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TRACHELOSIDE FROM THE SEEDS OF *CARTHAMUS TINCTORIUS*

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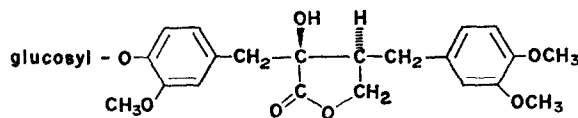
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Key Word Index—*Carthamus tinctorius*: Compositae; lignan; tracheloside; 4',8'-dihydroxy-3,4,3'-trimethoxy-lignanolid (9,9')-4'- β -D-glucopyranoside.

Matairesinol monoglucoside was recently reported as one of the components of safflower meal (*Carthamus tinctorius* L.).^{1,2} We now report the isolation of tracheloside (I)* from the seeds of this plant. The seeds were powdered, washed with ether and extracted with hot methanol. The methanol solution was evaporated, diluted with water, and extracted with chloroform. The aqueous layer was concentrated to a syrup which was extracted with hot ethyl acetate. The extract was chromatographed on silica gel and eluted with CHCl_3 -EtOH (8:2).

The isolated glycoside, m.p. 166–168°, (0.4% of seeds) was identified as I by IR, TLC and m.m.p. with an authentic sample, m.p. 168–170°, $[\alpha]_D^{20}$ –60.0° (EtOH), isolated from stem of *Trachelospermum* plants (Apocynaceae).³



(I) Tracheloside

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* The position of glucose of I reported in the previous paper⁴ was wrong and should be as shown in I.⁵ The absolute configuration was also determined.⁵

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³ I. INAGAKI, S. HISADA and S. NISHIBE, *Phytochem.* **10**, 211 (1971).

⁴ S. NISHIBE, S. HISADA and I. INAGAKI, *Chem. Pharm. Bull. Tokyo* **19**, 866 (1971).

⁵ S. NISHIBE, S. HISADA and I. INAGAKI, *Chem. Pharm. Bull. Tokyo* in press.

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1,8-CINEOLE AND SITOESTEROL FROM *CHRYSACTINIA MEXICANA*

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Key Word Index—*Chrysactinia mexicana*; Compositae; 1,8-cineole; hexacosanol; sitosterol.

Plant. *Chrysactinia mexicana*, Gray (falsa damiana) (voucher No. 7196). *Occurrence.*

Northeastern Mexico. *Uses*. Medicinal. *Previous work*. On the aerial portion, no compounds were identified.¹

Present work. The dried and grounded aerial part (3.5 kg) was extracted with light petroleum (30–60°). The light petroleum extract was steam distilled, yielding a greenish essential oil essential oil (0.1%) with and strong odour, d_4^{25} 0.878, n_D^{25} 1.4592, $[\alpha]_{589}^{25}$ +3.1°; $[\alpha]_{578}$ +3.9°; $[\alpha]_{546}$ +4.3°; $[\alpha]_{436}$ +6.7°; $[\alpha]_{365}$ +8.5°, IR, did not show any carbonyl or aromatic bands. 1,8-Cineole (92%) was isolated by preparative GLC (SE-30.5%) and identified by its physical properties, IR, NMR and co-TLC with an authentic specimen. The residue from steam distillation was saponified with KOH–MeOH, the unsaponifiable was taken with isopropyl ether and this solution was submitted to column chromatography on silica gel, elution with benzene gave hexacosanol-1, C₂₆H₅₄O, m.p. 74°, identified by m.m.p., IR and NMR of it and its acetate. Elution with CHCl₃ gave sitosterol, identified by direct comparison of it and its acetate with authentic specimens by m.m.p., IR, NMR, and co-TLC.

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¹ L. LEWIS and G. B. CARROLL, *J. Am. Pharm Assoc.* **39**, 591 (1950).

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ISORHAMNETIN-3-GLYKOSIDE IN *EUPATORIUM LEPTOPHYLLUM*

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Key Word Index—*Eupatorium leptophyllum*; Compositae; isorhamnetin-3-galactorhamnoside; isorhamnetin-3-trioside; isorhamnetin-3-β-D-monogalactoside.

Pflanze und Herkunft. *Eupatorium leptophyllum* DC. Gesammelt von Dr. R. K. Godfrey (No. 67979) in der Nähe von Tallahassee, im August 1968. *Bisherige Untersuchung*. Keine über Flavonoide.

Isolierung und Identifizierung der Verbindungen. Die oberirdischen Teile der Pflanze wurden zuerst mit CHCl₃ und dann MeOH extrahiert. Nach Abtrennung des Chlorophylls durch Digerieren der methanolischen Extrakte mit heißem Wasser und Ausschütteln mit CHCl₃, Gewinnung eines Flavongemisches durch Extraktion der wäßrigen Lösung mit Äther und EtOAc, ergibt die Chromatographie des aus EtOAc erhaltenen Mischkristallisates an Kieselgelsäule mit EtOAc–MeOH–H₂O (100:16, 5:13,5) ergibt 3 Hauptglykoside.

Isorhamnetin-3-β-D-monogalactosid wurde durch Vergleich mit authen. Substanz, Hydrolyse, Cochromatographie in 3 Systemen, UV- und IR-Analyse identifiziert.