

ECO-FRIENDLY SYNTHESIS OF NEW THIAZOLE ANCHORED N'-BENZYLIDENE CARBOHYDRAZIDE DERIVATIVES

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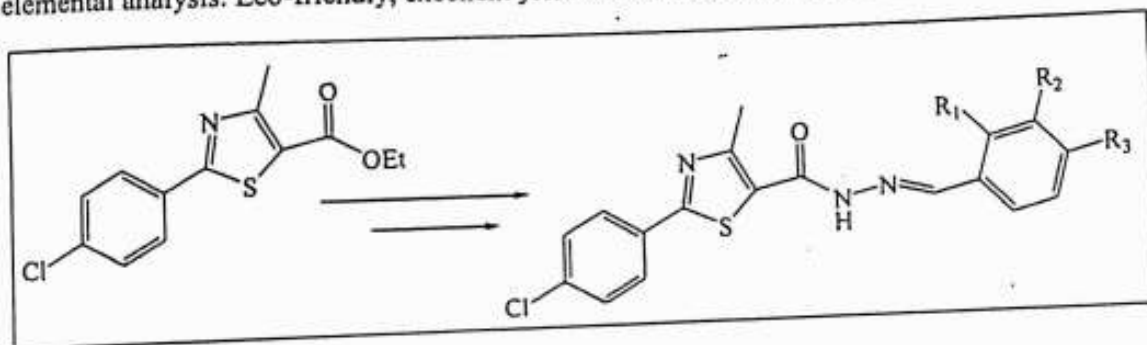
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Abstract

The 2-(4-chlorophenyl)-4-methylthiazole-5-carbohydrazone 3 and aromatic aldehyde 4 were heated together in alcohol under ultra-sonication to get new series of thiazolyl benzylidene carbohydrazone 5A-K. Structures of newly synthesized compounds were verified by spectral and elemental analysis. Eco-friendly, excellent yield with shorter time are the benefits of the method.



Key Words

Benzylidene carbohydrazone, Thiazole, Ultra Sonicator irradiations,

Introduction

Environmental pollution can be minimized by applying green chemistry principles [1]. Ultrasound effect is an acoustic wave cavitation, which accelerates organic reactions [2]. Ultra-sonication irradiation is one of the eco-friendly approaches with little time. On application of ultrasound waves, increase in reaction rates and yields improved [3]. Ultrasound irradiation has been employed to hasten number of synthetic organic reactions [4].

For design of new drug, heterocyclic compound plays vital role due to their worthy biological potential. 1,3-thiazole a five membered heterocyclic compound bearing sulfur and nitrogen in the ring. Thiazole derivatives are found to possess wide range biological properties including antimicrobial [5] antitubercular [6], antitumor [7], anti-inflammatory [8], anti-HIV [9], antioxidant [10], anticonvulsant [11] and anticancer [12].

Carbohydrazone compounds containing active fragment (-CONHN=CH-) generally exist in drug molecules. Carbohydrazone derivatives are known to have broad range biological activities such as anticancer [13], anti HIV [14], antitubercular [15], anti-inflammatory [16], antimalarial [17], and antimicrobial [18].

Above synthetic and biological importance of thiazole and carbohydrazone, promoted us to synthesize a new series of thiazolyl benzylidene carbohydrazone.

Results And Discussion