

Supplementary Materials

Synthesis, crystal structure, and luminescence sensing properties of the supramolecular 3D zinc(II) coordination polymer with bis(1H-imidazol-1-yl)methane

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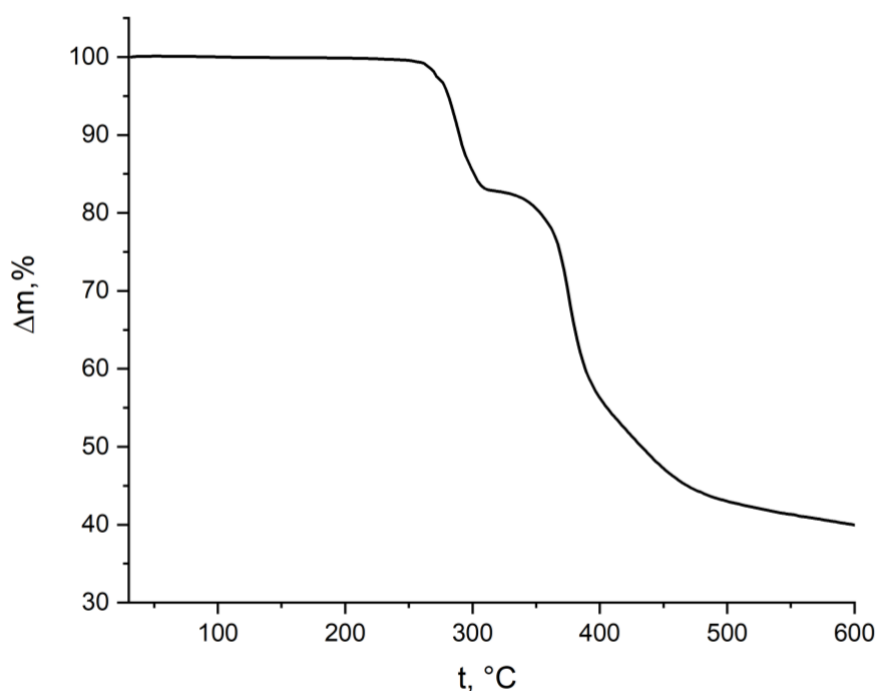


Figure S1. Thermogravimetric plot for Zn-MOF.

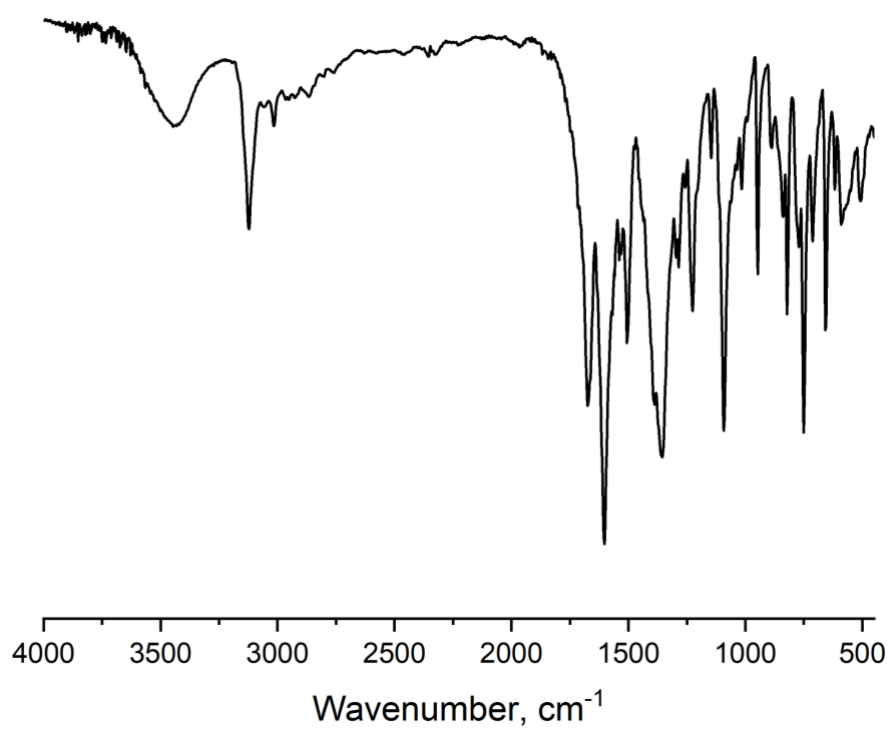


Figure S2. FT-IR spectrum of **Zn-MOF**.

