Special Issue

The Medicinal Chemistry of Antibiotics

Message from the Guest Editor

Since the introduction of antibiotics and vaccines, millions of lives have been saved and life expectancy has rapidly increased. Despite the increase in antimicrobial resistance, the development of new antimicrobial agents is declining due in large part to the fact that research and development (R&D) in large pharmaceutical industries have leaned towards drug development for the leading chronic diseases in the last few decades. Under the current research environment, antibacterial drug discovery has advanced to innovative translational sciences including target-oriented drug discovery, new organic syntheses, drug delivery approaches, and analytical and assay methods.
The aim of this Special Issue is to highlight the recent advances in antibacterial drug discovery. This Special Issue may include original research articles and reviews on drug targets, medicinal chemistry (structure–activity relationships), new chemical entities, natural products, novel assays, phage therapy, vaccines, computational chemistry, new formulations, drug delivery, pharmacokinetic and dynamic aspects, and new strategies to use approved drugs.

Guest Editor

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Message from the Editor-in-Chief

As the premier open access journal dedicated to molecular chemistry, now in its 30th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts, and novel materials. Pushing the boundaries of the discipline, we invite papers on all major fields of molecular chemistry and multidisciplinary topics bridging chemistry with biology, physics, and materials science, as well as timely reviews and topical issues on cutting-edge fields in all of these areas.

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