Electronic Supplementary Material (ESI) for RSC Advances.

The proton conduction behavior of two 1D open-framework metal phosphates with similar crystal structure and different hydrogen bond network

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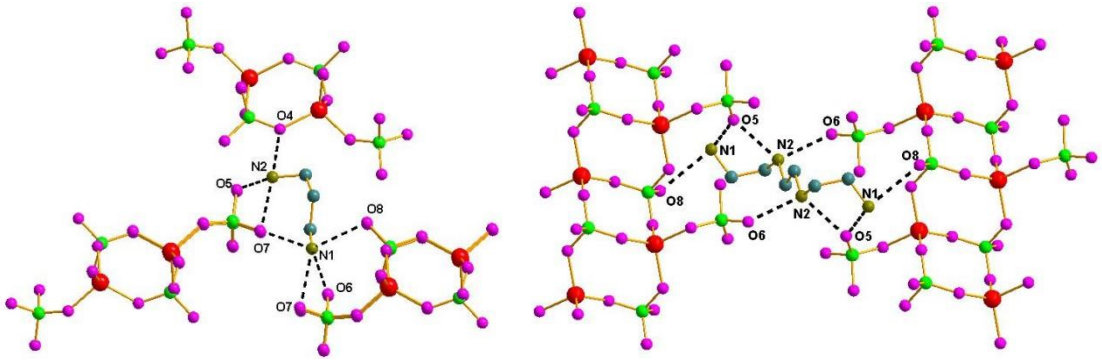


(a) **(b)**

Fig.S1 H-bond interactions between the guests and the inorganic $[Zn(HPO_4)_2]_\infty$ chains in the crystal of (a) **1** and (b) **2**.

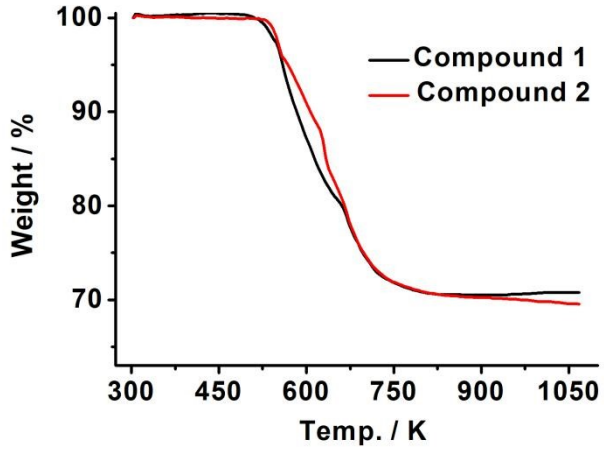


Fig. S2TG plots of compound **1** and **2**.

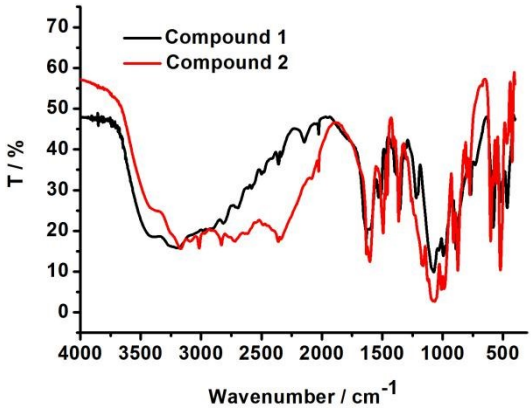
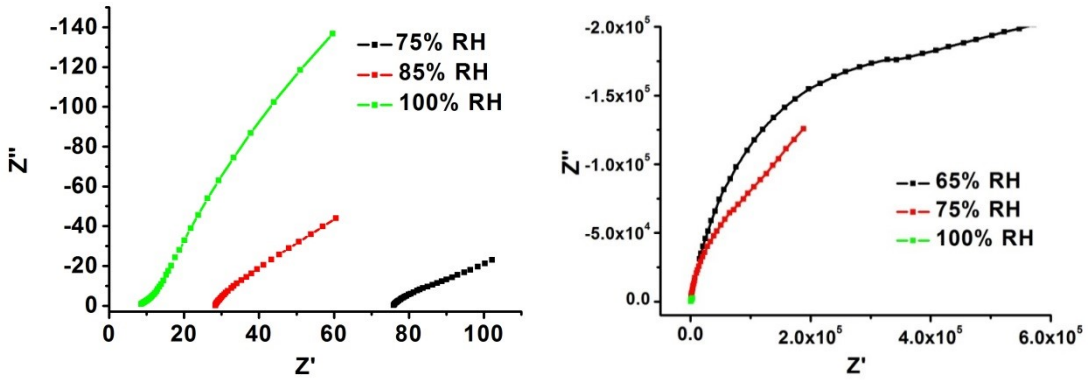


Fig.S3 The FTIR curves of **1** and **2**.



(a) (b)

Fig.S4 Nyquist plot of (a) **1** and (b) **2** in the range of 75%-100% RH at 303 K.

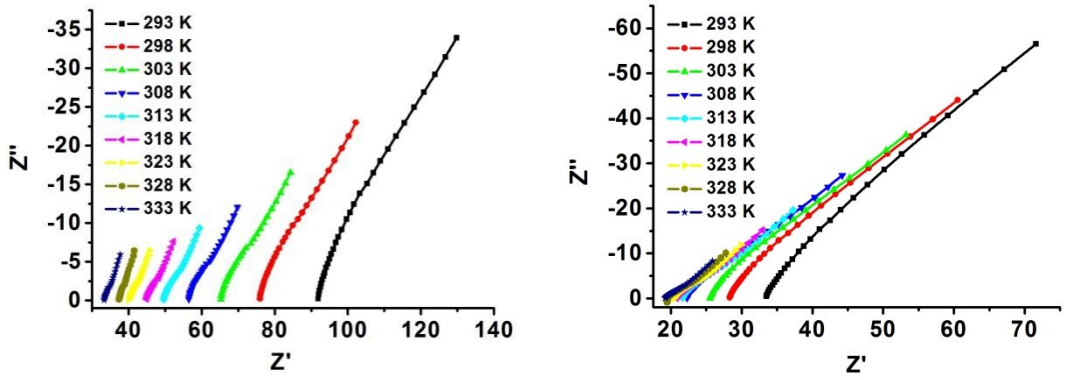


Fig.S5 Temperature-dependent of Nyquist plots for **1** (a) 75% RH and (b) 85% RH.

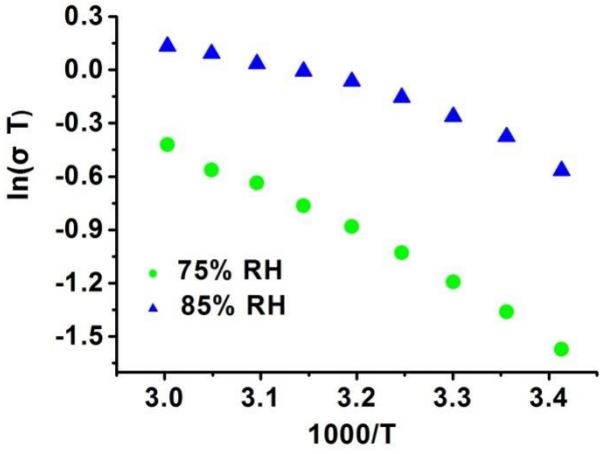


Fig.S6 The corresponding conductivity in the form of ln(σT) vs. 1000/T at 75%RH and 85%RH for **1**.