

The epigeal part of *Achillea santolina* L. (santolin yarrow) collected in the Kashkardar'-ya oblast of the Uzbek SSR in the budding and incipient flowering period was extracted with chloroform. When the concentrated extract was treated with 50% ethanol, a sesquiterpene lactone (I) precipitated with the composition  $C_{15}H_{18}O_3$ , mp 203-204°C (ethanol), yield 0.2% on the weight of the dry plant. By a comparison of the spectral characteristics and a mixed melting point with an authentic sample, lactone (I) was identified as leucomisin, which has been isolated previously from the same plant (as deacetoxymatricarin) [1] and from *Artemisia leucodes* Schrenk [2].

The aqueous ethanolic extract was treated successively with petroleum ether, diethyl ether, and chloroform. When the petroleum ether and diethyl ether extracts were chromatographed on silica gel, another five sesquiterpene lactones were isolated: lactone (II),  $C_{15}H_{20}O_5$ , mp 242-243°C (ethanol),  $M^+$  278,  $R_f$  0.4 [benzene-ethyl acetate (1:1)]. IR spectrum:  $\lambda_{max}^{KBr}$  3435  $cm^{-1}$  (tert-OH), 1745  $cm^{-1}$  (conjugated  $\gamma$ -lactone carbonyl), and 1665  $cm^{-1}$  (exomethylene at a lactone ring).

A comparison of the IR and NMR spectra with those of chrysartemin B [3, 4] and a mixed melting point showed their identity.

Lactone (III) had the composition  $C_{15}H_{18}O_4$ , mp 133-135°C (ethanol),  $R_f$  0.5 [benzene-ethyl acetate (1:1)],  $M^+$  262 (mass spectrometry). UV spectrum:  $\lambda_{max}^{KBr}$   $cm^{-1}$  (secondary OH), 1766  $cm^{-1}$  (carbonyl of a  $\gamma$ -lactone), 1680  $cm^{-1}$  (conjugated ketone in a five-membered ring), and 1616-1637  $cm^{-1}$  (double bonds). The melting point of its acetyl derivative (192-193°C) was identical with that of matricarin. From its  $R_f$  value, IR, UV, and NMR spectra, and a mixed melting point, lactone (III) was identified as austrisin [2]. In addition to the substances mentioned, we also isolated the unidentified lactones (IV), (V), and (VI).

Lactone (IV),  $C_{15}H_{18}O_4$ , mp 201-202°C (ethanol),  $M^+$  262. Judging from its spectral characteristics and the IR spectrum of the hydrolyzed product this lactone is apparently a guai-anolide.

Lactone (V), composition  $C_{15}H_{20}O_2$ , mp 233°C (decomp.),  $M^+$  280; lactone (VI), mp 184-185°C.

## LITERATURE CITED

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