[Supporting information]

Syntheses, Characterization and Luminescent Properties of Five Entangled Coordination Polymers Based on Bis(4-imidazolphenoxy)methane and Various Dicarboxylic Acids

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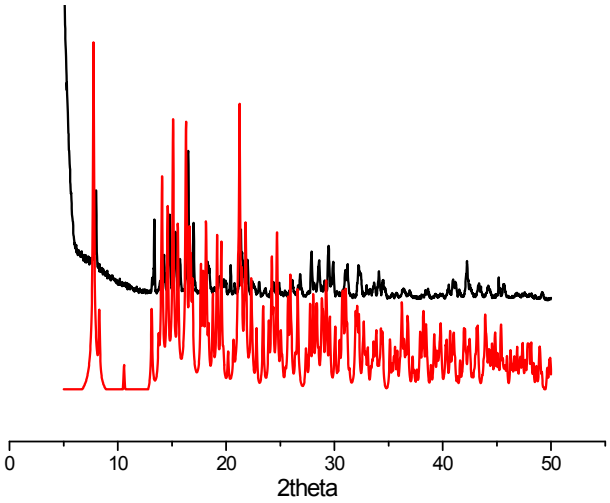

Figure S1. The simulated(red) and experimental (black) XRPD patterns for **1**.

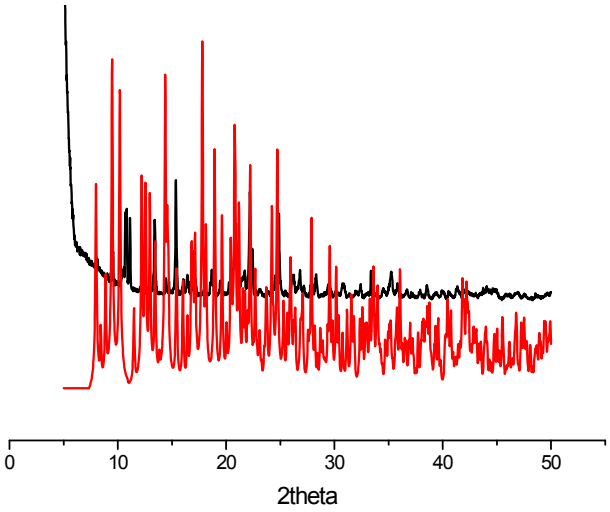

Figure S2. The simulated (red) and experimental (black) XRPD patterns for **2**.

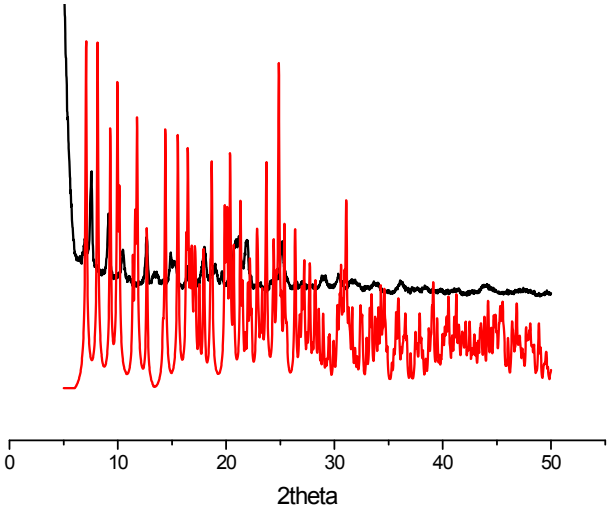

Figure S3. The simulated (red) and experimental (black) XRPD patterns for **3**.

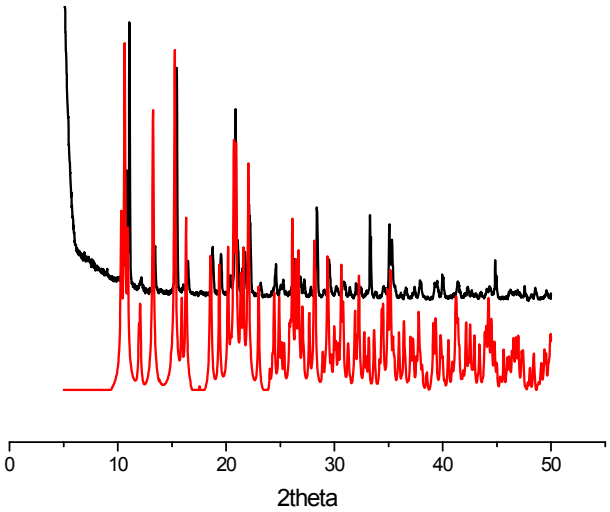

Figure S4. The simulated (red) and experimental (black) XRPD patterns for **4**.

