

# Abstract

Charles University, Faculty of Pharmacy in Hradec Králové

Department of: Pharmaceutical Technology

Consultant: PharmDr. Ondřej Holas, Ph.D.

Student: Michaela Šitnerová

Title of Thesis: Protein macromolecules immobilization onto polymer carriers

Enzymes are unique biocatalysts because of their properties. They are highly specific, selective and functional even under mild reaction conditions. The method of immobilization is used to increase their operational stability, activity and possible reuse. This process allows the wide use of enzymes in industry, for example in the food industry, analytical chemistry, chemical synthesis and in the pharmaceutical industry. The aim of my thesis was immobilized enzyme acetylcholinesterase (AChE) on the surface pellets of microcrystalline cellulose (MCC). Used method was simple sorption, immobilization using glutaraldehyde, and TEMPO oxidation using MCC. Well known Ellman's method served to measure the activity of AChE. The absorbance of the solution with the immobilized AChE was measured spectrophotometrically at 412 nm.