

**SYNTHESIS AND CHARACTERISATION OF SOME NEW  
BIOACTIVE HETEROCYCLIC DERIVATIVES**

**SYNOPSIS**

**OF THE Ph. D THESIS TO BE  
SUBMITTED**

**TO**

**MANGALORE UNIVERSITY**

**FOR THE AWARD OF THE DEGREE OF**

**DOCTOR OF PHILOSOPHY**

**IN**

**CHEMISTRY**

**By**

**VIJAYA RAJ. K. K.**

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**DEPARTMENT OF POST GRADUATE STUDIES  
AND RESEARCH IN CHEMISTRY  
MANGALORE UNIVERSITY  
MANGALAGANGOTHRI-574 199  
INDIA, MAY 2006**

**Name of the Guide: Dr. B. Narayana, Reader**

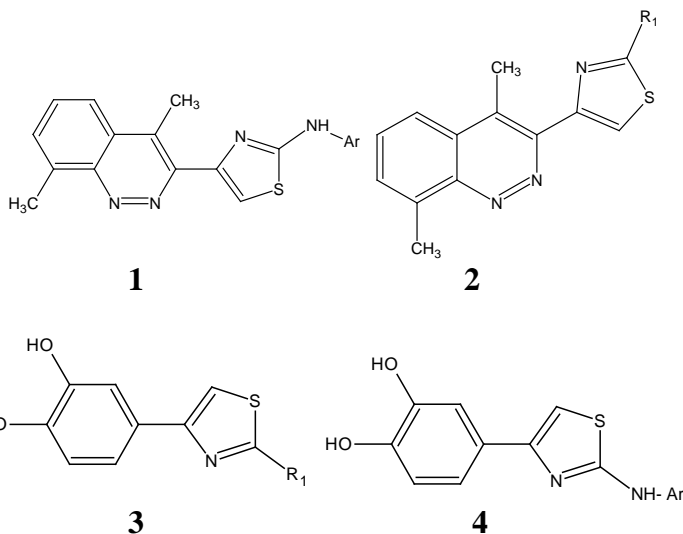
The present investigation entitled “**SYNTHESIS AND CHARACTERISATION OF SOME NEW BIOACTIVE HETEROCYCLIC DERIVATIVES**” has been discussed in eight chapters.

## CHAPTER 1

This is an introductory chapter deals with a brief review of literature on the development of nitrogen and sulphur heterocycles such as 1,3-thiazoles, 1,3,4-oxadiazoles, triazolo[4,3-a][1,4]benzodiazepines, thiazolo[3,2-b]-1,2,4-triazol-6(5*H*)-ones and thiazolo[3,2-b]-1,2,4-triazoles and their therapeutical importance.

## CHAPTER 2

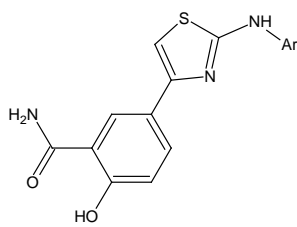
In this chapter, the synthesis, characterization and antimicrobial studies of some new 1,3-thiazole derivatives derived from 4,8-dimethyl-3-acetylcinnoline and 4-(chloroacetyl) catechol are discussed.



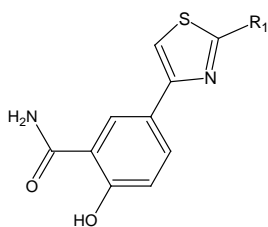
$R_1 = \text{NH}_2, \text{CH}_3$   
Ar = Substituted phenyl, pyridine.

## CHAPTER- 3

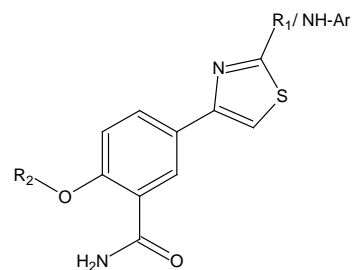
This chapter deals with the synthesis, characterization and biological evaluation of some new 1,3-thiazole derivatives derived from active building blocks such as 5-bromoacetyl salicylamide and 2-chloro-4-acetylpyridine.



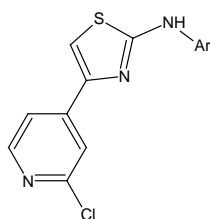
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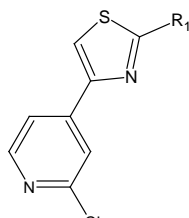
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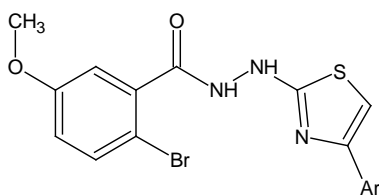
**9**

R<sub>1</sub> = NH<sub>2</sub>, CH<sub>3</sub>

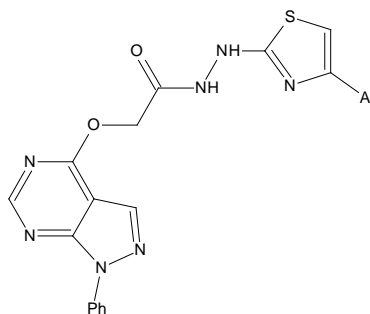
Ar = Substituted phenyl, pyridine.

