

S Y N O P S I S

The work presented in this thesis entitled "A STUDY OF BIOLOGICAL ACTIVITY OF SOME OF NEW BETA-LACTAM ANTIBIOTICS" comprises of four chapters. A concise summary of the work distributed among four chapters is furnished below.

CHAPTER - I

HISTORICAL ACCOUNT AND LITERATURE SURVEY

In this chapter we have reported the Historical Account of various classes of Antibiotics. Further we have given the mode of action of various antibiotics as well as their antibacterial activity which explained are viz, Penicillin, Cephalosporine, Ampicilline, etc. We have also explained the literature survey of various antibiotics from the beginning. As our work mainly deals with a triazine and 7-ADCA. We have explained also some of important features of above compounds as well as amino acids.

CHAPTER - II

SYNTHESIS OF s-TRIAZINE CEPHALOSPORINS

This is a new generation of Beta-lactam series. In this part we report for the first time, preparation of s-triazine Beta-lactam cephalosporins. 7-ADCA was treated with amino acid derivatives of cyanuric chloride to give new cephalosporin derivatives.

The experimental part is reported in two parts.

PART - I :-

In this part the preparation of following s-triazin derivatives is explained.

2, 4 dichloro-6-(Glutamic acid)-1,3,5-triazine (2a),

2, 4 dichloro-6-(Aspartic acid)-1,3,5-triazine (2b),

2-Alanino-4,6-dichloro-1,3,5-triazine (2c),

2-Leusino-4,6,-dichloro-1,3,5-triazine (2d),

2-Lysino-4,6-dichloro-1,3,5-triazine (2e),

PART - II :-

In this part the preparation of the following s-Triazine cephalosporins is explained.

* 7-(6-chloro-4-Glutamic-1,3,5-triazine-2-yl)ADCA(3a)

* 7-(6-chloro-4-Aspartic-1,3,5-triazine-2-yl)ADCA(3b)

* 7-(6-chloro-4-Alarino-1,3,5,-triazine-2-yl)ADCA(3c)

* 7-(6-chloro-4-Leusino-1,3,5,-trizine-2-yl)ADCA(3d)

* 7(2-Lysino-4,6-diechloro-1,3,5,-triazine-2-yl)
ADCA(3e)

While preparing these new cephalasporin derivatives

COOH group in 7-ADCA was protected by NaHCO_3 which was further coupled with s-triazine derivatives, followed by hydrolysis and further extraction with Ethyl acetate to get new cephalosporin derivatives, with good yield.

CHAPTER - III :

BIOLOGICAL ACTIVITY OF BETA-LACTAM CEPHALOSPORINS

In this chapter we have explained the different experimental techniques for finding the biological activity of new cephalosporin derivatives.

New cephalosporin derivatives were screened for biological activity against S-aureus E. Coli, K, Pneumoniae, S.typhi, and P.aeuginosa.

CHAPTER - IV :

RESULT AND DISCUSSION

In this chapter we have explained the general use of cyanuric chloride as well as its medicinal use, due to which it can also be used in medicine field for preparation of drugs in future.