

Removal of Samarium in Environmental Water Samples by Modified Yeast Cells

Authors : Homayon Ahmad Panahi, Seyed Mehdi Seyed Nejad, Elham Moniri

Abstract : A novel bio-adsorbent is fabricated by attaching a cibacron blue to yeast cells. The modified bio-sorbent has been characterized by some techniques like Fourier transform infrared spectroscopy (FT-IR) and elemental analysis (CHN) and applied for the preconcentration and determination of samarium from aqueous water samples. The best pH value for adsorption of the brilliant crecyle blue by yeast cells- cibacron blue was 7. The sorption capacity of modified biosorbent was 18.5 mg. g⁻¹. A recovery of 95.3% was obtained for Sm(III) when eluted with 0.5 M nitric acid. The method was applied for Sm(III) preconcentration and determination in river water sample.

Keywords : samarium, solid phase extraction, yeast cells, water sample, removal

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