Electronic Supplementary Information

Dehydration Induced 2D-to-3D crystal-to-crystal Network Re-assembly and Ferromagnetism Tuningwithin two Chiral Copper(II)-Tartrate Coordination Polymers

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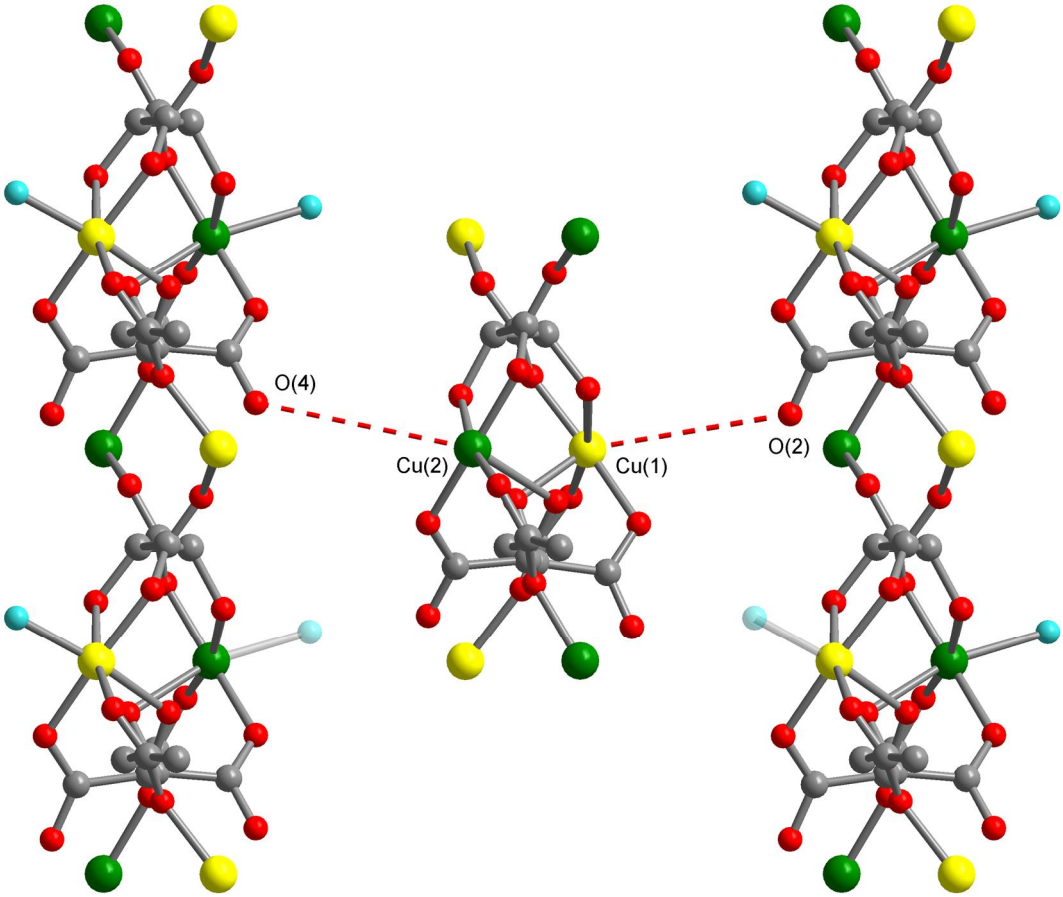

Fig. S1. A view of the atom-to-atom distance between the O(carboxylate) atoms and the copper centers of the adjacent layers of compound **1**: Cu(1)···O(2): 4.25 Å; Cu(2)···O(4): 4.56 Å.

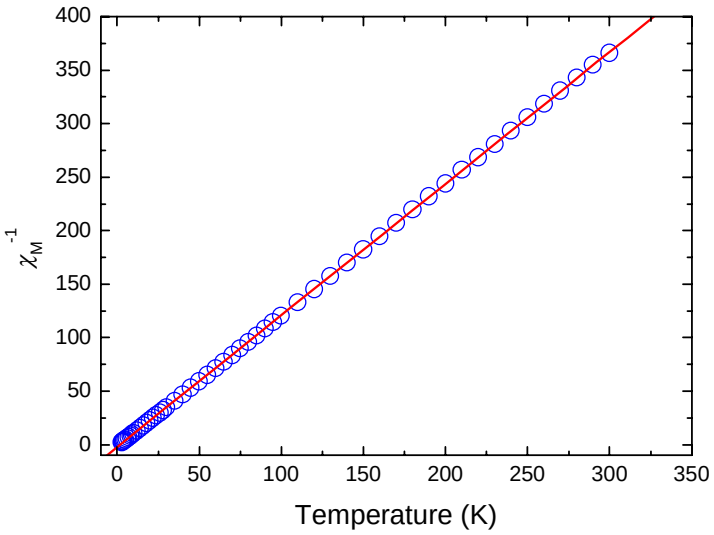

Fig. S2. Plots of χ_M^{-1} vs. T for compound **1**. The solid line is estimated from the Curie–Weiss law.

