

Effects of different extraction solvents on polyphenols and antioxidant capacity of peel, pulp and seed kernel of kuini (*Mangifera odorata*)

ABSTRACT

This study aimed to investigate the effect of different extraction solvents and determine the optimum solvent concentration (in the range of 0–100%) for the recovery of total phenolic content, total flavonoid content and antioxidant capacity of peel, pulp and seed kernel of *Mangifera odorata* fruit. The total phenolic (TPC) and total flavonoid content (TFC) were determined using Folin–Ciocalteu and aluminum chloride assays, respectively. The highest level of TPC was found in 60% and 80% (v/v) acetone for pulp and seed kernel while peel showed the highest TPC at the concentration of 80% (v/v) acetone. The optimum total flavonoid content was achieved at 100% (v/v) methanol for all fruit parts. Antioxidant activity was measured using ferric reducing antioxidant power assay, and the result showed the highest activity at 60% (v/v) ethanol for all parts of *M. odorata* fruit. The highest scavenging activity was shown at 60% (v/v) acetone for pulp and seed kernel, respectively. Peel exhibited the highest scavenging activity at 40% acetone. It can be concluded that the recovery of phenolic compounds was dependent on the polarity of the chemical constituents in the different parts of fruit as well as the polarity of the solvent systems used. Seed kernel had the highest TPC, TFC and possessed excellent antioxidant capacity compared to peel and pulp of *M. odorata*. Therefore, the seed kernel can be incorporated into food products as a functional ingredient for the prevention of oxidative-stress related diseases.

Keyword: Polyphenols; Solvent extraction; *Mangifera*; Reducing power; Scavenging activity

