

## BRIEF COMMUNICATIONS

### HYDROXYBENZOIC ACID FROM THE BARK OF *Pinus sibirica*

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We have previously isolated several flavonoid compounds from the bark of *Pinus sibirica* and *P. silvestris*. [1].

The treatment of an ethereal extract of the bark of the Siberian pine with a saturated solution of sodium bicarbonate gave a fraction of phenolic acids. Absorption chromatography on a polyamide sorbent (eluent methanol-water) separated the phenolic acids into hydroxybenzoic and hydroxycinnamic acid fractions.

In the hydroxybenzoic acid fraction by thin-layer chromatography on polyamide [methanol-water (80:20); methanol-chloroform] and by paper chromatography [2% acetic acid; 0.1 N HCl; isopropanol-ammonia-water (10:1:1)], p-hydroxybenzoic, protocatechuic, and vanillic acids were identified preparatively.

The results of an analysis of a methylated fraction of the hydroxybenzoic acids of Siberian pine bark by the GLC method confirmed the presence of the above-mentioned acids in it. The relative retention times (RRTs) of the methylated acids of the bark and of the methyl esters of standard samples agreed well (retention time of the standard 10.8 min).

Methyl esters of the acids	RRT from the bark	Standard sample
p-Hydroxybenzoic	1.0	1.0
Protocatechuic	2.66	2.70
Vanillic	2.10	2.07

The GLC analysis was performed on a Khrom-2 chromatograph with a flame-ionization detector using nitrogen as the carrier gas and SE-30 silicone on Chromosorb W as the stationary phase at a temperature of 180°C.

#### LITERATURE CITED

1. V. I. Lutskii, A. S. Gromova, and N. A. Tyukavkina, *Khim. Prirodn. Soedin.*, **6**, 367 (1970).

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