

**XXII INTERNATIONAL SYMPOSIUM
„ADVANCES IN THE CHEMISTRY OF
HETEROORGANIC COMPOUNDS”**



**Centre of Molecular
and Macromolecular Studies
Polish Academy of Sciences**

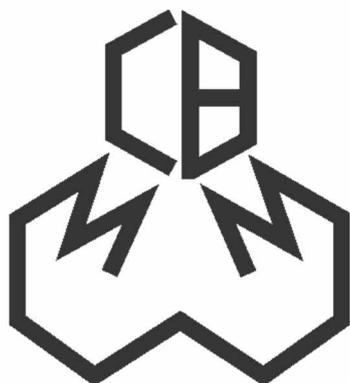


**Section
of Heteroorganic Chemistry
Polish Chemical Society**

**ŁÓDŹ
November 22, 2019**

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ORGANIZED BY



Section of Heteroorganic Chemistry
Polish Chemical Society

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in cooperation with

Faculty of Chemistry
University of Łódź

Faculty of Mathematics
and Natural Sciences
Jan Długosz University
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Łódź Branch
Polish Chemical Society

ŁÓDŹ, November 22, 2019

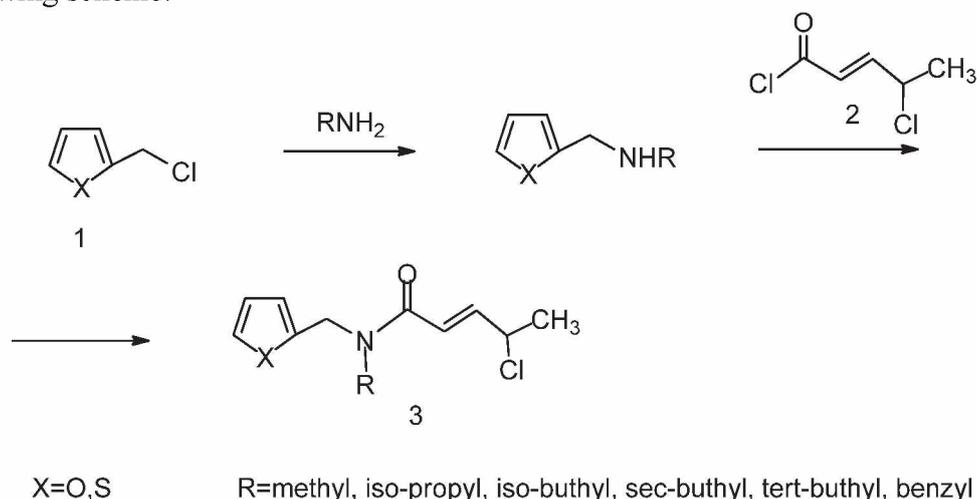
Synthesis of N-alkyl-N-heterylmethyl pentenamides as novel neonicotinoid analogs

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Neonicotinoids are a group of insecticides characterized by high biological activity and a wide range of action, low cost rate, activity against resistant pest populations and the moderate environmental stability. It is for these reasons; the search for new substances of neonicotinoid class is relevant.

