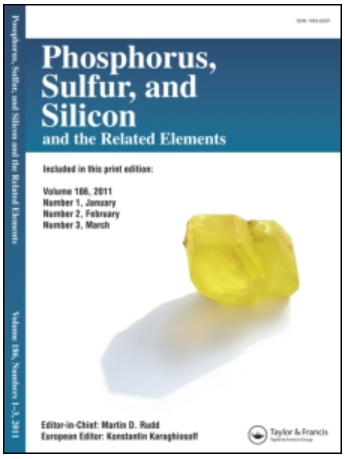

Phosphorus, Sulfur, and Silicon and the Related Elements
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713618290

Synthesis of New Bicyclic Phosphoranes by Cycloaddition Reactions

L. A. Burnaeva[a]; I. S. Dokuchaeva[a]; I. V. Konovalova[a]; A. N. Pudovik[a]
[a] Department of Chemistry, V.I. Ul'yanov-Lenin Kazan State University, Kazan, USSR

To cite this Article Burnaeva, L. A. , Dokuchaeva, I. S. , Konovalova, I. V. and Pudovik, A. N.(1990) 'Synthesis of New Bicyclic Phosphoranes by Cycloaddition Reactions', Phosphorus, Sulfur, and Silicon and the Related Elements, 51: 1, 333
To link to this Article: DOI: 10.1080/10426509008040864
URL: http://dx.doi.org/10.1080/10426509008040864

Phosphorus, Sulfur, and Silicon, 1990, Vols. 51/52, p. 333
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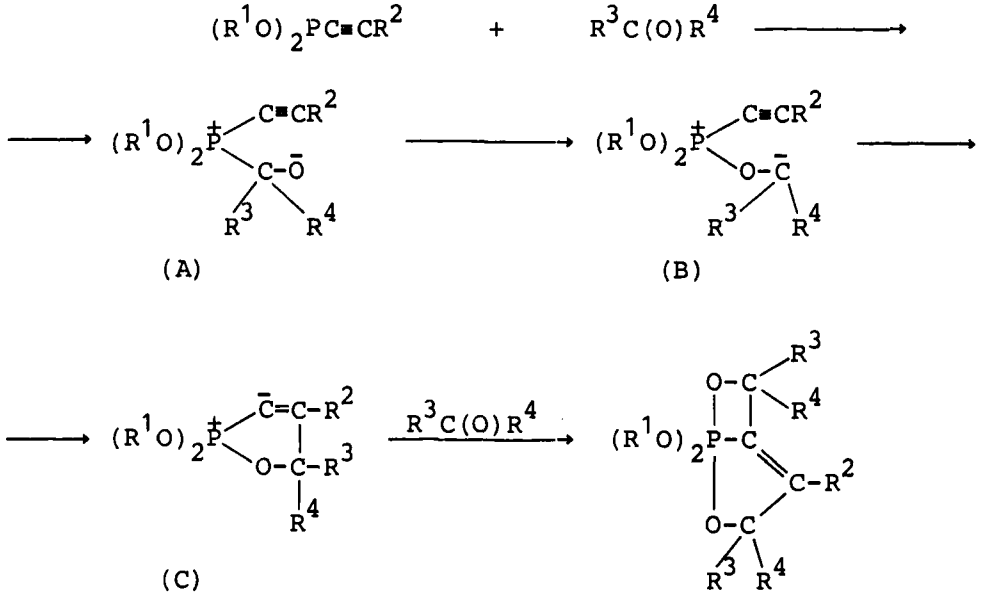
L.A.BURNAEVA, I.S.DOKUCHAEVA, I.V.KONOVALOVA, and A.N.PUDOVIK
V.I.Ul'yanov-Lenin Kazan State University, Department of Chemistry, Kazan 420008, USSR

Dialkyl alkynylphosphonites (I) react with nitrile of trimethylpyruvic acid, and esters of trifluoropyruvic and mesoxalic acids in boiling benzene to form new bicyclic phosphoranes. The reaction proceeds according to the scheme including the formation of bipolar ions (A) and (B), and ylide (C). Addition of the second molecule of carbonyl compound leads to (I).



I

Compounds (I) are crystalline, their structure was determined by infra-red, ^{31}P, and ^{1}H NMR spectroscopy as well as by x-ray structure analysis.