Supporting Information for

Structural and luminescent modulation in 8-hydroxyquinolinate-based coordination polymers by varying dicarboxylic acids

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Table of Content

1.1. Table S1 Selected Bond lengths [Å] and angles [º] for **1**.

Zn(1)-O(1)#1	1.993(2)
Zn(1)-O(1)	1.993(2)
Zn(1)-N(1)#1	2.260(2)
Zn(1)-N(1)	2.260(2)
Zn(1)-N(2)#2	2.279(3)
Zn(1)-N(2)#3	2.279(3)
N(2)-Zn(1)#4	2.279(3)
O(1)#1-Zn(1)-O(1)	180.0
O(1)#1-Zn(1)-N(1)#1	79.98(9)
O(1)-Zn(1)-N(1)#1	100.02(9)
O(1)#1-Zn(1)-N(1)	100.02(9)
O(1)-Zn(1)-N(1)	79.98(9)
N(1)#1-Zn(1)-N(1)	180.0
O(1)#1-Zn(1)-N(2)#2	88.75(11)
O(1)-Zn(1)-N(2)#2	91.25(11)
N(1)#1-Zn(1)-N(2)#2	89.34(10)
N(1)-Zn(1)-N(2)#2	90.66(10)
O(1)#1-Zn(1)-N(2)#3	91.25(11)
O(1)-Zn(1)-N(2)#3	88.75(11)
N(1)#1-Zn(1)-N(2)#3	90.66(10)
N(1)-Zn(1)-N(2)#3	89.34(10)
N(2)#2-Zn(1)-N(2)#3	180.00(11)

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

1.2. Table S2 Selected Bond lengths [Å] and angles [º] for **2**.

Cd(1)-O(1)	2.2403(18)
Cd(1)-O(1)#1	2.2871(18)
Cd(1)-N(2)#2	2.341(2)
Cd(1)-O(2)	2.347(2)
Cd(1)-O(3)	2.375(2)
Cd(1)-N(1)	2.385(2)
Cd(1)-C(17)	2.697(3)

O(1)-Cd(1)-O(1)#1	72.60(8)
O(1)-Cd(1)-N(2)#2	107.33(9)
O(1)#1-Cd(1)-N(2)#2	92.25(8)
O(1)-Cd(1)-O(2)	110.19(8)
O(1)#1-Cd(1)-O(2)	98.38(8)
N(2)#2-Cd(1)-O(2)	142.47(9)
O(1)-Cd(1)-O(3)	164.51(8)
O(1)#1-Cd(1)-O(3)	104.00(7)
N(2)#2-Cd(1)-O(3)	87.74(8)
O(2)-Cd(1)-O(3)	54.79(8)
O(1)-Cd(1)-N(1)	72.47(7)
O(1)#1-Cd(1)-N(1)	144.90(7)
N(2)#2-Cd(1)-N(1)	94.84(7)
O(2)-Cd(1)-N(1)	96.65(8)
O(3)-Cd(1)-N(1)	110.58(8)
O(1)-Cd(1)-C(17)	137.18(10)
O(1)#1-Cd(1)-C(17)	99.95(8)
N(2)#2-Cd(1)-C(17)	115.16(10)
O(2)-Cd(1)-C(17)	27.56(9)
O(3)-Cd(1)-C(17)	27.47(9)
N(1)-Cd(1)-C(17)	107.84(8)
C(1)-O(1)-Cd(1)	117.74(16)
C(1)-O(1)-Cd(1)#1	134.37(16)
Cd(1)-O(1)-Cd(1)#1	107.40(8)
C(9)-N(1)-Cd(1)	128.89(17)

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

1.3. Table S3 Selected Bond lengths [Å] and angles [º] for **3**.

Zn(1)-O(1)	2.0208(15)
Zn(1)-O(2)	2.039(2)
Zn(1)-N(2)#1	2.1191(19)
Zn(1)-O(1)#2	2.1321(16)
Zn(1)-N(1)	2.1888(19)
Zn(1)-C(20)	2.546(3)
O(1)-Zn(1)-O(2)	149.55(10)
O(1)-Zn(1)-N(2)#1	103.49(7)
O(2)-Zn(1)-N(2)#1	106.03(11)
O(1)-Zn(1)-O(1)#2	76.56(7)
O(2)-Zn(1)-O(1)#2	94.12(7)

N(2)#1-Zn(1)-O(1)#2	93.77(7)
O(1)-Zn(1)-N(1)	78.41(7)
O(2)-Zn(1)-N(1)	106.71(8)
N(2)#1-Zn(1)-N(1)	93.74(7)
O(1)#2-Zn(1)-N(1)	154.90(7)
O(1)-Zn(1)-C(20)	121.67(11)
O(2)-Zn(1)-C(20)	27.97(12)
N(2)#1-Zn(1)-C(20)	133.61(12)
O(1)#2-Zn(1)-C(20)	87.33(8)
N(1)-Zn(1)-C(20)	104.45(9)
C(1)-O(1)-Zn(1)	116.61(14)
C(1)-O(1)-Zn(1)#2	139.65(14)
Zn(1)-O(1)-Zn(1)#2	103.45(7)

Symmetry transformations used to generate equivalent atoms:

