

Supporting Information

Two Polymorphs of Zinc(II) Coordination Polymers Constructed from 2-carboxyethyl(phenyl)phosphinate and 1,4-bis(1H-imidazol-1-yl) butane ligands

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Fig. S1 (a) the asymmetric unit of **2**; (b) the coordination mode of L^{2-} anion and (c) the coordinated environment of Zn(II) ion in **2**. All hydrogen atoms are omitted for clarity.

Symmetry codes: A = $-x, -1/2+y, 1/2-z$; B = $-x, -y, -z$.

Fig. S2 The N \cdots N distance and bond angles of BIB in **1**.

Fig. S3 The N \cdots N distance and bond angles of BIB in **2**.

Fig. S4 The Zn \cdots Zn distances in **1**.

Fig. S5 The Zn \cdots Zn distances in **2**.

Fig. S6 View of the 3D framework of **2** along *c*-axis. All hydrogen atoms are omitted for clarity.

Fig. S7 The FT-IR spectra of **1** and **2** collected as the KBr pellets in the range of 2000–400 cm^{-1} .

Fig. S8 The TGA curves of **1** and **2** on crystalline samples in N_2 atmosphere in the range of 30–800 $^\circ\text{C}$.

Fig. S9 The XPRD patterns of two polymorphs **1** and **2**.

Fig. S10 The crystal morphologies of two polymorphs **1** and **2**.

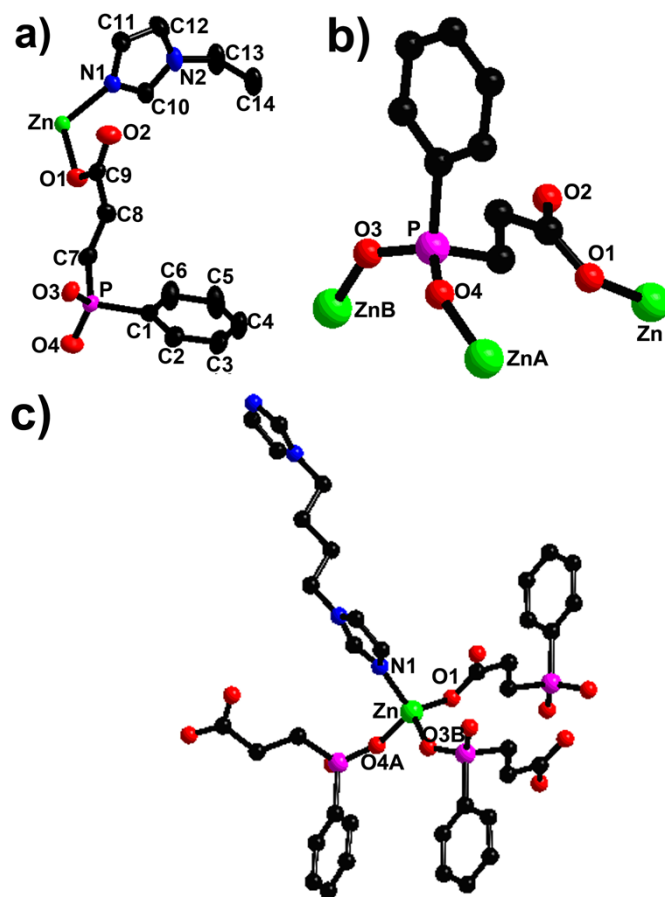


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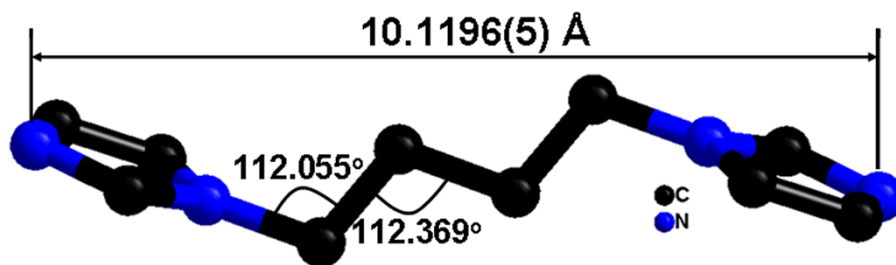


Fig. S2 The $N \cdots N$ distance and bond angles of BIB in **1**.

