

Mechanistic aspects of reactions of triphenylphosphine with electron-deficient alkenes in acetic acid solution

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Abstract

Kinetic data provide evidence that proton transfer to the carbanion centre of a phosphonium zwitterion is the rate-determining step in quaternization reactions of triphenylphosphine with electron-deficient alkenes in acetic acid solution. This conclusion is based on the third-order rate equation, the reactivity of the alkenes, and solvent isotope effects in deuterioacetic acid. Copyright © 2013 John Wiley & Sons, Ltd.

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Keywords

phosphonium zwitterions, proton transfer, rate-determining step, reaction mechanism, solvent isotope effect