Chemical composition, antimicrobial activity in vapour and liquid phase and cytotoxicity from the essential oil of *Hesperozygis myrtoides* (St. Hil. ex Benth.) Epling (Lamiaceae)

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Essential oils (EO) in liquid or vapour phases have been used for their antimicrobial properties since ancient times. In the literature, this activity is commonly tested in the liquid phase, although currently the vapour phase activity has gained interest (1). *Hesperozygis myrtoides* (St. Hil. ex Benth.) Epling is a small aromatic bush that is used for treating respiratory diseases (2). Thus, the aim of the present work was to analyse the *H. myrtoides* EO composition, comparing its antimicrobial activity in the vapour and in liquid phases from plants collected in Campos do Jordão (São Paulo, Brazil). Cytotoxicity was performed with cancer cells breast (MF-7) and prostate (P3). The EO was obtained by hydrodistillation for 4 h, and the component identification was performed by GC/MS (3). The antimicrobial activity of the EO vapours was evaluated by the inverted plate method (4) and in the liquid phase by microplate method against *Staphylococcus aureus* (ATCC 25923) and *Candida albicans* (ATCC 10231). The average EO yield was 1.7 % (w/w), presenting as major components pulegone (31 %), isomenthone (16 %), neo-isomenthyl acetate (12 %), neo-isomenthol (10 %) and menthone (6 %). The EO vapours were able to inhibit the growth of *S. aureus* and *C. albicans*, with Minimum Inhibitory Concentrations (MIC) of 392 µg L^{-1} and 833 µg L^{-1}, and respectively 19 mg L^{-1} and 94 mg L^{-1} for the liquid phase. The first tests of IC_{50} indicated that higher values as 50 mg L^{-1} and 230 mg L^{-1} are toxic to breast and prostate tumor cells, respectively. These results indicated that the vapours were much more active than the liquid phase. The EO vapours have the advantage as sanitizers because they can treat large areas without requiring direct application on surfaces, which is suitable for the use as room disinfectants and air decontaminants even in inhabited areas due to their lower toxicity in relation the dose.

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