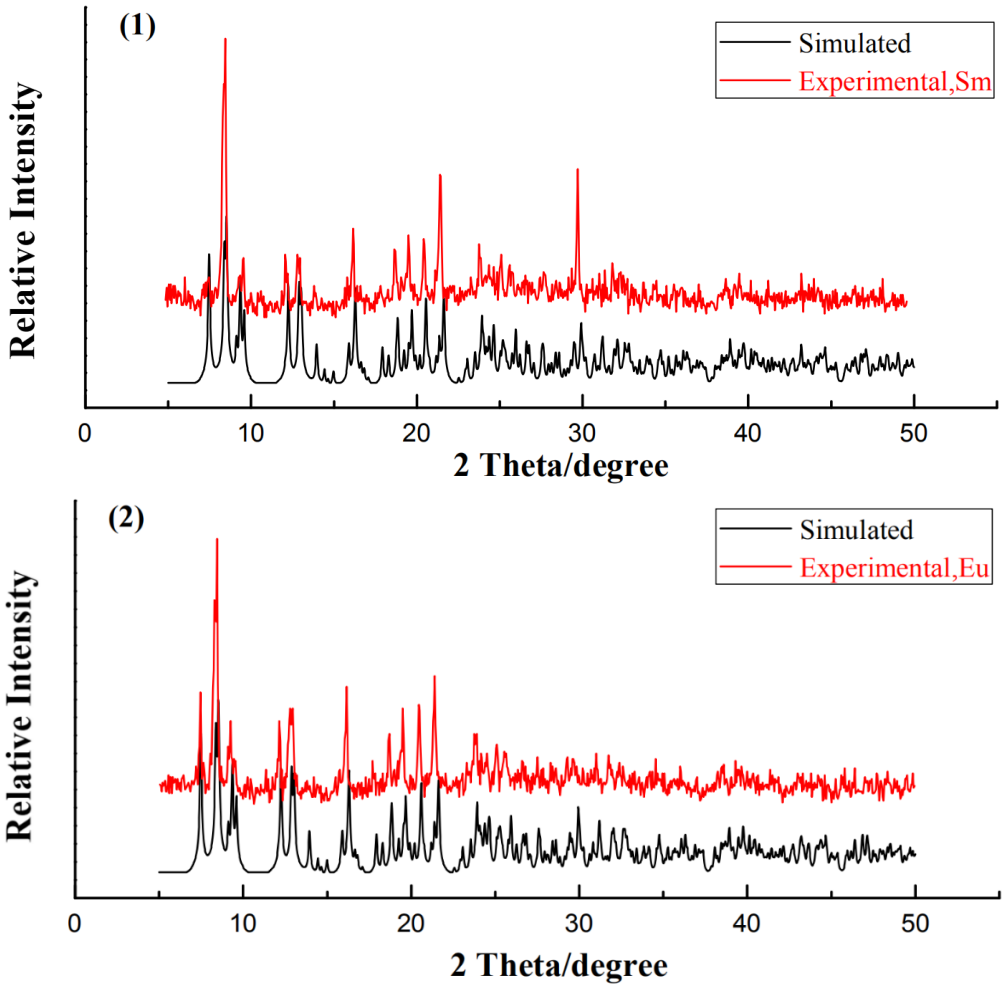


Fig. S3 FT-IR spectra of complexes **1**-**3** and H_2cbb.



