

МІНІСТЕРСТВО
ОХОРОНИ
ЗДОРОВ'Я
УКРАЇНИ



МІНІСТЕРСТВО
ОСВІТИ І НАУКИ
УКРАЇНИ



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НАУКА, ПРАКТИКА ТА ОСВІТА

PLANTA+

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
НАЦІОНАЛЬНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ ІМЕНІ О.О. БОГОМОЛЬЦЯ
НАЦІОНАЛЬНИЙ ФАРМАЦЕВТИЧНИЙ УНІВЕРСИТЕТ
ПРИВАТНИЙ ВИЩИЙ НАВЧАЛЬНИЙ ЗАКЛАД
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«PLANTA+. НАУКА, ПРАКТИКА ТА ОСВІТА»

Матеріали

**IV Науково-практичної конференції з міжнародною участю,
до 20-річчя кафедри фармакогнозії та ботаніки
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Conclusions. The results of the study of microscopic characteristics of powders of quince leaves and Japanese quince could be used for the development of quality control methods for these MPM.

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CHROMATO-MASS SPECTROMETRIC RESEARCH OF HEMP AGRIMONY TINCTURE

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Key words: *Eupatorium cannabinum* L., hemp agrimony, chromato-mass spectroscopy, component composition

Introduction. Hemp agrimony (*Eupatorium cannabinum* L.) is a perennial plant which belongs to the Asteraceae family. The plant grows almost throughout the territory of Ukraine on the banks of rivers and reservoirs, in wet forests and shrubs. *Eupatorium cannabinum* herb is used for fever, cold, for diseases of the uterus, liver and gall bladder. *Eupatorium cannabinum* has variety of biological activities such as anti-inflammatory, antibacterial, antifungal, immunomodulatory, choleric, diuretic, analgesic and cytotoxic [1-2]. The aim of the study was to determine the component composition of hemp agrimony tincture by chromato-mass spectrometry.

Materials and methods. The object of study was the tincture of hemp agrimony (*Eupatorium cannabinum* L.) made from herb. The component composition of hemp agrimony tincture was studied using an Agilent 7890B gas chromatograph with a mass spectrometric detector 5977B. Chromatography conditions: DB-5ms column 30 m long, with an inner diameter of 250 μ m and a phase thickness of 0.25 μ m; the speed of the carrier gas (helium) – 1.3 ml/min; the injection volume – 0.5 μ l; the division of the flow – 1:5; the temperature of the sample injection unit – 265 °C. Thermostat temperature: programmable – 70 °C (exposure 1 min), up to 150 °C at a speed of 20 °/min (exposure 1 min), up to 270 °C at a speed of 20 °/min (exposure 4 min). The NIST 14 mass spectrum library was used to identify the components.

Results and their discussion. In the tincture of *Eupatorium cannabinum* L. 68 compounds were identified and determined with chromat-mass spectrometry. 10 components are quantitatively distinguished in terms of peak areas and retention time: 2.562 RT 3-Methylbutanoic acid – 2,2%; 8.188 RT Hydroquinone – 2,5%; 17.278 RT 3-(Phenylthio)-2-Propenoic acid ethyl ester – 2,54%; 7.037 RT Catechol – 2,71%; 11.065 RT Copaene – 2,96%; 18.212 RT (Z,Z,Z)-9,12,15-Octadecatrienoic acid ethyl ester – 3,72%; 16.586 RT Hexadecanoic acid ethyl ester – 5,12%; 18.16 RT Linoleic acid ethyl ester – 5,23%; 18,858 RT Butanoic acid, 2,3-dihydroxy-2-(1-methylethyl)-, (2,3,5,7a-tetrahydro-1-hydroxy-1Hpyrrolizin-7-yl)methyl ester, [1S-[1.alpha.,7(2R*,3R*),7a.alpha.]] – 7,75%; 10.354 RT 2-hydroxy-1,3,2-Benzodioxaborole – 19,88%.

Conclusions. The component composition of hemp agrimony (*Eupatorium cannabinum* L.) tincture identified and analyzed with chromat-mass spectrometry. Many new compounds were identified in the current investigation, which need to be extensively studied.

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STUDY OF SOME SPECIES *ARTEMISIA* GENUS IN UKRAINE

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Keywords: *Artemisia annua*, *A. austriaca*, microelements and macroelements, pharmacognosy.

Introduction. The genus *Artemisia* L. (wormwood) is one of the largest in the *Asteraceae* Dumort family. There are more than 500 species genus *Artemisia* in the world flora and there are 30 species of this genus in Ukraine [1]. About 180 species are common in the steppes and deserts of Kazakhstan, Central Asia, and the Transcaucasica. Several types of wormwood are widespread in India [2].

The biochemical study of both introduced and indigenous aromatic plants is an urgent task of modern times for creation of new varieties of plants with the possibility of their wide practical use. Natural complexes of substances are used in the most classes of medical drugs.