Title The major compounds of crude ginger (*Zingiber officinale* Roscoe) extracts from supercritical CO_2 extraction

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Abstract

This study aims to identify the major compounds of crude ginger extracts from the supercritical CO_2 extraction. Fresh ginger (*Zingiber officinale* Roscoe) rhizome were peeled, sliced and dried in a rotary air dryer until containing the moisture content of 9.32±0.23 %. Dried gingers were then pulverized to coarse powder approximately 0.5 mm diameter prior to extraction. The supercritical CO_2 extraction of dried ginger was performed at the extraction column with the pressure of 200.0 bar, at the temperature of 35.0°C, followed by series of separation into 1^{st} and 2^{nd} separating columns with the conditions of 60.0 bar, at 35.0°C and 50.0 bar, at 20.0°C, respectively. Crude ginger extracts obtained from the 1^{st} and 2^{nd} separating columns were subsequently identified by using Gas Chromatography-Mass Spectrophotometry. The major compounds of crude ginger extracts were zingiberene (42.97%), AR-curcumene (8.69%), (1,8-cineole (2.58%) and zingerone (4.84% from the 1^{st} separating column, 14.46% from the 2^{nd} separating column).