Synthesis of Ethyl 4-(1,2,3-Thiadiazol-4-yl)-5-(bromomethyl)furan-2-carboxylate and Its Reactions with Nucleophiles

Yu. O. Remizov, L. M. Pevzner, M. L. Petrov, and A. I. Ponyaev

St. Petersburg State Institute of Technology (Technical University), Moskovskii pr. 26, St. Petersburg, 190031 Russia
e-mail: pevzner_lm@list.ru

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Abstract—By cyclization of carboethoxyhydrazone of ethyl 4-acetyl-5-methylfuran-2-carboxylate under the conditions of Hurd–Mori reaction ethyl 4-(1,2,3-thiadiazol-4-yl)-5-methylfuran-2-carboxylate was synthesized. The ester obtained was brominated with *N*-bromosuccinimide at the methyl group in the furan ring. This bromide reacts with various N-, S-, O-, and P-nucleophiles to form the corresponding substitution products. Furylthiadiazole fragment remains stable in the course of these transformations.

Keywords: hydrazones, Hurd–Mori reaction, (1,2,3-thiadiazol-4-yl)furans, radical bromination, amination, phosphorylation, hydrolysis, Dem'yanov reaction

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