

I N T R O D U C T I O N

Investigations described in Section A of this thesis, deal with the development of successful methods for the synthesis of two stereoisomers of 1,10-dimethyl-decalin-1-carboxylic acid. The synthetic methods have been devised accordingly so that the stereochemistry of the final product may be on a well-founded basis. The importance of these two acids has been particularly stressed in the theoretical part and some of the results are rather unexpected and require more elaborate studies. Particular mention may be made, in this connection, of the fission of tri- and tetrasubstituted epoxides with potassium cyanide. Although the products, that have been isolated, are rather complex in nature, it appears to be of promise for developing a suitable method for the synthesis of tertiary acids and this possibility is now under investigation. The theoretical aspects have been particularly taken care of in devising stereospecific methods for the present investigation. These two acids described in this section are being eagerly sought for during the last three years in this laboratory in connection with detailed studies in the field of diterpenoid resin acids.

Section B is concerned with the development of a synthetic method for building up of the carbon framework of the triterpenoids, ring by ring, which may be useful for the unsymmetrically substituted pentacyclic triterpenoid molecules. A method has been developed for the building of A, B and C rings

and the steric configuration at each of the asymmetric centres in the tricyclic ketone is most probably as is present in A, B and C rings of the naturally occurring bodies. This follows from the course of the reactions, that have been utilised in this synthesis. The method has proved to be extremely laborious and involving complicated stereochemistry, although each of the products has been obtained in a crystalline form. In the theoretical part, indication has been given for further extension of this scheme.

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