1,ω-Bis(4-amino-1,2,4-triazole-5(1H)-thion-3-ylsulfanyl)alkanes: Versatile precursors for novel bis(S-triazolo[3,4-b][1,3,4]thiadiazines) as well as novel bis(macro cyclic schiff bases)

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Abstract
Two synthetic routes were attempted for the synthesis of the novel bis(5,6-dihydro-S-triazolo[3,4-b]thiadiazines) 12a,b and 14. In the first route the bis(aminotriazoles) 4a,b were reacted with the appropriate α-halo ketones or α-halo esters to give the corresponding bis(S-triazolo[3,4-b]thiadiazines) 11a-d followed by reduction with NaBH₄. In the second route, the bis(Schiff bases) 13d were reacted with the appropriate α-halo esters in refluxing DMF containing TEA to give the target compound 14. Cyclocondensation of 4a,b with the appropriate bis(carbonyl) ethers 15a,b in refluxing acetic acid under high dilution conditions afforded the corresponding macrocyclic Schiff bases 16a-c. The latter underwent alkylation with the appropriate halo compounds to give the corresponding alkylated derivatives 17a-d.

Keywords: DMF, Cyclocondensation, underwent alkylation.