

RETROCHALCONES AND ITS DIMERS FROM ROOTS OF *Dahlstedtia grandiflora* - FABACEAE

Nepel, A.¹; Marques, F. A.¹; Tozzi, A. M. G.²; Silva, M.³; Maia, B. H. L. N. S.¹

¹Paraná Federal University, Curitiba, Brazil; ²Campinas State University, Campinas, Brazil; ³Goiás Federal University, Goiás, Brazil;
angelneppel@gmail.com

Abstract: *Dahlstedtia* genus comprises 16 species and this genus is native to southern portion of South America, being endemic from southern to southeastern Brazil. Genera from *Millettiae* tribe are chemically characterized by biosynthesis of flavonoids, most specifically *Dahlstedtia* is characterized by produce prenylated flavonoids, usually containing furan and dimethylpyrano moieties.¹ Flavonoids isolated from this genus has shown some important biological activities. Previous phytochemical investigation of the roots of *D. grandiflora* by our research group reported identification of 12 known flavonoids.^{2,3} In our continuous investigation of roots of *D. grandiflora*, the present work reports the identification of 8 new substances besides others 16 known flavonoids. Methods: Dried roots bark of *D. grandiflora* were powdered and successively extracted at room temperature with petroleum ether (PE), dichloromethane (CH₂Cl₂) and methanol (MeOH). The CH₂Cl₂ extract was submitted to many chromatographic techniques, such as column chromatography, radial chromatography, TLC and HPLC. Their structures were established by NMR (1D and 2D) data and MS (HR and LR). This study reports 24 flavonoids and all the identified substances are being described for the first time in this species, eight substances are reported for the first time (Figure 1), two are new as natural compounds but known as synthesis product and eight are reported for the first time in the genus *Dahlstedtia*. The retrochalcones and dimers identified are very rare classes of flavonoids. The compounds 1 – 5 may be biosynthesized via dibenzoylmethanes followed by reduction step. The substances 6 - 8 are formed by dimerization of the retrochalcone 1 in a coupling *syn* head-to-tail, *syn* head-to-head and *anti* head-to-head, respectively.

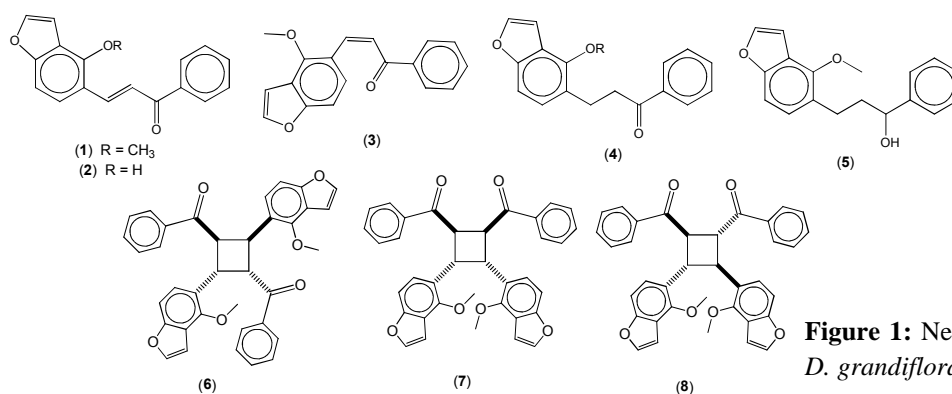


Figure 1: New substances of *D. grandiflora*.

References:

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