
Abstract

The reaction of Ph2PF3 with MeN(SiMe3)2 gives the dimer (Ph2FPNMe)2 (I) contg. a diazodiphosphetidine ring. I was studied by NMR spectroscopy and x-ray diffraction. The 1H NMR spectrum of the NMe group may be explained in terms of a slow pseudorotation between 2 conformations. The 2 values of 3JPH (16.78, 6.17 Hz) involve coupling paths through axial and equatorial P-N bonds. Triclinic crystals of I contain 2 independent crystallog. centrosym. mols. within the unit cell. The coordination at P is distorted trigonal-bipyramidal, with mean bond lengths P-F 1.683, P-N (equatorial) 1.652, P-N (axial) 1.780, and P-C 1.835 .ANG..

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\text{Ph}_2\text{FP} \equiv \text{NMe} \\
\text{MeN} \equiv \text{PhPF}_2 \\
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