TWO STEP SEQUENTIAL PRESSURIZED LIQUID EXTRACTS FROM MANGO BY-PRODUCTS WITH ANTIOXIDANT ACTIVITY.

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Resumen

Mangifera indica L. (Anacardiaceae), commonly named mango, is a native plant to India and Myanmar and it is grown in tropical or subtropical regions. Mango is one of the main products for human consumption worldwide. Since the 70s, the production and consumption of mango, such as fresh fruit and derivatives, has taken hold in the market. The nutritional and functional value of the mango fruit, constitute the fundamental reason for its wide diffusion as food. Mango is a good source of bioactive phytochemicals such as carotenoids and polyphenols¹.

The mango seed kernel is one of the generated wastes during both the fresh consumption and the transformation process of the fruit. Depending on the varieties, kernel represents 45–85% of the seed and approximately 20% of the whole fruit². Moreover, mango seed kernel is reported in literature as a potential source of bioactive compounds.

Hence, considering the bioactive potential of this food by-product, a revalorization strategy based on a sequential pressurized liquid extraction (PLE) procedure was optimized in order to obtain polyphenolic-rich extracts from mango seed kernel with the highest antioxidant capacity. In the first step, kernel was defatted evaluating different non-polar solvents (n-Hexane, n-Heptane, n-Cyclohexane and d-Limonene) under PLE conditions. In the second step, ethyl acetate and ethanol were used as extraction solvents at different temperatures to obtain polar extracts. The optimal extracts were first characterized by LC-q-TOF, allowing tentative identification of the major phenolic components. In order to have complementary information of the extract’s composition, the volatile fraction was analyzed by GC-q-TOF.

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Bibliografía
