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Determination of Radical Scavenging Activity of Hydroalcoholic and Aqueous Extracts from Bauhinia divaricata and Bougainvillea spectabilis Using the DPPH Assay

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ABSTRACT
Bauhinia divaricata and Bougainvillea spectabilis are medicinal plants widely distributed in Mexico and they are used because of its potential hypoglycemic action; however, no free radical scavenging activity (RSA) studies over these plants are known. Thus, aqueous and hydroalcoholic extracts from leaf and stem samples were evaluated for their RSA using 1,1-diphenylpicrylhydrazyl free radical (DPPH). Total phenolics and flavonoids extracts were determined too. Statistical analyses were performed using the SPSS statistical program with the significance level set at $P<0.05$. Bauhinia divaricata stem aqueous extracts with total phenols content of 12.98 mg GAE/g DW had the highest amount between samples. The same behavior was shown in flavonoids determination. However, when RSA was estimated it was found that stem aqueous extracts from Bougainvillea spectabilis produced more DPPH absorbance reduction (95.66%), with an IC50 (the concentration to inhibit the oxidation of DPPH by 50%) and AP (reciprocal of IC50) values of 0.03 mug/mL and 33.33, respectively. These results were superior to common synthetic antioxidants used in the food industry like butylated hydroxyl toluene (BHT, IC50=62 mug/mL) and can be useful for further applications of these plants or its constituents in pharmaceutical and alimentary preparations.

KEYWORDS
antioxidants . Bauhinia . Bougainvillea . flavonoids . phenolics

REFERENCES