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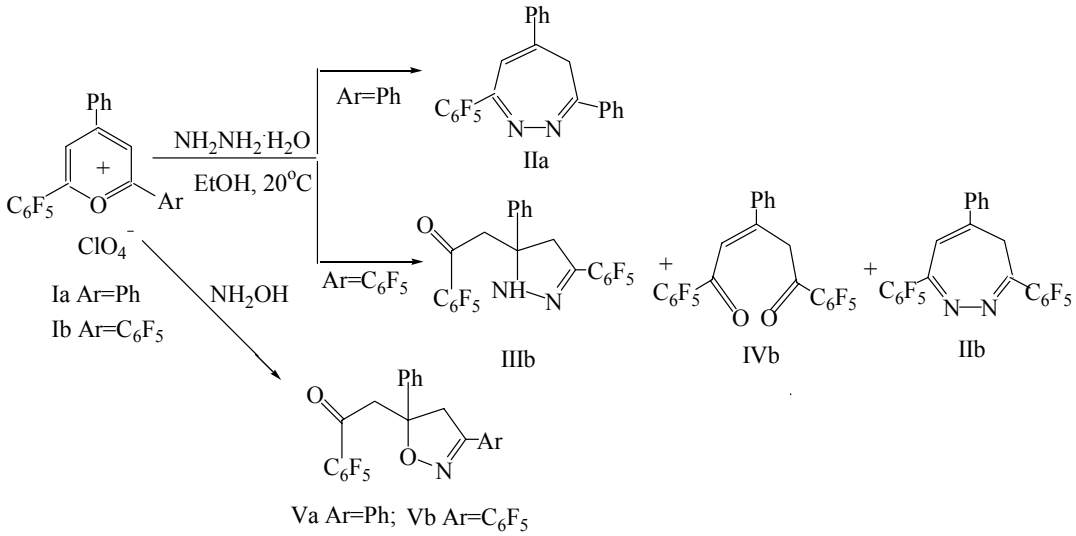
Reactions of Pentafluorophenylsubstituted Pyrylium Perchlorates with Hydrazine Hydrate and Hydroxylamine

Irina Yu. Kargapolova, Tatiana Yu. Kardash, Natalia A. Orlova

N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry,
Siberian Branch of the Russian Academy of Sciences,
Novosibirsk 630090, Lavrent'yeva prosp. 9, Russia
Fax: 8(383-2) 34-47-52
e-mail: vsh@nioch.nsc.ru

Pyrylium salts are widely used in syntheses of hardly available heterocyclic compounds, synthetic analogues of natural alkaloids, cyanine dyes. Pyrylium salts possessing one or two α-pentafluorophenyl groups were synthesized ealier in our Institute. We investigated the reaction of pyrylium perchlorates Ia,b with hydroxylamine and hydrazine hydrate.

2-Pentafluorophenyl-4,6-diphenylpyrylium perchlorate (Ia) reacts with hydrazine hydrate like unfluorinated analogue, forming 3,5-diphenyl-7-pentafluoro-phenyl-4H-1,2-diazepine (**IIa**). However, 2,6-di(pentafluorophenyl)-4-phenylpyrylium perchlorate (**Ib**) gives in the same conditions the mixture of 3-pentafluorophenyl-5-phenyl-5-pentafluorophenacyl-2-pyrazoline (**IIIb**) and 1,5-di(pentafluorophenyl)-3-phenyl-1,5-pentadione (**IVb**) with the traces of 3,7-di(pentafluorophenyl)-5-phenyl-4H-1,2-diazepine (**IIb**).



The reactions of pyrylium perchlorates **Ia,b** with hydroxylamine gave appropriate isoxazoles **Va,b**.