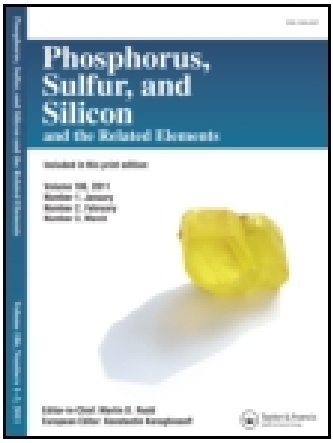


Phosphorus, Sulfur, and Silicon and the Related Elements
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/gpss20

Synthesis of Hexaisopropyltriamidephosphite: Myth or Reality?

Anatoliy P. Marchenko [a], Georgyi N. Koidan, Yurii M. Pustovit [a], Mark I. Povolotskii [a], Aleksandr N. Chernega [a] & Aleksandr M. Pinchuk [a]

[a] Institute of Organic Chemistry National Academy of Sciences of Ukraine, Murmanska Str. 5, Kyiv, 02094, Ukraine

Published online: 20 Jun 2008.

To cite this article: Anatoliy P. Marchenko, Georgyi N. Koidan, Yurii M. Pustovit, Mark I. Povolotskii, Aleksandr N. Chernega & Aleksandr M. Pinchuk (2008) Synthesis of Hexaisopropyltriamidephosphite: Myth or Reality?, Phosphorus, Sulfur, and Silicon and the Related Elements, 183:2-3, 797-798, DOI: 10.1080/10426500701808184

To link to this article: http://dx.doi.org/10.1080/10426500701808184

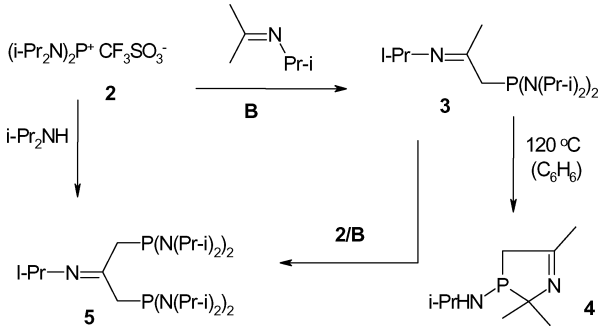
Phosphorus, Sulfur, and Silicon, 183:797–798, 2008

ISSN: 1042-6507 print / 1563-5325 online
DOI: 10.1080/10426500701808184

Synthesis of Hexaisopropyltriamidephosphite: Myth or Reality?

Anatoliy P. Marchenko, Georgyi N. Koidan, Yurii M. Pustovit, Mark I. Povolotskii, Aleksandr N. Chernega, and Aleksandr M. Pinchuk
Institute of Organic Chemistry National Academy of Sciences of Ukraine, Murmanska Str. 5, Kyiv, 02094 Ukraine

Results of our work allowed us to assert that the methods for synthesis of triamide (i-$Pr_2N)_3P$ **1** described are wrong.[1–4] It was shown that diamidohalogenphosphites (i-$Pr_2N)_2PHlg$ (Hlg = Cl,Br,I) do not react with di(isopropyl)amine even under harsh conditions such as heating up to 240°C in various solvents. At the same time, less sterically hindered phosphenium cation **2** easily react with di(isopropyl)amine, affording diphosphine **5** instead of the expected triamide **1**. The diphosphine **5** is also formed in the reaction of the phosphenium cation **2** with ketimine i-PrN = CMe_2, with the reaction running via formation of monophosphine **3**.



In conclusion we must note that an approach to triamide **1** has to be found yet.

Address correspondence to Georgyi N. Koidan, Institute of Organic Chemistry National Academy of Sciences of Ukraine, Murmanska Str.5, Kyiv, 02094 Ukraine.

REFERENCES

[1] A. Michaelis, *Lieb. Ann.,* **326,** 129 (1903).
[2] E. E. Nifantyev, S. V. Suvorkin, and E. N. Rasadkina, *Zhur. Obshch. Khimii*, **72,** 1263 (2002).
[3] H. Hund, R.-D. Hund, S. Has, et al., *Phosphorus, Sulfur and Silicon*, **111,** P. 193 (1996).
[4] A. D. Sinitsa, et al., *Zhur. Obshch. Khimii*, **67,** 67 (1997).