Rapid Determination of Volatile Compounds Emitted from *Chimonanthus praecox* Flowers by HS-SPME-GC-MS

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A novel rapid, simple and solvent-free method was developed for determination of the volatile compounds from the flowers of *Chimonanthus praecox* Link using headspace solid-phase microextraction (HS-SPME) and gas chromatography-mass spectrometry (GC-MS). The SPME conditions were firstly optimized and applied to sampling of the volatile compounds emitted from living *Chimonanthus praecox* L. flowers and excised *Chimonanthus praecox* L. flowers. Thirty-one compounds emitted from living flowers were identified for the first time, which mainly included 4-methyl-1,3-pentadiene (2.0%), α-phellandrene (4.7%), benzyl methanol (11.1%), *trans*-linalool oxide (furanyl ring) (5.3%), α-linalool (36.0%), methyl salicylate (24.5%) and acetic acid benzyl ester (5.9%). Comparing the emission from living flowers and excised flowers, twenty-eight compounds were found to be detected in the two emissions, and three compounds, *n*-pentadecane, *n*-cetane and *n*-heptadecane, were only found in the emission from the living flowers, which shows that they might be biomarker compounds.

Key words: HS-SPME, GC-MS, Volatile Emission, *Chimonanthus praecox* Flowers