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Dithienylthiazines from Dithienylacetylenes

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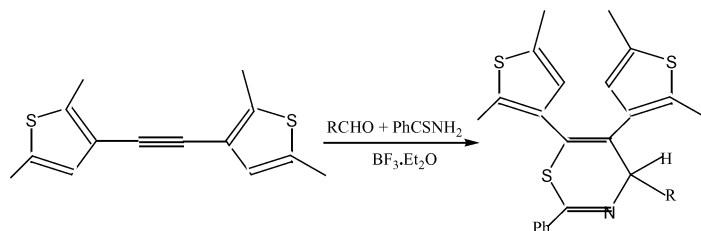
Dithienylthiazines from Dithienylacetylenes

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Recently we studied the Friedel–Crafts acylation of 2-methyl-, 2,4-, and 2,5-dimethylthiophenes with oxalyl chloride in the presence of AlCl_3 . The conditions were found to suppress the formation of some side products and to obtain target α -diketones in 50–60% yields. This was attained by adding pyridine or lowering the polarity of the medium because of the use of 1,2-dichloroethane–heptane mixtures as solvents. Dithienylethanediones were transformed to dihydrazones and the latter were readily oxidized by air in the presence of CuCl in pyridine solution to give corresponding dithienylacetylenes.¹ Now the cycloaddition of bis(2,5-dimethyl-3-thienyl)acetylene with thiobenzamide and hetarenecarbaldehydes catalyzed by BF_3 etherate has been shown to afford 4-substituted 5,6-bis(2,5-dimethyl-3-thienyl)-4*H*-1,3-thiazines ($\text{R} = 2\text{-thienyl}, 3\text{-thienyl}, 5\text{-methyl-2-thienyl}, 2,5\text{-dimethyl-3-thienyl}, 5\text{-methyl-2-furyl}$), which possess moderate photochromic properties.



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REFERENCE

- [1] L. I. Belen'kii, V. Z. Shirinian, G. P. Gromova, A. V. Kolotaev, Yu. A. Strelenko, S. N. Tandura, A. N. Shumskii, and M. M. Krayushkin, *Khim. Geterotsikl. Soed.*, 1785 (2003).