

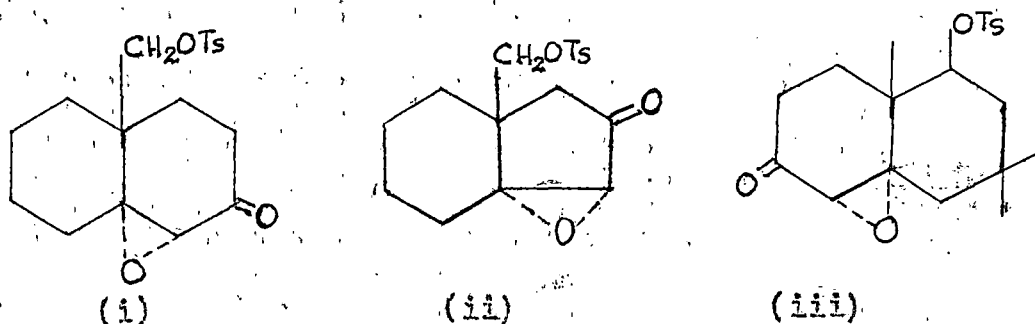
S Y N O P S I S

The thesis entitled "Studies in Alicyclic Systems" embodies the results of the investigations carried out by the author during the period March 31, 1981 through March 30, 1985 in the Organic Chemical Laboratories of the University of North Bengal. The thesis is divided into three parts; in the first part are described some experiments on the action of bases on some bicyclic epoxyketotosylates; in the second part are described the preparation and some reactions of 1,2-bis(2'-oxocyclohexyl)ethane and in the third part the preparation of some polyesters based on p-hydroxybenzoic acid with terminal mesogenic units and a central spacer.

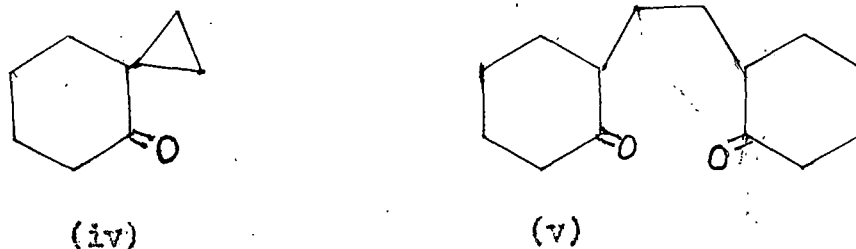
Bicyclic γ -hydroxytosylates are known to undergo fragmentation to give large rings. The study of these

(ii)

reactions is well documented. α , β -epoxyketones have been reported to undergo Favorskii rearrangement. It was felt that a system incorporating both the structural features would present some interesting possibilities. In order to study these possibilities, we synthesized the compounds (i) to (iii) and studied the action of bases on these systems. The results are discussed in the main body of the thesis.



In an attempt to prepare the spiro-octanone (iv) by condensing cyclohexanone with dibromooctane, the hitherto unknown 1,2-bis(2'-oxocyclohexyl)ethane (v) was obtained. Some reactions of the compound have been described in detail in Part II of the thesis.



In the third part are described the preparation of some

(iii)

compounds which may exhibit thermotropism. Preparation of this type of compounds is mostly described in patent literature. The methods described are alternative methods.

During the revision of the thesis some structures originally proposed by us have been revised in the light of some observations made by Prof. Pelayo Camps of the University of Valencia, Spain. The author wishes to acknowledge her deep sense of appreciation and thanks to Prof. Camps.