ABSTRACT

Investigation of the Secondary Metabolites from Jamaican *Amyris* Species and *Picrodendron baccatum*

Sheri-Ann La Raine Williams

This thesis, in five chapters, centers on the study of compounds isolated from previously unexplored parts of the native Jamaican plants *Amyris plumieri, Amyris balsamifera* and *Picrodendron baccatum*, undertaken with the aim of isolating new and known compounds for bioactivity studies and intrinsic academic interest. Chapter one consists of an introduction to the plant family Rutaceae and a description of the types of compounds that have been obtained from the family, with the focus on compounds from the genus *Amyris*. Chapter two provides an overview of the bioactivity of the compounds from the Rutaceae and a rationale for the further study of *A. plumieri* and *A. balsamifera*. Chapter three is an account of the isolation and characterization of seven chromene amides and an oxazole alkaloid from the fruit, stems and roots of *A. plumieri*, and two coumarins from the roots of *A. balsamifera*. The chromene amides from *A. plumieri* were evaluated for their ability to inhibit members of the cytochrome P450 family of enzymes; the results of these studies are described in Chapter four. Chapter five gives an overview of the Picrodendraceae family and outlines the extraction and isolation of a picrotoxane sesquiterpenoid, picrodendrin C, from the fruit of *Picrodendron baccatum*.

Keywords: Sheri-Ann La Raine Williams; *Amyris* chromene amides; *Picrodendron baccatum.*