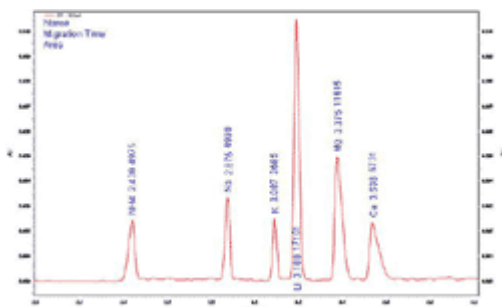




Separation of Alkali and Alkaline Earth Metals Test Mixture

CElixir-plus™ kit for cations and aliphatic amines is a valid and preferable to traditional methods to separate these compounds such as Ion Chromatography. Easy to use and reliable, save time when buffers are pre-made and quality tested.



Method Conditions:

Voltage: 30kV

Capillary: MicroSolvCE™ Bare Fused Silica, 75µm x 6m

Injection: 5 sec @0.5psi

Run Buffer: CElixir-plus™ kit

Detection: Indirect UV 200nm

Polarity: Normal

Instrument: Beckman® P/ACE MDQ™

Method:

Using a Beckman P/ACE MDQ and a 75µm bare fused silica capillary, the earth metals are easily and reproducibly separated using "inverse detection" mode. Buffers are pre-made and supplied in a kit as CElixir-plus™. To avoid carry-over from the capillary should be rinsed between runs with a Lithium solution. If Lithium is an analyte of interest, NaOH solution can be used instead.

Peaks:

NH₄, Na, K, Li, Mg, Ca (approximately 10mg/L)

Discussion and Rationale on using Inverse Detection

CE instruments are usually equipped with a UV detector. A major problem is that the analyzed cations do not absorb sufficient amount of the UV energy to allow photometric detection. For this reason, an indirect detection technique is used where the run buffers (CElixir-plus™) absorb the UV and the analytes show up as negative peaks. The software of the CE instruments will invert the signal to obtain a normal looking chromatogram.