Synthesis, Characterization, Crystal Structure and Magnetic Properties of $[(en)Cu^{II}(ImH)_2](ClO_4)_2$ (en = Ethylenediamine, ImH = Imidazole): A Metalloligand as a Building Block for Heterometal Chains

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The reaction of $Cu(ClO_4)_2 \cdot 6H_2O$, imidazole (ImH), and ethylenediamine (en) in a 1 : 2 : 1 ratio afforded in high yield dark-blue single-crystals of $[(en)Cu^{II}(ImH)_2](ClO_4)_2$, **1**, which can be used after deprotonation as a building block for heterometallic ferrimagnetic chains. The structural and electronic properties of **1** were examined by X-ray crystallography, FTIR, ESI-MS, electrochemistry, UV/vis/NIR, EPR, and magnetic susceptibility measurements. The structure of **1** exhibits intermolecular π-π interactions and hydrogen bonds but the magnetic data exclude the presence of intermolecular exchange interactions.

Key words: Cu Complexes, Magnetic Properties, N Ligands