3-O-METHYLQUERCETIN FROM Serratula inermis

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Apigenin and luteolin have been isolated previously from Serratula inermis [1]. We have isolated a third compound from the inflorescences of this plant.

The present paper gives the results of the identification of this compound. The inflorescences of the plant under consideration, collected in the botanical garden of the All-Union Scientific-Research Institute of Medicinal Plants VILR,were extracted with methanol. The methanol extracts were distilled, and the residue was treated with hot water. The flavonoids were extracted from the aqueous solution with ethyl acetate. The concentrated ethyl acetate extract was chromatographed on polyamide sorbent. Elution with a mixture of chloroform and methanol (9 : 1) gave a substance with the composition $C_{16}H_{12}O_7$, mp 257-262°C.

The NMR spectrum of this substance (taken in deuteroacetone) had the following signals of protons of methoxy groups: singlet at 3.80 ppm, H-6, doublet (J=2.5 Hz); 6.16 ppm, H-8, doublet (J=2.5 Hz); 6.40 ppm, H-3', doublet (J=9 Hz); 6.90 ppm, H-2', two doublets (J^1=2.5, J^2=9 Hz); 7.44 and 7.53 ppm, H-6', doublet (J=2.5 Hz); and 7.60 ppm, and a singlet at 12.70 ppm, corresponding to the proton of a hydroxy group in position 5. The absence from the NMR spectrum of a signal from a proton in position 3 and the results of UV spectroscopy show that the hydroxyl in this position is substituted by a methyl group.

The demethylation of the substance led to the formation of quercetin, identified by direct comparison with an authentic sample.

On the basis of the above facts, the substance was identified as 3-O-methylquercetin [2], being the main component of the inflorescences of Serratula inermis.

LITERATURE CITED

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2. T. K. Chumbalov, O. V. Fadeeva, and I. S. Chanysheva, Khim. Prirodn. Soedin., 236 (1969).

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