ONLINE ISSN : 1348-2246
PRINT ISSN : 0910-6340

Analytical Sciences
Vol. 26 (2010) , No. 3 p.387

[PDF (476K)] [References]

Simultaneous Determinations of Cr(VI) and Cr(III) by Ion-Exclusion/Cation-Exchange Chromatography with an Unmodified Silica-Gel Column

Shizuko HIRATA[1)], Daisuke KOZAKI[1)], Kinya SAKANISHI[2)], Nobukazu NAKAGOSHI[1)] and Kazuhiko TANAKA[1)]

1) Graduate School for International Development and Cooperation, Hiroshima University
2) Biomass Technology Center, National Institute of Advanced Industrial Science and Technology

(Received November 23, 2009)
(Accepted December 24, 2009)

In order to characterize the ion-exclusion and cation-exchange properties of an unmodified silica-gel column, the retention behaviors of Cr(VI) and Cr(III) ions were investigated using a Develosil 30-5 (150 × 4.6 mm i.d.) in the acidic region. Cr(VI) was separated from other anions by an ion-exclusion and ion-adsorption mechanism, and Cr(III) was separated from other cations with a cation-exchange mechanism. When using 2.0 mM oxalic acid (pH 2.6) as an eluent, a good separation of Cr(VI) and Cr(III) was obtained using conductimetric detection in 12 min. The method was successfully applied to the simultaneous determinations of Cr(VI) and Cr(III) added into tap-water and river-water samples.

[PDF (476K)] [References]

Download Meta of Article[Help]
RIS
BibTeX

To cite this article:

Shizuko HIRATA, Daisuke KOZAKI, Kinya SAKANISHI, Nobukazu NAKAGOSHI and Kazuhiko TANAKA, *Anal. Sci.*, Vol. *26*, p.387, (2010) .

doi:10.2116/analsci.26.387

JOI JST.JSTAGE/analsci/26.387