

## Nuclear Magnetic Resonance Spectrum of Cycleanine\*

A. K. BHATNAGAR, S. BHATTACHARJI & S. P. POPLI  
Central Drug Research Institute, Lucknow

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One of the alkaloids isolated from the roots of *Cissampelos pareira* Linn. has been identified as cycleanine. Some discrepancies in its nuclear magnetic resonance spectrum reported earlier by Bick *et al.* [*J. chem. Soc.*, (1961), 1898] are pointed out.

ONE of the alkaloids isolated from the roots of *Cissampelos pareira* Linn., m.p. 273°; ( $\alpha$ )<sub>D</sub> -25.6° (ethanol) was found to be identical<sup>1</sup> (TLC, infrared, m.p. of its methiodide, and optical rotation) with cycleanine (O,O'-dimethylisochondrodendrine), an authentic sample of which was kindly made available to us by Prof. M. Tomita. A NMR spectrum of this compound (Fig. 1) was, however, found to be different from the one reported by Bick and coworkers<sup>2</sup>. The main differences are illustrated in Table 1.

To check up this anomaly, a mass spectrum was run on our sample of cycleanine. The main features

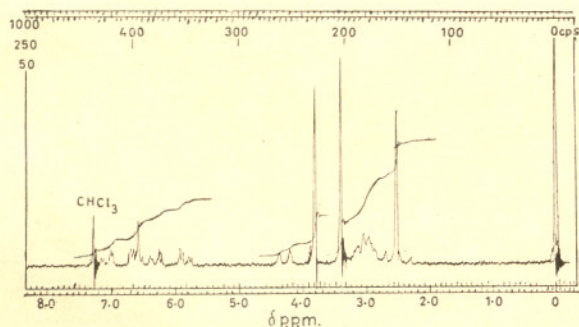


Fig. 1 — NMR spectrum of cycleanine isolated from *C. pareira* by the authors

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TABLE 1 — CHEMICAL SHIFT DATA FOR THE SAMPLES OF CYCLEANINE

Position:	(τ Values)					
	—OMe				—NMe	
	6	6'	7	7'	2	2'
Bick <i>et al.</i> 's sample	6.22	6.22	6.62	6.62	7.87	7.50
Sample obtained by the authors	6.16	6.16	6.58	6.58	7.46	7.46

of the spectrum were ions at  $m/e$  622 (s), 607 (w), 592 (w), 312 (s), 265.5 (w), 204 (s) and 190 (m). These values fit in nicely with the fragmentation expected of the symmetrical molecules of the isochondrodendrine type and agree completely with the data now reported by Tomita *et al.*<sup>3</sup> on the mass fragmentation of cycleanine.

The NMR spectrum of our sample and that of Prof. Tomita and Fujitani were superimposable (Fujitani, K., personal communication). Both the spectra were run in  $CDCl_3$  on a Varian A-60 machine.

It is thus concluded that in the completely symmetrical molecule of cycleanine, both the NMe peaks appear at τ 7.46 and that the peak appearing at τ 7.87 for N(2)CH<sub>3</sub> in Bick *et al.*'s sample was due to some contamination of a related alkaloid or possibly that of acetone from which it might have been crystallized.

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### References

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