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Advances in Chalcogene Glycerophosphate Chemistry

D. A. Predvoditelev^a; E. E. Nibantyev^a; V. I. Lenin^a

^a Moscow State Pedagogical Institute, Moscow, USSR

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ADVANCES IN CHALCOGENE GLYCEROPHOSPHATE CHEMISTRY

D.A.PREDVODITELEV and E.E.NIFANTYEV
V.I.Lenin Moscow State Pedagogical Institute, Malaya
Pirogovskaya 1, Moscow 119882, USSR

Achievements in the chemistry of trivalent phosphorus and phosphocyclic compounds find wide application in the synthesis of natural compounds. This paper provides fresh data on the possible use of these substances for the production of glycerophospholipids as well as their thio- and seleno-analogues. Thiol- and selenoanalogues of phosphatidylhomocholine were obtained by a convenient thion-thiol/selenone-selenole isomerization of triester glycerophosphates in the presence of phosphonium salts as catalysts.

Earlier unknown selenonephosphatidylhomocholines and -phosphatidic acids were also synthesized. Phosphatidylcholine amidophosphate analogues were obtained by trymethylamine and halide alkylation.

$$\begin{bmatrix}
0 & CMe_{2} & NMe_{3} \\
0 & CMe_{2} & VMe_{3} \\
0$$

The way of the synthesis proposed here is convenient for the production of diol phospholipids like

$$\begin{array}{c|c}
 & \text{O} \\
 & \text{POPh} \\
 & \text{Z} & \text{[H]}
\end{array}$$

$$\begin{array}{c}
 & \text{RCOOCH}_2\text{CH}_2\text{CH}_2\text{OP} \text{(OH)}_2\\
 & \text{X}
\end{array}$$