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HYDROXYPEROXIDATION OF 1,2,3,4,5,6,7,8,9,10-DECAHYDROACRIDINE DERIVATIVES

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In the case of 9-R-10-phenyldecahydroacridines Ia, b we have for the first time accomplished the hydroxyperoxidation of 1,4-dihydropyridine derivatives: peroxy and hydroxy groups are simultaneously introduced into the hydropyridine ring by treatment of Ia, b with a mixture of hydrogen peroxide and peracetic acid or, better yet, peroxymonophthalic acid in the presence of HCl. Compound IIa was obtained under similar conditions from epidioxyperhydroacridine derivative III.



I, II a $R = C_6H_5$, b $R = CH_2C_6H_5$

Compound IIa. This compound had mp 175-177°C (from ethyl acetate). IR spectrum (in CHCl₃): 3576 cm⁻¹ (OH). PMR spectrum (in CDCl₃): 3.20 (1H, d, J = 11 Hz, 9-H), 2.31 ppm (1H, m, J = 11 and 3.5 Hz, 9a-H). Mass spectrum (70 eV), m/z (I_{rel} , %): 391 (29), M⁺; 373 (42), [M – H₂O]⁺; 359 (100), [M – O₂]⁺; 357 (88), [M – H₂O₂]⁺; 341 (33), [M – O₂ – H₂O]⁺. The yield was 51% (from Ia).

Compound IIb. This compound had mp 168-170°C (from ethyl acetate). IR spectrum (in CHCl₃): 3560 cm⁻¹ (OH). Mass spectrum (70 eV), m/z (I_{rel}, %): 405 (12), M⁺; 387 (35), $[M - H_2O]^+$; 373 (100), $[M - O_2]^+$; 356 (80), $[M - O_2 - H_2O]^+$. The yield was 79%.

The results of elementary analysis of IIa, b were in agreement with the calculated values.

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