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7-Deacetyl-7-Oxo-Gedunin from *Swietenia mahagoni* Jacq.*

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In previous communications, we reported on mahoganin, $C_{27}H_{34}O_8$, m.p. 225–28°, $[\alpha]_D$—72° ($CHCl_3$) and cyclomahogenol[2], $C_{31}H_{52}O_2$, m.p. 151–52°, $[\alpha]_D$+42° ($CHCl_3$) from *Swietenia mahagoni* Jacq. Mahoganin has been shown to be a B-ring cleaved tetranortriterpenoid of the swietenine[3] group while cyclomahogenol which has been shown to be 3β, 16β-dihydroxy-24-methylene cycloartane, is an example of another missing link in the biogenesis of ring D-lactone of the meliacins and limonoids from the euphol type of tetracyclic triterpenes[4]. We now report the isolation of another β-substituted furanolactone, $C_{26}H_{30}O_6$, m.p. 260–61°, $[\alpha]_D$—46° ($CHCl_3$) which has been identified as 7-deacetyl-7-oxogedunin , the key biogenetic intermediate of the ring B cleaved meliacins of the genus *Swietenia*.

The petroleum ether extract of the seeds of *Swietenia mahagoni* on chromatography over silica gel and crystallisation from methanol furnished a colourless crystalline compound, m.p. 260–61°, besides other constituents. The compound was found to be homogeneous by t.l.c. (R_f 0·25 in the solvent system, benzene : chloroform, 1 : 2 using silica gel G as adsorbent). The analytical data showed the molecular formula to to $C_{26}H_{30}O_6$. The u.v. spectrum of the compound showed absorption max (ethanol) at 221 mμ with log ϵ 4·11, showing the presence of an $\alpha\beta$ unsaturated ketonic system in the compound.

The I.R. spectrum of the compound showed bands at 1745 (δ-lactone system), 1705 (saturated six membered ketone), 1670 ($\alpha\beta$-unsaturated ketone), 2970, 1503, 873, 815 (β-substituted furan ring) and 1375, 1340 cm^{-1} (C-methyl group). The IR. data therefore show that it has a ketonic function, one lactone function and a β-substituted furan ring. The C_{26} molecular formula and the functionalities of the compound suggest that it belongs to β-substituted furanolactones of meliacin group.

* Part XIV in the series Chemical taxonomy.
Part XIII D. P. Chakraborty, K. C. Das and B. K. Chowdhury, under publication.

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The N.M.R. spectrum[5] of the compound and the data reported here suggest that it could be 7-oxo 7-deacetyl gedunin which has been confirmed by comparison with an authentic sample of 7-oxo-7-deacetyl gedunin (m.m.p.; t.l.c.).

The occurrence of 7-oxo-7-deacetyl gedunin, the key intermediate of B-ring cleaved tetranortriterpenoids of the genus *Swietenia*, in *S. mahagoni* is significant from biogenetic considerations.

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