

Biotechnological methods have been used by humans for thousands years. Those methods are based on biocatalysis reactions carry out by living organisms as well as enzymes produced by them. Enzymes are biological molecules able to catalyse reactions under mild conditions, and it is the main reason why they have become the subject of scientists interest attempting to find more and more new applications of enzymes and methods for their implementation in industry to replace or modify the currently known chemical processes. One of the most studied enzyme is laccase, which is called "blue multicopper oxidase" considering its colour. Due to its low substrate specificity and potential industrial application, laccase has been very popular enzyme among researchers in recent years. Nevertheless, the implementation of laccase to industrial processes has limitations as a result of high costs of enzyme production and technology process related to its application. The helpful solution of this limitations may be immobilization - enzyme binding to insoluble carriers. Immobilized enzyme may be used in many areas, for example in the degradation of substances such as dyes or drugs residues present in solutions, the synthesis of new substances such as antibiotics, polymers, coloured compounds or the deposition on the electrodes used in biosensors construction.

It is highly possible, that high interest in laccase combined with biotechnological methods development, will contribute to develop the techniques, which allow for efficient and inexpensive use of sustainable, immobilized laccase preparations in the future.