

1,3-DIPOLAR CYCLOADDITION OF 5-IMINO-1,2,4- AND
2-IMINO-1,3,4-THIADIAZOLINES WITH ACETYLENES AND NITRILES

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4-Aryl-3-arylimino-5-imino-1,2,4-thiadiazolidines, 5-imino-3,4-dimethyl- Δ^2 -thiadiazoline, and 4-aryl-2-benzoyl-5-imino- Δ^2 -1,3,4-thiadiazolines, which have the iminothiazoline moiety in common, reacted with dibenzoyl and dimethoxycarbonyl-acetylenes in a manner of 1,3-dipolar cycloaddition to give the corresponding 2-aminothiazoles and arylcyanamide, acetonitrile, and benzoyl cyanide, respectively.

It is assumed that the intermediate bicyclic compounds containing a tetravalent sulfur at the junction position is followed by elimination of substituted nitriles.

In the case of the reaction of 4-aryl-3-arylimino-5-imino-1,2,4-thiadiazolidines with arylcyanamides, phenyl cyanate, and imidates, the corresponding 1:1 adducts were obtained. The adducts were decomposed with bases into the corresponding 2-arylamino-1,3,5-thiadiazoles and arylcyanamides in high yields.