

Popularized Summary

The aim of the project was to develop a method to identify the key odorants in meaty food products. Thesis's results could be used from the food industry for the development or reformulation of meaty flavor products. Another, application could be for the development on meat alternative products. Making products clean label, more appeal for the customers.

In order to retrieve these results, theoretical background search performed for aromas' identification. The main method of extraction used was the solid phase micro-extraction, in which volatiles are isolated from a solid matrix. Gas chromatography and mass spectrometry used to identify the molecular mass of the extracted volatile components. Olfactometry gives the option to the operator to smell the odorants of the tested sample, which helps to distinguish the odorants from each other. In this thesis the odorants were extracted from the solids of an already existing in market product and identified with graphs (gas chromatography), smelling (olfactometry) and the equipment measuring the mass of the chemical fragments.

The results of the developed method depended on 6 parameters. These were flavor quantity, solvent, salt concentration, pH, incubation time and temperature, exposure time, desorption temperature and type of fiber.

The results of the graphs revealed eighteen odors, and more than half of the odorants were successfully identified from all three identification ways, exactly ten odorants. The perception of this odorants was mushroom, meat, coffee, smoky, fatty, grass like, cabbage, caramel, roast. Most odorants are products of the reaction between amino acids with sugars or lipids' breakdown products.