

Continuing an investigation of plants of the genus *Centaurea* L., we have studied the chemical composition of the epigeal part of *C. pseudomaculosa* gathered during the flowering period in Kursk province in 1988.

The comminuted raw material was extracted successively with acetone in various concentrations. The extracts obtained were evaporated in vacuum to viscous residues and were freed from lipophilic substances and chlorophyll. The substances in the purified concentrates were separated on columns of silica gel and of polyamide sorbent. Six individual substances (I-VI) were isolated.

Substance (I) - $C_{15}H_{10}O_5$, mp 341-344°C, λ_{max} 270, 335 nm - was identified as apigenin [1].

Substance (II) - $C_{21}H_{20}O_{10}$, mp 255-257°C, λ_{max} 270, 303 sh., 335 nm.

Substance (III) - $C_{21}H_{20}O_{11}$, mp 264-265°C, λ_{max} 270, 350 nm. Compounds (II) and (III) were not cleaved on acid hydrolysis (10% HCl), but under the action of Kiliani's mixture substance (II) yielded apigenin and glucose, and substance (III) formed luteolin and glucose. The substances gave no coloration with the Gibbs reagent, which showed the substitution of the C-8 positions in the apigenin and luteolin molecules. Their physicochemical properties and the results of comparison with authentic samples permitted substance (II) to be identified as 8-C- β -D-glucopyranosyl-4',5,7-trihydroxyflavone, or vitexin [2], and substance (III) as 8-C- β -D-glucopyranosyl-3',4',5,7-tetrahydroxyflavone, or orientin [3].

Substance (IV) - $C_{27}H_{30}O_{15}$, mp 230-234°C, λ_{max} 273, 332 nm. Under the action of Kiliani's mixture it formed intermediate C-monoglycosides, apigenin, and glucose. Its physicochemical properties and the results of a comparison with an authentic specimen permitted substance (IV) to be identified as 6,8-di-C-glucosylapigenin, or vicenin [4].

Substance (V) - $C_{16}H_{18}O_9$, mp 204-207°C, λ_{max} 245, 325 nm - was identified as chlorogenic acid [5].

Substance (VI) - $C_9H_8O_4$, mp 194-196°C, λ_{max} 245, 325 nm - was identified as caffeic acid [5].

LITERATURE CITED

1. V. I. Litvinenko and V. N. Bubenchikov, *Khim. Prir. Soedin.*, No. 6, 792 (1988).
2. I. D. Chkhikbishvili, V. A. Kurkin, and M. N. Zaprometov, *Khim. Prir. Soedin.*, No. 1, 118 (1985).
3. A. A. Titova and V. S. Batyuk, *Khim. Prir. Soedin.*, No. 3, 377 (1986).
4. L. S. Teslov, *Khim. Prir. Soedin.*, No. 6, 784 (1986).
5. D. A. Murav'eva and V. N. Bubenchikov, *Khim. Prir. Soedin.*, No. 1, 107 (1986).