The pungency of chiles is primarily determined by the constituent capsaicinoids present in the chile crop or any chile product. Capsaicinoids are a group of compounds that give chiles their characteristic heat. Capsaicinoids are quantitatively measured using the Scoville Heat Unit (SHU) value, which is derived from the amount of capsaicinoids in the sample.

Currently, there are no reported SHU ratings for New Mexican chile products. In this study, we describe a simple high performance liquid chromatography (HPLC) method to determine the capsaicinoids content, hence the SHU of some New Mexican chile products. In a simple isocratic HPLC method, pre-extracted capsaicinoids were captured on a Supelco Discovery HS C18 column and detected using a fluorescence detector. Eluting capsaicinoids were identified by retention times and quantified by peak areas. Individual SHUs' were calculated using an equation derived from the standard calibration plot, heat factors and response factors of the relevant capsaicinoid. The sum of the individual SHUs' is expressed as the total SHU. The results obtained were compared with a hedonic testing with a panel of untrained assessors to analyze the heat level of the chile products from mild, medium to hot by an organoleptic test. This study shows the applicability of this method to any chile containing food product to quantify the SHU value.

Figure 1. Chromatogram of natural capsaicinoids