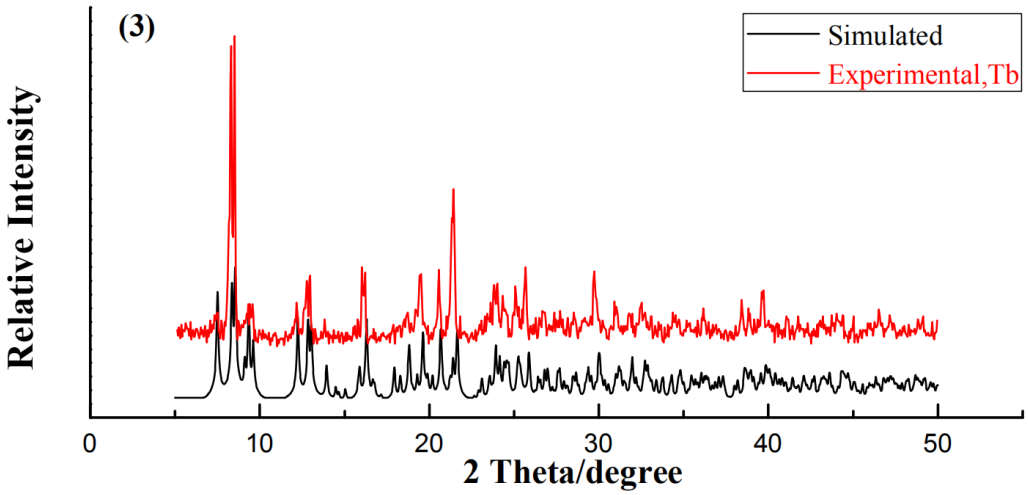


Fig. S4 Experimental (red) and simulated (black) PXRD for **1-3.**

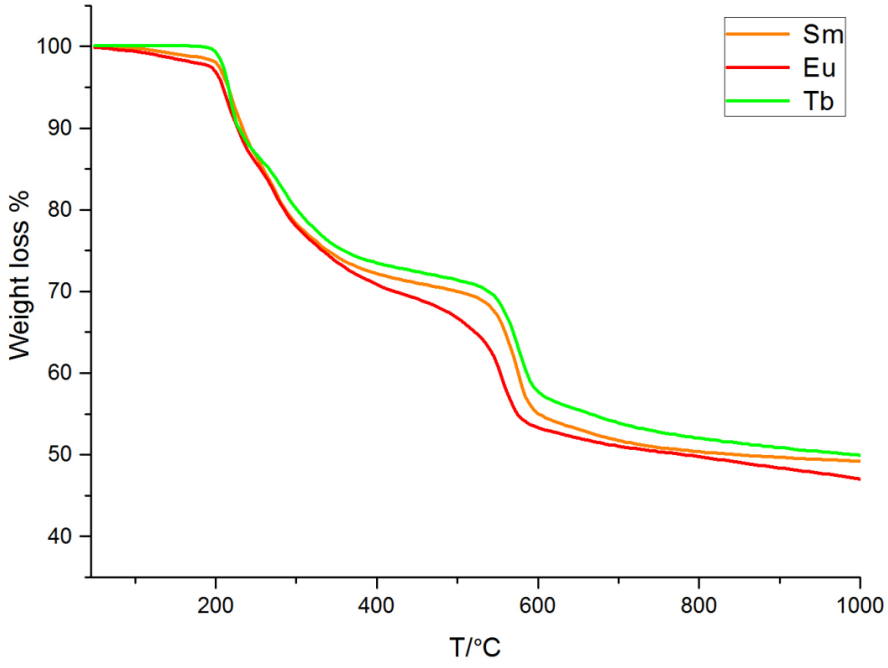


Fig. S5 TGA curves for complexes **1-3**.

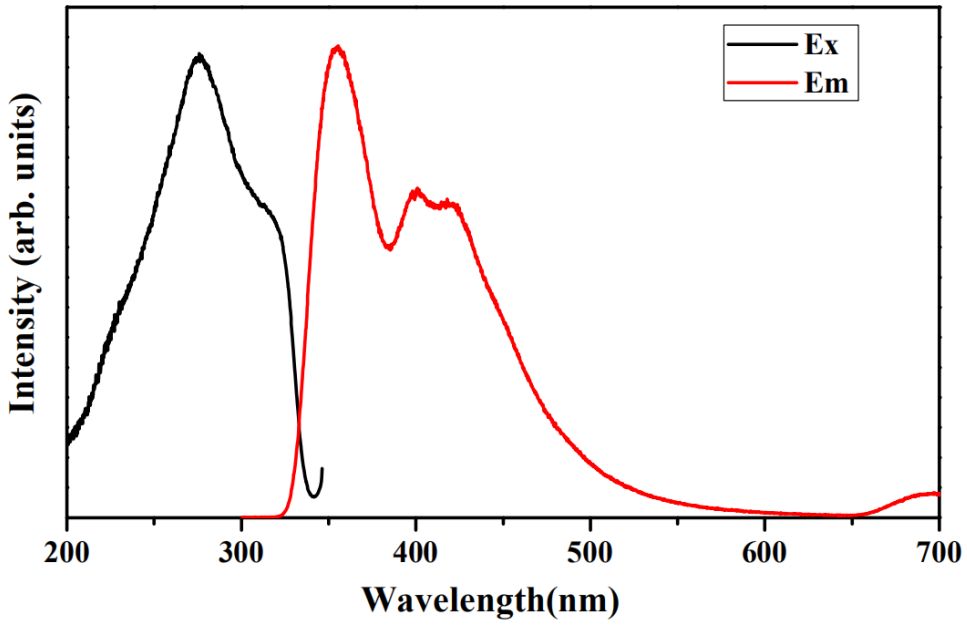


Fig. S6 The excitation and emission spectra of H_2cbb ligand.

