

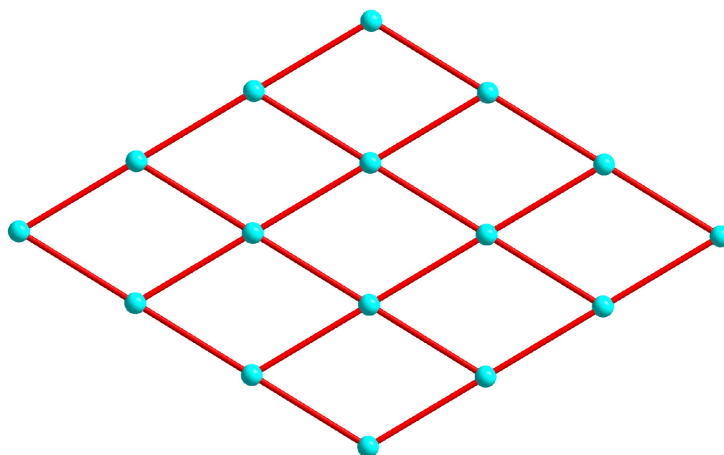
## ***Electronic Supplementary Information (ESI)***

**Controllable assembly of copper(I)-iodide coordination polymers by tecton design of benzotriazol-1-yl-based pyridyl ligands: from 2D layer to 3D self-penetrating or homochiral networks†**

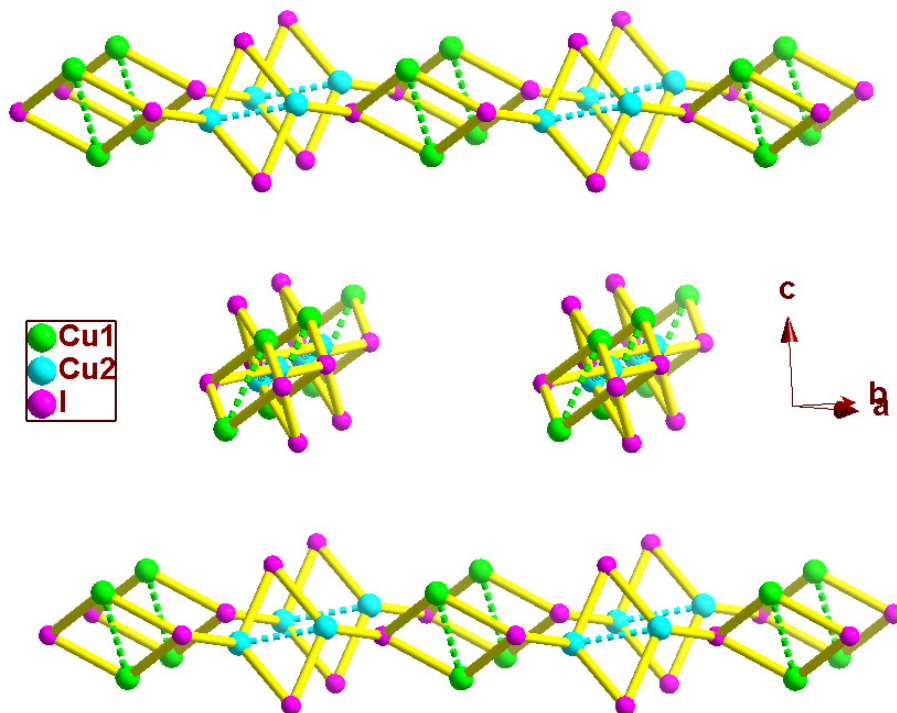
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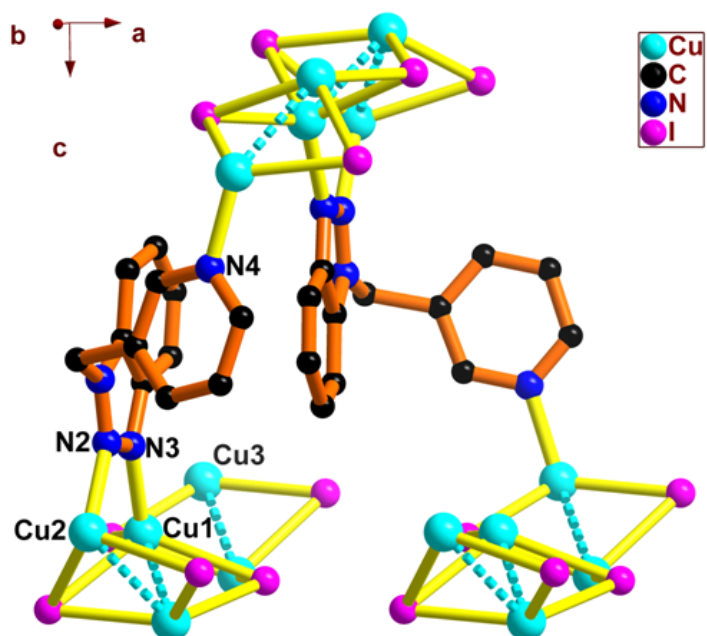
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**Fig. S1** A schematic representation of the 2D (4,4) network in **1** (red rods: 2-pbtp ligands; cyan spheres: rhomboid  $[\text{Cu}_2\text{I}_2]$  dimeric units).



