Reaction of Z-Isomers of α-Hydroxylamino-oximes with 1,2-Diketones

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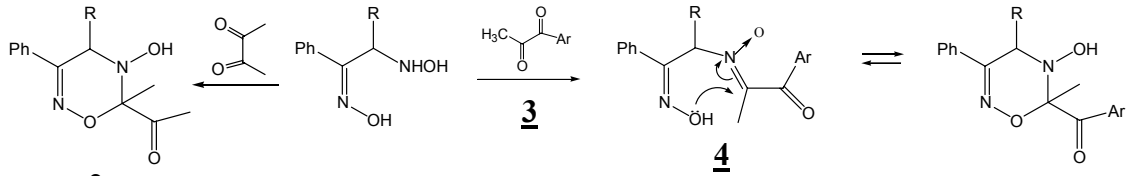
Condensation of Z-izomers of α-hydroxylamino oximes with aliphatic monocarbonyl compounds leads to 5-hydroxy-5,6-dihydro-4H-1,2,5-oxadiazines or tautomeric mixture of these compounds and N-(2-hydroxyiminoalkyl)-α-alkylnitrones [1].

In continuation of our work on the synthesis of heterocyclic compounds, we report here the results of the reaction of Z-izomers of α-hydroxylamino-oximes **1** with 1,2-diketones. Reaction of compounds **1** with diacetyl gives 6-acetyl-5-hydroxy-6-methyl-3-phenyl-4R-5,6-dihydro-4H-1,2,5-oxadiazines **2**. At the same time reaction of these compounds **1** with aryl substituted propan-1,2-diones **3** leads to products which have in the crystalline state the structure of N-(2-hydroxyiminoalkyl)-α-aroylnitrones **4** or of 6-aroyl-5-hydroxy-6-methyl-3-phenyl-4R-5,6-dihydro-4H-1,2,5-oxadiazines **5** and can exist in solution as an tautomeric mixture of these compounds.



2 **1** **3** **4** **5**

R = H; Me; *i*-Pr

Ar = Ph; 4-MeC_6H_4; 4-BrC_6H_4; 4-ClC_6H_4; 4-FC_6H_4; 4-$EtOC_6H_4$

The effects of the substituents and solvents on the tautomeric equilibrium of **4** and **5** will be presented at the conference.

[1] L. B. Volodarsky, A. Ya. Tikhonov, Synthesis, *1986*, 704.