

Chromatography

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Chromatographic purification of the water extract of *Virola surinamensis* (Rol.) Warb, an Amazonian medicinal plant

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V. surinamensis (Myristicaceae) known as ucuúba branca is a well known Brazilian medicinal plant used to treat cramps, dyspepsia and general inflammation. The present work describes the phytochemical study of its hot water extract (tea). Seven compounds from three phenolic groups were identified by NMR and MS analyses: flavan-3-ols, dihydroflavonol and flavonols. The aqueous extract was obtained by infusion of the dried leaves powder (2.5%) with distilled water at 77°C for 30 min and stirring every 10 min. The water extract partitioned with butanol yielded the butanolic fraction which was purified by HPLC using a water/acetonitrile linear gradient in a C18 column. Aliquots of 1 mL (100 mg/mL) of the butanol fraction were injected into the column and 10 peak fractions were collected. The chemical identification was performed by nuclear magnetic resonance spectroscopy (NMR) and mass spectrometry (MS). Polyphenols were successfully isolated from the butanolic fraction of the leaves' tea. The separation time was short (30 min) at 10 mL/min flow rate. Seven compounds were identified from five fractions: procyanidin-B3, astilbin, quercitrin, neoisoastilbin, isoastilbin, engeletin and afzelin. Since our extract was prepared according to the folk use (tea), the aqueous extraction was the first choice rather than using non-polar solvents. This could explain why none of the identified compounds was previously reported in *V. surinamensis*. Therefore, this work contributes to the phytochemical study of *V. surinamensis* describing compounds present only in the water extract of the plant leaves. It may also contribute to the pharmacological evaluation of medicinal plants considering that *in vitro* preparations predominate in the majority of the published papers. On this regard, as much as the ethno-information is concerned, the present results reinforce the need for the chemical purification of medicinal plants as it is used in folk medicine, i.e. extraction with natural solvents and procedures compatible with *in vivo* administration by topic or by oral route.

Biography

Mirtes Midori Tanae, PharmD, has special interest in chromatographic separation of natural compounds from medicinal plants. She has a Post-doctoral research position to accomplish with part of the project entitled "The pharmacological activity of Brazilian Cecropiaceae plants used in Brazilian folk medicine to treat asthma and respiratory diseases" at Federal University of São Paulo, School of Medicine (UNIFESP-EPM).

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