

Supplementary information

Syntheses, crystal structures, thermal stabilities and luminescence of two new zinc phosphonates

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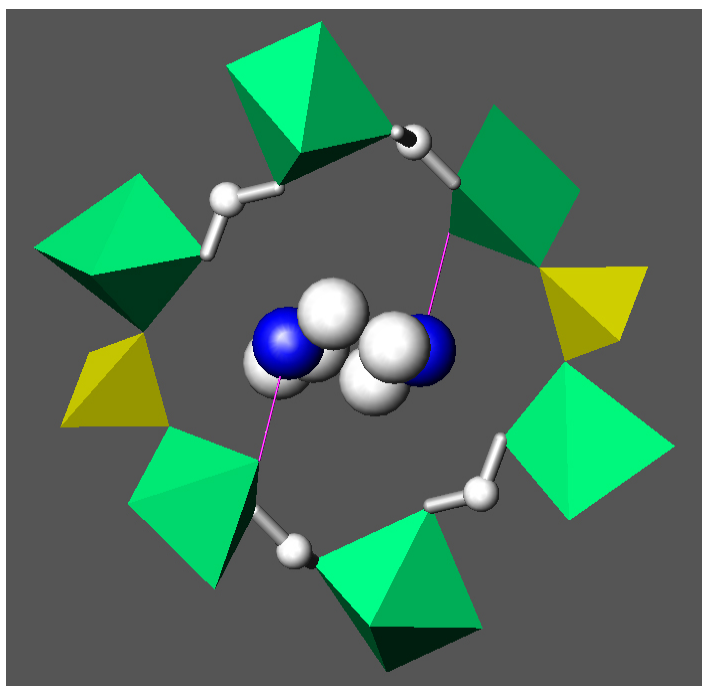


Fig. S1 Polyhedral view of the 24-atom ring encapsulating 2-methylpiperazine. N and C atoms are displayed as blue and white balls, respectively. $[\text{ZnO}_{5/6}]$ and $[\text{CPO}_3]$ are indicated by green and yellow polyhedrons, respectively.

