The structures of the compounds prepared were confirmed by synthesis, and by IR spectroscopy.

The 3-vinylpyrazolines synthesized are capable of polymerization with free radical initiators (azodiisobutyronitrile), while pyrazolines III also undergo transfer polymerization, giving polymers containing pyrazoline units.

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Institute of Organic Chemistry, AS ArmSSR

NEW SYNTHESIS OF 2, 6'-DIQUINOLYL DERIVATIVES

A. K. Sheinkman, A. N. Kost, and A. N. Prilepskaya

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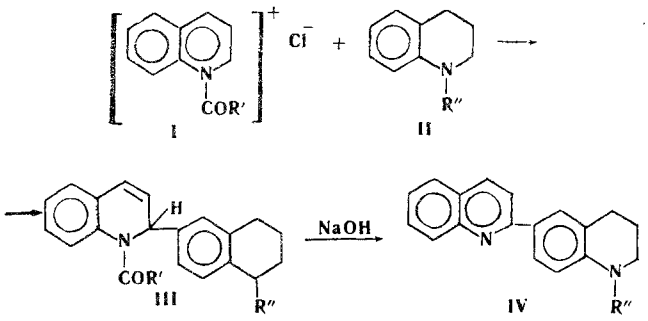
Existing methods of preparing 2, 6'-diquinolyl and its derivatives from 2-p-aminophenylquinoline are inconvenient because the starting compound is not readily available [1]. We offer a simple method of preparing partly reduced derivatives of 2, 6'-diquinolyl by reacting 1-acylquinolinium salts I with 1-alkyl-1, 2, 3, 4-tetrahydroquinolines II. The reaction proceeds smoothly without a catalyst at 100° C, taking a few hours, and gives high yields of 1-acyl-2-(1'-alkyl-1', 2', 3', 4'-tetrahydroquinolyl-6')-1, 2-dihydroquinolines III, readily converted by alkaline or acid hydrolysis to the corresponding 1-alkyl-6-(quinolyl-2')-1, 2, 3, 4-tetrahydroquinolines IV.



It was shown that in these reactions acylquinolinium salts I are much more active than the corresponding 1-acylpyridinium salts in the pyridylation which we previously described [2, 3], though here the process stops at the stage of formation of 2-substituted 1-acyl-1, 2-dihydroquinolines III. Heating together carefully dried quinoline, benzoyl chloride, and I, in the ratios 2:1:1, at 100° C for 5 hr gave the following:

1-Benzoyl-2-(1'-methyl-1', 2', 3', 4'-tetrahydroquinolyl-6')-1, 2-dihydroquinoline (III, R' = C_6H_5; R" = CH_3), yield 75%, mp 52°–53° C (ex petrol ether), R_f 0.045 (one spot on alumina using the solvent system benzene:hexane:$CHCl_3$ 6:1:30) (λ_{max} 270 mμ, ε 18560 in EtOH). Found: C 82.27; 82.31; H 6.92; 6.56; N 7.58; 7.31%, Calculated for $C_{26}H_{24}N_2O$: C 82.11; H 6.32; N 7.37%. Alkaline hydrolysis gave 1-methyl-6-(quinolyl-2')-1, 2, 3, 4-tetrahydroquinoline (IV, R = CH_3), yield 87.4%, mp 84°–85° C, R_f 0.62. Picrate mp 235°–236° C (ex EtOH). Found: N 13.61; 13.71%. Calculated for $C_{19}H_{18}N_2 \cdot C_6H_3N_3O_7$: N 13.91%.

1-Benzoyl-2-(1'-ethyl-1', 2', 3', 4'-tetrahydroquinolyl-6')-1, 2-dihydroquinoline (III, R' = C_6H_5, R" = C_2H_5), yield 82%, mp 58°–59° C, (ex petrol ether), R_f 0.47, λ_{max} 275 mμ, ε 18805. Found: C 82.23; 82.32; H 6.23; 6.55; N 7.42; 7.44%. Calculated for $C_{27}H_{26}N_2O$: C 82.23; H 6.59; N 7.11%. Alkaline hydrolysis gave 1-ethyl-6-(quinolyl-2')-1, 2, 3, 4-tetrahydroquinoline (IV, R" = C_2H_5), yield 91.1%, mp 70°–72° C (ex petrol ether), R_f 0.64. Picrate mp 188°–189° C (ex EtOH). Found: N 13.47; 13.39%. Calculated for $C_{20}H_{20}N_2 \cdot C_6H_3N_3O_7$: N 13.54%. The other III were prepared similarly (R" = C_3H_7, C_4H_9, $CH_2C_6H_5$), yields 45–60%.

The structures of all the compounds are confirmed by analogies between their IR and UV spectra, and those of 1-benzoyl-2-p-dialkylaminophenyl-1, 2-dihydroquinoline, of known structure.

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Donets Branch of the All-Union Scientific Research Institute for Chemical Reagents and Ultra-pure Chemical Substances

Lomonosov Moscow State University