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Solvent Free Synthesis of 2, 4, 6-triarylpyridine as Novel Urease Inhibitors and Antibacterial agents

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Abstract

A versatile heterocyclic ring pyridine has got substantial attention in medicinal chemistry due to its unique structural features and showed diversity in anti-bacterial, anti-viral, anti-inflammatory, anti-diabetic, anti-diuretic and anti-cancer activities. This broad biological spectrum persuaded the investigator to disclose a series of new, effective and highly active derivatives through an efficient method. A green synthetic strategy that offered less time requirement, simplicity, eco-friendly and excellent product yields was employed for the synthesis of different derivatives. The structure of synthesized derivatives were elucidated by using modern spectroscopic techniques such as Mass, FT-IR and 1H-NMR. The electronic properties of all the compounds showed the presence of different functionalities at appropriate positions. The prepared pyridine derivatives were evaluated for anti-bacterial, anti-oxidant and anti-urease activities. They showed potent activity against urease enzyme with IC50 values between 12.8 ± 1.04 – 23.7 ± 0.23 µM, when compared with standard inhibitor thiourea IC50 (21.0 ± 0.23) µM.

Biography

Mohammed Saleem is an assistant professor in the department of chemistry at university of education Lahore. His field of interest is chemistry, green chemistry, environmental science.

Publications

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