Electronic Supporting Information (ESI)

New Chiral Coordination Polymers Constructed from Well Elaborated Achiral and Chiral Ligands

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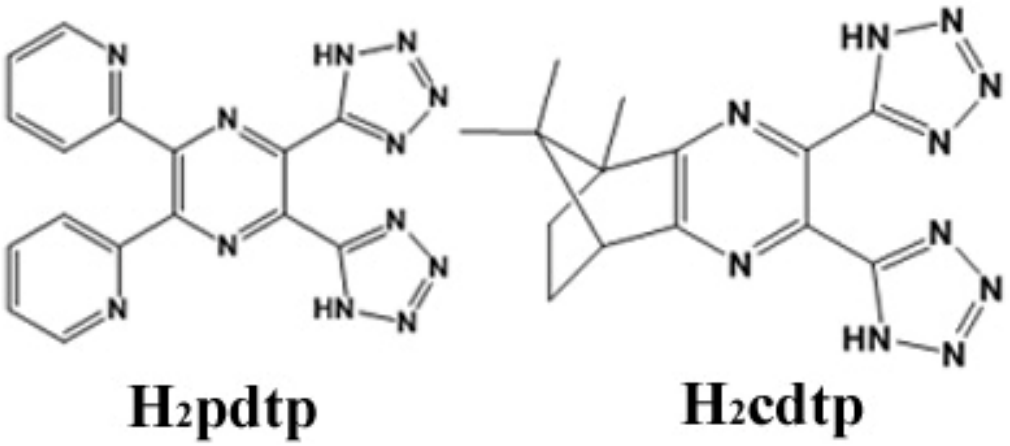
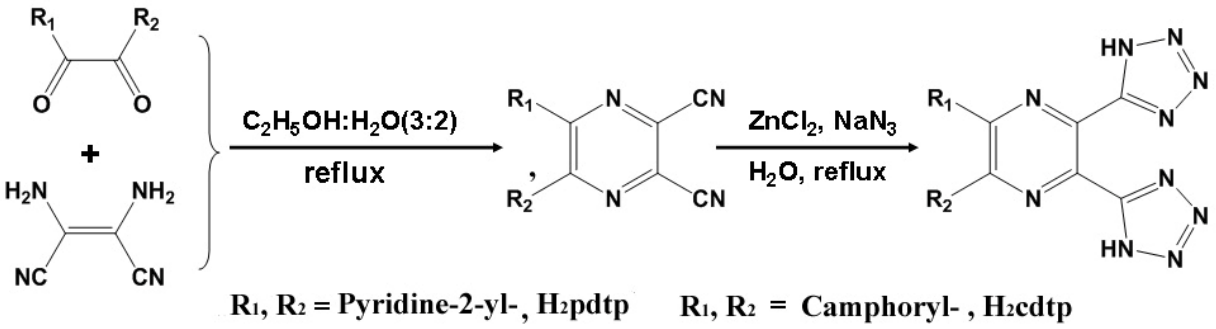
1. **Scheme S1**: Structures of two ligands: H_2pdtp and H_2cdtp.



2. **Scheme S2**: The route for ligands synthesis.[S1]



Reference

S1 (a) F. D. Popp, *J. Heterocycl. Chem.*, 1974, **11**, 79; (b) W. Ried, S. Aboul-Fetouh, *Tetrahedron*, 1988, **44**, 3399; (c) Z. P. Demko, K. B. Sharpless, *Org. Lett.*, 2001, **3**, 4091; (d) Z. P. Demko, K. B. Sharpless, *J. Org. Chem.*, 2001, **66**, 7945; (e) J. R. Li, Y. Tao, Q. Yu, X. H. Bu, H. Sakamoto, S. Kitagawa, *Chem.–Eur. J.*, 2008, **14**, 2771; (f) Y. Tao, J. R. Li, Z. Chang, X. H. Bu, *Cryst. Growth Des.*, 2010, **10**, 564; (g) T. L. Hu, Y. Tao, Z. Chang, X. H. Bu, *Inorg. Chem.*, 2011, **50**, 10994.

3. **Table S1**: The selected bond lengths [Å] and angles [º] of CCPs **1** and **2**.

