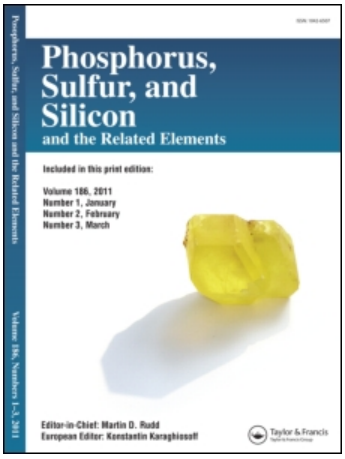


Phosphorus, Sulfur, and Silicon and the Related Elements
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713618290

CYCLOADDITION-ELIMINATION REACTIONS OF 4-ALKYL-5-ARYLIMINO-1,2,3,4-THIATRIAZOLINES

G. L'abbé[a]; A. Timmerman[a]; C. Martens[a]
[a] Department of Chemistry, University of Leuven, Belgium

To cite this Article L'abbé, G. , Timmerman, A. and Martens, C.(1979) 'CYCLOADDITION-ELIMINATION REACTIONS OF 4-ALKYL-5-ARYLIMINO-1,2,3,4-THIATRIAZOLINES', Phosphorus, Sulfur, and Silicon and the Related Elements, 6: 1, 185
To link to this Article: DOI: 10.1080/03086647908080366
URL: http://dx.doi.org/10.1080/03086647908080366

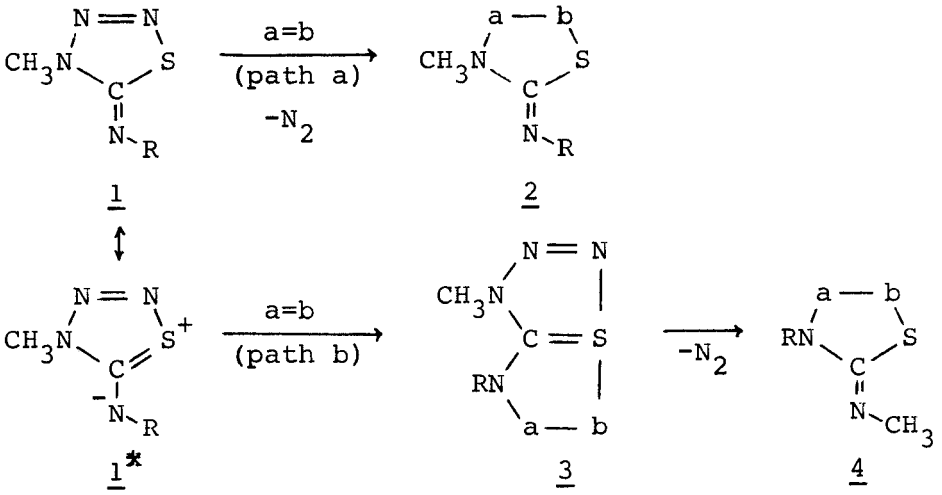
Phosphorus and Sulfur
1979, Vol. 6, p. 185

CYCLOADDITION-ELIMINATION REACTIONS OF 4-ALKYL-5-ARYLIMINO-1,2,3,4-THIATRIAZOLINES.

G. L'abbé, A. Timmerman, and C. Martens

Department of Chemistry, University of Leuven, Belgium.

In previous work, we have shown that 4-alkyl-5-arylsulfonylimino-1,2,3,4-thiatriazolines (1, R = $ArSO_2$) react with unsaturated compounds (a=b) at the decomposition temperature of 1 via the intermediacy of a thiaziridinimine or its open-chain 1,3-dipole. We have now found that the corresponding 5-aryliminothiatriazolines (1, R = Ar) already react with a=b components at room temperature and by a bimolecular mechanism. In some cases (i.e.



with isocyanates, carbodiimides and alkyl and aryl isothiocyanates) the cycloaddition-elimination reaction involves participation of the endocyclic nitrogen atom of the amidine moiety of 1. In other cases (i.e. with acylisothiocyanates and sulfenes), the reaction occurs on the exocyclic nitrogen atom of 1. Path b is interpretable in terms of a masked 1,3-dipole 1* and possibly also a thiapentalene 3 as intermediate or transition state. The isomerization of 4 into 2 will also be discussed.