(Ishibashi Laboratory)

Japan Analyst (*Bunseki Kagaku*), **6**, 568 (1957)

Optimum conditions for the fluorometric determination of aluminum by the use of Pontachrome Blue Black R have been investigated. For aluminum solutions of pH 4.8 and aluminum content 0.2-1.0 g, 1-12 g, and 12-18 g, 1.0 ml, 1.5 ml, and 2.0 ml, respectively, of 1% aqueous solution of Pontachrome Blue Black R were added. Each solution was heated for 10 minutes on a water bath, cooled, made up to 50 ml, and measured its intensity of fluorescence. The interfering elements in the determination of aluminum by this method are Fe^{3+}, Ga, Co, and vanadic acid. Also, the presence of a large amount of Cu, Ti, and Ni has a disturbing influence.

Studies on the Fluorometric Analysis. (V)

Determination of Gallium with 8-Hydroxyquinaldine

Masayoshi ISHIBASHI, Tsunenobu SHIGEMATSU and Yasuharu NISHIKAWA

(Ishibashi Laboratory)

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8-Hydroxyquinaldine reacts with gallium ion in weak acidic solution and its chloroform extracts show a distinct green fluorescence in ultraviolet light. Using this reaction, the authors established the fluorometric method for trace amounts of gallium as follows:

Samples containing 0-30 μg of gallium in a volume of approximately 40 ml were treated with 1 ml of 1%-8-hydroxyquinaldine-1*N*-acetic acid, and was extracted three times with 10 ml portions of chloroform. The extracts were diluted to 50 ml with chloroform and the fluorescence intensity was measured.

A few elements such as cupric cupper, tartaric acid, and large amounts of indium and thallium are interfered. Ferric ion and Vanadate ion are also interfered, however, these ions are easily reduced by adding 1-2 ml of 1%-hydroxylamine hydrochloride solution and gallium quantified without interference.

Studies on the Fluorometric Analysis. (VI)

Fluorometric Determination of Gallium, Indium and Beryllium by Successive Extraction

Masayoshi ISHIBASHI, Tsunenobu SHIGEMATSU and Yasuharu NISHIKAWA