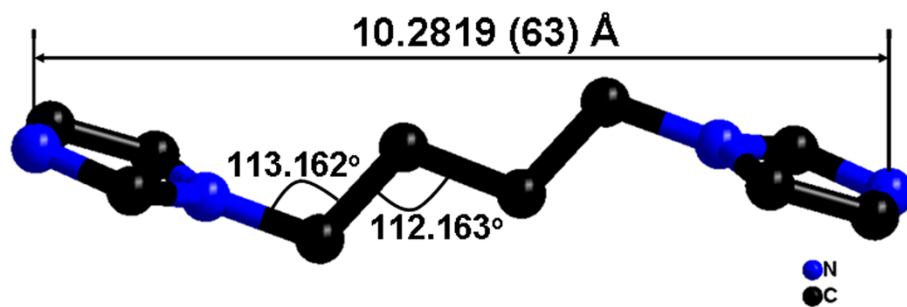


Fig. S3 The N...N distance and bond angles of BIB in 2.

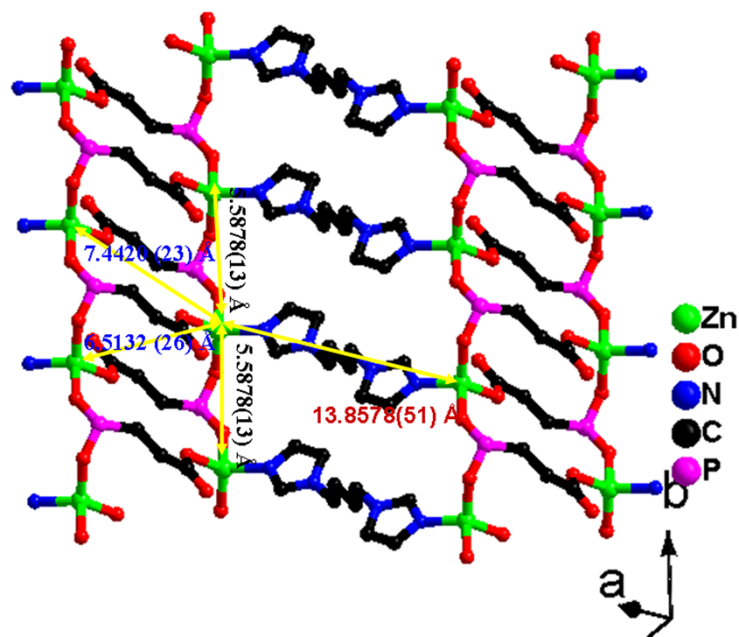


Fig. S4 The Zn...Zn distances in 1.