#1 -x+1/2, y+1/2, -z+1/2 #2 -x, -y+2, -z

#3 -x+1/2, y-1/2, -z+1/2 #4 -x, -y+1, -z

1.4. Table S4 Selected Bond lengths [Å] and angles [º] for **4**.

I(1)-Zn(2)	2.5391(6)
Zn(1)-O(2)	1.991(2)
Zn(1)-O(1)	1.999(3)
Zn(1)-O(4)	2.069(4)
Zn(1)-O(1)#1	2.071(3)
Zn(1)-N(1)	2.181(3)
O(1)-Zn(1)#1	2.071(3)
Zn(2)-N(2)	2.068(3)
Zn(2)-N(2)#2	2.068(3)
Zn(2)-I(1)#2	2.5391(6)
O(2)-Zn(1)-O(1)	149.03(15)
O(2)-Zn(1)-O(4)	99.17(16)
O(1)-Zn(1)-O(4)	111.42(15)
O(2)-Zn(1)-O(1)#1	97.34(10)
O(1)-Zn(1)-O(1)#1	75.61(11)
O(4)-Zn(1)-O(1)#1	95.48(15)
O(2)-Zn(1)-N(1)	104.81(10)
O(1)-Zn(1)-N(1)	78.86(10)
O(4)-Zn(1)-N(1)	93.38(14)
O(1)#1-Zn(1)-N(1)	154.47(11)
N(2)-Zn(2)-N(2)#2	95.90(18)
N(2)-Zn(2)-I(1)#2	107.69(9)
N(2)#2-Zn(2)-I(1)#2	108.35(8)

N(2)-Zn(2)-I(1)	108.35(8)
N(2)#2-Zn(2)-I(1)	107.69(9)
I(1)#2-Zn(2)-I(1)	124.99(4)

Symmetry transformations used to generate equivalent atoms:
#1 -x+3/2,-y+3/2,-z #2 -x+2,y,-z+1/2 #3 -x+3/2,-y+5/2,-z

1.5. Table S5 Selected Bond lengths [Å] and angles [º] for **5**.

Cd(1)-O(1)#1	2.247(2)
Cd(1)-O(1)	2.281(2)
Cd(1)-O(3)	2.329(3)
Cd(1)-N(2)#2	2.332(3)
Cd(1)-N(1)#1	2.340(3)
Cd(1)-O(2)	2.389(3)
Cd(1)-C(20)	2.705(3)
O(1)#1-Cd(1)-O(1)	76.37(10)
O(1)#1-Cd(1)-O(3)	155.90(11)
O(1)-Cd(1)-O(3)	97.74(9)
O(1)#1-Cd(1)-N(2)#2	98.65(11)
O(1)-Cd(1)-N(2)#2	90.02(10)
O(3)-Cd(1)-N(2)#2	104.76(12)
O(1)#1-Cd(1)-N(1)#1	72.32(10)
O(1)-Cd(1)-N(1)#1	148.25(10)
O(3)-Cd(1)-N(1)#1	113.02(10)
N(2)#2-Cd(1)-N(1)#1	89.56(10)
O(1)#1-Cd(1)-O(2)	101.80(12)
O(1)-Cd(1)-O(2)	91.46(10)
O(3)-Cd(1)-O(2)	54.55(12)
N(2)#2-Cd(1)-O(2)	159.26(13)
N(1)#1-Cd(1)-O(2)	99.84(11)
O(1)#1-Cd(1)-C(20)	129.10(11)
O(1)-Cd(1)-C(20)	92.66(10)
O(3)-Cd(1)-C(20)	26.89(11)
N(2)#2-Cd(1)-C(20)	131.37(12)
N(1)#1-Cd(1)-C(20)	111.06(10)
O(2)-Cd(1)-C(20)	27.89(11)
C(1)-O(1)-Cd(1)#1	117.0(2)
C(1)-O(1)-Cd(1)	137.5(2)
Cd(1)#1-O(1)-Cd(1)	103.63(10)

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

#3 x-1/2, -y-1/2, z-1/2 #4 -x, -y+1, -z

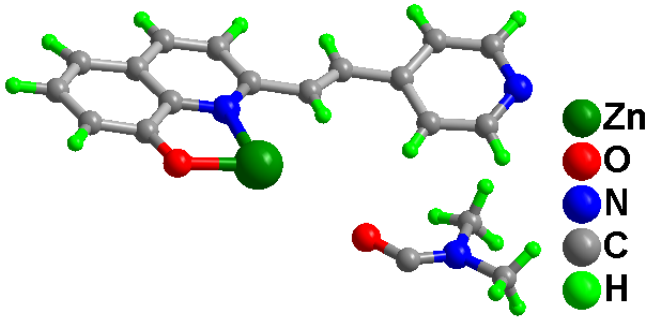
1.6. Table S6 Selected Bond lengths [Å] and angles [º] for **6**.

Cd(1)-O(1)	2.259(4)
Cd(1)-O(1)#1	2.260(4)
Cd(1)-O(3)	2.325(5)
Cd(1)-N(2)#2	2.332(5)
Cd(1)-N(1)	2.353(4)
Cd(1)-O(2)	2.414(4)
O(1)-Cd(1)#1	2.260(4)
N(2)-Cd(1)#4	2.332(5)
O(1)-Cd(1)-O(1)#1	76.52(17)
O(1)-Cd(1)-O(3)	97.27(17)
O(1)#1-Cd(1)-O(3)	105.24(18)
O(1)-Cd(1)-N(2)#2	103.73(17)
O(1)#1-Cd(1)-N(2)#2	89.80(17)
O(3)-Cd(1)-N(2)#2	156.59(19)
O(1)-Cd(1)-N(1)	71.78(15)
O(1)#1-Cd(1)-N(1)	147.19(15)
O(3)-Cd(1)-N(1)	87.19(17)
N(2)#2-Cd(1)-N(1)	89.61(17)
O(1)-Cd(1)-O(2)	150.96(16)
O(1)#1-Cd(1)-O(2)	99.84(16)
O(3)-Cd(1)-O(2)	55.34(17)
N(2)#2-Cd(1)-O(2)	105.07(17)
N(1)-Cd(1)-O(2)	111.96(16)

