

Russian Chemical Bulletin 2004 vol.53 N8, pages 1704-1710

Reaction of 2-methoxy-1,3,2-dioxaphosphorino-4,5-b]pyridin-4(4H)-one with hexafluoroacetone

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Abstract

The reaction of the di-O-trimethylsilyl derivative of 2-hydroxynicotinic acid with methyl phosphodichloridite afforded 2-methoxy-1,3,2-dioxaphosphorino[4,5-b]pyridin-4(4H)-one. The NMR spectroscopic data suggest that the reaction of the latter with hexafluoroacetone produces unstable 2-methoxy-2,5-dioxo-4,4-bis(trifluoromethyl)-4,5-dihydro-1,3,2-dioxaphosphorino[4,5-b]pyridine, which is readily transformed into 9-methyl-2,5-dioxo-4,4-bis(trifluoromethyl)-4,5-dihydro-1,3,2-dioxaphosphorino[4,5-b]pyrid-9-ium-2-olate. The structure of the hydrolysis product of the latter, viz., 1-methyl-3-(2-hydroxy-3,3,3-trifluoro-2-trifluoromethylpropanoyl)pyridin-2-one, was established by X-ray diffraction analysis. © 2004 Springer Science+Business Media, Inc.

<http://dx.doi.org/10.1007/s11172-005-0021-1>

Keywords

2-hydroxynicotinic acid, 2-methoxy-1,3,2-dioxaphosphorino[4,5-b]pyridin-4(4H)-one, Hexafluoroacetone, Methyl phosphodichloridite, Pyridin-2-one derivatives, Pyrido-annelated 2,5-dioxo-4,4-bis(trifluoromethyl)-1,3,2-dioxaphosphorine derivatives