Natural products application: Health, Cosmetic and Food

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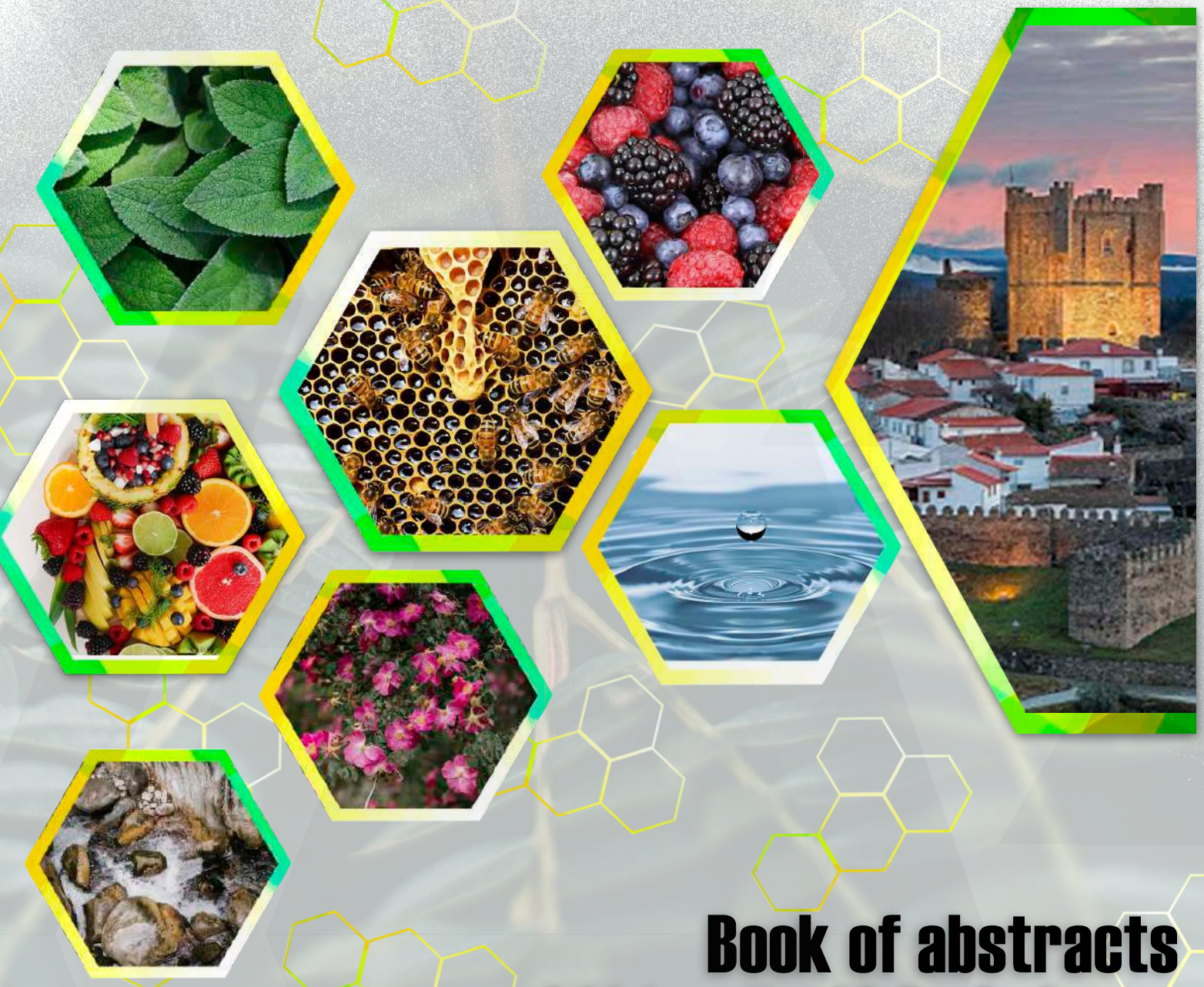

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PCF-82

BIOACTIVE POTENTIAL OF AROMATIC AND MEDICINAL PLANTS TRADITIONALLY USED AS CONDIMENTS

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Aromatic and medicinal plants are highly appreciated and used worldwide as condiments, dyes, and preservatives. Given their nutritional value and chemical composition, related to health beneficial properties, their inclusion in the Human diet has gain an increasing expression [1]. Certain mixtures of plants demonstrate greater potential when compared to isolated plants, due to synergistic effects, and these properties make them of great interest in food, pharmaceutical, and cosmetic industries. They have been consumed through direct use in prepared dishes, but also by incorporation into foodstuff, making them bioactive and functional [2]. In the present study, four mixtures of aromatic plants used for seasoning poultry, meat, fish, and salads were characterized in terms of phenolic compounds (HPLC-DAD-ESI/MS), organic acids (UFLC-PDA), tocopherols (HPLC-fluorescence), and bioactive properties (antioxidant, antimicrobial, anti-inflammatory, and antitumour).
Twenty-five phenolic compounds were identified, with apigenin-*O*-malonyl-pentoside-hexoside as the most abundant compound in all extracts. Regarding organic acids, oxalic, citric, and malic acids were detected in all of the samples. The mixtures also revealed the four isoforms of tocopherols, namely α, β, γ, and δ. In terms of bioactive properties, for antioxidant activity, the extracts of the mixtures for meat and salads revealed the best results in the TBARS assay, whereas those from mixtures for meat and poultry stood out in the OxHLIA assay. The mixtures for poultry and fish showed the highest anti-inflammatory activity and the mixture for salad showed the best antitumour properties. On the other hand, the mixtures for meat and salad revealed the highest antimicrobial activity. In conclusion, these seasoning mixtures demonstrated valuable bioactive properties, conferred by their chemical composition and cumulative and synergistic effects observed in the mixtures, which corroborates the importance of their inclusion in the Human diet.

References

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