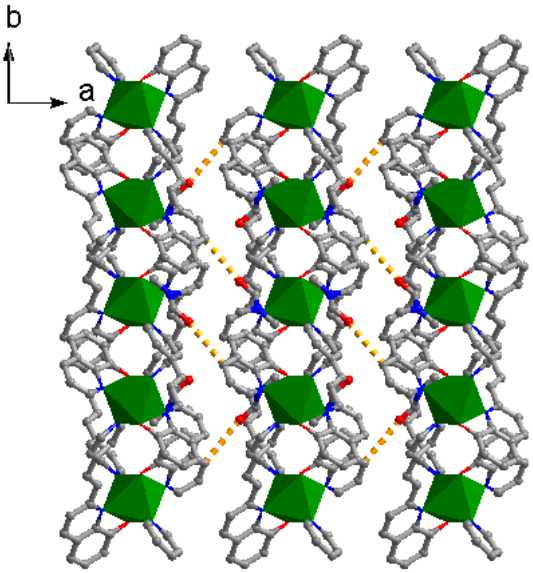
Symmetry transformations used to generate equivalent atoms:

#1 x,-y+3/2,-z+9/4 #2 y-1,-x+1,-z+2 #3 -x+1,-y+2,z
#4 -y+1,x+1,-z+2

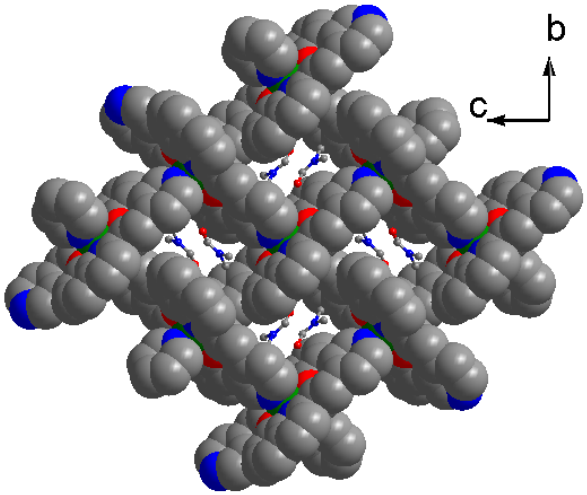
2.1 Fig. S1. View of the asymmetric unit in **1**.



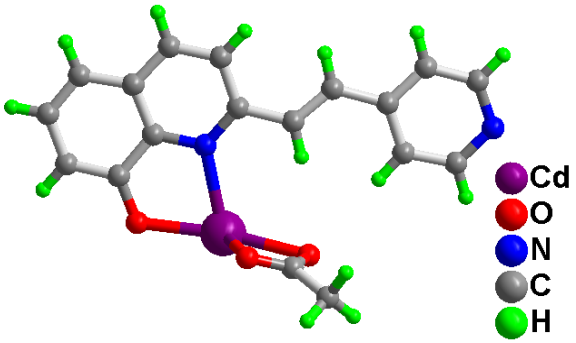
2.2 Fig. S2. Perspective view of C–H···O intermolecular interactions in **1**.



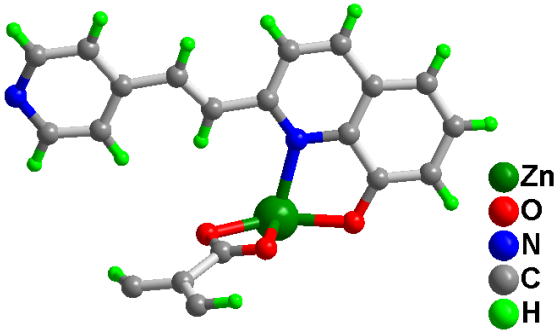
2.3 Fig. S3. View of 3D supramolecular structure in **1**.



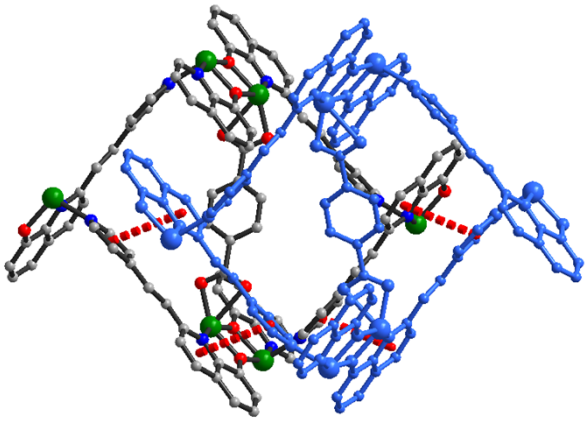
2.4 Fig. S4. View of the asymmetric unit in **2**.



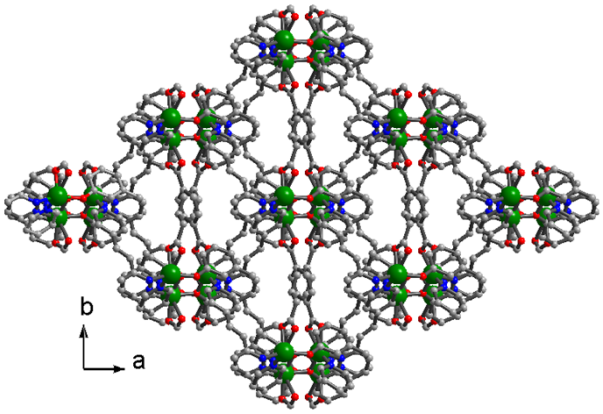
2.5 Fig. S5. View of the asymmetric unit in **3**.



