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Supramolecular architectures based on transition metal bis-1,2-dithiolene complexes with N-coordinating groups

A. C. Cerdeira^a, D. Belo^a, S. Rabaça^a, L. C. J. Pereira^a, J. T. Coutinho^a, I. C. Santos^a, R. T. Henriques^b, O. Jeannin^c, M. Fourmigué^c, M. Almeida^a, D. Simão^d

^aCampus Tecnológico e Nuclear Instituto Superior Técnico, Universidade Técnica de Lisboa Estrada Nacional 10 (km 139,7), 2695-066 Bobadela LRS - Portugal; ^bInstituto de Telecomunicações, Polo de Lisboa, Av. Rovisco Pais, 1049-001 Lisboa, Portugal; ^cInstitut des Sciences Chimiques de Rennes, Université Rennes 1 & CNRS, Campus de Beaulieu, F-35042 Rennes, France; ^dCentro de Química Estrutural, Departamento de Engenharia Química, Instituto Superior Técnico da Universidade Técnica de Lisboa, Av. Rovisco Pais, 1049-001 Lisboa, Portugal

Email: dulcesimao@ist.utl.pt

Transition metal complexes with dithiolene ligands have been extensively studied since the sixties due to their unusual redox behaviour, their remarkable electric and magnetic properties, making these complexes interesting as key building blocks for preparing conducting and magnetic molecular materials. Dithiolene ligands containing N-coordinating groups are particularly interesting, since they present an additional pole to selectively coordinate different transition metals, which can lead to a variety of coordination structures, from the simple discrete bimetallic complexes to linear chains and two- or three-dimensional networks¹. In this work, we describe the results of heterobimetallic coordination structures based on the combination of metal cations with transition metal bisdithiolene complexes with extended dithio-azo ligands² (**Figure 1**).

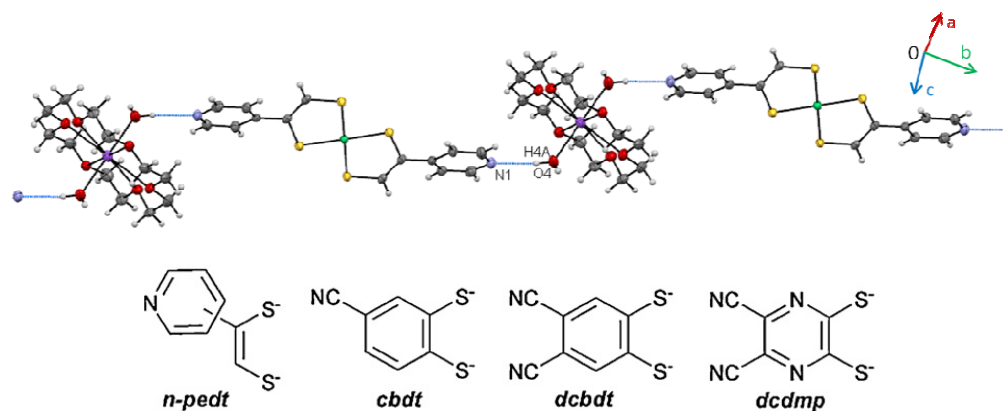


Figure 1: Crystal structure of $[\text{Na}(18\text{C}6)][\text{Ni}(4\text{-pedt})_2] \cdot 2\text{H}_2\text{O}$ and extended dithio-azo ligands.

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References:

- Rabaça S., Almeida M., *Coord. Chem. Rev.*, **2010**, 254, 1493-1508.
- Cerdeira A. C., Belo D., Rabaça S., Pereira L. C. J., Coutinho J. T., Simão D., Henriques R. T., Jeannin O., Fourmigué M. and Almeida M., *Eur. J. Inorg. Chem.* **2013**, accepted for publication.