

Electronic Supplementary Information

Three novel coordination polymers constructed from [Cu(CN)] chains

Zhanhua Su,^a Zhifeng Zhao,^{*,b} Baibin Zhou^{*,a} and Yunan Zhang^c

^a*College of Chemistry and Chemical Engineering, Harbin Normal University, Harbin 150080, P.R.China,*

^b*College of Materials Science and Engineering, Heilongjiang Institute of Science & Technology, Harbin 150027, P. R. China*

^c*School of Chemistry and Pharmacy, Jiamusi University, Jiamusi 154007, P. R. China*

* Corresponding author.

E-mail: zhifengzhao1980@yahoo.com; zhou_bai_bin@163.com.

1 Additional table

Table S1. Selected Bond Lengths (Å) and Angles (°) of Complexes **1-3**^a

Complex 1					
Cu(1)-C(13)	1.841(4)	Cu(1)-N(2)	1.994(3)	Cu(1)-N(1)	2.084(3)
Cu(2)-N(6)	1.891(3)	Cu(2)-N(4)	1.903(3)	Cu(2)-N(3)	1.996(3)
Cu(2)-Cu(3)	2.9016(7)	Cu(3)-N(7)	1.844(3)	Cu(3)-N(5)	1.848(3)
C(13)-Cu(1)-N(2)	151.18(13)	C(13)-Cu(1)-N(1)	125.41(13)	N(2)-Cu(1)-N(1)	82.69(11)
N(6)-Cu(2)-N(4)	130.70(13)	N(6)-Cu(2)-N(3)	116.84(12)	N(4)-Cu(2)-N(3)	112.35(13)
N(6)-Cu(2)-Cu(3)	81.42(10)	N(4)-Cu(2)-Cu(3)	126.97(10)	N(3)-Cu(2)-Cu(3)	61.44(8)
N(7)-Cu(3)-N(5)	160.93(15)	N(7)-Cu(3)-Cu(2)	79.37(11)	N(5)-Cu(3)-Cu(2)	117.96(11)

Complex 2					
Cu(1)-C(1)	1.931(2)	Cu(1)-C(2)	1.940(2)	Cu(1)-N(1)	2.074(2)
Cu(1)-C(1) ^{#1}	2.399(3)	Cu(1)-Cu(1) ^{#1}	2.4968(6)	Cu(2)-N(2)	1.893(3)
Cu(2)-N(3)	1.912(2)	Cu(2)-N(4)	2.074(2)		
C(1)-Cu(1)-C(2)	127.28(10)	C(1)-Cu(1)-N(1)	113.06(9)	N(1)-Cu(1)-C(1) ^{#1}	94.33(9)
C(2)-Cu(1)-Cu(1) ^{#1}	129.25(8)	N(1)-Cu(1)-Cu(1) ^{#1}	112.06(6)	C(1) ^{#1} -Cu(1)-Cu(1) ^{#1}	46.41(6)
N(2)-Cu(2)-N(3)	140.23(10)	N(2)-Cu(2)-N(4)	111.78(9)	N(3)-Cu(2)-N(4)	107.42(9)
Complex 3					
Cu(1)-C(4)	1.867(3)	Cu(1)-N(1)	1.906(3)	Cu(1)-N(5)	2.080(3)
Cu(2)-C(1)	1.861(3)	Cu(2)-N(2)	1.907(3)	Cu(2)-N(6)	2.080(2)
Cu(3)-C(2)	1.862(3)	Cu(3)-N(3)	1.903(3)	Cu(3)-N(7)	2.089(3)
Cu(4)-C(3)	1.870(3)	Cu(4)-N(4)	1.899(3)	Cu(4)-N(8)	2.083(2)
C(4)-Cu(1)-N(1)	141.01(13)	C(4)-Cu(1)-N(5)	110.61(12)	N(1)-Cu(1)-N(5)	108.38(11)
C(1)-Cu(2)-N(2)	140.52(12)	C(1)-Cu(2)-N(6)	115.39(11)	N(2)-Cu(2)-N(6)	103.75(10)
C(2)-Cu(3)-N(3)	144.08(13)	C(2)-Cu(3)-N(7)	114.23(11)	N(3)-Cu(3)-N(7)	101.69(11)
C(3)-Cu(4)-N(4)	143.55(13)	C(3)-Cu(4)-N(8)	111.74(12)	N(4)-Cu(4)-N(8)	104.64(11)

