CATION EXCHANGE IN BETAINES.
NEW SYNTHESIS OF BISHETARYLMETHANES

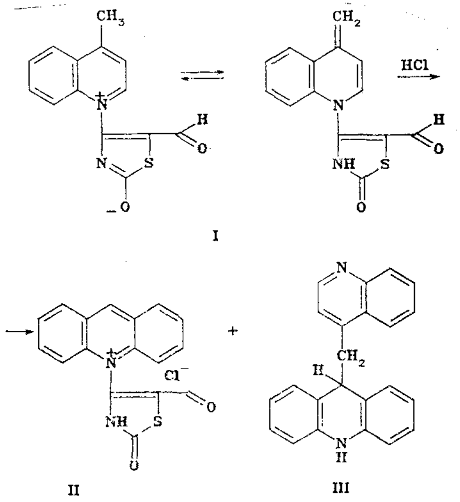
R. O. Kochkanyan, N. V. Spitsyn,
and S. N. Baranov

UDC 547.835.9.07

In [1] we described the ability of azole bentaines I, which contain a heteroaromatic cation, to exchange it in reactions with heterocyclic bases.

It was found that the replacement of the 4-methylquinolinium cation in I by acridine results in the formation not only of exchange product II, but also 9-acridanyl-4-quinolinylmethane (III) with a 42% yield [mp 223-224°C; PMR spectrum (CF_3COOH): 8.02 (14 H, m, arom.), 6.62 (1H, t), 5.82 ppm (2H, d, CH_2)].

In certain reactions [2, 3] the formation of the acridinylhetarylmethanes takes place under comparatively severe conditions (temperatures above 120°C, in the presence of oxidizing agents, viz., sulfur or oxygen), and compound III was suggested as an intermediate in [4]. On the basis of betaines this process takes place fairly rapidly at 25°C due to the greater ability of the methyl group in I to undergo deprotonation, which is caused, in contrast to the case of ordinary alkyl salts of quinolium, by the additional stabilization of the conjugate anion by the vinylformyl fragment:



LITERATURE CITED

1. R. O. Kochkanyan and N. V. Spitsyn, in: Proceedings of the Fourteenth Republic Conference on Organic Chemistry [in Russian], Odessa (1982), p. 133.
2. V. E. Posazhennikova, O. N. Chupakhin, and I. Ya. Postovskii, Khim. Geterotsikl. Soedin., No. 10, 1384 (1970).
3. O. N. Chupakhin, V. E. Kirichenko, and I. Ya. Postovskii, Khim. Geterotsikl. Soedin., No. 8, 1116 (1974).
4. V. E. Kirichenko and O. N. Chupakhin, Khim. Geterotsikl. Soedin., No. 5, 675 (1974).

Institute of Physical Organic Chemistry and Coal Chemistry, Academy of Sciences of the USSR, Donetsk 340114. Translated from Khimiya Geterotsiklicheskikh Soedinenii, No. 11, p. 1565, November, 1983. Original article submitted March 10, 1983.

0009-3122/83/1911-1248$07.50 © 1984 Plenum Publishing Corporation