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

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## New Directions in the Reactions of Heterosubstituted Carbcations with Phosphites

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NEW DIRECTIONS IN THE REACTIONS OF HETEROSUBSTITUTED CARBCATIONS WITH PHOSPHITES

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A restriction of the Arbuzov reaction for the interaction of alkylchlorides with trialkylphosphites was found. A different way of reaction leading to realkylation was observed for some amidonium compounds of chloroderivatives of ternary amides and lactams capable to self O-alkylation. The way is preferably realized for phosphites with increased electrophility of  $\alpha$ -carbon ethers (1).

RC1 + 
$$(R'O)_3P \longrightarrow ROP(OR')_2 + R'C1$$
  
R =  $(CH_2)n N \circlearrowleft ; n = 2, 3; (CH_2)_4 \stackrel{CNR"}{O}; R', R" = Alk$ 

A new reaction was also observed for di- and trialkylphosphites reacting with phosphorylsubstituted carbonic cations obtained from  $\alpha$ -heterosubstituted phosphonates. The reaction proceeds with disruption of respective phosphonates and results in the replacement of the phosphoryl and alcoxygroups by a phosphoryl group (2).

$$R, R', R'' = Alk; X = NMe_2, OEt$$

Eto P-CHNMe<sub>2</sub> + (Eto)<sub>3</sub>P 
$$\longrightarrow$$
 RP(OEt)<sub>2</sub> + (Eto)<sub>2</sub>PCH<sub>2</sub>NMe<sub>2</sub> + C<sub>2</sub>H<sub>4</sub>

$$R = \text{Eto, Ph}$$

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- (2) V.V.Moskva, V.U.Mavrin, Zn. Obshch. Khim. <u>58</u>, 1667-1670, (1988).