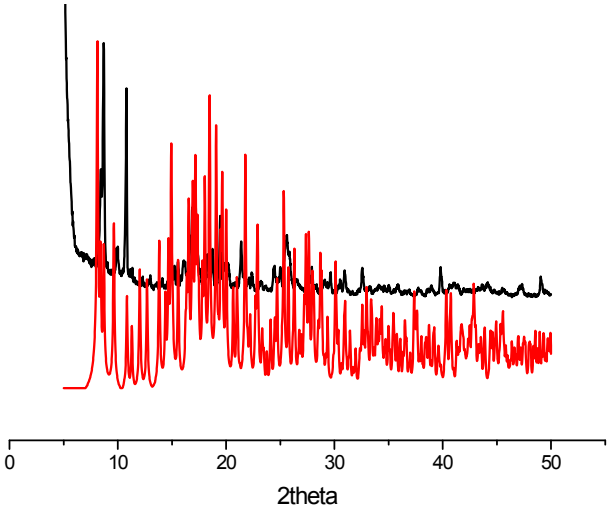

Figure S5. The simulated (red) and experimental (black) XRPD patterns for **5**.

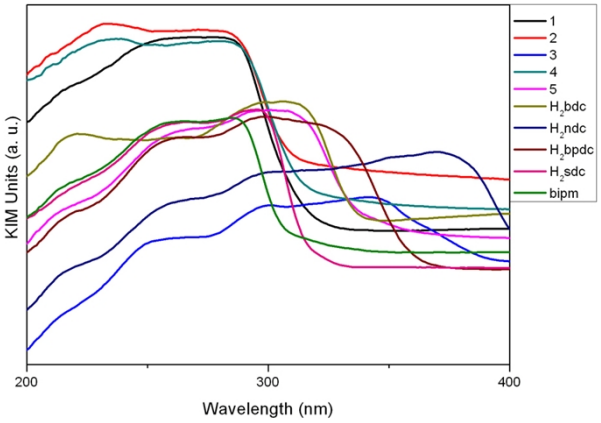

Figure S6. dDiffuse reflectance UV-vis spectra of organic ligands and the as-synthesized polymers at room temperature.

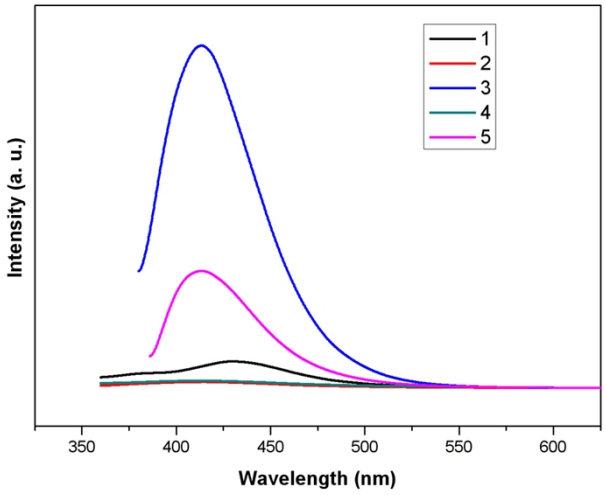

Fig. S7. Solid state luminescent spectra of compounds **1-5**.

