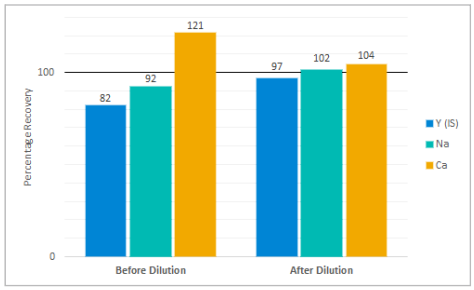
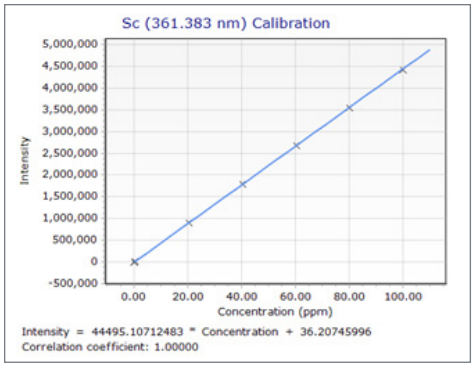
# Auto-dilution for ICP-OES

## Boost productivity and eliminate tedious sample preparation




With automatic dilution in place, the internal standard (Y) and Na and Ca recoveries were dramatically improved.




Automate the preparation of calibration standards to create calibrations like this - with a correlation coefficent of 1.00.

### No more standards and sample preparation

Agilent's ICP-OES instruments*, in combination with the ESI prepFAST autodilution system, can automate a number of tedious sample preparation processes. Preparing calibration curves, diluting samples and compensating for internal standard suppression can all be automated.

### Overrange dilution

The ICP-OES/prepFAST autodilution system provides a range of functions to reduce the manual effort involved in analysing samples which are unexpectedly over the calibrated range, including a Reactive Dilution feature that performs automatic dilutions on overrange samples, using a dilution factor of up to 400x.

### Reduce sample preparation effort

As well as diluting overrange samples, the ICP-OES/prepFAST autodilution system can automatically dilute samples prior to analysis. This saves considerable analyst time, allowing them to focus on other tasks.

### Automatic calibration preparation

Multi-point, multielement calibration curves can be automatically created from a single stock solution as part of an analytical run. This removes the need for complicated, error-prone manual standard preparation.

### Compensate for Internal Standard suppression

If internal standard measurements fall outside specifed recovery thresholds samples can be automatically diluted. This increases measurement accuracy without sacrificing productivity. The figure (top left) shows the suppression of internal standard (Y) recovery to 82% in the undiluted sample. The dependent analytes (Na, Ca) gave correspondingly poor recoveries. Dilution improved the internal standard recovery to 97% and the dependent analytes were measured at <5% variance from the expected values.

* Available on Agilent ICP-OES instruments with ICP Expert software version 7.4 or later. ESI prepFAST is not available in CFR mode

This information is subject to change without notice.

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