

# THE EMERALD CONFERENCE

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## **Validation of an Expanded List of Elements in Cannabis Flower by Microwave Digestion and ICP-MS Analysis**

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**Abstract:** Developing and validating a standardized microwave digestion and ICP-MS method for the determination of an expanded list of metals in flower and oil products down to ppb levels has special considerations associated with it. This talk will present how a single method workflow has been developed and validated per AOAC SMPR® and USP <233> requirements. Recognizing cannabis & hemp is challenging matrix to characterize, data will be presented to show that a single source workflow solution, from digestion to generation of the Certificate of Analysis (COA) is the most ideal. The list of metals selected encompasses target elements of legalized States (California, Colorado, Connecticut, Massachusetts, Michigan, Maryland, and New York) as well as AOAC, NIST, and ASTM. Data will be presented to show the quantitation limits, repeatability, and accuracy of this method. In addition, the influences of rare earth elements in cannabis are investigated and discussed and multiple cannabis flower sample results shown.