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Synthesis of New Bicyclic Phosphoranes by Cycloaddition Reactions

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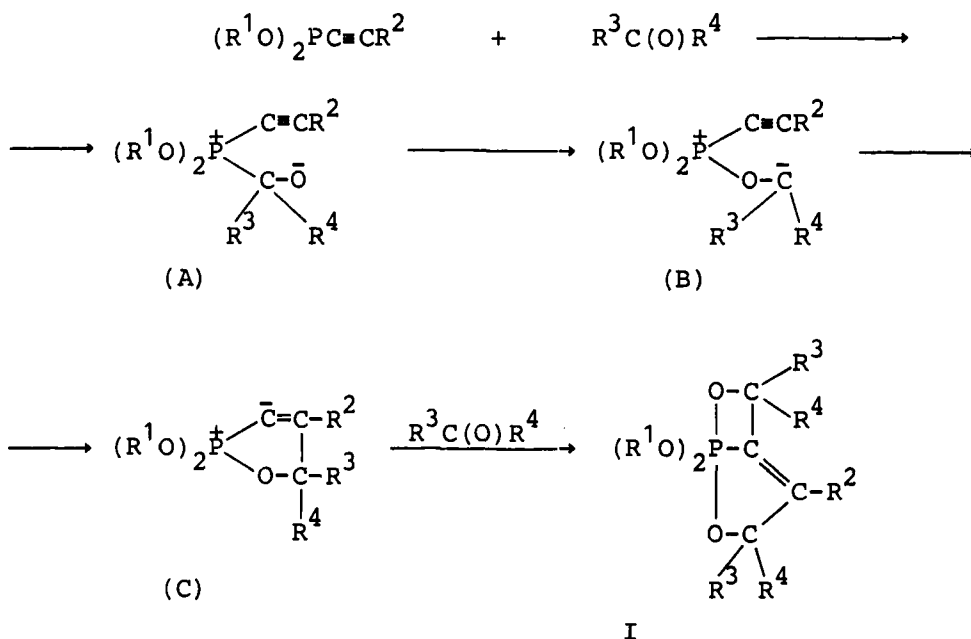
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SYNTHESIS OF NEW BICYCLIC PHOSPHORANES BY CYCLOADDITION REACTIONS

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Dialkyl alkynylphosphonites (I) react with nitrile of tri-
 methylpyruvic acid, and esters of trifluoropyruvic and
 mesoxalic acids in boiling benzene to form new bicyclic
 phosphoranes. The reaction proceeds according to the scheme
 including the formation of bipolar ions (A) and (B), and
 ylide (C). Addition of the second molecule of carbonyl
 compound leads to (I).



Compounds (I) are crystalline, their structure was deter-
 mined by infra-red, ^{31}P , and 1H NMR spectroscopy as well as
 by x-ray structure analysis.