

Supporting Information

Synthesis and the Crystal Structure of a New Chiral 1D Metal-Organic Coordination Polymer based on L-Prolineamide-Substituted Diarylacetylenedicarboxylic Acid Derivative

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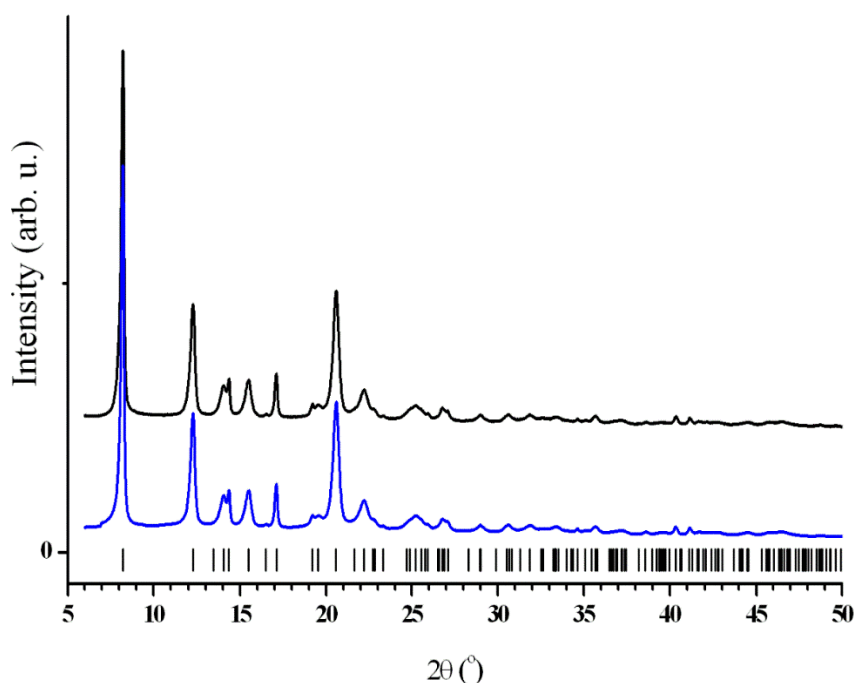


Figure S1. Comparison of experimental (top, in black) and calculated (bottom, in blue) powder patterns for $[\text{Cu}_2(\text{EDPB})\cdot\text{H}_2\text{O}]_n$ in 6-50° 2θ range. The vertical black bars denote calculated positions of the diffraction peaks.

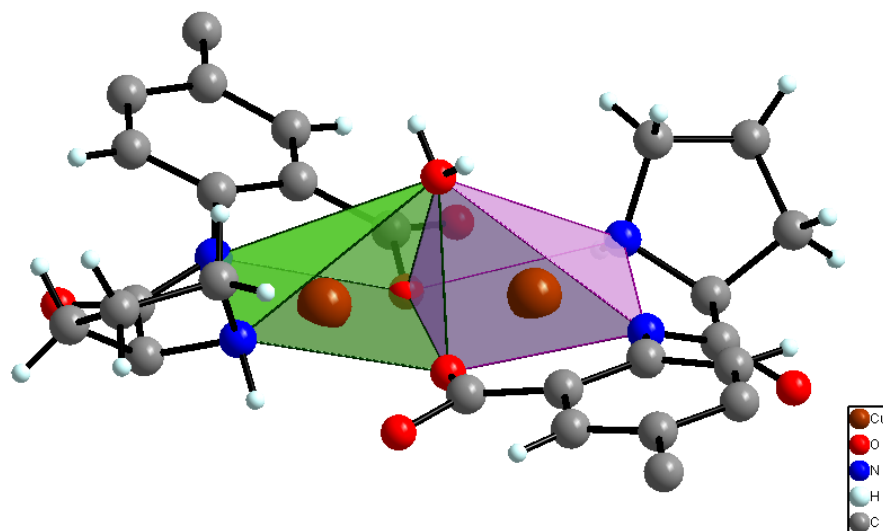
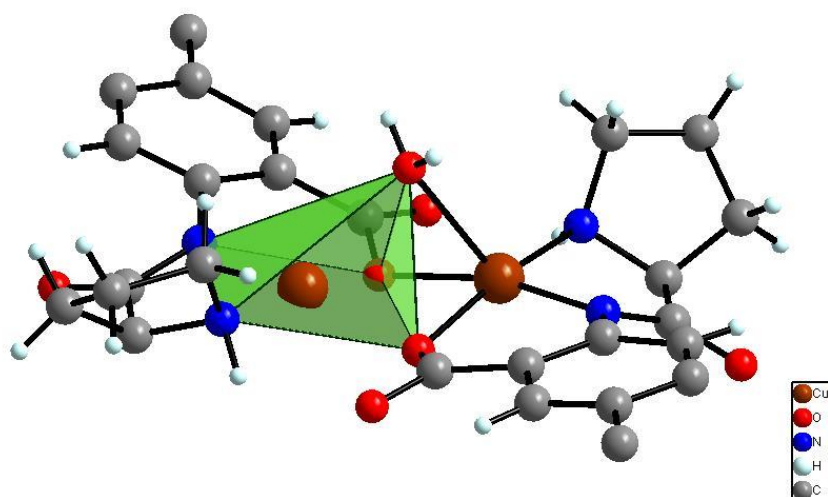


