

INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY (ICP-MS)

AGILENT TECHNOLOGIES ICP-MS 7700X

Inductively coupled plasma mass spectrometry (ICP-MS) is a type of mass spectrometry which is useful for detection and quantification of metals, metalloids, and several non-metals at concentrations as low as one part in 10^{12} (part per trillion, ppt) on non-interfered low-background isotopes. This technique is for example suitable for quality control of different high-tech technological processes, determination of heavy metals pollution in environmental samples, or metallomic speciations in biological samples.

ACQUIRED INFORMATION

- > Qualitative detection and quantification of selected metals, metalloids, and non-metals with atomic number 5-92
- > Determination of metals in the samples with high salinity (up to 3% TDS)
- > Determination of trace concentrations of metals in biological samples
- > Speciation of compounds containing metals using the hyphenated technique with UHPLC and ESI-MS systems

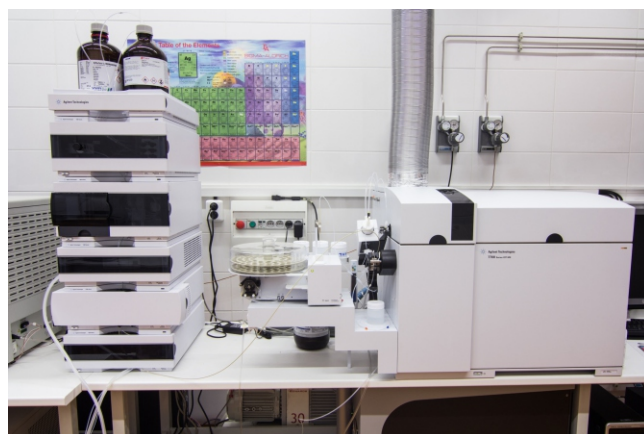
SAMPLE TYPES

- > Solid samples soluble in water
- > Solid samples needing mineralization
- > Liquid samples

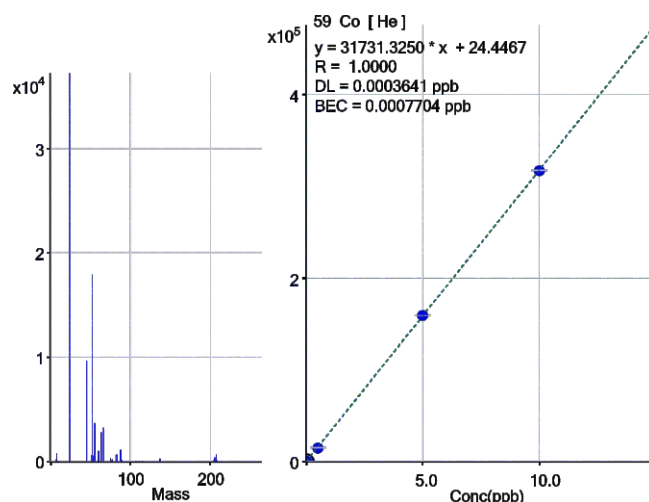
MODES, CONDITIONS AND PRECISION

- > The range of elements available for determination from boron up to uranium (atomic number 5-92)
- > Autonomous analysis of up to 89 samples in one sequence using the integrated autosampler
- > The determination of metals is available in water-containing samples as well as samples containing organic compounds
- > The usage of microwave-mineralization and hyphenation with UHPLC and ESI-MS systems

DETAILED INFORMATION ON REQUEST



Agilent 7700x ICP-MS spectrometer with integrated autosampler hyphenated with Agilent 1260 UHPLC system



An example of the mass spectrum and calibration curve for cobalt for determination of heavy metals in drinking water



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