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

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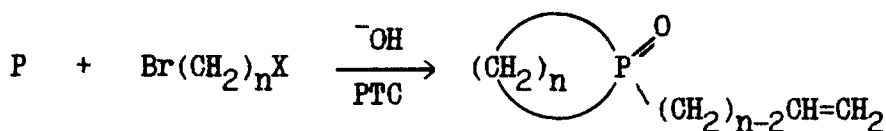
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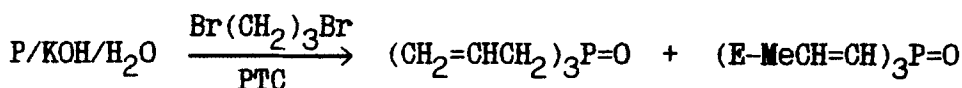
Abstract The regularities and peculiarities of the
 redox interaction of red phosphorus with α,ω -dihalo-
 alkanes in the presence of strong bases have been
 studied.

Interaction of 1,4- and 1,5-dihaloalkanes with phosphorus
 nucleophiles produced from red phosphorus in the KOH/H₂O/
 dioxane/phase-transfer catalyst system (PTC) at 90°C gives
 1-alkenylphospholane- and 1-alkenylphosphorinane-1-oxides
 in satisfactory yield.



$n = 4 \text{ or } 5, \text{ X} = \text{Cl or Br}$

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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