Intramolecular Cyclization of 4-Amino-3-alkylsulfanyl-1,2,4-triazoles as a Method for Annelation of Thiadiazine and Thiadiazole Rings

A. A. Kolodina and A. V. Lesin

Southern Federal University, ul. Zorge 7, Rostov-on-Don, 344090 Russia
e-mail: lexandra@inbox.ru

Received February 13, 2008

Abstract—4-Amino-5-(pyridin-4-yl)-4*H*-1,2,4-triazole-3-thiols reacted with N-substituted isatins to give 2-oxo-3-[5-(pyridin-4-yl)-3-sulfanyl-4*H*-1,2,4-triazole-4-ylimino]-2,3-dihydro-1*H*-indoles which were treated with phenacyl bromides to obtain the corresponding S-phenacyl derivatives. The latter underwent base-catalyzed intramolecular cyclization with formation of 6,7-dihydro-5*H*-1,2,4-triazolo[3,4-*b*][1,3,4]thiadiazines spiro-fused to 2-oxo-2,3-dihydro-1*H*-indole fragment at C^3. Analogous cyclization of 2,6-di-*tert*-butyl-4-[5-hetaryl-3-(2-aryl-2-oxoethylsulfanyl)-4*H*-1,2,4-triazole-4-ylimino]cyclohexa-2,5-dienones involved the imino nitrogen atom to produce the corresponding 6-aroyl-5-(3,5-di-*tert*-butyl-4-hydroxyphenyl)-3-hetaryl-[1,2,4]triazolo[3,4-*b*][1,3,4]thiadiazoles.

DOI: 10.1134/S1070428009010199