SYNTHESES AND REACTIONS OF TRICHLOROMETHYLPYRIDINES AND PYRIMIDINES

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It is well known that hydroxyl group at α and γ position of pyridine and quinoline is chlorinated by treatment with phosphorus oxychloride or phosphorus pentachloride. Previously, we have reported that 2-methyl of 3-nitro-2,6-lutidine derivatives and 4-methyl of methylpyrimidine are chlorinated with phosphorus pentachloride in phosphorus oxychloride to give the trichloromethyl compound. The present paper describes the chlorination and phosphorylation of3-nitropicolines with phosphorus pentachloride-phosphorus oxychloride, and the reactions of trichloromethylpyrimidines.

Treatment of 2-methyl-3-nitropyridine with phosphorus oxychloride in the presence of phosphorus pentachloride afforded dichloro-(3-nitro-2-pyridyl)methylphosphonic dichloride.

Phosphorylated products were also obtained under the same condition from 4-chloro-2-methyl-3-nitropyridine and 2-methyl-3-nitropyridine N-oxide. However, 6-substituted 2-methyl-3-nitropyridines were not converted to the phosphorylated derivative.

Reaction of 4-chloro-6-trichloromethylpyrimidine derivatives with triphenylphosphine gave 2-chloromethylenetriphenylphosphoranes. The phosphorane was allowed to react with several kinds of aldehyde giving haloalkene derivatives.