

Continuing a study of coumarins from plants of the genus *Phlojodicarpus* L. we have investigated the composition of an extract from the whole plant *Ph. villosus* (Turch. ex Fischer et Meur) Ledeb., collected in the flowering phase in the western part of Mongolia.

The dried plant (1 kg) was extracted with ethanol, the extract was evaporated to small volume, the crystalline deposit that had separated out was filtered off, and the mother solution was diluted with water. The resinous mass that then precipitated was dissolved in ether, and the solution was washed with 0.5% KOH and with water. The residue after the evaporation of the ether was chromatographed on a column of silica gel using mixtures of benzene with ethyl acetate for elution. A 19:1 mixture desorbed a crystalline substance (yield 0.03%) which crystallized from benzene and was identified as decursinol. Decursinol [2], $C_{14}H_{14}O_4$, mp 176–177°C, M 246. UV spectrum, λ_{max} , nm: 221, 248, 259 (shoulder), 329. IR spectrum, cm^{-1} : 3460, 1715, 1640. PMR spectrum, δ : 1.37 and 1.40, s; 2.83, q, J = 17 and 7 Hz; 3.13, q, J = 17 and 5 Hz; 3.88, q, J = 6 and 5 Hz; 6.23, d, J = 9 Hz; 6.79, s; 7.19, s; 7.59, d, J = 9 Hz.

A mixture of the same solvents in a ratio of 9:1 eluted 0.06 g of a substance which, after recrystallization from chloroform and then from water, had the composition $C_9H_6O_3$, M, 162. UV spectrum, λ_{max} , nm 326. IR spectrum, cm^{-1} : 3420, 1680, 1620, 1600; mp 220–222°C. The substance was identified as 7-hydroxybenzo- γ -pyrone [3].

Another part of the ethereal extract was chromatographed on a column of alumina using hexane containing increasing amounts of ether as eluents. At a 19:1 composition of the mixture, 0.2 g of a resinous slightly colored substance giving a single spot on TLC was isolated. According to its spectral characteristics, it was a coumarin ester with a molecular mass of 328 having the composition $C_{19}H_{20}O_5$. A study of the PMR spectrum revealed that the substance isolated was not an individual compound. It was shown with the aid of chromatography that it contained two isomeric compounds in a ratio of 2:3. A comparison of the signals and the PMR spectrum of the mixture with literature information [2] showed that it consisted of decursinol esters — decursin and agasyllin, which have been isolated previously from other sources.

LITERATURE CITED

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