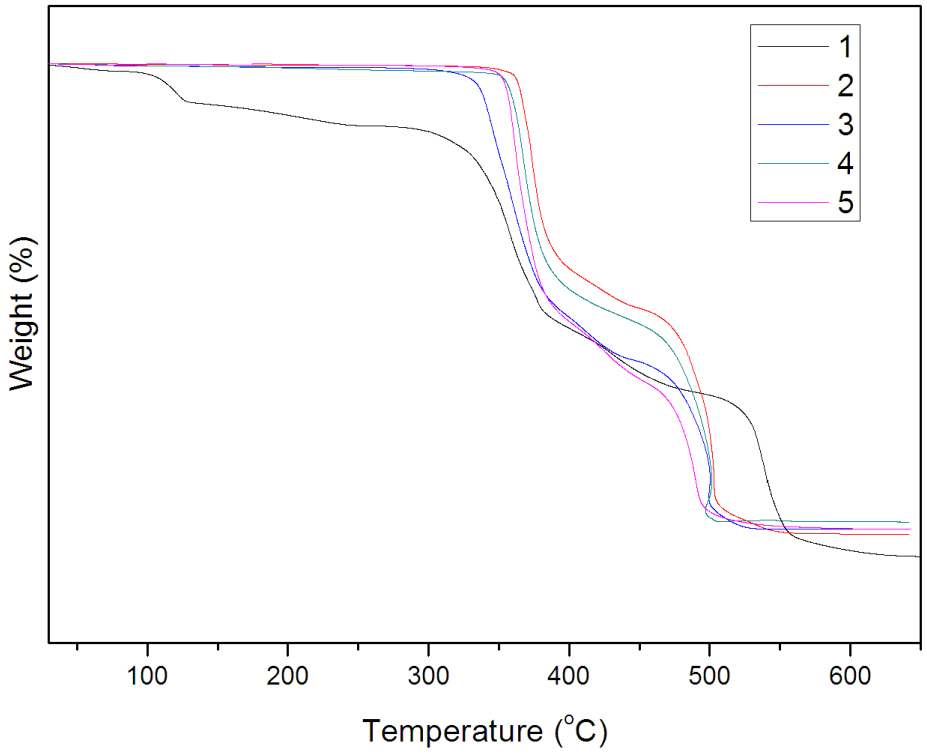

Figure S8. TGA curves of **1-5**.

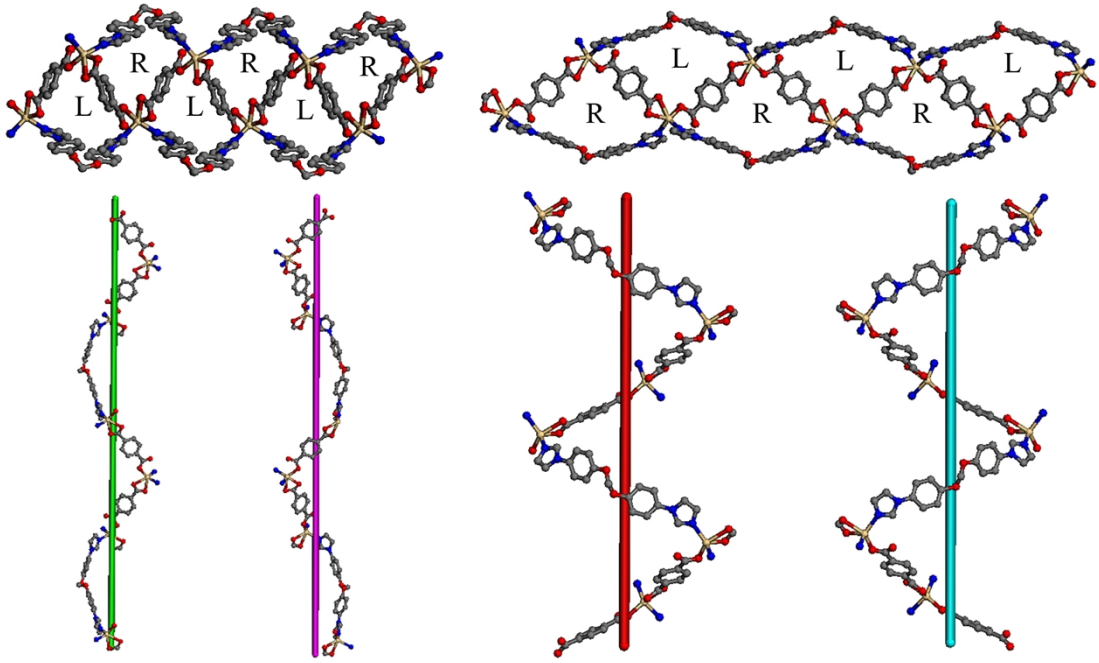

Fig. S9. The perspective view of the helices constructed from Cd(II) atoms and organic ligands in **4**.

