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KOELREUTERIA SAPONIN B FROM SEEDS OF *Koelreuteria paniculata*

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Koelreuteria paniculata Laxm. is a saponaceous tree (Sapindaceae) native to Eastern Asia and cultivated as a decorative on the Black-Sea coast of the Caucuses [1].

Triterpenes in the seeds of a saponaceous tree are studied using air-dried ground material (500 g) that is preliminarily extracted with petroleum ether and then exhaustively extracted with 70% ethanol. The alcohol is evaporated from the extract. The aqueous liquid is extracted with butanol and concentrated. The solid is dissolved in a small amount of methanol and reprecipitated from a seven-fold excess of acetone. The solid is isolated, washed with acetone, and dried under vacuum. Yield 7.8 g of yellow amorphous powder (1.56%). TLC on silica gel (butanol—ethanol—25% NH_3, 10:2:5, 25% phosphotungstic acid in ethanol) reveals two spots of triterpene glycosides.

Column chromatography on silica gel (3×88 cm) using $CHCl_3$—CH_3OH—H_2O (26:14:3) produces a dominant compound (R_f 0.34) as colorless crystals with mp 193-194°C and $[\alpha]_D^{20}$ -21° (*c* 1.0, CH_3OH) that give a positive reaction for triterpene glycosides.

Hydrolysis with Kiliani solution [2] yielded the aglycone, mp 269-271°C, $[\alpha]_D^{20}$ +89.1° (*c* 1.39, ethanol). IR spectrum (KBr, ν_{max}, cm^{-1}): 3440 (OH), 1725 (C=O), 1698 (CO–COOH). Chromatography using benzene—acetone (2:1) gives a spot identical to hypsogenin. Glucuronic acid, D-galactose, L-arabinose, and L-rhamnose are observed by PC and TLC of the carbohydrate part [3].

The physicochemical data of the compound isolated by us correspond with koelreuteria saponin B, O-α-rhamnopyranosido(1→3-O-α-arabinopyranosido(1→4) and O-β-galactopyranosido(1→3)β-glucuronopyranosido(1→3)-hypsogenin, which has been isolated from the fruit of this same plant growing in Moldova [4].

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