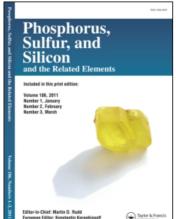
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## Phosphorus, Sulfur, and Silicon and the Related Elements

Publication details, including instructions for authors and subscription information: <a href="http://www.informaworld.com/smpp/title~content=t713618290">http://www.informaworld.com/smpp/title~content=t713618290</a>

## Study of Tautomerism in Some $\beta$ -Keto Phosphoryl Prototropic Pentad Systems

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To cite this Article Aladsheva, I. M. , Leont'eva, I. V. , Petrovskii, P. V. , Mastryukova, T. A. and Kabachnik, M. I.(1987) 'Study of Tautomerism in Some  $\beta$ -Keto Phosphoryl Prototropic Pentad Systems', Phosphorus, Sulfur, and Silicon and the Related Elements, 30: 3, 753

To link to this Article: DOI: 10.1080/03086648708079245 URL: http://dx.doi.org/10.1080/03086648708079245

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## Study of Tautomerism in Some β-Keto Phosphoryl Prototropic Pentad Systems

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By the reaction of phosphoryl substituted acylmethylenetriphenylphosphoranes (I,II) with hydrogen halides prototropic pentad tautomeric systems (III,IV) have been obtained.

The solid acetyl derivative (III, X=Cl) has been found to exist in the enolic form (B) while benzoyl derivative (IV, X=Cl, Br) has the hydroxy-ylide structure (C). In solutions there is an equilibrium of three forms: phosphoryl CH form (A), enolic COH form (B) and hydroxy-ylide form (C). The equilibrium position depends on the nature of substituent R, anion and solvent.

Tautomeric transformations in analogous thiophosphoryl systems have also been studied.

The methylation of phosphoranes I and II and that of their thioanalogues has been found to proceed in two directions: at the oxygen atom of C=0 group and at the oxygen atom of P=0 ( or the sulfur atom of P=S) group; the P=0 and P=S methylation products being undergone an intramolecular Wittig reaction.