min the mixture was centrifuged to remove inorganic matter, solvent was removed *in vacuo* and the residue crystallized from EtOAc–petrol (1 :2) to give the quinone (**5**) mp 62–64° (sublimes at 58°).

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Phyto—585/T.578—J.—Short Report

ISOLATION OF SOLAVETIVONE FROM *NICOTIANA TABACUM*

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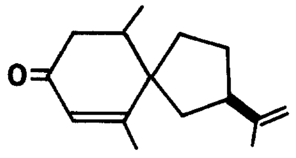
Key Word Index—*Nicotiana tabacum*; Solanaceae; Burley tobacco; vetispirane derivative; solavetivone

Preparative GLC of the neutral oil from 370 kg of air-cured American Burley tobacco leaves [1] afforded 10 mg colourless mobile oil (**1**) $[\alpha]_D^{23} -92.8°$ (EtOH; *c* 0.15). The MS spectrum showed significant peaks at *m/e* 218(M^+, 48%), 137(58), 133(64), 108(100), 93(86), 79(72), 68(70), 67(70) and 41(74). By the high resolution MS, the formula of (**1**) was estimated as $C_{15}H_{22}O$ (found: 218.1676, calcd.: 218.1670). The IR spectrum showed an α, β-unsaturated carbonyl group at 1669 cm^{-1} and a terminal methylene group at 3090, 1650 and 893 cm^{-1}. No hydroxyl group was observed. The NMR spectrum (100 MHz, $CDCl_3$) showed a secondary methyl group (δ0.98, *d*, *J*7.0 Hz, 3H), a methyl group attached to a β-position of α, β-unsaturated carbonyl group (δ1.93, *d*, *J*1.2 Hz, 3H), an isopropenyl group (δ1.75, *br s*, 3H and δ4.68, *br s*, 2H), a methylene group adjacent to a carbonyl group (δ2.55, AB part of an ABX system) and an olefinic methine (δ5.62, *br s*, 1H). The UV spectrum had λ_{max}^{EtOH} 241.5 nm (ε14000) which was consistent with an enone system. These spectroscopic data of (**1**) were identical with those of solavetivone, 6,10-dimethyl-2-(1-methylethenyl)-spiro[4.5]dec-6-en-8-one, which has been isolated as a major stress metabolite produced by infected potato tubers [2]. This compound was also present in the leaves of *N. tabacum* cv Matsukawa, one of representative Japanese domestic tobacco, and Phillipine cigar tobacco (Manila leaves). This is the first report of the naturally existence of a vetispirane derivative in *N. tabacum*.



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