

Preface

The chemistry of 1,2,3-triazoles has been an important topic in heterocyclic chemistry since the first such heterocycles were prepared in the nineteenth century by von Pechmann (1888). Publications on triazoles have increased steadily ever since but there has recently been a remarkable additional interest due to the CuAAC (copper-catalyzed acetylene/azide cycloaddition) discovered by Meldal and Sharpless and related azide cycloaddition reactions, leading to a surge of publications and new applications for triazoles. A volume in this series of “Topics in Heterocyclic Chemistry” was already devoted to “Click Triazoles” (2012), edited by Janez Kosmrlj, but certainly not all parts of the versatile 1,2,3-triazole chemistry were covered at that time and this new volume can be seen as complementary.

In the first chapter, we reviewed the rearrangements and ring transformations of 1,2,3-triazoles. Especially the denitrogenative ring transformations enjoy great current interest. Natalya Belskaya et al. cover the progress in the area of the chemistry of the isomeric *2H*-1,2,3-triazoles (see chapter “Synthesis of *2H*-1,2,3-Triazoles”). Besides the synthetic procedures towards triazoles related to CuAAC, many others exist and Nazary Pokhodylo gives an overview of the multicomponent and domino processes leading to 1,2,3-triazoles (see chapter “Biological Properties of *1H*-1,2,3- and *2H*-1,2,3-Triazoles”). Quaternization of the triazole nucleus leads to interesting materials and this is reflected in two chapters by Jurgen Liebscher and Zekarias Jakob on one hand and Jezus Aizpura et al. on the other hand, who deal, respectively, with triazolium ionic liquids (see chapter “Chemistry of 1,2,3-Triazolium Salts”) and mesoionic and carbene derivatives of triazole (see chapter “Mesoionic 1,2,3-Triazoles and 1,2,3-Triazole Carbenes”). Vitor Ferreira et al. are giving an overview of the many biological properties of 1,2,3-triazole derivatives (see chapter “Multicomponent and Domino Reactions Leading to 1,2,3-Triazoles”), and finally there is a survey by Belen Abarca et al. about 1,2,3-triazoles fused to aromatic rings (see chapter “1,2,3-Triazoles Fused to Aromatic Rings”).

Our aim in editing this book was to show the versatility of the chemistry of the 1,2,3-triazole ring, and the many applications of this heterocycle in different fields ranging from medicinal chemistry, organocatalysis, development of new reaction

media, structural chemistry or in organic synthesis as starting materials. We thank all authors and the people at Springer for their essential efforts to realize this volume.

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