COUMARINS OF THE ROOTS OF Angelia tschimganica

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The coumarins umbelliprenin, biacangelicin, biacangelicol, phellopterin, osthole, and xanthotoxol have been isolated previously from the roots of *Angelica tschimganica* (Korov.) V. Tichomirov (*Archangelica* section) [1].

We have studied the composition of the coumarins of the roots of Angelica tschimganica collected on Mount Bol'shoy Chimgan (Chatkal range). By column chromatography on alumina using benzene, a chloroform extract yielded compound (I), $C_{24}H_{30}O_3$, mp 60-63°C, and on further separation of the extract using diethyl ether it gave compound (II), $C_{21}H_{22}O_7$, mp 136-137°C. On the basis of physicochemical constants and mixed melting points, compounds (I) and (II) were identified as umbelliprenin and ostruthol. Thin-layer chromatography on silica gel using markers showed the presence in the roots of furocoumarins the chromatography content behavior of which corresponded to imperatorin and isoimperatorin. The presence of these two coumarins is characteristic for species of the genus Angelica belonging to the section Archangelica [2-4].

LITERATURE CITED

- 1. A. I. Saidkhodzhaev and G. K. Nikonov, Khim. Prir. Soedin., 96 (1976).
- E. B. Zorin, N. V. Ivashchenko, M. E. Perel'son, V. V. Vandyshev, and M. G. Pimenov, Khim. Prir. Soedin., 644 (1983).
- 3. G. A. Denisova and Yu. A. Dranitsyna, Bot. Zh., 48, 1830 (1963).
- 4. W. Steck and B. K. Bailey, Can. J. Chem., <u>47</u>, 2425 (1969)

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