FLAVONOIDS FROM THE FRUIT OF THE YELLOW MYROBALAN PLUM

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The fresh fruit of the yellow myrobalan plum after having been comminuted was extracted with ethyl acetate and ethanol. The ethyl acetate extract was dried with sodium sulfate and evaporated in vacuum. The residue was dissolved in water, and the solution was washed with chloroform and was deposited on a column of polyamide sorbent.

Two-dimensional paper chromatography in 15% CH_3COOH (system 1) and in the BAW (4 : 1 : 5) system (system 2) showed the presence in the ethyl acetate and ethanolic extracts of five substances of flavonoid nature, three of which were isolated by preparative paper and column chromatography on polyamide sorbent. The flavonoids were eluted from the column with ethanol of increasing concentrations.

Substance (I) formed crystals with mp 183-184°C, and a mixture with rutin gave no depression of the melting point. The hydrolysis products were found to contain glucose, rhamnose, and quercetin (48.5%).

Substance (II), mp 220-222°C (from ethanol) showed no depression of the melting point in admixture with isoquercitrin.

In the products of acid hydrolysis we found quercetin (63.0%) and glucose (mp of the osazone 206-208°C).

Substance (III), mp 310-312°C (acetyl derivative 196-197°C); no depressions of the melting points were given by mixtures with quercetin and its acetate, respectively.

Thus, on the basis of qualitative reactions [1], UV spectra with ionizing and complex-forming reagents [2], physical properties, the results of chemical investigations, and mixed melting points, substance (I) has been identified as rutin, substance (II) as isoquercitrin, and substance (III) as quercetin.

LITERATURE CITED

1. V. A. Bandyukova, Rast. Res., 1, No. 4, 591 (1965).
2. N. P. Maksyutina and V. I. Litvinenko, in: Phenolic Compounds and Their Biological Functions [in Russian], Moscow (1968), p. 7.

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