Synthesis and Structure of 1-*tert*-Butyl-Substituted 3(5)-Alkylpyrazoles from 2-Chlorovinyl Ketones

V. A. Kobelevskaya, L. I. Larina, A. V. Popov, E. V. Rudyakova, and G. G. Levkovskaya

Favorskii Irkutsk Institute of Chemistry, Siberian Branch, Russian Academy of Sciences,
ul. Favorskogo 1, Irkutsk, 664033 Russia
e-mail: ggl@irioch.irk.ru

Received June 17, 2014

Abstract—Reactions of alkyl, halomethyl 2-chlorovinyl ketones with *tert*-butylhydrazine in the presence of triethylamine afford unsymmetrical 1-(*tert*-butyl)-3- and -5-disubstituted pyrazoles. The reaction direction is governed by the ketone ability of the nucleophilic substitution of chlorine and of the dehydrochlorination leading to acetylene ketones. 2-Chlorovinyl ketones react with *tert*-butylhydrazine along two routes giving mixtures of 1-(*tert*-butyl)-3- and -5-alkylpyrazoles. The content of 3-alkyl-1-(*tert*-butyl)pyrazole in the formed isomers mixture grows up to 73% with growing length of the alkyl chain of the ketone and up to 87 and 94% at introducing halogen atom in the alkyl fragment of the chloroenone.

DOI: 10.1134/S1070428015020177