

Novel Antibiotics Synthesis via Mannich Reaction

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Synthesis of new drugs and evolution of new biologically active molecules constitutes major assignment for chemists in organic synthesis. Therapeutic drugs have played a major role in increasing average life. For a long time, natural sources have been used to prepare medicines for treatment of human ailments. Variety of medicinal agents have symbolic qualities and better results with numerous reactions for providing new chemical entities. Among well-known reactions, Mannich reaction has been of great importance due to its diversified applications especially in medicinal chemistry. Mannich reaction has been used as an important tool for several years to acquire compounds with several pharmacological properties [1-4]. Rapid expansion of investigations in this field is largely due to increasing utility on these compounds.

Mannich bases are synthesized by condensation of active hydrogen compounds with formaldehyde and primary and/or secondary amines. The active hydrogen compounds may be an acid, phenol, ketone, amide etc. We can synthesize Mannich bases from different active hydrogen compounds, which have great medicinal importance. The Mannich bases incorporated with sulphonamides are reported to be potent antibacterial agents and less toxic than parent sulphonamide [5]. Different active hydrogen compound used as a substrate and sulphonamide as amine component were condensed via Mannich reaction. Different sulphonamides/secondary amines have been used for the synthesis of series of Mannich bases.

The synthesized Mannich bases appear to be better and more potent antibacterial agents than sulphonamides themselves [6]. These results warrant detailed pharmacological studies of these Mannich bases. Mannich base is not only important in research, but they also have considerable practical use in a wide range of other fields. Moreover, these compounds are equally important in pharmacology. This research is expected to facilitate the pharmaceutical industry in the good cause of manufacturing medicines with low cost and minimum side effects.

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