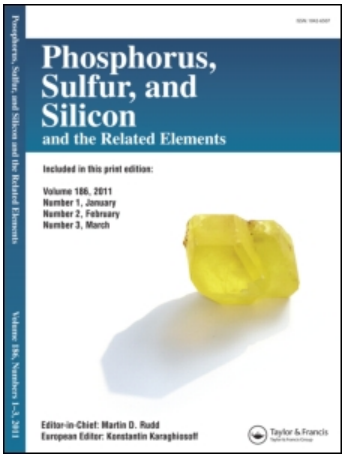

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Reaction of Phosphorus Red with α,ω-Dihaloalkanes under Phase-Transfer Conditions

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REACTION OF PHOSPHORUS RED WITH α,ω-DIHALOALKANES UNDER PHASE-TRANSFER CONDITIONS

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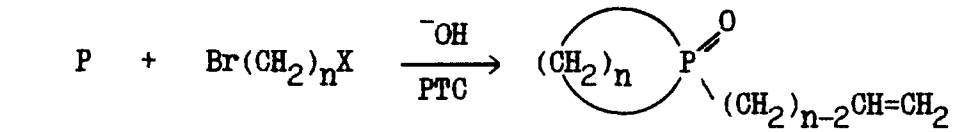
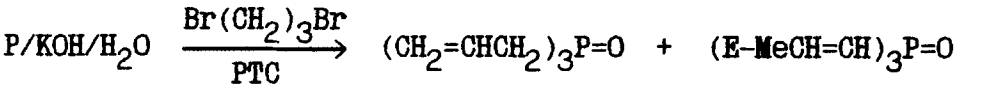
Abstract The regularities and peculiarities of the redox interaction of red phosphorus with α,ω-dihaloalkanes in the presence of strong bases have been studied.

Interaction of 1,4- and 1,5-dihaloalkanes with phosphorus nucleophiles produced from red phosphorus in the KOH/H_2O/dioxane/phase-transfer catalyst system (PTC) at 90°C gives 1-alkenylphospholane- and 1-alkenylphosphorinane-1-oxides in satisfactory yield.



n = 4 or 5, X = Cl or Br

Under similar conditions 1,3-dibromopropane reacts with red phosphorus to form tri(allyl)- and tri(E-propen-1-yl)phosphine oxides.



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