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Myricitrin isolated by countercurrent chromatography from the leaves of Myrcia sylvatica (Myrtaceae)

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Myrcia Sylvatica (Myrtaceae), known in folk medicine as "pedra-ume-caá," is found from eastern South America to eastern Brazil. It is widely used in the Amazon as a tea made from its dried leaves to treat conditions such as diabetes, diarrhea, mouth ulcers, intestinal inflammation, and hemorrhages. Research indicates that M. sylvatica has antidiabetic properties. This study's main objective is to isolate and characterize the organic compound myricitrin, a flavonoid, obtained from the dry extract of M. sylvatica leaves using high-performance countercurrent chromatography (HPCCC), as well as to evaluate its antiglycation activity. High-performance chromatography (HPCCC) is a reproducible method that avoids sample loss due to adsorption or denaturation and uses analytical-grade solvents. Fractions were analyzed by thin-layer chromatography and nuclear magnetic resonance. The ethyl acetate extract (400 mg) was fractionated by HPCCC, using the preparative column in normal mode and nonlinear gradient elution. The solvent systems consisted of five ethyl acetate-butanol-water ratios (v/v/v): S6 (1/0/1), S5 (4/1/5), S4 (3/2/5), S3 (2/3/5) and S2 (1/4/5). The lower phase was used as the stationary phase, while the upper phases served as mobile phases. The retention of the stationary phase (Sf) in the first gradient step was 74.3% and in the second step 72.2%. The flavonoid-rich fractions are 1F10 (9.10 mg) and 2F10 (15.5 mg), with Myricitrin being the major component. The organic structure was characterized using NMR and MS data. Therefore, this study establishes a method for isolating and characterizing flavonoids with antiglycation potential, contributing to the development of future studies on pedra-ume-caá species.

Keywords: *Myrcia Sylvatica, HPCCC, antidiabetic and NMR.*

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