# DESIGN AND SYNTHESIS OF COMBINATORIAL LIBRARIES OF [1,2,4]TRIAZOLO[4,3-*a*]PYRAZINES

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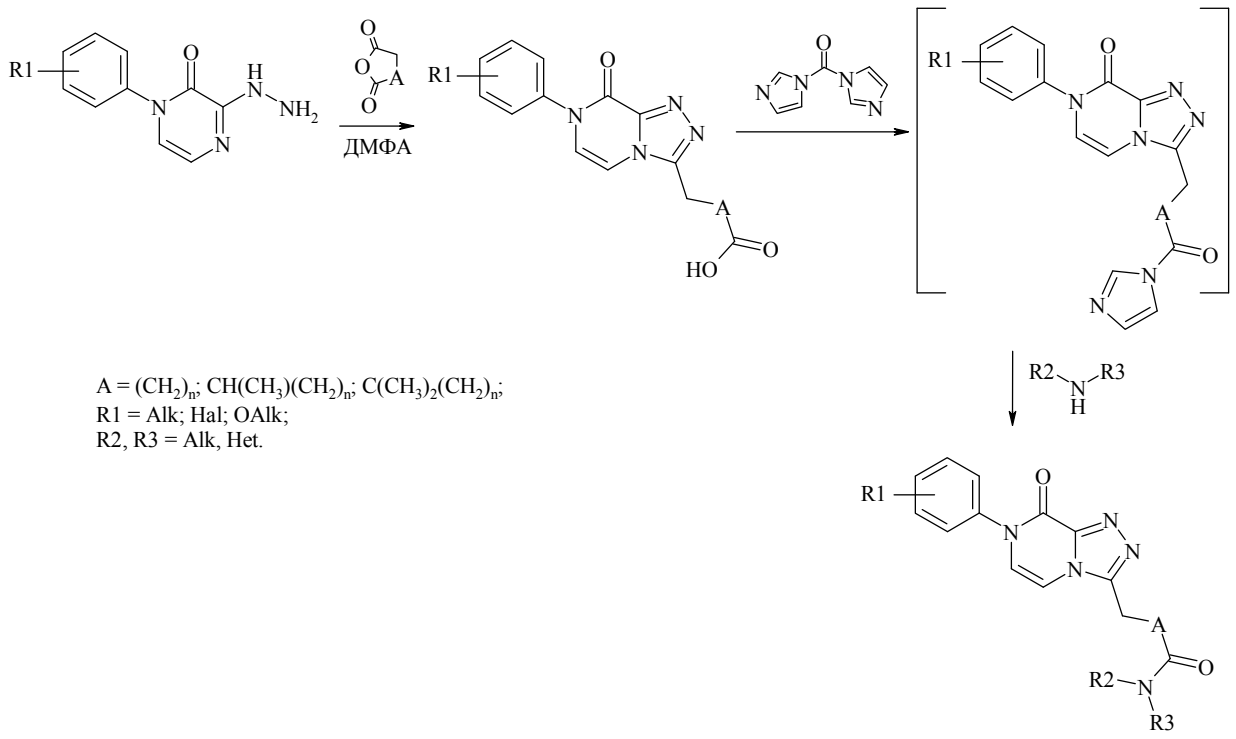
Rational design of libraries based on condensed heterocyclic systems is one of the priority areas of medical chemistry. Compounds that combine the structure of polynitrogen heterocycles and field containing conformationally mobile substituents, making them potential pharmacological rather high, are attracted the attention of scientists.

The aim of this work was the construction of combinatorial libraries based on $N^7$-aryl-ω-(8-oxo-7,8-dihydro[1,2,4]triazolo[4,3-*a*]pyrazin-3-yl)alkyl-carboxylic acids derivatives.

Initial *building-blocks* – $N^1$-substituted 3-hydrazinopyrazin-2-ones were obtained on the basis of esters of *N*- substituted oxalamic acids. Synthesis of $N^7$-aryl-ω-(8-oxo-7,8-dihydro[1,2,4]triazolo[4,3-*a*]pyrazin-3-yl)alkylcarboxylic acids was performed by reacting of the corresponding $N^1$-substituted 3-hydrazinopyrazin-2-ones with cyclic anhydrides in the ratio 1:4 in an environment of anhydrous dimethylformamide. The systematic series of amides $N^7$-aryl-ω-(8-oxo-7,8-dihydro-[1,2,4]triazolo[4,3-*a*]pyrazin-3-yl)alkylcarboxylic acids was synthesized using carbonyldiimidazole as activator:




A = $(CH_2)_n$; $CH(CH_3)(CH_2)_n$; $C(CH_3)_2(CH_2)_n$;
R1 = Alk; Hal; OAlk;
R2, R3 = Alk, Het.

The structure of the compounds was obtained confirmed by $^1$H NMR spectroscopy and elemental analysis.