

This article was downloaded by:

On: 30 January 2011

Access details: *Access Details: Free Access*

Publisher *Taylor & Francis*

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## 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>

## Phosphinothricin as a Building Unit for Oligopeptides

Heinz Kehne

**To cite this Article** Kehne, Heinz(1987) 'Phosphinothricin as a Building Unit for Oligopeptides', *Phosphorus, Sulfur, and Silicon and the Related Elements*, 30: 3, 836

**To link to this Article:** DOI: 10.1080/03086648708079323

**URL:** <http://dx.doi.org/10.1080/03086648708079323>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

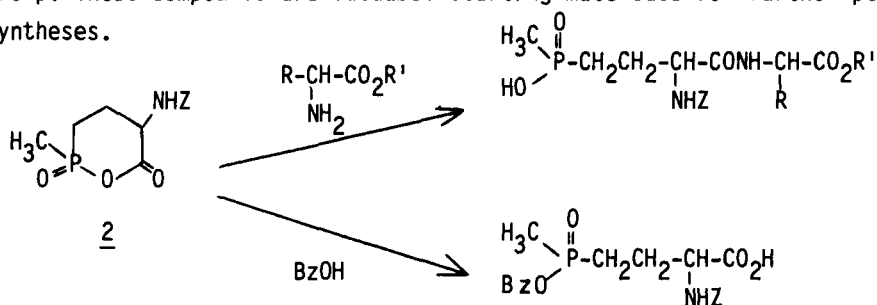
This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

## Phosphinothricin as a Building Unit for Oligopeptides

Heinz Kehne  
Hoechst AG  
6230 Frankfurt 80

Peptides with N-terminal homoalanin-4-yl(methyl)phosphinic acid (phosphinothricin, 1) can be synthesized by means of the carbodiimide method. Advantageously the carbobenzyloxy (Z-)group is used as amino protecting group, while protection of the phosphinic acid is not necessary. The key-step of this procedure is the intermediate formation of the cyclic phosphinic acid-carboxylic acid - anhydride 2, which is attacked by N-nucleophiles, such as amino acid esters, selectively at the carbonyl function. On the other hand, reaction of 2 with alcohols yields phosphinothricin-P-esters with a free carboxylic group. These compounds are valuable starting materials for further peptide syntheses.



Dipeptides with C-terminal phosphinothricin are available by the active ester method (N-hydroxysuccinimide). Using this procedure, no protection of the phosphinic- and the carboxylic moiety is necessary.

