Preface

The present work is directed towards the use of sydnones as synthons in the development of simple, concise and convenient synthesis of potentially bioactive molecules.

The present thesis is described in five chapters preceded by a general introduction. The introductory part contains a brief account of mesoionic compounds, sydnones, 1,3,4-oxadiazolinones and 1,2,4-triazolones.

Chapter 1 deals with the synthesis of 3-arylsydnones and their derivatives by literature methods, which have been used as starting materials in the present work. The general method employed for the in vitro antimicrobial screening has been discussed.

Chapter 2 describes the synthesis of 4-(2-hydroxyethyl)-2aryl-5-methyl-2,4-dihydro-3H-1,2,4-triazol-3-ones from 1,3,4-oxadiazolinones, spectral characterisation and antimicrobial screening. The X-ray crystal structure of one of these compounds has also been discussed.

In chapter 3 deals with the synthesis of 4-([4-({2-(3,5-dimethyl-pyrazol-1-yl)-2-oxo-ethoxy}]-benzylidene)-amino)-5-methyl-2-phenyl-2,4-dihydro-[1,2,4]triazol-3-ones from aminotriazolones, spectral characterisation and antimicrobial screening. The X-ray crystal structure of one of these compounds has also been discussed.

Chapter 4 deals with the synthesis of few azo pyrazoles from aminotriazolones. Spectral characterisation and biological screening has been discussed.

Chapter 5 describes the computational studies of the isomeric and tautomeric forms of the triazolone derivatives using semi empirical method.

Literature references are cited at the end of each chapter.