

铀化合物中微量钽的萃取色层分离-ICP/AES测定

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收稿日期 1991-6-5 修回日期 网络版发布日期:

摘要 以CL-TBP萃取色层分离-水平式ICP/AES测定铀化合物中微量Ta。方法是先将铀化合物转化成硝酸铀酰,再以含0.2mol·l⁻¹ HF的3mol·l⁻¹ HNO₃溶液溶解微量Ta,然后进行分离和测定。取样0.3g,测定下限为0.5×10⁻⁶;当Ta含量为1.7×10⁻⁶-5.0×10⁻⁶时,方法的加入回收率在88%~106%范围内;相对标准偏差≤10%。

关键词 [钽](#) [铀化合物](#) [水平ICP/AES](#) [CL-TBP萃淋树脂色层](#)

分类号

A STUDY ON THE DETERMINATION OF TRACE TANTALUM IN URANIUM COMPOUNDS BY HORIZONTAL ICP/AES

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Abstract A method for the determination of trace tantalum in uranium compounds such as UO₂, U₃O₈, UF₆ or UF₄ is developed. The sample is converted to UO₂(NO₃)₂ and evaporated to near dryness, then add 0.5 ml 3 mol·l⁻¹ HNO₃-0.2 mol·l⁻¹ HF solution to dissolve the trace tantalum. After that the tantalum is separated from uranium with TBP levertrel resin chromatography and the tantalum is determined with horizontal ICP/AES. With a sample of 0.3 g, the determination limit of tantalum is 0.5×10⁻⁶, the recovery is in the range of 88%--106%, the relative standard deviation RSD is ≤10%. This method is simple and rapid.

Key words [Tantalum](#) [Uranium compound](#) [Horizontal ICP/AES](#) [CL-TBP levertrel resin chromatography](#)

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