

Supporting Information

Self-assembly of Luminescent Zn-Ln (Ln = Sm and Nd) Nanoclusters with a Long-chain Schiff Base Ligand

Le Bo, Shiqing Wang, Desmond Schipper, Xiaoping Yang,* Ting Zhu and Junbin Tao

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1. The ^1H NMR spectra of the free ligands H_2L

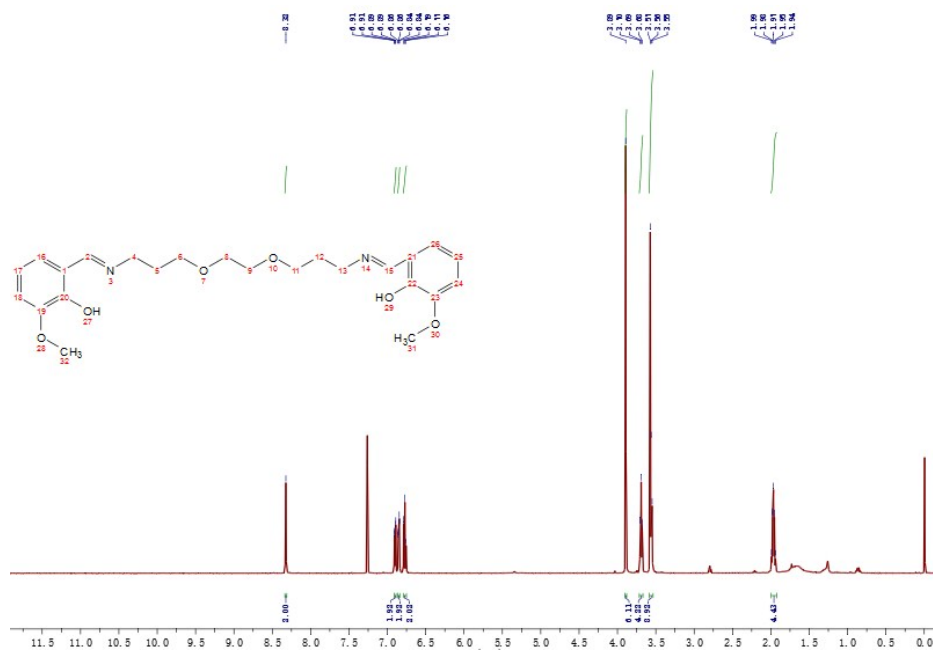


Figure S1. The ^1H NMR spectrum of the free ligand H_2L .

2. Powder XRD patterns of clusters

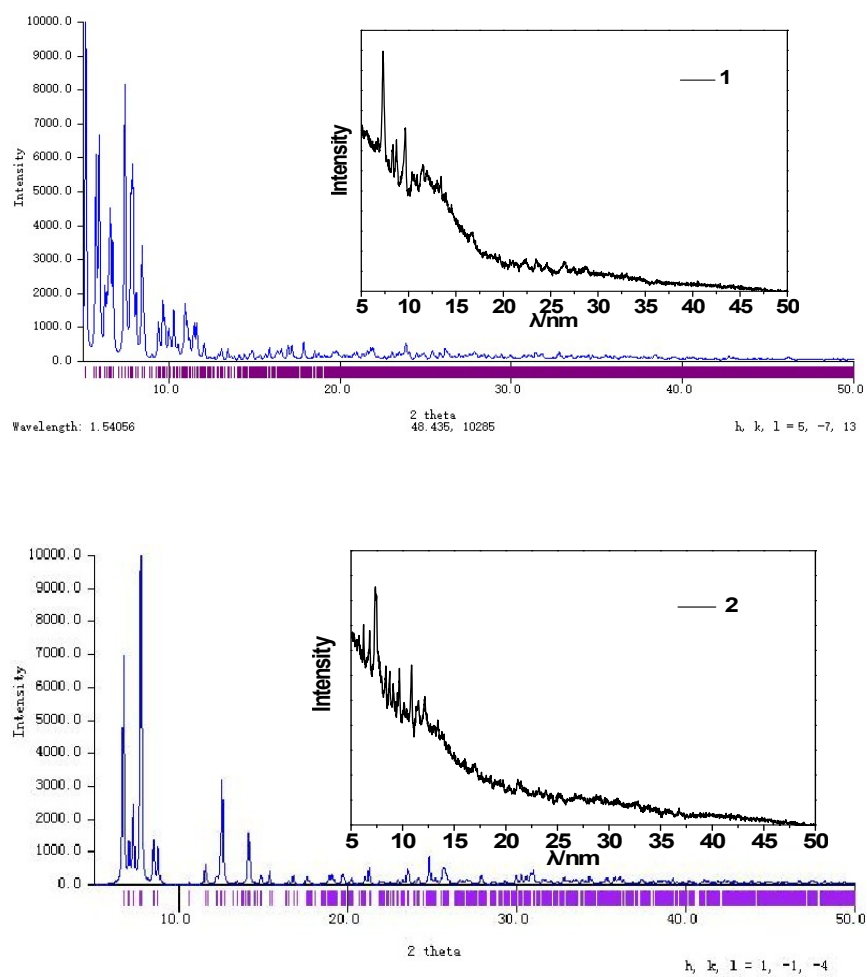


Figure S2. Powder XRD patterns of clusters.