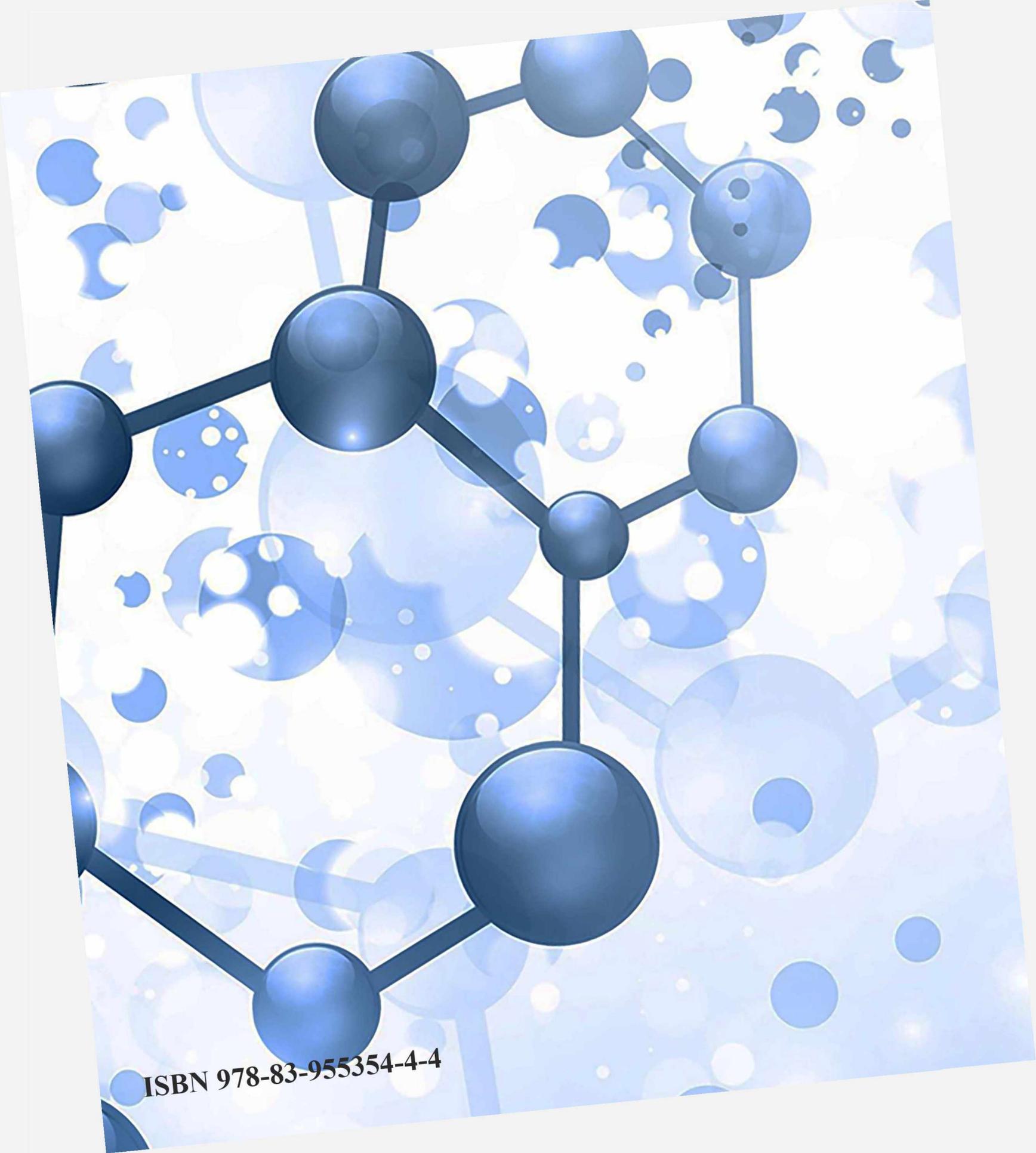
The heterocyclic core of the known neonicotinoids is a substituted pyridine or thiazole ring that mimics the nicotine alkaloid moiety. New types of compounds with other heterocyclic fragments (furyl, thienyl) **3** were synthesized. The main chemical processes are represented by the following scheme:



4-Chloro-pentenoic acid chloride **2** was synthesized according to the procedure [1]. The structure of the synthesized compounds was confirmed by NMR ^1H and IR spectroscopies. The synthesized compounds contain several potential biologically active fragments in the molecule; hence their further biological tests are important.

References

- [1] K. Matsunari, H. Sugiyama, H. Sadohara and K. Motojima, *J. Pesticide Sci.*, **1999**, *24*, 1-6.

The image features a stylized molecular structure composed of dark blue spheres connected by lines, set against a light blue background with a bokeh effect of out-of-focus circles. The structure is a complex network of interconnected nodes and edges, resembling a chemical or biological network. The spheres vary in size and are connected by lines of varying thickness, creating a sense of depth and connectivity. The overall aesthetic is clean and scientific.

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