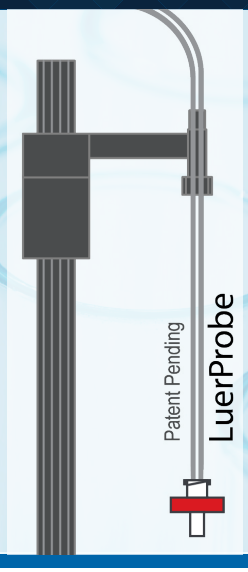
Elemental Scientific

*Precision Microvolume Spiking with LuerProbe and **TRAX**Station*



TRAXStation
Filtering & Spiking

Automatically grips samples, reads barcodes, uncaps, filters, acidifies, adds internal standards, and racks samples for analysis.

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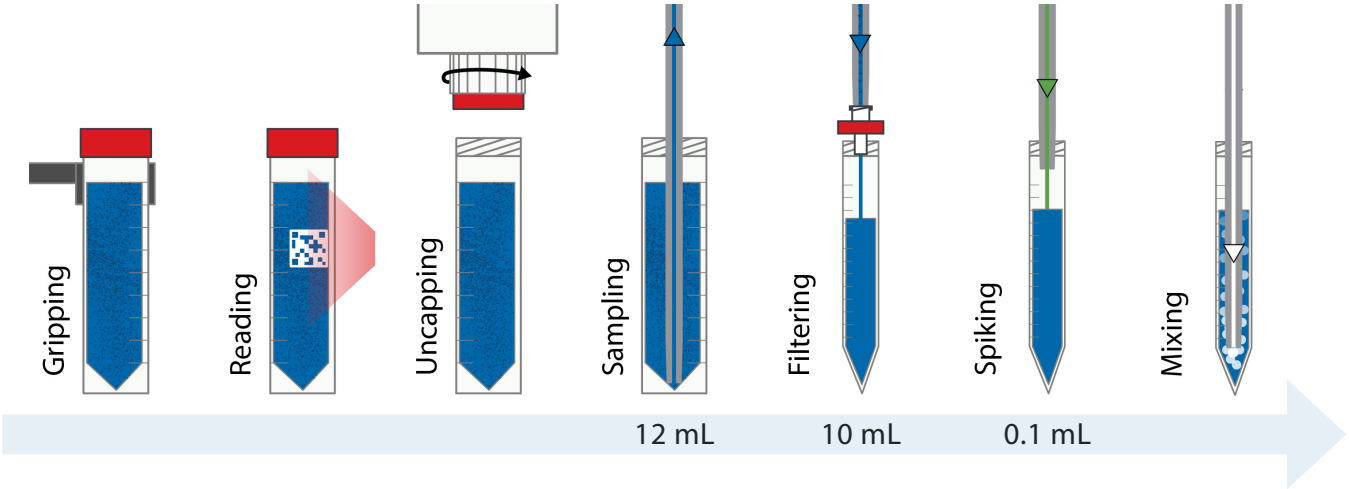
Evaluation of a Metal-free Luer-adapting Probe for Accurate Addition of Acid and Internal Standard to Automatically Filtered Samples

Synopsis

TRAXStation with LuerProbe automatically filters samples into a metal-free tube then acidifies and adds internal standard to the filtrate, producing ready-to-analyze samples for ICP or ICPMS. LuerProbe's length reaches the bottom of the sample vessel and has a tip design that attaches to a disposable 0.45 µm Luer filter. This work measures reproducibility of 0.1 mL additions of HNO_3 and 0.1 mL additions of internal standard to verify the LuerProbe spiking capability.

