

## ***Electronic Supplementary Information***

### **Three Zn(II) Metal-Organic Frameworks Assembled from a Versatile Tecton 5-ethyl-pyridine-2,3-dicarboxylate and Dipyriddy-type Coligand**

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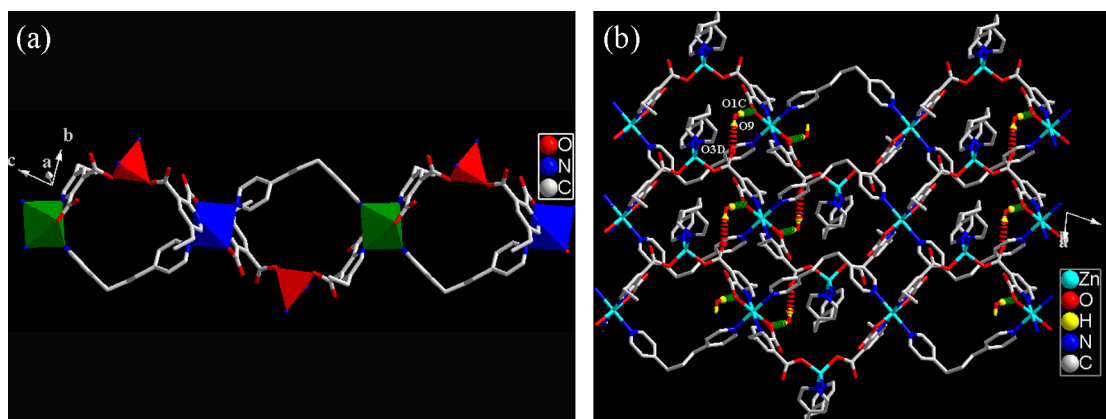
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**Table S1** Selected bond lengths (Å) and angles (°) for compounds **1-3**

