between the flavonol quercetin and the disaccharide rutinose. Rutin inhibits platelet aggregation as well as decreases capillary permeability, making the blood thinner and improving circulation what makes it useful in medicine and veterinary medicine. Quercetin and rutin are flavonoids with low solubility in water. To increase the bioavailability of those oral-taken drugs it is worth to check influence of the cyclodextrins on those substance. Cyclodextrins are able to improve solubility of the guest drug inserted into their cavities and make the drug absorption in the gastrointestinal tract more effective.

One of the methods to examine the complex formation between drugs and cyclodextrins is differential scanning calorimetry (DSC111). The set of parameters of interaction given by these experimental method brings information about the strength and the energetic aspects of complex formation between guest and host molecules. In this work the stability parameters from DSC111 measurements like enthalpy of melting and descomposition of *β*-cyclodextrin with quercetin and rutin are presented. The parameters are compared with each other and with available literature and the conclusions are made.

INTERACTION BETWEEN B – CYCLODEXTRIN AND SELECTED FUNGICIDES IN WATER

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Cyclodextrins are inexpensive enzyme-modified starch derivatives, which have been industrialny produced. Most popular consist of 6, 7 or 8 glucose units combined with α-1,4-glicoside bonds forming a torus structure. These compounds, due to their characteristic structure, hydrophobic interior and external polar part of molecule, includes hydrophobic ligands. Binding strength depends on how well the 'host–guest' complex fits together and on specific local interactions between surface atoms This unique property of CDs which stems from their cavitary structures led to wide uses in pharmaceuticals, foods, chemicals, cosmetics and pesticides. Cyclodextrins are able to increse solubility of the guest fungicides inserted into their cavities .

Plant protection products play a very important role in agriculture. Pesticides are used in public health to kill vectors of disease, such as mosquitoes, and in agriculture, to kill pests and fungi that damage crops. These compaunds are necessary in closed cultures where high humidity and favorable temperatures cause rapid growth of many species of fungi. Fungicides

are sparingly soluble in water. Most commercially available products contains biologically active compounds dissolved in organic solvents, which are often neutral to the environment, human and animal health.

The main goal of these research was to study the impact β-cyclodextrin to increase the water solubility examined (tebuconazole, difenyloamine) fungicides. For the determination of concentration of pesticides we used UV-VIS spectrophotometer Specord 50. To examine the complex formation between fungicides and cyclodextrins we used isothermal titration calorimetry (VP–ITC). The set of parameters of interaction given by these methods brings information about the strength and the energetic aspects of complex formation between CDs and fungicides .

SOLUBILITY STUDY OF THE INTERACTION BETWEEN PAMAM G5-OH DENDRIMER AND 5-FLUOROURACIL IN AQUEOUS SOLUTION

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Poly(amidoamine) dendrimers (PAMAM) are polymeric macromolecules that can find their use as carriers of drugs both for animals as well as humans. 5-Fluorouracil is a potent oncological drug, whose usage is limited because of its relatively high toxicity. The surface groups in PAMAM dendrimers belonging to the fifth (G5) generation allow ligand molecules to bind with terminal dendrimer groups and to penetrate the dendrimer interior. That is way the macromolecules of PAMAM dendrimers might be used reduce toxicity of highly toxic drugs. More and more frequently tested polymers of this kind include hydroxyl-modified PAMAM dendrimers. Such modified dendrimers are better tolerated by organism than their cationic equivalents.

The aim of our study was to evaluate the number of 5-fluorouracil molecules combined by PAMAM G5-OH macromolecule in aqueous solution.

The formation equilibrium of PAMAM G5-OH dendrimer complex with an oncologic drug such as 5-fluorouracil (FU) in aqueous solution at room temperature was examined. Using the results of the drug solubility in dendrimer solutions, the maximal number of drug molecules in the dendrimer-drug complex was evaluated. The bonding interactions between the