Synthesis and Properties of 2-(Furan-2-yl)thiazolo[5,4-*f*]quinoline

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Abstract—*N*-(Quinolin-6-yl)furan-2-carboxamide was prepared by the coupling of quinoline-6-amine with furan-2-carbonyl chloride in propan-2-ol. Treatment of the product with excess P_2S_5 in anhydrous pyridine gave *N*-(quinolin-6-yl)furan-2-carbothioamide which was oxidized with potassium ferricyanide in an alkaline medium by the Jakobson procedure to obtain 2-(furan-2-yl)thiazolo[5,4-*f*]quinoline. The latter was subjected to electrophilic substitution reactions (nitration, bromination, formylation, and acylation), as well as characteristic nucleophilic substitution involving the quinoline ring and quaternization with methyl iodide in benzene .

Keywords: quinoline-6-amine, *N*-(quinolin-6-yl)furan-2-carboxamide, oxidation, potassium ferricyanide, electrophilic substitution reactions, quaternization

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