



## Comparative study of secondary metabolites in species *Cryptocarya* by HPLC-DAD

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*Cryptocarya* is a genus from the Lauraceae family, consisting of more than 350 species spread over various regions of the world, such as South America, South Africa, Madagascar, Asia, Australia and Oceania. In Brazil, 13 species have already been reported, however, few chemical studies relating to them were carried out. To speed up the chemical characterization of Brazilian species, this study aims to develop an extraction strategy on chromatographic analysis (HPLC-DAD) for carrying out qualitative and comparative analysis. The preparation of the solutions was performed with 100 mg of dried leaves, extracted with 4.0 ml of hexane by sonication for 30 minutes, followed by the addition of 4.0 ml of ethanol/10% acetic acid 1: 1 (v/v) and sonication for 30 minutes. After the mixture was centrifuged for 10 minutes at 1200g, an aliquot of the hydroalcoholic phase was withdrawn and filtered through a 0.45 µm Millipore membrane for analysis by HPLC-DAD [1]. The chromatographic analysis was performed by an optimization of the conditions with multifactorial planning on a column Phenomenex Synergi 4 µm Hydro-RP 80A 150 mm x 4,6 mm, resulting on the gradient: 85:15 - 60:40 (water 0.1% formic acid) / ethanol for 40 minutes, 60:40 - 40:60 in 10 min, 40:60 - 00: 5 at 100 minutes followed by 5 minutes 100% ethanol. Temperature 40 ° C, flow 0.8 mL/min. To evaluate the application of this method, extracts of three *Cryptocarya* were analyzed: *C. mandiocanna*, *C. moschata* and *C. botelhensis*. The groups of substances found in *Cryptocaryas* included flavonoids, alkaloids and styrylpyrones, however, the constituents found vary between species. On one hand, *C. botelhensis* showed to possess alkaloids and flavonoids among the major constituents. On the other, both *C. mandiocanna* and *C. moschata* have, as their majority compounds, alkaloids, flavonoids and styrylpyrones. The flavonoids showed a retention time exceeding 13 minutes, whereas most of the alkaloids had lower retention time lower than 10 minutes. The styrylpyrones showed retention time between 24 and 58 minutes.

[1] Bandeira, F. K.; Cavalheiro, A. J. 2009. An LC-DAD Fingerprinting Method for Alkaloids, Flavonoids and Styrylpyrones from *Cryptocarya mandiocanna*. *Chromatographia*, 70: 1455-1460.