



## Studying the Aroma of Mint Essential Oil

Kholmiraev Mekhroj Murodillayevich <sup>1</sup>, Khaydarov Gayrat Shoyimovich <sup>2</sup>,  
Saitkulov Foziljon Ergashevich <sup>3</sup>

<sup>1,2</sup> Uzbekistan-Finland Pedagogical Institute, Faculty of Natural and Physical Culture, Department of Natural Sciences

<sup>3</sup> Tashkent State Agrarian University

**Abstract:** The aroma of peppermint essential oil is colder, monotonous and sharp due to the powerful mental dominant. It is much less attractive to our perception, it does not have the variety of shades that is inherent in Peppermint essential oil - it is more medical than cosmetic and food.

**Keywords:** The aroma of peppermint essential oil, less attractive to our perception, essential oil, medical than cosmetic and food, *Mentha piperita*, Menthol, the ether is distilled.

### Introduction

Menthol was known in Japan more than 2000 years ago, but in the West there is no data on its isolation until 1771 (Gambius) (-)-Menthol (also called l-menthol or (1R,2S,5R)-menthol) was isolated from mint essential oil (together with an admixture of menthone, menthyl acetate, etc. compounds), it can also be obtained from other species — *Mentha piperita* Crude Japanese menthol contains a small amount of (+)-neomentol.

The aroma of peppermint essential oil is colder, monotonous and sharp due to the powerful mental dominant. It is much less attractive to our perception, it does not have the variety of shades that is inherent in Peppermint essential oil - it is more medical than cosmetic and food. Therefore, Field Mint is much less often used for making teas and soft drinks.

The predominance of menthol in the essential oils of Peppermint and Field Mint determines their similar use in cosmetology and medicine. And its particularly high content in Field Mint leads to a greater irritating effect when in contact with the skin and mucous membranes. This circumstance must necessarily be taken into account when developing cosmetics - its concentration should obviously be lower. But it is more effective in local remedies designed to relieve pain of various etiologies, as well as “cold” therapy in traumatology.



**Fig-1.**

### Methods and results

In its pure form, it has a crystalline structure (Fig-1), and the crystals look like transparent quartz or salt, but unlike them they have a strong characteristic mint flavor. Being a monoterpene alcohol, menthol is perfectly soluble in oils and alcohols, but insoluble in water. It can be obtained from the essential oil of Field Mint either as a result of several successive chemical reactions, or by freezing. The latter method is considered more environmentally friendly. At -20 degrees Celsius, only menthol crystals fall out of the liquid mixture of aromatic molecules, which can only be filtered out.

### The experimental part

10 g of peppermint oil is dissolved in 50 ml of ethanol, 2 g of potassium hydroxide is added and boiled for 30 minutes with a reverse refrigerator. Then the alcohol is distilled, 25 ml of water and 25 ml of ether are added to the remainder and transferred to a dividing funnel. The ether solution is washed with water until the neutral reaction of the washing waters, separated and dried with anhydrous sodium sulfate, then the ether is distilled.

### Literature

1. Meerson S. Chemistry. Technol., 1979, vol. 9, No. 9, pp. 560-566. 3. Ventrup S. Chemistry, 1977, vol. 31, No. 7, pp. 258-262.4. Holmes J. L. Org.Mass Spectrum., 1985, vol. 20, No. 1
2. Сaitкулов Ф. Э., Элмуратов Б. Ж. УФ-спектральные характеристики хиназолин-4-он и-тионов //Innovative developments and research in education international scientific-online conference. pp-10-12. – 2022.
3. Сaitкулов Фозилжон Эргашевич, Гиясов Кучкар, Элмуратов Бурхон Жураевич МЕТИЛИРОВАНИЕ 2-МЕТИЛХИНАЗОЛИН-4-ОНА «МЯГКИМИ» И «ЖЕСТКИМИ» МЕТИЛИРУЮЩИМИ АГЕНТАМИ // Universum: химия и биология. 2022. №11-2 (101). URL: <https://cyberleninka.ru/article/n/metilirovanie-2-metilhinazolin-4-ona-myagkimi-i-zhestkimi-metiliryuschimi-agentami> (дата обращения: 25.01.2023).
4. Saitkulov F. E., Elmuradov B. J., Sh N. Ropijonova. Methylation of quinazolin-4-one with " soft" and" hard" methylating agents //International Journal of Development and Public Policy| e-ISSN. – С. 2792-3991.
5. Kholmiraev Mekhroj Murodillayevich, Khaydarov Gayrat Shoyimovich, Saitkulov Foziljon Ergashevich, Kholiqova Kamola O'tkir qizi, & Umarova Aziza Ikrom qizi. (2022). Chromoto-Mass Methods for Detecting Simple Esters in Chromatography-Mass Spectrometry Method.

INTERNATIONAL JOURNAL OF BIOLOGICAL ENGINEERING AND AGRICULTURE, 1(6), 53–56. Retrieved from <http://inter-publishing.com/index.php/IJBEA/article/view/762>

6. Saitkulov F. et al. PREPARATION OF A MIXED COORDINATION COMPOUND COBALT-II NITRATE HEXAHYDRATE WITH QUINAZOLINE-4-ONE AND 3-INDOLYLACETIC ACID ON “AMBER” PLANTS OF THE PHASEOLUS AUREUS VARIETY //Science and innovation in the education system. – 2023. – Т. 2. – №. 1. – С. 81-87.
7. Saitkulov F. et al. STUDY OF THE EFFECT OF FERTILIZING ON GRAIN PRODUCTIVITY //Development and innovations in science. – 2022. – Т. 1. – №. 17. – С. 32-35.
8. Saitkulov F. et al. RECOMMENDATIONS FOR THE USE OF FATS //Theoretical aspects in the formation of pedagogical sciences. – 2022. – Т. 1. – №. 7. – С. 175-177.
9. Saitkulov F. et al. TITRIMETRIC ANALYSIS OF CALCIUM CATION IN" OBI NAVVOT" VARIETY OF MELON //Академические исследования в современной науке. – 2022. – Т. 1. – №. 19. – С. 302-304.
10. Saitkulov F. et al. BIOCHEMICAL EFFECTS OF THE COORDINATION COMPOUND OF COBALT-II NITRATE QUINAZOLIN-4-ONE WITH 3-INDOLYL ACETIC ACID IN THE “AMBER” PLANTS GRADES PHASEOLUS AUREUS //Академические исследования в современной науке. – 2022. – Т. 1. – №. 17. – С. 263-267.
11. Saitkulov F. et al. THE ROLE IN THE PLANT AND THE FUNCTIONS OF NUTRIENTS //Инновационные исследования в науке. – 2022. – Т. 1. – №. 16. – С. 29-31.