**Fig. S2** View of the perpendicularly arrangement of the (1D) [Cu<sub>2</sub>I<sub>2</sub>]<sub>n</sub> skeletons, extracted from the 3D framework in **2**, running along the [110] and  $[\bar{1}\bar{1}0]$  directions, respectively.



**Fig. S3** View of the coordination connectivity of 3-pbt between the adjacent  $[Cu_3I_3]_n$  skeletons in **3**, running along the crystallographic  $[010]$  direction.

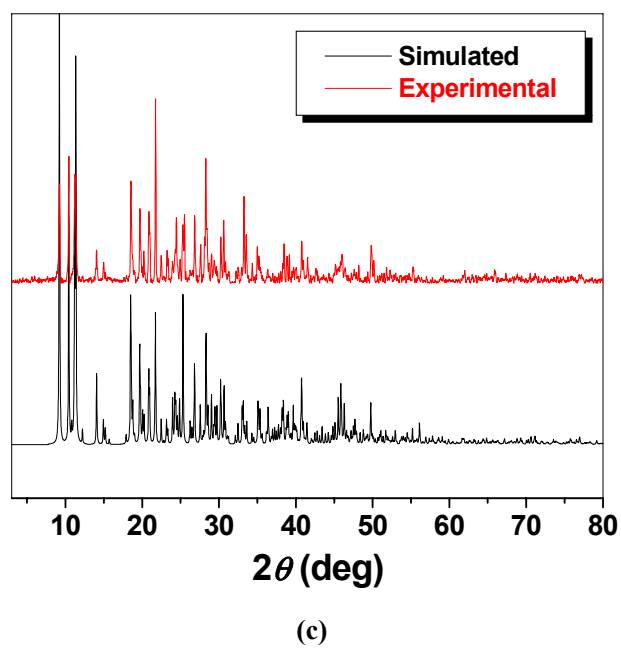
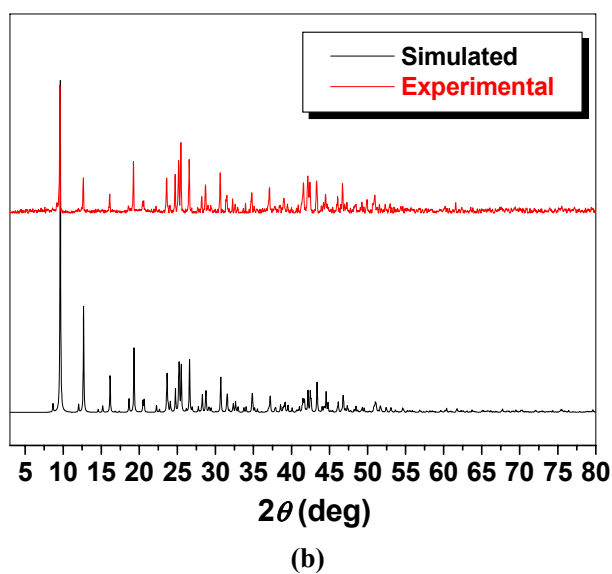
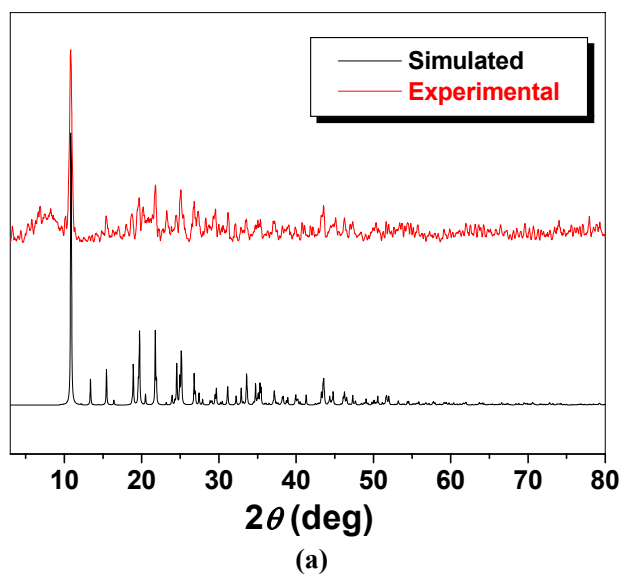
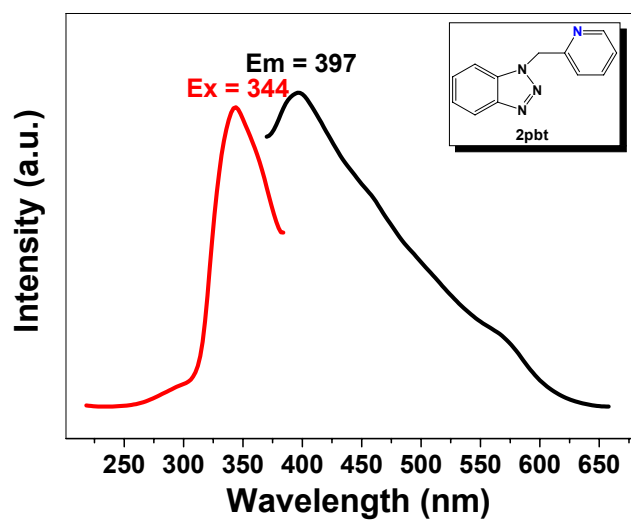
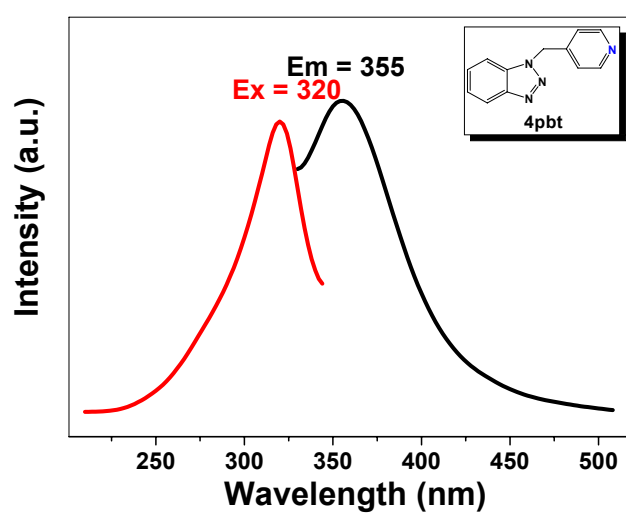


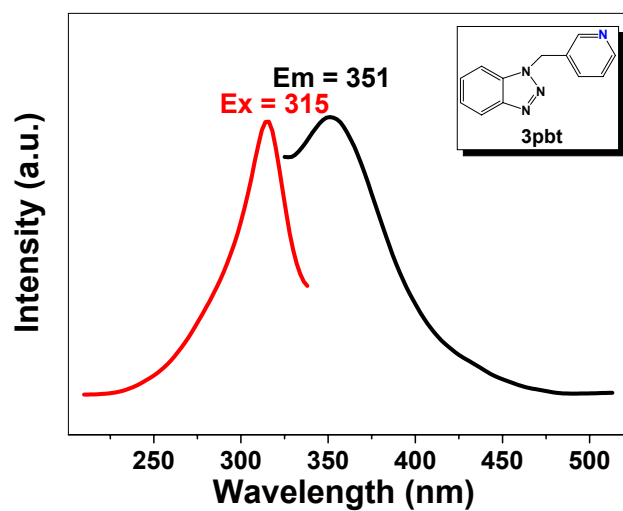
Fig. S4 XRPD patterns of (a) 1, (b) 2, and (c) 3.



