CHEMICAL STUDIES ON *GYMNOSPORIA EMARGINATA* AND *SALACIA RETICULATA* (CELASTRACEAE)

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by

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ABSTRACT

This thesis comprises of two parts. Part I consists of the Chemical Investigation of *Gymnosporia emarginata* while part II is a Study of the Constituents of *Salacia reticulata*. Both these plants belong to the family Celastraceae.

Lupane and oleanane derivatives, hydrocarbon oils, sitosterol and triterpene quinone-methides were the important constituents isolated from *Gymnosporia emarginata*. Of these compounds β-amyrin and sitosterol were found to be present throughout the plant, β-amyrin being the predominant constituent. The benzene extract of the stem bark yielded two new lupane derivatives, 3-oxolup-20(29)-en-30-al and 30-hydroxylup-20(29)-en-3-one. These compounds were chemically interrelated and their structures determined with the help of spectroscopic data and chemical conversions. The major constituent of the benzene extract of the root and root bark was the triterpene quinone-methide, pristimerin while two other derivatives iguesterin and tingenone were found in lesser quantities. Methanol extracts of the different parts were found to consist mainly of the sugar alcohol, dulcitol.

The benzene extract of Salacia reticulata stem bark yielded ten friedelane derivatives, pristimerin and iguesterin. Two of these friedelane derivatives 21α,30-dihydroxyfriedelan -3-one and 21α,26-dihydroxy-friedelan-3-one were new and their structures were postulated by chemical conversion to known compounds.