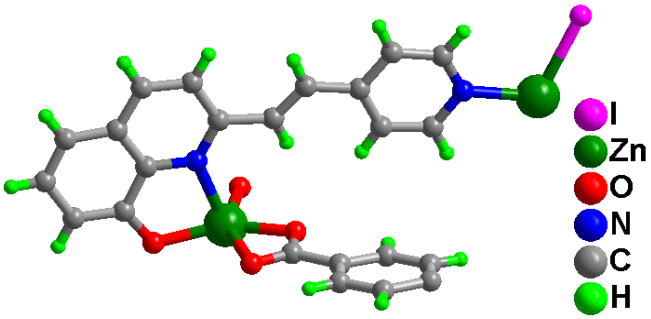
2.6 Fig. S6. The π···π stacking between quinoline and pyridine rings of adjacent 2D layer networks in **3**.



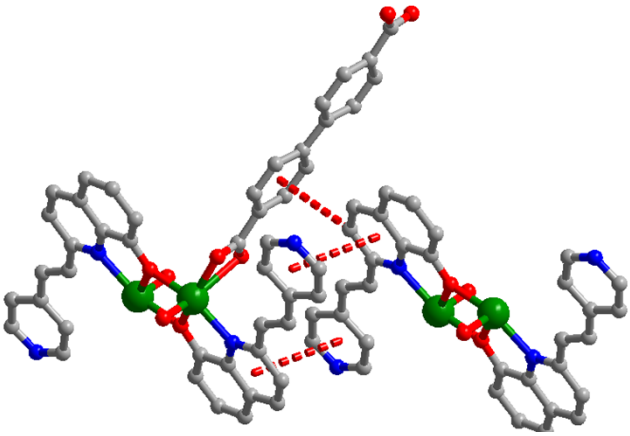
2.7 Fig. S7.View of the 3D structure in **3**.



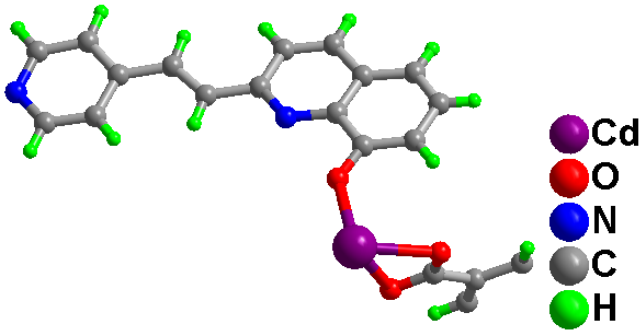
2.8 Fig. S8. View of the asymmetric unit in **4**.



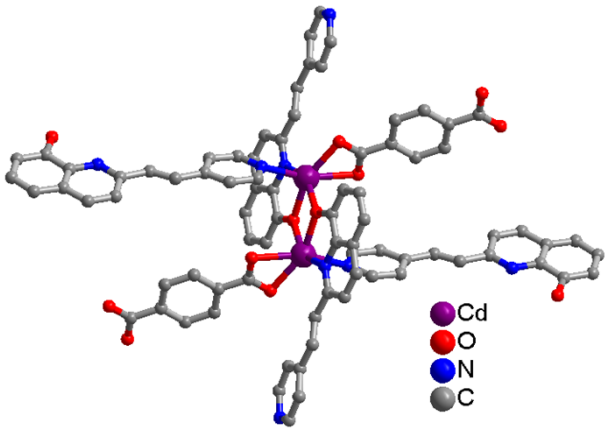
2.9 Fig. S9. Perspective view of π···π stacking and C-H···π intermolecular interactions in **4**.



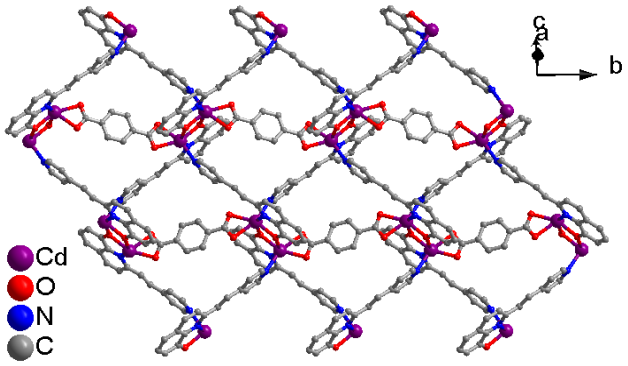
2.10 Fig. S10. View of the asymmetric unit in **5**.



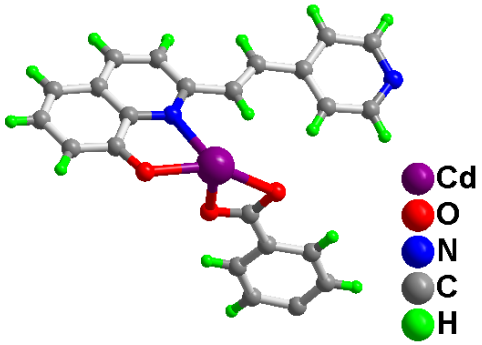
2.11 Fig. S11. View of the coordination geometries of Cd(II) atoms in **5**.



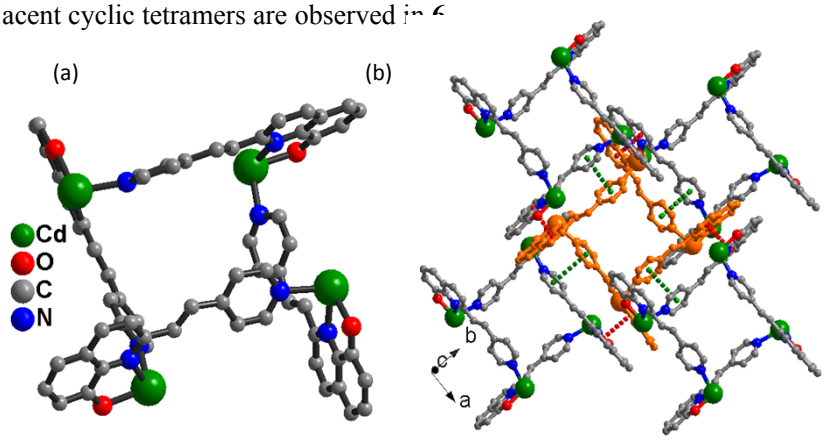
2.12 Fig. S12. The 2D network structure of **5**.



