




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Quantification of total phenolic compounds in papaya fruit peel (Article)

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Abstract

Phenolics are widely distributed in many plants and are known to play a major role in the plant and animal kingdom. Phenolics exhibit strong antioxidant properties and have been used as antitumor, anticarcinogenic, antiviral and hypotensive agents. Plant by-products contain a variety of these phenolic compounds and can therefore be used as an alternative source of phenolics due to their higher antioxidant capacity and low toxicity compared to those of synthetically derived phenolics. In this study, Sekaki papaya (*Carica papaya* peel) was used as an alternative source of phenolics. Response Surface Methodology (RSM) was employed to optimise process conditions to achieve the highest phenolic content from the fruit peel. Total Phenolic Content was analysed using the Folin-Ciocalteu method and the total phenolic content (TPC) was expressed as Gallic Acid Equivalent (GAE). The highest TPC i.e. 1735.1 mg/L GAE was obtained at a temperature of 1200C and a time of 5 h in a solid-solvent ratio of 1:40 g/mL while the lowest TPC of 616.57 mg/L GAE was obtained at a temperature of 900C and a time of 3 h at a solid-solvent ratio of 1:20 g/mL. With such a high phenolic content, Sekaki papaya (*Carica papaya* peel) can be used as a natural antioxidant and can protect the human body from various free-radical-associated diseases. © Universiti Putra Malaysia Press.

Author keywords

Antioxidant Folin-Ciocalteu method Phenolics Total Phenolic Content (TPC)

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