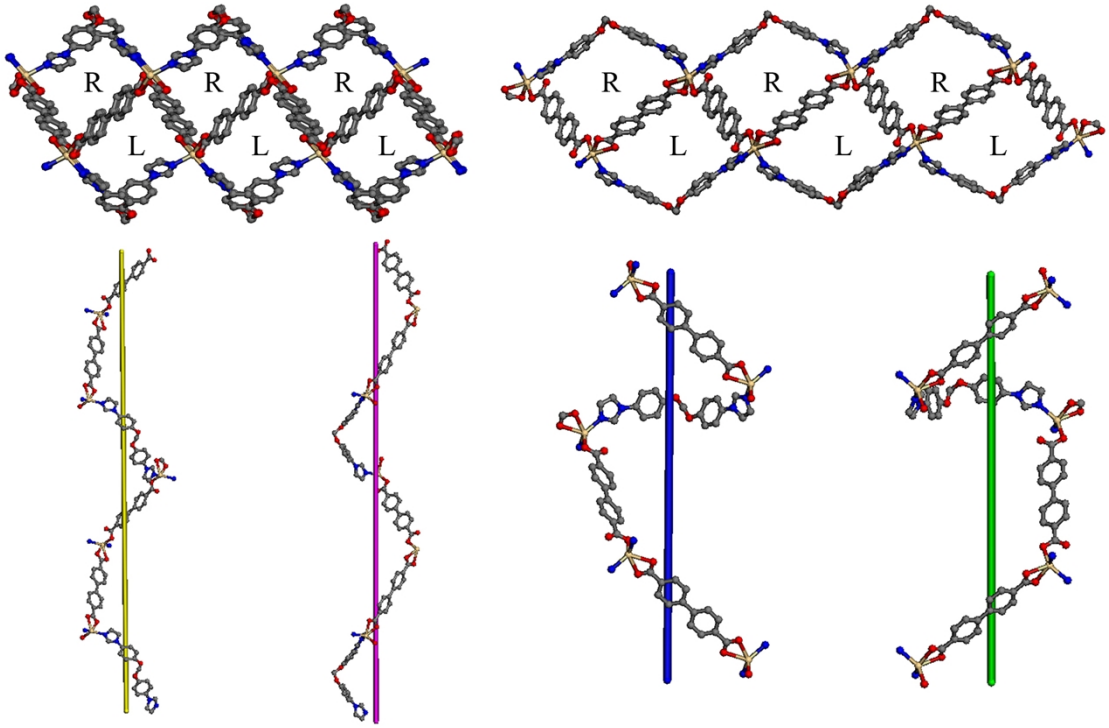

Fig. S10. The perspective view of the helices constructed from Cd(II) atoms and organic ligands in **5**.

Table S1. Selected bond distances (Å) and angles (°) for **1**.

Cd(1)-N(1)	2.245(4)
Cd(1)-N(4)#2	2.340(4)
Cd(1)-O(2)	2.285(4)
Cd(1)-O(6)#1	2.278(4)
Cd(1)-OW1	2.307(3)
N(1)-Cd(1)-O(6)#1	149.12(16)
N(1)-Cd(1)-O(2)	88.71(16)
O(6)#1-Cd(1)-O(2)	90.76(16)
N(1)-Cd(1)-OW1	100.73(19)
O(6)#1-Cd(1)-OW1	110.14(18)
O(2)-Cd(1)-OW1	89.88(15)
N(1)-Cd(1)-N(4)#2	96.48(15)
O(6)#1-Cd(1)-N(4)#2	86.14(15)
O(2)-Cd(1)-N(4)#2	174.18(16)
OW1-Cd(1)-N(4)#2	86.58(15)

Symmetry transformations used to generate equivalent atoms: #1 x,y,z-1, #2 x-2,y,z-1.

Table S2. Selected bond distances (Å) and angles (°) for **2**.

