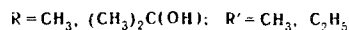
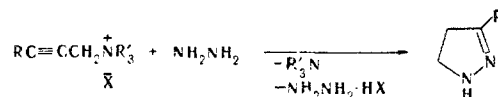


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UDC 547.722.2.07

We have found that 3-substituted Δ^2 -pyrazolines are formed when quaternary ammonium salts containing a propargyl ($RC\equiv CCH_2-$) grouping are heated with excess hydrazine or hydrazine hydrate; the reaction takes place at 100-110°C with the production of a trialkylamine and a hydrazine hydrohalide.



Thus 3-methyl- Δ^2 -pyrazoline [bp 47°C (11 mm), d_4^{20} 0.9566, and n_D^{20} 1.4761; picrate mp 150-151°C], which was identical to a genuine sample, was obtained in 50-60% yield when 2-butynyltriethylammonium bromide or 2-butynyltrimethylammonium chloride was heated with a threefold molar excess of hydrazine hydrate. 4-Methyl-4-hydroxy-2-pentynyltriethylammonium bromide gave 3-(α -methyl- α -hydroxyethyl)- Δ^2 -pyrazoline (in 55% yield) with bp 96-97°C (1.5 mm), d_4^{20} 1.0604, and n_D^{20} 1.4958. IR spectrum (thin layer): 1595 cm^{-1} ($C=N$). The results of elementary analysis were in good agreement with the calculated values.