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MAHANIMBINE FROM *MURRAYA KOENIGII* SPRENG

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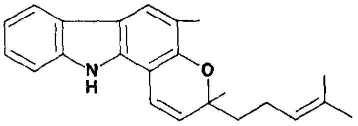
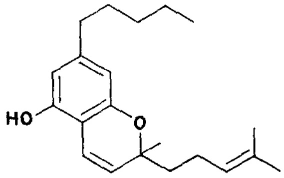
In continuation of our studies on the carbazoles of Rutaceae, we report the isolation of an alkaloid from the stem bark of *Murraya koenigii* Spreng which has been identified as optically inactive mahanimbine (**1**).[1,2] Chromatography of the petrol. (40–60°) extract of the neutral fraction of the stem bark of *Murraya koenigii* Spreng furnished a homogeneous carbazole alkaloid, $C_{23}H_{25}NO$, m.p. 94–95° $[\alpha]_D^{CHCl_3}$ ± 0. The UV spectrum of the compound ($\lambda_{max}^{ethanol}$ 225, 238, 287, 326 nm with log 4·6, 4·7, 4·6 and 4) and the IR spectrum ν_{max}^{Nujol} 3470, 1645, 1600, 1365) were suggestive of the presence of a pyrano carbazole system like that in mahanimbine. The NMR (60 MHz, $CDCl_3$) spectrum showed the presence of an NH-proton (δ 8·2-broad), one aromatic proton (δ 9·8), complex aromatic multiplets (δ 7·6 to 7), vinylic proton doublets (δ 6·7, 5·7; *J* 10 cps each). The ethylenic proton signals (δ 5·2, *m*) together with the signals for two methyl groups (δ 1·55, 1·68) showed the presence of an isopropylidine group. The signals for a deshielded methyl group (δ 1·5, *s*) and aromatic C-methyl group (δ 2·4) were readily discernible. Data were suggestive that the alkaloid was identical with mahanimbine except optical activity. This has been confirmed by direct comparison mmp, IR, (UV) with (±)-mahanimbine[3] synthesized in our laboratory


(**1**)



(**2**)

In consideration of the occurrence of natural (±)-cannabichromene[4] (**2**) having the same terpenic structural features and asymmetric centre as in mahanimbine (**1**), the isolation of (±)-mahanimbine (**1**), from nature is consistent. The occurrence of (±)-mahanimbine also rationalizes the occurrence of optically inactive compounds derivable from mahanimbine.[5]

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