

This article was downloaded by:

On: 28 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>

Metal-Rich Phosphanediyl-and Arsanediyl-Clusters

Klaus Merz^a; Stefan Martin^a; Vassili Pintchouk^a; Hans Pritzkow^a; Matthias Driess^a

^a Chair of Inorganic Chemistry I, University Bochum, Bochum, Germany

To cite this Article Merz, Klaus , Martin, Stefan , Pintchouk, Vassili , Pritzkow, Hans and Driess, Matthias(1999) 'Metal-Rich Phosphanediyl-and Arsanediyl-Clusters', *Phosphorus, Sulfur, and Silicon and the Related Elements*, 147: 1, 259

To link to this Article: DOI: 10.1080/10426509908053610

URL: <http://dx.doi.org/10.1080/10426509908053610>

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.

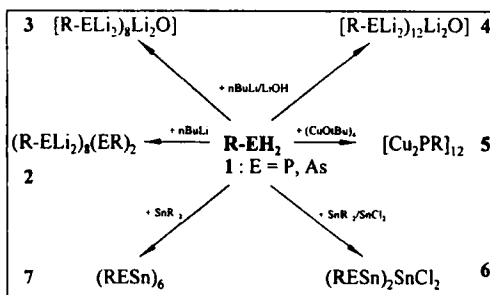
The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any 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.

Metal-Rich Phosphanediyl-and Arsanediyl-Clusters

KLAUS MERZ, STEFAN MARTIN, VASSILI PINTCHOUK,
 HANS PRITZKOW and MATTHIAS DRIESS*

Chair of Inorganic Chemistry I, University Bochum, D-44801 Bochum, Germany

The reactions of primary silylphosphanes and -arsanes **1** with BuLi yield the three-dimensional M_2ER -aggregates **2** ($E = P, As$). We observed that the double lithiation of **1** in the presence of Li_2O results in the formation of the aggregates **3** and **4**. The cavities of these compounds are filled with an octahedral $[Li_6O]^{4+}$ core.



A neutral copper phosphanediyl cluster with no additional terminal donor ligands on the copper was prepared in the synthesis of **5**. Furthermore, the unusual tin phosphanediyl clusters **6** and **7** were the result of Brönstedt acid-base reactions starting from Lappert's stannanediyl

derivative and silylphosphane. The crystal structure of **6** can be described as a complex of the Sn_2P_2 -framework with $SnCl_2$ as donor-acceptor pair.

References

- [1] M. Driess, H. Pritzkow, S. Martin, S. Rell, D. Fenske and G. Baum. *Angew. Chem. Int. Ed. Engl.* 35 (1996) 986.
- [2] M. Driess, S. Martin, K. Merz, V. Pintchouk, H. Pritzkow, H. Grützmacher and M. Kaupp, *Angew. Chem. Int. Ed. Engl.* 36 (1997) 1894.

* driess@ibm.anch.ruhr-uni-bochum.de