3. MS(ESI) spectrum of 1

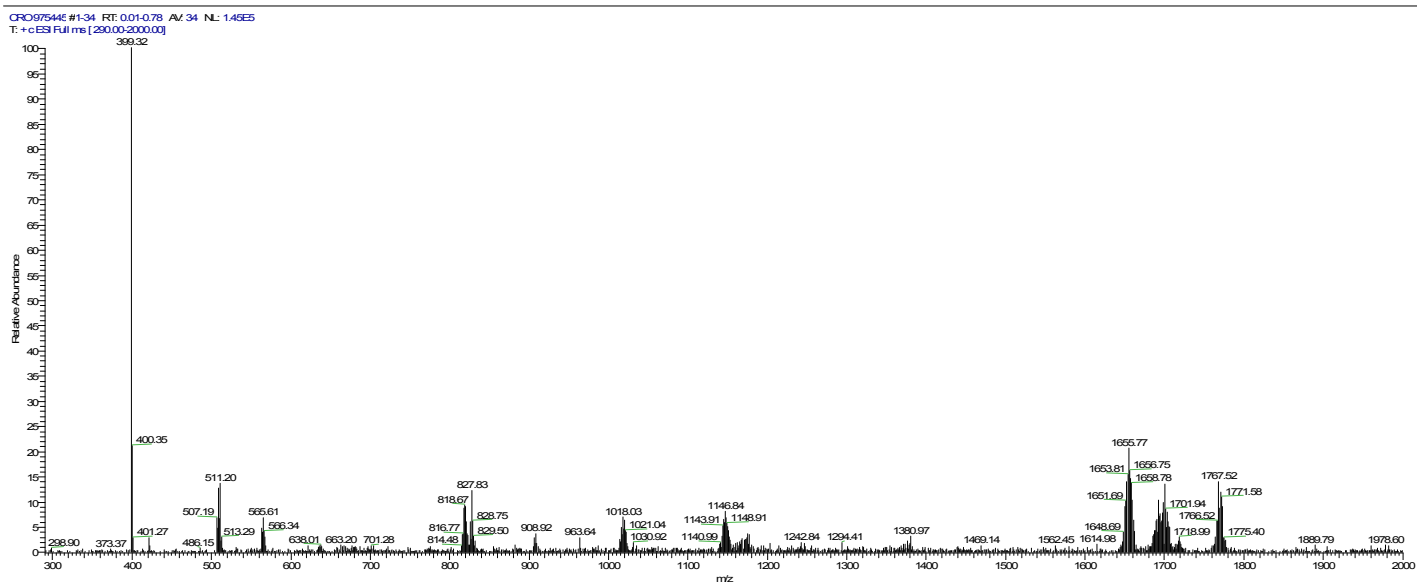


Figure S3. MS(ESI) spectrum of 1

4. The thermogravimetric analysis of nanoclusters

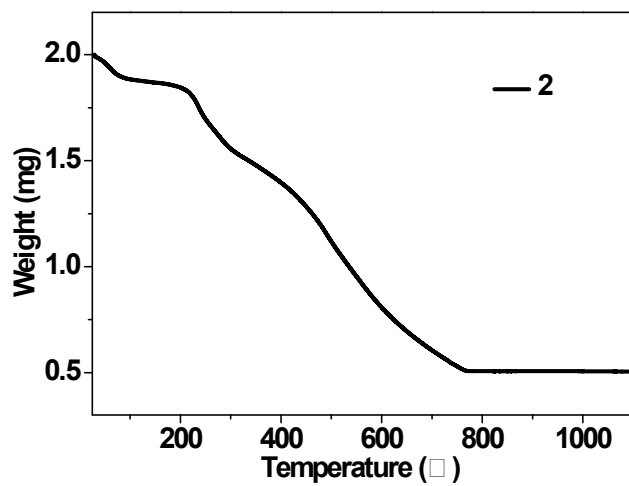
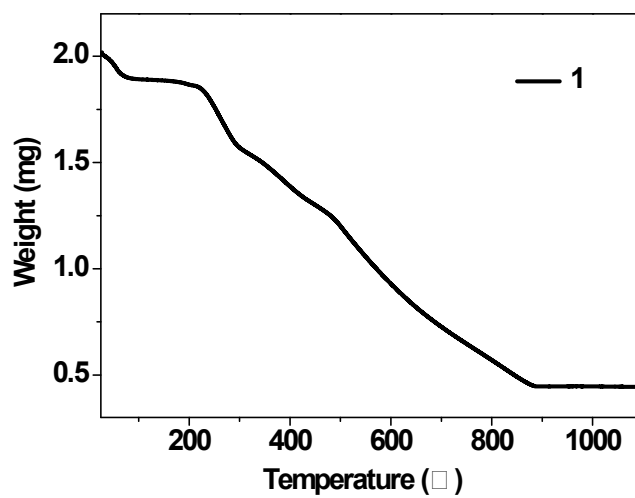


Figure S4. The thermogravimetric analysis of nanoclusters.

5. Photophysical properties of the free ligand H₂L

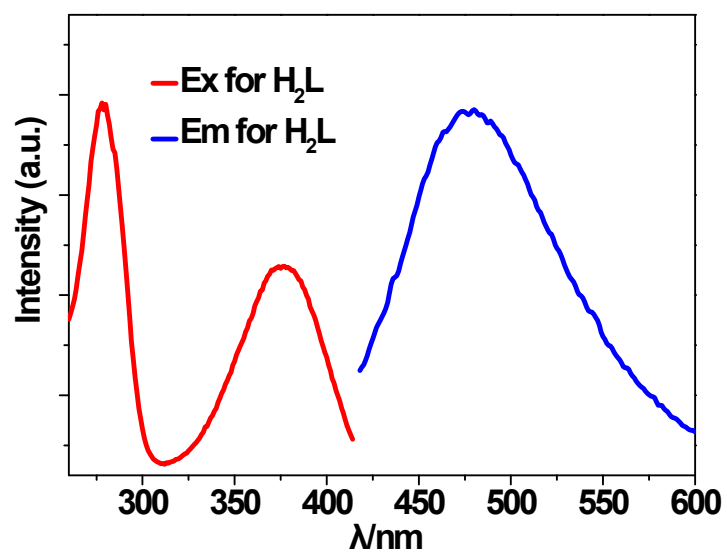


Figure S5. Excitation and emission spectra of the free ligand H₂L in CH₃CN.

6. The emission lifetime of **2**

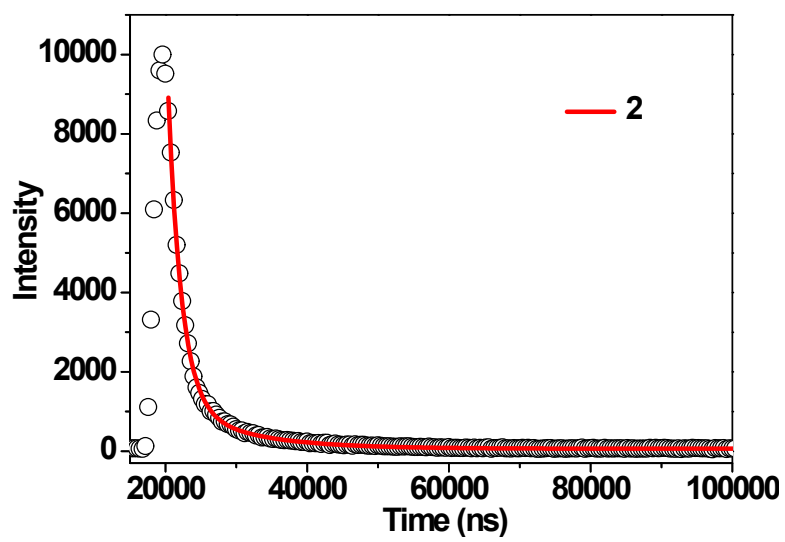


Figure S6. The emission lifetime of **2** in CH₃CN.

