

Special Issue on Flavonoids: Separation and Quantitation

Call for Papers

Flavonoids are widely distributed in plants as secondary products with many metabolic functions. This group of polyphenols represents one of the most abundant classes of phytochemicals that are ubiquitously present in fruits, vegetables, medicinal plants, and their products. Thousands of flavonoids, existing both as free forms and as glycosides, have been characterized. Many of them are known to be related to a wide array of ecological interactions of plants, and some of the flavonoids have been found to act as signal and defense molecules. At present, however, there is still a concern that many minor flavonoids present in plant tissues have not yet been identified.

In addition, flavonoids are renowned for their health benefits with scientific evidence supporting that regular intake of dietary flavonoids reduces the risk of oxidative-stress mediated pathogenesis of human diseases as well as of age-related ailments. In many cases, however, it is the form of flavonoid-containing extracts that possess interesting biological and pharmacological activities. For further development of health products or drugs, the extracts are needed to be separated to obtain the flavonoid constituents, either for the analytical (as chromatograms) or preparative (as single compounds) purposes.

With the high interest in the flavonoids as bioactive compounds involved in both aspects of ecological interactions and health promotions, more and more new and minor natural flavonoids have been isolated and identified with interesting biological activities. At the same time, several techniques of chromatography have been further developed for efficient separation, identification, and quantitation of the flavonoids. Therefore, in this special issue, we invite investigators to contribute original research articles and review articles that will stimulate the continuing efforts to develop superior methods with significant novelty of flavonoid separation and quantitative analysis. In addition, other nonflavonoid polyphenols can also be considered for this special issue. Potential topics include, but are not limited to:

- Advances in HPLC-, GC-, and HPTLC-based techniques for effective separation and quantitation of bioactive flavonoids

- Method development for quick identification of bioactive flavonoid(s) from chemical profiles or patterns (e.g., directly on a HPTLC plate or from HPLC eluates)

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