

Employing Eco-Friendly Approaches to Synthesize a Thiazole Derivative through the Utilization of Microwave Irradiation Techniques While also Investigating the Development of Antifungal and Antioxidant Activities

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Abstract: *Thiazoles are classified as azole heterocycles, which are aromatic five-membered heterocycles composed of one nitrogen atom and one sulphur atom. In recent times, considerable attention has been given to thiazoles, their derivatives, and isomers due to their extensive applications in various fields. These applications encompass agrochemicals, industrial purposes, photographic sensitizers, as well as their pharmaceutical and biological activities, notably antioxidant properties. The presence of thiazole moieties in compounds is a notable structural characteristic found in diverse natural products, including vitamin B and penicillin. Consequently, in this article, I present an array of thiazole-based heterocyclic frameworks, including monocyclic and bicyclic systems. I also delve into their synthesis methods and explore studies on their biological activities. Moreover, we discuss the modification of thiazole-based compounds at different positions to create new molecules with antioxidant activity.*

Keywords: encompass azole heterocycles, thiazoles, antifungal activity, antioxidants activity

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