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Special Issue Reprint

Design and Synthesis of Bioactive Compounds for Therapeutic Applications

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Medicinal chemistry has emerged as a powerful research area for developing bioactive molecules for disease treatment and as a useful tool for various applications. Thus, small molecules as well as macromolecules have emerged as key building blocks in both biological and pharmaceutical applications. Drug design and discovery represent a cutting-edge interdisciplinary area that involves chemistry, physico-chemistry, chemical biology, molecular biology, materials science, bioinformatics, cheminformatics as well as other disciplines. By integrating these research areas, scholars can explore the potential of medicinal chemistry to address complex challenges in disease treatment, imaging, diagnostics, and targeted therapy. This reprint of *Biomolecules* focuses on the design and synthesis of bioactive compounds for therapeutic applications as well as the investigative study of biological systems using small or macromolecules. This reprint includes eight studies that focus on various medicinal chemistry aspects, such as the design and synthesis of bioactive molecules and their biological evaluation, as well as the investigation of various extracts for their biological activity. This publication also reports the binding and signalling activity of some receptors involved in antimicrobial and antiradical activity, cognitive function, oxidative stress, and neuronal plasticity. This reprint also contains four review papers related to advances related to the biological activities of some natural and synthetic molecules, including bisbenzylisoquinoline alkaloids, 1,3-selenazoles, and enoxacin-based compounds.

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