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

(α -Phosphoryl Carbanions. Searching of Course of Wittig-Horner Reaction by ^{31}P Low Temperature NMR

S. Grzejszczak^a; M. Mikolajczyk^a; A. Zatorski^a

^a Centre of Molecular and Macromolecular Studies, Polish Academy of Sciences, Department of Organic Sulphur Compounds, Łodz, Boczna, Poland

To cite this Article Grzejszczak, S. , Mikolajczyk, M. and Zatorski, A.(1987) '(α -Phosphoryl Carbanions. Searching of Course of Wittig-Horner Reaction by ^{31}P Low Temperature NMR', Phosphorus, Sulfur, and Silicon and the Related Elements, 30: 3, 748

To link to this Article: DOI: 10.1080/03086648708079242 URL: http://dx.doi.org/10.1080/03086648708079242

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.

α-Phosphoryl Carbanions. Searching of Course of Wittig-Horner Reaction by ³¹P Low Temperature NMR

S.Grzejszczak, M.Mikolajczyk and A.Zatorski*

Centre of Molecular and Macromolecular Studies, Polish Academy of Sciences, Department of Organic Sulphur Compounds, 90-362 Lodz, Boczna 5, Poland

Continuing our studies on utilization of the Wittig-Horner reaction in organic synthesis, we have examined reactivity of α -lithium derivatives of several phosphonates towards carbonyl compounds, by ^{31}P NMR at low temperature (from -100°C to r.t.). The chemical shifts δ [ppm] of a few representative phosphonates (1), carbanions (2) and betains (3) will be given.

$$(EtO)_{2}P(O)CHR^{1}R^{2} \xrightarrow{A1k-Li} (EtO)_{2}P(O)\overline{CR}^{1}R^{2} + R^{3}R^{4}C=O \xrightarrow{k_{1}} \frac{2}{k_{2}}$$

$$(EtO)_{2}P(O)CR^{1}R^{2} \xrightarrow{k_{3}} (EtO)_{2}P(O)\overline{O} + R^{1}R^{2}C=CR^{3}R^{4}$$

$$(EtO)_{2}P(O)CR^{1}R^{2} \xrightarrow{k_{3}} (EtO)_{2}P(O)\overline{O} + R^{1}R^{2}C=CR^{3}R^{4}$$

The stability of betains (3) will be discussed in view of the experimental data obtained.