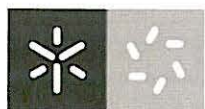
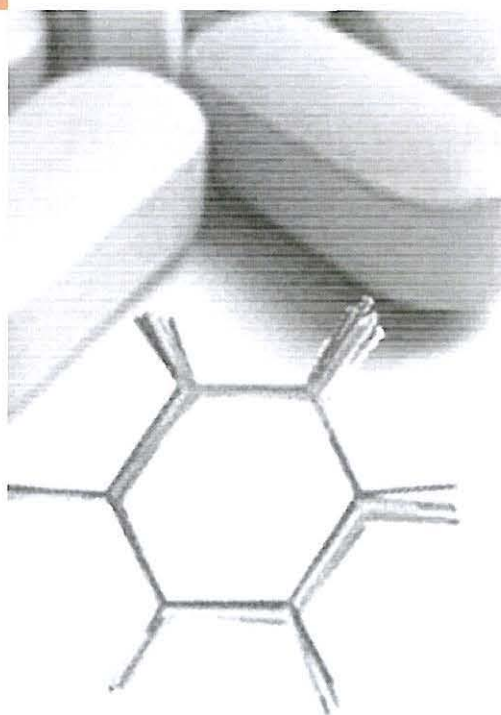


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Bioactivity and chemical characterization of phenolic and anthocyanin extracts of *Arbutus unedo* L. wild fruits

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Phenolic metabolites are common constituents of fruits and vegetables, and the interest of plant phenolic extracts derives from the evidence of their potent antioxidant activity and their wide range of pharmacologic properties including anticancer, antimicrobial and platelet aggregation inhibition activities. The fruits of *Arbutus unedo* L. are eaten raw or made in liqueurs [1]. In traditional folk medicine, they are reported as having antiseptic, diuretic and laxative effects, being also used to treat arterial hypertension [2]. Moreover, the bark or roots decoctions are used as anti-inflammatory, laxative, carminative, digestive, odontalgic and cardiotoxic. In this work, two different enriched phenolic extracts were prepared from *A. unedo* fruits, in order to evaluate and compare their bioactivity: a phenolic extract without anthocyanins (PE; with phenolic acids, flavones/ols, flavan-3-ols and galloyl derivatives) and a separate anthocyanins extract (AE). *A. unedo* PE presented the highest antioxidant activity in all the *in vitro* assays (free radicals scavenging activity, reducing power and lipid peroxidation inhibition), which could be related to the presence of galloyl derivatives. The antiproliferation activity was tested in different human tumour cell lines (breast, lung, colon, cervical and hepatocellular carcinomas), and the hepatotoxicity was evaluated using a porcine liver primary cell culture (PLP2). *A. unedo* PE also gave the highest antiproliferation inhibition presenting a GI_{50} value = 38 $\mu\text{g/mL}$ for NCI-H460- non-small lung carcinoma cell line, without toxicity for PLP2 (GI_{50} > 400 $\mu\text{g/mL}$). Overall, the results showed that *A. unedo* fruits may have great potential for food industries as a source of colors and flavors, as well as bioactive molecules such as phenolic compounds for dietary supplements or functional foods.

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