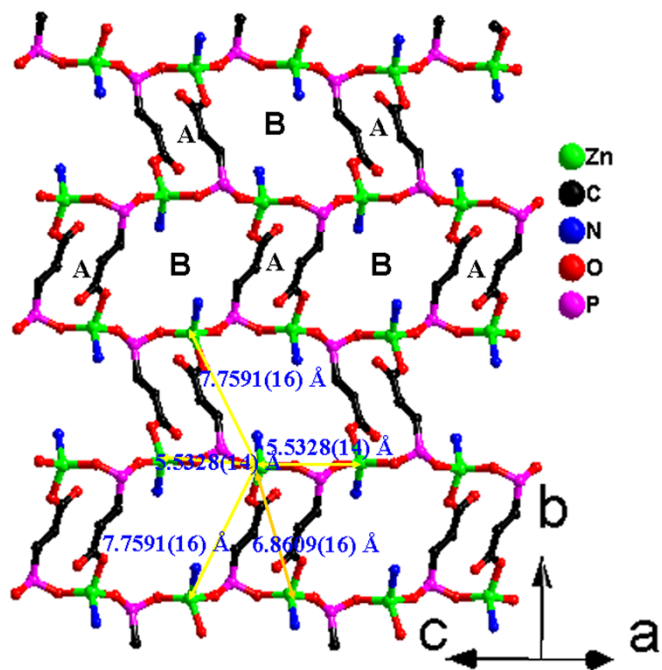


Fig. S5 The Zn···Zn distances in 2.

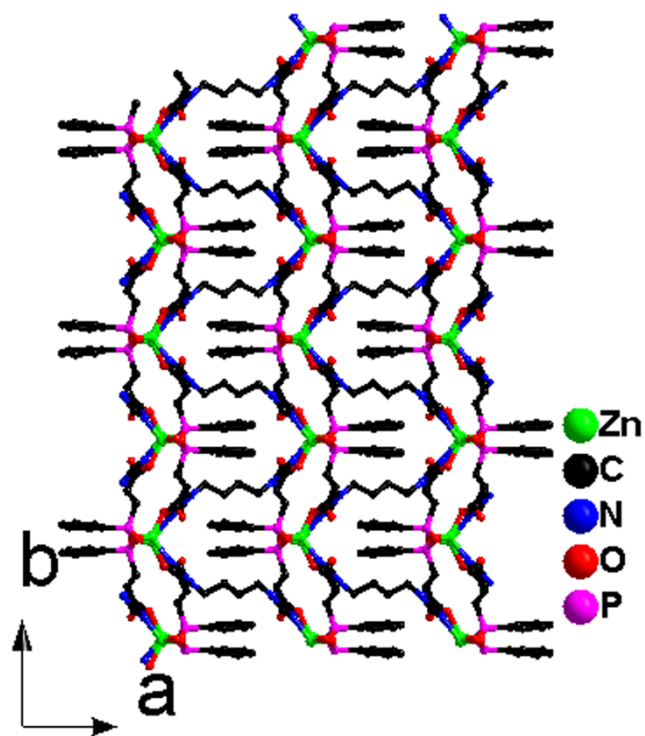


Fig. S6 View of the 3D framework of 2 along c-axis. All hydrogen atoms are omitted for clarity.

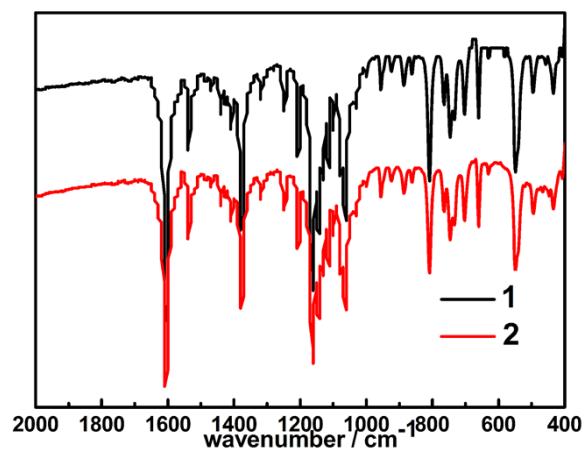


Fig. S7 The FT-IR spectra of **1** and **2** collected as the KBr pellets in the range of 2000–400 cm^{-1} .

