

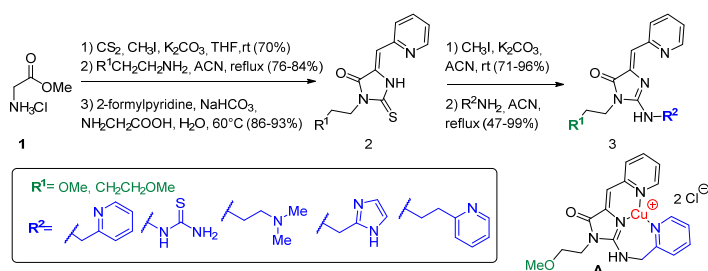
AMINO-IMIDAZOLONES AS NOVEL CHELATORS FOR METAL IONS: SYNTHESIS, SOLUTION POTENTIOMETRIC STUDY

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The 5-arylmethylene-4H-imidazolin-4-one motif is found in green fluorescent proteins, many natural products and few metal complexes [1]. To our knowledge, no synthesis, solution equilibrium or catalytic activity has been reported for ligands such as **3**, that harbour an additional donor site. The spatial distribution of donor atoms in ligands is critical to the chelation of metal ions and their catalytic activities. To enlarge the repertoire of chelating ligands, we synthesized an original series of tridentate amino-imidazolones and examined their ability to complex metal ions (Cu(I), Cu(II), Ni(II), Fe(II)). The results of the complexation studies and preliminary results regarding the catalytic activity of these complexes will be presented.



Scheme 1: synthesis of tridentate amino-imidazolones.

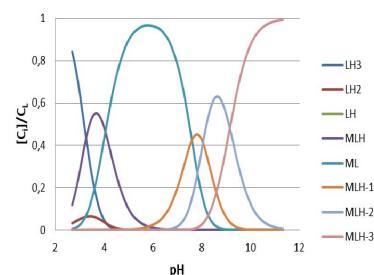


Figure 1: representative example species distribution diagram for complex **A**.

[1] Li, Y.; Shi, L.; Qin, L. X.; Qu, L. L.; Jing, C.; Lan, M.; James, T. D.; Long, Y. T., An OFF-ON fluorescent probe for Zn^{2+} based on a GFP-inspired imidazolone derivative attached to a 1,10-phenanthroline moiety. *Chemical communications* **2011**, 47 (15), 4361-3.