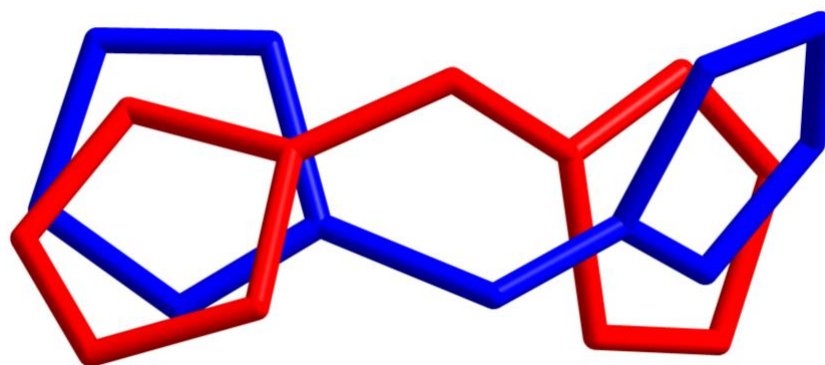


Figure S3. Two disordered positions of bim ligand in the structure of **Zn-MOF**.

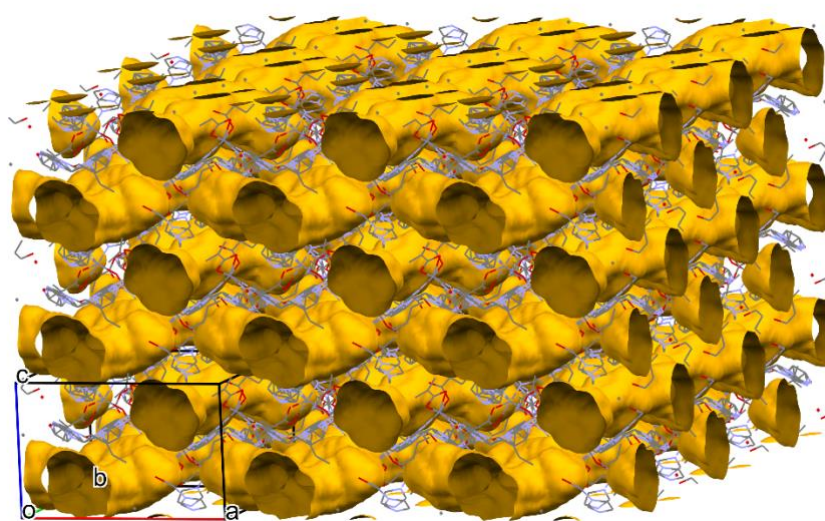


Figure S4. Crystal packing representation ($3 \times 3 \times 3$ unit cells) of **Zn-MOF** showing isolated voids.

