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Thematic issue "Cycloaddition reactions: recent progress"

Cycloaddition reactions are the most universal protocol for the preparation of a wide range of three-, four-, five-, six- (etc.) membered heterocyclic molecular systems. Most of these types of processes proceed with high yields and chemo-, regio-, and stereoselectivity. Moreover, cycloaddition reactions are performed with 100% atom economy and, consequently, are especially important from the point of view of green chemistry. This thematic issue is principally dedicated to the presentation of new, important discoveries in the mentioned field, such as reactivity of reaction components, cycloaddition selectivity, molecular mechanism, as well as the application of the cycloaddition products, with particular emphasis on interpretations based on the perspective of electron density.

Since the creation of the first definitions of cycloaddition by Diels and Alder (reactions of [4+2] cycloaddition) and Huisgen ([3+2] cycloaddition) many decades have passed, filled with important discoveries of many scientists. Today, the view on the mechanism of these reactions is dramatically different from what once considered dogma. It should be underlined, that all works presented in this thematic issue are maintained in the spirit of a full understanding of the latest views on the subject.

As a guest editors of this thematic issue, we dedicate this issue for our cordial friends from Ukrainian universities, who, despite the cruel war, are faithful to their academic ethos and make an invaluable contribution to the development of modern science and educating young people in the spirit of creative constructivism, substantive debate, and human cordiality.

We are very grateful to all authors for their excellent contributions. We are grateful also to the Editorial Office and in particular to Dr. Marina Teus as well as to Dr. Elīna Priede and Dr. Andris Amoliņš for professional support and assistance during the preparation of the thematic issue. We think, that these contributions will be of value for the better understanding of many important aspects of cycloaddition reactions.

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