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(54) **SYSTEM AND METHOD FOR DELIVERY OF AN ANALYTE AND A REFERENCE**

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ABSTRACT

The present invention relates to an apparatus for isotope ratio mass spectrometry that comprises: a mass spectrometer comprising a sample input and a system for delivery of an analyte and a reference substance to the mass spectrometer. The system comprising: a switchable multi-way valve, comprising an analyte sample inlet, a reference sample inlet and a delivery outlet, wherein the analyte sample inlet is arranged to receive an analyte sample comprising the analyte, the reference sample inlet is arranged to receive a reference sample comprising the reference substance, and the delivery outlet is configured for passage of the analyte sample or the reference sample out of the multi-way valve to the sample input of the mass spectrometer; a first means, for regulating a supply of the reference sample to the reference sample inlet; and a second means, for regulating a supply of the analyte sample to the analyte sample inlet; wherein the multi-way valve is switchable between a first position and a second position, wherein in the first position, the reference sample inlet is connected to the delivery outlet, for passage of the reference sample through the multi-way valve and to the sample input of the mass spectrometer; and in the second position, the analyte sample inlet is connected to the delivery outlet, for passage of the analyte sample through the multi-way valve and to the sample input of the mass spectrometer. The present invention also relates to a method for isotope ratio mass spectrometry.

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