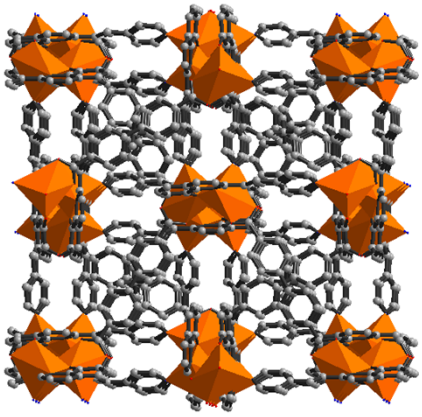
2.13 Fig. S13. View of the asymmetric unit in **6**.



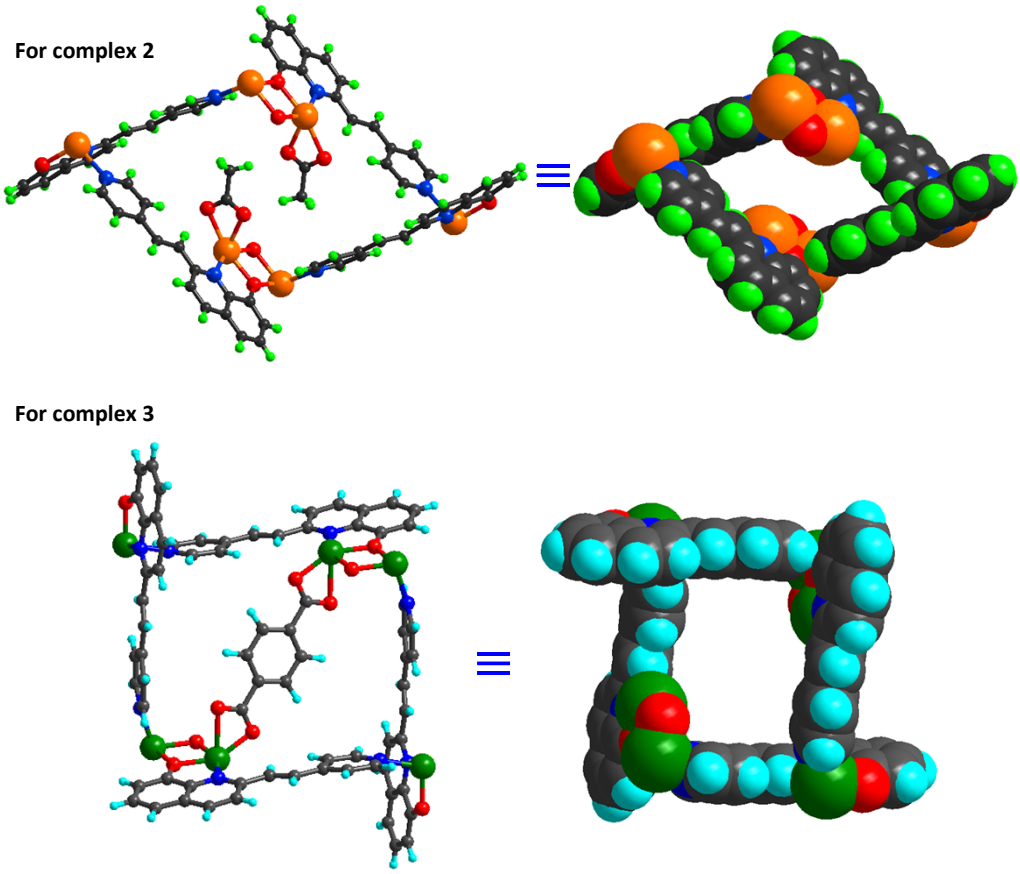
2.14 Fig. S14. (a) View of a cyclic tetramer Zn_6L_4 in **6**; (b) Two types of π···π interactions Between the adjacent cyclic tetramers are observed in **6**.



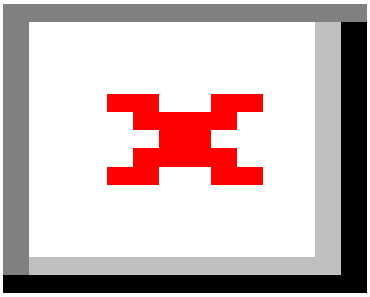
2.15 Fig. S15. View of 3D supramolecular structure in **6**.



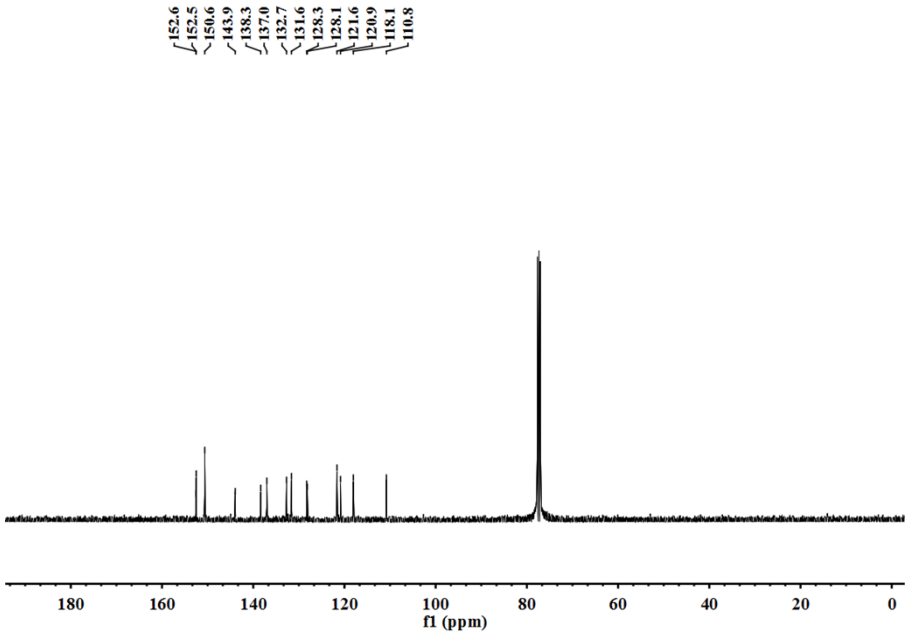
2.16 Fig. S16. Two cyclic hexamer M_6L_4 for complexes **2** and **3**.



