

ABSTRACT

Part I of this thesis reviews the chemistry of the small group of furanoditerpenes known as the caesalpins, which have been isolated from two species of the genus Caesalpinia. The isolation and constitution of two new caesalpins, caesalpin F and caesalpin G, from Caesalpinia bonducella is then described. This work was prompted by the widespread use of this plant in folk-medicine.

Part II consists of a brief review of the chemistry of the crotofolanes, isolated from Croton corylifolius (Euphorbiaceae). A reinvestigation of the same plant, which resulted in a new crotofolane diterpene crotofolin E, was next described. Crotofolin E, is the most highly functionalised of the crotofolanes thus far isolated and contains the rare pseudo-acid moiety. Also isolated in this investigation were the known compounds crotofolin C, corylifuran, β -sitosterol and 5-hydroxy- 3, 6, 7, 3', 4' pentamethoxyflavone.

Part III comprises the isolation and characterisation of three diterpenes from Croton nitens (Euphorbiaceae). Two of these, compound I and compound K, are new (-)-kaurene diterpenes while the third, compound L, is a very interesting casbenoid diterpene. Compound L, which is only the second such molecule to be isolated provides the missing link in the

proposed biogenesis of a number of diterpenes isolated from the family Euphorbiaceae as outlined in the sequel.