

Syntheses of Bioactive Adamantane Fragment Containing Some New Benzimidazoles and Peptides

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The aim of our research was syntheses of bioactive adamantane fragment containing 2-(1-adamantyl)benzimidazoles and their derivatives, N-alkyl-2-(1-adamantyl)-benzimidazoles and the syntheses of adamantane fragment containing peptides via Ugi reaction.

In this direction, by us was worked-up an efficient synthetic method to synthesize 2-(1-adamantyl)benzimidazole from o-phenylenediamine and adamantane-1-carboxylic acid. Carried out nitration reaction of 2-(1-adamantyl)benzimidazole and reduction reaction of nitro product. Studied condensation reaction of 5(6-amino)-2-(1-adamantyl)benzimidazole with aromatic aldehydes and carboxylic acid chlorides. Synthesized N-alkyl-2-(1-adamantyl)benzimidazole from the interaction of N-(1-adamantylcarbonyl)-o-phenylenediamine and 5-methoxy-N-(1-adamantylcarbonyl)-o-phenylenediamine with aromatic aldehyds and was carried out catalytic reduction by obtained Schiff bases and cyclization.

The adamantane containing new peptides was synthesized via Ugi reaction on the base of isocyanides by using adamantane carboxylic acid, aminoadamantane and adamantanone.

The structure of obtained compounds were confirmed by NMR spectroscopy and mass spectrometry.