

Title Identification of phenolic and carotenoid compounds in *Carica papaya* fruit by liquid chromatography- mass spectrometry

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Abstract

Plant phenolic and carotenoid compounds are known for their beneficial effects for human health. Profile of bioactive compounds in papaya fruit has not been completely elucidated and research has been focused on characterization of mature fruit flesh composition and proteolytic enzymes with industrial applications. The objective of this work was to identify potential bioactive compounds related to health improvement, in papaya peel and flesh tissues during storage at 25°C. Identification of free and bound phenolics compounds of papaya tissues were performed by liquid chromatography/diode array detector coupled to electro spray ionization mass spectrometry (LC/DAD-MS-ESI). Ten phenolic compounds were identified in peel tissue (caffeic acid, protocatechuic acid, chlorogenic acid, quercetin-3-O-rhamnoside, ferulic acid, myricetin, isorhamnetin, caffeoylhexose-deoxyhexose, caffeoylhexoside and galloylhexoside) and two in flesh (caffeoylhexoside and protocatechuic acid hexoside) were identified. Carotenoids were identified in the flesh by LC/DAD coupled to atmospheric pressure ionization mass spectrometry (LC/DAD-MS-APCI). Lycopene, β -criptoxhantin and β -carotene were the most abundant carotenoids. No significant differences were observed in phenolic profile, but Lycopene and β -criptoxhantin levels tend to increase during storage.