Table S1 Selected bond lengths(nm)and angles(°)

1					
Sm(1)-O(1)	2.3766(14)	Sm(1)-O(2^1)	2.3977(14)	Sm(1)-O(4^2)	2.5036(14)
Sm(1)-O(5^2)	2.5851(15)	Sm(1)-O(6)	2.3651(14)	Sm(1)-O(6^1)	2.6911(14)
Sm(1)-O(7^1)	2.4177(14)	Sm(1)-O(10^2)	2.5251(14)	Sm(1)-O(11)	2.4535(14)
O(1)-Sm(1)-O(2^1)	136.95(5)	O(1)-Sm(1)-O(4^2)	89.19(5)	O(1)-Sm(1)-O(5^2)	126.96(5)
O(1)-Sm(1)-O(6^1)	74.14(4)	O(1)-Sm(1)-O(7^1)	93.99(5)	O(1)-Sm(1)-O(10^2)	70.92(5)
O(1)-Sm(1)-O(11)	138.92(5)	O(2^1)-Sm(1)-O(4^2)	123.21(5)	O(2^1)-Sm(1)-O(5^2)	72.41(5)
O(2^1)-Sm(1)-O(6^1)	138.04(7)	O(2^1)-Sm(1)-O(7^1)	49.34(7)	O(2^1)-Sm(1)-O(10^2)	142.03(5)

O(2^1)-Sm(1)-O(11)	80.92(5)	O(4^2)-Sm(1)-O(5^2)	51.22(4)	O(4^2)-Sm(1)-O(6^1)	162.46(4)
O(4^2)-Sm(1)-O(10^2)	70.56(5)	O(5^2)-Sm(1)-O(6^1)	136.68(4)	O(6)-Sm(1)-O(1)	72.15(5)
O(6)-Sm(1)-O(2^1)	77.61(5)	O(6)-Sm(1)-O(4^2)	93.91(5)	O(6)-Sm(1)-O(5^2)	76.70(5)
O(6)-Sm(1)-O(6^1)	76.06(5)	O(6)-Sm(1)-O(7^1)	126.67(5)	O(6)-Sm(1)-O(10^2)	139.88(5)
O(6)-Sm(1)-O(11)	145.41(5)	O(7^1)-Sm(1)-O(4^2)	138.21(5)	O(7^1)-Sm(1)-O(5^2)	138.86(5)
O(7^1)-Sm(1)-O(6^1)	50.74(4)	O(7^1)-Sm(1)-O(10^2)	71.28(5)	O(7^1)-Sm(1)-O(11)	74.86(5)
O(10^2)-Sm(1)-O(5^2)	114.71(4)	O(10^2)-Sm(1)-O(6^1)	107.86(4)	O(11)-Sm(1)-O(4^2)	75.68(5)
O(11)-Sm(1)-O(5^2)	71.10(5)	O(11)-Sm(1)-O(6^1)	120.60(4)	O(11)-Sm(1)-O(10^2)	68.05(5)

Symmetry transformations used to generate equivalent atoms for **1**:(^{1}) 1-*x*, 1-*y*, 2-*z*; (^{2}) 1-*x*, 1-*y*, 1-*z*.

2

Eu(1)-O(1)	2.3509(13)	Eu(1)-O(1^1)	2.6863(14)	Eu(1)-O(2^1)	2.4052(14)
Eu(1)-O(5^2)	2.5170(14)	Eu(1)-O(6)	2.3647(14)	Eu(1)-O(7^1)	2.3843(14)
Eu(1)-O(8)	2.4380(14)	Eu(1)-O(9^2)	2.4862(14)	Eu(1)-O(10^2)	2.5812(14)
O(1)-Eu(1)-O(1^1)	76.02(5)	O(1)-Eu(1)-O(2^1)	126.73(5)	O(1)-Eu(1)-O(5^2)	139.98(5)
O(1)-Eu(1)-O(6)	72.34(5)	O(1)-Eu(1)-O(7^1)	77.69(5)	O(1)-Eu(1)-O(8)	145.24(5)
O(1)-Eu(1)-O(9^2)	93.66(5)	O(1)-Eu(1)-O(10^2)	76.43(5)	O(21)-Eu(1)-O(1^1)	50.85(4)
O(2^1)-Eu(1)-O(5^2)	71.16(5)	O(21)-Eu(1)-O(8)	75.00(5)	O(21)-Eu(1)-O(9^2)	138.37(5)
O(2^1)-Eu(1)-O(10^2)	138.93(5)	O(5^2)-Eu(1)-O(1^1)	107.81(4)	O(5^2)-Eu(1)-O(10^2)	114.98(4)
O(6)-Eu(1)-O(1^1)	74.05(4)	O(6)-Eu(1)-O(2^1)	93.89(5)	O(6)-Eu(1)-O(5^2)	70.82(5)
O(6)-Eu(1)-O(7^1)	137.08(5)	O(6)-Eu(1)-O(8)	138.83(5)	O(6)-Eu(1)-O(9^2)	88.99(5)
O(6)-Eu(1)-O(10^2)	126.99(5)	O(7^1)-Eu(1)-O(1^1)	69.34(4)	O(7^1)-Eu(1)-O(2^1)	80.03(5)
O(7^1)-Eu(1)-O(5^2)	141.84(5)	O(7^1)-Eu(1)-O(8)	80.86(5)	O(7^1)-Eu(1)-O(9^2)	123.34(5)

