prep*FAST* PPQ

Automated PPQ Metals Determination in High Purity Chemicals

Ultraclean automated sample introduction system with inline concentration of ultrapure chemicals for parts-per-quadrillion (ppq) level analysis.
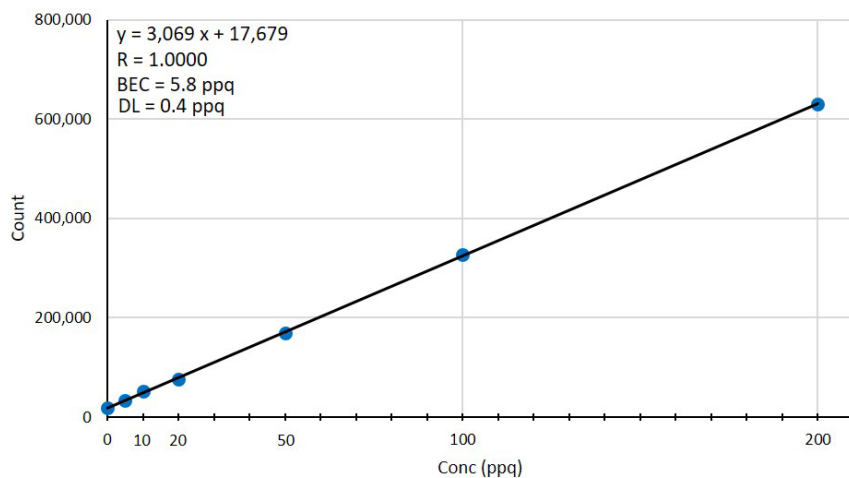
Direct Analysis Mode:
- General purpose for any sample matrix
- Sub-PPT detection limits
- Automated MSA calibration
- Automated inline dilution

Concentration Mode:
- Suitable for UPW, 30% H_2O_2, and IPA
- Sub-PPQ detection limits
- Removes difficult matrices such as IPA while recovering metals
- Removes impact of ICPMS interferences and backgrounds on results
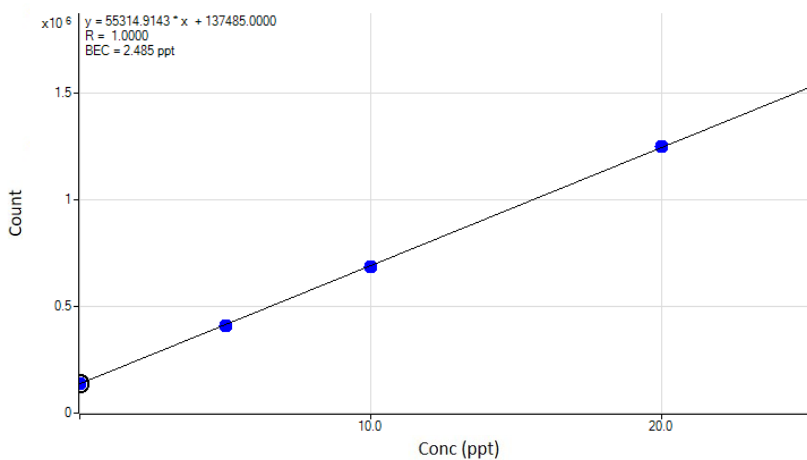- Amplified sensitivity compared to direct analysis
- Automated MSA calibration

Concentration Mode Detection Limits in UPW (1000x Concentration Factor)

Elements	DL (ppq)	Elements	DL (ppq)
Li	0.02	Fe	0.3
B	9	Co	0.01
Na	0.6	Ni	0.07
Mg	0.2	Cu	0.07
Al	0.6	Zn	0.4
Si	240	Mo	0.3
K	0.4	Ag	0.05
Ca	0.3	Cd	0.06
Ti	0.2	Ba	0.04
Cr	0.4	W	0.4
Mn	0.07	Pb	0.05

prep*FAST* PPQ Autocalibrations

39 -> 39 K

y = 3,069 x + 17,679
R = 1.0000
BEC = 5.8 ppq
DL = 0.4 ppq

Calibration curve for K at 5, 10, 20, 50, 100, 200 PPQ in UPW (1000x concentration factor).

28 -> 44 Si

y = 55314.9143 * x + 137485.0000
R = 1.0000
BEC = 2.485 ppt

Calibration curve for Si at 5, 10, 20 PPT in UPW (1000x concentration factor).

Elemental Scientific

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