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Supplementary Material

Flexible N-Donor Ligands Direct the Structural Characteristics of Co^{II} Complexes: Syntheses, Structures, and Magnetic Properties

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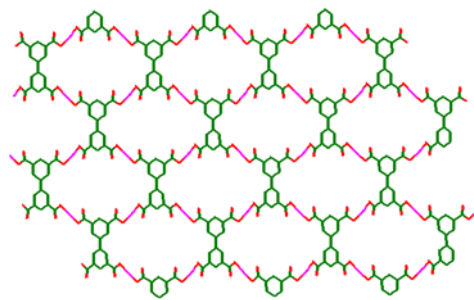


Fig. S1 The 2D layer constructed by BPTC⁴ ligand.

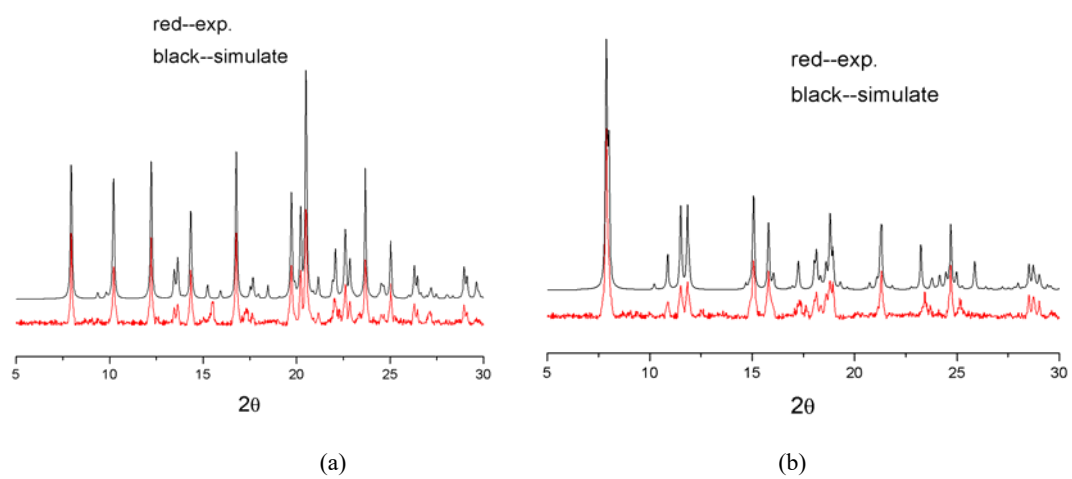


Fig. S2 The exp. and simulated PXRD patterns of **1** (a) and **2** (b).

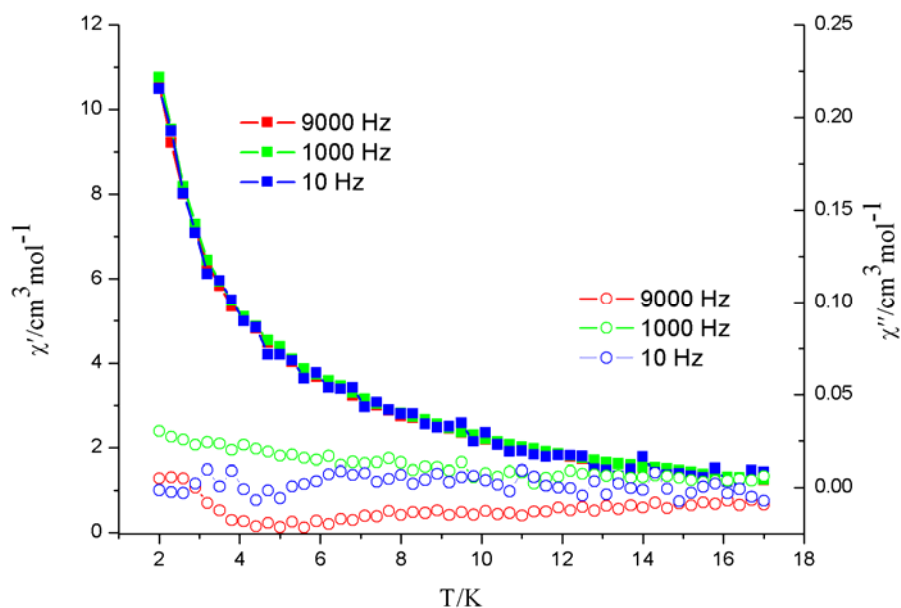


Fig. S3 The temperature dependence of the in-phase (χ') and the out-of-phase (χ'') ac magnetic susceptibilities for **1**.