O(7^1)-Eu(1)-O(10^2)	72.35(5)	O(8)-Eu(1)-O(1^1)	120.85(5)	O(8)-Eu(1)-O(5^2)	68.06(5)
O(8)-Eu(1)-O(9^2)	75.80(5)	O(8)-Eu(1)-O(10^2)	71.14(5)	O(9^2)-Eu(1)-O(1^1)	162.11(4)
O(9^2)-Eu(1)-O(5^2)	70.73(4)	O(9^2)-Eu(1)-O(10^2)	51.41(4)	O(10^2)-Eu(1)-O(1^1)	136.50(4)

Symmetry transformations used to generate equivalent atoms for **2**: (^{1}) 1-*x*, 1-*y*, 2-*z*; (^{2}) 1-*x*, 1-*y*, 1-*z*.

3

Tb(1)-O(1)	2.3356(17)	Tb(1)-O(2^1)	2.3529(17)	Tb(1)-O(4^2)	2.5755(19)
Tb(1)-O(5^2)	2.4514(17)	Tb(1)-O(6^1)	2.6987(17)	Tb(1)-O(6)	2.3192(17)
Tb(1)-O(7^1)	2.3737(17)	Tb(1)-O(10^2)	2.5003(18)	Tb(1)-O(11)	2.4058(17)
O(1)-Tb(1)-O(2^1)	137.09(6)	O(1)-Tb(1)-O(4^2)	127.42(6)	O(1)-Tb(1)-O(5^2)	88.76(6)
O(1)-Tb(1)-O(6^1)	73.93(6)	O(1)-Tb(1)-O(7^1)	93.29(6)	O(1)-Tb(1)-O(10^2)	70.57(6)
O(1)-Tb(1)-O(11)	138.74(6)	O(2^1)-Tb(1)-O(4^2)	72.33(6)	O(2^1)-Tb(1)-O(5^2)	123.71(6)
O(2^1)-Tb(1)-O(6^1)	69.02(6)	O(2^1)-Tb(1)-O(7^1)	79.89(6)	O(2^1)-Tb(1)-O(10^2)	141.62(6)
O(2^1)-Tb(1)-O(11)	80.70(6)	O(4^2)-Tb(1)-O(6^1)	135.95(6)	O(5^2)-Tb(1)-O(4^2)	51.74(6)
O(5^2)-Tb(1)-O(6^1)	135.95(6)	O(5^2)-Tb(1)-O(10^2)	71.05(6)	O(6)-Tb(1)-O(1)	72.61(6)
O(6)-Tb(1)-O(2^1)	78.24(6)	O(6)-Tb(1)-O(4^2)	75.82(6)	O(6)-Tb(1)-O(5^2)	92.46(6)
O(6)-Tb(1)-O(6^1)	76.38(6)	O(6)-Tb(1)-O(7^1)	127.22(6)	O(6)-Tb(1)-O(10^2)	139.68(6)
O(6)-Tb(1)-O(11)	144.90(6)	O(7^1)-Tb(1)-O(4^2)	139.13(6)	O(7^1)-Tb(1)-O(5^2)	138.93(6)
O(7^1)-Tb(1)-O(6^1)	50.95(5)	O(7^1)-Tb(1)-O(10^2)	71.09(6)	O(7^1)-Tb(1)-O(11)	75.31(6)
O(10^2)-Tb(1)-O(4^2)	115.32(6)	O(10^2)-Tb(1)-O(6^1)	108.03(6)	O(11)-Tb(1)-O(4^2)	71.16(6)
O(11)-Tb(1)-O(5^2)	76.41(6)	O(11)-Tb(1)-O(6^1)	121.04(6)	O(11)-Tb(1)-O(10^2)	68.21(6)

Symmetry transformations used to generate equivalent atoms for **3**: ([1]) 1-*x*, 1-*y*, 2-*z*; ([2]) 1-*x*, 1-*y*, 1-*z*.