3rd EuroAsian Heterocyclic Meeting "Heterocycles in Organic and Combinatorial Chemistry" (EAHM-2004)
September 12-17, 2004, Novosibirsk, Russia
Poster Presentation

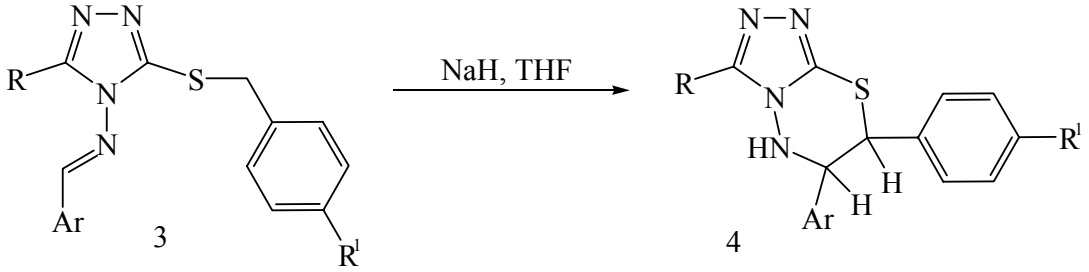
Synthesis of 6,7-Dihydro-1,2,4-triazolo[3,4-*b*] [1,3,4]Thiodiazines

Alexandra A. Kolodina, Alexander V. Lesin, Lev P. Olekhnovich

Department of Chemistry, Rostov State University
344090 Rostov-on-Don, Russian Federation
tel./fax: +7-8632-223958
e-mail: lesin@chimfak.rsu.ru

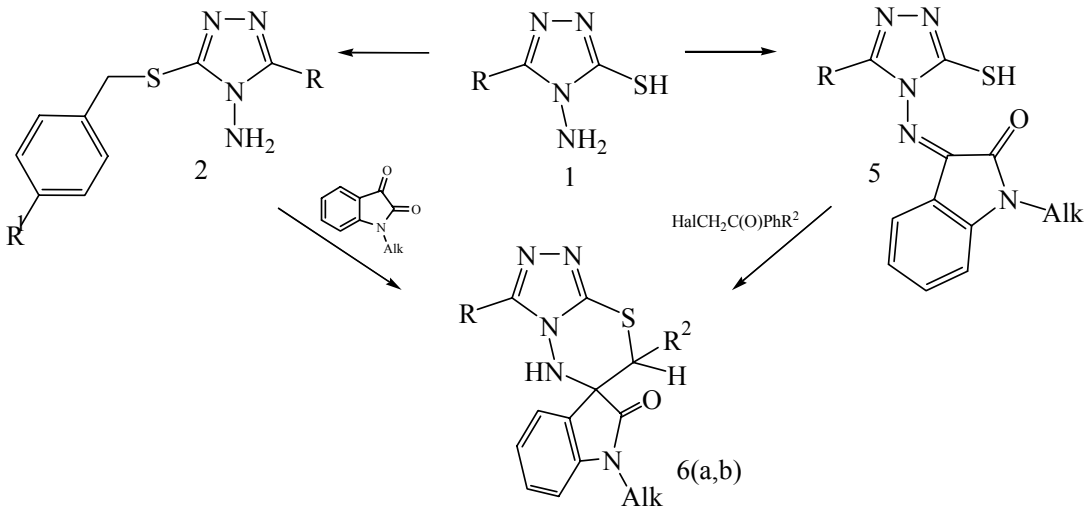
N-1,2,4-Triazolylimines with S-methylene active group in *ortho* position may undergo intramolecular cyclization leading to 6,7-dihydro-1,2,4-triazolo[3,4-*b*][1,3,4]thiodiazines. The formation of the latter occurs under the treatment of their acyclic precursors by strong base.

So the condensation of S-benzyl derivatives (**2**) 4-amino-3-thiol-5-R-1,2,4-triazoles (**1**) with aromatic aldehydes permits to obtain (**3**), the cyclization of which to (**4**) is realized under the treatment of NaH in THF.



R= Fu; Ph; 4-Py; 3-Py; Ar= p-(C_2H_5)NPh; p-BrPh; R^1= NO_2; H; Br

Reaction of (**2**) with alkylisatins in the presence of NaOH affords spiro-annelated 6,7-dihydro-1,2,4-triazolo[3,4-b][1,3,4]thiodiazines (**6a**). The alkylation of (**5**) with phenacyl halides in the presence of NaOH also leads to spiro compounds (**6b**).



6a: R^2= p-NO_2Ph; 6b: R^2= C(O)Ph; C(O)Ph-p-Br; Alk= CH_3; CH_2Ph