

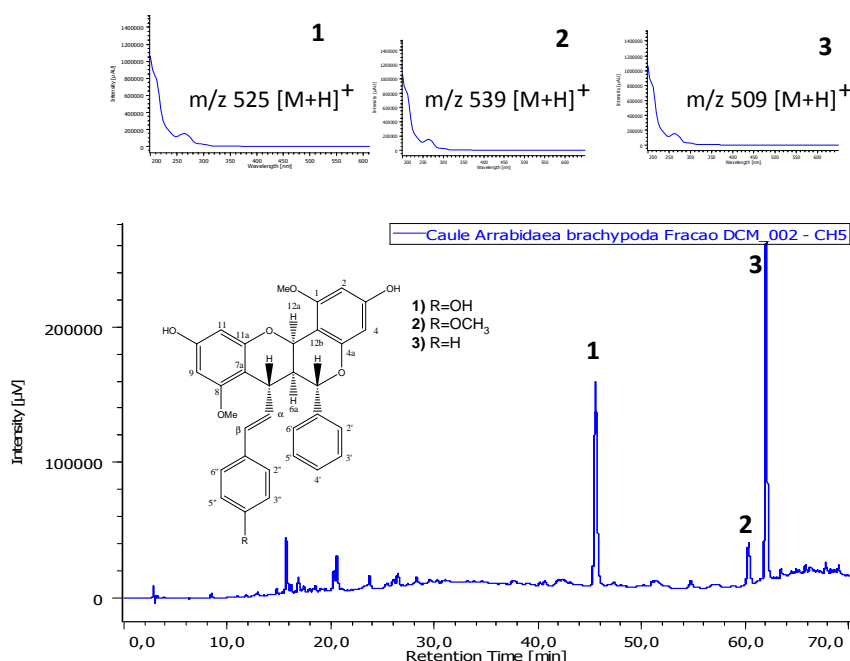
Identification of unusual dimeric flavonoids from stems of *Arrabidaea brachypoda* (DC.) Bureau

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Abstract: In Brazil, *Arrabidaea brachypoda* Bureau is commonly known as “cervejinha do campo” and is native to the “cerrado” ecosystem. Its traditional uses include the treatment of kidney stones and painful joints (arthritis), while it has also demonstrated significant *in vivo* anti-inflammatory activity in animal models. Recently a series of unusual dimeric flavonoids possessing strong *in vitro* and *in vivo* anti-*T. cruzi* activities have been described from this plant.¹ The purpose of the present study was investigate the presence of the new class of dimeric flavonoids in extracts of stems from *Arrabidaea brachypoda*, as a new source of these molecules. The plant was collected in region of Brazilian savannah, located at João Pinheiro city, Minas Gerais state. After that the stems were dried at 40°C inside a cabinet oven with horizontal airflow. Dried stems were triturated and macerated in ethanol 70%. This material was dried in rotary evaporator and lyophilized. In the sequence, the hydro alcoholic extract was submitted to liquid-liquid partition using dichloromethane:water. The dichloromethane fraction was analysed by HPLC-PDA-IT/MS following methodology of Rocha et al.¹ The UV spectra revealed the presence of three phenolic substances with the same spectrum, suggesting the presence of similar analogs with the same chromophoric group. The Mass spectra analysis found out protonated molecules of m/z 525,1 [M + H]⁺ for compound **1**, m/z 539,2 [M + H]⁺ for **2** and m/z 509,1 [M + H]⁺ for compound **3**. Comparing these data with those of isolated molecules from the roots of *A. brachypoda* described by Rocha et al¹, confirms the unique identification of three unusual dimeric flavonoids (Fig 1).

Figure 1: UV spectra, values of masses for the major compounds and structure of the substances identified in DCM fraction of the stems of *Arrabidaea brachypoda*



The results confirm that the stems of *Arrabidaea brachypoda* is a new source class of dimeric flavonoids uncommon in nature.

References

[1] Rocha, C. Q.; Queiroz, E. F.; Meira, C.S.; Moreira, D.R.; Soares, M. B.; Marcourt, L.; Vilegas, W. and Wolfender, J-L. Dimeric Flavonoids from *Arrabidaea brachypoda* and Assessment of Their Anti-Trypanosoma cruzi Activity. 2014, J. Nat. Prod., 77:1345–1350.