**Diploma thesis of the 6th year student Oleg Brovko**

# SPECTROSCOPY OF MODEL SYSTEMS FOR PHOTO-CONTROL OF ENZYME ACTIVITY.

The control of enzymic activity can be effectively carried out with photosensitive substrate, which can change its conformation under optical irradiation.

In this work the possibility of the enzymic reaction photocontrol is analyzed for α-chymotripsin (enzyme) and p-nitrophenyl ester of p-nitro-cinnamic acid (substrate). The irradiation wavelength needed for the most effective transition between substrate conformers is determined. A method for determination of relative concentrations of conformers is proposed. The method is based on measurements of absorption spectra of the sample at various irradiation dozes. Raman spectra of enzymic reaction components are measured and analyzed.

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