PR-16

NUCLEOPHILIC SUBSTITUTION OF NITRO GROUP IN DIHYDROAZOLE[5,1-C][1,2,4]TRIAZINES

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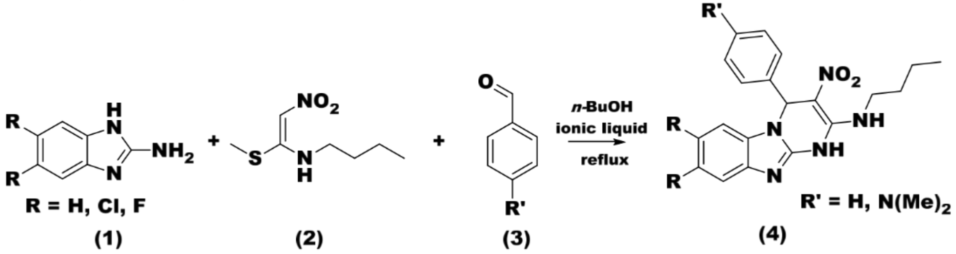
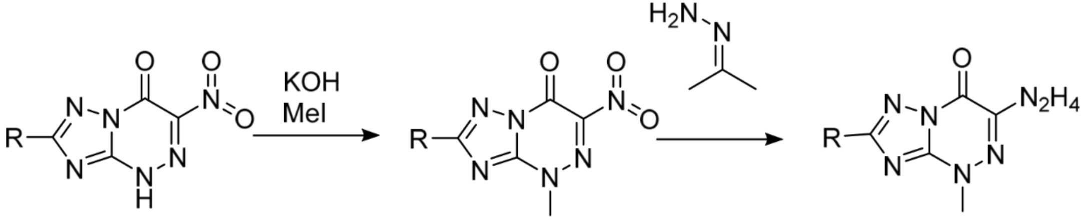
Abstract. Previously, nucleophilic substitution of a nitro group in a series of azoloazines by O-, S-, Nnucleophiles was studied [1-3], but works describing the substitution of a nitro group in dihydroazolo [5,1-c][1,2,4]triazines by primary aromatic amines are absent due to the lack of nucleophilicity of the latter.

We managed to carry out the nucleophilic substitution of the nitro group into fragments methoxyaniline by boiling in acetonitrile.



The reactions of dihydroazolo[5,1-c][1,2,4]triazines with hydrazine hydrate were previously studied. The authors suggested that heating nitroazolotriazine in ethanol with hydrazine hydrate leads to the reductive decomposition of the triazine ring to form 3-methyl-5-(N-methylamino)-1,2,4-triazole [3].

We found that nitrodihydroazolo[5,1-c][1,2,4]triazines react with dimethylmethylenehydrazine to produce the nucleophilic substitution product at low temperatures.



References

1. Beck J.R. // Tetrahedron. – 1978. – Vol. 34. – P. 2057
2. Rusinov, V. L., Sapozhnikova, I. M., Ulomskii, E. N., Medvedeva, N. R., Egorov, V. V., Kiselev, O. I., . . . Chupakhin, O. N. (2015). Nucleophilic substitution of nitro group in nitrotriazolotriazines as a model of potential interaction with cysteine-containing proteins. Chemistry of Heterocyclic Compounds, 51(3), 275-280
3. Nitroazines. 9. Characteristic features of nucleophilic substitution of the nitro group in dihydroazolo[5,1-c] [1,2,4]triazines/ V. L. Rusinov, E. N. Ulomskii, O. N. Chupakhin [et al.]// Chemistry of Heterocyclic Compounds. – 1989. Vol. 34. – № 2 – C. 209-213

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