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LETTERS TO THE EDITOR

Synthesis of 2-Substituted-1,3-oxazolidines under Microwave Irradiation

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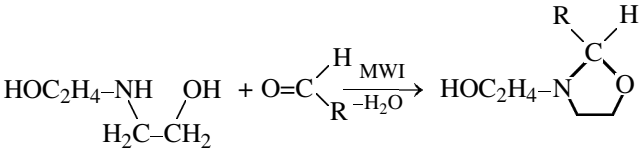
2-Substituted-1,3-oxazolidines still remain actively studied nitrogen-containing heterocycles due to their effective application in medicine, agriculture, and polymer and paint and varnish industry [1–2]. Among fairly few synthetic approaches to 1,3-oxazolidines, heterocyclization heterocyclization of vicinal amino-alcohols with various aldehydes and ketones occupies a special place. Depending on the activity of the starting reagents, the reaction time varies from 4 to 12 h. The yields of the target products are 65–95% [3–5].

We studied the heterocyclization process on an example of the condensation of diethanolamine with various aldehydes and ketones without a solvent under microwave irradiation (MWI).



To this end, 0.06 mol of diethanolamine and 0.06 mol of the corresponding aldehyde were mixed in a 250-ml heat-resistant conical flask, and the mixture was placed into a household microwave oven (70 W). The reaction duration was 10–15 min. The products were isolated by vacuum distillation.

This procedure was used to synthesize the following 2-substituted-1,3-oxazolidines: **2-(2-phenyloxazolidin-3-yl)ethanol,** bp 145°C (5 mm Hg), yield 80%; **2-(2-isopropyloxazolidin-3-yl)ethanol,** bp 94°C (2 mm Hg), yield 83%; **2-(2-*sec*-butyloxazolidin-3-yl)ethanol,** bp 104°C (3 mm Hg), yield 81%; **2-[2-(4-methoxyphenyl)oxazolidin-3-yl]ethanol,** bp 198°C (7 mm Hg), yield 85%.

The physical and chemical properties of the listed compounds were coincident with those reported in [3] for the compounds were prepared by the procedure in [5].

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