CHEMICAL STUDY OF *Artemisia filatovae*

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Artemisia filatovae A. Kuprijanov sp. nova is endemic to Pavlodar District of the Republic of Kazakhstan [1]. Steam distillation isolated from this *Artemisia* species biologically active essential oil. Its component composition has been studied [2]. We have previously isolated the sesquiterpene lactones isoepoxyestafiatin and artefin [3].

The aerial part of the plant collected during flowering near Ekibastuz of Pavlodar District was dried in air and ground to particle size 2-4 mm.

Dry finely ground raw material (600 g) of *A. filatovae* was extracted twice with ethanol. The alcohol extract was evaporated in a rotary evaporator. The resulting total compounds were chromatographed over a column of silica gel (1:15 ratio) with elution by petroleum ether:ethylacetate to isolate colorless crystalline **1**-**5**.

Compound 1, arglabin: mp 100-103°C, $C_{15}H_{18}O_3$, MW 246 g/mol, R_f 0.69 (petroleum ether:ethylacetate, 2:1), yield 6.1 g (1.0% of air-dried raw material) [4].

Compound 2, ludartin: mp 112-116°C, $C_{15}H_{18}O_3$, MW 246 g/mol, R_f 0.68 (petroleum ether:ethylacetate, 2:1), yield 2.1 g (0.35% of air-dried raw material).

Ludartin was previously isolated from *A. carruthii* as a mixture with 11,13-dihydroludartin [5]. We isolated it pure for the first time from *A. filatovae* and unambiguously established its structure using spectral data (PMR, ^{13}C NMR, IR, UV, mass).

Compound 3, isoepoxyestafiatin: mp 169-171°C, $C_{15}H_{18}O_4$, MW 262 g/mol, R_f 0.47 (petroleum ether:ethylacetate, 2:1), yield 1.36 g (0.23% of air-dried raw material) [3].

Compound 4, hanphyllin: mp 171°C (dec.), $C_{15}H_{20}O_3$, MW 248 g/mol, R_f 0.43 (petroleum ether:ethylacetate, 2:1), yield 1.0 g (0.17% of air-dried raw material) [6].

Compound 5, candirone: mp 220-223°C, $C_{18}H_{16}O_7$, MW 344 g/mol, R_f 0.57 (ethylacetate), yield 0.030 g (0.005% of air-dried raw material).

Based on spectral data **5** was 5,4′-dihydroxy-3,6,8-trimethoxyflavone. Compound **5** was isolated previously from *Tephrosia candida* and called candirone [7]. The PMR, IR, and mass spectra of **5** were analogous to those published [7].

Chloroform extraction isolated another sesquiterpene lactone (**6**) in addition to these.

Compound 6, artefin: mp 204-206°C, $C_{15}H_{20}O_5$, MW 280 g/mol, R_f 0.43 (ethylacetate), yield 0.59 g (0.059% of air-dried raw material) [3].

Arglabin (**1**), ludartin (**2**), hanphyllin (**4**) and cadirone (**5**) were isolated from this *Artemisia* species for the first time.

Thus, we isolated from *A. filatovae* five sesquiterpene lactones of the guaiane and germacrane types and one flavonoid. The isolated compounds are interesting as biologically active compounds and as renewable resources for chemical modification.

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