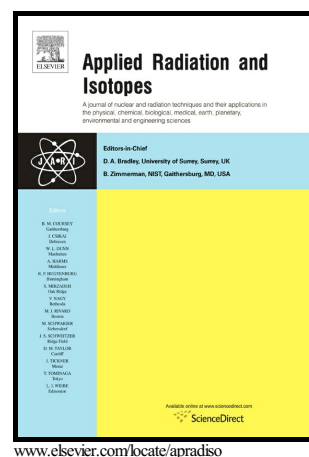


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Novel ion exchange chromatography method for nca arsenic separation

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Abstract

A high-performance liquid chromatography (HPLC) device equipped with an anion exchange column was used to isolate nca ⁷⁷As from reactor irradiated ^{nat}GeO₂ targets. The oxidation states of the isotope ⁷⁷As during the process was verified by thin layer chromatography. The radionuclidic purity of the separated fractions was checked by gamma measurements and it was found to be 99.91 % for the As fraction. The elaborated method was applied to separate the isotope ⁷⁴As from cyclotron irradiated ^{nat}GeO₂ targets too.

Keywords: HPLC – TLC, anion exchange chromatography, no carrier added (nca) ⁷⁷As and ⁷⁴As, natural germanium oxide (GeO₂) target, radiochemical separation, reactor and cyclotron production of arsenic isotopes.

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