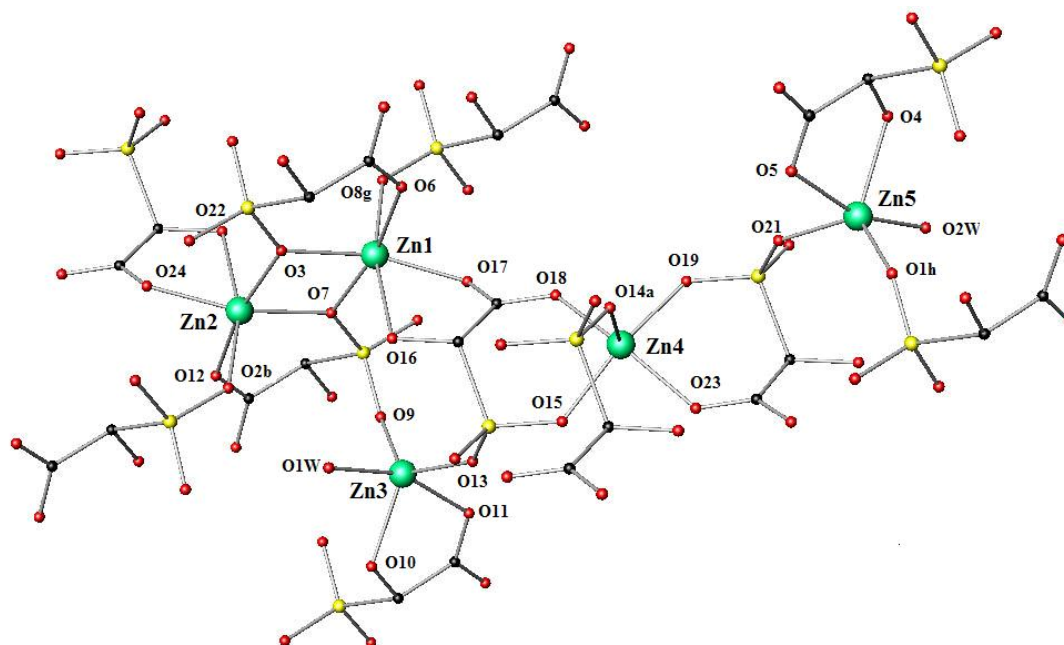


Fig. S2 Ball-stick representations the coordination environment of Zn(II) ions in compound **1**. Symmetry code for the generated atoms: *a* - *x*, - *y*, - *z* - 1; *b* - *x*, - *y* - 1, - *z*; *g* - *x*, - *y*, - *z*; *h* *x*, 1 + *y*, - 1 + *z*.

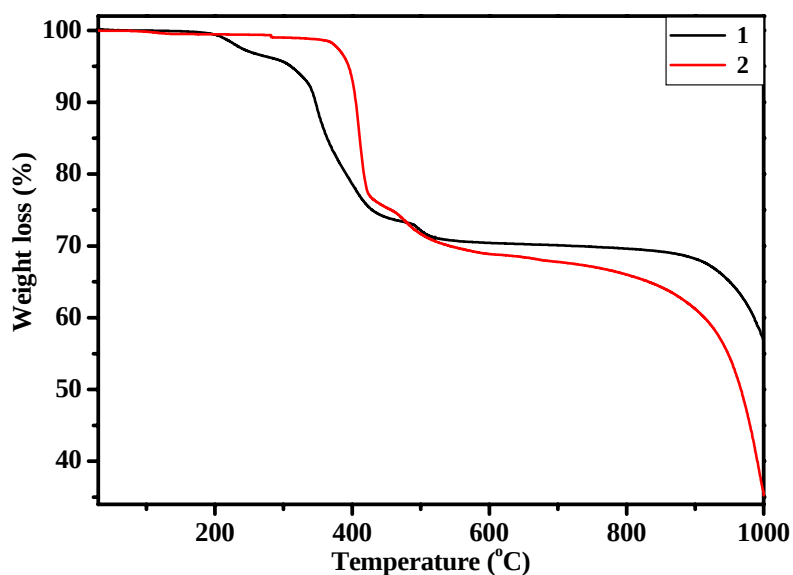


Fig. S3 TGA curve of compounds **1-2**.