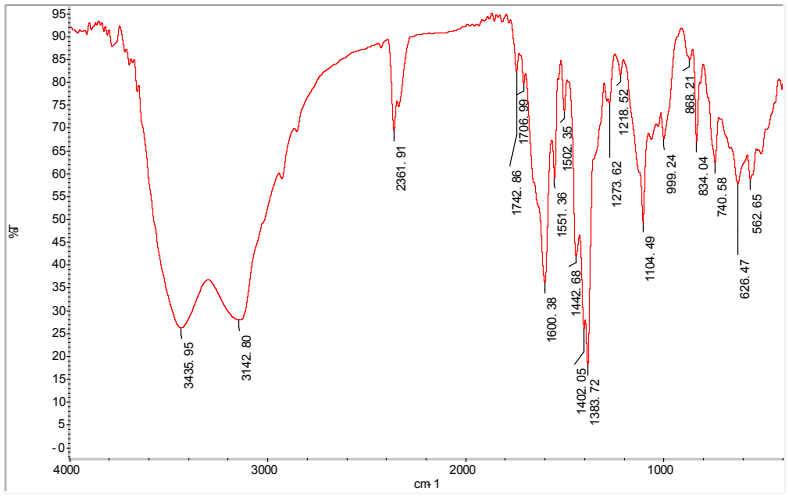
3.1 Fig. S17. ^{1}H NMR spectrum of HL (d_6-DMSO).



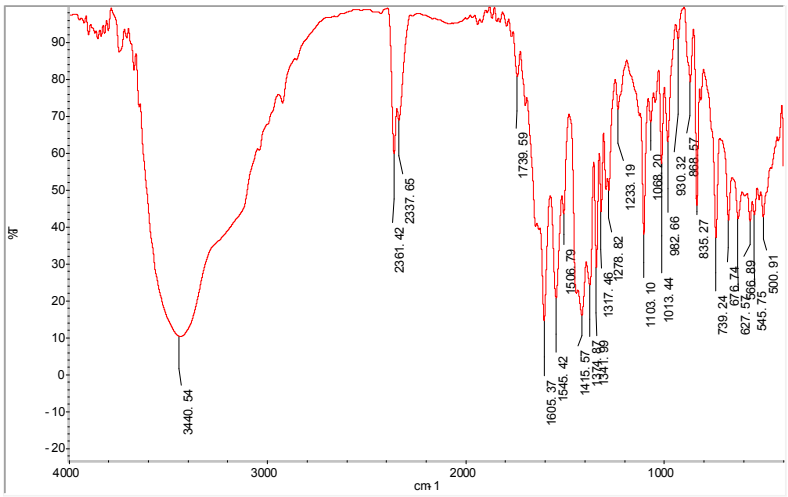
3.2 Fig. S18. ^{13}C NMR spectrum of HL (d_6-DMSO).



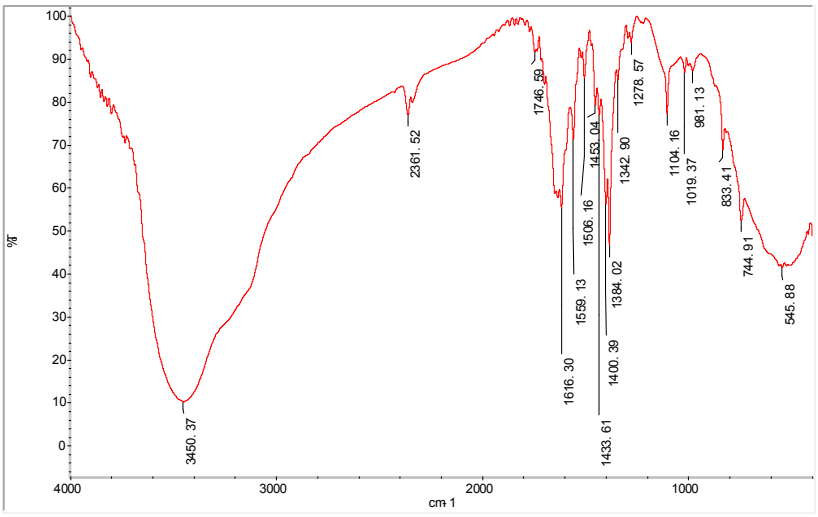
4.1 Fig. S19. IR spectrum of complex **1**.



