



Analytical Profiling of Proanthocyanidins from *Acacia mearnsii* Bark and In Vitro Assessment of Antioxidant and Antidiabetic Potential

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Abstract: The proanthocyanidins from ethanol extracts (80%, *v*/*v*) of *Acacia mearnsii* (*A. mearnsii*) bark on chemical-based and cellular antioxidant activity assays as well as carbolytic enzyme inhibitory activities were studied. About 77% of oligomeric proanthocyanidins in ethanol extracts of *A. mearnsii* bark were found by using normal-phase HPLC. In addition, HPLC-ESI-TOF/MS and MALDI-TOF/TOF MS analyses indicated that proanthocyanidins from *A. mearnsii* bark exhibited with a degree of polymerization ranging from 1 to 11. These results of combined antioxidant activity assays, as well as carbolytic enzyme inhibitory activities of proanthocyanidins from *A. mearnsii* bark, indicated an encouraging antioxidant capacity for the high polyphenol content and a potential for use as alternative drugs for lowering the glycemic response.

Keywords: proanthocyanidins; HPLC/MS; MALDI-TOF/MS; antidiabetic; antioxidant; degree of polymerization

















Figures S1. Mass spectram and proposed copounds of proanthocyanidins from Acacia mearnsii bark under

different retention time.



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Figures S2. MALDI-TOF positive reflectron mode mass spectra of ABE: full spectrum (A), details of the 500-1000 m/z (B), 1100-1900 m/z (C), and 2000-3600 m/z (D).

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