Biogenic amines (BA) are present in food as products of proteins metabolism due to the process of decarboxylation of amino acids. They alter the sensory characteristics of food products while their high concentration in food can cause adverse physiological effects and contribute to food poisoning and allergies. Moreover, they determine the organoleptic characteristics, constitute measures of quality and shelf life of food therefore, the analysis of their content is essential.

The most widely applied and described technique for the determination of biogenic amines in a variety of food products is high performance liquid chromatography (RP-HPLC) with a UV-VIS detection. Due to the similarities in BA structures the direct determination of biogenic amines using the HPLC method with a UV-VIS detection is very difficult, which is why, it is necessary to employ derivatives of those amines (derivatization). For this purpose are applied reagents which enhance the fluorescence of the amine derivatives e.g. fluorescein are used. Besiedes that: orthophthalic aldehyde (OPA), dansyl chloride and benzoyl, 4-chloro-7-(nitrobenzofurazan) (NBD-Cl) and 4-fluoro-7-(nitrobenzofurazan) (NBD-F), 3-(4-fluorobenzoyl)-2-quinolinecarboxaldehyde (FBQCA) fluorescein isothiocyanate or 4-trifluoromethyl-2,6-dinitrochlorobenzene (FNBT) are also applied.

However, the majority of procedures described in relevant literature are subjected to numerous drawbacks: lack of repeatability and reproducibility, several stages of purification. The project suggests using 3,5-bis (trifluoromethyl) phenyl isothiocyanate (BPI), which should improve the absorption and fluorescence of biogenic amines derivatives and allow the use of simple UV-Vis detector for chromatography analysis.

The main objective of the project is to develop a new, alternative to the samples procedures for determining histamine, tyramine, tryptamine, and phenylethylamine in wine and beer using BPI. The derivatizing compound with -NCS group is much more reactive with amino groups than, previously applied 4-trifluoromethyl-2,6-dinitrochlorobenzene. It is assumed that the obtained derivatives will be permanent and stable. The proposed method involves obtaining a pure product which structure will be confirmed by analysis of ^{1}H NMR, ^{13}C NMR, ^{19}F NMR. The obtained derivatives will be applied for analysis of BA in wines and beers. Studied samples will be alcoholic beverages in which ethanol can limit oxidase activity, thereby inhibiting the decomposition of biogenic amines in body and increasing their toxicity. For this reason, monitoring of amines level in beers is important as the food products have to meet all the specified standards. These information is important for the brewing process in order to obtain products with low BA content.

Simple method for analysis of the biogenic amines will be elaborated. The above mentioned measures are aimed to reduce the time of biogenic amines determination in food samples. The proposed reagent was used by Graf et al. [35] for compounds containing amine groups located on different surfaces (aminotiolan on gold, aminosiloksan on silicon and foil and polyethylene foil after reaction with 1,2-diaminoethane) capable of binding biomolecules.

The new analytical procedures can be used as modified methods for determination of biogenic amines in various food groups. At the same time they will certainly contribute to increasing the knowledge concerning amine derivatives and allow for the introduction of the HPLC method as a new reference method. Moreover, the use of fluorinated derivatives to determine amines by ^{19}F NMR method will be the next novelty element. The ^{19}F NMR method is rarely used for quantitative research and developing a procedure of determination with ^{19}F NMR will contribute to expand the analytical capabilities offered by this technique. The results of this method will be used assess the safety of processed food and determine its quality on the basis of biogenic amines content.