Table 2. Titration of divalent metals after Fe-DNR Extraction

Metal extracted in org. phase	Metal in aqueous phase	0.05 M EDTA	
		calculated	found
[Fe] = [M]	Mg	4.22	4.20
	Zn	4.58	4.55
	Cd	4.15	4.15
	Pb	4.65	4.70
	Co	4.10	4.10
[Fe] = 10 [M]	Mg	4.38	4.35
	Zn	4.65	4.60
	Pb	4.65	4.63

cations, 0.1 M in $NaClO_4$ + $HClO_4$ and 0.05 M in the reagent, which had been prepared by direct nitrosation of resorcinol. Extraction was done by shaking with chloroform, cations remaining in the aqueous phase were determined by means of EDTA. Results are compiled in Table 1. Table 2 gives as a representative example data for the separation of Fe from several other ions. The technique was used in many cases for the separation of diverse metal ions. The concentration ratio of the unextractable to the extractable element is increased up to 500 times. Determinations were accurate within a relative error of ± 2.5%.

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Tropolone as an Extractive Indicator in EDTA Titrations of Copper in Alloys

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Tropolon als Extraktionsindicator bei der volumetrischen Kupferbestimmung in Legierungen mit Hilfe von ÄDTA

Key words: Best. von Kupfer in Legierungen; Volumetrie; ÄDTA.

In an earlier communication in this journal [1] tropolone has been employed as extractive indicator in the EDTA titration of cobalt. It has now been found that this indicator can also be successfully used for the copper titration. A few drops of a 0.025 M tropolone solution in chloroform are taken and the sample solution is used as titrant. The endpoint is indicated by a change of the extracted phase from colourless to yellowish-green. The pH-value is 5.5–8.5. The following ions interfere: oxalate, thiosulphate, thiourea, Be, Al, Zn, U(VI), Pb(II), Ba, Fe(II, III). Interferences by Be, Al and U(VI) can be eliminated by masking with fluoride, those of Pb and Ba by precipitation as sulphate and that of Zn by masking with tartrate. Interference by Fe can be avoided by two-fold extraction with chloroform at pH 1.5 in the presence of citrate, whereby copper remains in the aqueous phase. The method was applied to the analysis of different alloys and yielded good results. Errors were within ± 0.1%.

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Reference

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Berichtigung

Quantitative Hydroxyl- und H_2O-Bestimmungsmethode für Minerale, Gesteine und andere Festkörper

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Veröffentlicht in Fresenius Z. Anal. Chem. **287**, 43–45 (1977). S. 44, rechte Spalte, 25. Zeile von oben, die Formel für das Gesamtwasser muß richtig lauten:

$$\% \, H_2O\text{-Gesamt} = \frac{(P - BW) \cdot 100}{E} \cdot T$$