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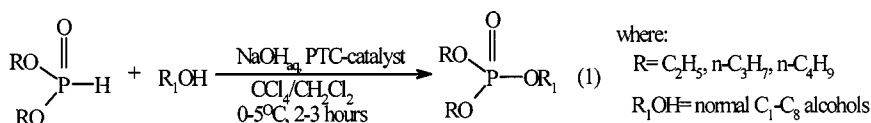
SYNTHESIS OF MIXED DIALKYLPHOSPHATES BY PTC

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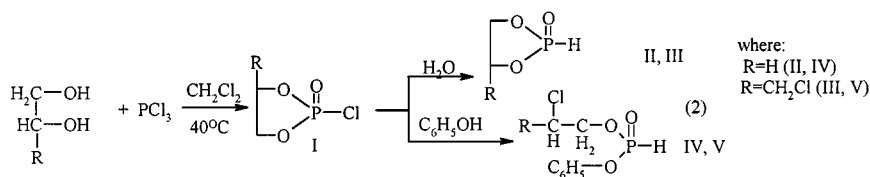
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Mixed dialkylphosphates were obtained in good yields (40–80%) in Phase Transfer Catalysis (PTC) starting from different dialkylphosphites and aliphatic alcohols (1).



SCHEME 1

Using the same method were synthesized mixed phosphates starting from phosphites II, III, IV, V (2).



SCHEME 2

The reaction conditions were optimized in order to obtain good yields in phosphites II, III, IV, V and phosphates, respectively. All compounds were analyzed by IR, P^{31} -RMN, and gas chromatography.

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The best results were obtained when was used 50% NaOH_{aq}, reaction temperature 10°C, reaction time 3 h and molar ratio phosphite: alcohol = 1.25:1.

P³¹ NMR spectra, performed with 300 MHz Varian Gemini spectrometer, showed chemical shifts value $\delta = 0.8\text{--}1.0$ ppm (standard H₃PO₄ 85%).

Mixed phosphates obtained from C1–C4 were chromatographically pure.