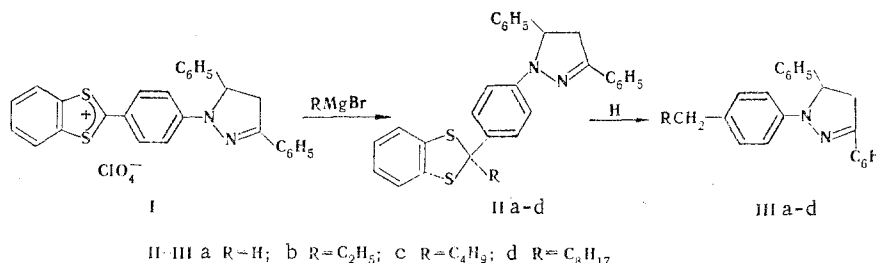


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We have previously described [1] dithiolium salts (I) of 1,3,5-triaryl-2-pyrazolines. These compounds have been found to be convenient intermediates in the synthesis of 1-(4-alkylphenyl)-3,5-diaryl-2-pyrazolines (IIIa-d). The overall scheme of the synthesis includes reaction of salt I with a Grignard reagent with subsequent reduction of the intermediate dithiols II with Raney nickel. The specificity of the reaction was confirmed by alternative synthesis of pyrazoline IIIa from p-methylphenylhydrazine and chalcone [2].



A 6-mmole sample of a freshly prepared Grignard reagent was added to a suspension of 2 g (3.6 mmole) of salt I in 100 ml of absolute ether, and the mixture was stirred at 30-35°C until violet salt I vanished completely and a persistent yellow coloration developed. The usual workup gave II, which, without purification, were reduced with Raney Ni (W-5, prepared from 30 g of Ni-Al alloy) in alcohol (100-150 ml) by refluxing until II vanished [monitored by TLC, Silufol UV-254, hexane-benzene (1:1)]. The resulting oil was chromatographed with a column filled with Al₂O₃ [elution with hexane-benzene (1:1)] and crystallized from methanol. The following compounds were obtained [compounds, melting points (°C), and yields (%) given]: IIIa, 163-165, 90; IIb, 101-102, 25; IIIc, 97-98, 15; IIId, 131-133, 21. Compounds IIIa-d have identical electronic absorption spectra [λ_{\max} ($\epsilon \cdot 10^{-3}$); 363 (17.0), 313 sh, 254 sh, and 245 nm (17.0)] and emission spectra ($\lambda_{\max}^{\text{fl}}$ 434 nm). IR spectrum: 1612-1617 cm⁻¹ (C=N). The compositions of the substances were confirmed by the results of elementary analysis.

The length of the hydrocarbon radical determines the stability of the vitreous state of IIIb-d in a thin layer; at a layer thickness of ~20 μm IIId at room temperature retains its state even after more than 6 months.

LITERATURE CITED

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