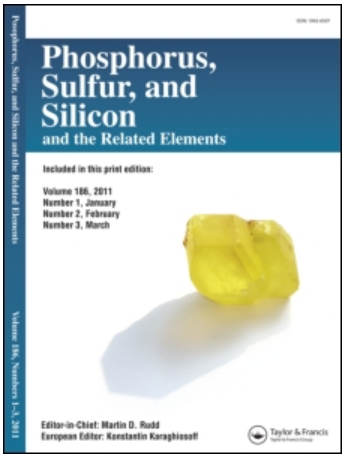

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NOVAL REARRANGEMENT OF 5-ARYLAZO-2-THIOHYANTOIN DERIVATIVES WITH ALKALI AND AROMATIC AMINES

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NOVEL REARRANGEMENT OF 5-ARYLAZO-2-THIOHYDANTOIN DERIVATIVES WITH ALKALI AND AROMATIC AMINES.

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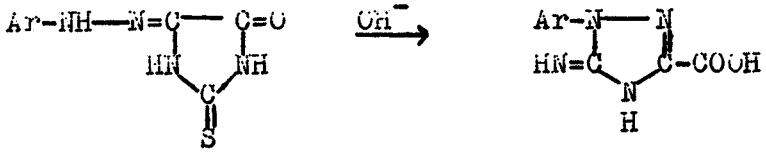
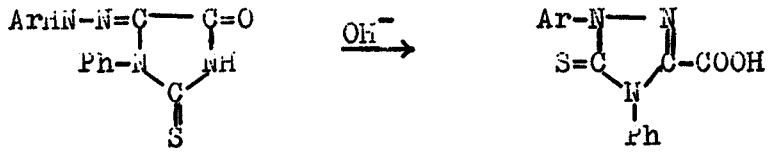
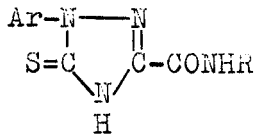
Treatment of 5-arylazo-2-thiohydantoins with aqueous sodium hydroxide affected hetero-ring opening followed by recyclization via the loss of hydrogen sulphide with the formation of 1-aryl-Δ^2-1,2,4-triazole-5-imino-3-carboxylic acids.



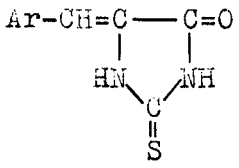
Hydrolysis of 5-arylazo-1-phenyl-2-thiohydantoins behaved in a different manner. The hetero-ring fission occurred with the formation of 1-aryl-4-phenyl-Δ^2-1,2,4-triazoline-5-thione-3-carboxylic acids. The presence of substituent at N-1 favoured the rearrangement which took place with the elimination of a molecule of ammonia faster than hydrogen sulphide.

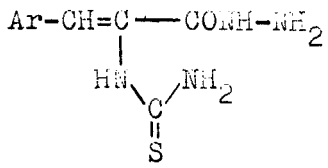


Fusing of 5-arylazo-2-thiohydantoins with aromatic amines at 140-150°C afforded the corresponding 1-aryl-Δ^2-1,2,4-triazoline-5-thione-3-carboxyanilide.



When the yellow 5-arylidene-2-thiohydantoins were treated with hydrazine hydrate in ethanol, colourless products of thioureido cinnamic hydrazides were obtained.





On treating 5-arylidene-2-methyl mercaptohydantoins with hydrazine hydrate in boiling acetic acid the corresponding hydrazones were obtained.