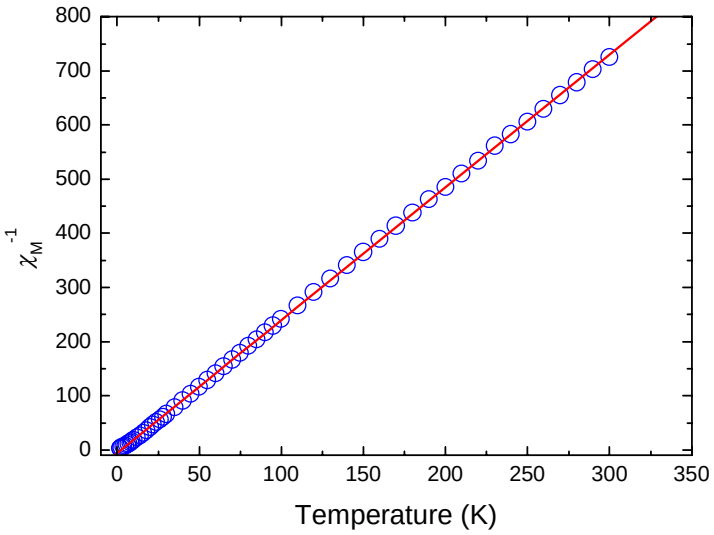

Fig. S3. Plots of χ_M^{-1} vs. T for compound **2**. The solid line is estimated from the Curie–Weiss law.

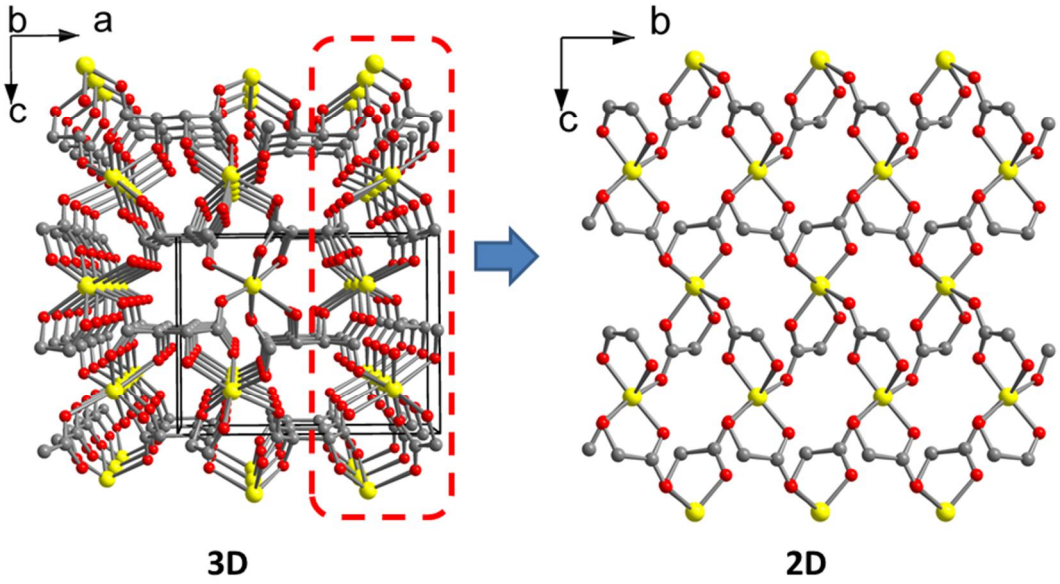

Fig. S4. A graphical representation of the 2D layer formed by the *syn-anti* bridged Cu-carboxylate coordination chains that derived from the 3D network of compound **2**.

