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# Microwave-assisted Synthesis of 1,2,3-Triazole Hydrazone Library and Evaluation of Antibacterial and Antioxidant Activity

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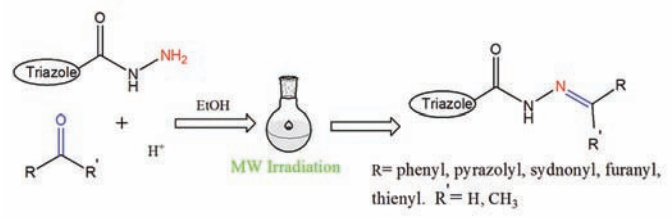
**ABSTRACT** A series of 5-methyl-1-(4-chlorophenyl)-N'-[(substituted aryl)methylene]-1*H*-1,2,3-triazole-4-carbohydrazones was synthesized from 5-methyl-1-(4-chlorophenyl)-1H-1,2,3-triazole-4-carbohydrazide by reaction with substituted phenyl and heterocyclic aldehyde/ketones under microwave irradiation. The structure of hydrazone derivatives was characterized by Fourier transform infrared, $^1$H nuclear magnetic resonance, mass spectral data, and elemental analysis. The compounds containing pyrazolyl, furanyl, thienyl, and sydnonyl substituents have shown good antibacterial activity, particularly against *Staphylococcus aureus* and *Bacillus subtilis*. Hydrazones carrying pyrazole, nitrofuran, and nitrothiophene moieties have shown moderate antioxidant activity.




**KEYWORDS** Antibacterial, Antioxidant, Hydrazone, Microwave synthesis, 1,2,3-Triazole.