Facile synthesis of the new derivatives of 3-alkylsulfanyl-5-chloro-7-methyl-[1,2,4]triazolo[4,3-c]pyrimidine

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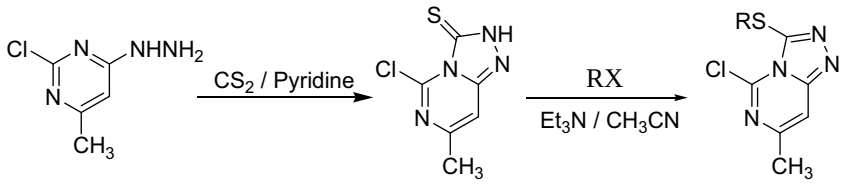
Triazolopyrimidines are of interest not only for the synthesis of heterocyclic systems but also as compounds having biological activity and exhibiting, in particular, hypotensive, antiseptic, antiarrhythmic, and antiasthmatic properties[1,2]. Some methods for the preparation of these heterocyclic system are involves treatment of hydrazinopyrimidines with carbon disulfide or sodium nitrite in the presence of acetic acid [3] or condensation of the hydrazinopyrimidines with either formic acid or its orthoester [4] and also by the Dimroth rearrangement of imino derivatives of some pyrolopyridines in the presence of NaOH to obtain the hydrazinopyrimidine which were transformed into [1,2,4]triazolo[4,3-c]pyrimidines by treatment with acylhalides[5].

In this study, the reaction of 2-chloro-4-hydrazino-6-methylpyrimidine with carbonedisulfide in boiling pyridine led to the synthesis of 5-chloro-7-methyl-[1,2,4]triazolo[4,3-c]pyrimidine-3(2H)-thione. Subsequently, this precursor was alkylated by various alkyl halides in CH_3CN and in the presence of triethylamine to give the corresponding 3-alkylsulfanyl-5-chloro-7-methyl- [1,2,4]triazolo[4,3-c]pyrimidine derivatives.



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