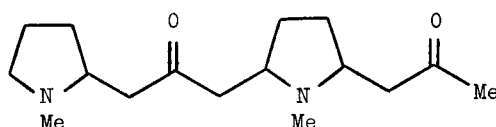


A NEW TYPE OF ALKALOID FROM PHYSALIS ALKEKENGII

B. A. McGaw and J. G. Woolley, School of Pharmacy, Leicester Polytechnic, Leicester, LE1 9BH.

Physalis alkekengi (Solanaceae), commonly known as the Chinese Lantern plant, has been used in Chinese medicine for a variety of ailments, (Basey & Woolley 1973). In this publication we reported the isolation of a number of alkaloids from the underground organs by a combination of partition column chromatography (Evans & Partridge 1952) and preparative layer chromatography. Known bases 3 α -tigloyloxytropine (0.04%), tigloidine (0.004%), cuscohygrine (0.02%), tropine and γ -tropine were isolated. In addition, a number of new bases were detected and we here report on one of these.

The new base, C₁₆H₂₈O₂N₂ gave a dark orange picrate m.p. 189° and gave a mass spectrum typical of a tropane or N-methylpyrrolidine type (m/z 42, 44, 81, 83) with M⁺ = 280 and a major fragment at m/z 140. The infrared spectra were very similar to those obtained for hygrine, cuscohygrine and tropinone. Proton NMR similarly showed that the new base was related to the bases cited except that it displayed three clear methyl groups, one of them (C-Me) appearing at δ 2.15 as in hygrine, the remaining ones being N-methyl signals. ¹³C NMR spectroscopy revealed the presence of 16 discernable carbons which were allocated according to their shift from TMS, by comparison with the other bases mentioned and by the residual off-resonance proton couplings. The base, the first of its kind, decomposes on exposure to air giving cuscohygrine and 2,5-diacetyl-N-methyl pyrrolidine.



Basey, K., Woolley, J. G. (1973) *Phytochemistry* 12: 2557-2559.

Evans, W. C., Partridge, M.W. (1952) *J. Pharm. Pharmacol.* 4: 769-779