

## **P2. USE OF PHANEROCHAETE CHRYSOSPORIUM IMMOBILIZED ON BENTONITE AS A SOLID-PHASE EXTRACTOR FOR Cu(II) AND Cd(II) PRECONCENTRATION AND DETERMINATION BY ATOMIC ABSORPTION SPECTROMETRY**

Sevgi KOCAOBA, Münevver ARISOY

Yildiz Technical University, Faculty of Art and Science, Department of Chemistry, Davutpasa Cad., No: 127, 34210- Davutpasa, Istanbul, Turkey.

Ankara University, Faculty of Health Sciences, Department of Nutrition and Dietary, Altındag, Ankara, Turkey.

The increase of industrial activities has accentuated environmental pollution problems causing the deterioration of several ecosystems with the accumulation of many pollutants, such as toxic metals. The present work proposes the use of a white rot fungi (*Phanerochaete chrysosporium*) immobilized on bentonite as a new sorbent in trace metal determination. The procedure is based on the biosorption of Cu(II) and Cd(II) ions on a column of bentonite loaded with dried, dead fungi components prior to their determination by atomic absorption spectrophotometry. The effects of pH, amount of solid phase, eluent type and volume of the sample solution, flow rate of solution on the retention of the metal ions have been studied. The optimum pH values of quantitative sorption for Cu(II) and Cd(II) were found to be 5. These metal ions can be desorbed with 1 M HCl (recovery 95-100 %). The effect of some interfere ions were also studied. The adsorption process is interpreted in term of Langmuir and Freundlich equations. The results indicate that with the advantages of high metal biosorption capacity and satisfactory recovery of Cu(II) and Cd(II).

\* munear@mynet.com