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IDENTIFICATION AND DETERMINATION OF AROMA COMPONENTS EXTRACTED FROM PRODUCT MANUFACTURED OF TORTILLA CHIPS AND THEIR RAW MATERIALS

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ABSTRACT

This study was conducted to extract, identify and determine flavor compounds of manufactured tortilla chips and its raw material (Tandoori chicken, cheese flavor, sweet chili pepper flavor, hot chili and lemon flavor). The GC/MS analysis showed that flavors mainly related to ketones, alcohols, aldehydes, fatty acids or carbohydrates. Tandoori chicken was characterized with high content of 2-methyl-3-furanthiol (25.22%), hexanal (10.73%) and 2-trans-4-trans-decadienal (10.32%), but manufactured product was characterized with high content of hexadecanoic acid (45.00%), 1-pentanol (6.93%) and heptanal (6.22%). Cheese flavor contains high percentages of hexadecanoic acid (17.91%), myristicin (12.15%) and trimethylsulfide (7.17%), but manufactured product was contained predominant compounds as hexadecanoic acid (12.23%), linoleic acid (9.56%), myristicin (6.76%) and docosane (5.21%). Sweet chili pepper flavor had mainly, 2-hexanone (30.51%), 2-hexen-1-ol (22.45%) hexanoic acid (20.98%), but final product was characterized with 2-hexanone (12.50%), 2-hexen-1-ol (10.08%), hexanoic acid (9.0%) and hexadecanoic acid (8.29%). Hot chili and lemon flavor was contained high percentages of 2,3,5,6-tetramethylpyrazine (12.54%), limonene (11.69%), β -pinene (7.06%), linalool (6.10%), while manufactured product contained predominant compounds as 2,3,5,6-tetramethylpyrazine (10.69%), linalool (7.68%), palmitic acid (7.17%), oleic acid (6.55%) and 1-nonadecanol (5.37%). These chemicals could be correlated with the discovery of flavor cheating, as well as food safety.

Key words: aroma chemical composition; aroma components; hot chili; Identification; sweet chili; tandoori chicken; tortilla chips.