molar amount of water, followed by a little dry ether gave an orange, hygroscopic powder, m. p. 105–106°.

Anal. Calcd. for $C_{22}H_{33}ON_3 \cdot 2HCl \cdot H_2O$: C, 59.21; H, 8.35. Found: C, 59.97; H, 8.39.

Summary

The syntheses of ten pamaquine analogs having piperidylalkylamino side chains are described. From lithium and potassium salts of 2-picoline, piperidylalkyl halides having two to seven carbon atoms in the bridge between the halogen atom and the 2-piperidyl group were prepared as hydrohalides for condensation with 8-aminoquinolines. 3-(4-Piperidyl)-propyl chloride was prepared similarly from 4-picoline.

STANFORD UNIVERSITY, CALIF. RECEIVED MAY, 13 1946

NOTE

5,6-Dimethoxy-8-(2,5-dimethyl-1-pyrryl)-quinoline[1]

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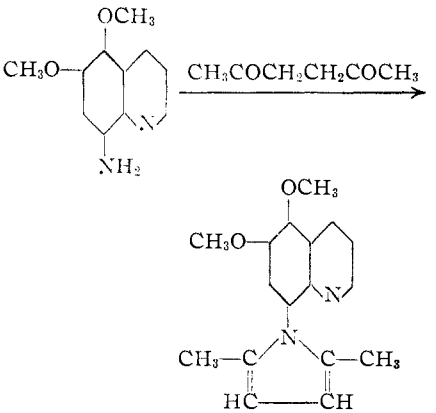
The activity of some 2,5-dimethyl-1-pyrryl derivatives in avian malaria[2] suggested an examination of 5,6-dimethoxy-8-(2,5-dimethyl-1-pyrryl)-quinoline which was prepared in accordance with the reaction shown.



Experimental

5,6-Dimethoxy-8-aminoquinoline was obtained in 96% yield by reduction of 5,6-dimethoxy-8-nitroquinoline with stannous chloride and concd. hydrochloric acid.[3]

A mixture of 14.5 g. (0.075 mole) of 5,6-dimethoxy-8-aminoquinoline, 12 g. (0.1 mole) of acetonylacetone, 3 drops of concd. hydrochloric acid, and 15 cc. of absolute ethanol was heated in an oil-bath at 120–130° for four and one-half hours. The mixture refluxed gently during the heating period. After cooling, the product was poured into a mixture of ether and water. Several ether extracts were combined and washed with water. After drying the ether solution over sodium sulfate, the ether was removed by distillation from a steam-bath. The residue was distilled to give 7 g. (33%) of a viscous liquid boiling at 188–192° (0.7 mm.).

Anal. Calcd. for $C_{17}H_{18}O_2N_2$: N, 9.93. Found: N, 10.20.

The **picrate of 5,6-dimethoxy-8-(2,5-dimethyl-1-pyrryl)-quinoline** melted, after recrystallization from ethanol, at 189–191°.

Anal. Calcd. for $C_{23}H_{21}O_9N_5$: N, 13.70. Found: N, 13.80.

The **picrate of 5,6-dimethoxy-8-aminoquinoline** melted, after recrystallization from ethanol, at 186–187°.

Anal. Calcd. for $C_{17}H_{15}O_9N_5$: N, 16.16. Found: N, 16.01. A mixed melting point determination of the picrates showed a depression.

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RECEIVED APRIL 5, 1946

(1) The work described in this paper was done under a contract, recommended by the Committee on Medical Research, between the Office of Scientific Research and Development and Iowa State College.

(2) Gilman, Stuckwisch and Nobis, THIS JOURNAL, **68**, 326 (1946).

(3) Elderfield, *et al.*, *ibid.*, **68**, 1584 (1946).