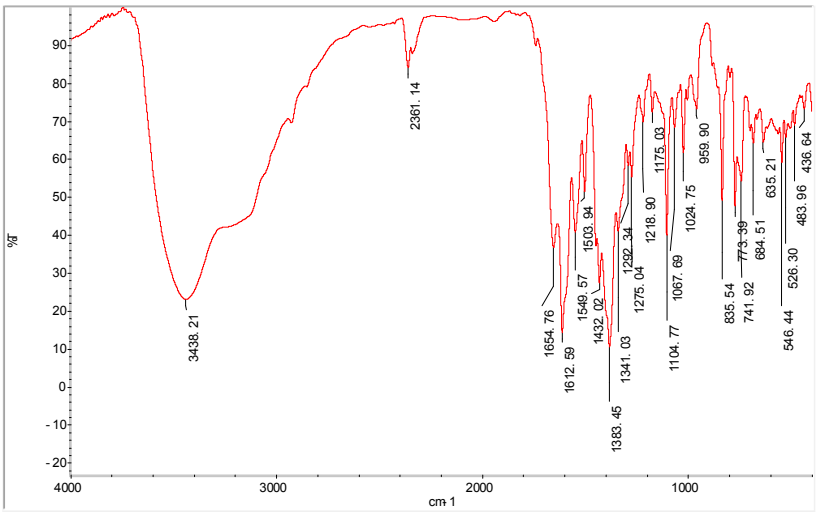
4.2 Fig. S20. IR spectrum of complex **2**.



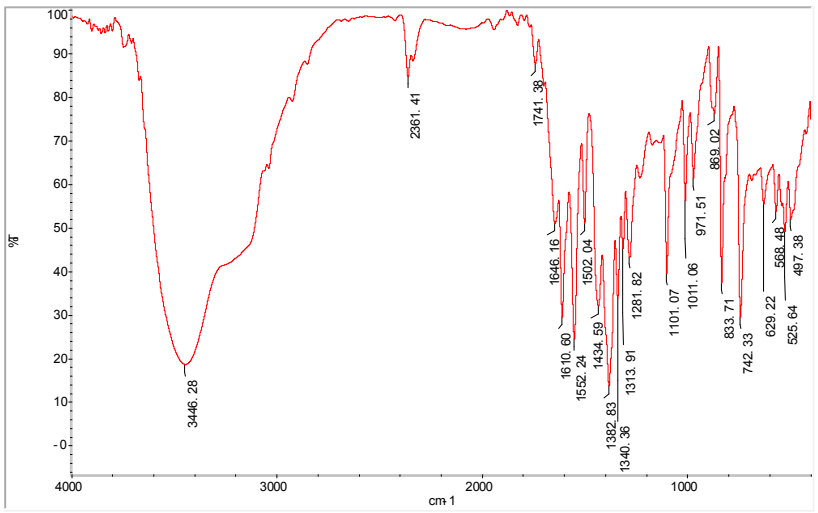
4.3 Fig. S21. IR spectrum of complex **3**.



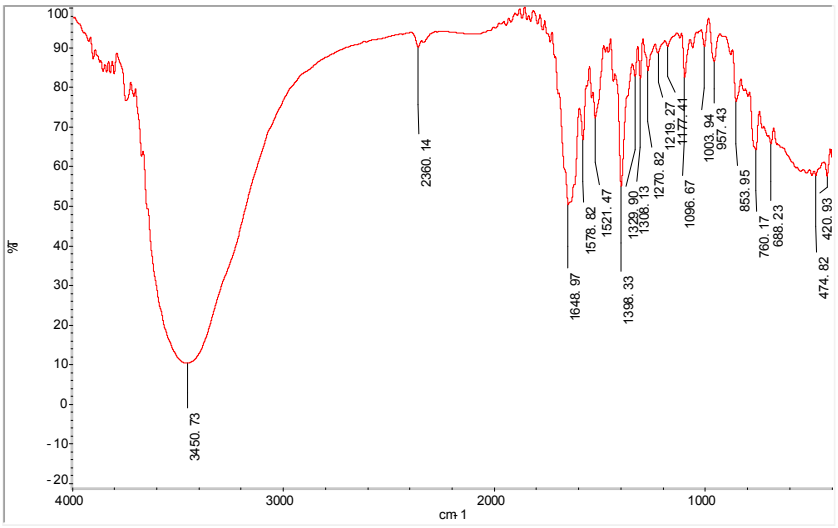
4.4 Fig. S22. IR spectrum of complex **4**.



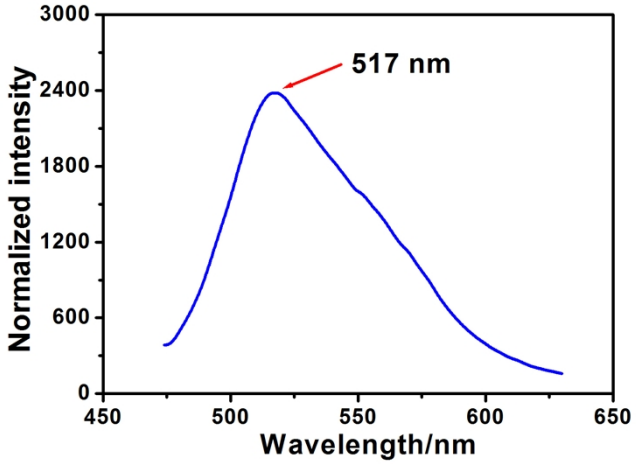
4.5 Fig. S23. IR spectrum of complex **5**.



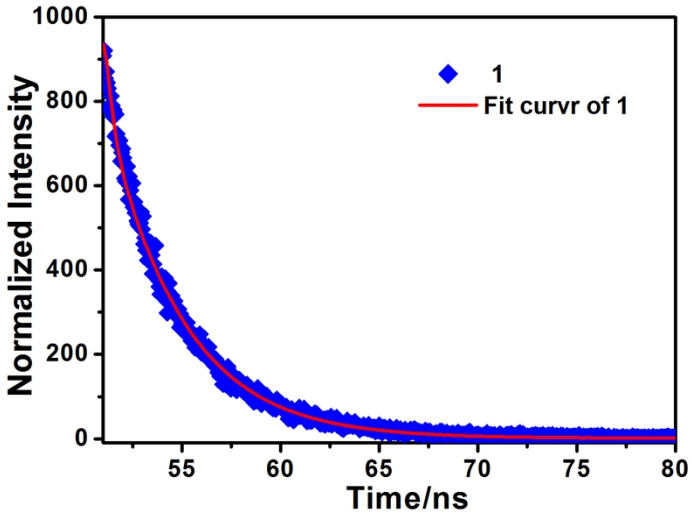
4.6 Fig. S24. IR spectrum of complex **6**.



