

Hydrothermal synthesis, structures, and luminescent properties of zinc (II) and cadmium (II) phosphonates with a 3D framework structure using terephthalate as second linkers

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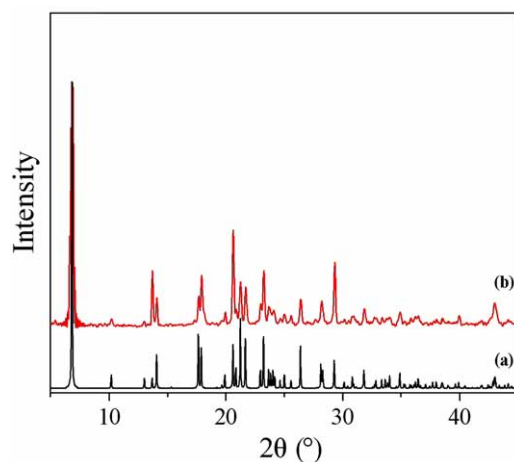


Fig. S1 The simulated and experimental XRD powder patterns for compound **1** (a) and (b).

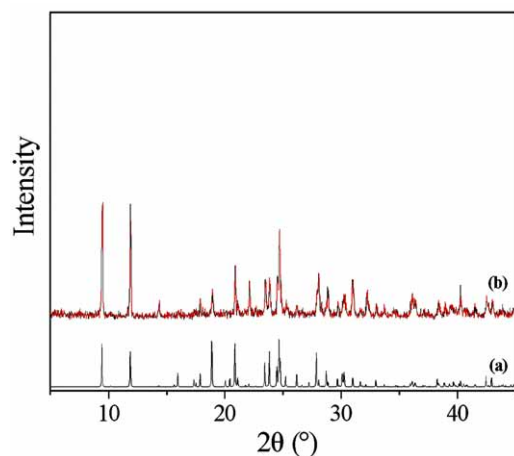


Fig. S2 The simulated and experimental XRD powder patterns for compound **2** (a) and (b).

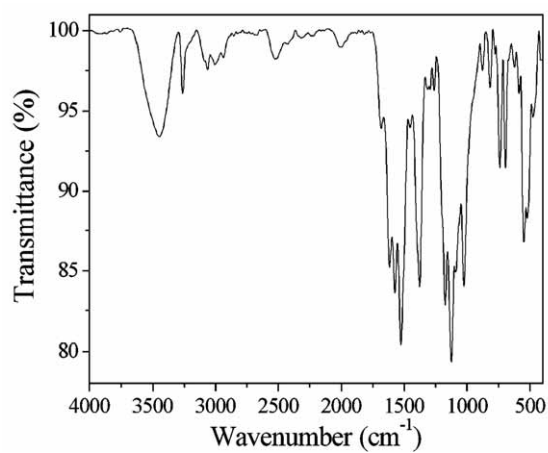


Fig. S3 The IR spectrum of compound **1**.

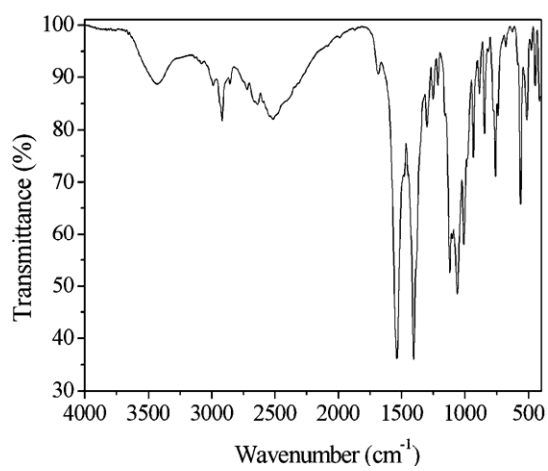


Fig. S4 The IR spectrum of compound **2**.

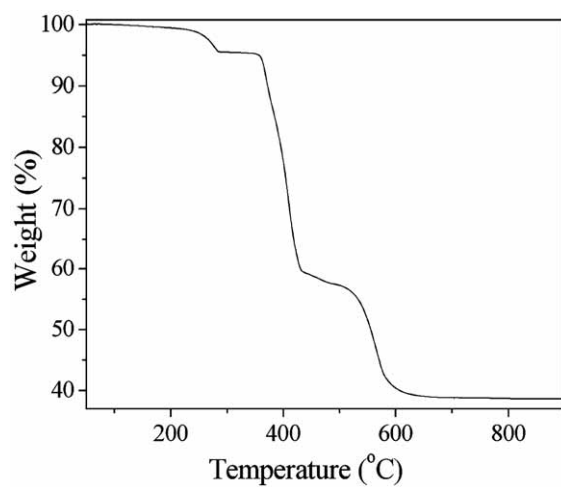


Fig. S5 The TG curve of compound 1.