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

2 Additional figures

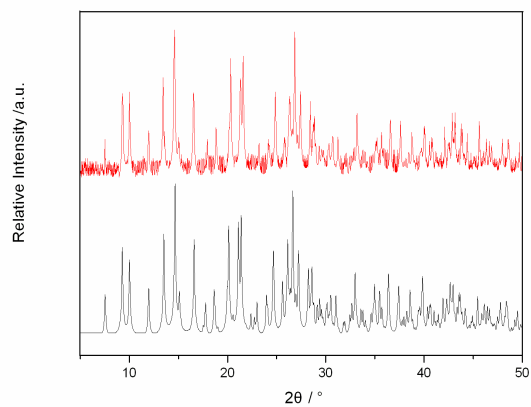


Fig.S1. The simulated (down) and experimental (up) powders XRD patterns of polymer **1**.

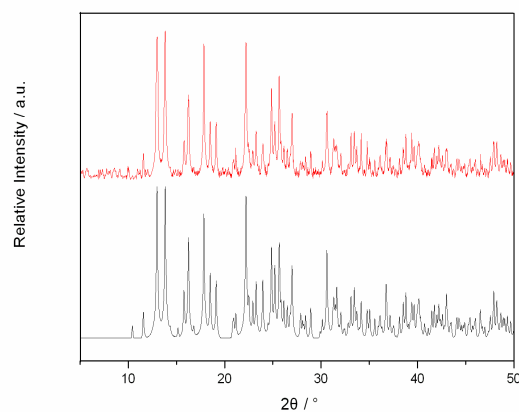


Fig.S2. The simulated (down) and experimental (up) powders XRD patterns of polymer **2**.

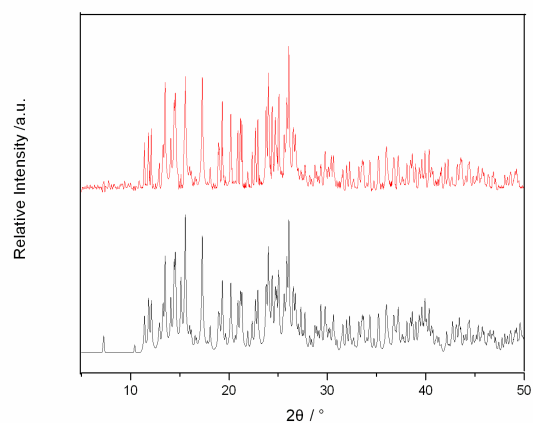


Fig.S3. The simulated (down) and experimental (up) powders XRD patterns of polymer **3**.

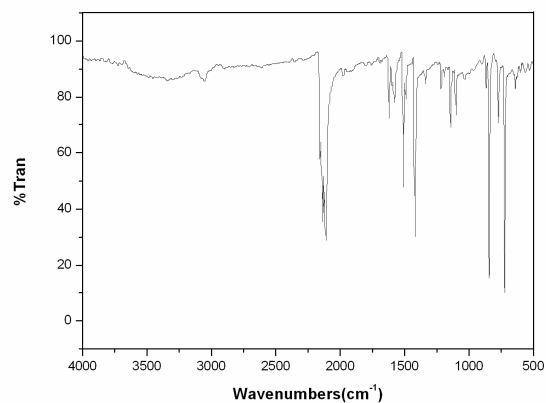


Fig.S4. The IR spectrum of **1**.

