Electronic Supplementary Information (ESI)

Chiral or achiral: Four Isomeric Cd(II) Coordination Polymers Based on Two Isomeric Phenylenediacrylate ligands

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Table S1 Hydrogen bonding distance and angle data

Figure S1. View of the disorder of two independent ligands in **2p**..

Figure S2. XRD patterns of the complexes compared with those simulated from crystal data.

Figure S3. IR spectra of the complexes.

Figure S4. The arrangement of zigzag and helical chains in 1p and 1m, respectively.

Figure S5. Homochiral 2D hydrogen-bonded layers in **2p** and **2m**, and views of the 3D structures with ppda and mpda ligands as interlayer pillars.

Table S1 Hydrogen bonding distance (Å) and angle (º) data

Compound	D-H...A	D-H	H...A	D...A	<DHA	Symmetry code
1p	O3-H3W1...O1C	0.841(18)	1.826(19)	2.663(4)	174(4)	C: -x+1/2, y-1/2, -z+3/2
	O3-H3W2...O2D	0.846(18)	1.860(19)	2.700(4)	172(5)	D: -x+1, y-1, -z+3/2
1m	O3-H3W1...O1C	0.841(16)	1.887(17)	2.725(2)	174(3)	C: x+1/2, -y+3/2, -z
	O3-H3W2...O2D	0.861(17)	1.848(17)	2.694(2)	167(3)	D: x+1, -y+2, -z
2p	O5-H5W2...O4F	0.84(2)	1.99(5)	2.80(4)	163(7)	F: -x+1, -y+1, -z
	O5-H5W2...O4'F	0.84(2)	1.98(4)	2.81(3)	174(8)	
	O5-H5W1...O9A	0.83(2)	1.98(4)	2.76(3)	156(7)	A: -x+1, y-1/2, -z+1/2
	O5-H5W1...O9'A	0.83(2)	2.16(5)	2.95(3)	158(6)	
	O6-H6W2...O2A	0.85(2)	1.99(3)	2.786(6)	155(6)	A: -x+1, y-1/2, -z+1/2
	O6-H6W1...O9	0.85(2)	1.93(3)	2.75(2)	160(6)	
	O6-H6W1...O9'	0.85(2)	1.90(5)	2.68(4)	152(6)	
	O7-H7W2...O4G	0.84(2)	2.12(7)	2.77(4)	134(7)	G: x, -y+1/2, z+1/2
	O7-H7W2...O4'G	0.84(2)	2.17(6)	2.90(4)	145(7)	
	O7-H7W1...O10H	0.84(2)	2.02(6)	2.81(4)	156(7)	H: -x+2, y-1/2, -z+1/2
	O7-H7W1...O10'H	0.84(2)	2.13(7)	2.92(6)	156(8)	
	O8-H8W2...O10I	0.83(2)	2.29(5)	3.05(3)	154(7)	I: -x+2, y+1/2, -z+1/2
	O8-H8W2...O10'I	0.83(2)	2.00(6)	2.76(4)	152(7)	
	O8-H8W1...O11C	0.83(2)	2.02(3)	2.807(6)	160(7)	C: -x+1, y+1/2, -z+1/2
2m	O5-H5W2...O4E	0.86(2)	2.03(3)	2.802(5)	150(5)	E: -x+2, y-1/2, -z+1
	O5-H5W1...O10F	0.850(19)	1.97(3)	2.772(5)	156(6)	F: x+1, y, z
	O6-H6W2...O2G	0.864(19)	1.97(2)	2.768(4)	154(4)	G: -x+2, y-1/2, -z+2
	O6-H6W1...O4C	0.855(19)	1.90(2)	2.706(5)	157(5)	C: x, y, z+1
	O7-H7W1...O3A	0.85(2)	2.21(5)	2.877(5)	136(6)	A: -x+1, y-1/2, -z+1
	O7-H7W2...O6	0.835(19)	2.13(3)	2.904(5)	154(5)	
	O8-H8W1...O11H	0.83(2)	1.98(2)	2.805(4)	173(7)	H: -x+1, y+1/2, -z+1
	O8-H8W2...O3H	0.83(2)	1.95(2)	2.778(5)	176(6)	H: -x+1, y+1/2, -z+1

