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Synthesis, Characterization, and Antifungal Activity of New Benzylidene Derivatives of Syringaldehyde

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ABSTRACT Syringaldehyde is an important phenolic aldehyde. Due to its biological properties, it is widely used in chemotherapeutic drugs. Benzylidene derivatives of syringaldehyde were synthesized by reacting its equimolar quantities with different substituted amines using glacial acetic acid in ethanol. These Schiff bases having significant importance in pharmaceutical industry were synthesized by conventional methods. All synthesized compounds were identified and characterized by physical parameters (color, state, and melting point) and spectroscopic techniques (ultraviolet, infrared, and ^{1}H nuclear magnetic resonance), respectively. These resulted compounds were tested for *in vitro* fungicidal potential against *Fusarium moniliforme*, *Macrophomina phaseolina,* and *Rhizoctonia solani* fungi of maize using Carbendazim 50 WP as standard. Among all the derivatives, the synthesized compound having the phenolic group on the amine is discovered as highest percent inhibition against *F. moniliforme* and *R. solani*. All synthesized compounds differed significantly and less effective with high ED_{50} value than standard Carbendazim 50 WP.

KEYWORDS Fungicidal, *Fusarium moniliforme, Macrophomina phaseolina, Rhizoctonia solani*, Schiff bases, Syringaldehyde

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