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DETERMINATION OF CAPSAICIN

This study examines the amount of capsaicin in a variety of samples. Capsaicin is the component responsible for the spicy taste in peppers and, as a result, in foods that contain them. The samples used in this study are hot sauces purchased from the grocery store and salsa from the farmer's market. High Performance Liquid Chromatography (HPLC) is used to separate, identify and quantify the capsaicin and calculate the Scoville heat value (SHV) of the samples. A chromatogram is generated in which each signal corresponds to different components in the sample and the peak area is used to quantify the amount of capsaicin. This method is more reliable than taste panels. The use of HPLC allows for effective separation of the capsaicin as the samples are subject to high pressures. The mobile phase consists of 50% acetonitrile (ACN) and 50% water with 0.1% phosphoric acid. Detection methods require the use of a UV-visible spectrophotometer and the

wavelengths used are 205 nm and 280 nm. The concentration of capsaicin in the samples is calculated using a calibration curve which is generated using standard solutions within a 10-50 ppm range and the peak area from the chromatogram. The SHV of pure capsaicin is 16.1 million. The concentration of capsaicin in the samples is multiplied by this value to calculate the SHV of capsaicin in the samples.

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