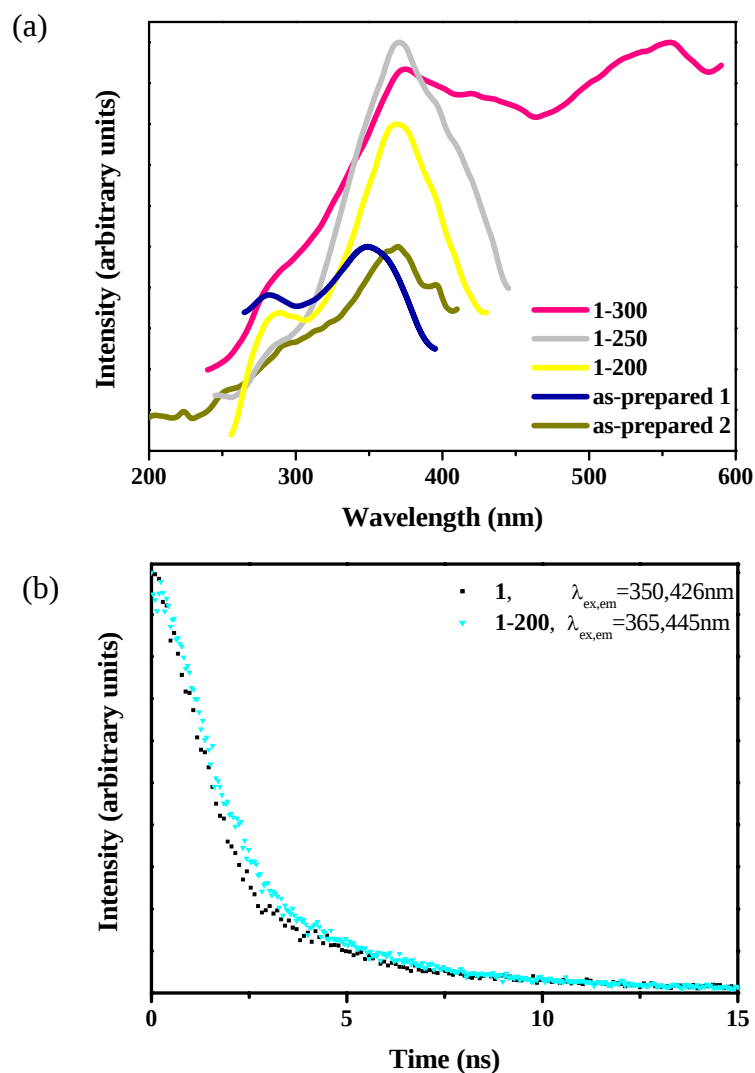


Fig. S4 (a) Room-temperature solid-state normalized fluorescent emission spectra: as-prepared **1** and **2**, **1-200**, **1-250**, **1-300**; (b) Room-temperature solid-state fluorescent intensity as a function of time for solids **1** and **1-200**.

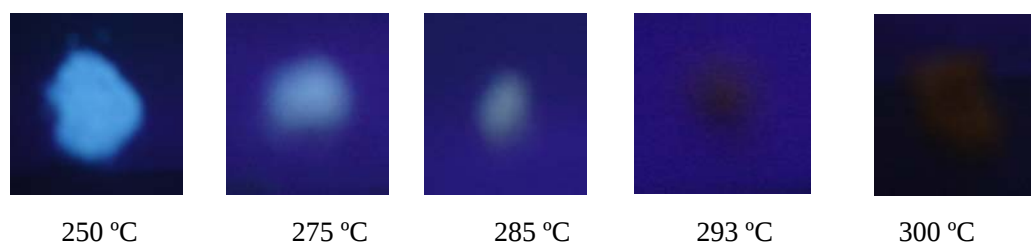


Fig. S5 Photograph of solids **1-250**, **1-275**, **1-285**, **1-293** and **1-300** excited by a hand-held UV lamp with an excitation wavelength of 365 nm.

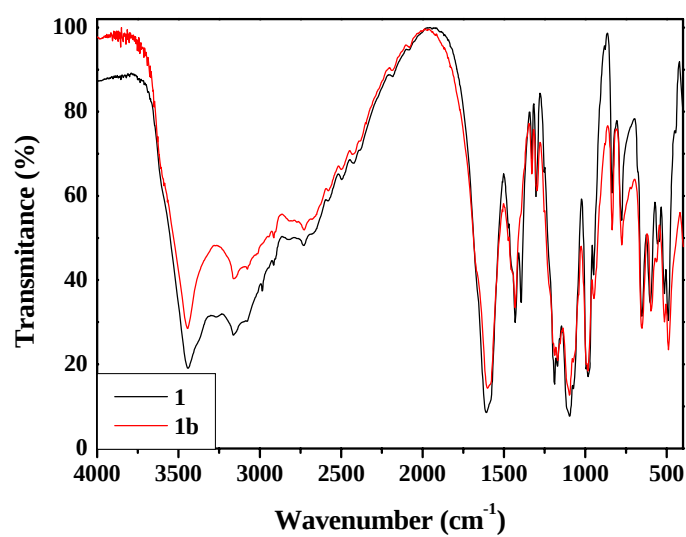


Fig. S6 IR spectra of solids **1** and **1b**.