7. X-Ray Crystallography

Table	Clusters	1	2	S1.
	Formula	C ₂₀₈ H ₂₆₇ N ₁₆ O ₆₈ Zn ₈ Sm ₄	C ₂₀₈ H ₂₆₇ N ₁₆ O ₆₈ Zn ₈ Nd ₄	
	Fw	5135.70	5111.26	
	Crystal system	Monoclinic	Monoclinic	
	Space group	C2/c	C2/c	
	<i>a</i> [Å]	45.9782(10)	45.6979(10)	
	<i>b</i> [Å]	49.2984(10)	48.8175(10)	
	<i>c</i> [Å]	31.8403(5)	32.0273(5)	
	α [deg]	90	90	
	β [deg]	113.3920(10)	114.0460(10)	
	γ [deg]	90	90	
	<i>V</i> / [Å ³]	66239(2)	65248(2)	
	<i>d</i> / [g/cm ³]	1.030	1.041	
	<i>Z</i>	8	8	
	<i>T</i> [K]	190	190	
	F(000)	20984	20920	
	μ , mm ⁻¹	1.322	1.258	
	θ rang, deg	0.64-25.00	0.64-25.00	
	reflns meads	57409	56023	
	reflns used	57409	56023	
	params	2701	2701	
	R ₁ ^a [<i>I</i> > 2 σ (<i>I</i>)]	0.0662	0.0742	
	wR ₂ ^a [<i>I</i> > 2 σ (<i>I</i>)]	0.1740	0.1765	
	Quality of fit	1.094	0.988	
	^a R ₁ = $\Sigma F_o - F_c / \Sigma F_o $. wR ₂ = $[\Sigma w[(F_o^2 - F_c^2)^2] / \Sigma [w(F_o^2)^2]]^{1/2}$. $w = 1 / [\sigma^2(F_o^2) + (0.075P)^2]$, where $P = [\max(F_o^2, 0) + 2F_c^2] / 3$.			

Crystal data and structure refinement for **1** and **2**.

Table S2. Selected Bond Lengths (Å) and Angles (°) for **1**.

Sm(1)-O(50)	2.430(5)	Sm(1)-O(2)	2.432(5)
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Sm(1)-O(8)	2.439(4)	Zn(4)-N(12)	2.070(5)
Sm(1)-O(51)	2.444(5)	Zn(4)-N(16)	2.076(6)
Sm(1)-O(29)	2.447(5)	Zn(4)-O(32)	2.099(4)
Sm(1)-O(38)	2.455(5)	Zn(5)-O(60)	1.996(4)
Sm(1)-O(30)	2.716(5)	Zn(5)-O(20)	2.016(4)
Sm(1)-O(7)	2.719(4)	Zn(5)-N(5)	2.047(4)
Sm(1)-O(37)	2.765(6)	Zn(5)-O(14)	2.084(4)
Sm(1)-O(1)	2.782(5)	Zn(5)-N(7)	2.087(5)
Sm(2)-O(32)	2.406(4)	Zn(6)-O(57)	2.006(5)
Sm(2)-O(44)	2.421(4)	Zn(6)-O(35)	2.020(3)
Sm(2)-O(11)	2.430(4)	Zn(6)-N(15)	2.046(5)
Sm(2)-O(5)	2.432(3)	Zn(6)-N(11)	2.070(5)
Sm(2)-O(54)	2.433(4)	Zn(6)-O(47)	2.074(4)
Sm(2)-O(55)	2.439(4)	Zn(7)-O(62)	1.976(5)
Sm(2)-O(43)	2.721(4)	Zn(7)-O(17)	2.041(4)
Sm(2)-O(12)	2.767(4)	Zn(7)-O(23)	2.055(4)
Sm(2)-O(6)	2.770(4)	Zn(7)-N(8)	2.055(6)
Sm(2)-O(31)	2.773(4)	Zn(7)-N(6)	2.117(5)
Sm(3)-O(35)	2.400(4)	Zn(8)-O(63)	1.983(5)
Sm(3)-O(47)	2.406(3)	Zn(8)-O(26)	2.009(4)
Sm(3)-O(20)	2.408(4)	Zn(8)-N(9)	2.050(5)
Sm(3)-O(59)	2.415(4)	Zn(8)-N(13)	2.101(5)
Sm(3)-O(14)	2.428(3)	Zn(8)-O(41)	2.106(4)
Sm(3)-O(58)	2.441(4)	O(50)-Sm(1)-O(2)	113.66(15)
Sm(3)-O(36)	2.746(4)	O(50)-Sm(1)-O(8)	143.32(17)
Sm(3)-O(19)	2.758(4)	O(2)-Sm(1)-O(8)	63.30(15)
Sm(3)-O(13)	2.805(4)	O(50)-Sm(1)-O(51)	70.41(16)
Sm(3)-O(48)	2.820(3)	O(2)-Sm(1)-O(51)	72.16(17)
Sm(4)-O(41)	2.397(4)	O(8)-Sm(1)-O(51)	74.42(15)
Sm(4)-O(26)	2.417(3)	O(50)-Sm(1)-O(29)	70.75(14)
Sm(4)-O(61)	2.432(4)	O(2)-Sm(1)-O(29)	172.26(17)
Sm(4)-O(23)	2.436(4)	O(8)-Sm(1)-O(29)	117.41(14)
Sm(4)-O(17)	2.439(4)	O(51)-Sm(1)-O(29)	115.58(16)
Sm(4)-O(64)	2.457(5)	O(50)-Sm(1)-O(38)	80.81(18)
Sm(4)-O(42)	2.716(4)	O(2)-Sm(1)-O(38)	110.75(18)
Sm(4)-O(25)	2.748(4)	O(8)-Sm(1)-O(38)	135.66(16)
Sm(4)-O(18)	2.768(4)	O(51)-Sm(1)-O(38)	148.89(15)
Sm(4)-O(24)	2.800(4)	O(29)-Sm(1)-O(38)	62.95(18)
Zn(1)-O(52)	1.996(4)	O(50)-Sm(1)-O(30)	84.06(16)
Zn(1)-O(8)	2.025(4)	O(2)-Sm(1)-O(30)	126.00(16)
Zn(1)-O(2)	2.037(5)	O(8)-Sm(1)-O(30)	72.76(15)
Zn(1)-N(1)	2.074(6)	O(51)-Sm(1)-O(30)	66.90(14)
Zn(1)-N(3)	2.084(6)	O(29)-Sm(1)-O(30)	59.76(15)
Zn(2)-O(49)	1.999(5)	O(38)-Sm(1)-O(30)	122.60(15)
Zn(2)-O(38)	2.014(5)	O(50)-Sm(1)-O(7)	139.80(15)
Zn(2)-N(14)	2.034(6)	O(2)-Sm(1)-O(7)	106.51(15)
Zn(2)-N(10)	2.072(8)	O(8)-Sm(1)-O(7)	59.51(14)
Zn(2)-O(29)	2.118(5)	O(51)-Sm(1)-O(7)	126.02(16)
Zn(3)-O(56)	1.993(4)	O(29)-Sm(1)-O(7)	69.17(14)
Zn(3)-O(5)	2.028(4)	O(38)-Sm(1)-O(7)	83.84(16)
Zn(3)-N(4)	2.058(5)	O(30)-Sm(1)-O(7)	73.48(15)
Zn(3)-O(11)	2.078(4)	O(50)-Sm(1)-O(37)	131.89(18)
Zn(3)-N(2)	2.078(5)	O(2)-Sm(1)-O(37)	66.49(17)
Zn(4)-O(53)	1.975(4)	O(8)-Sm(1)-O(37)	82.46(17)
Zn(4)-O(44)	2.024(4)	O(51)-Sm(1)-O(37)	138.31(16)

