SYNTHESIS OF PYRIDO[1,2-b]-[1,2,4]-TRIAZINIUM SALTS

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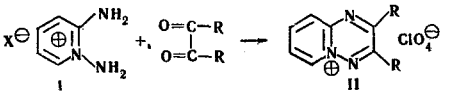
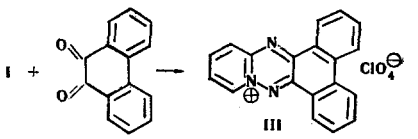
By the reaction of 1,2-diaminopyridinium salts (I) with 1,2-dicarbonyl compounds we have obtained representatives of the previously unknown heterocyclic system pyrido[1,2-b]-[1,2,4]-triazinium (II).



Thus, a mixture of 1.2 g of 1,2-diaminopyridinium iodide (I, X = I), 0.6 g of biacetyl, 2.3 ml of 30% $HClO_4$ and 12 ml of methanol after a day at room temperature formed 1.1 g (84%) of 2,3-dimethylpyrido-[1,2-b]-[1,2,4]-triazinium perchlorate (II, R = CH_3), mp 243-244°C. Found, %: C 41.90; H 4.27; Cl 13.96; N 16.20. Calculated for $C_9H_{10}ClN_3O_4$, %: C 41.63; H 3.88; Cl 13.65; N 16.18. The PMR spectrum had the signals of the four protons of the pyridine ring in the regions of 7.81 ppm (doublet), 8.46 ppm (triplet), and 9.65 ppm (doublet). Likewise, 1 g of the perchlorate of I and 0.9 g of benzyl in 10 ml of ethanol, after being boiled for 1 hr 30 min gave 1.2 g of II (R = C_6H_5), mp 249-250°C. Found, %: C 59.48; H 4.00; Cl 9.13; N 11.20. Calculated for $C_{19}H_{14}ClN_2O_4$, %: C 59.46; H 3.67; Cl 9.23; N 10.94. The product of the condensation of I with phenylglyoxal was obtained similarly; mp 302-304°C, elementary analysis agreeing with the calculated figures. The reaction takes place similarly with ortho-quinones. For example, phenanthrenequinone and I gave pyrido[1,2-b]phenanthro[9,10-e]-[1,2,4]-triazinium perchlorate (III), mp 350°C (decomp). Found, %: N 11.15, 11.35. Calculated for $C_{19}H_{12}ClN_3O_4$, %: N 11.01.



The IR spectra of compounds of types II and III lack the absorption bands corresponding to amino and imino groups.

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