

**ULTRA SOUND PROMOTED CLAY CATALYZED HOSOMI-SAKURAI
REACTION VIA IN SITU DESILYLATION OF SILYL ETHER IN PRESENCE OF
TBAF**

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Abstract

The chemists think about the construction of physiologically active compounds, the novel synthetic methodologies that promote greener reactions is essential. Chemical transformations under ultrasound irradiation are advantageous to mild reaction conditions, high yield, short time period, simple experimental procedure and saving of energy.

The homoallyl alcohols can serve as intermediates which are useful and plays vital role in the synthesis of bioactive compounds like glycols, polyether antibiotics, and nucleoside antibiotics.

Hosomi-Sakurai allylation using montmorillonite K-10 in the presence of ultrasound energy is novel method and overcomes drawbacks. In this reaction the preparation of 1-phenyl but-3-en-1-ol such compounds are prepared.

Keyword– Ultrasound irradiation, Homoallylation, Montmorillonite K10


Introduction

As concern in the point of view to shape the reaction nowadays chemists focus on the construction of physiologically active compounds, the development of synthetic methodologies that promote greener reactions is essential. The utilization of high intensity ultrasound or integrated ultrasound-microwave technologies under heterogeneous catalytic systems offers a facile, versatile synthetic tool for large number of organic reactions^[1] Chemical transformations under ultrasound irradiation are more advantageous in view of its milder reaction condition, high yields in shorter reaction time, improved selectivity, simple experimental procedure and energy conservation.

Therefore, under heterogeneous sonocatalysis, different properties of the final products such as particle size, shape and its purity would be controlled by as sonication output power, temperature, the solvent, the chemical species and their concentrations in the reaction mixture.^[2] Many clay based catalysts such as claycop, clayzine, clayfen, environcat, etc., are commercially available. But there are only two K-10 and KSF montmorillonites are most commonly used and applied in organic synthesis.^[3] Despite its tremendous applications, there is no examples of the use of Montmorillonite clay 10 as a catalyst for the synthesis of homoallyl alcohol (Hosomi—Sakurai lation) under ultrasonic energy. Various catalytic systems have been successfully probed in Hosomi—Sakurai allylation chemistry, whereas use of heterogeneous catalytic system has opened new horizons.

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