

Pacifichem Selected Abstracts

Sunday, Dec. 18 PM - Poster Presentations				
Presentation Time/ Session Start Time	Location	Prog. #/Type	Authors Institutions	Abstract Title Session #/Title
Sunday, Dec. 18, 8:00 PM - 10:00 PM/ 8:00 PM	Renaissance Ilikai - Ballroom A/B/C/D/E	713 Poster	<u>Y.Nakano</u> ¹ ; S.Kaneco ¹ ; H.Katsumata ¹ ; T.Suzuki ² ; K.Ohta ¹ 1. Department of Chemistry for Materials, Faculty of Engineering, Mie University, Tsu, Japan; 2. Environmental Preservation Center, Mie University, Tsu, Japan	Determination of trace elements in waters by electrothermal atomic absorption spectrometry with preconcentration on a tantalum wire 687 New Paradigms in Analytical Spectrochemistry (#60) [PS]

Pacificchem Selected Abstracts - Selected Abstracts

Determination of trace elements in waters by electrothermal atomic absorption spectrometry with preconcentration on a tantalum wire

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The preconcentration method has frequently been used for the determination of ultra trace analytes in complex matrix samples by instrumental analysis. Adsorption, chromatography, coprecipitation, electrolytic deposition, evaporation, extraction, flotation, freezing, ion exchange, etc. are well known as preconcentration methods in analytical chemistry. Most of them are complicated and time-consuming. Among these methods, however, the adsorption method is simple and convenient. So far, activated carbon, porous polymers, polyurethane foam, silica gel, glass beads and tungsten wire for collecting trace elements have been reported as adsorbents. In 1973, a preconcentration method was reported in which heavy metals such as cadmium and lead were concentrated by adsorption onto a tungsten wire loop, which had been immersed for a fixed time in aqueous sample solutions. The wire loop was subsequently used as an electrically heated atomizer for atomic absorption spectrometry (AAS). Hoshino *et al.*, have described the determination of Ag, Cd, Co, Cr, Cu, Mn, Ni, Pb and Zn in aqueous solutions by graphite furnace atomic absorption spectrometry (GFAAS) combined with selective concentration onto a tungsten wire. These developed methods worked at the pg/mL level. Linear calibration plots can be obtained with short analysis times and no chemical pretreatment. There is, however, very little information on the application of the tantalum wire adsorption method to the determination of ultra trace metals in environmental samples. Therefore, in the present work, the determination of trace elements in waters by electrothermal atomic absorption spectrometry with preconcentration on a tantalum wire was investigated.

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Pacificchem Selected Abstracts - Author Index

Kaneco,S. 713
Katsumata,H. 713
Nakano,Y. 713
Ohta,K. 713
Suzuki,T. 713