1			
Hg(1)-N(3A)	2.268(6)	Hg(1)-N(3)	2.268(6)
Hg(1)-Cl(1)	2.476(2)	Hg(1)-Cl(1A)	2.476(2)
N(3A)-Hg(1)-N(3)	116.7(3)	N(3A)-Hg(1)-Cl(1)	106.32(18)
N(3)-Hg(1)-Cl(1)	101.78(18)	N(3A)-Hg(1)-Cl(1A)	101.78(18)
N(3)-Hg(1)-Cl(1A)	106.32(18)	Cl(1)-Hg(1)-Cl(1A)	124.91(11)
Symmetry transformations used to generate equivalent atoms:			
A: – y + 1, - x + 1, - z + 1/2; B: y, x, - z			
2			
Zn(1)-N(3)	2.024(5)	Zn(1)-N(17)	2.045(5)
Zn(1)-N(16)	2.059(5)	Zn(1)-N(27A)	2.070(6)
Zn(1)-N(2)	2.583(6)	Zn(3)-N(20B)	2.047(5)
Zn(3)-N(6C)	2.051(5)	Zn(3)-N(23)	2.050(5)
Zn(3)-N(10C)	2.060(5)	Zn(3)-N(22)	2.475(6)
Zn(2)-N(13)	1.979(5)	Zn(2)-N(26)	1.997(5)
Zn(2)-N(30)	2.042(5)	Zn(2)-N(11)	2.509(6)
O(1)-Zn(2)	2.049(6)		
N(3)-Zn(1)-N(17)	151.3(2)	N(3)-Zn(1)-N(16)	106.6(2)
N(17)-Zn(1)-N(16)	91.9(2)	N(3)-Zn(1)-N(2)	69.49(18)
N(17)-Zn(1)-N(2)	92.8(2)	N(16)-Zn(1)-N(2)	80.74(19)
N(23)-Zn(3)-N(10C)	111.7(2)	N(20B)-Zn(3)-N(22)	82.2(2)
N(23)-Zn(3)-N(22)	70.0(2)	N(10C)-Zn(3)-N(22)	178.3(2)
N(13)-Zn(2)-N(26)	114.0(2)	N(13)-Zn(2)-N(30)	108.7(2)
N(26)-Zn(2)-N(30)	89.6(2)	N(13)-Zn(2)-O(1)	115.0(3)
N(26)-Zn(2)-O(1)	127.4(3)	N(30)-Zn(2)-O(1)	92.0(2)
N(13)-Zn(2)-N(11)	72.1(2)	N(26)-Zn(2)-N(11)	99.9(2)
N(30)-Zn(2)-N(11)	169.2(2)	O(1)-Zn(2)-N(11)	78.2(2)
Symmetry transformations used to generate equivalent atoms:			
A: – x + 2, y + 1/2, - z + 1/2; B : – x + 3/2, - y + 2, z + 1/2; C : – x + 5/2, - y + 2, z + 1/2			

4. **Fig. S1-2**: XRD of CCPs **1** and **2**.

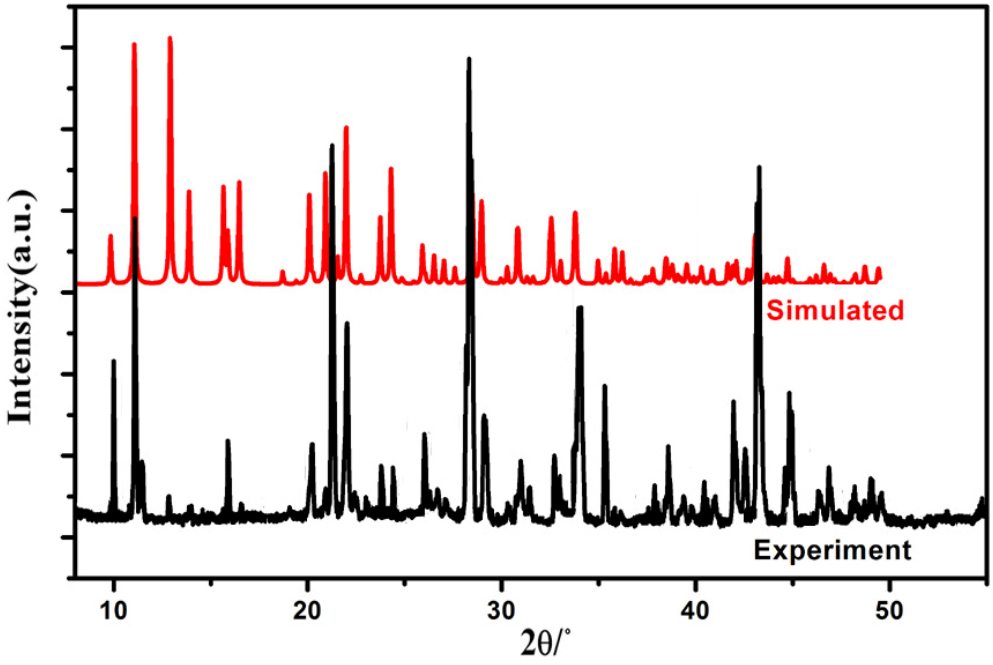


Fig. S1 XRD of compound **1**.

