



Chemical Speciation Studies of Binary Complexes of Calcium (II) and Magnesium (II) with L-Glutamine and Succinic Acid in Urea-Water Medium

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ABSTRACT

The nature of complexes formed by calcium(II) and magnesium(II) with L-glutamine and succinic acid has been investigated at an ionic strength of 0.16 mol L^{-1} and a temperature of $298 \pm 0.1 \text{ K}$ in 0-36.83% w/v urea-water mixtures. The formation constants have been determined experimentally by monitoring hydrogen ion concentration. The distribution of the metal ion amongst the complexes formed with the title ligands has also been computed. The formation constants have been refined with the computer program, MINIQUAD75 using the primary alkalimetric data. The species distribution with pH at different compositions of urea in the medium and the plausible equilibria for the formation of the species is discussed. The probable structures of the complexes are also given.

Keywords: Speciation, Stability constants, Metal Ligand Complexes, L-Glutamine, Succinic acid, Urea