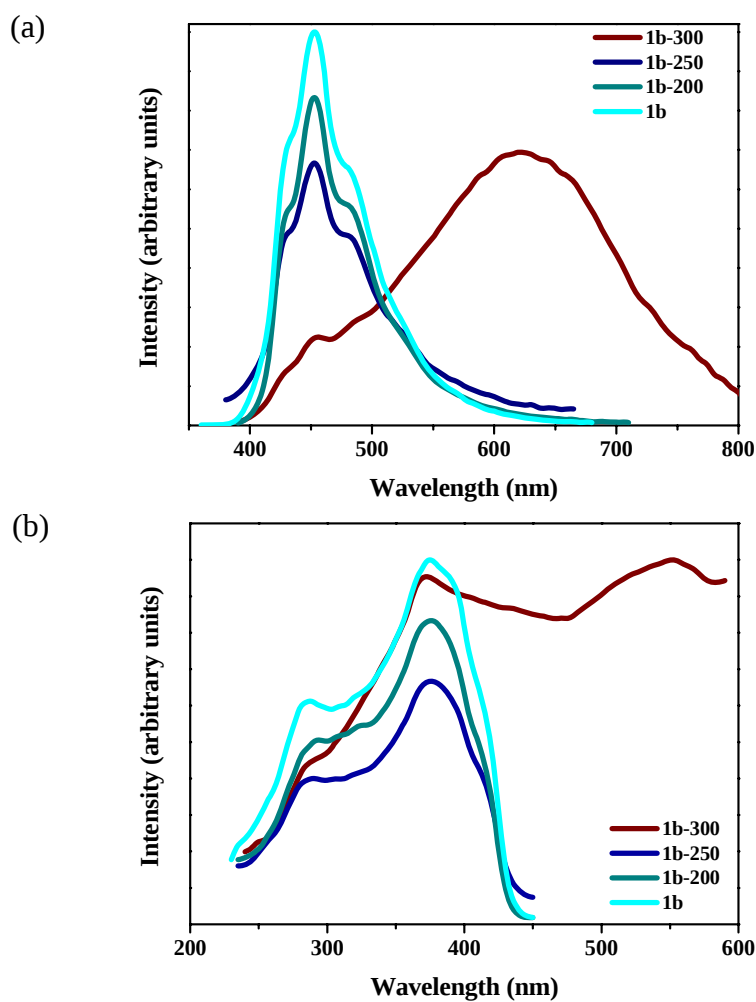


Fig. S7 Room-temperature solid-state normalized fluorescent emission (a) and excitation (b) spectra of **1b**, **1b-200**, **1b-250** and **1b-300**.

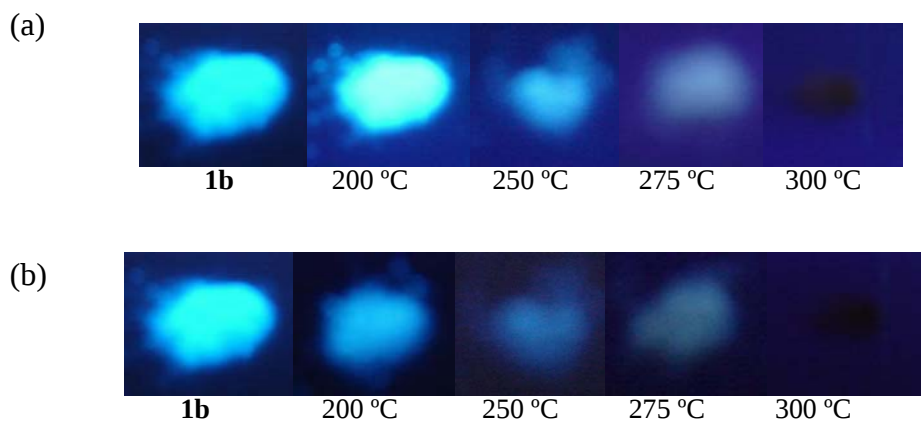


Fig. S8 Photograph of **1b**, **1b-200**, **1b-250**, **1b-275** and **1b-300** excited by a hand-held UV lamp with an excitation wavelength of 365 (a) and 254 (b) nm.