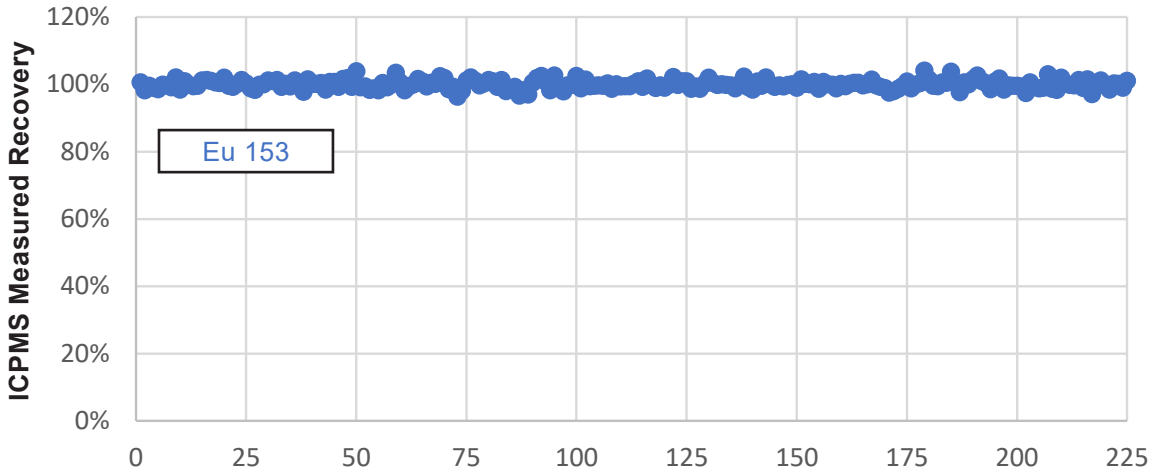


TRAXStation automatically and completely prepares samples for analysis. LuerProbe is used for sampling, filtering, spiking and mixing steps. Other probe options are available.

Learn More

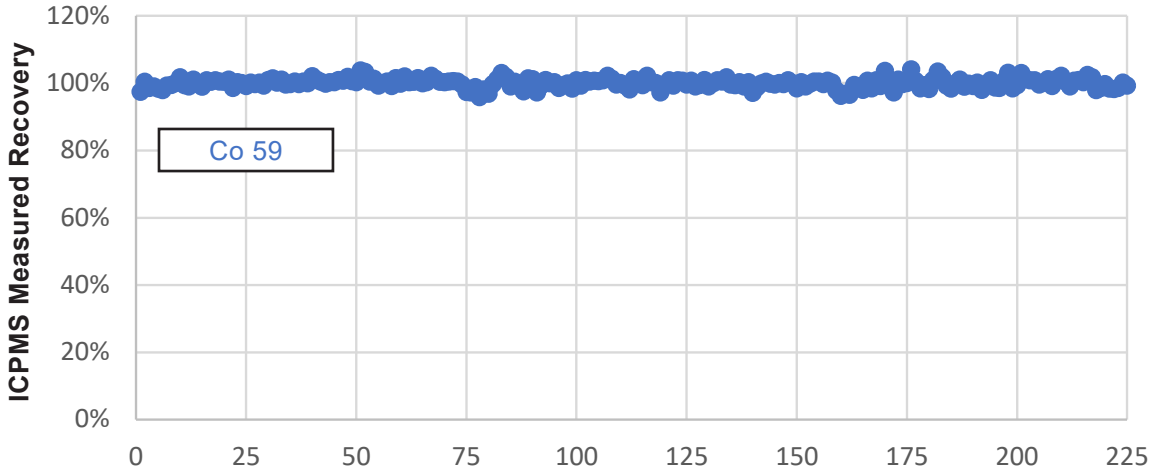
Automatic Spiking by **TRAX**Station with LuerProbe

Reproducibility of 0.1 mL HNO_3 Acid Spikes into 10 mL Filtrate



Automated acidification of 225 sample filtrates using **TRAX**Station with LuerProbe. Each 10 mL filtrate was spiked with 0.1 mL of 70% HNO_3 containing 100 ppb Eu. Europium was added solely to generate a signal in the ICPMS mass spectrum (m/z 153), proportional to the amount of acid spike. The results demonstrated an average spike recovery of 99.9% with an RSD of 1.4%, confirming the reproducibility of the automated system.

Reproducibility of 0.1 mL Internal Standard Spikes into 10 mL Filtrate



Automated internal standard (IS) addition to 225 sample filtrates using **TRAX**Station with LuerProbe. Each 10 mL filtrate was spiked with 0.1 mL of 100 ppb Cobalt (Co) IS stock solution. Cobalt was measured by ICPMS at m/z 59 with an average recovery of 100.0% and RSD of 1.3%, confirming the reproducibility and precision of the system for automated internal standard addition.