Synthesis and Reactivity of 2-(Furan-2-yl)-1(3)*H*-imidazo[4,5-*b*]pyridine

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Abstract—2,3-Diaminopyridine and furfural in the conditions of Weidenhagen reaction give rise to 2-(furan-2-yl)-1(3)*H*-imidazo[4,5-*b*]pyridine, whose methylation in KOH–acetonee system affords isomeric 1-methyl-2-(furan-2-yl)-1*H*- and 3-methyl-2-(furan-2-yl)-3*H*-imidazo[4,5-*b*]pyridines. At the electrophilic substitution of the 1-methyl isomer (nitration, bromination, sulfation, formylation, acylation) depending on the conditions either furan ring, or pyridine fragment suffer the electrophilic attack. At its quaternization with methyl iodide in benzene N-methylpyridinium salt is obtained.

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