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Editorial

Bioactive Oxadiazoles 2.0

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Oxadiazoles are electron-poor, five-membered aromatic heterocycles that contain one oxygen and two nitrogen atoms. The oxadiazoles, namely 1,2,3-, 1,2,4-, 1,2,5-, and 1,3,4-regioisomers, together with N-oxides, benzo-fused, and non-aromatic derivatives, have a wide range of applications, from material science to explosives and bioactive compounds. In the latter field, there are many possibilities for their application, and oxadiazoles have been revealed to be active as antitumoral agents, neuroprotective compounds, antimicrobials, antivirals, antidiabetics, and so on. This Special Issue entitled "Bioactive Oxadiazoles 2.0" intended to offer a comprehensive view of the panorama of the potential applications of these compounds toward various diseases. This expectation was met, and many applications of different biologically active compounds were proposed by distinguished researchers.

The 1,3,4-oxadiazole motif, linked to a 2-sulfanylpyridine-3-carboxamide [1] or to pyrrolo[3,4-d]pyridazinone [2] was inserted into two new classes of hybrid compounds that exerted anti-inflammatory activity through selective inhibition versus cyclooxygenases (COX). Anti-inflammatory activity was also observed in indomethacin derivatives linked to the 1,3,4-oxadiazole-2-thiol scaffold with the ability to release nitric oxide [3]. The 1,3,4-isomer presented interesting bactericidal activity, which was reviewed by Glomb and Świątek [4] and was shown in newly designed 3-Acetyl-2,5-disubstituted-1,3,4-oxadiazolines active against *Staphylococcus* spp. [5].

Regarding the 1,2,4-isomer, some 1,2,4-oxadiazolyl-amides were discovered as antifungal and nematicidal compounds against *Sclerotinia sclerotiorum* and *Meloidogyne incognita* [6]. 1,2,4-Oxadiazoles were also employed as synthetic precursors of quinazolinones with antidiabetic activity through a novel reductive rearrangement [7].

Additionally, benzofuroxans were presented in this issue due to their peculiar reactivity and applications. In fact, azidonitrobenzofuroxans were shown to react with 1,3-carbonyl compounds through Regitz diazo transfer [8], while benzofuroxans linked to an aminothiazole scaffold were evaluated for their anticancer activity [9].

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