ABSTRACT

This diploma thesis is devoted to antituberculosis drugs research.

A very briefly depicts of genus *Mycobacterium*, structure and composition of mycobacterial cell wall allowed here better process and determination of mechanisms of antituberculosis drugs targets. The synthesis selected derivates of pyridine sulfides: 4-(phenethylsulfanyl)pyridine-2-carbonitriles are the main aim of the diploma thesis. As well as a possible mechanism of action these substances is discussed.

Thus a series of 4-(phenethylsulfanyl)pyridine-2-carbonitriles were synthesized. The structures were confirmed by IR spectra, NMR spectra and elementary analyses. Antimycobacterial activities these compounds were tested against *Mycobacterium tuberculosis*, *Mycobacterium avium* and *Mycobacterium kansasii*. None of prepared substances exhibited activity (against *M. tuberculosis*) comparable to clinical used antituberculosis drugs. Significant activity was observed (in compare with isoniazide) against *M. kansasii* and *M. avium*.