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According to increasing number of scientific evidences Brassica vegetables, which include among others cauliflower, broccoli, Brussels sprouts and kohlrabi show many health benefits – their consumption can result in lower rates certain cancer incidences. Compounds responsible for these properties are glucosinolates. Characteristic feature of Brassica vegetables is also their characteristic pungent and often bitter taste and specific odor, which causes that many consumers do not accept these vegetables. The goal of the project is to identify compounds that are responsible for characteristic odor and taste of selected Brassica vegetables. Identification of these compounds in investigated varieties of cauliflower, broccoli, Brussels sprouts and kohlrabi and monitoring their changes during cooking, roasting or freezing will help to understand their role in acceptance of these vegetables by consumers.

Such research require, apart from the state of art instrumental analysis techniques, based on chromatography and mass spectrometry, a totally unique approach in which for detection of compounds separated by instrumental analysis methods human senses – smell and taste are engaged. In these techniques (gas chromatography – olfactometry) human nose is used as a detector, and for extracts of nonvolatile tastants after fractionation their taste is assessed. Such approach combines instrumental analysis with sensory for identification of product flavor.