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Synthetic Applications of Phosphonium Diylides

Henri-Jean Cristau^a; Marc Taillefer^a; Jean-Paul Urbani^a

^a Laboratoire de Chimie Organique, ENSCM, URA 458, Montpellier, France

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SYNTHETIC APPLICATIONS OF PHOSPHONIUM DIYLIDES

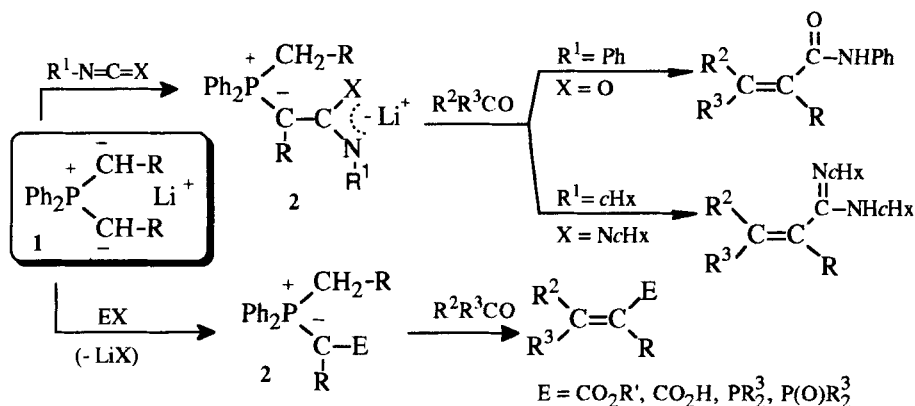
HENRI-JEAN CRISTAU *, MARC TAILLEFER AND JEAN-PAUL URBANI.

Laboratoire de Chimie Organique, ENSCM, URA 458, 8 rue de l'Ecole Normale,
 34053 Montpellier, France.

Abstract Phosphonium diylides **1** react with electrophiles leading to new monoylides which permit, by a Wittig reaction, the *E* stereoselective synthesis of various di- or tri-substituted α,β -unsaturated functionalized compounds.

Recently we have shown that phosphonium diylides **1**, allowing the formation of various α,β -unsaturated functions, can be considered as very good tools in organic synthesis [1].

We report here a generalization of the method which permit, *via* the *in situ* formation of a new intermediate monoylide **2**, the synthesis of α,β -unsaturated amides, amidines, esters, acids, phosphines, phosphonates and phosphine oxides.



In the case or R = H, alkyl, and when R²R³CO is an aldehyde, the products are isolated in good yields (60-90%) and excellent *E* stereoselectivity. When R = Ph, CPh or in presence of ketones, the yields are often lower or the reaction leads to the direct formation of the *E* alkene R²R³C=CHR.

REFERENCE

1. H. J. Cristau, *Chem Rev* **94**, 1299 (1994) and references cited therein.