



HEADSPACE SOLID-PHASE MICROEXTRACTION FOR THE ANALYSIS OF HEAT TREATMENT ON THE VOLATILE COMPONENTS IN CALAMONDIN (*CITRUS MICROCARPA*)

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The volatile compounds in the calamondin essential oils were analyzed by headspace solid-phase microextraction (HS SPME), which was both coupled with GC and GC/MS. A total of 58 components were identified. The major volatile constituents of peel oils isolated by different methods were limonene (92.84–94.60%), α -pinene, α -myrcene, and linalool. The main volatile components of juice were limonene (94.35–94.60%) and α -myrcene. The major volatile compounds of the whole fruit essential oil were limonene (90.81–91.07%), α -myrcene, α -pinene, and α -terpineol. The relative percentage of the individual juice components of the volatile compounds were not affected by hot water heating, except for the minor compound carvone, which increased after hot water heating. The quantities of α -pinene, linalool, terpinen-4-ol and α -terpineol were significantly increased in the calamondin juice and fruit essential oils after 2 h of steam distillation (steam distilled whole fruit and whole fruit heated in hot water followed by steam distillation). In addition, the germacrene D level found in calamondin juice was significantly higher than in fruit essential oils.