Unique topological motifs in two Cd (II)-coordination polymers: mutual-embedded 2D bilayers, 3D polythreaded structures, self-penetrated network and 2D→2D interpenetrated homochiral bilayers

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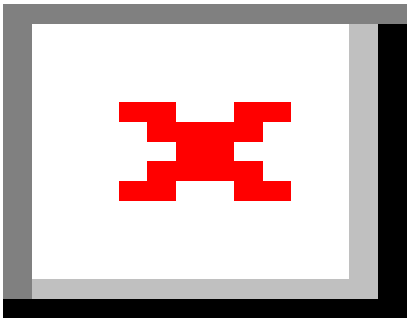
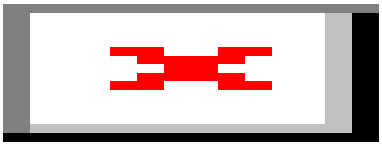
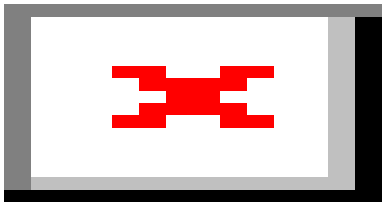


Scheme S1. Structures of the ligands used in this work.

(a)



(b)



Scheme S 2. The two conformation and coordination modes of *m*-pdoa^{2-} in **1 (a)** and **2 (b)**.

Table S1. Selected bond lengths (Å) and bond angles (°) for **1** and **2.**

		1	
Cd(1)-O(8)	2.250(3)	N(1)-Cd(1)-O(2)	91.48(8)
Cd(1)-N(3)#1	2.277(2)	O(8)-Cd(1)-O(1)	106.08(9)
Cd(1)-O(7)	2.324(3)	N(3)#1-Cd(1)-O(1)	87.99(8)
Cd(1)-N(1)	2.338(2)	O(7)-Cd(1)-O(1)	83.83(9)
Cd(1)-O(2)	2.354(2)	N(1)-Cd(1)-O(1)	138.41(8)
Cd(1)-O(1)	2.541(2)	O(2)-Cd(1)-O(1)	53.22(7)
Cd(2)-O(6)#2	2.248(2)	O(6)#2-Cd(2)-N(6)#	92.90(10)
Cd(2)-N(6)#1	2.278(3)	O(6)#2-Cd(2)-N(4)	90.95(10)
Cd(2)-N(4)	2.312(3)	N(6)#1-Cd(2)-N(4)	127.05(10)
Cd(2)-O(13)	2.372(3)	O(6)#2-Cd(2)-O(13)	91.41(9)
Cd(2)-N(7)	2.405(3)	N(6)#1-Cd(2)-O(13)	143.10(9)
Cd(2)-O(12)	2.432(3)	N(4)-Cd(2)-O(13)	89.46(10)
O(8)-Cd(1)-N(3)#1	98.40(10)	O(6)#2-Cd(2)-N(7)	177.20(10)
O(8)-Cd(1)-O(7)	169.81(9)	N(6)#1-Cd(2)-N(7)	89.85(11)
N(3)#1-Cd(1)-O(7)	84.06(9)	N(4)-Cd(2)-N(7)	86.95(11)
O(8)-Cd(1)-N(1)	89.30(9)	O(13)-Cd(2)-N(7)	86.72(11)
N(3)#1-Cd(1)-N(1)	128.51(9)	O(6)#2-Cd(2)-O(12)	96.16(11)
O(7)-Cd(1)-N(1)	81.51(9)	N(6)#1-Cd(2)-O(12)	88.96(10)
O(8)-Cd(1)-O(2)	84.67(9)	N(4)-Cd(2)-O(12)	142.93(10)
N(3)#1-Cd(1)-O(2)	139.77(8)	O(13)-Cd(2)-O(12)	54.14(10)
O(7)-Cd(1)-O(2)	99.89(9)	N(7)-Cd(2)-O(12)	84.43(13)
		2	
Cd(1)-O(1)	2.298(12)	N(2)#1-Cd(1)-N(1)	97.7(3)
Cd(1)-N(2)#1	2.302(11)	O(6)#2-Cd(1)-N(1)	105.4(4)
Cd(1)-O(6)#2	2.302(11)	O(1)-Cd(1)-O(7)	86.8(4)
Cd(1)-N(1)	2.383(10)	N(2)#1-Cd(1)-O(7)	80.9(3)
Cd(1)-O(7)	2.411(9)	O(6)#2-Cd(1)-O(7)	82.3(4)
Cd(1)-O(2)	2.571(10)	N(1)-Cd(1)-O(7)	171.3(3)
Cd(1)-O(5)#2	2.619(9)	O(1)-Cd(1)-O(2)	53.4(3)
O(1)-Cd(1)-N(2)#1	146.5(3)	N(2)#1-Cd(1)-O(2)	93.9(3)
O(1)-Cd(1)-O(6)#2	85.6(5)	O(6)#2-Cd(1)-O(2)	136.8(5)
N(2)#1-Cd(1)-O(6)#2	122.9(4)	N(1)-Cd(1)-O(2)	89.3(3)
O(1)-Cd(1)-N(1)	89.8(4)	O(7)-Cd(1)-O(2)	82.3(3)
O(1)-Cd(1)-O(5)#2	129.5(4)	N(1)-Cd(1)-O(5)#2	84.5(3)
N(2)#1-Cd(1)-O(5)#2	83.9(4)	O(7)-Cd(1)-O(5)#2	103.8(3)
O(6)#2-Cd(1)-O(5)#2	48.6(5)	O(2)-Cd(1)-O(5)#2	173.1(4)

