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ROUTES TO DRIMANES FROM PODOCARPIC ACID

A THESIS PRESENTED TO

THE UNIVERSITY OF AUCKLAND

FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

BY

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ABSTRACT

The synthesis and ozonolysis of the 6- and 7-substituted 12-hydroxypodocarpatrienes (26), (86), (90), and (98), as a possible route for the synthesis of drimanes from 12-hydroxypodocarpa-8,11,13-trien-19-oic acid (podocarpic acid) (9) has been investigated.

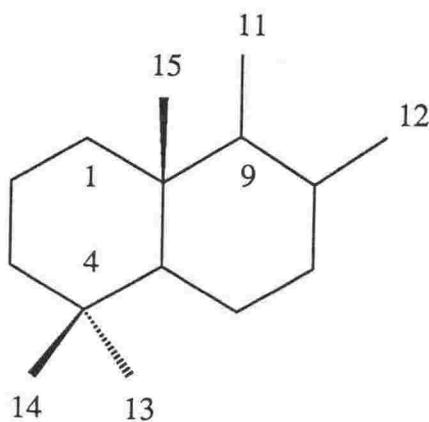
Modification of the aromatic ring of (9) has given 11- and 14-hydroxypodocarpatrienes which were ozonised to give the congeners (31), (34), and (36) of the naturally occurring drimanes confertifolin (6), isodrimenin (7), and winterin (8). The oxidation of a 12,13-dihydroxypodocarpatriene (37) and its dimethyl ether (38) have also been investigated.

Routes for the conversion of the enone (45) and oxime (230), derived from the ozonolysis products of methyl podocarpate (10), to drimanes have also been investigated.

NOTES ON NOMENCLATURE

The numbering of all diterpenoid derivatives of podocarpic acid in this thesis follows that proposed by J.W. Rowe in 'The Common and Systematic Nomenclature of Cyclic Diterpenoids', 3rd Revision, Oct. 1968.

Sesquiterpenoid derivatives are named as derivatives of the drimane parent skeleton shown below:



The abbreviation Bz is used throughout this thesis to represent a benzyl (Ph CH₂-) group.