DETECTION OF ACETYLEUCANBIN IN *Achillea nobilis*

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We reported earlier [1, 2] the isolation of the new steroidal compound eucanbin from the aerial part of *Eupatorium cannabinum* L. and its natural acetyl derivative from *Achillea filipendulina* Lam.

The dark-green total extracted compounds obtained by extraction of air-dried ground aerial parts of *A. nobilis* L. collected during full flowering in Samur village of Gusar Region in the Republic of Azerbaidzhan were studied by column chromatography over neutral Al_2O_3 (III-IV Brockmann activity). A crystalline compound of formula $\text{C}_{30}\text{H}_{50}\text{O}_2$, mp 210–212°C (aqueous EtOH), R_f 0.27 (hexane, Silufol UV 254), was isolated from the fractions eluted with hexane.

IR spectra in the region of characteristic frequencies exhibited bands for ester carbonyl (1730 cm^{-1}) and a double bond (1645). The spectrum in the fingerprint region showed a band at 890 cm^{-1} that was characteristic of a methylene double bond [3].

PMR spectra of the compound had overlapping resonances belonging to two angular, one secondary, and two isopropyl methyls and resonances at 2.10 ppm (3H, s, CH_3COO), 4.78, 4.80 (1H each, s, $>\text{C}=\text{CH}_2$), and 4.70 (1H, q, $J_1 = 5$, $J_2 = 11\text{ Hz}$, $-\text{CH}-\text{O}-\text{CO}$).

^{13}C NMR spectra showed 30 singlets characteristic of 30 C atoms (at 10.0–180.0 ppm). This corresponded with the number of C atoms in the compound formula.

^{13}C NMR DEPT 135 spectra exhibited resonances for 6 methyls (15.2, 16.4, 16.8, 17.2, 20.2, 26.2 ppm), 12 CH_2 (19.2, 23.0, 27.0, 27.5, 28.0, 29.2, 31.0, 35.5, 39.5, 40.0, 40.1, 108.5), and 8 CH (26.5, 29.5, 40.2, 40.5, 49.5, 51.5, 57.0, 80.2).

Resonances at 108.5, 155.0 and 26.2, 172.0 ppm that were observed in the ^{13}C NMR spectra belonged to C atoms of $>\text{C}=\text{CH}_2$ and $-\text{CO}-\text{CH}_3$ groups of the studied compound [4].

The presence and nature of the ester was also determined by saponification. This produced a compound of formula $\text{C}_{28}\text{H}_{48}\text{O}$, mp 179–180°C. Its IR spectrum and properties (formula, mp, IR and NMR spectra) were identical to that of eucanbin in all respects [1]. Acetylation of the saponified product produced the studied compound ($\text{C}_{30}\text{H}_{50}\text{O}_2$, mp 210–212°C), which was identical to acetylcucanbin isolated from *A. filipendulina* [2].

Thus, the compound isolated from *A. nobilis* was acetylcucanbin [3β -acetoxy-24 α -methylcholest-20(21)-ene].

Acetylcucanbin was isolated from *A. nobilis* for the first time.

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