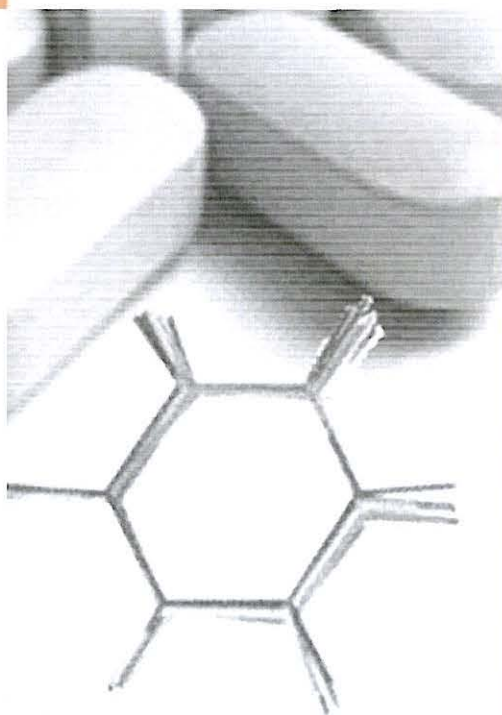


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**Chemical characterization and antioxidant activity of phenolic,
polysaccharidic and lipidic fractions of *Coprinopsis atramentaria*, a wild
edible mushroom from Northeast Portugal**

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Wild mushrooms contain a huge diversity of biomolecules with nutritional [1] and/or medicinal properties [2]. Their consumption continues to increase due to their functional benefits and presence of bioactive compounds that can be found in phenolic, polysaccharidic and lipidic fractions. Phenolic compounds can act as reducing agents, free radical-scavengers, singlet oxygen quenchers or metal ion chelators, and have been identified in different mushroom species [3]. Some mushroom polysaccharides have been approved in some countries for the clinical treatment of cancer patients, and their biological activity has been related to immunomodulating properties. In the lipidic fraction, tocopherols are important natural antioxidants due to their role as free radicals scavengers [4]. Herein, those fractions of *C. atramentaria* were chemically characterized and submitted to evaluation of antioxidant properties. *p*-hydroxybenzoic, *p*-coumaric and cinnamic acids were found in the phenolic fraction; ramnose, xylose, arabinose, fructose, glucose, manose, sucrose, maltose (most abundant) and trehalose were quantified in the polysaccharidic fraction; linoleic acid, and β - and γ -tocopherols were the main compounds in the lipidic fraction. *C. atramentaria* phenolic and polysaccharidic fractions revealed excellent free radical scavenging activity, reducing properties and lipid peroxidation inhibition in brain homogenates. Overall, the inclusion of this mushroom in the diet could bring health benefits, considering their antioxidant properties and bioactive compounds.

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