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Orthoamides and Iminium Salts LXXIV [1].
Reactions of *N,N,N′,N′*-Tetramethyl-chloroformamidinium Chloride with Metals

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N,N,N′,N′-Tetramethyl-formamidinium chloride (**2a**) reacts with elemental sodium in various solvents to give *N,N,N′,N′,N″,N″*-hexamethyl-guanidinium chloride (**4a**). The reaction of **2a** with potassium affords *N,N,N′,N′,N″,N″,N‴,N‴*-octamethyl-oxamidinium dichloride (**3a**). From the reaction of **2a** with magnesium in different solvents in general result mixtures of the salts **4a**, **3a** and *N,N,N′,N′*-tetramethyl-formamidinium chloride (**10a**). The composition of these mixtures depends on the solvent and the reaction temperature. Similar results are obtained, when a zinc/copper couple is used instead of magnesium. Very likely from **2a** and magnesium or zinc, respectively, organometallic intermediates **11**, **12** are formed which could be trapped by aromatic aldehydes and phenylisocyanate. The salt **2a** can be reductively coupled by a low-valent titanium reagent to give the oxamidinium salt **3a**.

Key words: Iminium Salts, Chloroformamidinium Salts, Organometallic Compounds (Mg, Zn), Oxamidinium Salts, Nucleophilic Carbenes, Aromatic Aldehydes, Mandelic Acid Amides