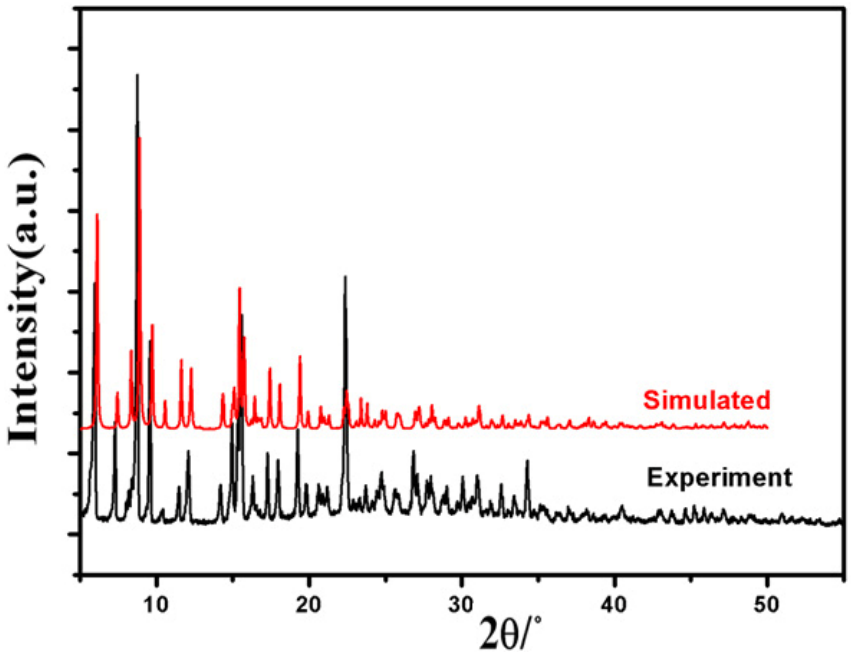
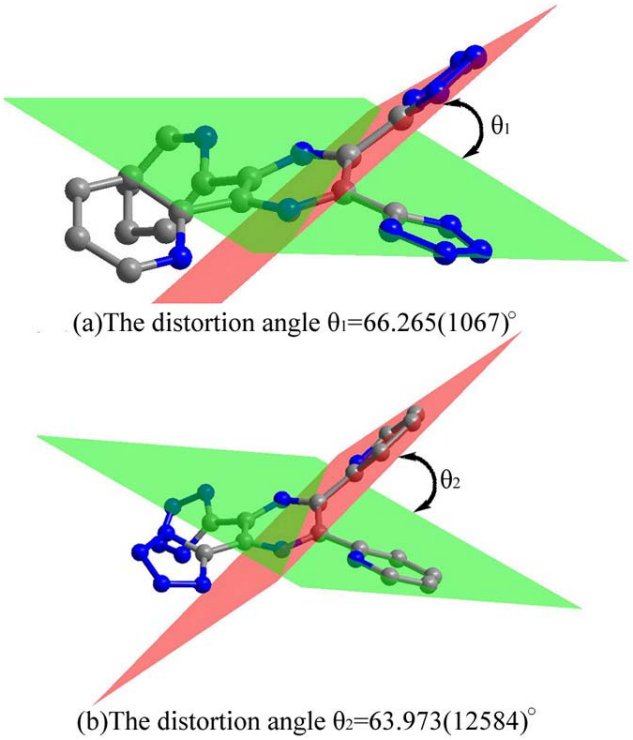


Fig. S2 XRD of compound **2**.

5. **Fig. S3**: Twisted conformations of ligands H_2pdtp and their torsion dihedral angles.



(a)The distortion angle θ_1=66.265(1067)°

(b)The distortion angle θ_2=63.973(12584)°

6. **Scheme S3**: Two coordination modes of H_2cdtp ligands.