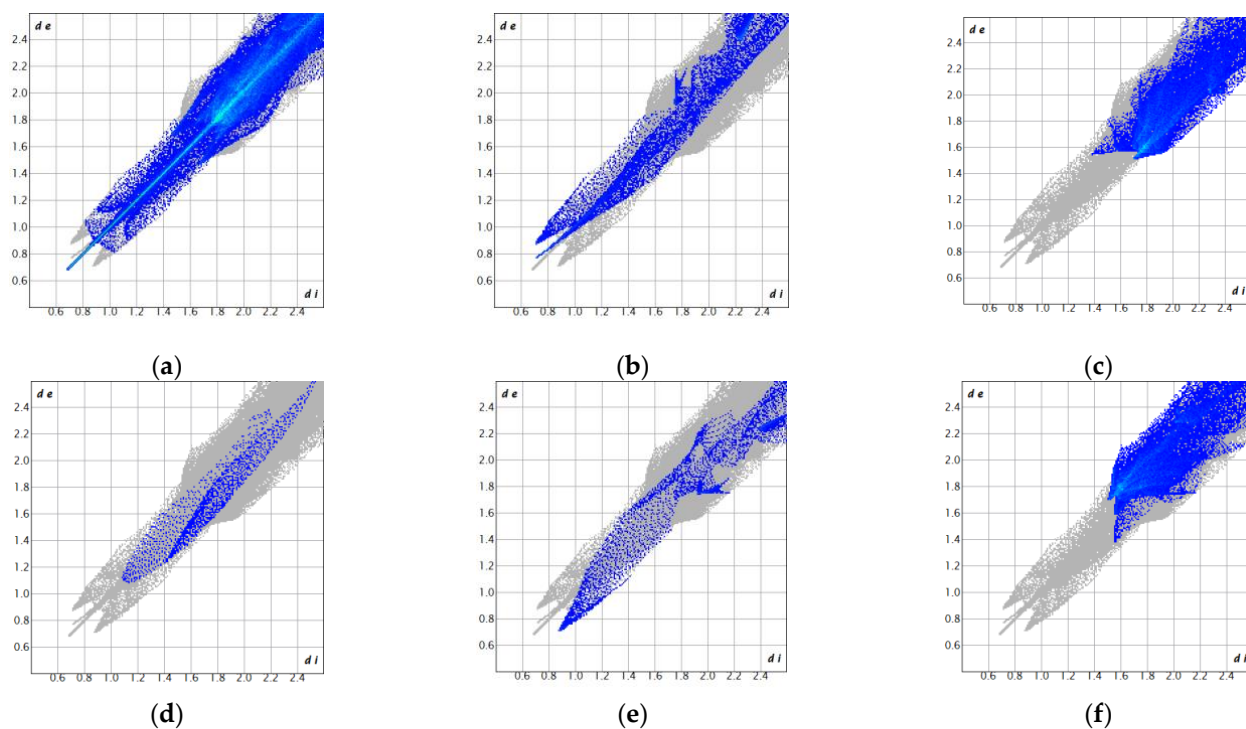


Figure S5. Fingerprint plots from Hirshfeld surface analysis of the crystal structure of **Zn-MOF**: (a) C...C contacts; (b) C...N contacts; (c) C...O contacts; (d) N...N contacts; (e) N...C contacts; (f) O...C contacts.

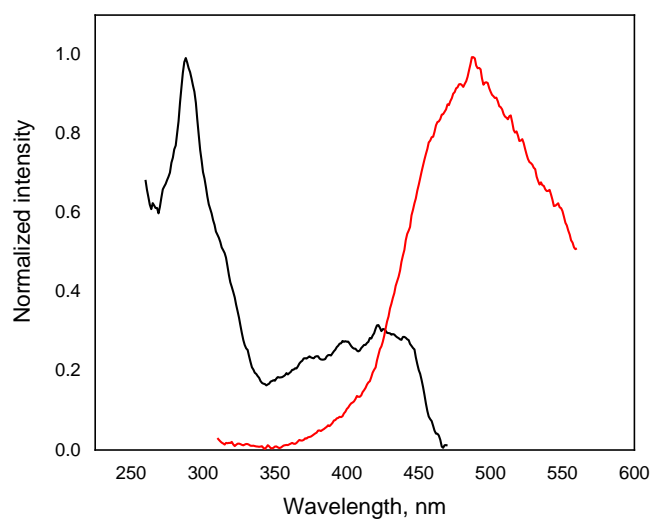


Figure S6. Luminescence excitation spectrum of H₂bdc ligand in the solid phase at an emission wavelength of 490 nm (black line) and emission spectrum of H₂BDC upon excitation at 290 nm (red line).