Figure S2 (prepared with DIAMOND ¹). A portion of the crystal structure of $[\text{Cu}_2(\text{EDPB})\cdot\text{H}_2\text{O}]_n$ showing the heavily distorted square-base coordination pyramid (top), and two Cu-centered coordination polyhedra merged by sharing of a triangular face (bottom).

(1) Brandenburg, K. (1999). *DIAMOND*. Crystal Impact GbR, Bonn, Germany.

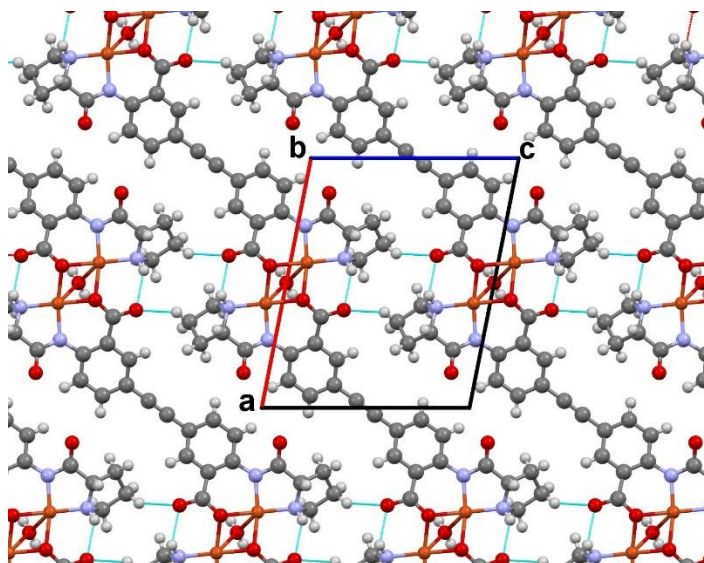


Figure S3. 2D layer in $[\text{Cu}_2(\text{EDPB})\cdot\text{H}_2\text{O}]_n$ formed by $\text{N2-H2}\dots\text{O2}^{\text{i}}$ and $\text{C11-H11A}\dots\text{O2}^{\text{iii}}$ hydrogen bonds (see Table 2) viewed along the b axis. Hydrogen bonds are shown as thin blue lines.

