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### Bimetallic reagents for synthesis of functional heterocyclic compounds

Functional heterocyclic derivatives are compounds of great importance with a wide spectrum of applications in e.g. biology, catalysis, supramolecular chemistry or energy conversion. The development of emerging technologies increases the need for more and more sophisticated heteroaromatic compounds drawing the synthetic chemist to design selective and applicable functionalization routes. Pyridine derivatives belong to one of the most important family and our group is focussing on chemo and regioselective routes to pyridyl organometallics (lithium [1] and ate complexes [2]). These intermediates are subsequently used in coupling reactions or enantioselective additions. The conference will focus on the preparation of a range of pyridyl organometallics from lab-made metalation reagents, their characterization and use for the synthesis of functional poly- and chiral heteroaromatic compounds.

### Recent Publications

1. P C Gros, Y Fort (2002) nbuli/lithium aminoalkoxide aggregates: new and promising lithiating agents for pyridine derivatives. *Eur. J. Org. Chem.*, 2002(20):3375-3383.
2. P C Gros, Y Fort (2009) Title of the Article. *Eur. J.*

*Org. Chem.* Volume. 4199-4209.

3. H K Khartabil, P C Gros, Y Fort, M F Ruiz López (2010) Metalation of pyridines with nbuli–li–aminoalkoxide mixed aggregates: the origin of chemoselectivity. *J. Am. Chem. Soc.* 132(7):2410-2416.
4. Francos J, Gros P C, Kennedy A, O'Hara C (2015) Structural Studies of (rac)-BIPHEN organomagnesiates and intermediates in the halogen–metal exchange of 2-bromopyridine *Organometallics.* 34(11):2550-2557.
5. Tilly D, Chevallier F, Mongin F, Gros P C (2014) Bimetallic combinations for dehalogenative metalation involving organic compounds. *Chem. Rev.* 114(2):1207-1257.

### Biography

Philippe C Gros studied Chemistry at the University of Lyon (France) and obtained his PhD in 1992. After two years as a Postdoctoral Fellow, he entered CNRS in 1994 and became Research Director in 2006. He is now first-class Research Director and Head of CNRS UMR SRSMC in Nancy, France (120 persons). He has published more than 100 peer-reviewed papers (h index 26) and coordinated several research programs. His research interests include the design of new metallating agents for functionalization of heterocycles, transition metal-catalyzed cross-couplings for ligand synthesis, and the design of photo- and electroactive organometallic materials.

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