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GLUCOSIDES OF *FRAXINUS JAPONICA*

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Key Word Index—*Fraxinus japonica*; Oleaceae; secoiridoid glucoside; oleuropein; coumarin glucoside; esculin.

Plant. *Fraxinus japonica* Blume (Oleaceae). *Source.* Botanical Garden of Osaka City University, Osaka, Japan. *Uses.* Bark of this plant has been used as a medicinal for rheumatism and gout in Japan. *Previous work.* Bark of *Fraxinus mandshurica* Rupr. *var. japonica* Maxim [1, 2].

Present work. The fresh leaves, collected in October, were extracted with hot MeOH. The extract was evaporated *in vacuo* and taken in H_2O. The aqueous solution was extracted successively with $CHCl_3$ and EtOAc. The EtOAc fraction was chromatographed on silica gel. The fraction obtained on elution with $CHCl_3$–MeOH (94:6) was further purified by preparative TLC (silica gel, $CHCl_3$–MeOH (7:3) giving a crude glucoside which was identical with oleuropein [3, 4] in TLC behaviour (several solvent system). Acetylation (Ac_2O–Pyr.) of the glucoside, followed by chromatography on silica gel (elution with Et_2O), provided the hexaacetate [3, 4], $C_{27}H_{44}O_{19}$; $(\alpha)_D^{21}$—123·0° (c = 1, MeOH); λ_{max}^{EtOH} 234·5, 270 nm (log ϵ 4·11, 2·90). The latter was identified with an authentic sample by comparison of IR and NMR spectra. This is the first example of the isolation of oleuropein in the plant of the genus *Fraxinus*, indicating the wide distribution of this substance in Oleaceae.

The aq. fraction was chromatographed on silica gel. Elution with $CHCl_3$–MeOH (85:15) gave a crystalline substance, m.p. 197–199°, $(\alpha)_D^{22}$ – 83·7° (c = 1·3, 50% dioxane), which was identified with esculin by comparison of the NMR spectrum of its trimethylsilyl ether derivative [5].

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