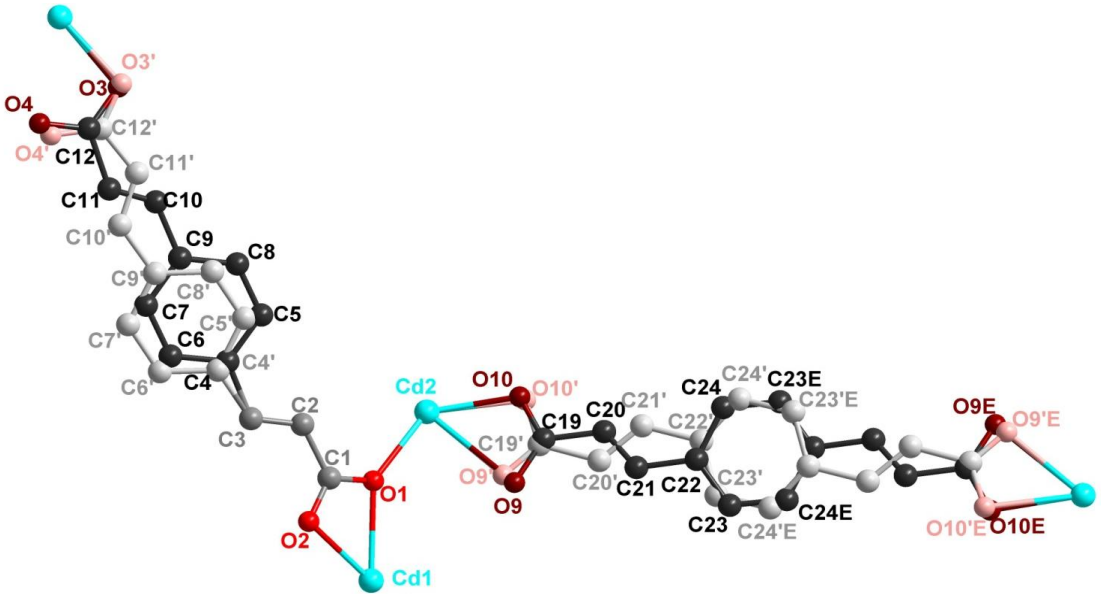

Figure S1. View of the disorder of two independent ligands in **2p**. Symmetry code E = 2-x, 1-y, 1-z.

