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Supplementary Material

Structural Diversity and Fluorescent Regulation of Three Zn (II) Coordination Polymers Assembled from Mixed-ligands Tectons

Ling-Yun Xin,[†] Guang-Zhen Liu,*[,†] Lu-Fang Ma,[†] Xue Zhang,[†] Li-Ya Wang*[,†, ‡]

[†]*College of Chemistry and Chemical Engineering, Luoyang Normal University, Luoyang, Henan, 471022, P. R. China*

[‡]*College of Chemistry and Pharmacy Engineering, Nanyang Normal University, Nanyang, Henan, 473061, P. R. China*

* Corresponding authors.

E-mail address: gzliuly@126.com, Tel.: +86 0379 65523593;
Fax: +86 0379 65511205;

Table S1 Selected bond lengths (Å) and angles (°) for compounds **1-3**

*Compound **1***			
Zn(1)-O(4)#1	1.949(6)	Zn(1)-O(8)	1.961(6)
Zn(1)-N(5)	2.061(6)	Zn(1)-N(1)	2.058(5)
Zn(2)-O(5)	1.982(5)	Zn(2)-O(1)	1.985(5)
Zn(2)-N(8)#2	2.084(6)	Zn(2)-N(4)#3	2.097(6)
O(4)#1-Zn(1)-O(8)	113.9(3)	O(4)#1-Zn(1)-N(5)	106.7(3)
O(8)-Zn(1)-N(5)	116.6(2)	O(4)#1-Zn(1)-N(1)	116.9(3)
O(8)-Zn(1)-N(1)	96.2(2)	N(5)-Zn(1)-N(1)	106.5(2)
O(5)-Zn(2)-O(1)	139.1(2)	O(5)-Zn(2)-N(8)#2	106.6(2)
O(1)-Zn(2)-N(8)#2	98.2(2)	O(5)-Zn(2)-N(4)#3	95.7(2)
O(1)-Zn(2)-N(4)#3	108.1(2)	N(8)#2-Zn(2)-N(4)#3	106.34(18)
*Compound **2***			
Zn(1)-O(2)#1	1.975(2)	Zn(1)-O(3)	2.028(2)
Zn(1)-O(1)#2	2.0453(19)	Zn(1)-N(4)#3	2.166(2)
Zn(1)-N(5)	2.166(2)	O(2)#1-Zn(1)-O(3)	100.48(8)
O(2)#1-Zn(1)-O(1)#2	125.66(9)	O(3)-Zn(1)-O(1)#2	133.62(8)
O(2)#1-Zn(1)-N(4)#3	92.67(9)	O(3)-Zn(1)-N(4)#3	90.50(9)
O(1)#2-Zn(1)-N(4)#3	83.66(8)	O(2)#1-Zn(1)-N(5)	100.01(9)
O(3)-Zn(1)-N(5)	89.23(8)	O(1)#2-Zn(1)-N(5)	87.24(8)
N(4)#3-Zn(1)-N(5)	167.15(9)		
*Compound **3***			
Zn(1)-O(4)#1	1.9511(15)	Zn(1)-O(1)	1.9515(15)
Zn(1)-N(1)	2.0083(17)	Zn(1)-N(2)	2.0099(17)
O(4)#1-Zn(1)-O(1)	103.01(7)	O(4)#1-Zn(1)-N(1)	97.21(6)
O(1)-Zn(1)-N(1)	123.77(6)	O(4)#1-Zn(1)-N(2)	124.40(6)
O(1)-Zn(1)-N(2)	97.39(6)	N(1)-Zn(1)-N(2)	112.96(7)

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

Table S2 Hydrogen bond distances (Å) and angles (°) for compound **3**

D-H···A	*d (D-H)*	*d (H···A)*	*d (D···A)*	∠ **(DHA)**
*Compound **1***				
O(13W)-H(6W)...O(9)#7	0.85	2.56	3.411(14)	179.1
O(13W)-H(5W)...O(1)#8	0.85	2.46	3.305(14)	179.6
O(12W)-H(4W)...O(1)#9	0.85	2.15	3.001(13)	177.8
O(12W)-H(3W)...O(13W)	0.85	2.10	2.948(17)	179.3
O(11W)-H(2W)...O(5)#10	0.85	2.54	3.091(12)	123.9
O(11W)-H(1W)...O(3)#9	0.85	1.89	2.740(14)	178.7
*Compound **2***				
N(3)-H(3)...O(4)#6	0.86	1.86	2.713(3)	168.7
*Compound **3***				
O5-H1W...O(3) #5	0.85	2.037	2.885	174.56
O5-H2W...O(2) #5	0.85	2.065	2.911	173.83

Symmetry codes for compound **1**: #7 -x+1,-y+1,-z+1 #8 x,y,z+1 #9 -x+2,-y+1,-z+1 #10 x,-y+3/2,z+1/2; compound **2**: #6 -x+2,-y+2,-z; compound **3**: #5 x+1/2, -y+3/2, -z+1.