<b>Compound 1</b>			
Zn(1)-O(1)#1	2.0854(16)	Zn(1)-O(1)	2.0854(16)
Zn(1)-N(1)	2.1110(19)	Zn(1)-N(1)#1	2.1110(19)
Zn(1)-N(4)	2.256(2)	Zn(1)-N(4)#1	2.256(2)
Zn(2)-O(5)	1.9309(17)	Zn(2)-O(4)	1.9428(17)
Zn(2)-N(5)	2.0203(19)	Zn(2)-N(6)#2	2.024(2)
Zn(3)-O(8)#3	2.0657(17)	Zn(3)-O(8)	2.0657(17)
Zn(3)-N(2)#3	2.138(2)	Zn(3)-N(2)	2.138(2)
Zn(3)-N(3)	2.270(2)	Zn(3)-N(3)#3	2.270(2)
O(1)#1-Zn(1)-O(1)	180.00(8)	O(1)#1-Zn(1)-N(1)	100.97(7)
O(1)-Zn(1)-N(1)	79.03(7)	O(1)#1-Zn(1)-N(1)#1	79.03(7)
O(1)-Zn(1)-N(1)#1	100.97(7)	N(1)-Zn(1)-N(1)#1	180.00(16)
O(1)#1-Zn(1)-N(4)	87.93(7)	O(1)-Zn(1)-N(4)	92.07(7)
N(1)-Zn(1)-N(4)	88.94(7)	N(1)#1-Zn(1)-N(4)	91.06(7)
O(1)#1-Zn(1)-N(4)#1	92.07(7)	O(1)-Zn(1)-N(4)#1	87.93(7)
N(1)-Zn(1)-N(4)#1	91.06(7)	N(1)#1-Zn(1)-N(4)#1	88.94(7)
N(4)-Zn(1)-N(4)#1	180.00(13)	O(5)-Zn(2)-O(4)	99.37(7)
O(5)-Zn(2)-N(5)	118.01(9)	O(4)-Zn(2)-N(5)	107.12(8)
O(5)-Zn(2)-N(6)#2	112.47(8)	O(4)-Zn(2)-N(6)#2	111.56(8)
N(5)-Zn(2)-N(6)#2	107.93(8)	O(8)#3-Zn(3)-O(8)	180.000(1)
O(8)#3-Zn(3)-N(2)#3	78.91(7)	O(8)-Zn(3)-N(2)#3	101.09(7)
O(8)#3-Zn(3)-N(2)	101.09(7)	O(8)-Zn(3)-N(2)	78.91(7)
N(2)#3-Zn(3)-N(2)	180.00(11)	O(8)#3-Zn(3)-N(3)	88.39(8)
O(8)-Zn(3)-N(3)	91.61(8)	N(2)#3-Zn(3)-N(3)	85.47(8)
N(2)-Zn(3)-N(3)	94.53(8)	O(8)#3-Zn(3)-N(3)#3	91.61(8)
O(8)-Zn(3)-N(3)#3	88.39(8)	N(2)#3-Zn(3)-N(3)#3	94.53(8)
N(2)-Zn(3)-N(3)#3	85.47(8)	N(3)-Zn(3)-N(3)#3	180.0
<b>Compound 2</b>			
Zn(1)-O(1)#1	2.0311(14)	Zn(1)-O(1)	2.0311(14)
Zn(1)-N(1)#1	2.0786(17)	Zn(1)-N(1)	2.0786(17)
Zn(1)-O(7)#2	2.2308(17)	Zn(1)-O(7)#3	2.2308(17)
Zn(2)-O(4)#4	1.9916(15)	Zn(2)-O(5)	2.0842(15)
Zn(2)-N(3)	2.1072(16)	Zn(2)-N(2)	2.1417(16)
Zn(2)-O(2)	2.1500(14)		
O(1)#1-Zn(1)-O(1)	180.000(1)	O(1)#1-Zn(1)-N(1)#1	80.06(6)
O(1)-Zn(1)-N(1)#1	99.94(6)	O(1)#1-Zn(1)-N(1)	99.94(6)
O(1)-Zn(1)-N(1)	80.06(6)	N(1)#1-Zn(1)-N(1)	180.000(2)
O(1)#1-Zn(1)-O(7)#2	88.34(7)	O(1)-Zn(1)-O(7)#2	91.66(7)
N(1)#1-Zn(1)-O(7)#2	91.20(7)	N(1)-Zn(1)-O(7)#2	88.80(7)
O(1)#1-Zn(1)-O(7)#3	91.66(7)	O(1)-Zn(1)-O(7)#3	88.34(7)
N(1)#1-Zn(1)-O(7)#3	88.80(7)	N(1)-Zn(1)-O(7)#3	91.20(7)
N(1)-Zn(1)-O(7)#3	91.20(7)	O(7)#2-Zn(1)-O(7)#3	180.000(1)
O(4)#4-Zn(2)-O(5)	107.05(6)	O(4)#4-Zn(2)-N(3)	94.23(6)

