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Book of abstracts



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Conclusion. These methods are suitable for the analysis of six benzodiazepines in the mixture, but it may be possible to include more benzodiazepines in this analysis. These methodologies will be applied for quantitative analysis.

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Determination of sesquiterpene lactones quantitative content in *Hosta plantaginea* Tratt. rhizomes with roots, leaves and flowers

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Sesquiterpene lactones belong to the group of triterpene compounds which have γ -lactone ring in their structure. These compounds show a wide range of actions. They have antimicrobial, anti-inflammatory, antiviral, antioxidant and gastroprotective action. Remedies containing high level of sesquiterpene lactones are usually used for treatment of cardiovascular disorders as spasmolytic agents [2, 4].

Representatives of *Hosta* Tratt. genus are known as medicinal plants in the countries of Far East. They are used for treatment of such diseases as asthma, angina, cough, mastitis, otitis, folliculitis, pharyngolaringitis, urethritis, carbuncles in folk medicine in Japan, China and Korea. Anti-inflammatory, antimicrobial, antitumor and antiviral properties of these plants are also well-known. Fragment data obtained from phytochemical study of these plants show their rich chemical content represented by steroids and terpene compounds, as well as phenolic compounds, polysaccharides and alkaloids [1, 3]. Japanese scientists isolated hostasolide A from *Hosta ensata* methanol extracts. This compound was classified as a sesquiterpene lactone [1].

The aim of the research was a complex pharmacognostic study of *Hosta plantaginea* Tratt. plant raw material. Sesquiterpene lactones quantitative content in *Hosta plantaginea* Tratt. rhizomes with roots, leaves and flowers was determined during this study.

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Sesquiterpene lactones detection was made with thin layer chromatography in petroleum ether – ethyl acetate (9:1) and chloroform – ethyl acetate (9:1) solvent systems. Sesquiterpene lactones were showed on chromatograms as zones with light blue fluorescence under the UV-light. These compounds were showed as pink and violet zones in the day light with light yellow or bright green fluorescence after the processing with 1% vanillin solution in 20% sulfate acid solution.

As the result of the study at least two compounds showing pink zones and light yellow fluorescence after reagent processing and one compound with violet zones and bright green fluorescence were detected in *Hosta plantaginea* Tratt. rhizomes with roots extract. Chromatograms of *Hosta plantaginea* Tratt. leaves extracts at least five zones appeared after reagent processing. Four zones were of pink color and one was violet. All the detected compounds had light yellow fluorescence under the UV-light. Chromatograms of *Hosta plantaginea* Tratt. flowers extracts at least three pink zones with light yellow fluorescence appeared after reagent processing.

According to the results of sesquiterpene lactones quantitative content analysis was determined that it increased in the following row: rhizomes with roots – flowers – leaves. *Hosta plantaginea* Tratt. leaves and flowers accumulated almost the same amount of these compounds – $0.68 \pm 0.04\%$ and $0.58 \pm 0.03\%$ respectively. Still, their content was a bit higher in leaves. It was also marked that the least amount of sesquiterpene lactones was accumulated in rhizomes with roots of *Hosta plantaginea* Tratt. Their content equaled $0.13 \pm 0.01\%$.

The obtained data can be used in further plant raw material quality control methods development as well as at the stages of new plant remedies development.

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Comparison of calcium oxalate crystals- raphides, and oxalic acid content in *Chamerion angustifolium* (L.) Holub during different vegetation phases

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