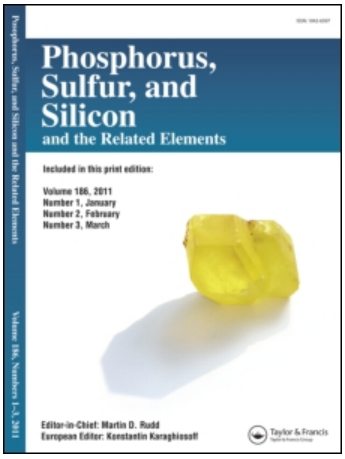


Phosphorus, Sulfur, and Silicon and the Related Elements

Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713618290

A New Synthesis of 2-Thiazolines: Pyrolysis of 3-Thioacyloxazolidin-5-Ones

R. Alan Aitken[a]; Steven D. McGill[a]
[a] School of Chemistry, University of St. Andrews, St. Andrews, UK

To cite this Article Aitken, R. Alan and McGill, Steven D.(2005) 'A New Synthesis of 2-Thiazolines: Pyrolysis of 3-Thioacyloxazolidin-5-Ones', Phosphorus, Sulfur, and Silicon and the Related Elements, 180: 5, 1519 — 1520
To link to this Article: DOI: 10.1080/10426500590913500
URL: http://dx.doi.org/10.1080/10426500590913500

Phosphorus, Sulfur, and Silicon, 180:1519–1520, 2005

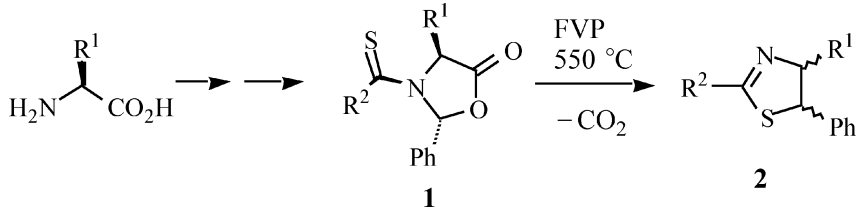
ISSN: 1042-6507 print / 1563-5325 online
DOI: 10.1080/10426500590913500

A New Synthesis of 2-Thiazolines: Pyrolysis of 3-Thioacyloxazolidin-5-Ones

R. Alan Aitken
Steven D. McGill
School of Chemistry, University of St. Andrews, St. Andrews, UK

Keywords Ozazolidinones; pyrolysis; thiazolines

In earlier work we showed that thermolysis of 1,3-dioxolan-4-ones resulted in loss of CO and formation of two carbonyl compounds.[1] In contrast to this, the 3-acyloxazolidin-5-ones were found to thermally eliminate CO_2 to give acylaziridines and, at higher temperatures, oxazolines.[2] We have now examined the corresponding thioacyl analogues **1**. The compounds are readily made from the acyl compounds and Lawesson's reagent and in two cases the structures have been confirmed by X-ray diffraction. Flash vacuum pyrolysis (FVP) at 550°C results in clean loss of CO_2 to give 5-phenyl-2-thiazolines **2** as shown.

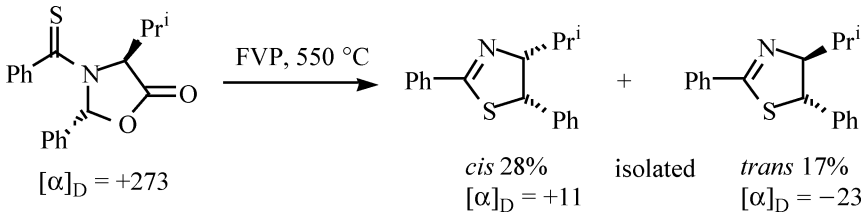


1 **2**

A specific example involving the oxazolidinone originally derived from *S*-valine is shown.

Because the starting materials are chiral, being made originally from amino acids, the stereochemistry of the products is of particular interest and the latest results on the diastereomeric ratio and enantiomeric excess of the thiazolines **2** will be presented.

Received July 9, 2004; accepted October 5, 2004.
Address correspondence to R. Alan Aitken, School of Chemistry, University of St. Andrews, North Haugh, St. Andrews, KY16 9ST, UK. E-mail: raa@st-and.ac.uk



REFERENCES

[1] R. A. Aitken and A. W. Thomas, *Synlett,* 102 (1998).
[2] R. A. Aitken and S. D. McGill, unpublished results presented in part at the 20th European Colloquium on Heterocyclic Chemistry, Stockholm, August 2002.