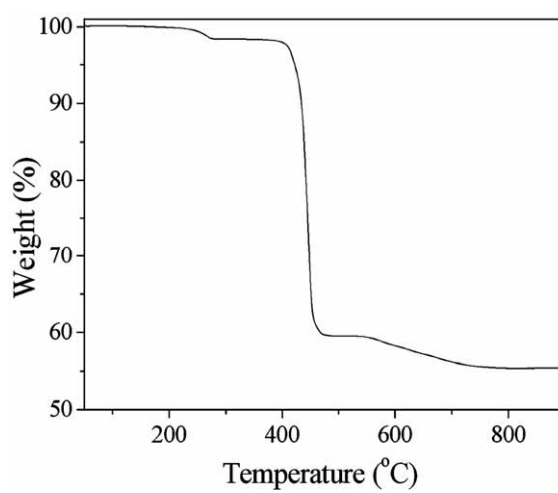


Fig. S6 The TG curve of compound 2.

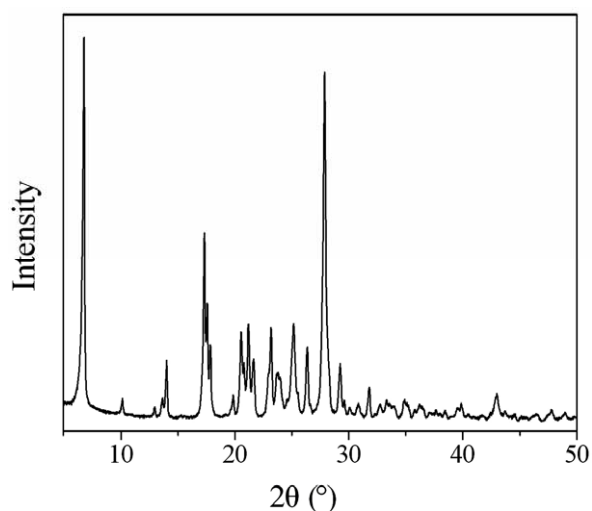


Fig. S7 The X-ray power diffraction pattern of the final product in the thermal decomposition for compound **1**. The final products are mixture of $\text{Zn}(\text{PO}_3)_2$, $\text{Zn}_2\text{P}_2\text{O}_7$ and ZnO (JCPDS 00-010-0306; 01-072-1702; 01-076-0704).

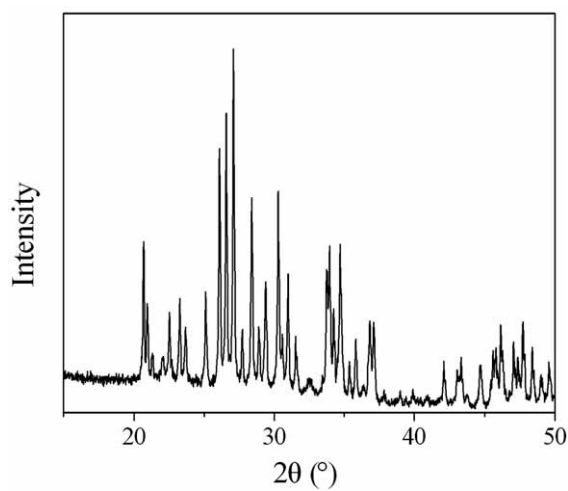


Fig. S8 The X-ray power diffraction pattern of the final product in the thermal decomposition for compound **2**. The final product is $\text{Cd}_3(\text{PO}_4)_2$ (JCPDS 00-014-0443).

Compound 1		Compound 2	
P(1)–O(1)	1.510(5)	P(1)–O(1)	1.522(3)
P(1)–O(2)	1.502(4)	P(1)–O(2)	1.521(3)
P(1)–O(3)	1.502(5)	P(1)–O(3)	1.506(3)
P(1)–C(1)	1.827(7)	P(1)–C(1)	1.834(4)