SYNOPSIS

The dissertation entitled, " SYNTHESIS OF SOME NEW FLUORESCENT BRIGHTENING AGENTS BASED ON CYANURIC CHLORIDE" presented to the faculty of science, Shivaji University, Kolhapur, in partial fulfilment of the degree of 'Master of Philosophy' in chemistry.

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The dissertation consists of three chapters. Chapter-I deals with an introduction to the literature on the Fluorescent brightening agents and the scope of the present work. Chapter-II includes experimental part, spectral interpretation and characterisation data of compounds. Chapter-III is on Fluorescence spectral studies, brightening effect on cotton Fabric and evaluation of antimicrobial activity of synthesised Fluorescent brightening agents, results and discussion.

CHAPTER-I :

1] INTRODUCTION : Basic concept of Fluorescence and phorescence, Mechanism involved in Luminescence and fluorescence, definition of fluorescent brightening agents, relationship between UV absorption and Fluorescent brightening, Fluorescent compounds, requirements of Flourescence, (a) Electronic considerations, (b) Structural considerations, factors influencing the function of Fluorescent brightening agents such as (1) Substrate, (2) Concentration, (3) Temperature, (4) Solvent, (5) PH and (6) Time etc. Mechanism of Fluorescent brightening agents, classification of Fluorescent brightening agents and uses of the Fluorescent brightening agents.

II) Review of Literature :

Review of literature consists of chemistry of stilbene, 4; 4'-diaminostilbene-2,2'- disulphonic acid and cyanuric chloride.

III) Scope of the present work :

The same chapter includes scope of the present work.

CHAPTER II :

Chapter II deals with the experimental work. It includes the details of experimental methods used for the synthesis of (1) 4,4'diaminostilbene 2,2'-disulphonic acid, (2) Substituted sulphonamides (3) different Fluorescent brighteners. The strategy employed for the synthesis, involved the reaction of p-nitrotoluene sulphonic acid with sodium hydroxide solution, followed by neutralization with the concentrated hydrochloric acid, cooled and salted. Then 4,4'dinitrostilbene-2,2'-disulphonic acid was reduced by adding iron fellings etched with hydrochloric acid at $100^{O}C$, product 4,4'-diaminostilbene-2,2' disulphonic acid was synthesised.

Fluorescent brightening agent was synthesised by using cyanuric chloride (2, 4, 6-trichloro-s-triazine) and sodium salt of 4,4'-diamino stilbene-2,2'- disulphonic acid.

Three chlorine atoms of cyanuric chloride replaced by three different amines at different temperature PH and reaction rate.

All the compounds reported were characterised by M. P., elemental analysis, UV & IR.

CHAPTER III :

PART I : This part deals with the fluorescence spectral studies of fluorescent brightening agents.

PART II : It deals with the brightening effect on the cotton fabric by visual method. Results were noted in the table.

PART III : This part deals with the evaluation of antibacterial activity of the compounds.

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