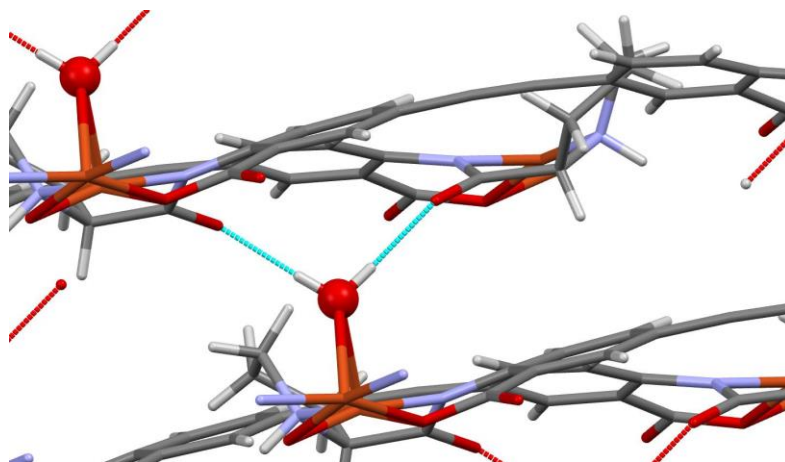


Figure S4. A portion of the crystal packing in $[\text{Cu}_2(\text{EDPB})\cdot\text{H}_2\text{O}]_n$ showing intermolecular $\text{O4-H4}\dots\text{O3}^{\text{ii}}$ (see Table 2) hydrogen bonds (thin blue and red lines), which link 1D polymeric chains from various 2D layers and consolidate the 3D structure.

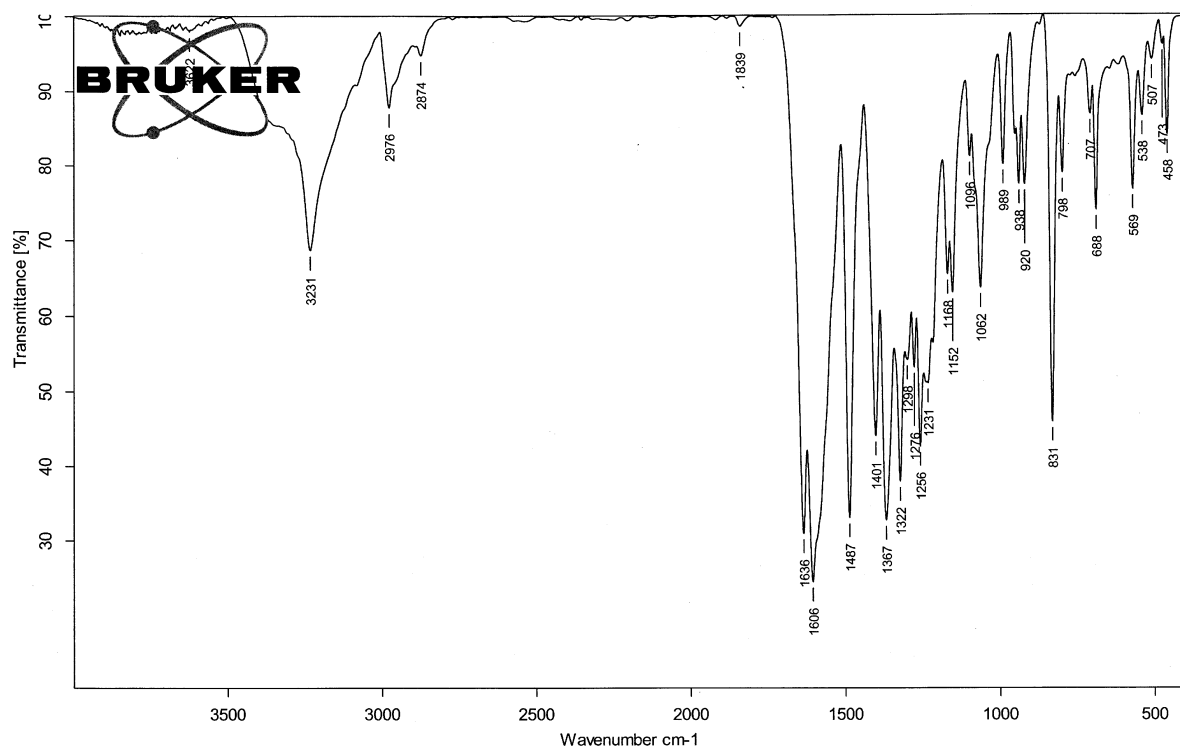


Figure S5. IR spectrum of the $[\text{Cu}_2(\text{EDPB})\cdot\text{H}_2\text{O}]_n$ polymer.

