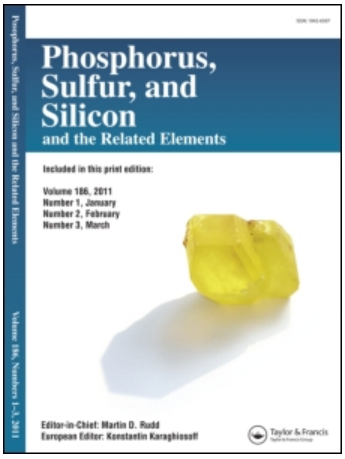

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Synthetic Polyphosphates with Diectly Attached Nucleic Acid Bases

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SYNTHETIC POLYPHOSPHATES WITH DIRECTLY ATTACHED NUCLEIC ACID BASES

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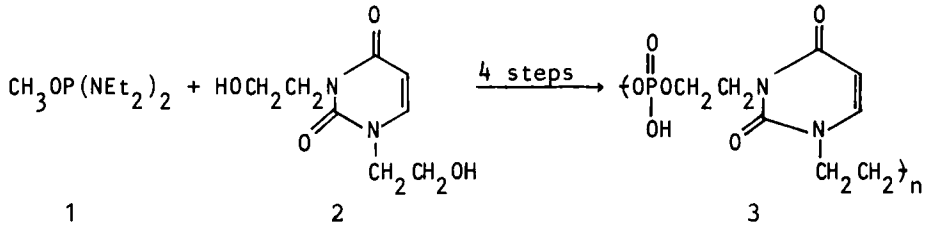
Synthetic polyphosphates were prepared with NA bases attached directly either as the side groups or introduced to the main chain. Properties of these models explored in solution, some of the prepared polymers are tested as potential biologically active polymers.

High molecular weight poly(alkylene phosphate)s containing N-oxyethyleneadenine and N-oxyethyleneuracil as the side groups were obtained:

In this way poly(triesters of phosphoric acid) with regularly distributed nucleic acid bases along the main chain were synthesized, moreover, the degree of substitution can be regulated, thus leaving some anionic units in the chain.

Recently a new type of polymers containing uracil moiety in the main chain was obtained. Polycondensation of 1 with 2 gives linear polyphosphite which is further transformed into polyacid 3.



1 2 3

The resulting polyacid 3 is a slightly yellow solid product, readily soluble in water, with $\bar{M}_n \sim 10^4$. The structure of the resulting and intermediate products was confirmed by ^1H, ^{31}P and ^{13}C NMR methods.