

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 quino-
line is chlorinated by treatment with phosphorus oxychloride or phosphorus penta-
chloride. Previously, we have reported that 2-methyl of 3-nitro-2,6-lutidine deriva-
tives 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 of 3-nitropicolines with phosphorus
pentachloride-phosphorus oxychloride, and the reactions of trichloromethylpyrimidines.

Treatment of 2-methyl-3-nitropyridine with phosphorus oxychloride in the pre-
sence of phosphorus pentachloride afforded dichloro-(3-nitro-2-pyridyl)methylphospho-
nic 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 triphenyl-
phosphine gave 2-chloromethylenetriphenylphosphoranes. The phosphorane was allowed
to react with several kinds of aldehyde giving haloalkene derivatives.