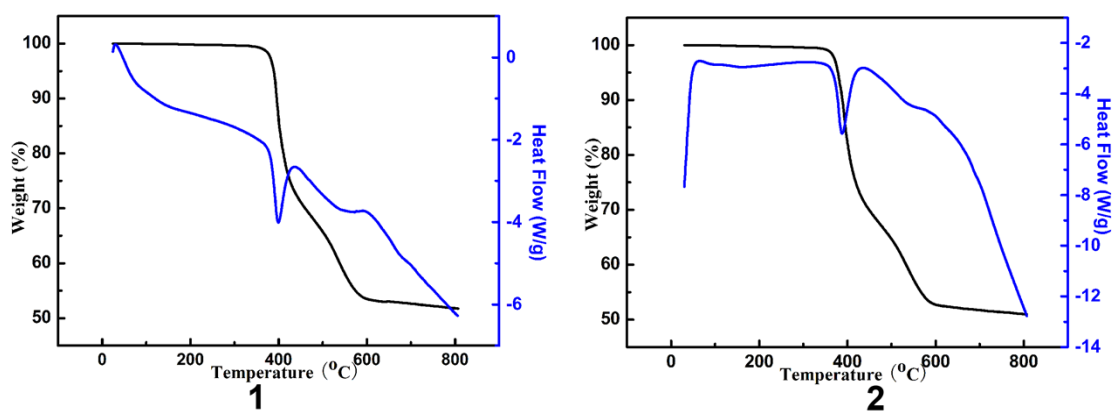


Fig. S8 The TGA curves of **1** and **2** on crystalline samples in N_2 atmosphere in the range of 30–800 $^\circ\text{C}$.

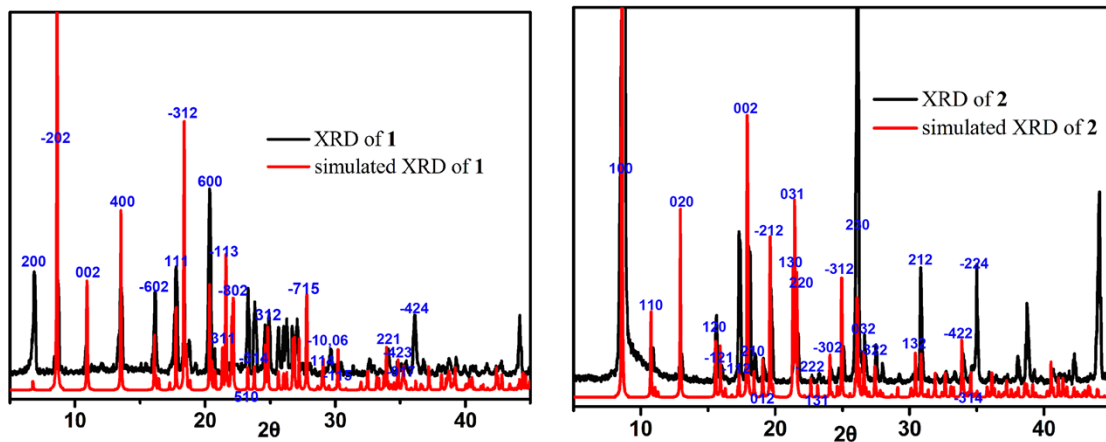


Fig. S9 The XRPD patterns of two polymorphs 1 and 2.

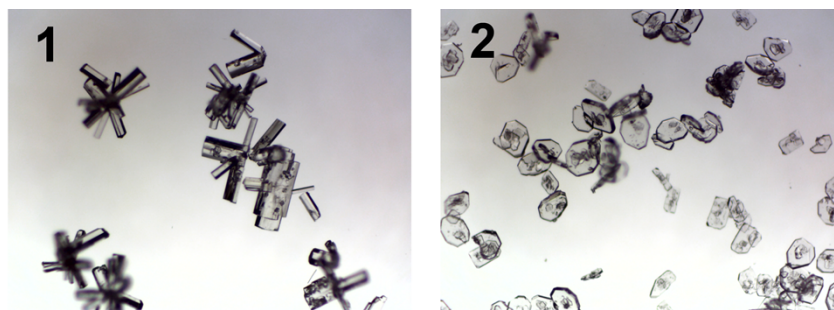


Fig. S10 The crystal morphologies of two polymorphs 1 and 2.