Fluorescent Cadmium Complexes Based on N-Succinopyridine Ligand: Synthesis, Structures, and Tunable Photoluminescence by Variation of Excitation Light

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

1

Cd(1)-O(2W)	2.258(4)
Cd(1)-O(1W)	2.426(4)
Cd(1)-Cl(2)	2.561(2)
Cd(1)-Cl(1)	2.596(1)
Cd(1)-Cl(2)#1	2.613(1)
Cd(1)-Cl(1)#2	2.715(2)
O(2W)-Cd(1)-O(1W)	86.90(17)
O(2W)-Cd(1)-Cl(2)	172.60(13)
O(1W)-Cd(1)-Cl(2)	88.32(12)
O(2W)-Cd(1)-Cl(1)	90.78(11)
O(1W)-Cd(1)-Cl(1)	88.36(11)
Cl(2)-Cd(1)-Cl(1)	94.75(5)
O(2W)-Cd(1)-Cl(2)#1	85.71(12)
O(1W)-Cd(1)-Cl(2)#1	83.78(11)

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Cl(2)-Cd(1)-Cl(2)#1	88.15(4)
Cl(1)-Cd(1)-Cl(2)#1	171.55(4)
O(2W)-Cd(1)-Cl(1)#2	92.47(13)
O(1W)-Cd(1)-Cl(1)#2	172.71(10)
Cl(2)-Cd(1)-Cl(1)#2	91.55(5)
Cl(1)-Cd(1)-Cl(1)#2	98.91(3)
Cl(2)#1-Cd(1)-Cl(1)#2	88.93(5)
2	
Cd(1)-O(1W)	2.297(5)
Cd(1)-O(2W)	2.318(5)
Cd(1)-Br(2)	2.757(1)
Cd(1)-Br(2)#1	2.780(1)
Cd(1)-Br(1)	2.781(1)
Cd(1)-Br(1)#2	2.781(1)
O(1W)-Cd(1)-O(2W)	176.29(19)
O(1W)-Cd(1)-Br(2)	89.96(13)
O(2W)-Cd(1)-Br(2)	89.20(14)
O(1W)-Cd(1)-Br(2)#1	88.97(14)
O(2W)-Cd(1)-Br(2)#1	92.10(14)
Br(2)-Cd(1)-Br(2)#1	176.30(4)
O(1W)-Cd(1)-Br(1)	86.75(13)
O(2W)-Cd(1)-Br(1)	89.75(13)
Br(2)-Cd(1)-Br(1)	96.54(4)
Br(2)#1-Cd(1)-Br(1)	86.93(4)
O(1W)-Cd(1)-Br(1)#2	91.64(13)
O(2W)-Cd(1)-Br(1)#2	91.93(14)
Br(2)-Cd(1)-Br(1)#2	87.37(4)
Br(2)#1-Cd(1)-Br(1)#2	89.13(4)
Br(1)-Cd(1)-Br(1)#2	175.77(4)

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

Table S2. Specified hydrogen bonds for **1** (with esds except fixed and riding H).

1				
D-H	H...A	D...A	<(DHA)	D-H...A
0.847(10)	1.894(13)	2.736(5)	172(5)	O2W-H2WA...O4_$3
0.842(10)	1.963(17)	2.793(5)	168(6)	O2W-H2WB...O4_$2
0.82	1.62	2.425(5)	168.1	O3-H3B...O1_$1
0.844(10)	2.53(3)	3.293(4)	150(5	O1W-HIWB...Cl1_$4
2				
D-H	H...A	D...A	<(DHA)	D-H...A
0.82	1.65	2.465(8)	177.6	O3-H3B...O2_$1
0.850(10)	2.39(3)	2.814(8)	111(8)	O1W-H1WA...O3_$2
0.850(9)	2.48(4)	2.927(8)	114	O2W-H2WA...O4_$3
0.850(9)	2.51(3)	3.232(8)	143	O2W-H2WA...O2
0.93	2.84	3.658(10)	147.0	C1-H1A...Br1_$6

Symmetry codes for **1**: $1 x, y, z+1; $2 x, y, z-1; $3 x, -y+3/2, z-1/2; $4 x, -y+3/2, z+1/2; for **2**: $1 x+1, y, z; $2 -x+3/2, -y+2, z-1/2; $3 x-1, y, z; $4 -x+1, y-1/2, -z+3/2; $5 x-1/2, -y+3/2, -z+1; $6 -x+3/2, -y+2, z+1/2.