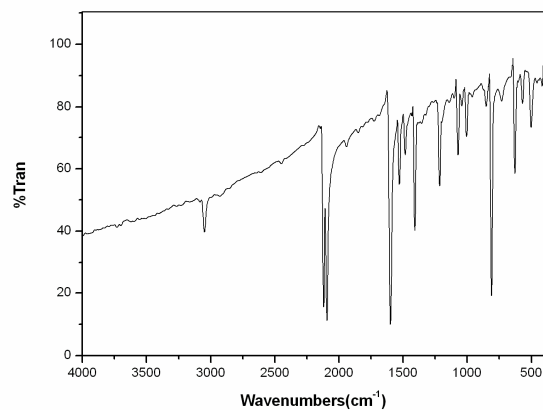


Fig.S5. The IR spectrum of **2**.

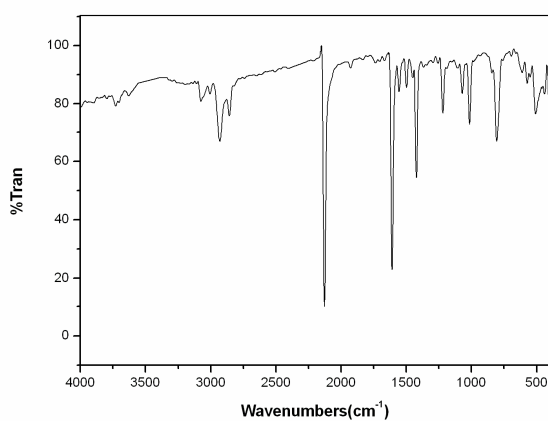


Fig.S6. The IR spectrum of **3**.

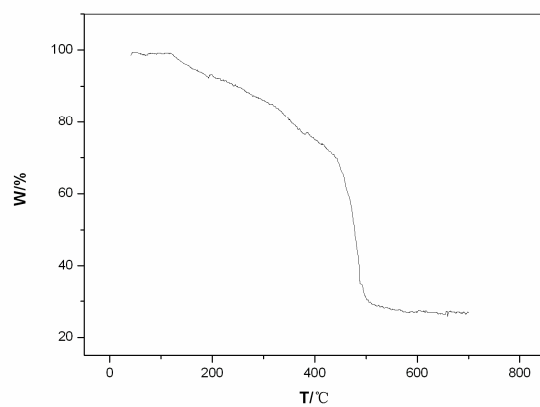


Fig. S7 TG curve of **1**.

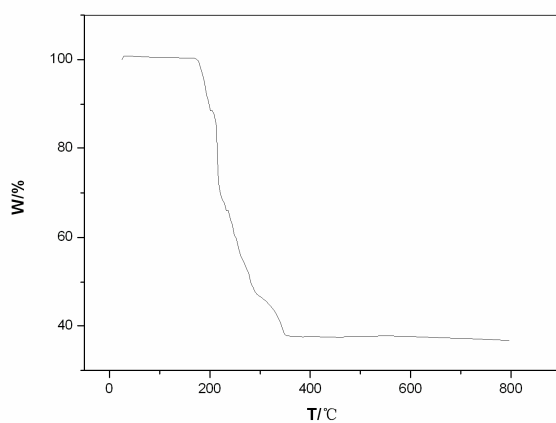


Fig. S8 TG curve of **2**.

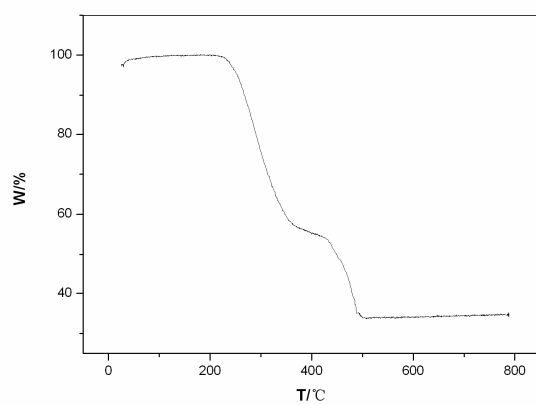


Fig. S9 TG curve of **3**.