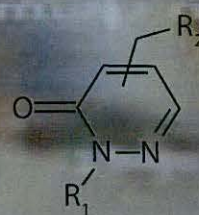
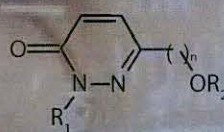


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Inhibitory activity of *Coprinopsis atramentaria* extract, organic acids and their possible methylated synthesized metabolites on growth of human tumor cell lines

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Coprinopsis atramentaria (Bull.: Fr.) Redhead, Vilgalys & Moncalvo, is a wild edible mushroom previously characterized by our research group for its nutritional composition, and showed a notable antioxidant activity.¹ *p*-Hydroxybenzoic (4.71 mg/100 g dry weight), *p*-coumaric (0.82 mg/100 g) and cinnamic (1.70 mg/100 g) acids were identified in its extract¹, but have been reported as common compounds in other mushrooms².

In the present work, the inhibitory activity of the growth of human tumor cell lines MCF-7 (breast adenocarcinoma), NCI-H460 (non-small cell lung carcinoma), HCT15 (colon carcinoma), HeLa (cervical carcinoma) and HepG2 (hepatocellular carcinoma) and non-tumor porcine liver primary cell culture (PLP2), was evaluated by the sulforhodamine B assay³, using *C. atramentaria* methanolic extract, the identified organic acids separately and their synthesized methylated possible metabolites.

For MCF7, NCI-H460 and HCT15 cell lines the extract presented high growth inhibitory activity with GI₅₀ values 53.10±4.72, 15.13±1.35 and 36.44±3.30 µg/mL, respectively, and no activity on non tumor cells (GI₅₀ > 400 µg/mL). In most of the cases, methylated possible metabolites showed higher activity than the corresponding parental compounds. The substitution of the carboxylic group (in parental organic acids) for an ester increased the growth inhibitory activity of tumor cell lines not revealing any toxicity for non-tumor cells PLP2.

Organic acids, mainly phenolic compounds, are extensively metabolized in humans, being methylation one of the conjugated forms occurring in the organism and giving methylated metabolites. Therefore, the present study contributes to understand the bioactivity of organic acids and derivative compounds, including human possible metabolites.

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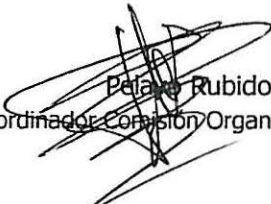


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Dña. Sandrina Heleno, ha participado en el *XIX Encontro Galego-Portugués de Química* celebrado, en el Salón de Actos del Museo do Mar de Galicia (Vigo - España), del 13 al 15 de noviembre de 2013, presentando la comunicación "*Inhibitory activity of Coprinopsis atramentaria extract, organic acids and their possible methylated synthesized metabolites on growth of human tumor cell lines*"

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