Table S3. emission peaks and its origin.

complex	λ_{em} (nm)	VBs (HOMO)	CBs (LOMO)	origin
HL	375	p-π of py^+	p-π* of py^+	intragroup π-π*
	485	p-π of COO^-	p-π* of py^+	intergroup π-π*
1	391	p-π of py^+	p-π* of py^+	intragroup π-π*
	425	orbital of inorganic layer	p-π* of py^+	MLCT
2	425	orbital of inorganic chain	p-π* of py^+	MLCT
	463	orbital of inorganic chain	p-π* of py^+	MLCT and

		and p-π of COO^-		intergroup π-π*
	500	p-π of COO^-	p-π* of py^+	intergroup π-π*

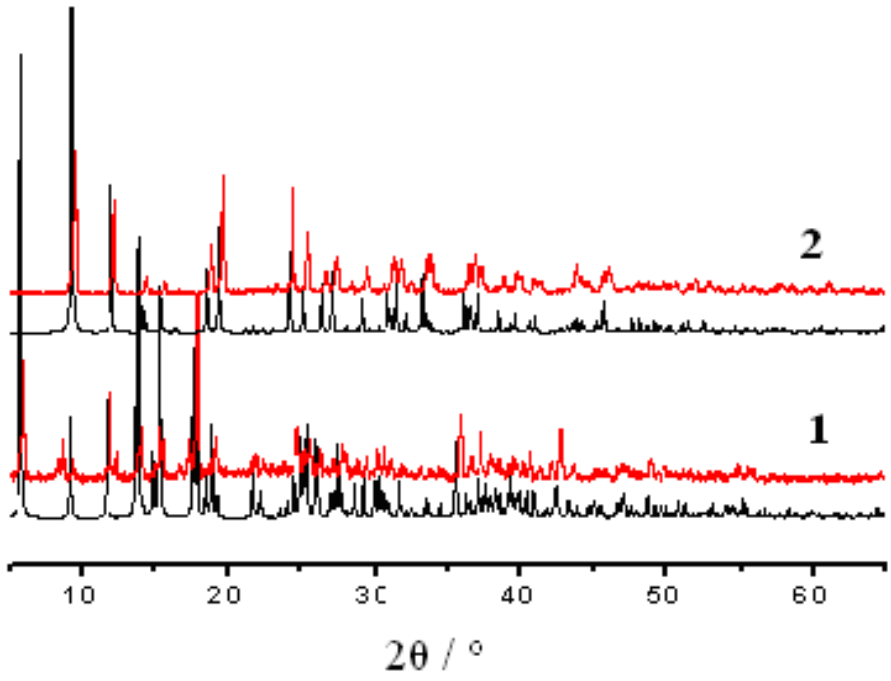

Fig. S1. PXRD patterns of **1** and **2.**

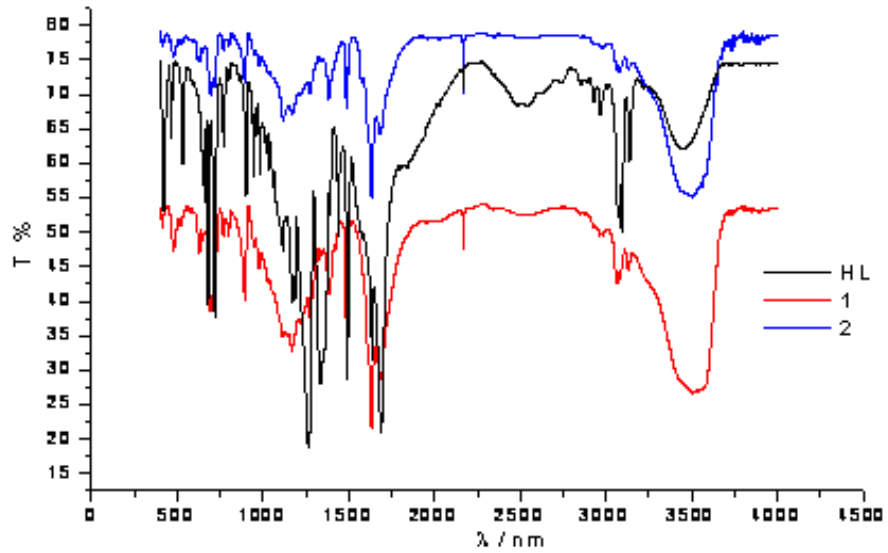

Fig. S2. IR spectra of HL, **1** and **2**.

