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## Determination of uranium in calcareous rocks/minerals after separation by NTA-mediated sample dissolution and cation-exchange

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### ABSTRACT

The separation and determination of uranium in calcareous samples (e.g. calcite, phosphogypsum and phosphate rock) has been investigated by means of alpha-spectroscopy after dissolution of the samples by nitrilotriacetic solution (NTA), uranium separation by cation-exchange and electrodeposition on stainless steel planchets. Method recovery as well as uranium analysis and isotopic ratio composition of the samples was performed using a uranium standard tracer solution ( $^{232}\text{U}$ ). Comparison of the data with corresponding data obtained from experiments after EDTA-dissolution have indicated lower selectivity for uranium and co-extraction of radium isotopes present in the samples, assuming applicability of the method also for radium separation.

Key words: Uranium analysis; Calcite; Phosphogypsum; Phosphate Rock, NTA-mediated dissolution, cation exchange

**Primary author:** Prof. PASHALIDIS, Ioannis (Department of Chemistry, University of Cyprus)

**Co-author:** Mrs MICHAEL, Antria (Department of Chemistry, University of Cyprus)

**Presenter:** Prof. PASHALIDIS, Ioannis (Department of Chemistry, University of Cyprus)

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