



SYNTHESIS OF 3-(2-SUBSTITUTED THIOCARBAMIDO-10-H-PHENOTHIAZINE-10-YL)-N,N-DIMETHYL-PROPANE-1-AMINE

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ABSTRACT

Heterocyclic nucleus containing drugs showed remarkable and noticeable pharmacodynamics and pharmacokinetics properties. They generated their own identity and importance in agricultural, pharmaceutical, medicinal and drug sciences. Benzonido and pyridino, dithiazolo, quinolino and alkylaminoheterocycles showed important applications in industrial, pharmaceutical, medicinal and drug chemistry. Considering all these facts, recently in this laboratory interactions of 3-(2-chloro-10-H-phenothiazine-10-yl)-N,N dimethylpropane-1-amine (1) was carried out with various thiourea (2) by using in isopropanol medium to isolate 3-(2-substitutedthiocarbamido-10-H-phenothiazine-10-yl)-N,N dimethylpropane-1-amine (3). The justification and identification of the structure of these newly synthesized compounds had been established on the basis of chemical characterization, elemental analysis and through spectral data.

Keywords: Substitutedthiourea, 3-(2-substitutedthiocarbamido-10-H-phenothiazine-10-yl)-N,N dimethylpropane-1-amine.

INTRODUCTION

In this laboratory, the synthetic applications of cyanoguanidine had been briefly explored [1]. As evident from the structure 7-chloro-1-methyl-5-phenyl-3H-1,4-benzodiazepine-2-one it was observed that there are three reactive sites in this molecule for the reactions. This molecule possesses -chloro, -aryl and -methyl important reactive sites for the reactions. As a wider programme of this laboratory in the synthesis of nitrogen, nitrogen and sulphur containing heterocycles and heterocycles. The interactions of cyanoguanidine with various thioureas and alkyl/arylthiocyanates have been investigated in sufficient details [2-5]. Some of these compounds showed remarkable pharmaceutical and biological activities [6]. The synthesized heterocycles are used as a best intermediate [7,8] in the synthesis of thiazoles, dithiazoles, thiazines, triazines, Hector's bases etc.

An exhaustive literature survey on substitutedthiourea, pyridino, dithiazoyl and bezonido nucleus containing drugs created their own identity in medicinal and pharmaceutical sciences. Hence taking all these things into considerations interactions of 3-(2-chloro-

10-H-phenothiazine-10-yl)-N,N dimethylpropane-1-amine (1) with thiourea (2) in isopropanol medium was investigated to synthesize, 3-(2-substitutedthio- carbamido-10-H-phenothiazine-10-yl)-N,N dimethylpropane-1-amine (3). (Scheme-1). These reactions are hitherto unknown. The justification and identification of the structure of these newly synthesized compounds had been established on the basis of chemical characterization, elemental analysis and through spectral data. (Scheme-1)

MATERIALS AND METHODS

The melting point of the all synthesized compounds was recorded using hot Paraffin bath. The carbon and hydrogen analysis were carried out on Carlo-Ebra 1106 analyzer. Nitrogen estimation was carried out on Colman-N-analyzer-29. IR spectra were recorded on Perkin Elmer Spectrometer in range 4000-400 cm^{-1} in KBr pellets. PMR spectra were recorded on Bruker Ac 400 F Spectrometer with TMS as internal standard using CDCl_3 and $\text{DMSO}-d_6$ as solvent. The purity of compound was checked on silica Gel-G Pellets by TLC with layer thickness of 0.3 mm. All chemicals used were of AR-grade.

