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SYNTHESIS OF NSAIDs DERIVATIVES OF TRYPTAMINE

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The non-steroidal anti-inflammatory drugs (NSAIDs) are medications widely used to relieve pain, reduce inflammation, and bring down a high temperature. NSAIDs are used to relieve symptoms of headaches, painful periods, sprains and strains, colds and flu, arthritis, and other causes of long-term pain. We have used five members of the NSAIDs family as ketoprofen, naproxen, fenoprofen, flurbiprofen and carprofen to obtain a series of new compounds interesting for analysing their biological activity. Because of the number of contraindications and the incompatibility of the most of the NSAIDs with other drugs, it is of interest of obtaining new organic compounds enclosing a profen residue in the structure of its molecule. Tryptamine is a bicyclic heterocycle and is the most important and best characterized member of the indole amine family. The tryptamine scaffold is regarded as a privileged structure, due to its broad applications for designing medicinal agents. The tryptamine and its analogues have been reported to display varied pharmacological activities, such as antimigraine, antibacterial, antitumor etc. In considering the significant biological activities of tryptamine and also of the NSAIDs, it is interesting the obtaining of new compounds structurally containing a tryptamine moiety as well as aryl propionic (NSAIDs) residue attached thereto. In searching of easy and eco-friendly method for obtaining of the target compounds we have found described in the literature method. The method uses amines and carboxylic acids for obtaining amide bonds using DCC as dehydrating agent. N, N-dicyclohexylcarbodiimide (DCC) is a dehydrating agent commonly used for the synthesis of esters, amides or anhydrides. DCC reacts with the carboxyl group of aryl propionic derivative to produce an activated acylation agent that reacts with the amino group of the tryptamine molecule to form an amide bond. The resulting five new compounds (Reaxys) are characterized by their melting points, IR, 1H- and 13C-NMR spectra.

Biography

Iliyan Ivanov has completed MSc (1990), PhD (2003) University of Plovdiv, Bulgaria. His research interests include synthetic application of α-amidoalkilation reaction and development of new methods for obtaining of N-heterocyclic compounds. He has developed a new alternative method for the synthesis of isoquinoline analogues. Subsequently, the method has been successfully applied for the synthesis of novel beta-carboline, quinazolinone, isochroman and other N- and O- heterocyclic derivatives. He is the Author of more than 60 publications in the field of synthesis of heterocyclic compounds.

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Stanimir Manolov has received his BSc of Computer chemistry (2008), MSc (2009) and PhD of Organic chemistry (2015) degrees from University of Plovdiv (Bulgaria). He works as an Assistant Professor of Organic chemistry from Mar' 2012. In Feb' 2016, he was appointed as a Chief Assistant Professor of Organic Chemistry at University of Plovdiv "Paisii Hilendarski". His research in the group of Prof Iliyan Ivanov is focused on the development of new synthetic methodologies of biologically active N and O containing natural compounds.

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