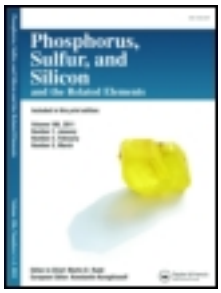

Phosphorus, Sulfur, and Silicon and the Related Elements

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Synthesis of Mixed Dialkylphosphates by PTC

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SYNTHESIS OF MIXED DIALKYLPHOSPHATES BY PTC

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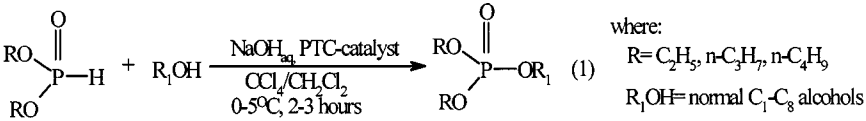
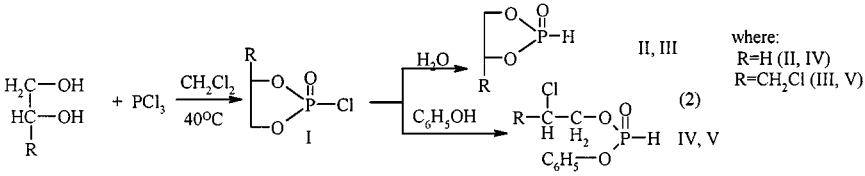
Mixed dialkylphosphates were obtained in good yields (40–80%) in Phase Transfer Catalysis (PTC) starting from different dialkylphosphites and aliphatic alcohols (**1**).



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.

P^{31} NMR spectra, performed with 300 MHz Varian Gemini spectrometer, showed chemical shifts value $\delta = 0.8–1.0$ ppm (standard H_3PO_4 85%).

Mixed phosphates obtained from C1–C4 were chromatographically pure.