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Overview on Design and Synthesis of Sulfonamide Derivative through Condensation of Amino Group Containing Drug

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Abstract: *In medicinal and non-pharmacological chemistry, sulfonamides (SN) are an advisory functional group that forms the basis of many drugs. As such, they are very important. Recently, very significant techniques for the synthesis of sulfonamides have been developed. Numerous pharmacologic activities, including anti-dydropteroate synthetase and anti-carbonic anhydrase, are displayed by sulfonamides. Derivatives of sulfonamides can be used to treat a range of medical conditions, including glaucoma, hypoglycemia, stasis, diarrhea, and inflammation. Our current work has concentrated on creating and synthesizing sulfonamide derivatives via condensation reaction between amino group-containingdrugs.The functionality of sulfonamideinthe clinical trial for the treatment of various medical conditions. For these reasons, development of an efficient process for the synthesis of sulfonamides has always been in the focus for research in organic field synthesis. The most typical method for the synthesis involves reaction between primary or secondary amines and sulfonyl chloride in presence of organic or inorganic bases. Although this method is effective, but the nucleophilicity of amines may vary depending on the groups attached to it. In general, primary amines are highly reactive, whereas secondary amines show very low to almost nil reactivity. In this study, we have reviewed past and recent biological effects of some sulfonamide derivatives and some advances efficient synthetic procedures for some types of sulfonamides. A sulfonamide is a functional group that is the basis of several sulfa drugs and thereby are very much important scaffolds in medicinal as well as in synthetic organic chemistry. Recently very important methodologies have been developed for the synthesis of sulfonamide. This complex review article covers the recent developments (mainly in period 2013- 2019) of powerful methodologies for the synthesis of sulfonamide compounds, particularly where SO2N(R) moiety is not present in a cyclic structure and their applications in various fields during this period. A critical view of the mechanisms of the developed methodologies together with the scope and limitation of these methods adds an extra dimension to the text..*

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