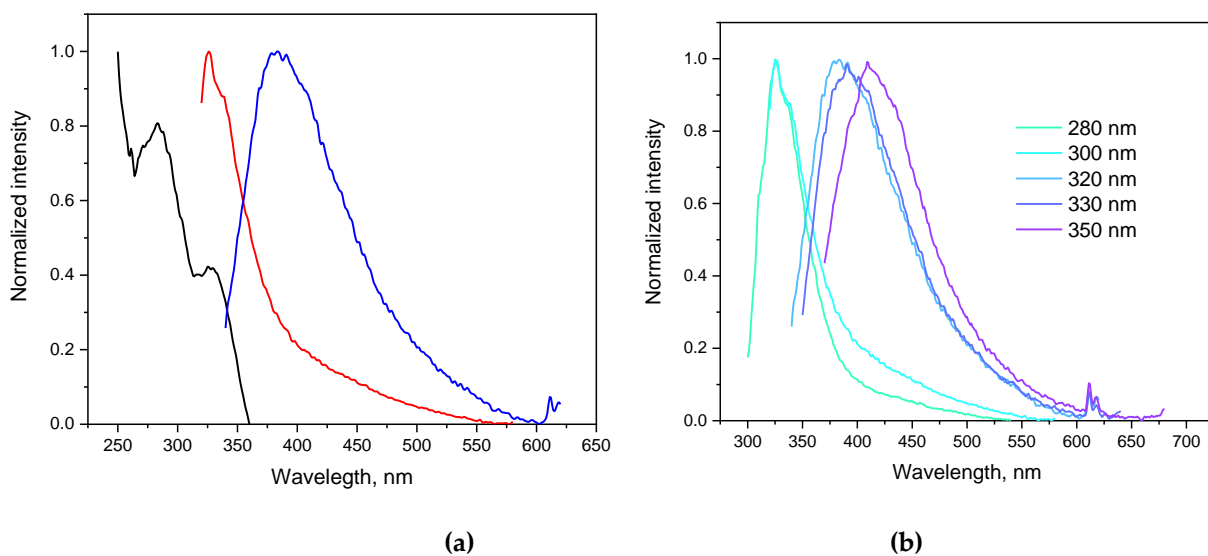


Figure S7. Luminescence excitation and emission spectra of bim ligand in the solid phase: (a) Excitation spectrum of bim at an emission wavelength of 380 nm (black line) and emission spectra of bim upon excitation at 300 nm (red line) and 320 nm (blue line); (b) Emission spectra of bim at different excitation wavelengths.

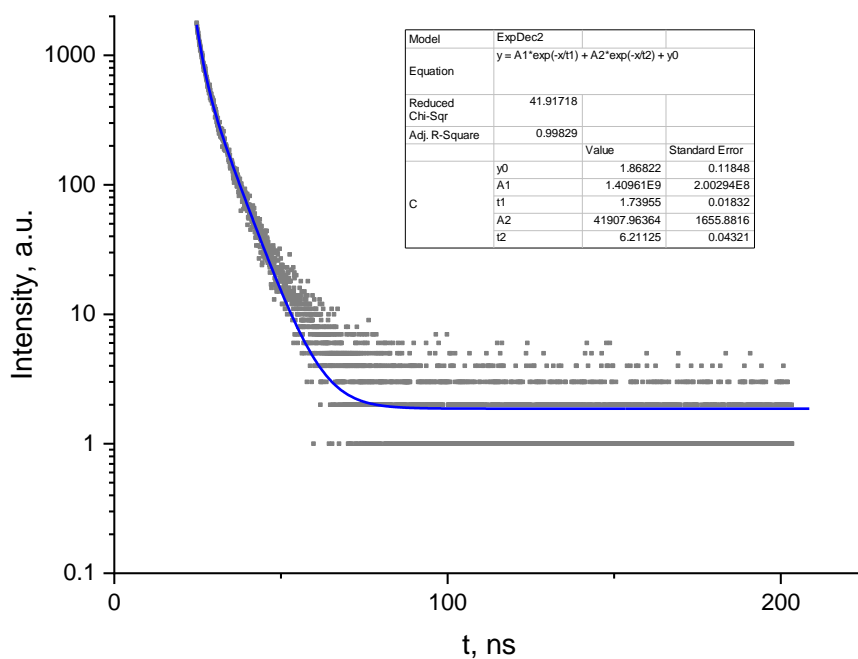


Figure S8. Luminescence decay kinetics Zn-MOF.

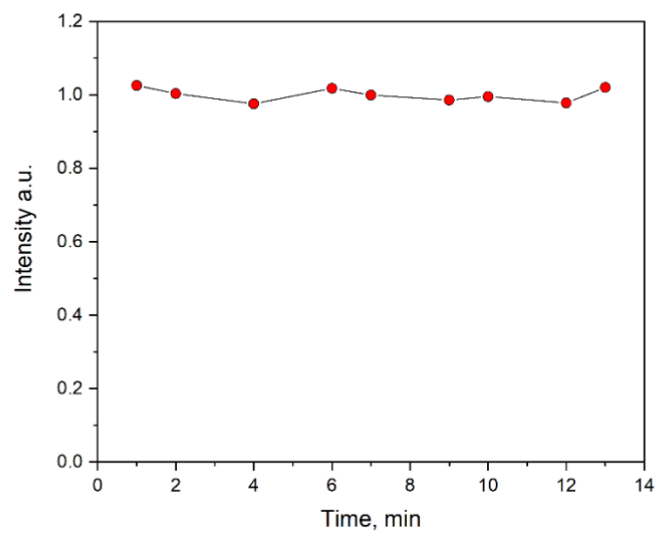


Figure S9. Luminescence emission intensity of **Zn-MOF** versus time plot.

