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## 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>

### The Phosphorylated Enamines

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**To cite this Article** Kozlov, V. A. , Chuzusova, S. G. , Grapov, A. F. and Melnikov, N. N.(1987) 'The Phosphorylated Enamines', *Phosphorus, Sulfur, and Silicon and the Related Elements*, 30: 3, 696

**To link to this Article:** DOI: 10.1080/03086648708079190

**URL:** <http://dx.doi.org/10.1080/03086648708079190>

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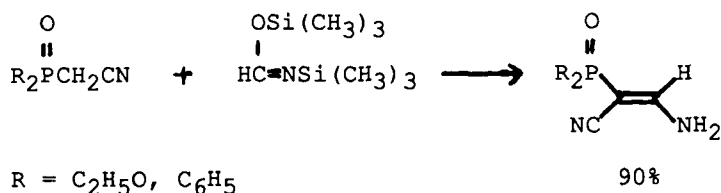
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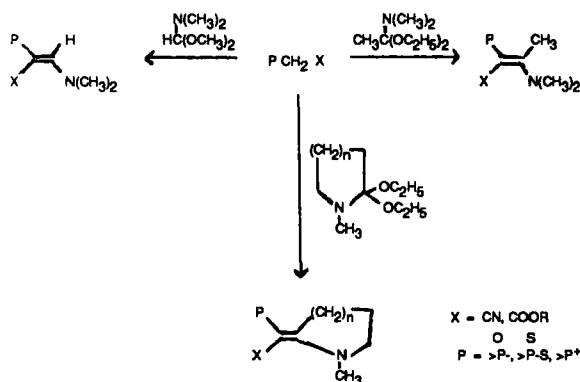
## THE PHOSPHORYLATED ENAMINES

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The primary phosphorylated enamines were obtained by aminomethylenation of the phosphorus-containing CH-acids with bis-silylformamide.



Like organic CH-acids, the activated methylenedi-thiophosphates and -phosphonates are able to condense with acetals of amides and lactams.



The structure of the produced phosphorylated enamines was investigated by the spectral methods. It was depicted, that Z,E-isomerization about C=C-bond and the amide rotation were observed for these compounds. The -alkylsubstituted-β-phosphorylated enamines exist in the solution and in the crystal state in the twisted conformation.