O(29)-Sm(1)-O(37)	105.78(16)	O(43)-Sm(2)-O(31)	132.87(11)
O(38)-Sm(1)-O(37)	57.92(18)	O(12)-Sm(2)-O(31)	156.69(12)
O(30)-Sm(1)-O(37)	137.38(14)	O(6)-Sm(2)-O(31)	70.47(13)
O(7)-Sm(1)-O(37)	64.06(16)	O(35)-Sm(3)-O(47)	64.54(11)
O(50)-Sm(1)-O(1)	69.01(17)	O(35)-Sm(3)-O(20)	131.06(14)
O(2)-Sm(1)-O(1)	58.86(15)	O(47)-Sm(3)-O(20)	113.50(12)
O(8)-Sm(1)-O(1)	122.08(15)	O(35)-Sm(3)-O(59)	149.12(14)
O(51)-Sm(1)-O(1)	90.72(15)	O(47)-Sm(3)-O(59)	107.01(12)
O(29)-Sm(1)-O(1)	119.44(15)	O(20)-Sm(3)-O(59)	79.82(14)
O(38)-Sm(1)-O(1)	67.50(16)	O(35)-Sm(3)-O(14)	117.40(11)
O(30)-Sm(1)-O(1)	149.88(14)	O(47)-Sm(3)-O(14)	177.70(13)
O(7)-Sm(1)-O(1)	136.30(17)	O(20)-Sm(3)-O(14)	64.38(12)
O(37)-Sm(1)-O(1)	72.73(16)	O(59)-Sm(3)-O(14)	71.99(12)
O(32)-Sm(2)-O(44)	64.23(15)	O(35)-Sm(3)-O(58)	76.81(14)
O(32)-Sm(2)-O(11)	175.55(12)	O(47)-Sm(3)-O(58)	74.52(13)
O(44)-Sm(2)-O(11)	114.60(14)	O(20)-Sm(3)-O(58)	152.11(14)
O(32)-Sm(2)-O(5)	113.60(12)	O(59)-Sm(3)-O(58)	72.32(14)
O(44)-Sm(2)-O(5)	133.89(13)	O(14)-Sm(3)-O(58)	106.93(13)
O(11)-Sm(2)-O(5)	63.78(12)	O(35)-Sm(3)-O(36)	59.54(12)
O(32)-Sm(2)-O(54)	72.63(13)	O(47)-Sm(3)-O(36)	111.04(12)
O(44)-Sm(2)-O(54)	77.92(14)	O(20)-Sm(3)-O(36)	79.67(13)
O(11)-Sm(2)-O(54)	111.56(13)	O(59)-Sm(3)-O(36)	141.45(11)
O(5)-Sm(2)-O(54)	147.92(15)	O(14)-Sm(3)-O(36)	69.76(12)
O(32)-Sm(2)-O(55)	113.70(15)	O(58)-Sm(3)-O(36)	123.83(13)
O(44)-Sm(2)-O(55)	150.17(12)	O(35)-Sm(3)-O(19)	77.86(13)
O(11)-Sm(2)-O(55)	69.59(14)	O(47)-Sm(3)-O(19)	68.38(13)
O(5)-Sm(2)-O(55)	75.48(12)	O(20)-Sm(3)-O(19)	59.23(13)
O(54)-Sm(2)-O(55)	73.49(13)	O(59)-Sm(3)-O(19)	128.62(13)
O(32)-Sm(2)-O(43)	107.05(13)	O(14)-Sm(3)-O(19)	110.51(12)
O(44)-Sm(2)-O(43)	59.48(13)	O(58)-Sm(3)-O(19)	141.36(12)
O(11)-Sm(2)-O(43)	69.25(13)	O(36)-Sm(3)-O(19)	63.46(12)
O(5)-Sm(2)-O(43)	80.20(13)	O(35)-Sm(3)-O(13)	69.35(12)
O(54)-Sm(2)-O(43)	129.68(14)	O(47)-Sm(3)-O(13)	124.51(12)
O(55)-Sm(2)-O(43)	138.19(13)	O(20)-Sm(3)-O(13)	119.69(11)
O(32)-Sm(2)-O(12)	123.58(12)	O(59)-Sm(3)-O(13)	96.91(13)
O(44)-Sm(2)-O(12)	67.94(13)	O(14)-Sm(3)-O(13)	57.78(12)
O(11)-Sm(2)-O(12)	58.08(12)	O(58)-Sm(3)-O(13)	66.25(12)
O(5)-Sm(2)-O(12)	120.77(13)	O(36)-Sm(3)-O(13)	66.32(13)
O(54)-Sm(2)-O(12)	69.70(14)	O(19)-Sm(3)-O(13)	128.92(12)
O(55)-Sm(2)-O(12)	93.89(13)	O(35)-Sm(3)-O(48)	121.49(11)
O(43)-Sm(2)-O(12)	70.24(12)	O(47)-Sm(3)-O(48)	58.55(11)
O(32)-Sm(2)-O(6)	66.92(12)	O(20)-Sm(3)-O(48)	66.91(11)
O(44)-Sm(2)-O(6)	82.17(12)	O(59)-Sm(3)-O(48)	65.66(12)
O(11)-Sm(2)-O(6)	108.80(12)	O(14)-Sm(3)-O(48)	119.26(11)
O(5)-Sm(2)-O(6)	58.69(12)	O(58)-Sm(3)-O(48)	99.49(12)
O(54)-Sm(2)-O(6)	139.45(13)	O(36)-Sm(3)-O(48)	132.20(13)
O(55)-Sm(2)-O(6)	125.80(13)	O(19)-Sm(3)-O(48)	70.18(12)
O(43)-Sm(2)-O(6)	63.16(13)	O(13)-Sm(3)-O(48)	160.89(13)
O(12)-Sm(2)-O(6)	132.82(13)	O(41)-Sm(4)-O(26)	63.36(12)
O(32)-Sm(2)-O(31)	59.09(14)	O(41)-Sm(4)-O(61)	117.11(14)
O(44)-Sm(2)-O(31)	122.88(13)	O(26)-Sm(4)-O(61)	143.50(16)
O(11)-Sm(2)-O(31)	121.34(13)	O(41)-Sm(4)-O(23)	169.85(15)
O(5)-Sm(2)-O(31)	68.72(13)	O(26)-Sm(4)-O(23)	111.15(12)
O(54)-Sm(2)-O(31)	91.48(14)	O(61)-Sm(4)-O(23)	72.57(15)
O(55)-Sm(2)-O(31)	66.81(13)	O(41)-Sm(4)-O(17)	114.03(14)

