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Synthesis and Evaluation of Fatty Hydrazides Based on Schiff Bases from Oil Processing Industries Byproducts

D.S. Patel[1*], S. D. Toliwal[1], J. V. Patel[1], K. Jadav[1], A. Gupte[2], Y. Patel[2]

[1]Department of Industrial Chemistry, Institute of Science and Technology for Advanced Studies and Research (ISTAR), India

[2]Department of Microbiology, N.V.Patel College of Pure & Applied Sciences, India

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Abstract

Schiff bases of fatty acid hydrazides made from Oil recovered from spent bleaching earth (ORSBE) and Acid oil (AO)were prepared. These newly synthesized Schiff bases were characterized on the basis of FT-IR, elemental analysis and evaluated for biological performance. Schiff bases exhibited mild antibacterial activities against certain micro-organisms if compared with streptomycin used as standard antibacterial agent and imidil used as a standard antifungal agent.

Keywords*: Acid oil, ORSBE, Hydrazides, Schiff bases, Antibacterial, Antifungal.*

Introduction

Compounds containing an azomethine group (-CH=N-) are known as Schiff bases. They are usually formed by condensation of a primary amine with a carbonyl compound[1].Schiff bases of aliphatic aldehydes are relatively unstable and are readily polymerizable[2-4] while those of aromatic aldehydes, having an effective conjugation system, are more stable[5, 6].

Extensive investigations in the field of Schiff bases have been reported [7, 8]. Their preparation, chemical and physical properties have been described by various workers [9, 10]. Several workers have reported that Schiff bases formed from aromatic aldehydes or aromatic ketones and their derivatives are quite stable. Therefore, due to the great flexibility and diverse structural aspects of Schiff bases, a wide range of these compounds have been synthesized and their complexation behavior studied [11, 12]. Nitro and halo derivatives of Schiff bases are reported to possess antimicrobial and antitumor activities [13]. Antimicrobial and antifungal activities of various Schiff bases have also been

**** Corresponding author:*** *Dr. Darshan S. Patel, Department of Industrial Chemistry, Institute of Science and Technology for Advanced Studies and Research (ISTAR), VallabhVidyanagar 388-120, India. Email: darshanswami@gmail.com, Telephone: (02692) 234955, Fax: (02692) 234368.*