

# Adducts of the Heavier Group 13 Element Halides with Aminoiminoboranes [1]

Barbara Böck, Ulrike Braun, Tassilo Haberer, Peter Mayer, and Heinrich Nöth

Department of Chemistry, University of Munich, Butenandtstr. 5 – 13, D-81 377 München, Germany

Reprint requests to Prof. Dr. H. Nöth. Tel. (49) 89 2180 77454. Fax: (49) 89 2180 77455.

E-mail: H.Noeth@lrz.uni-muenchen.de

Z. Naturforsch. **59b**, 681 – 684 (2004); received January 26, 2004

2,2,6,6-Tetramethylpiperidino-*tert*-butylimino borane, **1a**, and 2,2,6,6-tetramethyl-piperidino-2,6-diisopropylphenylimino borane (**1b**), react with the trichlorides of Al, Ga and In or with  $\text{AlBr}_3$  to 1:1 to give the addition products  $\text{tmp}=\text{B}=\text{N}(\text{ECl}_3)t\text{Bu}$  (E = Ga (**2a**), In (**2b**) and  $\text{tmp}=\text{B}=\text{N}(\text{EHal}_3)(\text{C}_6\text{H}_3,2,6\text{-}i\text{Pr}_2)$ , (E = Al, Hal = Cl, (**2c**), E = Al, Hal = Br (**2d**)). E = Ga, Hal = Cl (**2e**). All these compounds have an allene type structure with short BN bonds as shown by the determination of the crystal structures of **2a**, **b**. NMR data are in accord with this structure. No isomerization to  $\text{tmp-BHal-NR-EHal}_2$  has been observed at temperatures up to their melting points.

*Key words:*  $\text{ECl}_3$  Adducts, Aminoiminoborane, NMR Spectra, X-Ray Diffraction