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**Separation and Preconcentration of Actinides from Concentrated Nitric Acid by Extraction
Chromatography in Microsystems**

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Abstract

An original method of monolith impregnation in microsystem for the analysis of radionuclides in nitric acid is reported. Three microcolumns made of monolith poly(AMA-co-EDMA) were impregnated in COC microsystems. The robustness of the microsystems in nitric acid media until 8 M was demonstrated. High exchange capacity and affinity for tetravalent and hexavalent actinides in concentrated nitric media were obtained. The retention characteristics of the microcolumns impregnated by TBP, TBP-CMPO and DAAP were compared with those of the equivalent commercial particulate resins TBPTM, TRUTM and UTEVATM respectively. The separation of U, Th and Eu was validated in a classical microsystem and a procedure is proposed in a centrifugal microsystem.

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