

# Oral Presentation

## Synthesis and Characterization of Co(II), Ni(II), Cu(II) and Zn(II) Complexes with an ONO- and an NNO-Functionalized Ligand

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### Abstract:

A new ligand was synthesized from condensation of 2-aminophenol and 2-acetylbenzimidazole. This ligand (HAPAB, **6**) was characterized based on elemental analysis, IR, <sup>1</sup>H-NMR and <sup>13</sup>C-NMR and MS spectral spectra. The complexes of the ligands, HAPAB (**6**) and 2-acetylfruan benzoylhydrazone (HAFBH, **3**), with Co(II), Ni(II), Cu(II) and Zn(II), encoded **a-d**, were prepared by reaction of their methanolic acetate salts with the ligands in methanol in 1:2 metal to ligand mole ratio. These complexes, M(II)L<sub>2</sub>, **7a-d** and **8a-d**, were similarly characterized based on their physicochemical data by elemental analysis, IR, <sup>1</sup>H-NMR and <sup>13</sup>C-NMR, MS, molar conductance and electronic absorption spectra. The complexes consist of two ligands that give six coordinate bonding to each metal ion on a meridional plane through binding with the acetylfuran-O, the azomethine-N and the oxygen donor atom in the enol form of the hydrazone **3** and the 2-acetylbenzimidazole-N, the azomethine-N, and the phenoxo-O atoms of the imine **6** respectively. The ligands function as monobasic ONO- and NNOtrifunctional donor ligands where the deprotonated enolic form is preferred in the coordination producing distorted octahedral complexes.