

Stable metal radical complexes from o-phenylenediamine-based ligands.

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The association of non-innocent ligands with earth-abundant metals has recently emerged as a promising bio-inspired strategy for the development of sustainable, efficient and reliable homogeneous catalysts, which meet the global economical and environmental concerns. The synthesis of new redox-active ligands would not only allow the design of eco-compatible efficient catalysts, but also bring unsuspected reactivities.

Our group has recently designed and synthesized unprecedented o-phenylenediamine-derived tri- and tetradentate pro-radical ligands (Figure 1), as well as the related first-row late transition metal radical complexes.^{1,2} The presentation will give an overview of the redox chemistry and the reactivity of these unique metal species.

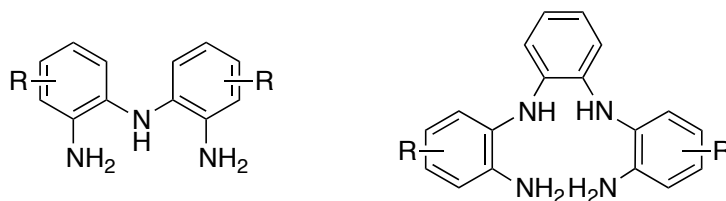


Figure 1 : o-phenylenediamine-derived pro-radical ligands.

¹ (a) N. Leconte, J. Moutet, K. Herasymchuk, R. M. Clarke, C. Philouze, D. Luneau, T. Storr, F. Thomas *Chem. Commun.* **2017**, 53, 2764-2767. (b) N. Leconte, J. Moutet, T. Constantin, F. Molton, C. Philouze, F. Thomas *Eur. J. Inorg. Chem.* **2018**, 1752-1761. (c) N. Leconte, B. Baptiste, C. Philouze, F. Thomas *Dalton Trans.* **2018**, 47, 11303-11307.

² (a) N. Leconte, J. Ciccione, G. Gellon, C. Philouze, F. Thomas *Chem. Commun.* **2014**, 50, 1918-1920. (b) J. Ciccione, N. Leconte, D. Luneau, C. Philouze, F. Thomas *Inorg. Chem.* **2016**, 55, 649-665. (c) N. Leconte, A. du Moulinet d'Hardemare, C. Philouze, F. Thomas *Chem. Commun.*, **2018**, 54, 8241-8244.