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PHYTOCHEMISTRY AND CYTOTOXIC ACTIVITY OF *LAPIDIA APICIFOLIA* (EUPATORIEAE, ASTERACEAE)

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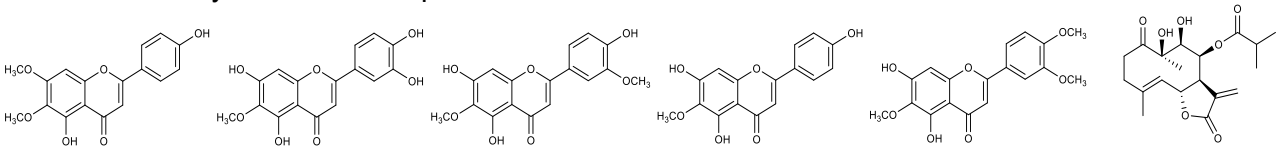
The evolutionary success of Asteraceae is largely attributed to its chemical diversity and bioactive metabolites. Among its tribes, Eupatorieae stands out as one of the most derived, with rich species diversity and endemism in Brazil, yet its phytochemistry remains poorly understood. This study characterizes the leaf surface chemistry of *Lapidia apicifolia* Roque & S.C. Ferreira, a monospecific and endemic genus from Chapada Diamantina, Bahia, with no prior chemical or bioactivity data. Leaves of *L. apicifolia* (94.5 g) were twice immersed in dichloromethane for 30 s, yielding 16 g of surface extract after solvent evaporation. The extract was partitioned with methanol (MeOH) affording soluble and insoluble phases. The MeOH-insoluble phase was analyzed by GC-MS, identifying 18 compounds: five *n*-alkanes, seven fatty acids, three primary alcohols, two steroids, and one triterpene. The compounds of MeOH-soluble phase were analyzed and isolated by HPLC-UV (TAMAYOSE et al., 2019), leading to the NMR-based identification of five methoxylated flavones (cirsimaritin, eupafolin, eupatilin, hispidulin, and jaceosidin), and a new sesquiterpene lactone named lapidiolide. Both phases and the isolated compounds were evaluated for cytotoxic activity against two tumor cell lines: HCT-116 (human colorectal carcinoma) and MCF-7 (human breast carcinoma), at concentrations of 50 $\mu g.mL^{-1}$ and 5 $\mu g.mL^{-1}$. At 50 $\mu g \cdot mL^{-1}$, the MeOH-soluble phase inhibited HCT-116 and MCF-7 cells by 92.45 ± 4.90% and 84.92 ± 2.93%, respectively, while lapidiolide showed 91.18 ± 5.52% and 86.17 ± 7.44% inhibition. IC_{50} values against HCT-116 were 3.51 (MeOH-soluble phase) and 15.87 $\mu g \cdot mL^{-1}$ (lapidiolide); for MCF-7, only the MeOH-soluble phase showed a low IC_{50} (4.78 $\mu g \cdot mL^{-1}$). Although the results are promising, the cytotoxic activity remains less potent than that of the positive control. These results enhance our understanding of chemical diversity in Brazilian Eupatorieae.



Cirsimaritin | Eupafolin | Eupatilin | Hispidulin | Jaceosidin | Lapidiolide

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