

Chemical Modification of Biosorbent for Preconcentration of Cadmium in Water Sample

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Abstract : A new biosorbent is prepared by coupling a cibacron blue to yeast cells. The modified yeast cells with cibacron blue has been characterized by Fourier transform infrared spectroscopy (FT-IR) and elemental analysis and applied for the preconcentration and solid phase extraction of trace cadmium ion from water samples. The optimum pH value for sorption of the cadmium ions by yeast cells- cibacron blue was 5.5. The sorption capacity of modified biosorbent was 45 mg. g⁻¹. A recovery of 98.2% was obtained for Cd(II) when eluted with 0.5 M nitric acid. The method was applied for Cd(II) preconcentration and determination in sea water sample.

Keywords : solid phase extraction, yeast cells, Nickel, isotherm study

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