

Supporting Information for

An 1D Coordination Polymer Based on Novel Radical Anion

Ligand Generated In Situ: Notable Magnetic and Luminescence

Properties

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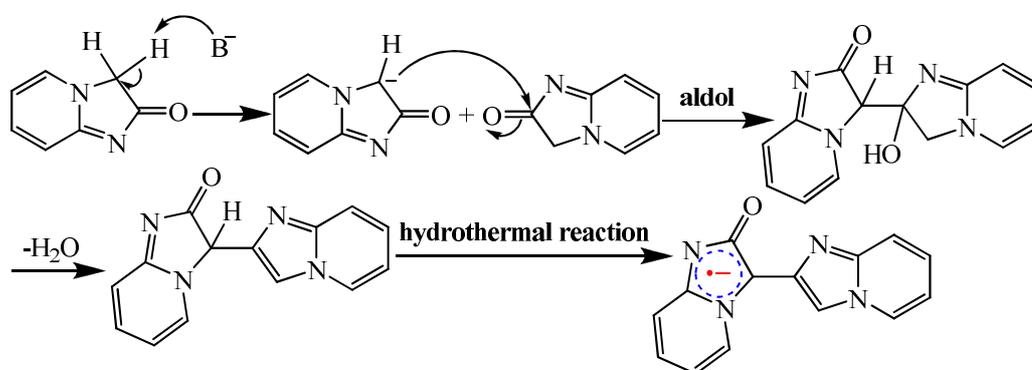
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Physical measurements

Elemental analysis (C, H, and N) was performed using a Vario EL III elemental analyzer. Infrared spectrum was obtained with a Bruker VECTOR-22 FT-IR spectrophotometer with KBr discs. The emission spectrum for the solid sample was recorded at room temperature on a Hitachi 850 fluorescence spectrophotometer. X-ray powder diffraction (XRPD) pattern was obtained on a MXPAHF rotation anode X-ray diffractometer. Thermalgravimetric analysis (TGA) was performed under N₂ with a heating rate of 10°C min⁻¹ using a Shimadzu TGA-50H TG analyzer. The magnetic susceptibility $\chi_M T$ (4–300K) at 1kOe on polycrystalline powder sample was measured with a Quantum Design SQUID magnetometer. The ESR spectrum was recorded on a JES-FA 200 ESR spectrometer at X-band.



Scheme S1. The formation mechanism of radical anion of 2,3'-biimidazo[1,2-*a*]pyridin-2'(3'*H*)-one.

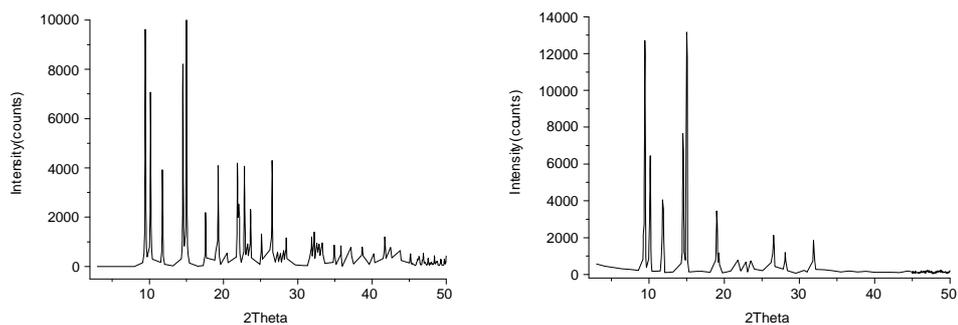


Figure S1. Calculated (left) and observed (right) XRPD patterns for compound **1**.

Thermogravimetric analysis (TGA): Thermogravimetric analysis (TGA) was performed in N_2 for **1** at a heating rate of $10\text{ }^\circ\text{C min}^{-1}$ on polycrystalline sample. The TG curve of **1** displays that the slow weight loss starts at *ca.* $250\text{ }^\circ\text{C}$ and then obvious weight loss starts at *ca.* $550\text{ }^\circ\text{C}$. The calculated weight loss (10.13 %) is very consistent with the determined weight loss (10.08 %) which corresponds to the loss of one coordinated chlorine atom, as shown in Figure S2.

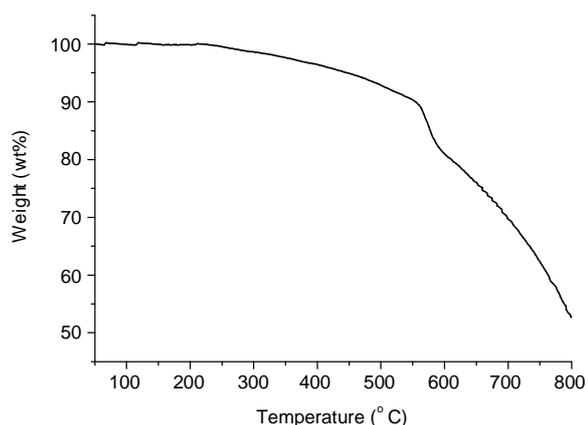


Figure S2. TGA curve of compound **1**.

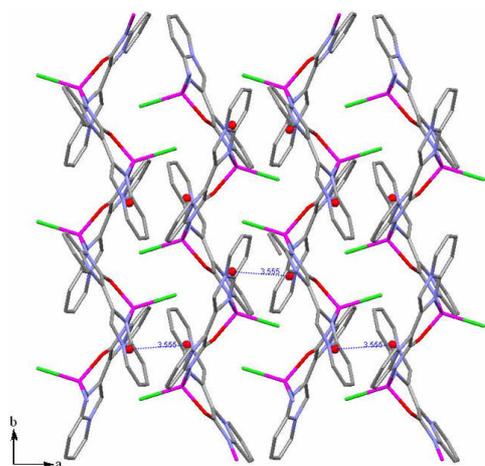


Figure S3. 2D supramolecular array viewed along the *c*-axis in compound **1**.

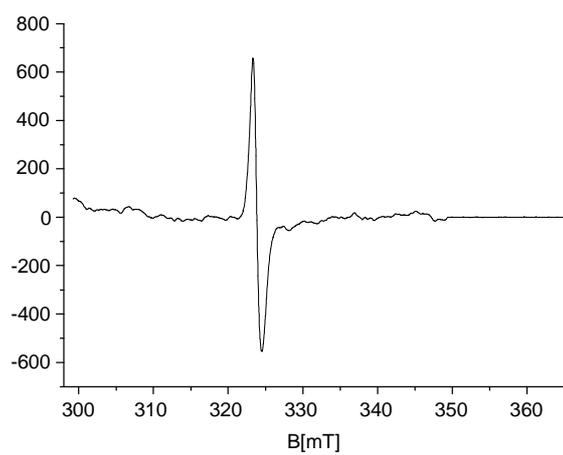


Figure S4. ESR spectrum for compound **1** at room temperature.