

ABSTRACT

In chapter one the isolation of some constituents of Verbesina rupestris (Urb.) Blake and the characterization of two monoterpenoid esters found in this plant are described. Preliminary results on the constitution of a triterpenoid glycoside found in this plant are also reported.

The chemical and spectroscopic data which revealed the structure, stereochemistry and absolute configuration of the interesting eudesmane sesquiterpene rupestrol are presented in chapter two. Rupestrol is unique in that it is the only totally characterized eudesmane with an oxygen function at C-9. Rupestrol was shown to be enantiomeric with dihydroeudesmol at all but one of its asymmetric centres (C-7) and so joins the small but rapidly increasing number of antipodal eudesmanes.

In chapter three the chemical and spectroscopic evidence leading to the structure, stereochemistry and absolute configuration of rupestrinol (another eudesmane sesquiterpene) is related. Rupestrinol is also enantiomeric with dihydroeudesmol at all but one of its asymmetric centres (C-7).

The biogenesis of the eudesmane sesquiterpenes is discussed in chapter four. These speculations are presented in an attempt to shed light on, and rationalize, the processes occurring during the transformation of farnesol to the eudesmanes.