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Phosphorus, Sulfur, and Silicon and the Related Elements

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713618290>

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To cite this Article Bauschke, E. and Meisel, M.(1990) 'Chlorophosphatebetaines as Phosphorylating Agents in Nucleotide Synthesis', *Phosphorus, Sulfur, and Silicon and the Related Elements*, 51: 1, 372

To link to this Article: DOI: 10.1080/10426509008040899

URL: <http://dx.doi.org/10.1080/10426509008040899>

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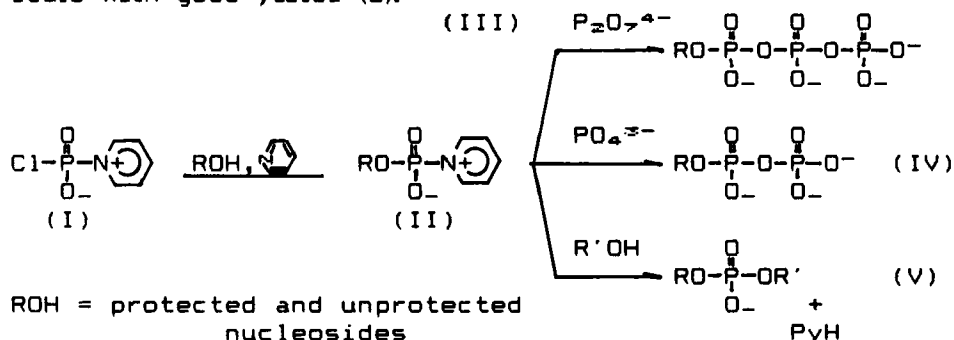
CHLOROPHOSPHATEBETAINES AS PHOSPHORYLATING AGENTS IN NUCLEOTIDE SYNTHESIS

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The Chlorophosphatebetaine (I), synthesized 1981 by Meisel and Wolf (1), was applied in one-bottle approach for synthesis of nucleoside di- and triphosphates or dinucleotides in μmol -scale with good yields (2).



The reactivity of P-Cl- and P-N^+ -bond to OH-groups of nucleosides was studied.

(I) reacts with 2',3'-isopropylideneuridine in absolute pyridine to (II), which is indicated in the ^{31}P -NMR by a triplet signal of 4.7 ppm upfield with $J = 7$ Hz. The P-Cl -bond in (I) reacts like POCl_3 with primary OH-groups in 3'-acetylthymidine about thirty times faster than with the secondary OH-groups in 5'-tritylthymidine. (II) reacts fastly with nucleophilic reagents $\text{P}_2\text{O}_7^{4-}$, HPO_4^{2-} or R'OH in excess in the same solvent to give the products (III), (IV), (V).

Results obtained with a dithioderivate (3) of betaine (I) will be included in the discussion.

(1) G. U. Wolf, M. Meisel, Z. Chem. **22** (2), 54 (1982).

(2) E. Bauschke, M. Meisel, Th. Brankoff, DDR-Patent, WP C07H/223311 (2.12.1981).

(3) M. Meisel, H. Grunze, Z. anorg. allg. Chem. **360**, 277 (1968).