

Study of the determination of inorganic arsenic species by CE with capacitively coupled contactless conductivity detection

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Abstract: The determination of arsenic(III) and arsenic(V), as inorganic arsenite and arsenate, was investigated by CE with capacitively coupled contactless conductivity detection (CE-C⁴D). It was found necessary to determine the two inorganic arsenic species separately employing two different electrolyte systems. Electrolyte solutions consisting of 50 mM CAPS/2 mM L-arginine (Arg) (pH 9.0) and of 45 mM acetic acid (pH 3.2) were used for arsenic(III) and arsenic(V) determinations, respectively. Detection limits of 0.29 and 0.15 μ M were achieved for As(III) and As(V), respectively by using large-volume injection to maximize the sensitivity. The analysis of contaminated well water samples from Vietnam is demonstrated.

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