Perspectives of Medicinal, Material and Environmental Chemistry

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CHAPTER – 5

Synthesis, Characterization, Pharmacokinetics & Admet Studies of Schiff Bases

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Abstract

Isatin (1H-indole-2,3-dione) and its derivatives are heterocyclic molecule that can be employed as precursor for the synthesis of medicinally relevant molecules. Interestingly, the formation of imine (C=N) or azomethine group through the reactivity among primary amine and carbonyl compounds could be easily identified by FT-IR analysis owing to the stretching of the imine system found at 1640 per cm, as noted in the preceding work. Schiff bases are versatile ligands that are useful in asymmetric reactions to prepare chiral catalysts and also in symmetric reactions to prepare achiral compounds. They are widely used for industrial purposes and also exhibit a broad range of biological activities. The German chemist *Hugo Schiff*, in 1864, first described the product as the condensation of primary amines with carbonyl compounds. Schiff bases have a wide range of biological properties, such as anti-microbial, anti-viral, and anti-cancer.

Introduction

Isatin (1H-indole-2,3-dione) is a moiety of interest for medicine chemists for the synthesis of heterocyclic compounds such as indoles. (Priyanka V. Gandhi1 et al.2021) It is an indole derivative that comprises two rings (one is five & other is six membered ring). Both of the rings are planar. The six-membered ring has an

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