

Phytochemistry, 1974, Vol. 13, p. 2009. Pergamon Press. Printed in England.

TERPENOIDS IN *UMBELLULARIA CALIFORNICA*

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(Received 30 August 1973)

Key Word Index—*Umbellularia californica*; Lauraceae; essential oil; mono- and sesqui-terpenes.

Plant. *Umbellularia californica* Nutt (herbarium specimen retained at University of California, Santa Cruz). **Source.** Santa Cruz County, California, U.S.A. **Uses.** As a condiment. **Previous work.** The presence of umbellulone,¹⁻⁴ pinene,¹ cineol,¹ eugenol,¹ methyl eugenol,¹ cyanogens,⁵ sugars⁵ and tannins⁵ have been reported.

Present work. The essential oil was obtained by H₂O distillation of the dried leaves of *U. californica* (6.5%). Using techniques described previously,⁶ the oil was found to contain umbellulone (39.0), 1,8-cineol (23.4), terpinen-4-ol (5.6), sabinene (4.8), α -pinene (3.6), thymol (3.3), β -pinene (2.3), linalool (2.0), γ -terpinene (1.8), myrcene (1.3), *p*-cymene (1.0), *trans*- β -farnesene (0.9), α -terpinyl acetate (0.8), α -terpinene (0.7), α -*p*-dimethylstyrene (0.7), benzaldehyde (0.7), limonene (0.4), terpinolene (0.4), methyl eugenol (0.3), selina-4,11-diene (0.3), α -phellandrene (0.2), guaia-6,9-diene (0.2), ethyl benzoate (0.2), δ -terpineol (0.2), β -phellandrene (0.1), α -santalene (0.1), pinocarvone (0.1), α -selinene (0.1), β -bisabolene (0.1), ethyl cinnamate (0.1), eugenol (0.1), verbenone (0.1) and citronellol (0.1).

Comment. Figures in parenthesis refer to area percentages calculated from electronic integration of flame ionization detection of a capillary 6000 chromatogram.

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