

Orthoamides and Iminium Salts, LXXV [1]. Contribution to the Formation of 2-Formyl-1,1,3,3-tetramethylguanidine and the Isomeric 1,1-Dimethyl-3-dimethylaminomethylene-urea

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Z. Naturforsch. **2012**, *67b*, 331 – 336; received January 13, 2012

Dedicated to Professor Ernst Anders on the occasion of his 70th birthday

2-Formyl-1,1,3,3-tetramethylguanidine (**1**) could be prepared from tris(dimethylamino)ethoxy-methane (**3a**) and formamide (**4**). Surprisingly, guanidine **1** does not result from the reaction of 1,1,3,3-tetramethylguanidine with formylating reagents such as dimethylamino-methoxy-acetonitrile (**8**) or the *N,N*-dimethylformamide-dimethylsulfate adduct (**9**), rather the isomeric 1,1-dimethyl-3-dimethylaminomethylene-urea (**2**) is formed. The structure of **2** was confirmed by NMR spectroscopy and crystal structure analysis.

Key words: Guanidines, Formamide, DMF-DMS Adduct, 1,3-Hydride Shift