Table S1 Selected bond lengths (nm) and bond angles ($^\circ$) for complex **1**

Co(1)-O(3)#4	0.2052(3)	N(2)-Co(1)-O(1)	87.32(12)
Co(1)-O(4)#5	0.2055(3)	O(3)#4-Co(1)-O(2)	160.44(11)
Co(1)-N(3)	0.2115(3)	O(4)#5-Co(1)-O(2)	96.42(10)
Co(1)-N(2)	0.2144(3)	N(3)-Co(1)-O(2)	88.25(11)
Co(1)-O(1)	0.2175(2)	N(2)-Co(1)-O(2)	90.00(12)
Co(1)-O(2)	0.2266(3)	O(1)-Co(1)-O(2)	59.23(9)
O(3)-Co(1)#4	0.2052(3)	C(1)-N(2)-Co(1)	127.2(3)
O(4)-Co(1)#6	0.2055(3)	C(3)-N(2)-Co(1)	128.0(3)
O(3)#4-Co(1)-O(4)#5	102.30(11)	C(13)-N(3)-C(11)	104.7(3)
O(3)#4-Co(1)-N(3)	86.62(12)	C(13)-N(3)-Co(1)	125.8(3)
O(4)#5-Co(1)-N(3)	88.56(12)	C(11)-N(3)-Co(1)	129.5(3)
O(3)#4-Co(1)-N(2)	94.68(12)	C(13)-N(4)-C(12)	106.9(3)
O(4)#5-Co(1)-N(2)	92.72(12)	C(13)-N(4)-C(14)	126.1(4)
N(3)-Co(1)-N(2)	177.94(12)	C(12)-N(4)-C(14)	126.0(4)
O(3)#4-Co(1)-O(1)	101.96(10)	C(15)-O(1)-Co(1)	91.6(2)
O(4)#5-Co(1)-O(1)	155.65(10)	C(15)-O(2)-Co(1)	87.7(2)
N(3)-Co(1)-O(1)	90.85(12)	C(22)-O(3)-Co(1)#4	146.2(3)
C(22)-O(4)-Co(1)#6	129.5(2)		

Symmetry transformations used to generate equivalent atoms for **1**: #1 $x+1, y+1, z+1$; #2 $x-1, y-1, z-1$; #3 $-x, -y+2, -z+1$; #4 $-x, -y+2, -z+2$; #5 $x, y-1, z$; #6 $x, y+1, z$.

Table S2 Selected bond lengths (nm) and bond angles (°) for complex **2**

Co(1)-N(2)#3	0.2040(5)	Co(1)-N(1)	0.2041(5)
N(2)-Co(1)#4	0.2040(5)	O(3)-Co(1)#5	0.1970(4)
Co(1)-O(1)	0.1988(4)	Co(1)-O(3)#2	0.1970(4)
O(3)#2-Co(1)-O(1)	132.19(19)	O(3)#2-Co(1)-N(2)#3	107.1(2)
O(1)-Co(1)-N(2)#3	100.4(2)	O(3)#2-Co(1)-N(1)	98.3(2)
O(1)-Co(1)-N(1)	114.20(18)	N(2)#3-Co(1)-N(1)	100.68(19)

Symmetry transformations used to generate equivalent atoms for **2**: #1 -x, y, -z+1/2; #2 -x+1/2, y+1/2, -z+1/2; #3 x-1/2, y+1/2, z; #4 x+1/2, y-1/2, z; #5 -x+1/2, y-1/2, -z+1/2.