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A facile synthesis of novel azolyl-1,3,4-oxadiazole derivatives under conventional and microwave conditions

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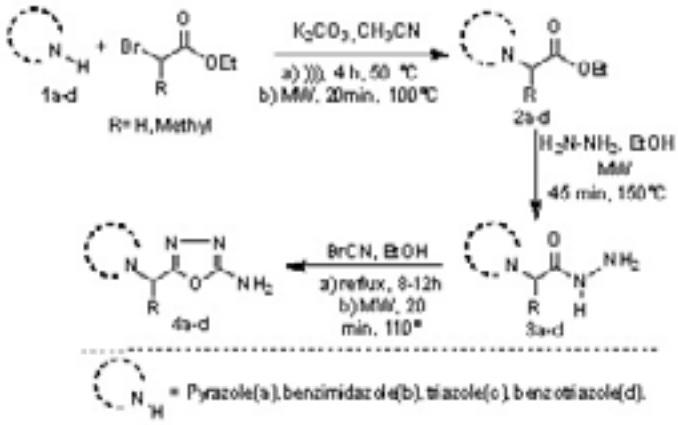
Tuberculosis (TB) is a chronic infection caused by *Mycobacterium tuberculosis* (Mtb). This bacteria can develop resistance to the antimicrobial drugs used to cure the disease, such as multidrug-resistant TB (MDR-TB) and the extensively drug-resistant TB (XDR-TB), being a worldwide public health problem that is closely associated with poverty, malnutrition, overcrowding and inadequate health care. In addition, there are several problems with the currently available treatment for TB, such as non-adherence due to its long duration, complexity, adverse events, and the toxicity profiles of anti-retroviral and anti-TB drugs. Thus, there is clear need for the development of potential new agents that should reduce the treatment duration, possess an acceptable tolerability profile, and be active against patients with MDR/XDR TB and HIV infection. To make a contribution to this development; in this project we carried out the synthesis of novel azolyl-oxadiazoles 4a-d (45-92%), under conventional and microwave (MW) conditions, being the second a fast, efficient and environment friendly methodology. The structure of all compunds were confirmed by Nuclear Magnetic Resonance (1H NMR and ^{13}C NMR), Infrared Spectroscopy (IR) and High Resolution Mass Spectrometry (HMRS).



Biography

Viviana Berenice Rodríguez Torres is currently studying ninth semester of Industrial Chemestry at Universidad Autonoma de Nuevo León School of Chemestry. She has worked in a summer research at Universidad Nacional Autónoma de México in 2017. She has presented two posters, "Green synthesis of hydroxyacetamides from ethyl azolyl acetates. obtained by microwave irradiation" at the Tercer Simposio Iberoamericano de Química Orgánica (SIBEAQO-III) in Portugal on September 2016 and "Synthesis of azolyl-oxadiazoles derivatives under microwave irradiation" at IV Congreso Internacional de Química e Ingeniería Verde on September 2017.

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