(a)



(b)



(c)

**Fig. S5** Excitation and emission spectra of the free ligands in the solid state at room temperature: (a) for 2-pbt, (b) for 4-pbt, and (c) for 3-pbt.

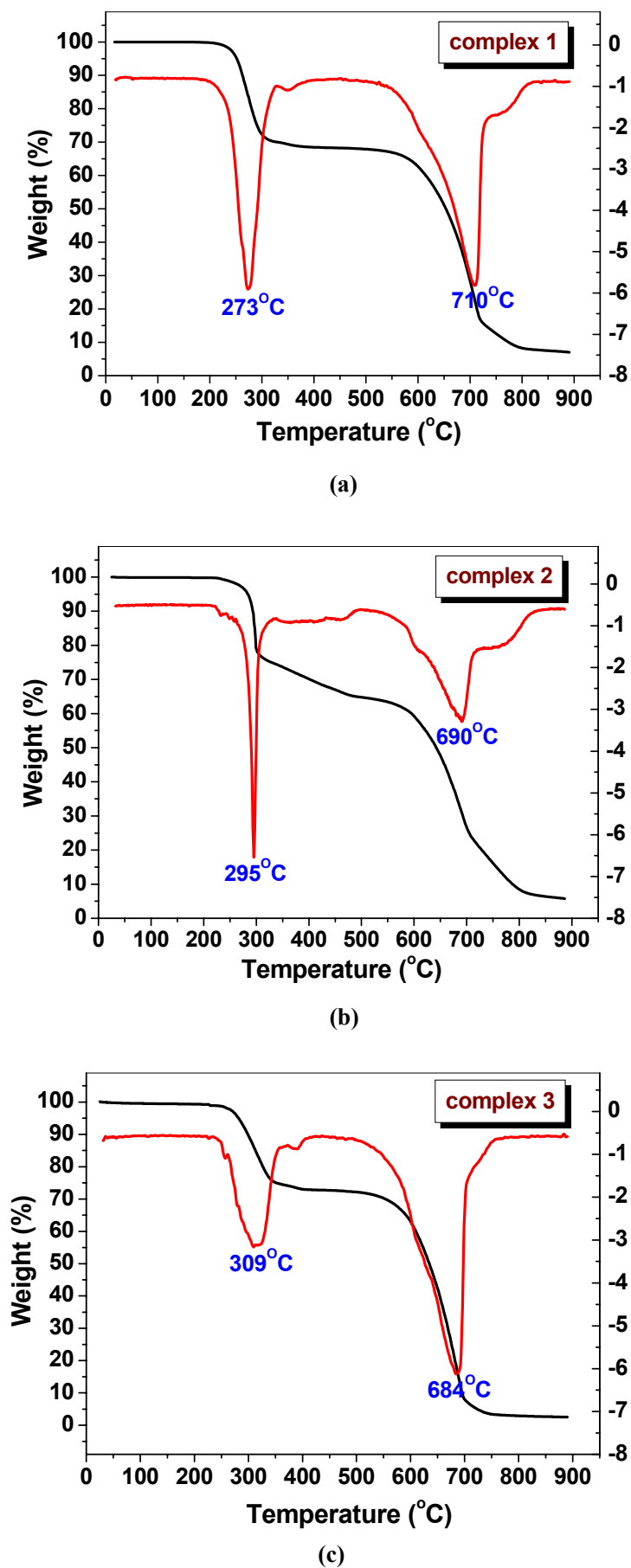


Fig. S6 Thermogravimetric (TG) analysis plots of (a) 1, (b) 2, and (c) 3.