

Jean-François Normant

Organic bromo derivatives in organometallic reactions

Midway from the less reactive chlorocompounds and the more expensive iodo compounds, organic bromo derivatives have been extensively used in organometallic chemistry, so that this talk will not be a comprehensive survey but will focus on some particular points.

- From carbon-bromine to carbon-metal bond
 - via an M^0 metal (Li, Mg, Cu, Zn, Cd) : improvements,
 - via an M^0 metal under "Sayzev" (or "Barbier") conditions.
- R-Br compounds as electrophilic reagents towards organometallics influence of Ni^0 , and Pd^0/Ln catalysis in the reaction of various bromo compounds with selected organometallics. Use of copper reagents in the coupling of $RM + R' Br \rightarrow RR'$.
- Metal/bromine exchange with organolithium compounds - stereoselectivity - chiral reagents - lithio carbenoids. Gem dibromo derivatives as olefination reagents of carbonyl (carboxyl) compounds.
- Some examples on the influence of metallic bromides on the course of organometallic reactions will be discussed.



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Dans sa conférence sur : "Organic bromo derivatives in organometallic reactions".

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Reactivity of the carbon - bromine bond in perhalofluoromethyl and perhalofluoroethyl bromides

Bernard Langlois *

Bromine attached to a carbon atom bearing at least two fluorine substituents is not displaced by nucleophiles through a SN_2 mechanism. Thus, perhalogenofluoroalkyl bromides can react with nucleophiles only through halophilic or monoelectronic reductive processes.

CF_2Br_2 and $BrCF_2CF_2Br$ are transformed essentially under halophilic conditions and lead, in a first step, to difluorocarbene and tetrafluoroethylene, respectively. Though few halophilic attacks

are known upon CF_3Br , this compound is rather functionalised under monoelectronic reductive conditions and lead primarily to the trifluoromethyl radical. Both types of reaction are observed with CF_2BrCl .

The substitution of bromine in CF_2Br_2 , CF_2BrCl , CF_3Br and $BrCF_2Br$ will be illustrated by examples of synthetic and industrial interest.

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