Chemical Profile, antioxidant activity and cytotoxicity of essential oils from leaves of *Myroxylum peruiferum*

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INTRODUCTION: Caatinga is an exclusively Brazilian biome that presents several plant species whose own molecules with promising biological activities and biotechnological potential characteristic, which has been mainly associated to specific environmental conditions. Essential oils (EO) used in this study represent a group of hydrophobic compounds and volatile at low temperatures. This work aimed to evaluate the antioxidant activity, cytotoxic and chemical composition of *Myroxylum peruiferum* leaves essential oils (MPLOE). MATERIAL AND METHODS: The OE of fresh leaves of *M. peruiferum*, popularly known as balsam, was extracted by hydrodistillation. The qualitative and quantitative composition of the oil was carried out by GC-MS. The antioxidant activity was analyzed by the *in vitro* inhibition of nitric oxide (NO), using the Griess reagent. Additionally was measured the cytotoxicity of MPLOE against Vero cells (normal monkey fibroblasts) using the MTT assay. RESULTS AND DISCUSSION: The yield of MPLOE was 36%. The major compounds were spathulenol (16.44%), α-pinene (9.82%), γ-muurolene (7.13 %) and caryophyllene oxide (6.59%). NO is an important chemical mediator generated by endothelial cells, macrophages, neurons, etc. and is involved in the regulation of various physiological processes. Excess concentration of NO is associated with several diseases. MPLOE was able to inhibit *in vitro* the NO formation. The IC50 was found to be 76.013 µg/mL. In other hand, the MPLOE was moderately toxic to Vero Cells with IC50 of 24.270 µg/mL. CONCLUSIONS: Our results showed the chemical composition of *Myroxylum peruiferum* leaves essential oils, which showed high ability to inhibit *in vitro* the NO production and a moderate toxicity.

Keywords: essential oils, myroxylum peruiferum, caatinga, nitric oxide

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