



## Removing of Cu (II) Ion from Polluted Water: Determination of Precipitation Limit of Cu (II) Ion with $\beta$ -Alanin

Hyrie Koraqi<sup>1,\*</sup>, Esad Behrami<sup>2</sup>, Azem Lajqi<sup>1</sup>

<sup>1</sup>Department of Pharmacy, Faculty of Medicine, Prishtina University, Mother Teresa Street 5, Prishtina Kosovo;

<sup>2</sup>Faculty of Agriculture and Veterinary, Prishtina University Mother Teresa Street 5, Prishtina, Kosovo

Received March 02, 2014; Accepted April 29, 2014

**Abstract:** The goal of this research was to investigate the condition for removing of Cu (II) ion from water. Through precipitation method with  $\beta$ -Alanin as the ligand. In this study we examined the precipitation of Cu(II) ion in water solutions of  $\text{Cu}(\text{NO}_3)_2 \cdot x\text{H}_2\text{O}$  ( $1 \times 10^{-3} \text{ mol L}^{-1}$ ) with  $\beta$ -Alanin ( $1 \times 10^{-3} \text{ mol L}^{-1}$ ,  $1 \times 10^{-4} \text{ mol L}^{-1}$ ,  $1 \times 10^{-5} \text{ mol L}^{-1}$ ,  $1 \times 10^{-6} \text{ mol L}^{-1}$ ) in constant ionic strength of  $0,1 \text{ mol L}^{-1} \text{ NaClO}_4$ . We have determined the concentration region at which Cu(II) ion start to precipitate. From precipitation diagrams of copper with  $\beta$ -Alanin in ionic strength  $0,1 \text{ mol L}^{-1} \text{ NaClO}_4$ , we have found that during decreasing the concentration  $\beta$ -Alanin in case of constant concentration of Cu(II) the limit of precipitation is shifted to lower values of pH. From the IR spectroscopic analysis we can conclude that Cu(II) ion can precipitate with  $\beta$ -Alanin.

**Key words:** *Environment, Precipitation limit, Cu(II) Ion, ligands,  $\beta$ -Alanin, IR spectroscopy*

---

\* Corresponding: E-Mail: [hyriekoraqi@hotmail.com](mailto:hyriekoraqi@hotmail.com); Tel: +38138512221; Fax: + 38138512223