The Synthesis of (±)-Pulvilloric Acid

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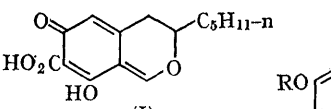
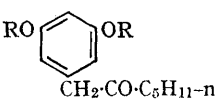
PULVILLORIC acid, a metabolite of *Penicillium pulvillorum*, has been shown[1] to have structure (I). This has now been confirmed by synthesis. Thus, interaction of 3,5-dimethoxyphenylacetyl chloride with the cadmium derivative of 1-bromopentane gave the ketone (II; R=Me) which was smoothly demethylated with pyridine hydrochloride to the phenol (II; R=H).

Reduction of (II; R=H) with sodium borohydride gave the (±)-alcohol (III; R=H) which had the same infrared spectrum as the (+)-isomer derived from pulvilloric acid. Carboxylation of (III; R=H) gave the acid (III; R=CO_2H), which reacted readily with ethyl orthoformate to yield (±)-pulvilloric acid (I), having the requisite infrared, ultraviolet, and n.m.r. spectra, and readily forming an unstable adduct with ethanol.

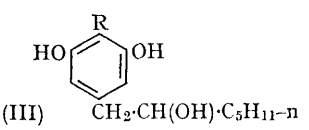
All new compounds had the requisite spectral and analytical characteristics.



(I)



(II)



(III)

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[1] J. F. W. McOmie, A. B. Turner, and M. S. Tute, *J. Chem. Soc.* (*C*), 1966, 1608.