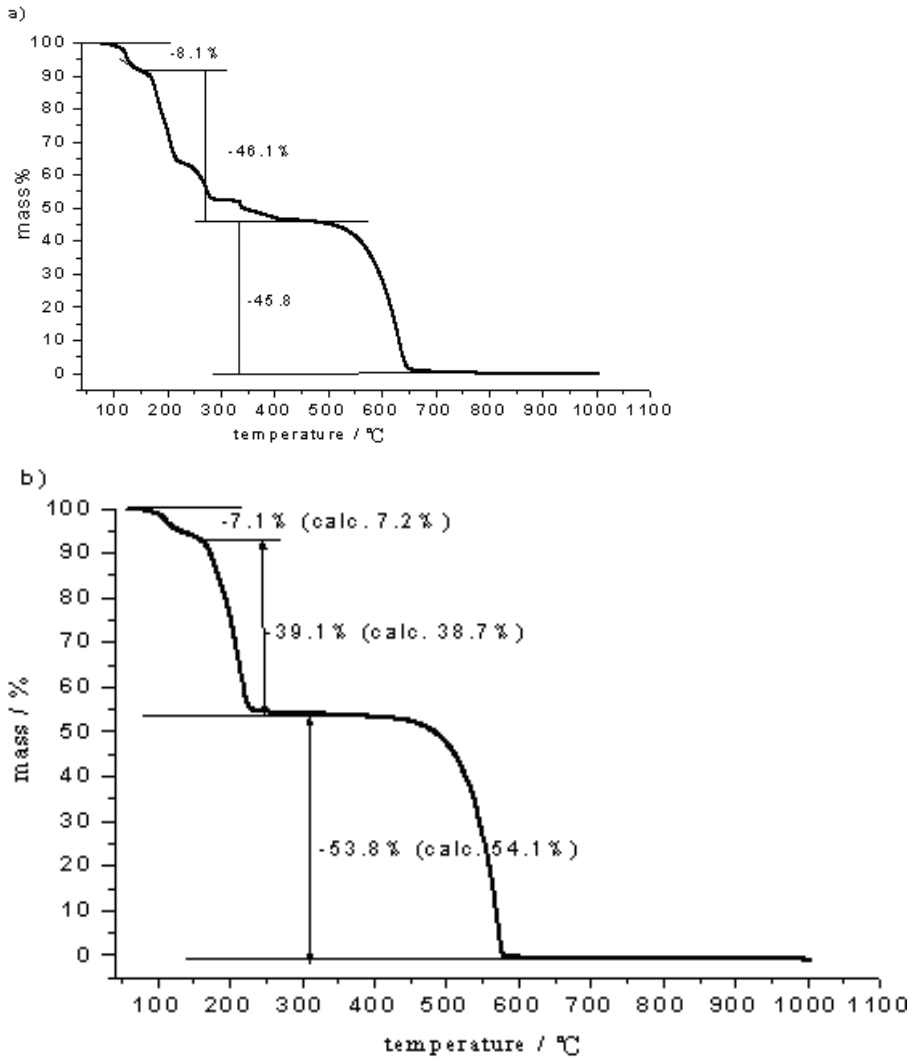

Fig. S3. TGA spectra of **1** (a), **2** (b).

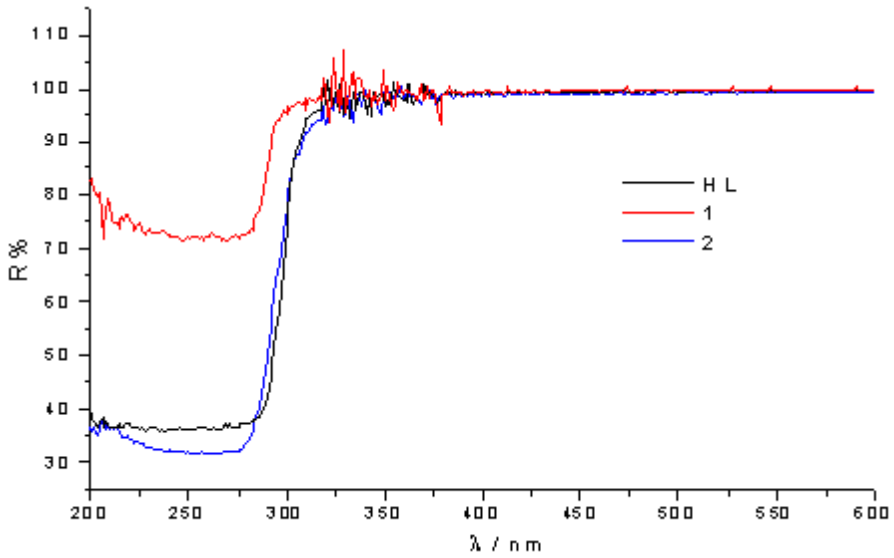

Fig. S4. Optical diffuse reflectance spectra for HL, **1** and **2**.