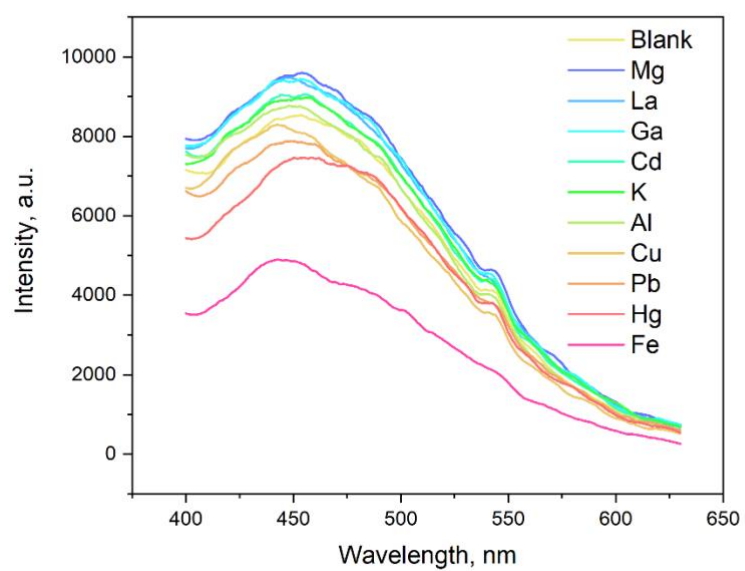


Figure S10. Luminescence emission spectra of **Zn-MOF** ethanol suspensions in the presence of metal cations.

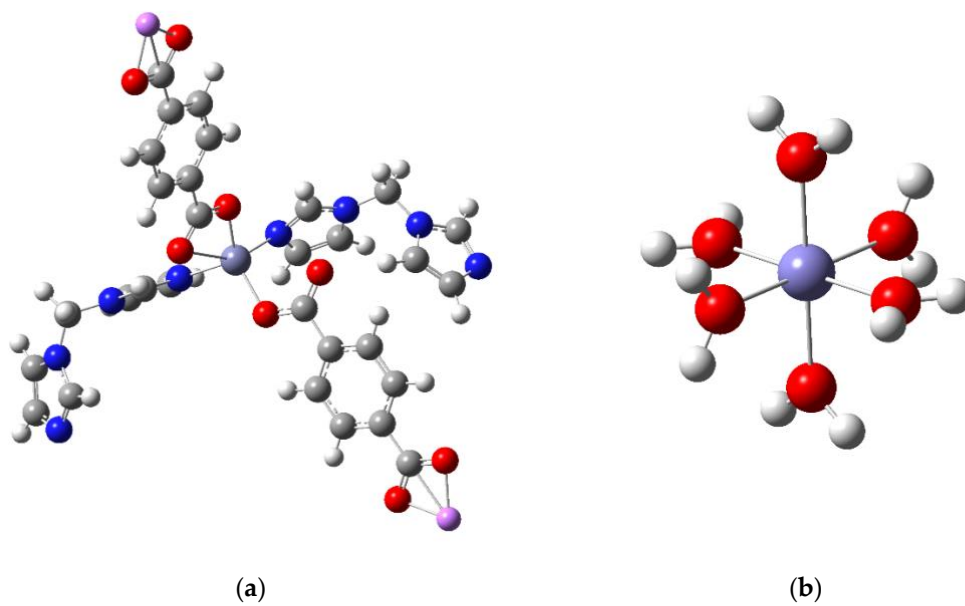


Figure S11. DFT B3LYP 6-311+G(2d,p) optimized structures: (a) **Zn-MOF** model; (b) $[\text{Fe}(\text{H}_2\text{O})_6]^{3+}$.