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RP-HPLC METHOD DEVELOPMENT FOR SIMULTANEOUS DETERMINATION OF PHENOLIC COMPOUNDS IN FRUIT EXTRACTS OF *MOMORDICA CHARANTIA* FROM DIFFERENT LOCATIONS IN MALAYSIA

SYAFINAZ ZAINOL[1], AIDIAHMAD DEWA[2*], ZHARI ISMAIL[1] AND NORNISAH MOHAMED[1]

[1]Department of Pharmaceutical Chemistry, School of Pharmaceutical Sciences, Universiti Sains Malaysia, Pulau Pinang, Malaysia

[2]Department of Physiology, School of Pharmaceutical Sciences, Universiti Sains Malaysia, Pulau Pinang, Malaysia

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ABSTRACT

A sensitive, reproducible, and reliable reversed-phase high performance liquid chromatography (RP-HPLC) method with diode array detection (DAD) was developed and validated. Simultaneous determinations of five compounds; gallic acid, catechin, chlorogenic acid, epigallocatechin gallate and caffeic acid in four types of Momordica charantia extracts; water, ethanol, water:ethanol (1:1) and acetone were conducted. The compounds were successfully separated by C18 column (250 mm × 4.6 mm, 5 µm) with a gradient solvent system of 3% acetic acid in water:methanol:acetonitrile at flow rate of 1.0 mL/min. UV detection was carried out at 280 nm. The standard curves of the five compounds were linear in the range of 0.0396 µg/mL–100 µg/mL. The intra-assay relative standard deviation (RSD) was less than 4.97%, while the inter-assay RSD was less than 4.92%, whereas the accuracy was between 90.96% and 108.92%, respectively. Our optimised RP-HPLC-DAD method was capable to detect flavonoids and phenolic acid contents in four types of M. charantia fruits extracts simultaneously from five locations in Malaysia. The present method is recommended to be used for chemical analyses of phenolic compounds in other Momordica species.

Keywords: *Momordica charantia*, Phenolic compounds, Reversed-phase high performance liquid chromatography, Simultaneous determination

[*]Corresponding author: aidiahmad@usm.my