

## Isolation diterpenes acids from wood greenery *Pinus Silvestris* L.

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### Abstract

Perspective direction of use of wood greenery of coniferous breeds – a large-capacity withdrawal of logging – is chemical processing of this raw material with purpose obtaining of extractive substances. Coniferous extractive compounds have a wide spectrum of biological activity and can be used in pharmacology, veterinary science, agriculture. In Institute of chemistry of Komi SC of UD of the Russian Academy of Science is complex technology of plant raw material processing by ecologically safe emulsion extraction method without organic solvents application have developed. Earlier, the extractive compounds from *Abies* wood greenery have been isolated and investigated, the method of obtaining of plants growth regulators and fodder additives for animals are developed. Distinctive feature of *Pinus Silvestris* L. of northern areas of Russia is high maintenance of labdane structure diterpenic acids, in particular, pinifolic acids and its monomethyl ether in needles – up to 2% from weight of dry raw material. It is known, that pinifolic acid possesses repellent properties and can be used for creation of means of protection of plants. In the paper the results of comparative isolation of diterpenic acids from *Pinus Silvestris* L. wood greenery are presented by two various methods: exhaustive extraction with organic solvent and emulsion method. Exhaustive extraction spent in Soxhlet apparatus with acetone. Processing of raw material by emulsion method carried out in a laboratory extractor with mechanical mixing in sodium hydroxide water solution. The sum of extractive compounds divided into neutral and acid components. Acids isolated by column chromatography.

Have been found, that ecologically safe emulsion method allows isolate diterpene acids, in particular, pinifolic acid with an output of 3.8% from weight of the dry raw material, that comparable to a method of exhaustive extraction – 3.6% from weight of dry raw material. Also from *Pinus Silvestris* L. wood greenery the methyl ether of imbricatolic acid is isolated with an output of 0.16 % from weight of dry raw material.