APPLIKATION

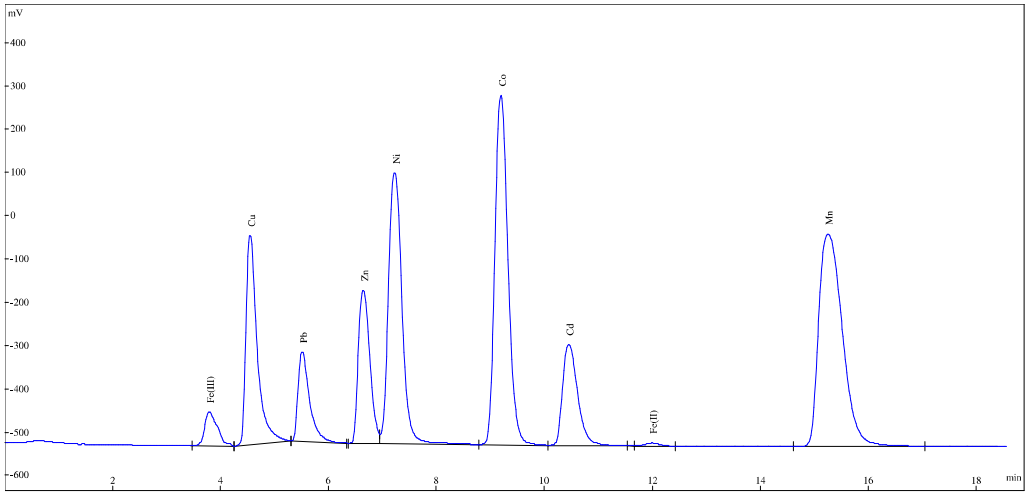
Ion Chromatography of Transition Metals

Equipment .....:	IONUS modified
Column .....:	Nucleosil 100-5 SA, 150 mm x 4.6 mm ID (Fa. Machery-Nagel)
Eluent .....:	0.1 M Tartaric Acid pH 3,0
Flow.....:	500 µl/min
Temperature .....:	Room Temperature (25 °C)
Reagent .....:	0.2 mM Pyridylazoresorzinol (PAR) in 3 M Ammonium Hydroxide / 1 M Acetic Acid solution
Detection .....:	(U)VIS - 530 nm
Separation of .....:	Iron(III), Iron(II), Copper(II), Lead(II), Zinc(II), Nickel(II), Cobalt(II), Cadmium(II) und Manganese(II)

The contents of trace metals are interesting in tap water and waste water.

The sensitivity of the determination with post-column derivatization is extremely higher than the conductivity detection.

Separation of Standard Solution



Substance	Concentration [mg/l]	Time [min]	Peak Area [Counts]	Concentration Range [mg/l]
Fe(III)	20	3.783	1292442	2.0 - 20
Cu(II)	10	4.539	6750048	1.0 - 10
Pb(II)	20	5.502	2968347	2.0 - 20
Zn(II)	10	6.633	5069113	0.1 - 10
Ni(II)	10	7.216	10531357	0.1 - 10
Co(II)	10	9.183	13061721	0.1 - 10
Cd(II)	40	10.440	4414797	0.2 - 40
Fe(II)	---	11.980	129761	0.1 - 10
Mn(II)	20	15.242	14795104	0.1 - 20