

Ti(II) MEDIATED CYCIZATION

BY

SUPACHAT CHAIRATANATHAVORN

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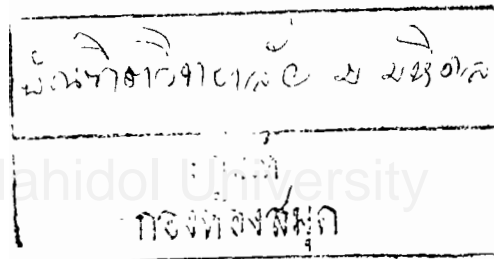
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Abstract

Part I. The alkylation of chloromethyl phenyl sulfoxide anion with 3-aryl-1-iodopropane gave the corresponding 1-chloro-1-phenylsulfinyl-4-arylbutane in good yields. The cyclization of 1-chloro-1-phenylsulfinyl-4-arylbutane by using Ti(II) generated by the reaction of titanium tetrachloride and zinc in tetrahydrofuran or a mixture of ether and dichloromethane gave the corresponding 1-phenylthio-1,2,3,4-tetrahydronaphthalene in good yields. The substituents on the aromatic ring showed some effects on the yield of cyclization products.

Part II and III . 1-Chloro-1-phenylsulfinyl-3-arylpropane and 1-chloro-1-phenylsulfinyl-5-arylpentane were prepared in order to study their cyclization to 5-membered - and 7-membered-ring. These compounds failed to undergo cyclization reaction. Only small yields of the corresponding vinyl sulfides were isolated from their reaction with Ti(II).