

# Design, Synthesis and Spectral Characterization of some N-substituted Heterocycles and Allied Compounds

Noor ud Din Zargar<sup>\*1</sup> and Khaliq uz Zaman Khan<sup>2</sup>

<sup>1,2</sup>Department of Chemistry University Of Kashmir Srinagar (190006) J&K India  
E-mail:<sup>1</sup>nded.1092@rediffmail.com

---

**Abstract**—The chemistry of N-heterocycles and allied compounds have received our attention. They have been synthesized frequently and play a significant role in material science, industry and pharmacy. Chemoselective synthesis of 2-(methyl thiomethyl)-isoindoline-1,3-dione (2) and 2-(Hydroxy methyl)-1-H-isoindole-1,3-(2H) dione (3) has been achieved when 1-H-isoindole-1,3-(2H)-dione (1) was refluxed with Dimethyl sulphoxide-acetic anhydride reagent or DMSO alone at elevated temperature. This versatile reagent also brings about N,N'-methyl thiomethylation in barbituric acid (4),ylide formation in oxazinones (5),oxidation of secondary alcohols to corresponding ketones and yields a variety of products of both pharmacological and chemical importance when interacted with 4-hydroxy coumarins. 4-aryol-6-alkyl(aryl)-pyridazin-3 (2H)-one (6),an important N-heterocycle leads to mechanistically interesting chemoselective synthesis of a wide range of products when interacted with different substrates.

1,3-indandione (7), an important member of class of 1,3-diketo compounds has been used as a substrate in a series of reactions. When allowed to react with DMSO/Ac<sub>2</sub>O reagent ,at room temperature, it affords an ylide (8) and a biindene tetrone (9) But at elevated temperature this reagent transforms 1,3-indandione (7) to an oxidative cyclization product (10) and a polymer unit trimer (11) along with the ylide (8).However, when 2-arylidene 1,3-indandione (7) was interacted with hydrazine it afforded a mechanistically interesting Arylidene-1,3-indandione adduct (12).

**Keywords:** Heterocycles, Chemoselective, isoindole, DMSO, acetic-anhydride, pyridazinone, ylide, trimer.

## REFERENCES

- [1] W.Czuba,L.Kasperck et.al. *Pol.J.Pharmacol.Pharm*; 37,4,533-40,**1985**.
- [2] A.A.Soliman, N.G.Kandil,EI-Swami; *J.Org.Chem.* 19,8,779,**1989**.
- [3] K.Z.Khan,N.Minhaj,K.Tasneem,A.Zaman and F.M.Dean, *J.Chem.Soc.Perkin Trans-1*; 841,**1983**.