[a] Symmetry codes for **1**: #1: x,y+1,z ; #2: x,y-1,z; #3: x-3/2,-y+3/2,z-1/2; #4: x+3/2,-y+3/2,z+1/2.

[b]Symmetry codes for **2**: #1: x-1/2,y-1/2,z; #2: x-1/2,y+1/2,z; #3: x+1/2,y+1/2,z; #4: x+1/2,y-1/2,z.

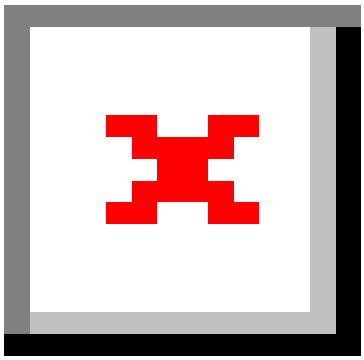


Fig.S1. Two kinds of windows among the compound **1.**

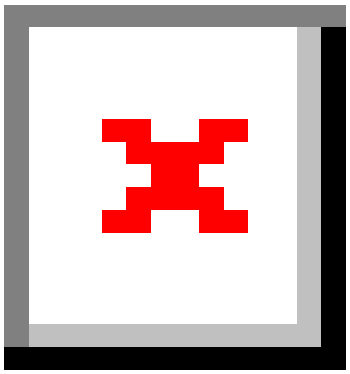


Fig.S2. 3D structure of **2** connected by H-bond.

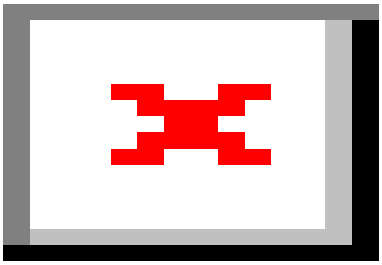


Fig.S3 X-ray diffraction patterns of **1**.

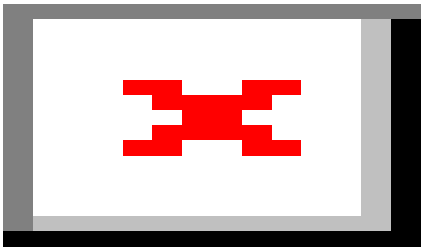


Fig.S4.X-ray diffraction patterns of **2**.

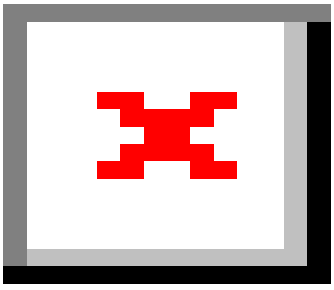


Fig.S5. TGA curve of **1** and **2**.

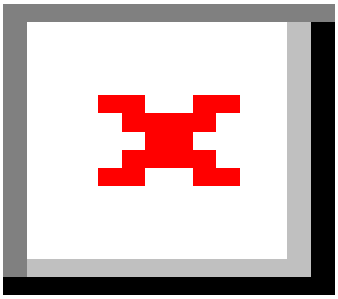


Fig. S6 Photoluminescence emision spectra of **1**(green) and **2** (blue) at room temperature.