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DEHYDRODIEUGENOL AND ITS MONOMETHYL ETHER FROM *VIROLA CARINATA*

KAZUKO KAWANISHI and YOHEI HASHIMOTO

Institute of Phytochemistry, Kobe Women's College of Pharmacy, Motoyamakita-Machi, Higashinada-Ku, Kobe 568, Japan

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Key Word Index—*Virola carinata*; Myristicaceae; neolignans; dehydrodieugenol; dehydrodieugenol monomethyl ether; sitosterol.

Abstract—The constituents of *Virola carinata* were established as dehydrodieugenol, its monomethyl ether and sitosterol.

4-Aryltetraline neolignans (+)-guaiacin, (−)-galcatin and (−)-isootobaphenol were earlier isolated from *Virola carinata* (Benth.) Warburg [1]. In this paper dehydrodieugenol, its monomethyl ether and sitosterol are described as being present as well.

The *n*-hexane soluble fraction of the plant extract was chromatographed on Si gel several times. Eluants with 5% Me_2CO in benzene gave **1** which melted at 113–115° after recrystallization from benzene and petrol and which was identical with synthetic dehydrodieugenol (mmp and IR) prepared from eugenol with $FeCl_3$ [2]. Elution with pure benzene gave **2** as a resin, which was purified on Si gel using cyclohexane–$CHCl_3$ (5:7). ^{1}H NMR (200 MHz) showed two eugenol groups, i.e. benzylic methylene, methine, terminal methylene (*trans*) and (*cis*) for one of allyl groups at δ 3.36 (*dt*, J = 6.8 and 1.6 Hz), 5.97 (*ddt*, J = 17.0, 10.0 and 6.8 Hz) 5.09 (*ddt*, J = 17.0, 2.0 and 1.6 Hz) and 5.06 (*ddt*, J = 10.0, 2.0 and 1.6 Hz), respectively and the other at δ 3.38 (*dt*, J = 6.8 and 1.6 Hz), 5.99 (*ddt*, J = 17.0, 10.0 and 6.8 Hz), 5.11 (*ddd*, J = 17.0, 2.0 and 1.6 Hz) and 5.07 (*ddd*, J = 10.0, 2.0 and 1.6 Hz), aromatic protons at 6.72 (2 H), 6.750 (1 H) and 6.753 (1 H), three methoxy protons at 3.65, 3.88 and 3.90 and a phenolic proton at 6.44. This was confirmed as dehydrodieugenol monomethyl ether by means of IR comparison with synthetic material obtained from dehydrodieugenol by methylation with CH_2N_2. Eluants with 5% Me_2CO in benzene gave **3** which crystallized from EtOH and was identified as sitosterol by means of mp and IR comparison with an authentic sample.

EXPERIMENTAL

Virola carinata (2.2 kg), collected at Manaus, Itacoatiara and identified by the botanist W. A. Rodrigues, Instituto Nacional de Pesquisas da Amazonas (INPA), was dried, crushed and extracted with MeOH several times to concentrate it to dryness. The powdered MeOH extract (228 g) was dissolved in 5% HOAc (700 ml). The ppt. was collected by centrifugation and extracted successively with *n*-hexane, benzene, $CHCl_3$ and then MeOH.

The *n*-hexane extract was chromatographed several times to give **1**–**3**. **1**: $C_{20}H_{22}O_4$ (found 326.153, required 326.152), mp 113–115°. **2**: $C_{21}H_{24}O_4$ (found 340.168, required 340.168). **3**: $C_{29}H_{50}O$ (found 414.390, required 414.386), mp 148–151°, mmp with sitosterol 148–151°.

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