

RECOGNIZING TROPICAL FRUITS AS SOURCES OF BIOACTIVE COMPOUNDS USING (U) HPLC AND APCI/MSN OR ESI/MSN: THE CASE OF PSIDIUM FRUITS

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Recently, tropical fruits have experienced increasing popularity, mainly due to their attractive sensory and putative health properties. These fruits are basically consumed in the country of origin, but many of them are nowadays consumed in North America and Europe. The positive effects on health are attributed to phytochemicals such as vitamins and secondary plant metabolites. Moreover, knowledge of the profile of phytochemicals is useful for chemotaxonomic purposes. In particular, phenolic compounds have been employed in the classification of plants. Myrtaceae family is well known for the presence of phytochemicals in species such as *Psidium guajava* and *Psidium friedrichsthalianum*, which are popular, used for the treatment of diarrhea, diabetes, and as cicatrizant. Studies focusing on the identification of phytochemicals in these fruits reported the presence of polyphenols, triterpenoids, and carotenoids. Non-polar and polar pigments of *Psidium* fruits can be characterized (carotenoids, polyphenols, and triterpenoids) by using HPLC-DAD (U), and APCI-MS/MS or ESI-MS/MS analysis. Among non-polar pigments, chlorophylls, xanthophylls, and carotenes can be distinguished and identified. Regarding polar secondary metabolites, many groups can characterize according to their chemical family. Some examples are ellagitannins, gallotannins, hydroxycinnamic acid derivatives, stilbenes, flavanones, flavonols, flavanols, proanthocyanidins, flavanolignans, biflavonoids, dihydrochalcones, and triterpenoids, many of them reported for the first time in the genus *Psidium*. Some compounds indicated a chemotaxonomic relation within fruits of the genus *Psidium* and other fruits of the Myrtaceae family, e.g., ellagitannins. Of special interest is the presence of some dihydrochalcones which have been considered exclusive of the genus *Malus*. The use of chromatographic and mass spectrometric assays allowed recognizing *Psidium* fruits as promising sources of phytochemicals with putative positive effects on health and helps extending the knowledge about fruits rich in phytochemicals and their further possible use in the development of functional foods or nutraceuticals.

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