

Ion chromatography-Inductively coupled plasma mass spectrometry used for the speciation analysis

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Hyphenation of separation technologies and element-selective or molecule-selective detection systems is the general technique of speciation analyses. It has become a common practice in recent years to ion chromatography (LC) with inductively coupled plasma-mass spectrometry (ICP-MS) for ultra-sensitive detection of trace element of interest. However, conventional ICP-MS serves as an ultra-sensitive elemental detector only, and it is unable to provide inherent information about chemical species. For speciation analysis of unknown chemical species or where chemical standards not available one of the most commonly applied techniques is electrospray ionization-mass spectrometry (ESI-MS). In this presentation, we give our recently work for the speciation analysis using ion chromatography (IC) and inductively coupled plasma mass spectrometry (ICP-MS) and electrospray mass spectrometry (ESI-MS). Various speciations, including As, Cr, Se, V, Br, I, Sn, Zn and Pb aminocarboxylic complexes, metal-EDTA complexes were determination using both LC-ICP-MS and ESI-MS. The methods used for analysis of the real samples are also presented