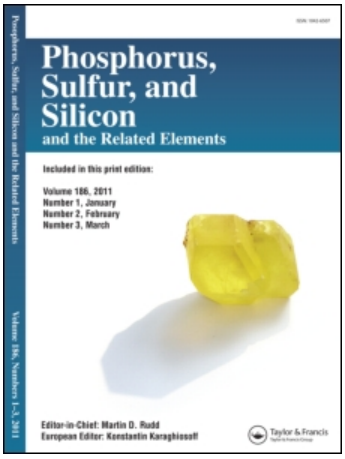

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Synthesis and Tautomerism of 1,3,2-Azathiaphosphacyclanes

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SYNTHESIS AND TAUTOMERISM OF 1,3,2-AZATHIAPHOSPHACYCLANES

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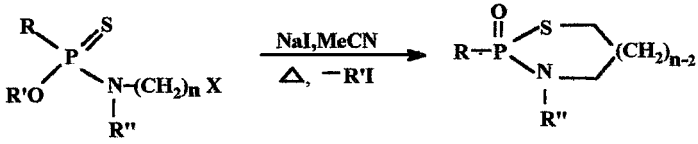
1,3,2-Azathiaphosphacyclanes were prepared by intramolecular alkylation of N-(ω-haloalkyl)amidophosphates and phosphonates.

Keywords: 1,3,2-Azatiaphosphacyclanes; ring-chain tautomerism

The facile synthetic route to 6- and 7-membered 1,3,2-azatiaphosphacyclanes **1** was elaborated on the base of intramolecular S-alkylation in N-(ω-haloalkyl)amidophosphates and phosphonates **2** under heating with NaI in MeCN solution. The compounds **1** were prepared with 90–95% yields.



2 **1**

R=Alkyl, AlkylO; n=3,4; X=Cl,Br; R''= Bu,Ph

SCHEME 1

In the case of diphenylthiophosphoryl derivate **3** (n = 3) the cyclic phosphonium salt **4** was obtained. The tautomeric equilibrium between cyclic salt **4** and acyclic form **3** was found.

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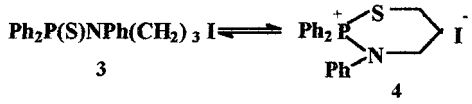

SCHEME 2

The equilibrium position depends both on the solvent nature and temperature.