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## Editorial

# Bioactive Natural Products

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Bioactive natural products have never ceased to play an important role in the search of novel therapeutic agents. Natural products from the nature such as the plant and marine sources form an integral part of the living system, and they have existed ever since the beginning of life. Therefore, it is undeniable that works related to natural products continue to develop in many aspects involving researchers from various scientific backgrounds. This special issue is dedicated to compile twelve articles on chemical and biological aspects of research developments in natural products.

Traditional medicinal plants still play a significant role in health maintenance and well-being that contribute to the economic growth. This is well described by R. A. Street et al. in his review on the commercially traditional medicinal plants of South Africa. The potential nutritional value of *Ilex paraguariensis* fruits, a native tree from Northeastern Argentina, as source of novel foods and medicine, is discussed by Laura Cogoi et al.

The article by K. Yokota et al. explains the application of ultraperformance liquid chromatography tandem mass spectrometry (UPLC) to determine the proportions of terminal and extension units of A-type and B-type highly polymeric proanthocyanidins. A. Giorgi et al. report on the analysis of volatile organic compounds from a Brazilian flora by Headspace Solid-Phase Microextraction coupled with Gas Chromatography and Mass Spectrometry (HS-SPME GC/MS) and its antioxidant property and repellent activity against *Aedes aegypti* L. The paper by J. Li et al. discussed the optimum conditions for the extraction of natural pigment from purple sweet potato as an alternative natural source of food coloring.

The inhibitory activity of plant and marine sources in cancer research are discussed in two papers. Z.-C. Kang et al. demonstrated the inhibitory effects of the aqueous extract from guava twigs on mutation and oxidative damage, and S. N. Fedorov et al. described the inhibitory effects of marine and algae extracts, thus supporting the role of natural products in the management of cancer.

The role of natural products in the treatment of Alzheimer's disease has yet to be fully exploited. The study by T. Zhao et al. demonstrated the potential inhibitory activity against acetylcholinesterase (AChE) and butyrylcholinesterase (BChE) of  $\beta$ -carboline and quinoline alkaloids from the plants of genus *Peganum*. X. Ding et al. showed that the flavonoids from the leaves of *Ginkgo biloba*, a traditional Chinese medicinal plant, were found to inhibit AChE by enhancing acetylcholine levels and its potential insecticidal activity against brown planthopper.

Natural product synthesis also contributes to the development of new therapeutic agents. T. S. Zhivotova et al. illustrated the synthesis of 2,5-bi-substituted derivatives of 1,3,4-tiadiazol-2,5-dithiol and some of their biological properties. A. Rusina et al. report on the synthesis of complex c-glycosides of genistein and their antiproliferative activities.

Recent advances in molecular docking have enabled researchers to investigate the inhibitory activity of bioactive compounds. This is described by L. Hai-Boi et al. on the mechanism of selective inhibition of yohimbine and its derivatives on adrenoceptor  $\alpha_2$  subtypes.

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