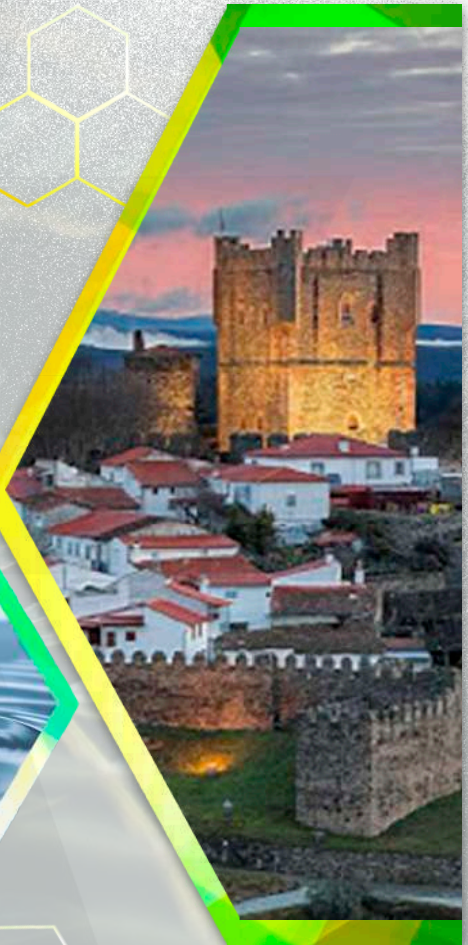




Natural products application: Health, Cosmetic and Food

Provided by nature, adapted scientifically for industry



Book of abstracts
1st International Online Conference
4th - 5th February 2021

Title

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

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1° Online Congress on Natural products application: Health, Cosmetic and Food

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The Mountain Research Center is one of the 5 research centers within the Polytechnic Institute of Bragança and is an RD unit of excellence. CIMO conducts research on the Mediterranean mountain systems following an interdisciplinary strategy that goes from Nature to Products.

In all these years, we have had the commitment of disseminating science around the world, creating solid and robust bonds and partnerships with both, academia and industry, and we are always looking for more challenging collaborations.

In this sense, the mountain research center gathers different ways to keep evolving in our main mission of science dissemination, especially now during this difficult pandemic situation, in which science dissemination has been extremely affected.

Therefore, one of our responses was the creation of the first edition of the Natural Product Applications Online Congress, which consists in the dissemination of research using natural products applied in 3 different areas: cosmetic, food, and health.

Thanks to all of you in less than a month the congress reached more than 483 registration from universities and important companies from different parts of the world, such as Algeria, Argentina, Brazil, Colombia, France, Greece, Italy, Mexico, Netherlands, Poland, Russia, Serbia, Slovenia, Spain, Ukraine, and USA.

The NPA congress received and processed more than 211 communications, from which the scientific committee has selected the most appropriate for each type of communication, considering the limited time we have for this conference.

All the submitted works were divided into three main categories, Oral, Pitch, and Poster communications, which will join 9 Keynote lectures and one invited oral communication, to which, we would also like to thank for their availability and for accepting this invitation.

We could not thank you more for your participation, and we hope to see you next year on the second edition of the Natural Product Applications Congress.

NPA Team.

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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