

Assignments of ^1H And ^{13}C Resonance Signals in 2-Methoxy-4,5-Methylenedioxypropiofenone with the Assistance of 1D And 2D NMR Experiments*

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SUMMARY. In connection with our continuous investigation of *Piper* species, we have isolated 2-methoxy-4,5-methylenedioxypropiofenone from the roots of *Piper marginatum*. The literature reported the same compound isolated from leaves of the same species, but only ^1H NMR (60 MHz), UV, IV and EM were used in spectroscopic assignments. In the present paper we assign unambiguously the protons and carbons peaks with the assistance of 1D and 2D NMR experiments.

RESUMEN. "Asignación de señales de resonancia ^1H y ^{13}C de 2-metoxi-4,5-metilenpropiofenona con el auxilio de experimentos de RMN en una y dos dimensiones (1-D y 2-D)". En relación al trabajo de investigación desarrollado en especies pertenecientes al género *Piper*, hemos aislado 2-metoxi-4,5-metilendioxiopropiofenona a partir de las raíces de *Piper marginatum*. La literatura cita el mismo compuesto en hojas de la misma especie, pero en la asignación estructural solamente fueron utilizados ^1H RMN (60 MHz), UV, IV y EM en las atribuciones estructurales. En el presente trabajo asignamos sin ambigüedades los valores de los desplazamientos químicos de hidrógenos y carbonos con la ayuda de experimentos de RMN en una y dos dimensiones (1D y 2D).

INTRODUCTION

Piper marginatum Jacq. (*Piperaceae*), popularly known in the state of Paraíba (Brazil) as "malvaisco", is an important medicinal plant for the natives of the Amazon where the decoction of leaves is used against liver and vesicle diseases and as a tonic with carminative and antispasmodic action ^{1,2}. In Brazilian folk medicine the plant is reputed for its analgesic/antiinflammatory and hemostatic properties ³. The extract of the leaves prepared in hot water is used to treat toothache, rheumatism, tumor and bleeding skin wounds ^{3,4}. The roots are used as diuretic ⁵. In previous work on roots of *Piper marginatum* we isolated croweacin ⁶, apiole, isoasarone, pipermarginine, marginatine ⁷ and N-isobutyl-2-trans-4-trans-octadienamida, the only amide detected in this plant ⁸. In further experiments with

the CHCl_3 extract of the roots we isolated 2-methoxy-4,5-methylenedioxypropiofenone previously reported from literature in *Piper marginatum* leaves and identified by NMR 60 MHz, IV, UV and EM, with no reference to biologic activity data ⁹. Now we assign unambiguously the protons and carbons signals with the assistance of 1D and 2D NMR ($^1\text{H} \times ^1\text{H}$ and $^1\text{H} \times ^{13}\text{C}$) experiments.

MATERIAL & METHODS

Plant material

The roots of *Piper marginatum* Jacq. were collected on September 1993 near the city of João Pessoa, PB, Brazil. A voucher specimen (Agra 1500-JPB) was deposited at the Herbarium Lauro Pires Xavier of the Universidade da Paraíba.

KEY WORDS: Phenylpropanoids, *Piperaceae*, *Piper marginatum*, Propiofenones.

PALABRAS CLAVE: Fenilpropanoides, *Piperaceae*, *Piper marginatum*, Propiofenonas

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