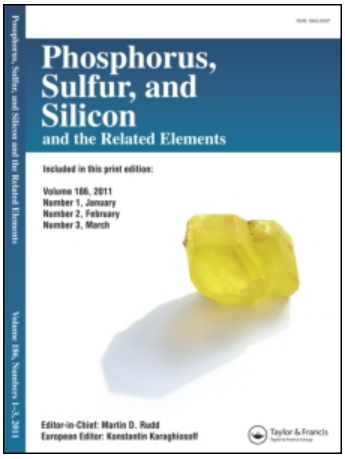

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SYNTHESES AND REACTIVITY OF SOME 1,2,4-THIADIAZOLOAZINES AND 1,2,4-THIADIAZOLOAZOLES

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SYNTHESES AND REACTIVITY OF SOME 1,2,4-THIADIAZOLOAZINES AND 1,2,4-THIADIAZOLOAZOLES

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Recently, we have prepared a number of N-ethoxycarbonyl-N'-(2-azinyl)thioureas, which could be cyclized by oxidation into derivatives of 1,2,4-thiadiazolo/2,3-a/azines.

It seemed worth-while to extend this reaction to polyfunctional derivatives of different five- and six-membered heterocyclic systems in order to study some substitution reactions, ring-openings and isomerizations.

For example, 4,6-diamino-2-methylthiopyrimidine (I) could be converted either into monocarbethoxythiourea (II) or biscarbethoxythiourea derivative. The monocarbethoxythiourea derivative II could be cyclized either to pyrimido/1,2-a/-1,3,5-triazine derivative III or 1,2,4-thiadiazolo/2,3-c/pyrimidine derivatives IV and V, dependent on the reaction conditions.

Compounds IV and V could be transformed by alkali into corresponding cyanamino derivatives VI and VII, while 2-ethoxycarbonylimino-8-carbethoxy-2H-1,2-4-thiadiazolo/2,3-a/pyridine was rearranged directly into pyrido/2,3-d/pyrimidine derivative IX.