O(5)-Zn(2)-N(3)	91.86(6)	O(4)#4-Zn(2)-N(2)	102.19(6)
O(5)-Zn(2)-N(2)	75.99(6)	N(3)-Zn(2)-N(2)	161.81(7)
O(4)#4-Zn(2)-O(2)	102.94(6)	O(5)-Zn(2)-O(2)	148.35(6)
N(3)-Zn(2)-O(2)	95.83(6)	N(2)-Zn(2)-O(2)	88.13(6)
<b>Compound 3</b>			
Zn(1)-O(1)#1	2.0384(13)	Zn(1)-O(1)	2.0384(13)
Zn(1)-N(1)	2.0661(16)	Zn(1)-N(1)#1	2.0661(16)
Zn(1)-O(7)#2	2.2192(15)	Zn(1)-O(7)#3	2.2192(15)
Zn(2)-O(4)#4	1.9736(14)	Zn(2)-O(5)	2.0643(15)
Zn(2)-N(3)	2.1112(16)	Zn(2)-O(2)	2.1268(13)
Zn(2)-N(2)	2.1517(16)		
O(1)#1-Zn(1)-O(1)	180.00(8)	O(1)#1-Zn(1)-N(1)	99.70(6)
O(1)-Zn(1)-N(1)	80.30(6)	O(1)#1-Zn(1)-N(1)#1	80.30(6)
O(1)#1-Zn(1)-N(1)#1	80.30(6)	O(1)-Zn(1)-N(1)#1	99.70(6)
N(1)-Zn(1)-N(1)#1	180.00(10)	O(1)#1-Zn(1)-O(7)#2	90.19(6)
O(1)-Zn(1)-O(7)#2	89.81(6)	N(1)-Zn(1)-O(7)#2	95.45(7)
N(1)#1-Zn(1)-O(7)#2	84.55(7)	O(1)#1-Zn(1)-O(7)#3	89.81(6)
O(1)-Zn(1)-O(7)#3	90.19(6)	N(1)-Zn(1)-O(7)#3	84.55(7)
N(1)#1-Zn(1)-O(7)#3	95.45(7)	O(7)#2-Zn(1)-O(7)#3	180.00(9)
O(4)#4-Zn(2)-O(5)	111.13(7)	O(4)#4-Zn(2)-N(3)	94.23(6)
O(5)-Zn(2)-N(3)	89.39(6)	O(4)#4-Zn(2)-O(2)	102.17(6)
O(5)-Zn(2)-O(2)	146.03(6)	N(3)-Zn(2)-O(2)	94.79(6)
O(4)#4-Zn(2)-N(2)	108.53(6)	O(5)-Zn(2)-N(2)	76.24(6)
N(3)-Zn(2)-N(2)	156.21(6)	O(2)-Zn(2)-N(2)	87.27(6)

Symmetry codes for compound 1: #1 -x,-y+2,-z #2 x+1,y-1,z #3 -x,-y+1,-z+1 #4 x-1,y+1,z; compound 2: #1 -x+2,-y+2,-z+2 #2 x+1,y,z #3 -x+1,-y+2,-z+2 #4 -x+2,-y+1,-z+2 #5 x-1,y,z #6 -x+3,-y+1,-z+3; compound 3: #1 -x+2,-y,-z #2 -x+3,-y,-z #3 x-1,y,z #4 -x+2,-y+1,-z #5 x+1,y,z #6 -x+1,-y+1,-z-1



**Fig. S1** (a) A double-stranded chain motif in **1** (blue: Zn1; red: Zn2; green: Zn3). (b) Interactions of H-bonds exist in compound **1**. Green bonds represent the intramolecular hydrogen bonds within the layer, while red bonds represent the interlayer hydrogen bonds between two neighbouring layers.

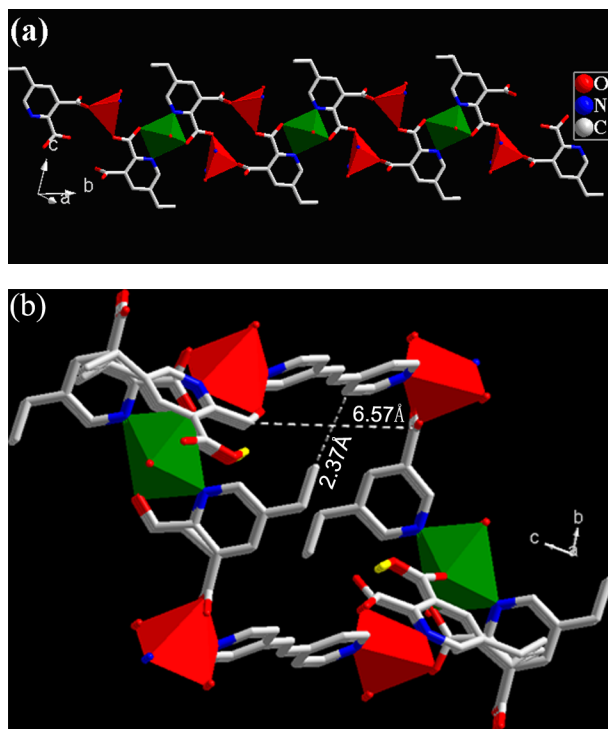


Fig. S2 (a) The chainlike motif in **2** (green: Zn1, red: Zn2). (b) The pore size of one-dimensional channels running along the *a* axis in **2** (green: Zn1, red: Zn2).