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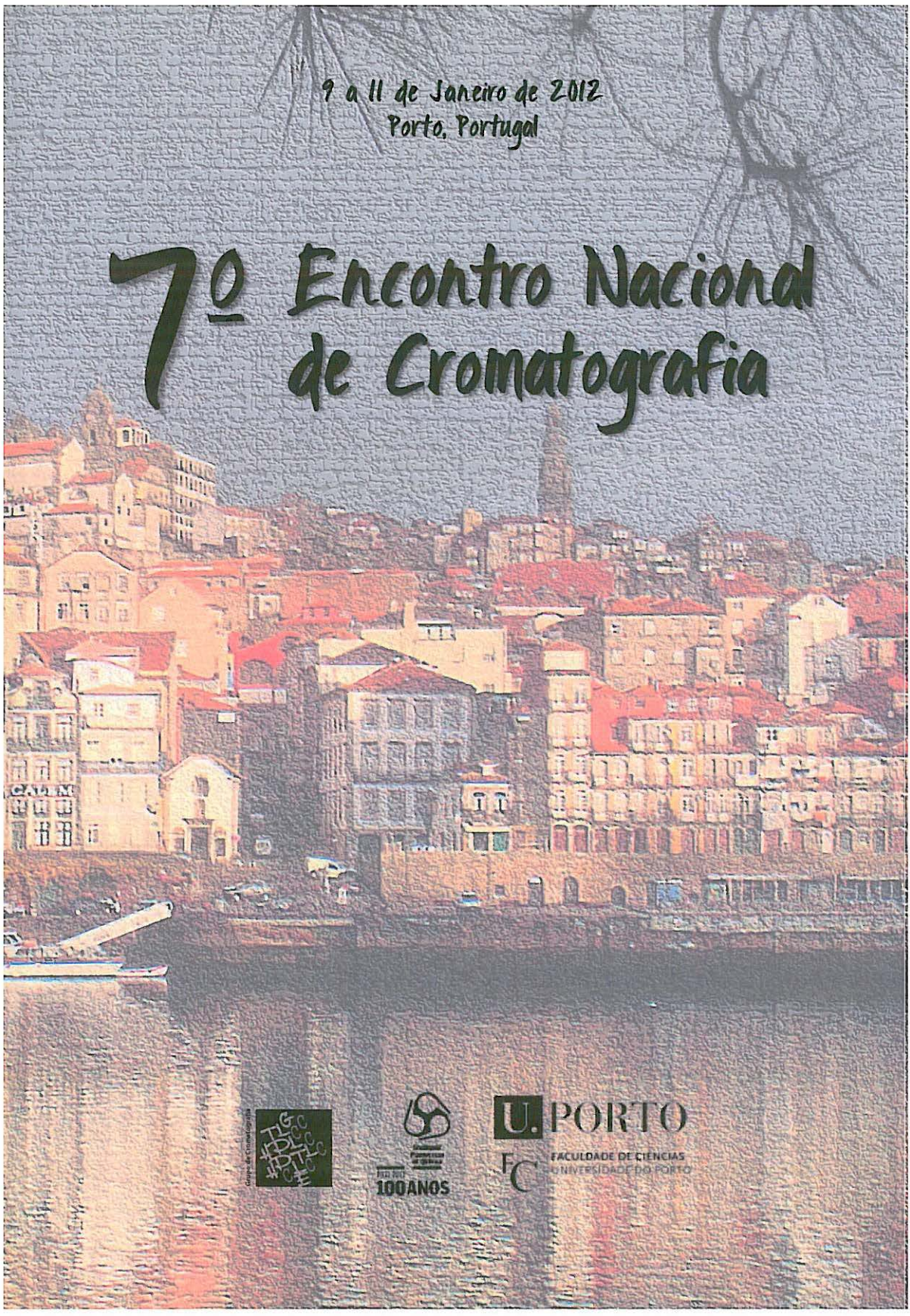

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P57. Chromatographic techniques to obtain the biomolecules profile of inedible wild mushrooms with antioxidant value

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The use of natural products isolated from mushrooms, included inedible species, against infection, cancer diseases and other oxidative-stress related diseases is one of the cornerstones of modern medicine [1]. In the present work, the antioxidant molecule profiles of inedible mushroom species were evaluated and compared with those of edible species.

Mono and oligosaccharides (sugars), fatty acids and tocopherols were analysed by high performance liquid chromatography coupled to refraction index detection (HPLC/RI), HPLC coupled to fluorescence and gas chromatography coupled to flame ionization detection (GC/FID), respectively. Ascorbic acid, carotenoids, phenolics and flavonoids were obtained by spectrophotometric techniques. The analysed molecules were further related to antioxidant properties, evaluated by free radical scavenging activity, reducing power and lipid peroxidation inhibition.

The order of antioxidant abundance found in inedible wild mushrooms was: phenolics > flavonoids > ascorbic acid > tocopherols > carotenoids, similar to that of edible species. Furthermore the same energetic biomolecules were found including the disaccharide trehalose, the monosaccharide alcohol derivative mannitol and the fatty acids palmitic, oleic and linoleic acids. *Fomitopsis pinicola* revealed a very high phenolics concentration (388 mg GAE/g extract) and powerful antioxidant properties, mainly reducing power (EC_{50} value 60 µg/ml similar to the standard Trolox®). It could find applications in the prevention of free radical-related diseases as a source of bioactive compounds.

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