

The design of metal chelates with biological activity. Part 6. Nickel and iron complexes of glycyglycinehydroxamic acid and triglycinehydroxamic acid

Brown, D.A. and Mageswaran, R.

Department of Chemistry, University College, Dublin, Ireland

Abstract

Monohydroxamic acids of the peptides glycyglycine and triglycylglycine are reported and fully characterised. Their NMR spectra indicate the presence of Z and E isomers analogous to those recently reported for the simple monoalkylhydroxamic acids. Species distribution analyses and stability constant data for complex species present in aqueous solution for the interaction of these peptide hydroxamic acids with Ni(II) and Fe(III) were obtained by analytical potentiometry. Spectroscopic data confirm normal hydroxamate coordination via the ketonic carbonyl oxygen atom and the deprotonated hydroxamate oxygen atom in these metal complexes.