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IMPACT OF CHEMICALS ON DERIVATIVES WITH IMPORTANT THERAPEUTIC ACTIVITY IN *CALENDULA OFFICINALIS* L. FLORES

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Abstract

In the study, the accumulation of secondary metabolites present in *Calendula officinalis L.* flowers with importance in therapeutics was examined, after the treatment with some substances considered being mutagens. The effect of substances applied at different concentrations and different times of action was studied, qualitatively and quantitatively, considering various methanol extracts, obtained from the inflorescenses of *Calendula officinalis* L, which contained polyphenolic fractions that were quantitatively assessed. In addition, dichloromethane extracts were used for qualitative analysis, for sterols and triterpenic compounds. The qualitative and quantitative characterization of the extracts was made by HPLC, and the three classes of compounds, namely flavonoids, polyphenolic acids, triterpenic compounds, important for their pharmacological effects were analyzed.
To highlight of the spots on chromatograms, specific reagents were used, and then they were examined in VIS, and after the exposure to ultraviolet light at 365 nm UV-CAMAG lamp, the compounds were identified. Identification of the components was achieved by comparing the fluorescent spots with those of standard substances also taking into account the consonance of Rf's. The chemical quantitative study was performed, followed by the quantification of the flavonoids and the polyphenol acid existing in *Calendulae flos* samples, knowing that these classes of compounds are extremely important for their pharmacological activity. The analysis and identification of polyphenols were performed by HPLC analysis. The quantitative determination was achieved by comparison with standard solutions.

Key words: Calendula officinalis L., diclorphenoxiacetic acid (2,4 D), mutagenic, polyphenolic acids

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