O(26)-Sm(4)-O(17)	139.71(14)	O(38)-Zn(2)-O(29)	76.5(2)
O(61)-Sm(4)-O(17)	75.82(16)	N(14)-Zn(2)-O(29)	86.4(2)
O(23)-Sm(4)-O(17)	63.92(14)	N(10)-Zn(2)-O(29)	164.6(3)
O(41)-Sm(4)-O(64)	72.26(16)	O(56)-Zn(3)-O(5)	118.59(17)
O(26)-Sm(4)-O(64)	76.17(14)	O(56)-Zn(3)-N(4)	117.30(17)
O(61)-Sm(4)-O(64)	70.27(16)	O(5)-Zn(3)-N(4)	121.86(18)
O(23)-Sm(4)-O(64)	115.64(17)	O(56)-Zn(3)-O(11)	90.10(15)
O(17)-Sm(4)-O(64)	143.70(14)	O(5)-Zn(3)-O(11)	77.42(15)
O(41)-Sm(4)-O(42)	59.71(12)	N(4)-Zn(3)-O(11)	87.81(18)
O(26)-Sm(4)-O(42)	122.98(12)	O(56)-Zn(3)-N(2)	98.38(18)
O(61)-Sm(4)-O(42)	67.90(13)	O(5)-Zn(3)-N(2)	87.27(17)
O(23)-Sm(4)-O(42)	125.55(12)	N(4)-Zn(3)-N(2)	99.46(19)
O(17)-Sm(4)-O(42)	71.11(13)	O(11)-Zn(3)-N(2)	164.65(17)
O(64)-Sm(4)-O(42)	84.28(14)	O(53)-Zn(4)-O(44)	114.76(17)
O(41)-Sm(4)-O(25)	102.28(13)	O(53)-Zn(4)-N(12)	118.48(19)
O(26)-Sm(4)-O(25)	58.94(13)	O(44)-Zn(4)-N(12)	124.05(17)
O(61)-Sm(4)-O(25)	140.37(14)	O(53)-Zn(4)-N(16)	99.41(19)
O(23)-Sm(4)-O(25)	67.87(13)	O(44)-Zn(4)-N(16)	86.93(19)
O(17)-Sm(4)-O(25)	84.77(13)	N(12)-Zn(4)-N(16)	100.1(2)
O(64)-Sm(4)-O(25)	130.27(13)	O(53)-Zn(4)-O(32)	91.89(17)
O(42)-Sm(4)-O(25)	136.88(14)	O(44)-Zn(4)-O(32)	76.97(16)
O(41)-Sm(4)-O(18)	68.52(14)	N(12)-Zn(4)-O(32)	85.22(19)
O(26)-Sm(4)-O(18)	86.55(13)	N(16)-Zn(4)-O(32)	163.2(2)
O(61)-Sm(4)-O(18)	128.98(14)	O(60)-Zn(5)-O(20)	115.28(15)
O(23)-Sm(4)-O(18)	103.37(15)	O(60)-Zn(5)-N(5)	120.34(17)
O(17)-Sm(4)-O(18)	58.69(13)	O(20)-Zn(5)-N(5)	123.37(17)
O(64)-Sm(4)-O(18)	140.78(15)	O(60)-Zn(5)-O(14)	93.51(16)
O(42)-Sm(4)-O(18)	76.03(12)	O(20)-Zn(5)-O(14)	77.84(14)
O(25)-Sm(4)-O(18)	60.87(12)	N(5)-Zn(5)-O(14)	88.82(16)
O(41)-Sm(4)-O(24)	122.34(13)	O(60)-Zn(5)-N(7)	93.33(18)
O(26)-Sm(4)-O(24)	66.63(13)	O(20)-Zn(5)-N(7)	86.96(17)
O(61)-Sm(4)-O(24)	88.16(14)	N(5)-Zn(5)-N(7)	99.38(18)
O(23)-Sm(4)-O(24)	58.54(14)	O(14)-Zn(5)-N(7)	164.79(16)
O(17)-Sm(4)-O(24)	122.45(14)	O(57)-Zn(6)-O(35)	114.29(16)
O(64)-Sm(4)-O(24)	69.60(15)	O(57)-Zn(6)-N(15)	119.30(17)
O(42)-Sm(4)-O(24)	149.56(14)	O(35)-Zn(6)-N(15)	125.13(19)
O(25)-Sm(4)-O(24)	73.54(13)	O(57)-Zn(6)-N(11)	93.73(19)
O(18)-Sm(4)-O(24)	134.32(12)	O(35)-Zn(6)-N(11)	86.18(16)
O(52)-Zn(1)-O(8)	110.05(18)	N(15)-Zn(6)-N(11)	100.96(19)
O(52)-Zn(1)-O(2)	95.70(19)	O(57)-Zn(6)-O(47)	93.88(16)
O(8)-Zn(1)-O(2)	77.98(18)	O(35)-Zn(6)-O(47)	77.61(14)
O(52)-Zn(1)-N(1)	123.86(18)	N(15)-Zn(6)-O(47)	87.74(17)
O(8)-Zn(1)-N(1)	125.3(2)	N(11)-Zn(6)-O(47)	163.75(16)
O(2)-Zn(1)-N(1)	87.5(2)	O(62)-Zn(7)-O(17)	111.8(2)
O(52)-Zn(1)-N(3)	93.7(2)	O(62)-Zn(7)-O(23)	96.7(2)
O(8)-Zn(1)-N(3)	86.52(19)	O(17)-Zn(7)-O(23)	78.11(16)
O(2)-Zn(1)-N(3)	163.89(19)	O(62)-Zn(7)-N(8)	117.1(2)
N(1)-Zn(1)-N(3)	98.1(2)	O(17)-Zn(7)-N(8)	130.2(2)
O(49)-Zn(2)-O(38)	118.7(2)	O(23)-Zn(7)-N(8)	87.25(19)
O(49)-Zn(2)-N(14)	104.0(2)	O(62)-Zn(7)-N(6)	94.1(2)
O(38)-Zn(2)-N(14)	133.9(2)	O(17)-Zn(7)-N(6)	85.89(19)
O(49)-Zn(2)-N(10)	99.3(2)	O(23)-Zn(7)-N(6)	163.1(2)
O(38)-Zn(2)-N(10)	88.6(3)	N(8)-Zn(7)-N(6)	99.2(2)
N(14)-Zn(2)-N(10)	101.6(3)	O(63)-Zn(8)-O(26)	117.95(19)
O(49)-Zn(2)-O(29)	91.40(19)	O(63)-Zn(8)-N(9)	111.1(2)

O(26)-Zn(8)-N(9)	127.83(19)	O(63)-Zn(8)-O(41)	93.62(18)
O(63)-Zn(8)-N(13)	98.8(2)	O(26)-Zn(8)-O(41)	75.76(15)
O(26)-Zn(8)-N(13)	87.07(18)	N(9)-Zn(8)-O(41)	84.87(17)
N(9)-Zn(8)-N(13)	102.30(19)	N(13)-Zn(8)-O(41)	162.15(19)

Table S3. Selected Bond Lengths (Å) and Angles (°) for **2**.

