

Abstract

Root Metabolites and Leaf Oils of Jamaican *Amyris* Species

This dissertation consists of three chapters. Chapter one consists of a literature review of the classes of compounds characteristic of the Rutaceae and highlights the biological activity of some of these metabolites. Chapter two describes the isolation and characterization of sixteen compounds from *Amyris elemifera*; these include nine coumarins, two novel lignans, three sesquiterpenes and an alkaloid. These structures were solved by the use of spectroscopic methods including 2D NMR experiments. Ten of these compounds were submitted for testing against *Mycobacterium tuberculosis*. Chapter three describes the distillation and identification of constituents of the essential oils from *Amyris elemifera*, *A. balsamifera* and *A. plumieri*. Components of the oils were identified by using gas chromatography-mass spectrometry and by comparison of the data with literature reports.