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PHYTOCHEMISTRY OF PETROLEUM ETHER EXTRACT FROM *Piper xylosteoides*

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Abstract: The Piperaceae family comprises from 2400 to 3600 species, mostly in tropical and subtropical areas from both hemispheres, divided in five genera: *Peperomia*, *Manekia*, *Zippelia*, *Verhuelia* and *Piper* [1]. The latter genus is the largest one, comprising about 1000 species worldwide, from which 260 are found in Brazil [2]. For this study, roots and stems of *Piper xylosteoides* were extracted separately with petroleum ether and submitted to chromatography. This lead to the identification of 7 substances in the roots (four arylpropanoids, one aromatic aldehyde, one aromatic carboxylic acid, and a novel neolignan (figure 1a)) and 8, different from the roots, in the stems (two flavonoids, one sesquiterpene, two known neolignans, two novel neolignans and one novel lignan (figure 1b, c and d)). The structures were determined using 1D and 2D NMR techniques and all the identified substances are being described for the first time in this species, three neolignans are reported for the first time and one was reported only one time in the literature. For the sake of comparison, the petroleum ether extracts of stem, roots, branches and leaves of *P. xylosteoides* were submitted to high performance liquid chromatography coupled with a photodiode array detector and was observed that the stem and branches extracts have very similar chromatogram, which indicates that the chemical composition of both extracts is very alike. On the other hand, the leaves extract exhibited a different profile from the others and the roots extract is the one with most components.

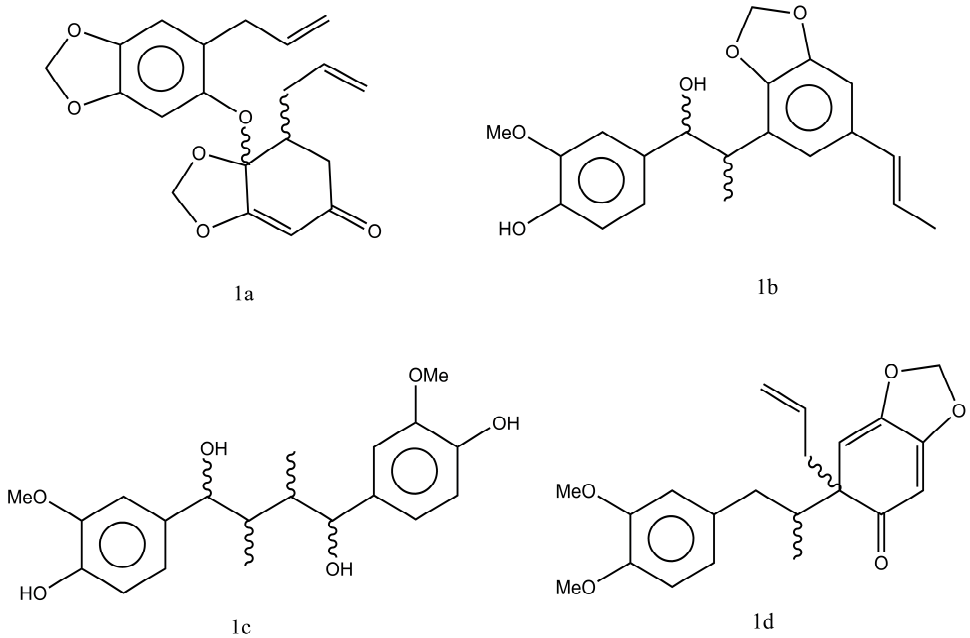

Figure 1: Novel substances isolated from *P. xylosteoides*. 1a: neolignan from the roots; 1b and 1d: neolignans from the stems; 1c: lignan from the stems. Wavy bonds represent unknown stereochemistry.

References:

[1] Schubert, H. K., et. al. 2012. A Systematic Revision of the Genus Manekia (Piperaceae). Systematic Botany, 37, 587-598.
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