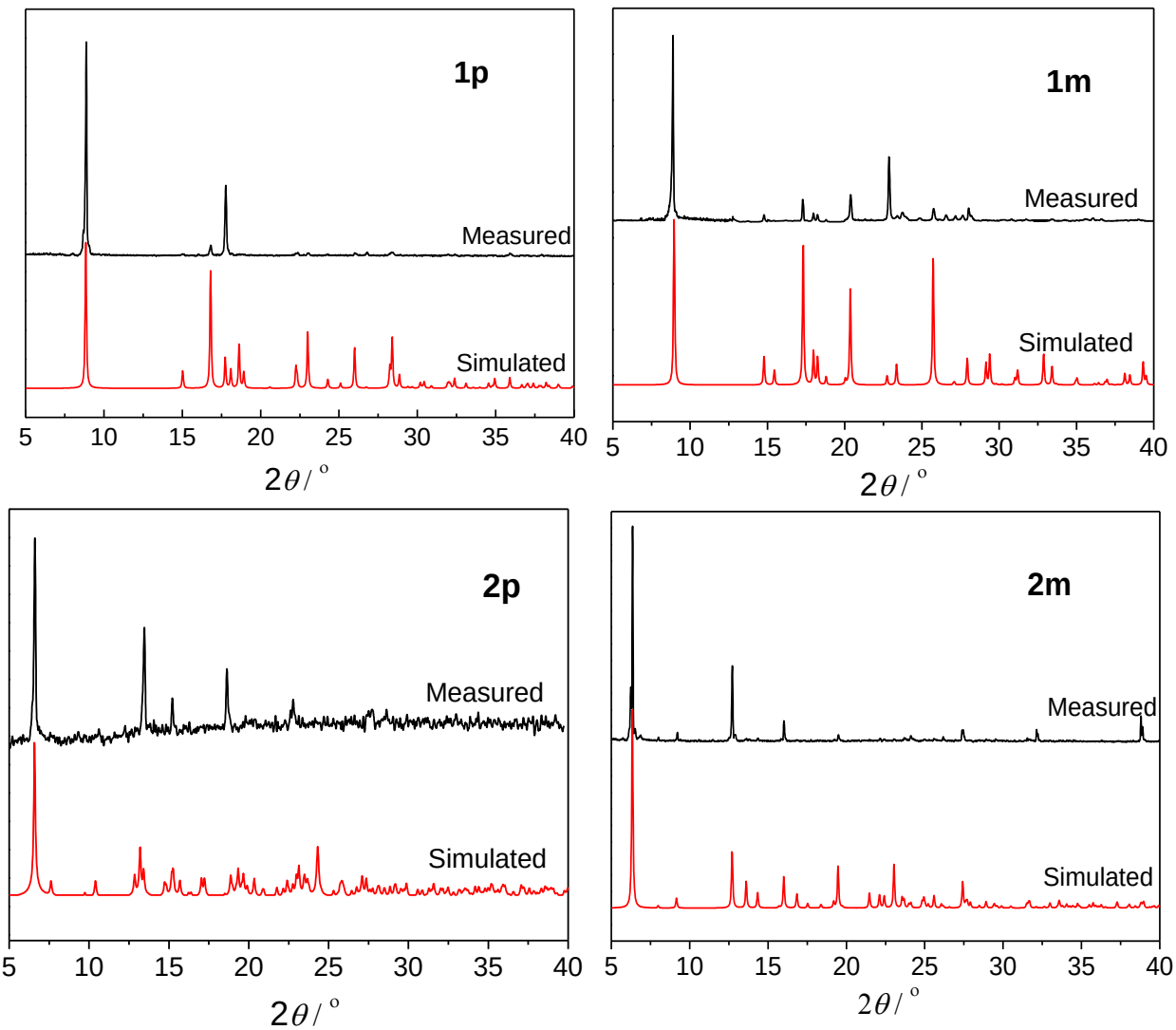

Figure S2. XRD patterns of the complexes compared with those simulated from crystal data.

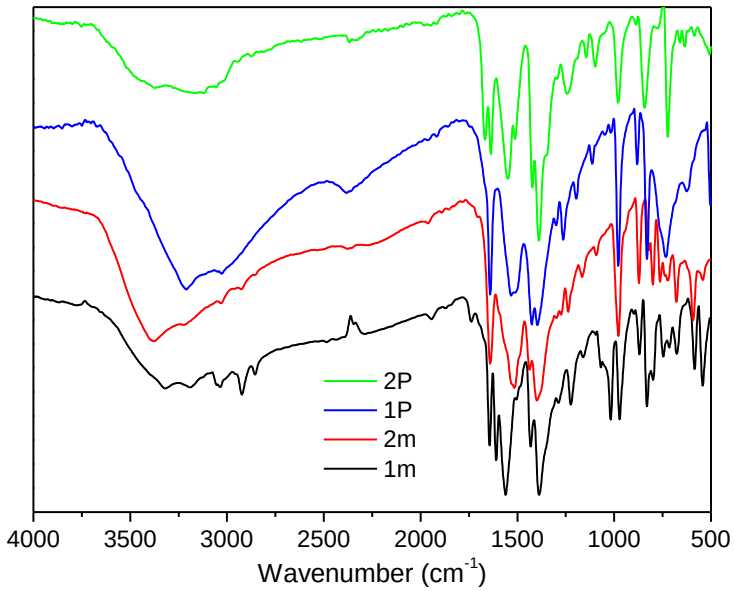

Figure S3. IR spectra of the complexes.

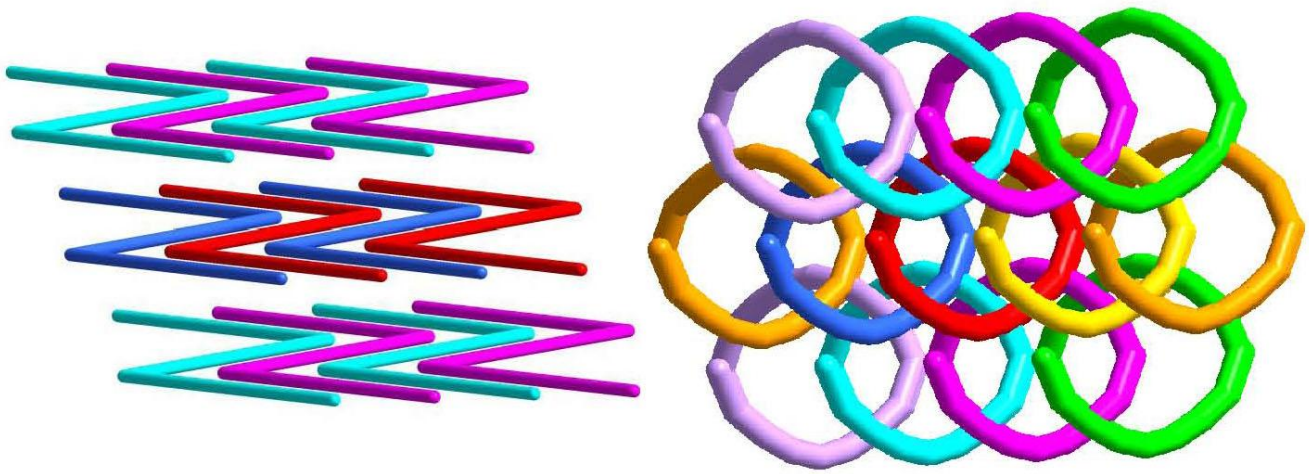

Figure S4. The arrangement of zigzag and helical chains in **1p** (left) and **1m** (right), respectively.