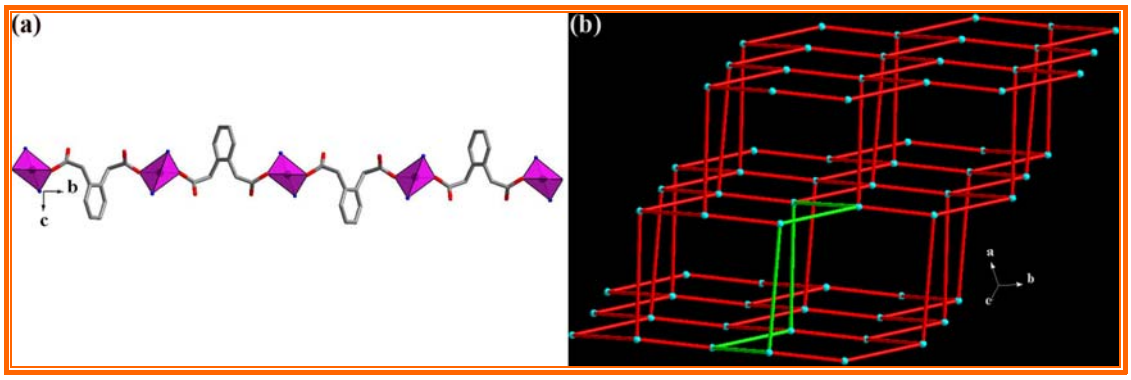
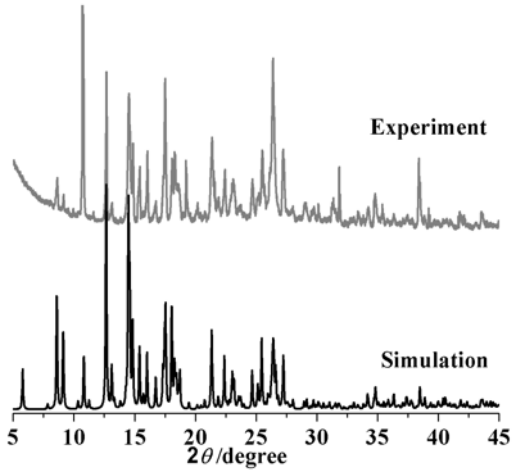
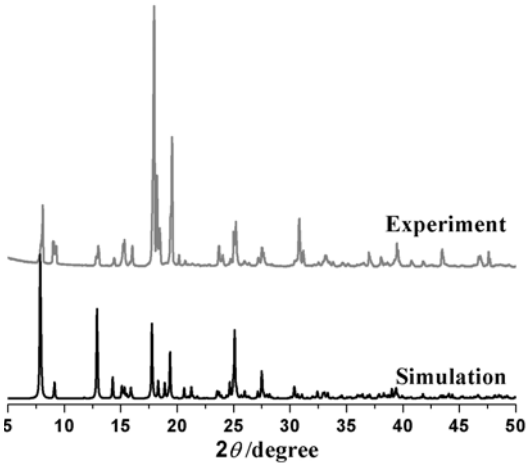


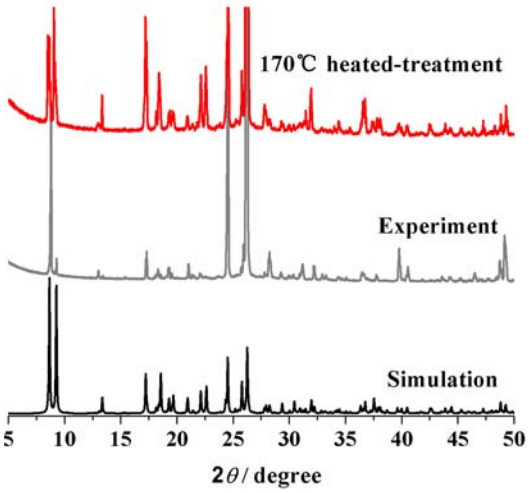
Fig. S1 (a) The 1D $[Zn(phda)]_n$ chain along with *b* reaction in compound **3**. **(**b) Schematic representation of 3D framework topology in **3** with 6^6-***dia*** topology.



(a)



(b)



(c)

Fig. S2 The X-ray powder diffraction patterns of (a) complex **1**, (b) complex **2** and (c) complex **3**