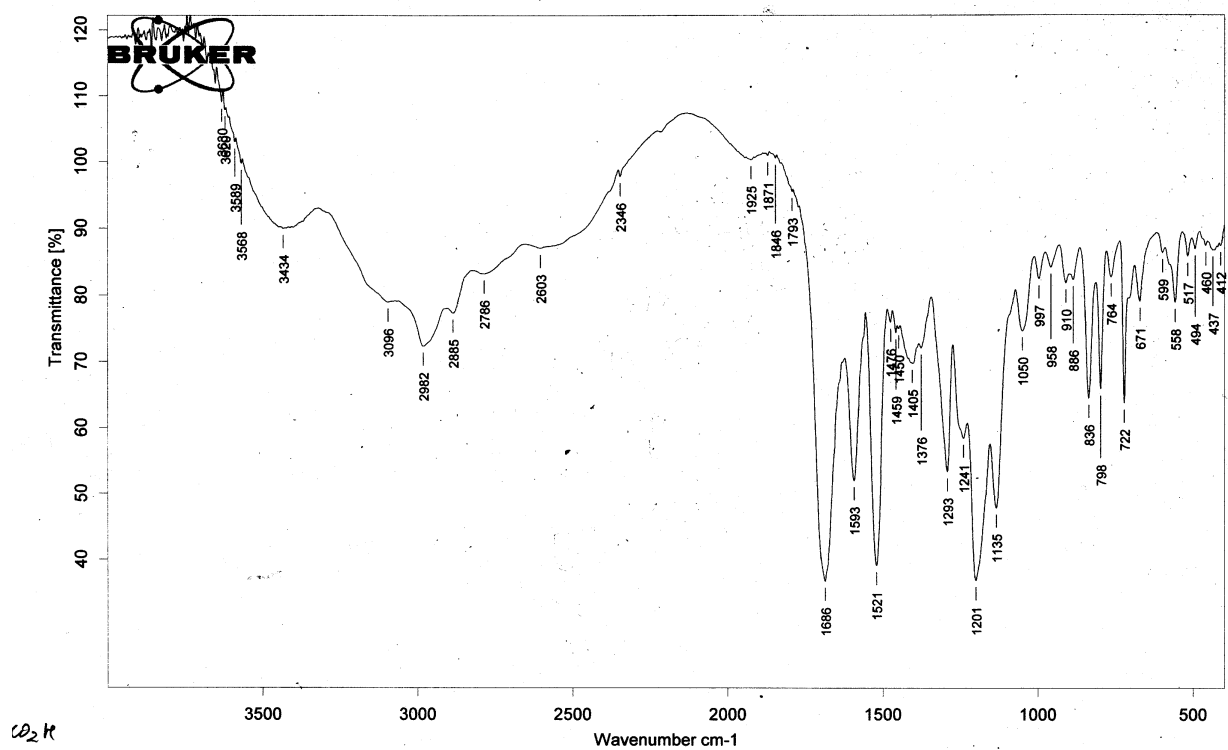
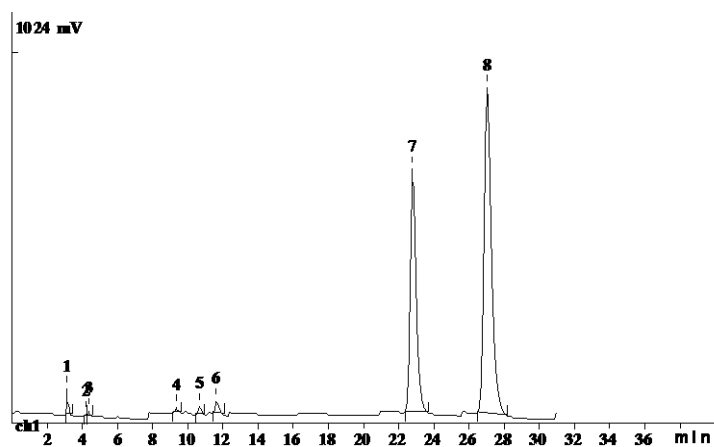


Figure S6. IR spectrum of the EDPBA linker.



index	Time (min)	Area (mV/sec)	Area (%)
5	10.69	251.80	0.58
6	11.67	532.44	1.22
7	22.80	15612.13	35.92
8	27.03	26399.02	60.73
	31.06	~43400	~100

Figure S7. HPLC analysis of the product of 4-nitrobenzaldehyde and nitromethane Henry reaction.