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FURANOEREMOPHILAN-14 β ,6 α -OLIDE FROM *LIGULARIA* SPECIES

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Key Word Index—*Ligularia fauriei*, *L. angusta*, Compositae, sesquiterpene, furanoeremophilan-14 β ,6 α -olide

Plant *Ligularia fauriei* (Fr.) Koidz. (Compositae) *Source* Rikuchu-Nakano, Iwate prefecture, Japan. Voucher specimen is deposited in the Herbarium of National Science Museum, Tokyo (TNS 265532).

Plant *L. angusta* (Nakai) Kitam. (Compositae) *Source* Botanic Garden of the University of Tokyo, Tokyo, Japan. Voucher specimen is kept in the Herbarium of National Science Museum, Tokyo (TNS 281712). *Previous work* On sister species *L. hodgsonii* (furanoeremophilan-14 β ,6 α -olide)¹

Present work Dried roots (900 g) of *L. fauriei* was extracted with hot C₆H₆ and the residue obtained after removal of the solvent was chromatographed on silica gel. Elution with light petrol-Et₂O (20:1) gave a crystalline compound which was recrystallized from Et₂O to afford 5.40 g of furanoeremophilan-14 β ,6 α -olide,¹ m.p. 145–146° (corr.), C₁₅H₁₈O₃ (M⁺ at m/e 246) [α]_D –47° (dioxane). UV $\lambda_{\max}^{\text{EtOH}}$ 216 nm (ϵ 7200). IR (Nujol) 1770, 1635, 1562, 1086 cm^{–1}. PMR (CDCl₃) δ 1.25 (3H, s, tert-Me), δ 2.01 (3H, d, J 1 Hz, –CH=C–Me), δ ~2.3 (2H, m, –CH–CH₂–furan), δ 5.07 (1H, br s, –O–CH–) δ 7.03 ppm (1H, m, –O–CH=C–Me), identical (m.p., m.m.p., IR, [α]_D, UV, PMR and MS) with the authentic sample.¹

The Et₂O extract of the dried roots (34 g) of *L. angusta* was sublimed at 200° under reduced pressure (1 mmHg) and the material sublimed was chromatographed on silica gel. Treatment as described above gave 47 mg of furanoeremophilan-14 β ,6 α -olide.¹

¹ ISHIZAKI, Y., TANAHASHI, Y., TAKAHASHI, T. and TORI, K. (1969) *Chem. Commun.* 551.