

PP16. ISOPRENOIDS OF *POPULUS BALSAMIFERA* L. ESSENTIAL OIL AND THEIR BIOLOGICAL ACTIVITY

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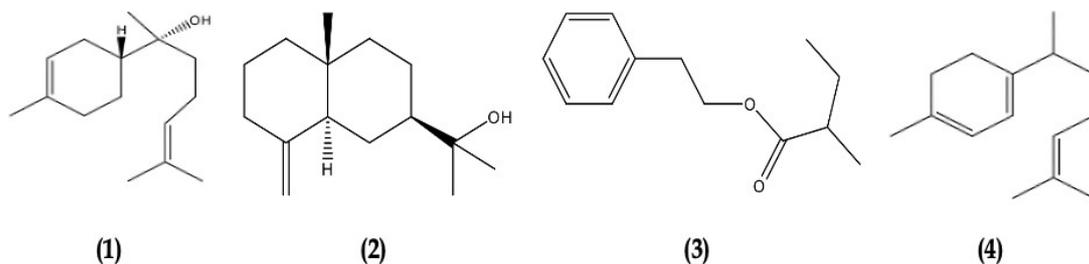
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Populus balsamifera L. is a promising source of biologically active compounds, including terpenoids and flavonoids. Essential oils of the buds of *Populus balsamifera* L., is of particular interest as a potential source of pharmacologically active compounds.

We have studied for the first time the component composition of the essential oils of the buds of *Populus balsamifera* L., collected in the vicinity of the city of Karaganda of the Republic of Kazakhstan, isolated by hydrodistillation methods on the Clevenger apparatus and by the barothermal method.

98 components were found in the essential oil from the buds of *P. balsamifera* L., isolated by the barothermic method, by chromatography-mass spectrometry, 89 of them were identified. The main components are α -bisabolol (**1**) -14.14%, β -eudesmol (**2**) - 10.70%, 2-phenylethyl 2-methylbutanoate (**3**) - 10.22%. In the essential oil from the buds of *P. balsamifera* L., isolated by hydrodistillation, 96 components were found, of which 88 were identified, the main components are 2-phenylethyl 2-methylbutanoate (**3**) - 15.10, γ -curcumene (**4**) - 11, 85%.



It should be noted that in the essential oil isolated by the barothermal method, there are compounds that are products of polymerization or thermal decomposition. In turn, no such compounds were found in the essential oil isolated by hydrodistillation.

According to the results of pharmacological studies, it was determined that the essential oil of *Populus balsamifera* L. buds has a pronounced antimicrobial activity, cytotoxicity, antitumor activity against Pliss's lymphosarcoma, sarcoma 37 and Walker's carcinosarcoma.