Table 1. Polarographic determination of Tl(I) and Pb(II) in a mixture.

No.	Amount of metals taken in mM		Amount of metals found in mM		% Error	
	Tl(I)	Pb(III)	Tl(I)	Pb(II)	Tl(I)	Pb(II)
1	0.509	1.554	0.509	1.557	0.00	+ 0.120
2	1.526	0.518	1.526	0.518	0.00	0.00
3	1.017	1.036	1.020	1.036	+ 0.30	0.00
4	0.763	2.072	0.766	2.078	+ 0.40	+ 0.30
5	2.035	0.777	2.035	0.777	0.00	0.00
6	1.272	2.590	1.278	2.596	+ 0.50	+ 0.25

Monoethanolamine concentration = 0.5 M, sodium hydroxide = 0.1 M; gelatin = 0.005%.

and Sn are precipitated, thus do not interfere. Ni, Co and Zn undergo reduction at higher potential, while Ag and Hg give a slight current near -0.0 V, having no effect on the determination. As compared to the existing supporting electrolytes [1] in most of the cases U, Mo, Se, W undergo reduction at a potential very close to that of Pb(II) and Tl(I) while in the present supporting electrolyte such interference is not existent.

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References

1. Meites, L.: Polarographic Techniques, 2nd Edit. New York: Intersci. Publ. Inc. 1967.
2. — Meites, T.: J. Am. Chem. Soc. **73**, 177 (1957).
3. Rao, A. L. J., Puri, B. K.: Analyst **96**, 364–366 (1971).
4. — — Indian J. Chem. **8**, 301–302 (1970).
5. — — Z. Anal. Chem. **252**, 376–377 (1970).

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Spectrophotometric Determination of Iron(III) with 5-Sulpho- β -resorcylic Acid

Spektrophotometrische Bestimmung von Eisen(III) mit 5-Sulfo- β -resorcylsäure

Best. von Eisen(III); Spektralphotometrie; mit 5-Sulfo- β -resorcylsäure

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5-Sulpho- β -resorcylic acid produces an intense red-dish-violet colour with iron(III), which has been successfully employed for the photometric determina-

tion of this ion. The composition of the complex formed has been investigated by Job's method of continuous variation, the molar ratio method, and also the slope ratio method. It has been found to be 1:1. The average value of the stability constant was calculated to be 3.5784. Beer's law is obeyed in the range of 50–500 ppm. Measurements have to be made within 30 min as after this time the complex undergoes hydrolysis. Ions which do not cause any interferences are Hg, Pb, Cd, Th, Nd, W, V, Nb, Ta, chloride, iodide, nitrate, nitrite, perchlorate, fluoride and acetate. Sulphate, thiocyanate, chromate, Cu, Ni and Co interfere and should be removed prior to the determination.

Procedure. Add an excess of 0.01 M reagent solution to the iron containing sample solution (0.56 to 0.54 mg of Fe/ml) and measure the optical density at 370 nm. The pH should be in the range of 2.8–3.0. A reagent blank is not required.

Amounts of 1–5 mg of Fe(III) were determined with a maximum error of 1.3%.

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Determination of Trace Elements in Silicate Rocks by Atomic Absorption Spectrophotometry

Bestimmung von Spurenelementen in Silicatgesteinen durch Atomabsorptions-Spektrophotometrie

Best. von Spurenelementen in Silicatgestein; Spektralphotometrie, Atomabsorption

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The purpose of the present investigations was to study the precision of an atomic absorption method for determining the trace constituents in silicate rocks using a single sample solution prepared by a uniform procedure for decomposition of the sample and keeping the same instrumental parameters as far possible. The method involves decomposition of the rock samples with hydrofluoric-perchloric acid and determination of the trace constituents (Cu, Zn, Ni, Pb, Cr, Sr and Li) directly without any prior concentrations by chemical methods.