

Identification of hydroxycinnamoyl tartaric acid esters in *Bidens pilosa* by UPLC-tandem mass spectrometry

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ABSTRACT:

Bidens pilosa is a medicinal plant used for the treatment of several physiological illnesses. In South Africa, as the case may be for other African countries, this plant is equally consumed as a vegetable. In the current study, pressurized hot water extraction (PHWE) technology was employed for the extraction of polyphenolic compounds from leaves of *B. pilosa* under two different temperature conditions (100 and 150 °C). Accordingly, extraction of these compounds was made possible at 150 °C and analysis of these extracts using UPLC-qTOF-MS/MS revealed the presence of several hydroxycinnamoyl tartaric acids. Here, different isomers of coumaric-, caffeic-, ferulic-, chicoric acid and caffeic acid glycosides were detected. The contribution of mass spectrometry fragmentation towards the characterization of these molecules is also presented. To the best of our knowledge, this is the first report of these molecules in *B. pilosa*.