Nd(1)-O(2)	2.358(7)	Zn(1)-O(2)	2.039(8)
Nd(1)-O(38)	2.360(10)	Zn(1)-N(3)	2.069(9)
Nd(1)-O(8)	2.368(7)	Zn(2)-O(49)	1.959(8)
Nd(1)-O(50)	2.371(8)	Zn(2)-O(38)	2.046(9)
Nd(1)-O(29)	2.380(8)	Zn(2)-N(14)	2.047(11)
Nd(1)-O(51)	2.383(9)	Zn(2)-N(10)	2.052(11)
Nd(1)-O(7)	2.698(6)	Zn(2)-O(29)	2.111(8)
Nd(1)-O(30)	2.699(9)	Zn(3)-O(56)	1.990(6)
Nd(1)-O(37)	2.721(9)	Zn(3)-O(5)	2.009(6)
Nd(1)-O(1)	2.802(9)	Zn(3)-N(4)	2.024(10)
Nd(2)-O(32)	2.320(7)	Zn(3)-N(2)	2.069(7)
Nd(2)-O(44)	2.335(7)	Zn(3)-O(11)	2.080(7)
Nd(2)-O(55)	2.353(7)	Zn(4)-O(53)	1.965(7)
Nd(2)-O(11)	2.360(7)	Zn(4)-O(44)	2.005(7)
Nd(2)-O(5)	2.377(5)	Zn(4)-N(12)	2.054(8)
Nd(2)-O(54)	2.383(6)	Zn(4)-N(16)	2.074(9)
Nd(2)-O(43)	2.714(7)	Zn(4)-O(32)	2.099(7)
Nd(2)-O(31)	2.769(8)	Zn(5)-O(60)	1.968(7)
Nd(2)-O(6)	2.773(6)	Zn(5)-N(5)	2.017(7)
Nd(2)-O(12)	2.779(7)	Zn(5)-O(20)	2.056(6)
Nd(3)-O(35)	2.319(6)	Zn(5)-O(14)	2.061(6)
Nd(3)-O(20)	2.329(7)	Zn(5)-N(7)	2.101(9)
Nd(3)-O(58)	2.354(7)	Zn(6)-O(57)	1.996(7)
Nd(3)-O(47)	2.369(5)	Zn(6)-N(15)	2.014(7)
Nd(3)-O(59)	2.374(7)	Zn(6)-O(35)	2.024(5)
Nd(3)-O(14)	2.396(5)	Zn(6)-O(47)	2.052(6)
Nd(3)-O(36)	2.724(6)	Zn(6)-N(11)	2.085(8)
Nd(3)-O(19)	2.742(7)	Zn(7)-O(62)	1.967(9)
Nd(3)-O(13)	2.829(6)	Zn(7)-O(23)	2.031(6)
Nd(3)-O(48)	2.886(5)	Zn(7)-N(8)	2.036(9)
Nd(4)-O(41)	2.324(6)	Zn(7)-O(17)	2.061(7)
Nd(4)-O(26)	2.345(5)	Zn(7)-N(6)	2.120(9)
Nd(4)-O(61)	2.361(7)	Zn(8)-O(63)	1.968(8)
Nd(4)-O(23)	2.367(7)	Zn(8)-O(26)	1.988(6)
Nd(4)-O(64)	2.381(9)	Zn(8)-N(9)	2.043(8)
Nd(4)-O(17)	2.386(8)	Zn(8)-N(13)	2.077(8)
Nd(4)-O(42)	2.731(6)	Zn(8)-O(41)	2.101(6)
Nd(4)-O(18)	2.732(7)	O(2)-Nd(1)-O(38)	109.2(3)
Nd(4)-O(25)	2.751(6)	O(2)-Nd(1)-O(8)	64.2(2)
Nd(4)-O(24)	2.841(8)	O(38)-Nd(1)-O(8)	135.5(3)
Zn(1)-O(52)	1.997(7)	O(2)-Nd(1)-O(50)	111.5(2)
Zn(1)-N(1)	2.003(10)	O(38)-Nd(1)-O(50)	80.4(3)
Zn(1)-O(8)	2.012(7)	O(8)-Nd(1)-O(50)	144.0(3)

