

ABSTRACT

Croton species are a known source of a number of interesting natural products. These include aporphine, proaporphine and morphinandienone type alkaloids, and diterpenes. To add to this variety is the recent isolation and characterization of a mixture of two homologous glutamine peptides from Croton humilis L.

In part I of this thesis, details of the extraction and structural elucidation of two new glutarimide peptides, $C_{17}H_{22}N_2O_3$ and $C_{18}H_{24}N_2O_3$, from Croton humilis L. are presented. In addition, physical data along with evidence for the presence of certain functional groups are reported for a $C_{23}H_{32}O_2$ compound isolated from the same plant.

In part II a survey is undertaken of the common types of peptides (mainly oligopeptides) found in nature.

Part III discusses briefly the development of peptide synthesis, together with some of the main techniques now employed in the field.

Finally, in part IV, work leading to the successful synthesis of glutamine and glutarimide peptides identical to the natural products, is described.