Identification of phytochemicals of Phoenix dactylifera L. Cv Ajwa with UHPLC-ESI-QTOF-MS/MS

ABSTRACT

Date palm (Phoenix dactylifera) fruit is an important food in the Middle East. Some date palm cultivars like the Ajwa is revered for its health-promoting properties. Phytochemicals like phenolic compounds are in part responsible for such health benefits. However, detailed information on these compounds is lacking. The present work aimed to investigate phytochemical components of Ajwa cultivar using UHPLC-ESI-QTOF-MS/MS in three different extraction solvents (aqueous, methanol–water, acetone–water) and three different extraction durations (2, 5 and 24 h). The proposed method provided tentative identification of 169 bioactive compounds out of which 44 (polyphenols and other phytochemical compounds) were successfully identified from three different extracts and three different extraction durations. Twenty-one compounds never previously reported in the Ajwa cultivar were identified. Aqueous-based extraction solvent and 24-h extraction duration yielded most phytochemical compounds.

Keyword: Ajwa cultivar; Phoenix dactylifera; UHPLC-ESI-QTOF-MS/M; Sextraction solvent