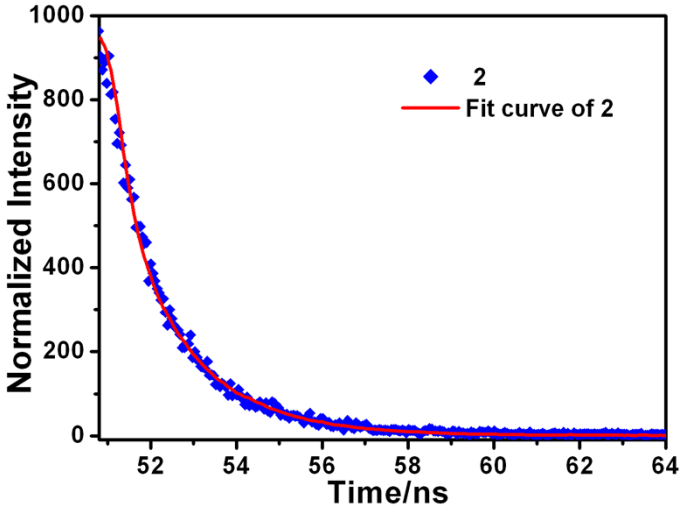
5 Fig. S25. Emission spectra of HL ligand in the solid state.



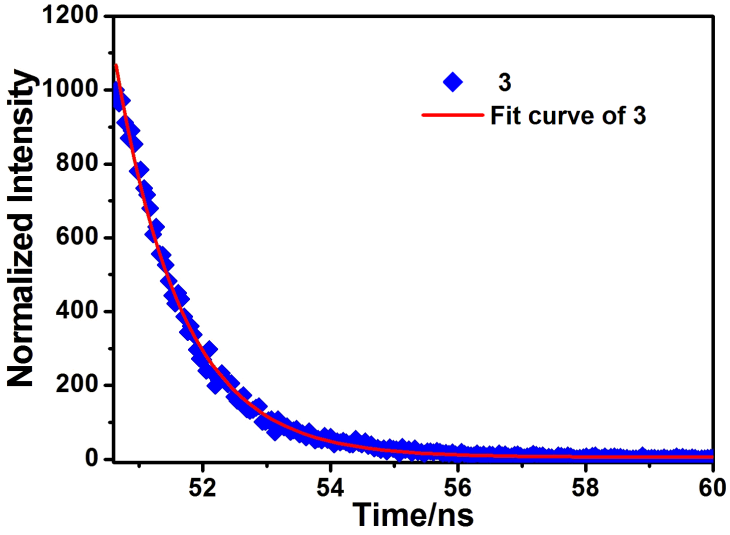
6.1 Fig. S26. Fluorescence decay and fit curves of complex **1**.



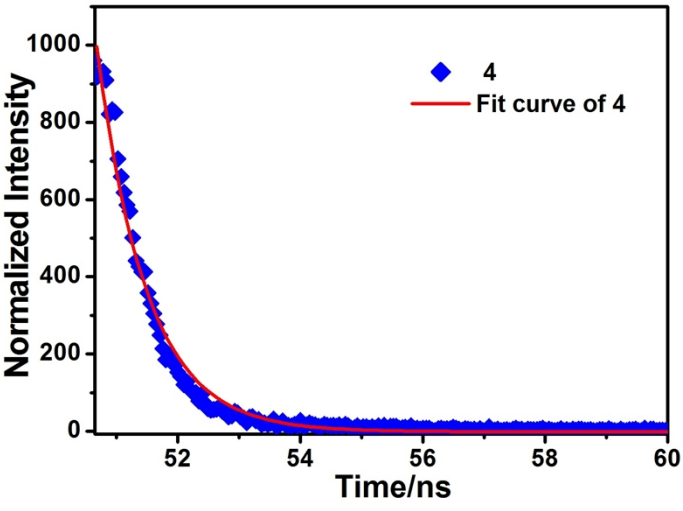
6.2 Fig. S27. Fluorescence decay and fit curves of compound **2**.



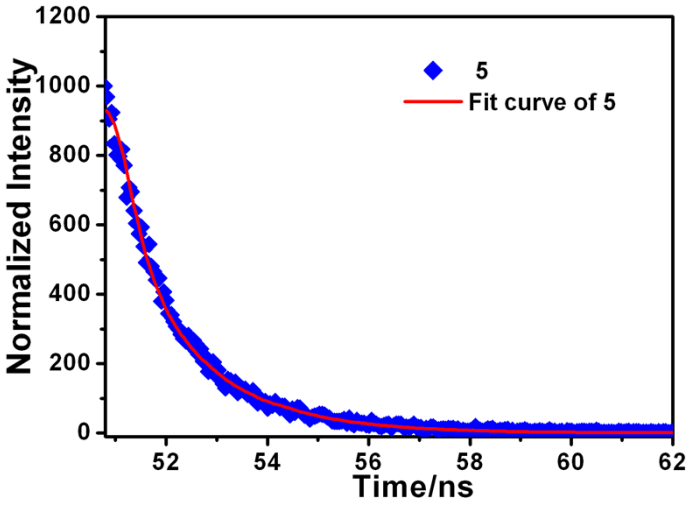
6.3 Fig. S28. Fluorescence decay and fit curves of compound **3**.



6.4 Fig. S29. Fluorescence decay and fit curves of compound **4**.



6.5 Fig. S30. Fluorescence decay and fit curves of compound **5**.



6.6 Fig. S31. Fluorescence decay and fit curves of compound **6**.