

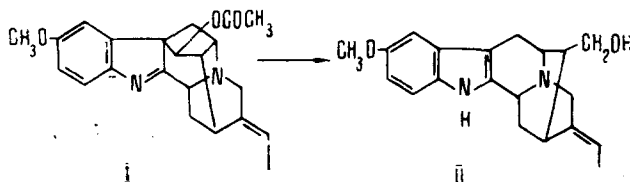
10-METHOXYVINORINE - A NEW ALKALOID  
FROM *Vinca erecta*

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From 10 g of the feebly basic fraction of the combined alkaloids of *Vinca erecta* collected in the Tashkent oblast we have isolated by chromatography on a column of alumina an amorphous base with the composition  $C_{22}H_{24}N_2O_3$  (I). Its UV spectrum [ $\lambda_{max}$  223, 280 ( $\log \epsilon$  4.07, 3.66)] is characteristic for the indole alkaloids. IR spectrum of (I) (KBr),  $cm^{-1}$ : 860, 825, 780 (1,2,4-trisubstituted benzene ring), 1745 ( $OCOCH_3$ ). In the mass spectrum of (I) the peaks of ions with the following m/e numbers were found: 364 ( $M^+$ ; 100%), 321 (63%), 305 (42%), 212 (10%), 199 (21%), and 198 (38%). In the NMR spectrum of the base ( $\delta$  scale,  $CDCl_3$ ) there were the signals of the protons of the following groups:  $>C=CH-CH_3$  (1.60 ppm, doublet; 5.25 ppm, quartet,  $J=6$  Hz),  $>CH-OCOCH_3$  (2.10 ppm, singlet; 5.00 ppm, singlet),  $Ar-OCH_3$  (3.75 ppm, singlet), and three aromatic protons.  $C_9H$  at 6.97,  $C_{11}H$  at 6.86, and  $C_{12}H$  at 7.45 ppm ( $J_{H_9H_{11}}=2$  Hz;  $J_{H_{11}H_{12}}=7$  Hz). Consequently, the base is a substituted indolenine derivative. The difference of 30 mass units in the positions of all the peaks of the ions in the mass spectrum from those for vinorine [1] and the presence in the NMR spectrum of the base of the signal of the protons of a methoxy group permitted the conclusion that it was a methoxy derivative of vinorine. According to the IR spectra, the methoxy group could be at  $C_{10}$  or  $C_{11}$ .

The reduction of (I) with lithium tetrahydroaluminate gave a product (II) with mp 198-200°C. The IR spectrum of (II) showed a broad absorption band at  $3200\text{ cm}^{-1}$  (NH, OH). Its mass spectrum had the peaks of ions with m/e 324 (100%), 309 (10%), 307 (11%), 294 (11%), 293 (41%), 279 (10%), 199 (54%), and 198 (53%), similar to those for lochnerine [2]. By comparing the  $R_f$  values, coloration with cerium sulfate reagent, the mass spectra, and the melting point, (II) was identified as lochnerine, which has a methoxy group at  $C_{10}$ . Thus, the base (I) has the structure of 10-methoxyvinorine:



LITERATURE CITED

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2. W. Mors, P. Zaltmann, J. Beereboom, S. Pakzashi, and C. Djerassi, *Chem. and Ind.*, 173 (1956).

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