



Natural products application: Health, Cosmetic and Food

Provided by nature, adapted scientifically for industry



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1st Natural products application: Health, Cosmetic and Food: book of abstracts

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PCF-02

BIOACTIVE FOOD COLORANTS OBTAINED FROM *LONICERA CAERULEA* L., *MORUS NIGRA* L., AND *RUBUS FRUTICOSUS* L. FRUITS

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Lonicera caerulea L., *Morus nigra* L., and *Rubus fruticosus* L. fruits are widely known for their nutritional and bioactive properties. Their richness in anthocyanins, which are the main responsible compounds for the reported beneficial properties, justify their exploitation not only as functional foods but also as sources of natural colorants, in alternative to some artificial compounds with reported adverse effects to human health [1,2]. In this context, the fruits were characterized in terms of anthocyanin and non-anthocyanin compounds, by HPLC-DAD/ESI-MS, and two solid colouring formulations were prepared through the spray-drying technique with maltodextrin and mixtures of Arabic gum and maltodextrin in different proportions, according to the characteristics of each fruit juice and the efficiency of the process. The stability of the prepared colorants was assessed over three months of storage at room and refrigerated temperature. For that purpose, the microbial load, the cytotoxicity, and the bioactive properties (antioxidant and antimicrobial) were evaluated, along with their anthocyanin concentration and colouring capacity.

Different phenolic compounds were detected in the three fruits, among which, some anthocyanins as cyanidin-3-*O*-glucoside and cyanidin-*O*-hexose, as the most abundant ones. All the formulations revealed great colouring, antioxidant, and antimicrobial properties, with a slight variation of anthocyanin concentration along the three months of storage at room and refrigerated temperature, which validate their application for colouring purposes. None of these formulations revealed cytotoxic properties, being, then, considered safe for food application. Through the present study, it was possible to obtain stable anthocyanin based colorants with potential application in several industrial fields.

References

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