

## NEW FORMATION OF ARYL CARBON-PHOSPHORUS BONDS

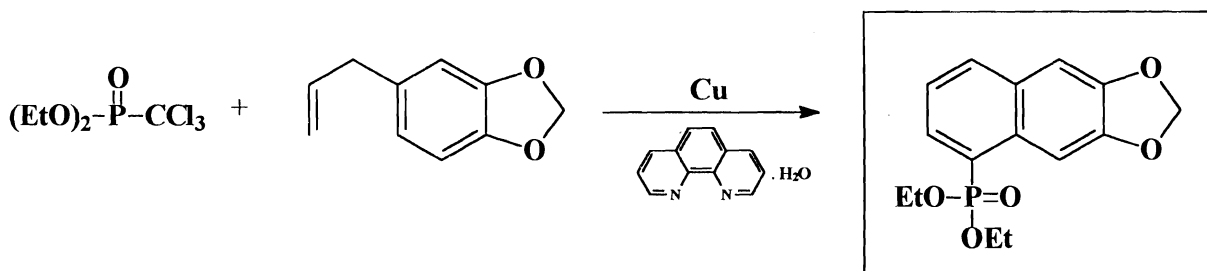
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The formation of carbon-phosphorus bonds has synthetic potential. The preparation of arylphosphonates is achieved by the reaction of aryl halide with dialkyl phosphonates or trialkyl phosphites in the presence of metal catalyst<sup>1</sup>, the photoreaction of aryl halide with dialkyl phosphite anions<sup>2</sup>, or trialkyl phosphites<sup>3</sup> as well as the Friedel-Crafts reaction of arene with phosphorus trichloride followed by alcoholysis<sup>4</sup>, since usual Michaelis-Arbuzov reaction is not applicable to the formation of aryl carbon-phosphorus bonds. However, only few methods have been reported for a direct introduction of the phosphonate group in aromatic hydrocarbons<sup>5</sup>.

The diethyl [6,7-(methylenedioxy)-1-naphthyl] phosphonate was prepared by the copper-catalyzed reaction of diethyl (trichloromethyl) phosphonate with safrole in the presence of 1,10-phenanthroline hydrate. The mechanism of formation is discussed.

This novel reaction may prove useful for synthesis of surface-active agents, pesticides and plasticizers<sup>1</sup>.



### References:

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