SEPARATION-PRECONCENTRATION OF TRACES GOLD FROM GEOLOGICAL AND WATER SAMPLES ON DOUBLE-WALLED CARBON NANOTUBES

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A solid phase extraction method has been developed, using a column filled with double-walled carbon nanotubes (DWNT) for the preconcentration-separation of gold(III) ions prior to its flame atomic absorption spectrometric determination. Gold(III) ions were quantitatively recovered on DWNT in 0.1 mol/l HCl. The influences of the analytical conditions including eluent type, flow rates, sample volume etc. on the recoveries of gold(III) ions were examined. The effects of the concomitant ions were also investigated. The detection limit for gold(III) based on 3σ was calculated as 1.5 μg/l. The preconcentration factor was 150. The presented procedure was applied to the gold content of some water, geological and anodic slime samples with successfully results.

References