Cd(1)-N(1)	2.309(2)
Cd(1)-N(4)#1	2.315(2)
Cd(1)-O(2)	2.279(2)
Cd(1)-O(3)	2.404(2)
Cd(1)-O(4)	2.478(2)
Cd(1)-O(7)	2.314(2)
O(2)-Cd(1)-N(1)	126.45(8)
O(2)-Cd(1)-O(7)	89.29(9)
N(1)-Cd(1)-O(7)	92.98(9)
O(2)-Cd(1)-N(4)#1	89.81(9)
N(1)-Cd(1)-N(4)#1	90.20(9)
O(7)-Cd(1)-N(4)#1	176.59(9)
O(2)-Cd(1)-O(3)	149.93(7)
N(1)-Cd(1)-O(3)	83.47(8)
O(7)-Cd(1)-O(3)	92.19(9)
N(4)#1-Cd(1)-O(3)	86.94(9)
O(2)-Cd(1)-O(4)	96.58(7)
N(1)-Cd(1)-O(4)	136.90(8)
O(7)-Cd(1)-O(4)	89.30(8)
N(4)#1-Cd(1)-O(4)	87.54(8)
O(3)-Cd(1)-O(4)	53.44(7)

Symmetry transformations used to generate equivalent atoms: #1 -x,-y+1,-z.

Table S3. Selected bond distances (Å) and angles (°) for **3**.

Cd(1)-N(2)#1	2.372(3)
Cd(1)-N(3)	2.252(2)
Cd(1)-O(1)	2.248(3)
Cd(1)-O(3)	2.381(2)
Cd(1)-O(4)#2	2.188(2)
O(4)#2-Cd(1)-O(1)	99.56(12)
O(4)#2-Cd(1)-N(3)	126.08(9)
O(1)-Cd(1)-N(3)	134.29(11)
O(4)#2-Cd(1)-N(2)#1	82.61(9)
O(1)-Cd(1)-N(2)#1	92.25(11)
N(3)-Cd(1)-N(2)#1	91.36(10)
O(4)#2-Cd(1)-O(3)	95.37(8)
O(1)-Cd(1)-O(3)	90.07(10)
N(3)-Cd(1)-O(3)	88.21(8)
N(2)#1-Cd(1)-O(3)	177.15(9)

Symmetry transformations used to generate equivalent atoms: #1 -x,-y,-z+2, #2 -x+1,-y+1,-z+1.

Table S4. Selected bond distances (Å) and angles (°) for **4**.

Cd(1)-N(1)	2.227(3)
Cd(1)-N(4)#1	2.244(3)
Cd(1)-O(2)	2.160(3)
Cd(1)-O(3)#2	2.347(3)
Cd(1)-O(4)#2	2.394(3)
O(2)-Cd(1)-N(1)	118.75(12)
O(2)-Cd(1)-N(4)#1	102.84(12)
N(1)-Cd(1)-N(4)#1	111.32(12)
O(2)-Cd(1)-O(3)#2	80.19(11)
N(1)-Cd(1)-O(3)#2	122.03(12)
N(4)#1-Cd(1)-O(3)#2	116.68(11)
O(2)-Cd(1)-O(4)#2	134.85(11)
N(1)-Cd(1)-O(4)#2	93.43(12)
N(4)#1-Cd(1)-O(4)#2	92.38(11)
O(3)#2-Cd(1)-O(4)#2	55.23(10)

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

Table S5. Selected bond distances (Å) and angles (°) for **5**.

Cd(1)-N(1)	2.262(3)
Cd(1)-N(4)#1	2.252(3)
Cd(1)-O(1)	2.432(2)
Cd(1)-O(2)	2.347(2)
Cd(1)-O(3)	2.227(3)
O(3)-Cd(1)-N(4)#1	104.93(12)
O(3)-Cd(1)-N(1)	128.71(12)
N(4)#1-Cd(1)-N(1)	105.03(10)
O(3)-Cd(1)-O(2)	96.18(11)
N(4)#1-Cd(1)-O(2)	139.63(9)
N(1)-Cd(1)-O(2)	86.78(9)
O(3)-Cd(1)-O(1)	101.75(10)
N(4)#1-Cd(1)-O(1)	87.68(8)
N(1)-Cd(1)-O(1)	120.08(9)
O(2)-Cd(1)-O(1)	54.10(8)

Symmetry transformations used to generate equivalent atoms: #1 x+1,y-1,z.