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HPLC-fluorescence and LC-MS/MS detection of trans-resveratrol, quercetin and emodin in grape and red wine with SFE

Suh-Jen Jane Tsai, Yu-Ren Lin, Cheng-Ru Tsai and An-Kai Syu
Providence University, Taiwan

The identification and analysis of three anti-oxidants including: trans-resveratrol, quercetin and emodin in grape and red wine have been studied by HPLC-fluorescence and LC-MS/MS detection with SFE in this work. Trans-resveratrol (trans-3,5,4'-trihydroxystilbene, resveratrol) is commonly found in grape and red wine. Trans-resveratrol (trans-RSV) has important effects on lipid metabolism and can be used as anti-inflammatory, anti-oxidant, free radical scavenging, and anti-allergic agent. It can also prevent the cardiovascular diseases. Besides, trans-RSV is also an effective cancer preventive medication. It can effectively inhibit tumor growth and cancer formation. Trans-resveratrol is sensitive to light and heat. Consequently, trans-RSV will convert to inactive cis-RSV. The coexistence of antioxidants will also cause activity recession. In this work, quercetin (2-(3,4-dihydroxyphenyl)- 3,5,7-trihydroxy-4*H*-chromen-4-one) and emodin (1,3,8-trihydroxy-6-methylanthracene- 9,10-dione were also studied for their interferences in the analytical procedure for trans-RSV. The sensitivity and recovery for the proposed method for natural trans- resveratrol from grape and red wine were also evaluated.

Biography

Suh-Jen Jane Tsai is a Professor and an affiliate of department of applied chemistry in the Providence University of Taichung, Taiwan.

sjtsai@pu.edu.tw

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