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PHYTOCHEMICAL STUDY OF THE HEXANE/ETHYL ETHER EXTRACT OF Maytenus quadrangulata (CELASTRACEAE) ROOTS

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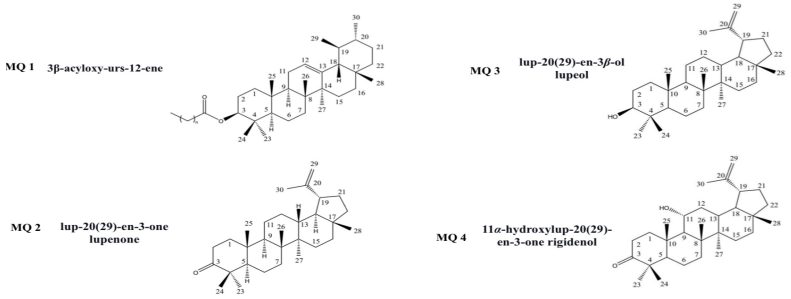
The genus *Maytenus*, one of the largest within the Celastraceae family, is widely recognized for its chemical diversity and pharmacological potential, particularly due to the occurrence of pentacyclic triterpenes with remarkable biological activities.[1] *Maytenus quadrangulata*, a Brazilian species native to the Atlantic Forest and Caatinga biomes, popularly known as "espinho-de-deus", has been the subject of phytochemical studies that revealed triterpenes with cytotoxic and antiviral activities[2]; however, it remains underexplored regarding the chemical composition of its roots. In this context, the present study reports the phytochemical investigation of the hexane/ethyl ether (1:1) root extract of *M. quadrangulata*. Successive column chromatography (CC) and some preparative layer chromatography (PLC) led to the isolation of four pentacyclic triterpenes: 3*β*-acyloxy-urs-12-ene (**MQ 1**), an ursane skeleton compound with reported antioxidant and antimicrobial properties; lup-20(29)-en-3-one (lupenone, **MQ 2**), a lupane skeleton triterpene with anti-inflammatory, antiviral and anticancer activities, described for the first time as a constituent of this species; lup-20(29)-en-3*β*-ol (lupeol, **MQ 3**), a triterpene known for its anti-inflammatory and antioxidant properties; and 11*α*-hydroxylup-20(29)-en-3-one (rigidenol, **MQ 4**), with previously reported antimicrobial activity. The structural characterization of these compounds was achieved by ^{1}H and ^{13}C NMR analyses. This study highlights the chemical richness of *M. quadrangulata* roots and reinforces the relevance of Celastraceae species as a promising source of bioactive molecules with potential applications in drug discovery.

Figure 1: Chemical structure of compounds **MQ 1– MQ 4**



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References: 1. Camargo, K. C. et al. *Molecules* 2022, 27, 874. 2. Aguilar, M. G. et al. *J.Braz.Chem.Soc.* 2022, 34,10.
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