

C'Nano 2020

The Nanoscience Meeting

TOULOUSE

Centre des congrès Pierre Baudis

December, 8, 9 and 10



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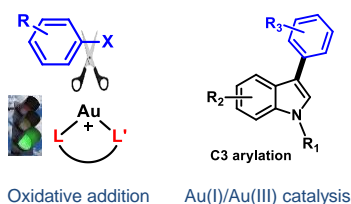
CV

Didier Bourissou studied chemistry at the Ecole Normale Supérieure in Paris and obtained a PhD degree from Paul Sabatier University in 1998 under the supervision of G. Bertrand. He then worked with F. Mathey and P. Le Floch at the Ecole Polytechnique in Palaiseau as a research associate. He was appointed as a CNRS junior researcher in 1998. Since 2006, he holds a senior scientist position (Directeur de Recherche) at the CNRS and from 2006 to 2018, he has been Associate Professor at the Ecole Polytechnique in Palaiseau. He is Director of the Laboratory of Fundamental and Applied Heterochemistry at the University Paul Sabatier in Toulouse since 2011. His research interests concern new bonding situations and reactivity patterns arising from the main group elements, the transition metals and their interplay. He has pioneered ambiphilic ligands in the mid 2000's and developed the concept of π -acceptor ligands. Part of his research also deals with non-innocent pincer complexes and unusual behavior of the coinage metals, in particular gold. He is also interested in biodegradable polymers (ring-opening polymerization, organic and dual catalysis, drug delivery systems).

NEW BASIC ORGANOMETALLIC REACTIVITY OF GOLD: TOWARDS NEW APPLICATIONS?

With the aim to open new avenues in gold chemistry, we are exploring the basic structure and reactivity of coordination complexes. In particular, thanks to rationale ligand design, we have isolated key carbene complexes¹ and challenged the presumed reluctance of gold to undergo oxidative addition,² a pivotal transformation in many processes. Chelating (P,P) and hemilabile (P,N) ligands have been shown to readily promote the activation of C-I/Br and C-C bonds. The approach is amenable to Au(I)/Au(III) catalysis, without the need for an external oxidant or photoredox conditions.³ Such fundamental studies combining experimental work and DFT calculations extend the chemical space of gold and advance our understanding of the key factors controlling its behaviour. Besides their own interests, well-defined molecular complexes are also valuable models for nanoparticles, and the parallel with key intermediates and elementary steps presumably involved in heterogeneous catalysis with Au-NPs will be drawn.

Can we make gold to behave as a TM?



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Keywords: gold / reactivity / ligand / catalysis / bonding