O(2)-Nd(1)-O(29)	173.6(3)	O(44)-Nd(2)-O(43)	60.7(2)
O(38)-Nd(1)-O(29)	65.4(3)	O(55)-Nd(2)-O(43)	138.3(2)
O(8)-Nd(1)-O(29)	116.7(2)	O(11)-Nd(2)-O(43)	68.2(2)
O(50)-Nd(1)-O(29)	71.7(2)	O(5)-Nd(2)-O(43)	79.1(2)
O(2)-Nd(1)-O(51)	72.4(3)	O(54)-Nd(2)-O(43)	130.9(2)
O(38)-Nd(1)-O(51)	147.9(2)	O(32)-Nd(2)-O(31)	59.3(3)
O(8)-Nd(1)-O(51)	75.2(2)	O(44)-Nd(2)-O(31)	123.6(2)
O(50)-Nd(1)-O(51)	69.9(3)	O(55)-Nd(2)-O(31)	66.1(2)
O(29)-Nd(1)-O(51)	113.9(3)	O(11)-Nd(2)-O(31)	121.9(3)
O(2)-Nd(1)-O(7)	108.5(2)	O(5)-Nd(2)-O(31)	68.5(2)
O(38)-Nd(1)-O(7)	83.1(3)	O(54)-Nd(2)-O(31)	91.4(2)
O(8)-Nd(1)-O(7)	61.0(2)	O(43)-Nd(2)-O(31)	132.79(18)
O(50)-Nd(1)-O(7)	139.7(2)	O(32)-Nd(2)-O(6)	65.9(2)
O(29)-Nd(1)-O(7)	68.1(2)	O(44)-Nd(2)-O(6)	81.45(19)
O(51)-Nd(1)-O(7)	127.7(3)	O(55)-Nd(2)-O(6)	127.4(2)
O(2)-Nd(1)-O(30)	124.6(3)	O(11)-Nd(2)-O(6)	110.01(19)
O(38)-Nd(1)-O(30)	125.3(3)	O(5)-Nd(2)-O(6)	59.47(19)
O(8)-Nd(1)-O(30)	70.2(3)	O(54)-Nd(2)-O(6)	139.4(2)
O(50)-Nd(1)-O(30)	88.0(3)	O(43)-Nd(2)-O(6)	62.74(19)
O(29)-Nd(1)-O(30)	60.2(3)	O(31)-Nd(2)-O(6)	71.3(2)
O(51)-Nd(1)-O(30)	66.8(3)	O(32)-Nd(2)-O(12)	122.8(2)
O(7)-Nd(1)-O(30)	72.3(2)	O(44)-Nd(2)-O(12)	67.1(2)
O(2)-Nd(1)-O(37)	65.3(3)	O(55)-Nd(2)-O(12)	93.7(2)
O(38)-Nd(1)-O(37)	58.8(3)	O(11)-Nd(2)-O(12)	58.3(2)
O(8)-Nd(1)-O(37)	81.1(3)	O(5)-Nd(2)-O(12)	122.3(2)
O(50)-Nd(1)-O(37)	131.7(3)	O(54)-Nd(2)-O(12)	68.1(2)
O(29)-Nd(1)-O(37)	108.3(3)	O(43)-Nd(2)-O(12)	71.59(18)
O(51)-Nd(1)-O(37)	137.3(3)	O(31)-Nd(2)-O(12)	155.42(19)
O(7)-Nd(1)-O(37)	64.2(2)	O(6)-Nd(2)-O(12)	133.1(2)
O(30)-Nd(1)-O(37)	135.6(2)	O(35)-Nd(3)-O(20)	130.4(2)
O(2)-Nd(1)-O(1)	58.9(3)	O(35)-Nd(3)-O(58)	77.4(2)
O(38)-Nd(1)-O(1)	66.5(2)	O(20)-Nd(3)-O(58)	152.1(2)
O(8)-Nd(1)-O(1)	123.1(3)	O(35)-Nd(3)-O(47)	65.69(18)
O(50)-Nd(1)-O(1)	66.1(3)	O(20)-Nd(3)-O(47)	111.9(2)
O(29)-Nd(1)-O(1)	119.4(3)	O(58)-Nd(3)-O(47)	74.1(2)
O(51)-Nd(1)-O(1)	89.9(2)	O(35)-Nd(3)-O(59)	149.4(2)
O(7)-Nd(1)-O(1)	137.0(3)	O(20)-Nd(3)-O(59)	80.2(2)
O(30)-Nd(1)-O(1)	150.4(2)	O(58)-Nd(3)-O(59)	72.0(2)
O(37)-Nd(1)-O(1)	74.0(3)	O(47)-Nd(3)-O(59)	105.53(19)
O(32)-Nd(2)-O(44)	64.6(3)	O(35)-Nd(3)-O(14)	117.33(17)
O(32)-Nd(2)-O(55)	112.9(3)	O(20)-Nd(3)-O(14)	66.2(2)
O(44)-Nd(2)-O(55)	148.9(2)	O(58)-Nd(3)-O(14)	106.3(2)
O(32)-Nd(2)-O(11)	175.5(2)	O(47)-Nd(3)-O(14)	176.97(18)
O(44)-Nd(2)-O(11)	113.6(3)	O(59)-Nd(3)-O(14)	71.96(19)
O(55)-Nd(2)-O(11)	70.9(2)	O(35)-Nd(3)-O(36)	60.4(2)
O(32)-Nd(2)-O(5)	112.9(2)	O(20)-Nd(3)-O(36)	78.9(2)
O(44)-Nd(2)-O(5)	133.9(2)	O(58)-Nd(3)-O(36)	125.1(2)
O(55)-Nd(2)-O(5)	76.79(19)	O(47)-Nd(3)-O(36)	112.88(18)
O(11)-Nd(2)-O(5)	65.0(2)	O(59)-Nd(3)-O(36)	140.87(19)
O(32)-Nd(2)-O(54)	73.7(2)	O(14)-Nd(3)-O(36)	69.41(19)
O(44)-Nd(2)-O(54)	78.3(2)	O(35)-Nd(3)-O(19)	76.8(2)
O(55)-Nd(2)-O(54)	71.6(2)	O(20)-Nd(3)-O(19)	59.2(2)
O(11)-Nd(2)-O(54)	110.3(2)	O(58)-Nd(3)-O(19)	140.6(2)
O(5)-Nd(2)-O(54)	147.5(2)	O(47)-Nd(3)-O(19)	68.3(2)
O(32)-Nd(2)-O(43)	107.7(2)	O(59)-Nd(3)-O(19)	129.1(2)

