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SYNTHESIS OF PEPTIDES VIA COBALT(III) CHELATES
OF AMINO ACID METHYL ESTERS

A thesis presented in partial fulfilment of the
requirements for the degree of Master of Science in
Chemistry at Massey University.

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SUMMARY

A method for synthesising peptides via cobalt(III) chelated amino acid esters has been further developed.

The yields at each stage of the syntheses of two tetrapeptides, Ala-Gly-Phe-Phe-OBzl and Leu-Ala-Gly-Gly-Oet, and of three tripeptides, Gly-Phe-Phe-OBzl, Ala-Gly-Gly-OEt and Pro-Gly-Gly-Oet, have been investigated quantitatively. Moderate overall yields were obtained.

Side reactions, which occurred during coupling reactions using cobalt(III) chelated proline methyl ester, were investigated by analysis of reaction products and by qualitative analysis of reaction products by cation exchange chromatography.

The solid phase synthesis of a few peptides were attempted but low yields were recorded. The acidity of reaction solutions was at least partially responsible for lowered yields.

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