

60), Cu and Fe only in the former one. On the other hand Ti and Zr; Co and Ni can be successfully separated in n-BuOH/HCl/H₂O mixture (80:50:60) only.

References

1. Goller, E. J.: J. Chem. Educat. **42**, 442 (1965).
2. Ishida, K., Kuroda, R.: Japan Analyst **19**, 81–86 (1970).
3. Ottendorfer, L. J.: Anal. Chim. Acta **33**, 115 (1963).
4. Seiler, H., Seiler, M.: Helv. Chim. Acta **43**, 1939 (1960).

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Gravimetric Determination of Zirconium with 1-Naphthylacetic Acid

Part VIII*:

Analytical Aspects of Some Organic Acids

Gravimetrische Bestimmung von Zirkonium mit 1-Naphthyl-essigsäure. Analytische Verwendung einiger organischer Säuren. Teil VIII

Best. von Zirkonium mit 1-Naphthyl-essigsäure; Gravimetrie

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Received May 31, 1972; revised September 12, 1972

1-Naphthylacetic acid has been found to be a selective reagent for the determination of zirconium, similar to phenylacetic acid which has been used for the same purpose earlier [1]. A curdy white, insoluble and easily washable precipitate is obtained within the pH region of 0.1 to 0.45 N HCl. With higher H⁺ concentrations low results are obtained. As direct weighing is not possible because of certain variations in the composition the precipitate is ignited to oxide. The composition of the Zr-reagent compound has been found to be 1:1. The proposed structural formula is quite similar to that described earlier in the case of phenylacetic acid [1].

The presence of SO₄²⁻ ions does not interfere up to a ratio of ZrO₂:SO₄²⁻ = 1:3. The following cations are not precipitated: Ca²⁺, Ba²⁺, Sr²⁺, Zn²⁺, Hg²⁺, Al³⁺, Th⁴⁺, Mn²⁺, Fe³⁺, Co²⁺, Ni²⁺, (UO₂)²⁺, (V₂O₄)²⁺

* Part VII: diese Z. **210**, 335 (1965).

and Co³⁺ are coprecipitated with Zr, yet a double precipitation overcomes this difficulty. The determination is not possible in the presence of Sn²⁺, Ti⁴⁺ and Be²⁺ because of hydrolysis. 0.12 to 0.002 g of Zr were determined with errors up to ± 0.0004 g.

Procedure. The sample containing about 0.01 g of Zr/ml is heated to boiling, then ammonium nitrate is added (5 g per 100 ml) and the normality is adjusted to about 0.3 N HCl. 2% Boiling solution of potassium 1-naphthylacetic acid is slowly added with constant stirring until complete precipitation. The solution is slowly heated on a water bath for 30 min and is then filtered through Whatman paper No 42. 1% Reagent solution is used for washing. The precipitate is dried, ignited and weighed as ZrO₂.

Reference

1. Pande, C. S., Kapoor, S. N.: diese Z. **210**, 335 (1965).

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Spectrophotometry of the Platinum Metals in the Ultraviolet Region

II. Behaviour of the Bromocomplexes of Platinum(IV), Palladium(II), Rhodium(III) and Iridium(IV)*

Spektrophotometrie der Platinmetalle im UV-Bereich.
II. Verhalten der Bromkomplexe von Platin(IV),
Palladium(II), Rhodium(III) und Iridium(IV)

Verhalten der Bromkomplexe von Platin(IV), Palladium(II),
Rhodium(III), Iridium(IV), Spektralphotometrie;
UV-Bereich

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Received August 5, 1972

The behaviour of bromocomplexes of the platinum metals in the ultraviolet spectral region has not yet been studied or utilized in analytical chemistry [1]. Within the framework of a systematic study of that subject the bromocomplexes of platinum, palladium, rhodium and iridium were investigated within the spectral region from 200 to 350 nm. The results are

* Part I: diese Z. **260**, 321 (1972).