

Title Determination of the change of flavonoid components as the defence materials of *Citrus unshiu* Marc. fruit peel against *Penicillium digitatum* by liquid chromatography coupled with tandem mass spectrometry

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Abstract

A healthy fruit peel of *Citrus unshiu* Marc. and one infected by *Penicillium digitatum* were analysed for flavonoids via high-performance liquid chromatography coupled with tandem mass spectrometry (HPLC–MS/MS) in the positive mode with selected ion monitoring (SIM). Among 16 flavonoid components characterised in *C. unshiu* Marc., four flavanones and nine flavones were identified for the first time. The identified compounds were quantified by HPLC–UV. To investigate the function of the flavonoids as defence materials, the flavonoid content change of the fruit peel inoculated with *P. digitatum* was monitored by HPLC. The flavonoid concentration in the infected fruit peel decreased initially after the infection and then gradually increased before finally progressively decreasing.