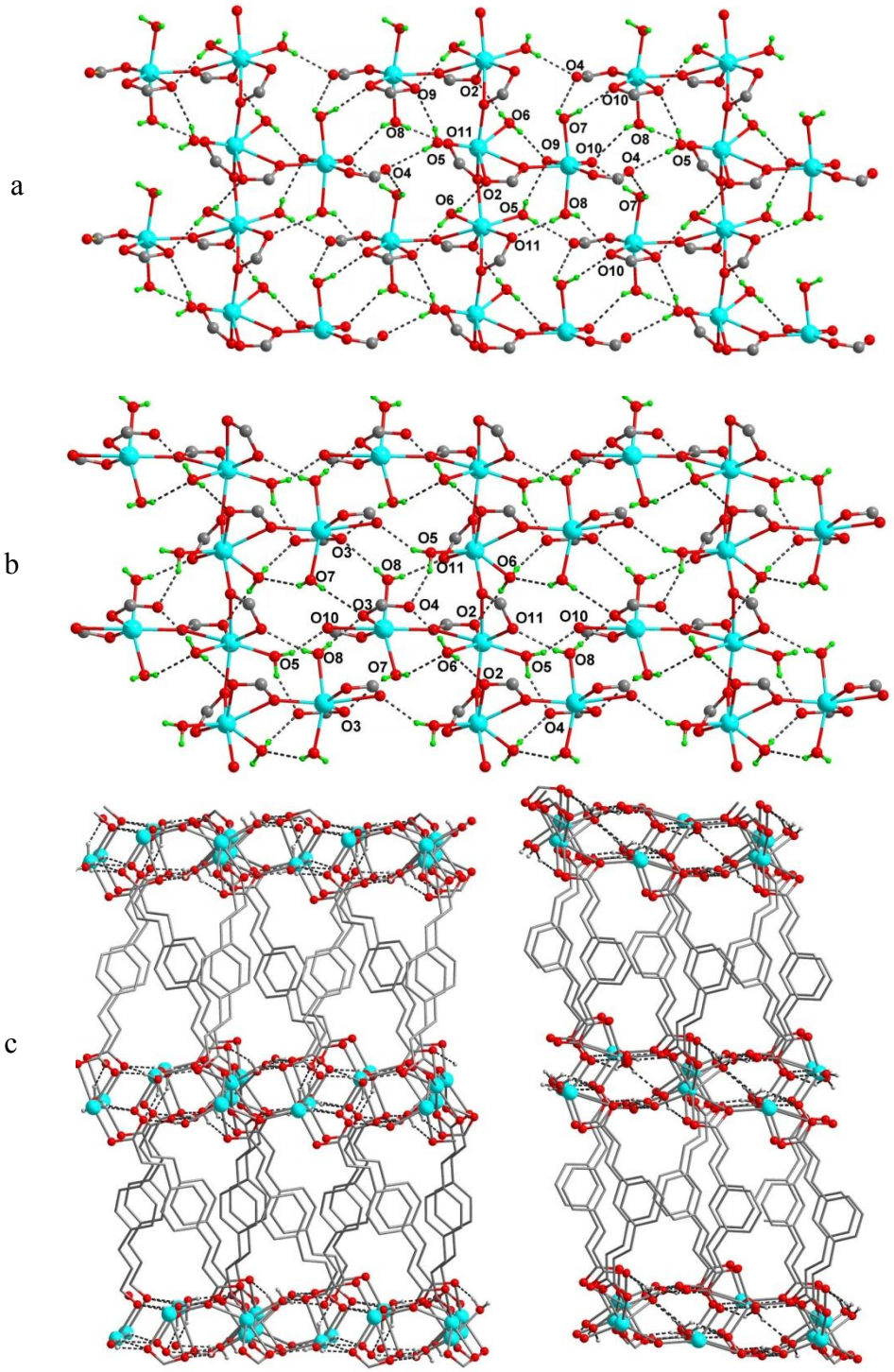

Figure S5. Homochiral 2D hydrogen-bonded layers in **2p** (a) and **2m** (b), and views of the 3D structures with ppda and mpda ligands as interlayer pillars (c). Only one component of each disordered ligand in **2p** is shown in (a) and (c).