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Electrochemically induced phosphorylation of alkenes

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Abstract

The processes of electrochemical phosphorylation of alkenes were investigated. It was found that anodically generated radical-cations of trialkyl phosphites, dialkyl trimethylsilyl phosphites, mono- and diamidophosphites were added to olefin molecules to give unsaturated alkenephosphonates. The anodic oxidation of tetraalkyl pyrophosphites proceeds with disintegration of initial radical-cations and leads to mixture alkane- and alkenephosphonates. Greater amounts of alkanephosphonates were formed during anodic oxidation of sodium (or lithium) dialkyl phosphites in the presence of alkenes. © 1997 Published by Elsevier Science Ltd.

Keywords

Alkene, Electrochemical oxidation, Phosphorylation, Radical-cation