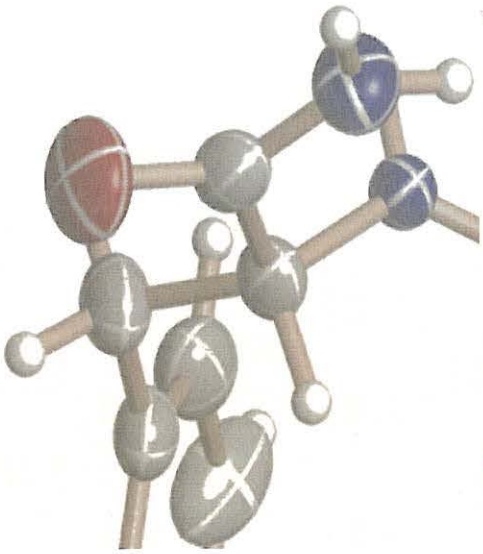

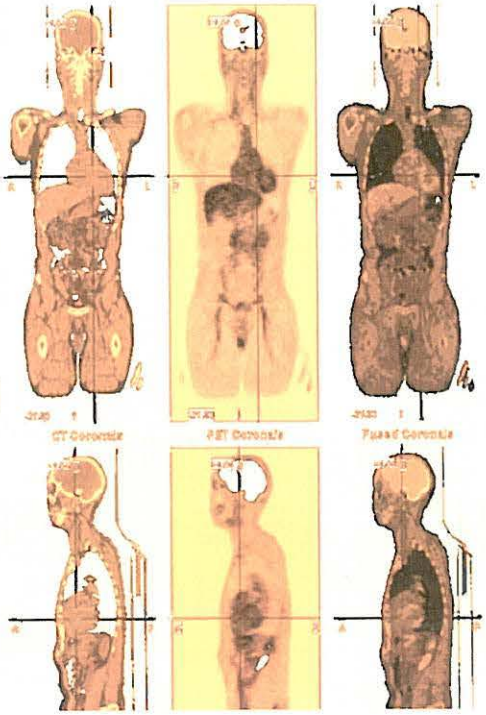

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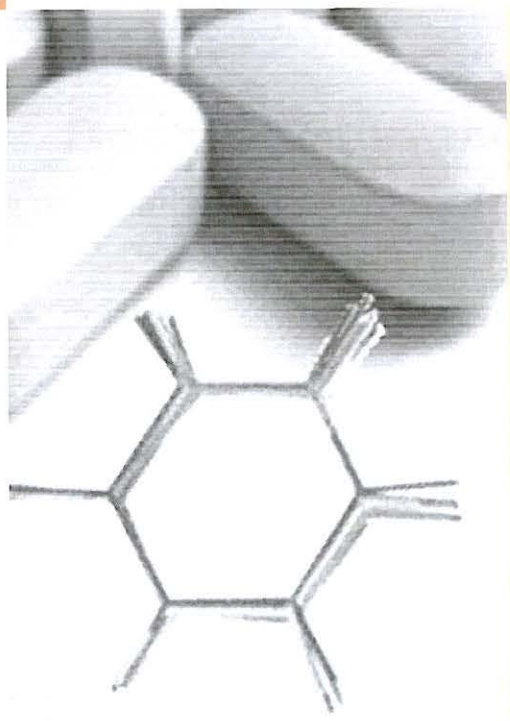

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Phytochemicals and bioactivity in wild German and Roman chamomiles infusions

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Natural matrices represent a rich source of biologically active compounds and are an example of molecular diversity, with recognized potential in drug discovery. In the present work, the infusions of *Matricaria recutita* L. (German chamomile) and *Chamaemelum nobile* L. (Roman chamomile) were submitted to an analysis of phenolic compounds and evaluation of bioactivity. Phenolic compounds were characterized by reversed-phase high performance liquid chromatography coupled to diode array detection and mass spectrometry with electron spray ionization (HPLC-DAD/ESI-MS). The bioactivity of the samples was tested in different human tumour cell lines (breast- MCF-7, lung- NCI-H460, colon- HCT-15, cervical- HeLa and hepatocellular- HepG2 carcinomas), and the hepatotoxicity was evaluated using a porcine liver primary cell culture (non-tumour cells, PLP2) [1,2]. The major compounds found were luteolin *O*-acylhexoside in German chamomile, and 5-*O*-caffeoylquinic acid and an apigenin derivative in Roman chamomile. The highest potential antioxidant activity was showed by German chamomile in all the *in vitro* assays. Both the infusions showed inhibitory activity of the growth of HCT-15 and HeLa cell lines, without hepatotoxicity (GI_{50}>400 μg/mL). Nevertheless, Roman chamomile infusion presented the highest inhibitory activity for all the cell lines (GI_{50}<168 μg/mL). Overall, infusions of both chamomiles contain important phytochemicals with bioactive properties to be explored in medicinal, food, and cosmetic industries.

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