

Silica Sulfuric Acid as an Efficient Catalyst One-Pot Three-Component Aza-Friedel-Crafts Reactions of 2-(thiophen-2-yl)-1H-Indole, Aldehydes, and N-Substituted Anilines

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Abstract : Multicomponent reactions (MCRs), one-pot reactions form products from more than two different starting compounds. (MCRs) are ideal reaction systems leading to high structural diversity and molecular complexity through a single transformation. (MCRs) have a lot of advantage such as higher yield, less waste generation, use of readily available starting materials and high atom. (MCRs) provide a rapid process for efficient synthesis of key structures in discovery of drug on the other hand silica sulfuric acid (SSA) has been used as an efficient heterogeneous catalyst for many organic transformations. (SSA) is low cost, ease of preparation, catalyst recycling, and ease of handling, so in this article we used 2-(thiophen-2-yl)-1H-indole, N-substituted anilines and aldehyde in the presence of silica sulfuric acid (SSA) as a catalyst in water as solvent at room temperature to prepare 3,3'-(phenylmethylene)bis(2-(thiophen-2-yl)-1H-indole) and N-methyl-4-(phenyl(2-(thiophen-2-yl)-1H-indol-3-yl)methyl)aniline derivatives Via one-pot reaction. Compound 2-(thiophen-2-yl)-1H-indole belongs to the ubiquitous class of indoles which enjoy broad synthetic, biological and industrial applications]. Cancer is considered the first or second most common reason of death all through the world. So the synthesized compounds will be tested as anticancer. We expected the synthesized compounds will give good results comparison to the reference drug.

Keywords : aldehydes, aza-friedel-crafts reaction, indole, multicomponent reaction

Conference Title : ICBCMCMB 2023 : International Conference on Bioorganic Chemistry, Medicinal Chemistry and Molecular Biology

Conference Location : Lisbon, Portugal

Conference Dates : September 18-19, 2023