DEVELOPMENT OF AN X-RAY FLUORESCENCE WORKFLOW FOR HIGH THROUGHPUT CATALYST DISCOVERY PROJECT

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The discovery of new catalysts by high throughput processes has driven the development of catalyst characterization techniques capable of analysis of many small samples in a short period of time. X-ray fluorescence (XRF) is frequently used for elemental analysis of inorganic catalysts. Incorporation of an XRF workflow into a High Throughput Catalyst Discovery Project provides essential elemental data to catalysis scientists. This presentation will describe the challenges of quantitative analysis of small samples (150-300 mg) with minimal sample preparation, for a variety of elements and matrices with a projected load of 48 samples per day. The resulting XRF workflow will be described as well as the validation of precision and accuracy of the method.