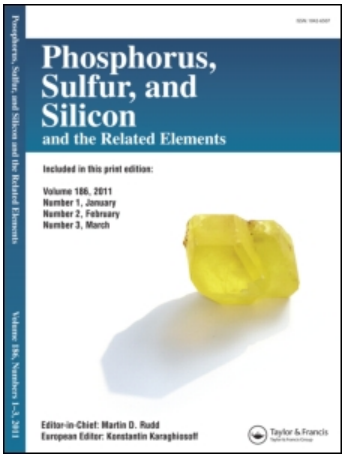

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From Neutral to Cationic Adducts: Investigations on the System Halogeno (Imino) Phosphane (Bisiminophosphorane)/DMAP

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From Neutral to Cationic Adducts: Investigations on the System Halogeno(Imino)Phosphane (Bisiminophosphorane)/DMAP

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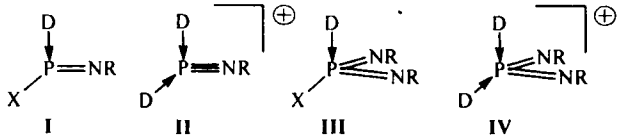
Cations containing a unifold coordinated phosphorus center have been verified in the case of iminophosphenium salts[1a], and their chemistry has been explored in some detail[1b]. Herein we report on the Lewis-acid/base reactions between halogeno-(imino)phosphanes (X=Cl,Br,I) and the neutral amine-donor dimethylaminopyridine (DMAP).



I II III IV

The reaction results in the formation of the neutral adducts (**I**) as well as the iminophosphenium salts (**II**), the constitution of which was elucidated by means of NMR-investigations and X-ray crystal structure determinations. Based on a variety of crystal structures of **I** (X=Cl), which show different phases of the base approaching to the halogeno(imino)phosphane, a mechanism for the donor-acceptor reaction is proposed. Analogous treatment of halogeno-bis(imino)phosphoranes with DMAP leads to the formation of the adducts (**III**) and the bis(imino)phosphonium salts (**IV**) respectively. X-ray crystal structures of the bromo-bis(imino)phosphorane/base adduct (**III**) as well as of the bis(imino)phosphonium salt (**IV**) could be obtained.

References

[1] a) E. Niecke, F. Reichert, M. Nieger, W.W. Schoeller, *Angew. Chem. Int. Ed. Engl.* **1988,** *27,* 1715–1717, b) D. Gudat, *Coordination Chemistry Reviews* **1997,** *163,* 71–106.