



## Synthesis of Functionalized Aryl-vinyl Ethers as Building Blocks and Auxiliaries in Organic Synthesis

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### Abstract

5-hydroxyisoquinoline undergoes a smooth reaction with alkyl propiolates in the presence of triphenylphosphine (15 mol%) to produce the corresponding (E)-alkyl 3-(isoquinolin-5-yloxy) acrylate in good yields. When the reaction was performed by 2-methyl 4-hydroxyquinoline and 3-nitro 4-hydroxypyridine, similar aryl vinyl ethers were obtained.

**Keywords.** *OH-acids, 5-hydroxyisoquinoline, 2-methyl 4-hydroxyquinoline, 3-nitro 4-hydroxypyridine, Aryl vinyl ethers, Alkyl propiolates, Triphenylphosphine..*

### Introduction

Due to environmental demands, there has been considerable interest in developing a new catalyst for organic reactions that would be mild, easily available at low-cost, of high performance in transformation and wide applicability. Organophosphorus compounds are widely used in organic synthesis [1, 2]. When they act as a catalyst, 'soft' nucleophilicity is one of their most characteristic features, as shown in the Michael addition, aldol condensation and isomerization of C–C multiple bonds [3, 4]. Vinyl ethers of alcohols and phenols are well established monomers, building blocks

and auxiliaries in organic synthesis, steadily expanding their scope of applications. [5-8] These compounds are important raw materials as practical chemicals for the production of glutaraldehyde [9, 10] as well as vinyl polymer materials [11-13] containing oxygen, which are expected to degrade easily in nature. Moreover, there are many studies on the reaction between acetylenic esters and phenols in organic solvents or under solvent-free conditions to produce fumarate or maleate isomer as the major product. [14–19] In this regard, triphenylphosphine has received increasing attention as a versatile and mild reagent in many occasions

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