



**Speciation of Binary Complexes of Cd(II) and Pb(II)
with L-Glutamine in Anionic Micellar Medium**

P. Sujatha¹, Y. Vamsi Kumar¹, P. Surya Sunitha² and G. Himabindu^{1*}

1. Department of Engineering Chemistry, Andhra University, Visakhapatnam-530 003, **INDIA**

2. SKBR College, Amalapuram, East Godavari District-533201, **INDIA**

Email: himabinduauce@gmail.com

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ABSTRACT

Speciation of binary complexes of Cd (II) and Pb (II) with L-Glutamine (Gln) in presence of water - anionic surfactant mixtures in the concentration range of 0.0-2.5% w/v SLS have been studied pH-metrically at a temperature of 303 K and at an ionic strength of 0.16 mol L⁻¹. The stability constants were determined using the computer program MINIQUAD 75. The selection of best fit chemical models is based on statistical parameters and residual analysis using crystallographic R-factor and sum of squares of residuals in all mass-balance equations. The predominant species detected were ML, ML₂H and ML₂ for both Cd (II) and Pb (II). The trend in the variation of stability constants with the mole fraction of SLS was explained on the basis of electrostatic and non-electrostatic forces. Distribution of the species with pH at different compositions of SLS-water media was also presented.

Keywords: Chemical speciation, L-Glutamine, Anionic surfactant, Stability constants, MINIQUAD 75.