O(14)-Nd(3)-O(19)	111.8(2)	O(41)-Nd(4)-O(24)	122.2(2)
O(36)-Nd(3)-O(19)	63.18(18)	O(26)-Nd(4)-O(24)	65.9(2)
O(35)-Nd(3)-O(13)	68.63(18)	O(61)-Nd(4)-O(24)	88.1(2)
O(20)-Nd(3)-O(13)	122.02(18)	O(23)-Nd(4)-O(24)	58.9(2)
O(58)-Nd(3)-O(13)	65.64(19)	O(64)-Nd(4)-O(24)	68.9(3)
O(47)-Nd(3)-O(13)	123.98(19)	O(17)-Nd(4)-O(24)	123.9(2)
O(59)-Nd(3)-O(13)	97.54(19)	O(42)-Nd(4)-O(24)	149.3(2)
O(14)-Nd(3)-O(13)	58.50(19)	O(18)-Nd(4)-O(24)	134.53(18)
O(36)-Nd(3)-O(13)	67.1(2)	O(25)-Nd(4)-O(24)	74.3(2)
O(19)-Nd(3)-O(13)	128.78(18)	O(52)-Zn(1)-N(1)	123.8(3)
O(35)-Nd(3)-O(48)	122.52(17)	O(52)-Zn(1)-O(8)	109.7(3)
O(20)-Nd(3)-O(48)	64.95(17)	N(1)-Zn(1)-O(8)	125.7(3)
O(58)-Nd(3)-O(48)	99.83(18)	O(52)-Zn(1)-O(2)	95.1(3)
O(47)-Nd(3)-O(48)	58.74(18)	N(1)-Zn(1)-O(2)	89.6(4)
O(59)-Nd(3)-O(48)	64.76(18)	O(8)-Zn(1)-O(2)	76.7(3)
O(14)-Nd(3)-O(48)	118.31(18)	O(52)-Zn(1)-N(3)	94.1(3)
O(36)-Nd(3)-O(48)	131.43(19)	N(1)-Zn(1)-N(3)	97.1(4)
O(19)-Nd(3)-O(48)	70.55(18)	O(8)-Zn(1)-N(3)	86.8(3)
O(13)-Nd(3)-O(48)	160.67(19)	O(2)-Zn(1)-N(3)	163.0(3)
O(41)-Nd(4)-O(26)	64.21(19)	O(49)-Zn(2)-O(38)	117.6(3)
O(41)-Nd(4)-O(61)	116.5(2)	O(49)-Zn(2)-N(14)	103.4(4)
O(26)-Nd(4)-O(61)	143.0(3)	O(38)-Zn(2)-N(14)	135.4(3)
O(41)-Nd(4)-O(23)	169.8(2)	O(49)-Zn(2)-N(10)	97.8(4)
O(26)-Nd(4)-O(23)	110.4(2)	O(38)-Zn(2)-N(10)	88.5(4)
O(61)-Nd(4)-O(23)	73.2(2)	N(14)-Zn(2)-N(10)	103.2(5)
O(41)-Nd(4)-O(64)	72.5(3)	O(49)-Zn(2)-O(29)	91.9(3)
O(26)-Nd(4)-O(64)	76.0(2)	O(38)-Zn(2)-O(29)	76.0(4)
O(61)-Nd(4)-O(64)	70.0(3)	N(14)-Zn(2)-O(29)	86.4(4)
O(23)-Nd(4)-O(64)	115.5(3)	N(10)-Zn(2)-O(29)	164.3(4)
O(41)-Nd(4)-O(17)	112.7(2)	O(56)-Zn(3)-O(5)	118.4(3)
O(26)-Nd(4)-O(17)	139.3(2)	O(56)-Zn(3)-N(4)	118.0(3)
O(61)-Nd(4)-O(17)	76.8(3)	O(5)-Zn(3)-N(4)	121.4(3)
O(23)-Nd(4)-O(17)	65.0(2)	O(56)-Zn(3)-N(2)	97.3(3)
O(64)-Nd(4)-O(17)	144.2(2)	O(5)-Zn(3)-N(2)	87.2(3)
O(41)-Nd(4)-O(42)	60.25(19)	N(4)-Zn(3)-N(2)	100.6(3)
O(26)-Nd(4)-O(42)	124.4(2)	O(56)-Zn(3)-O(11)	90.5(2)
O(61)-Nd(4)-O(42)	67.2(2)	O(5)-Zn(3)-O(11)	76.9(3)
O(23)-Nd(4)-O(42)	124.9(2)	N(4)-Zn(3)-O(11)	87.8(3)
O(64)-Nd(4)-O(42)	85.0(2)	N(2)-Zn(3)-O(11)	164.1(3)
O(17)-Nd(4)-O(42)	69.7(2)	O(53)-Zn(4)-O(44)	114.6(3)
O(41)-Nd(4)-O(18)	67.1(2)	O(53)-Zn(4)-N(12)	117.3(3)
O(26)-Nd(4)-O(18)	85.7(2)	O(44)-Zn(4)-N(12)	124.8(3)
O(61)-Nd(4)-O(18)	130.2(2)	O(53)-Zn(4)-N(16)	100.5(3)
O(23)-Nd(4)-O(18)	104.5(2)	O(44)-Zn(4)-N(16)	87.7(3)
O(64)-Nd(4)-O(18)	139.6(2)	N(12)-Zn(4)-N(16)	100.0(4)
O(17)-Nd(4)-O(18)	59.1(2)	O(53)-Zn(4)-O(32)	91.5(3)
O(42)-Nd(4)-O(18)	76.05(19)	O(44)-Zn(4)-O(32)	74.6(3)
O(41)-Nd(4)-O(25)	103.84(19)	N(12)-Zn(4)-O(32)	86.5(3)
O(26)-Nd(4)-O(25)	60.6(2)	N(16)-Zn(4)-O(32)	161.6(3)
O(61)-Nd(4)-O(25)	139.3(2)	O(60)-Zn(5)-N(5)	120.0(3)
O(23)-Nd(4)-O(25)	66.2(2)	O(60)-Zn(5)-O(20)	115.4(2)
O(64)-Nd(4)-O(25)	131.6(2)	N(5)-Zn(5)-O(20)	123.4(3)
O(17)-Nd(4)-O(25)	83.1(2)	O(60)-Zn(5)-O(14)	93.4(3)
O(42)-Nd(4)-O(25)	136.4(2)	N(5)-Zn(5)-O(14)	88.3(3)
O(18)-Nd(4)-O(25)	60.71(18)	O(20)-Zn(5)-O(14)	77.6(2)

O(60)-Zn(5)-N(7)	93.7(3)	O(62)-Zn(7)-O(17)	113.2(3)
N(5)-Zn(5)-N(7)	100.0(3)	O(23)-Zn(7)-O(17)	77.3(3)
O(20)-Zn(5)-N(7)	86.8(3)	N(8)-Zn(7)-O(17)	129.5(3)
O(14)-Zn(5)-N(7)	164.5(3)	O(62)-Zn(7)-N(6)	93.9(3)
O(57)-Zn(6)-N(15)	119.5(3)	O(23)-Zn(7)-N(6)	161.9(3)
O(57)-Zn(6)-O(35)	115.2(2)	N(8)-Zn(7)-N(6)	100.2(4)
N(15)-Zn(6)-O(35)	123.9(3)	O(17)-Zn(7)-N(6)	85.1(3)
O(57)-Zn(6)-O(47)	93.5(2)	O(63)-Zn(8)-O(26)	118.7(3)
N(15)-Zn(6)-O(47)	88.0(3)	O(63)-Zn(8)-N(9)	110.2(3)
O(35)-Zn(6)-O(47)	77.2(2)	O(26)-Zn(8)-N(9)	127.6(3)
O(57)-Zn(6)-N(11)	93.9(3)	O(63)-Zn(8)-N(13)	98.7(3)
N(15)-Zn(6)-N(11)	100.0(3)	O(26)-Zn(8)-N(13)	87.4(3)
O(35)-Zn(6)-N(11)	87.3(3)	N(9)-Zn(8)-N(13)	103.4(3)
O(47)-Zn(6)-N(11)	164.5(3)	O(63)-Zn(8)-O(41)	93.4(3)
O(62)-Zn(7)-O(23)	97.0(3)	O(26)-Zn(8)-O(41)	74.7(2)
O(62)-Zn(7)-N(8)	116.4(4)	N(9)-Zn(8)-O(41)	85.2(3)
O(23)-Zn(7)-N(8)	87.8(3)	N(13)-Zn(8)-O(41)	161.6(3)