#### CHAPTER-4

This chapter deals with the synthesis, characterization and biological activities of few novel 2-bromo-5-methoxy-*N'*-(4-aryl-1,3-thiazol-2-yl) benzohydrazide derivatives and 2-[(1-phenyl-1*H*-pyrazolo[3,4-*d*]pyrimidin-4-yl)oxy]-*N'*-(4-aryl-1,3-thiazol-2-yl)acetohydrazide derivatives.



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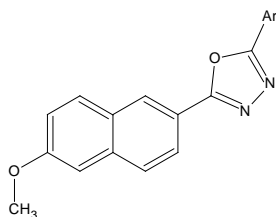


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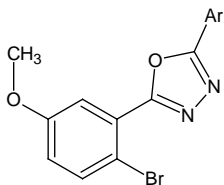
Ar = Phenyl, substituted phenyl, coumarinyl, pyridinyl

#### CHAPTER-5

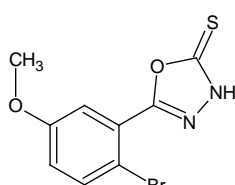
This chapter deals with the synthesis, characterization and biological evaluation of 1,3,4-oxadiazoles derived from biologically active molecules such as ethyl 6-methoxy-2-naphthoate, methyl 2-bromo-5-methoxybenzoate.



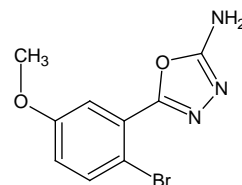
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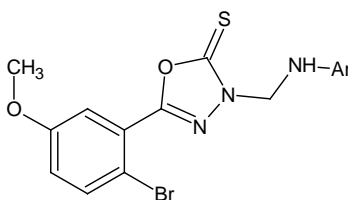
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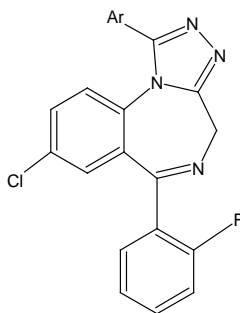


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Ar =Phenyl, substituted phenyl, substituted pyridinyl

## CHAPTER-6

This chapter deals with synthesis, characterization, anticonvulsant and neuropsychobehavioural studies of new 8-chloro-6-(2'-fluorophenyl)-1-(aryl)-4*H*-[1,2,4]triazolo [4,3-*a*][1,4]benzodiazepines.

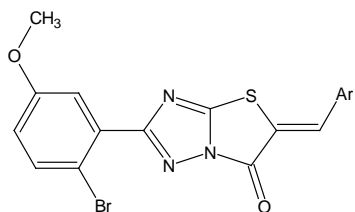


**17**

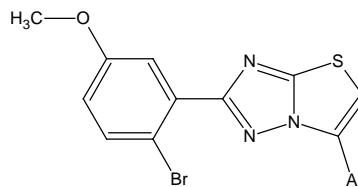
Ar = Pyridin-4-yl, 4-nitro-1*H*-indol-2-yl, 6-methoxy-2-naphthyl, 4-fluorophenyl, 2-Bromo-5-methoxyphenyl, Pyridin-3-yl,

## CHAPTER-7

This chapter deals with a new series of 2-(2-bromo-5-methoxyphenyl)-5-(3-arylidene)-1,3-thiazolo[3,2-*b*]-1,2,4-triazol-6-(5*H*)-ones and 2-(2-bromo-5-methoxyphenyl)-5-aryl [1,3]thiazolo[3,2-*b*]-1,2,4-triazole derivatives.



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Ar = Phenyl, substituted phenyl, coumarinyl, pyridinyl.

## CHAPTER – 8

This chapter deals with the anticancer and antituberculosis studies of 1,3-thiazoles, 1,3,4-oxadiazoles, triazolo[4,3-*a*][1,4]benzodiazepines, [1,3]thiazolo[3,2-*b*]-1,2,4-triazol-6 (5*H*)-ones and thiazolo[3,2-*b*]-1,2,4-triazoles.

Sd/-

Dr. B. Narayana

Research Guide

Sd/-

Vijaya Raj. K.K.

Research Student