



60

years  
anniversary

*Acad. S.Yu. Yunusov Institute of the  
Chemistry of Plant Substances AS Ruz*

**12<sup>th</sup> International  
Symposium on the Chemistry  
of Natural Compounds**

**ABSTRACTS**

September 7-8, 2017  
Tashkent, Uzbekistan



## SPONSORS

The Organizing Committee of 12<sup>th</sup> International Symposium on the Chemistry of Natural Compounds acknowledges with gratitude the support of the following companies and organizations



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## THE STUDY OF BIOACTIVE COMPONENTS OF AERIAL PARTS OF KAZAKHSTAN LOOK *ORIGANUM VULGARE*

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The genus *Origanum* of the largest in the family *Lamiaceae*, has long been used in medical practice.

The object of our study is the aboveground part *Origanum vulgare*. The plant is harvested in the flowering period in 2015 in the Almaty region.

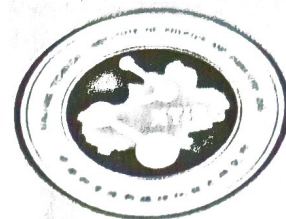
By conventional methods of the State Pharmacopoeia of Kazakhstan and the Pharmacopoeia of the USSR were identified indicators of high quality of raw material: moisture (4.9%) and total ash (7.68%), ash insoluble in 10% hydrochloric acid (7.83), sulfate ash (1.69%).

Qualitative and quantitative content of basic groups of biologically active components amino acids (9.24%), polyphenols (3.41%), tannins (17.2%), flavonoids (1.53%), carbohydrates (0.4%), alkaloids (1.67%).

By atomic absorption spectroscopy were determined the mineral composition of the aerial parts of the plant *Origanum vulgare*. According to the quantitative content of micro elements in the form of plant dominates - iron, and of macronutrients - potassium.

The essential oils with steam distillation using a GC-MS method extracted from the aerial parts of *Origanum vulgare*. Fifty compounds were identified. The yield of essential oil of oregano whole herb was 0.9%. Also, were identified 43 volatile component, among which the main components are docosene-1 (69.85%),  $\beta$ -sitosterol (5.26%), nonadecane (2.59%), heptacosane (2.47%), 1-hexadecene (1.35%), hexadecyl ester (1.31%), 5- $\alpha$ -cholesta-8-en-3-ol (1.12%).

The research was supported by the Chinese Academy of Sciences Visiting for Researchers from Developing Countries (Grant № 2013FFGB0003).



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**AMINO ACID AND FATTY ACID CONTENTS OF *Atraphaxis pungens*****A. K. Umbetova, G. Sh. Burasheva**

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*Atraphaxis pungens* is a wild plant family *Polygonaceae*. The chemical composition of the polyphenolic compounds of the Kazakhstan species of the *Atraphaxis* genus described in V. B. Omurkamzinova.

The study of acid complex is limited data on the composition of phenol carbonic acids, information on amino- and fatty-acid composition of Kazakhstan species of the *Atraphaxis* genus is missing.

Fatty acid methyl esters were analyzed in a Chrom-42 chromatograph using Celite 545 adsorbent on Chromosorb WAW (He carrier gas, flame ionization detector, carrier gas flow rate 30 mL/min, detector temperature 188°C, and over temperature 230°C). The acids were methylated by NaOMe at 60–70°C.

The composition of amino acids was established using an amino acid analyzer (He carrier gas, flame ionization detector 300°C, and condenser temperature 250°C on Chromosorb WAW). Samples were hydrolyzed in HCl (5.7N) for 24 h in sealed ampuls at 110°C.

The study revealed that *Atraphaxis pungens* contains 20 amino acids and eight known fatty acids that differ in their quantitative contents. The major amino acids were glutamic acid