REACTION OF ESTERS OF PHOSPHORUS SELENOACIDS WITH SULFURYL CHLORIDE

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In contrast to the data given in [1], we found that the esters of phosphorus selenoacids react with SO_2Cl_2 to give the chloroselenylphosphonium salts A, and not the phosphorylated selenyl chlorides B

$$\begin{array}{c}
R \\
R^{1}
\end{array}
P \xrightarrow{\text{Se}} + \text{SO}_{2}\text{Cl}_{2} - \left[\begin{array}{c}
R \\
R^{1}
\end{array}
P \xrightarrow{\text{SeCl}} \right]^{+}\text{Cl}^{-} + \text{SO}_{2}$$

$$A \\
A \\
C \\
R^{1}$$

$$A \xrightarrow{\text{SeCl}} + \text{SO}_{2} + \text{EtCl}$$

In the case of (I, R = R¹ = C_6H_5O) and (II, R = C_6H_5O), R¹ = C_2H_5O) we obtained crystalline compounds with mp 38-39 and 33-34°, with the corresponding $\delta_{31p}-31$ ppm for (IA) and -34 ppm for (IIA) relative to 85% H_3PO_4 . The elemental analysis for P, C, and H corresponds to compounds (IA)-(IIA). The obtained compounds are soluble in CHCl₃ and CH₂Cl₂, and insoluble in ether and toluene. The reaction of (III, R = R¹ = OC_2H_5) with SO_2Cl_2 gives (IIIa) ($\delta_{31p}-40$ ppm at -20°), which is unstable and decomposes in the solvent medium at 20° to give (C_2H_5O)₂P(O)Cl ($\delta_{31p}-3$ ppm), C_2H_5Cl , and selenium.

LITERATURE CITED

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