

## Synthesis, structure and properties of Cu and Ni-complexes with electroactive Schiff base ligands

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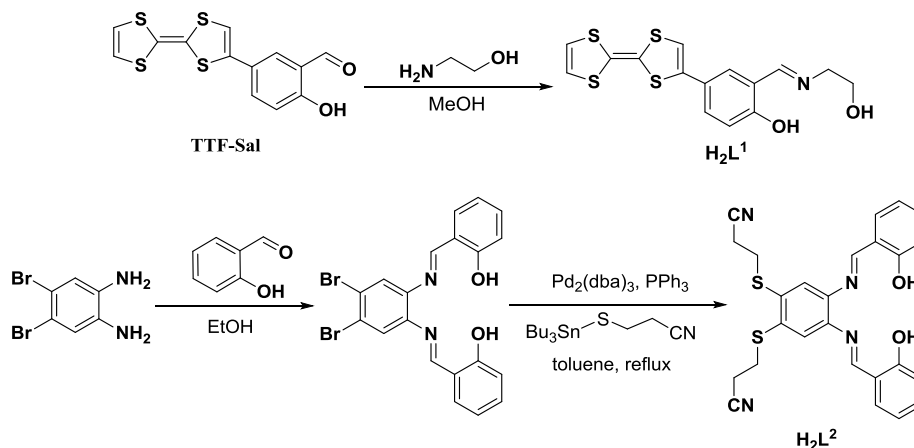
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The synthesis and coordination chemistry of electroactive ligands leading to various electroactive metal complexes have been developing during the past two decades. Remarkable redox-active classes of compounds are represented by tetrathiafulvalene derivatives<sup>1</sup> and dithiolene complexes<sup>2</sup> which have been extensively studied in the search for multifunctional materials, exhibiting a variety of properties, arising from the nature of the ligands and respective metal ions. The introduction of the above mentioned electroactive fragments into Schiff base ligands represents a promising strategy for the development of electroactive metal complexes due to the polydentate nature of these molecules, resulting in multimetallic complexes whose intriguing magnetic, optical or catalytic properties, often derive from their supramolecular architectures.

Herein we present the synthesis of two new ligands (Figure 1) **H<sub>2</sub>L<sup>1</sup>** and **H<sub>2</sub>L<sup>2</sup>**, containing tetrathiafulvalene<sup>3</sup> and dithiolate moieties, respectively.



**Figure 1** Scheme of the syntheses of the **H<sub>2</sub>L<sup>1</sup>** and **H<sub>2</sub>L<sup>2</sup>** Schiff base ligands.

The crystal structures of Cu and Ni complexes with **H<sub>2</sub>L<sup>2</sup>** showing different nuclearities, their conducting properties together with radical cation salts of TTF-Schiff base ligand **H<sub>2</sub>L<sup>1</sup>** complete this work.

1 D. Lorcy, N. Bellec, M. Fourmigué, N. Avarvari, *Coord. Chem. Rev.*, **2009**, 253, 1398.

2 R. Kato, *Chem. Rev.*, **2004**, 104, 5319.

3 O. Stetsiuk, S. R. Petrusenko, A. El-Ghayoury, V. N. Kokozay, N. Avarvari, *Inorg. Chim. Acta*, **2018**, 475, pp 172.