



## ANTIOXIDANT ACTIVITIES AND CHEMICAL STUDY OF *MICONIA AFFINIS* LEAF EXTRACTS AND FRACTIONS.

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The Cerrado biome harbors a rich diversity of plant species with notable potential for use in traditional medicine due to their bioactive properties. *Miconia affinis* (Melastomataceae) emerges as an up-and-coming candidate. This study aimed to evaluate the antioxidant activity of leaf extracts and fractions obtained from *M. affinis* and to annotate its major specialized metabolites. Ethanolic (EE) and hexanic (HE) extracts were obtained by maceration, followed by liquid-liquid extraction of EE to yield dichloromethane (DF), ethyl acetate (EAF), and aqueous (AqF) fractions. Antioxidant capacity was determined via DPPH (2,2-diphenyl-1-picrylhydrazyl) radical scavenging assay, with EAF displaying the highest activity ( $EC_{50} = 2.75 \mu\text{g/mL}$ ). Phytochemical screening was performed using thin-layer chromatography (TLC) in ethyl acetate fraction, which revealed the presence of hydrolyzable tannins, indicated by a blue coloration upon reaction with iron(III) chloride. (–)-ESI-HPLC-MS/MS analysis of the most active fraction, the ethyl acetate fraction (EAF), confirmed the presence of pedunculagin, casuarinin, gallic acid derivatives (methyl gallate, ethyl gallate, methyl digallate), and quercetin galloyl hexoside, a flavonoid not detected by TLC due to the limitations of the reagents used (NP/PEG and aluminum chloride). These findings elucidate the bioactive chemical composition of *M. affinis* and highlight its potential for further pharmacological investigation.

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