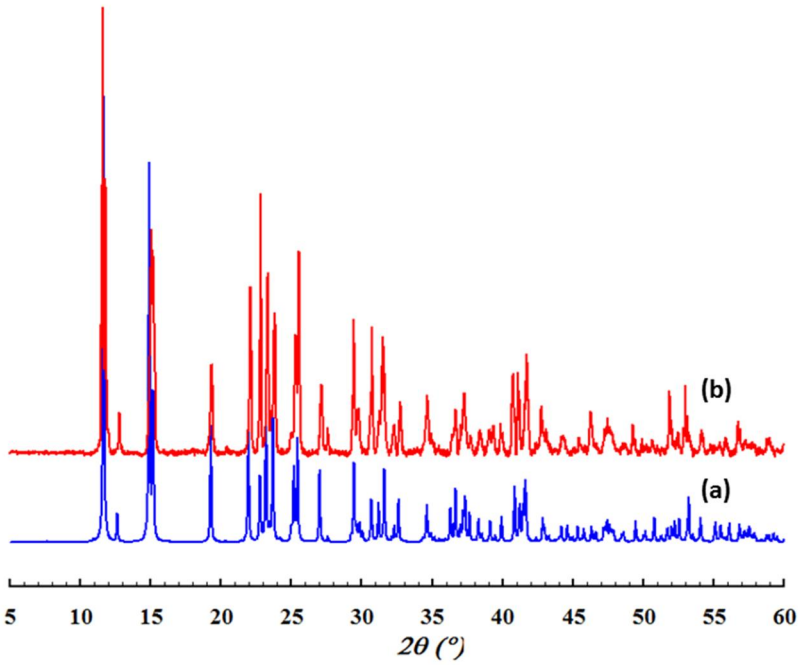

Fig. **S5**. The powder X–ray diffraction diagram of **1**: (a) simulation; (b) as-synthesized sample.

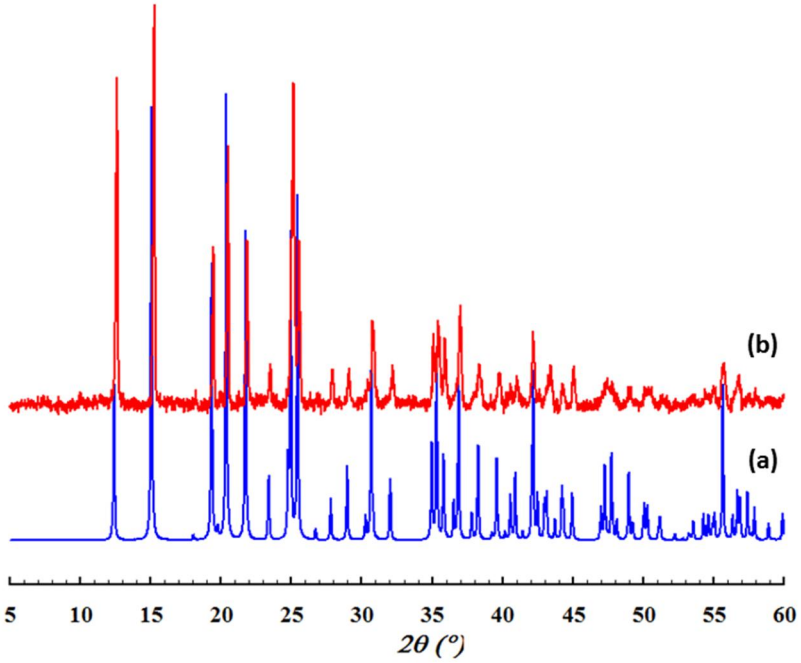

Fig. **S6**. The powder X–ray diffraction diagram of **2**: (a) simulation; (b) as-synthesized sample.

Table S1. Hydrogen bonds for **1** [Å and °].

D–H···A	d(D–H)	d(H···A)	d(D···A)	∠(DHA)
O(5)–H(5A)···O(91)	0.85	1.84	2.692(3)	174.8
O(11)–H(11A)···O(92)#5	0.83	1.81	2.636(3)	171.1
O(12)–H(12A)···O(94)	0.88	1.69	2.566(3)	172.6
O(81)–H(81A)···O(2)#6	0.82	1.99	2.750(3)	154.8
O(81)–H(81B)···O(91)#3	0.85	1.86	2.696(3)	170.2
O(82)–H(82A)···O(4)#7	0.82	1.93	2.688(3)	153.0
O(82)–H(82B)···O(92)#8	0.82	2.60	3.377(4)	156.6
O(91)–H(91A)···O(93)	0.95	1.82	2.767(3)	171.1
O(91)–H(91B)···O(2)#3	0.93	2.02	2.886(3)	154.9
O(92)–H(92A)···O(1)#3	0.85	2.15	2.767(3)	129.7
O(92)–H(92A)···O(81)#3	0.85	2.65	3.281(4)	132.1
O(92)–H(92B)···O(94)	0.85	1.91	2.731(3)	162.3
O(93)–H(93A)···O(82)#8	0.78	2.04	2.804(3)	167.3
O(93)–H(93B)···O(6)#9	0.87	1.87	2.713(3)	163.1
O(94)–H(94A)···O(93)	0.86	1.99	2.726(3)	142.1
O(94)–H(94B)···O(3)#7	0.86	1.91	2.750(3)	163.5
O(94)–H(94B)···O(4)#7	0.86	2.55	3.180(3)	130.6
O(6)–H(6B)···O(11)	0.89	1.92	2.741(3)	154.2
O(6)–H(6B)···O(5)	0.89	2.23	2.703(3)	112.8

Symmetry transformations used to generate equivalent atoms:

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

#4 -x+1, y+1/2, -z+2 #5 x+1, y, z #6 -x+1, y+1/2, -z+1

#7 -x, y+1/2, -z+2 #8 -x, y-1/2, -z+2 #9 x-1, y, z