

## ABSTRACT

This diploma thesis describes the synthesis of quinazoline derivatives structurally derived from vasicine and vasicinone, alkaloids contained in a plant *Adhatoda vasica*. This plant has been used for treatment of respiratory diseases in Ayurvedic medicine for more than 2000 years.

First attempts to modify the structure of vasicinone revealed the fact that the ring C wasn't necessary for the bronchodilatory effect. Thus, we decided to cut this ring off resulting in the structure of quinazoline-4-ol. Using simple alkylation reactions, we prepared the first group of derivatives.

One of these molecules, 4-dimethylaminoethoxyquinazoline, possessed a promising bronchodilatory activity. We modified its structure leading to the second series of derivatives containing 9 compounds.

All prepared quinazolines were tested for their bronchodilatory effect by the classical experimental *in vitro* model of isolated rat trachea. Most of the synthesized derivatives displayed better bronchodilatory activity than theophyllin.