



# Analysis of minor cations in calcium-matrices



*The add of PDC in buffer allow the easy analysis of calcium-matrices*

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## INTRODUCTION

The analysis of minor cations as potassium, sodium, magnesium and barium cations in samples with a high content of calcium has been achieved with the add of 2,6-pyridinedicarboxylic (PDC) acid in acetic acid/HIS buffer for C4D detection.

Feasibility was proved with the analyses of minor cations in simulated calcium-matrix (1000 ppm) and in a real water containing a high level of calcium.

## STANDARD AND REAL ANALYSIS

**Buffer :** acetic acid + Histidine + 18-C-6 + PDC, pH 4.0

**Capillary :** fused-silica capillary, L = 80 cm, l = 70 cm, ID = 50  $\mu$ m

**Injection :** hydrodynamic, 50 mbar, 6 s

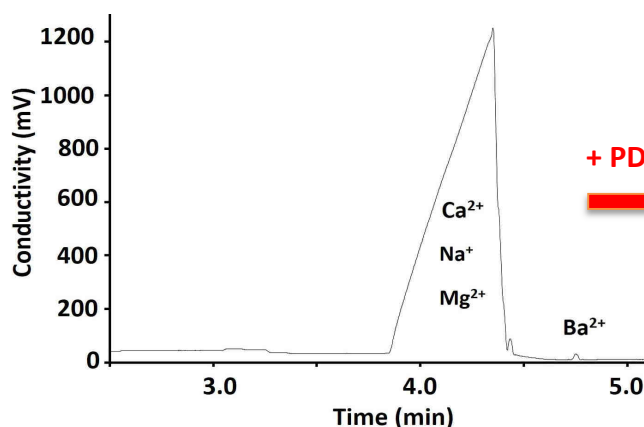
**Voltage :** +30 kV

**Detection :** C4D

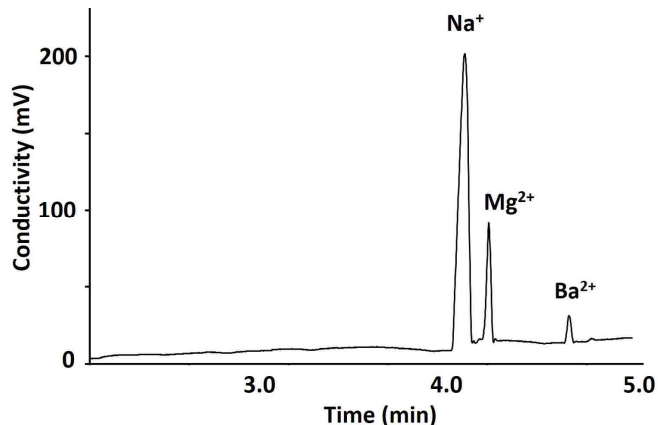
**Temperature :** 25  $^{\circ}$ C

### Simulated calcium-matrix

composition :  $\text{Ca}^{2+}$  (1000 ppm),  $\text{Na}^{+}$  (10 ppm),  $\text{Mg}^{2+}$  (3 ppm),  $\text{Ba}^{2+}$  (2 ppm)

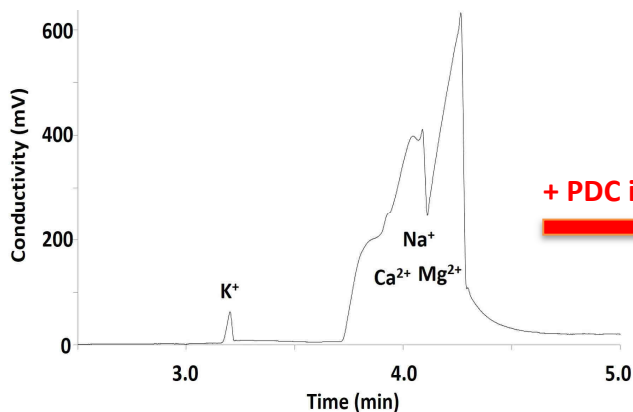


+ PDC in buffer



### Real water matrix (injected without dilution)

Sample prep : filtration and acidification with 3%  $\text{HNO}_3$



+ PDC in buffer

