Phosphorus-fluorine chemistry. XXXV. Unsymmetrical 1,3-diaza-2,4-diphosphetidines of zwitterionic structure. Schlak, Ottfried; Schmutzler, Reinhard; Schiebel, Hans M.; Wazeer, M. I. M.; Harris, Robin K. Tech. Univ. Braunschweig, Braunschweig, Fed. Rep. Ger. Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1972-1999) (1974), (20), 2153-7

Abstract

The reactions of 2,2,2,4,4,4-hexafluoro-1,3-dimethyl-1,3-diaza-2,4-diphosph(V)etidine with N,N'-dilithio-N,N'-dimethylethylenediamine and of the 1,3-tert-butyl analog with Me3CLi gave zwitterionic species involving tetra- and hexacoordinate P atoms, instead of the products of normal nucleophilic substitution in which P retains 5-coordination. The zwitterionic nature of the products was established by 1H, 19F, and 31P NMR spectra. Mass spectroscopy showed that decompn. into monomeric phosphine imides, which is characteristic of 1,3-diaza-2,4-diphosph(V)etidines, does not occur for the zwitterionic compds.