Abstract

The leaves of Mikania laevigata and Mikania glomerata are used in Brazil to treat respiratory affections, being kaurane-type diterpenes and coumarin considered as the bioactive compounds. The present study reports an investigation on the HPLC-DAD profiles and contents of coumarin (1), trans-o-coumaric (2), kaurenoic (3), benzoylgrandifloric (4) and cinnamoylgrandifloric (5) acids in dried leaves of Mikania species stored in dark room under controlled conditions. Excepting 2, the constituents were isolated and purified to be employed as reference compounds. The samples were analyzed at three monthly intervals up to 18 months for M. laevigata and 12 months for M. glomerata. trans-o-Coumaric was not detected in both, whereas 1 occurred only in M. laevigata. The concentrations of the assayed constituents did not vary significantly within the evaluated period (p vary significantly within the evaluated period (p < 0.05), for both species. In contrast, changes in the chromatographic profiles and spectral purity of peaks from 3, 4 and 5 were detected in samples of both Mikania stored for three months, while the coumarin profile in M. laevigata modified after six months of storage. The evaluation of chromatographic profiles based on spectral purity analyses of selected peaks was shown to be a more robust tool to access chemical stability of Mikania samples than the quantitation of chemical markers’ contents.

Keywords

Chemical markers changes, HPLC-DAD analysis, Mikania laevigata, Mikania glomerata, storage, post-harvest.