

新显色剂——偶氮胂-TBC分光光度法测定钍的研究

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摘要 文章研究了新显色剂偶氮胂-TBC分光光度法测定钍的各种条件。在 0.2—0.7 mol/l硝酸介质中,该试剂与钍形成稳定的红色络合物,其最大吸收峰在 632 nm处,络合物摩尔吸光系数达 $1.02 \times 10^5 \text{ l} \cdot \text{mol}^{-1} \cdot \text{cm}^{-1}$,比尔定律适用范围宽,最低检测浓度达 $0.2 \mu\text{g}/25\text{ml}$ 。一些常见元素的干扰很小。用拟定的方法测定了几种矿石中的钍,其结果很令人满意。

关键词 [钍](#) [偶氮胂-TBC](#) [分光光度法](#)

分类号

SPECTROPHOTOMETRIC DETERMINATION OF THORIUM WITH A NEW REAGENT ARSENAZO-TBC

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Abstract The colour reaction of Th with 2-(2-arsenophenylazo)-7-(2,4,6-tribromo-3-carboxylphenylazo)-1, 8-dihydroxy-3, 6-naphthalenedisulfonic acid (Arsenazo-TBC) is investigated. The reagent and the complex of Th have absorption maxima at 520 nm and 670 nm respectively. The colour reaction has high sensitivity and good selectivity. The apparent molar absorptivity of complex of Th is $1.02 \times 10^5 \text{ l} \cdot \text{mol}^{-1} \cdot \text{cm}^{-1}$. Beer's law is obeyed in the concentration range of 0 to $20 \mu\text{g}/25 \text{ ml}$. The relative standard deviation is 0.6% and the percentage recovery is 100.1%. The method is used for the determination of trace amounts of Th in hair and ores with satisfactory results.

Key words [Spectrophotometric determination](#) [Thorium](#) [Arsenazo-TBC](#)

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