Synthese, Struktur und Reaktivität von Aminomethylpyridin-zinkdihalogeniden

Synthesis, Structure and Reactivity of Aminomethylpyridine Zinc Dihalides

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Zinc dichloride reacts with aminomethylpyridine (AMP) to the corresponding 1:1 adduct **1**, whereas $ZnBr_2$ forms an ionic 1:2 complex of the type $[(AMP)_2ZnBr]^+ Br^-$ **2**, which loses one neutral coligand upon heating in Me-C(O)OEt to yield nearly insoluble $(AMP)ZnBr_2$ **3**. The condensation reaction of these compounds with acetone yields propylideneaminomethylpyridine zinc dichloride (**4**) and dibromide (**5**), respectively. The reaction of ZnI_2 with AMP and acetone gives propylideneaminomethylpyridine zinc dichloride (**6**) in quantitative yield. The structures of **3**, **4**, and **6** confirm the linear relationship between the Zn-N distance and the X-Zn-X angle in compounds of the type $(L_2)ZnX_2$ with L_2 being a bidentate amino base, whereas short Zn-N bonds enforce small X-Zn-X angles. Compound **2** consists of separated ions in the solid state with a five coordinate zinc atom in a distorted trigonal bipyramidal coordination sphere.