The genus *Kalanchoe* (Crassulaceae) comprises more than hundred species, widely distributed for horticulture, that are native to tropical areas (Africa and Brazil). Some of these species are recommended in treatment of several affections like infections, inflammation of different etiologies, skin problems, arthritis, asthma, diabetes and other disorders [1]. Therapeutic effects of various plants are mostly attributed to the action of their phenolic components, such as phenolic acids, flavonoids, coumarins, anthocyanins and other bioactive substances. However, some parts of *Kalanchoe* plants contain not only (poly)phenolic components, but also steroid compounds, such as bufadienolides (steroid molecules, displaying cardioactive and anticancer properties) which seems to be particularly relevant from the medical point of view [2].

Although some studies can be found in literature describing the antimicrobial and antioxidant potential of *Kalanchoe*-derived substances, the bioactivity properties of extracts from different *Kalanchoe* species have not been comprehensively described yet. Compared to other members of the *Kalanchoe* genus, pharmacological activity of *K. daigremontiana* is less known, and the identification of bioactive substances is still a subject under study. In this work, PLE extracts in methanol, ethanol, ethanol/water (1:1) and water were obtained from *K. daigremontiana* leaves at different temperature conditions. The extracts were characterized by LC-DAD and LC-MS, and their (poly)phenolic profiles were compared. Ion trap MS allowed the tentative identification of the major phenolic components and the steroid-type compounds, including bufadienolides. The volatile fraction was analyzed by GC-q-TOF, in order to have complementary information of the extract’s composition. Furthermore, the total phenolic content and the antioxidant capacity were determined for each extract according to the Folin-Ciocalteu’s procedure, DPPH and ABTS assays. The results revealed that ethanolic extracts exhibited the highest antioxidant capacity, and the highest phenolic content. The extracts of *K. daigremontiana* were shown to have stronger antioxidant capacity (between 5 and 10 times) compared to extracts obtained from other *Kalanchoe* species reported in literature. As expected, extraction with methanol and ethanol yielded higher concentration of bufadienolides, which contributes to increasing the bioactivity of the alcoholic extracts.

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