Two novel lead(II) carboxyphosphonates with a layered and a 3D framework structure: syntheses, crystal structures, reversible dehydration/hydration, and luminescence properties

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## Supplementary Materials

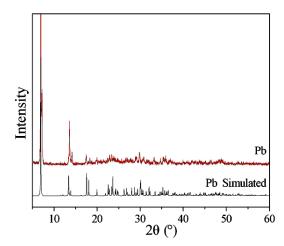


Fig. S1 The experimental powder XRD patterns and the simulated XRD patterns of compound 1.

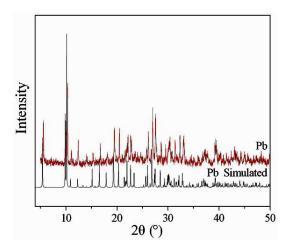


Fig. S2 The experimental powder XRD patterns and the simulated XRD patterns of compound 2.

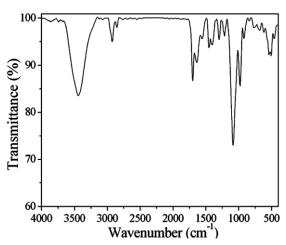


Fig. S3 The IR spectrum of compound 1.

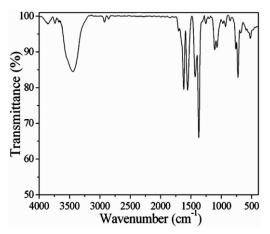


Fig. S4 The IR spectrum of compound 2.

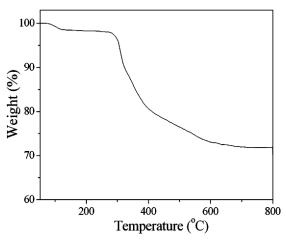


Fig. S5 The TGA curve of compound 1.

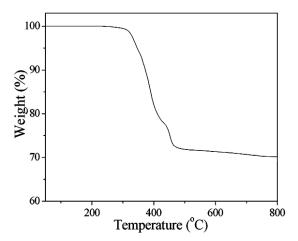


Fig. S6 The TGA curve of compound 2.

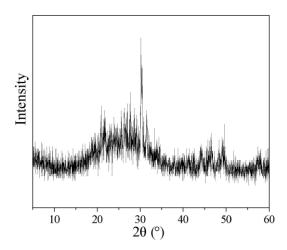
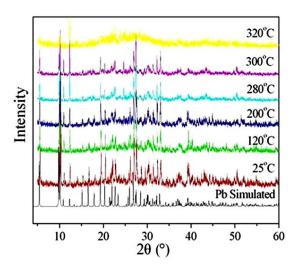


Fig. S7. The X-ray power diffraction patterns of the final products in the thermal decomposition for compounds 1 and 2. The final products are Pb<sub>2</sub>P<sub>2</sub>O<sub>7</sub> and PbO in a 1:2 molar ratio (JCPDS 00-026-0629)



**Fig. S8**. The PXRD patterns for compound **2** on heating from  $25-320\,^{\circ}$ C.