

This article was downloaded by:

On: 29 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>

### Reactions of $\beta$ -Ketophosphonates and Enamine Phosphonates with Electrophilic Reagents

B. A. Arbuzov<sup>a</sup>; N. A. Polezhaeva<sup>a</sup>; V. G. Sakhibullina<sup>a</sup>; D. N. Bagautdinova<sup>a</sup>; A. M. Butlerov<sup>a</sup>

<sup>a</sup> Chemical Research Institute of Kazan State University, Kazan, USSR

**To cite this Article** Arbuzov, B. A. , Polezhaeva, N. A. , Sakhibullina, V. G. , Bagautdinova, D. N. and Butlerov, A. M.(1990) 'Reactions of  $\beta$ -Ketophosphonates and Enamine Phosphonates with Electrophilic Reagents', Phosphorus, Sulfur, and Silicon and the Related Elements, 51: 1, 296

**To link to this Article:** DOI: 10.1080/10426509008040830

**URL:** <http://dx.doi.org/10.1080/10426509008040830>

PLEASE SCROLL DOWN FOR ARTICLE

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

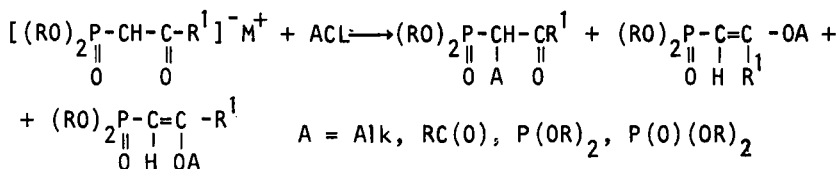
This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

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.

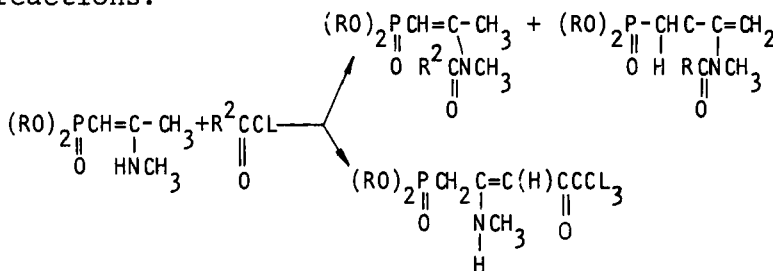
## REACTIONS OF $\beta$ -KETOPHOSPHONATES AND ENAMINE PHOSPHONATES WITH ELECTROPHILIC REAGENTS

B.A.ARBUZOV, N.A.POLEZHAEVA, V.G.SAKHIBULLINA, and  
 D.N.BAGAUTDINOVA  
 A.M.Butlerov Chemical Research Institute of Kazan  
 State University, Lenin Str. 18, Kazan 420008, USSR

The direction of the reactions of  $\beta$ -ketophosphonates and enamine phosphonates strongly depends on the structure of substrates and electrophiles. Regio- and stereoselectivity on the reaction of anionic  $\beta$ -ketophosphonates depends on the nature of cation and solvent. The yield of O-products increases substantially when going from alkylation to acylation, and in particular to phosphorylation.



It was found that enamine phosphonates interact with acyl halides at N- and  $\gamma$ -C nucleophilic centers. Electronic and structural factors control the regioselectivity of the reactions.



The reaction of acylisocyanates with enamine phosphonates results in formation of two types of products.

